

CITY OF VALDEZ
ALASKA

CONTRACT DOCUMENTS

Project: Civic Center Green Room Renovation

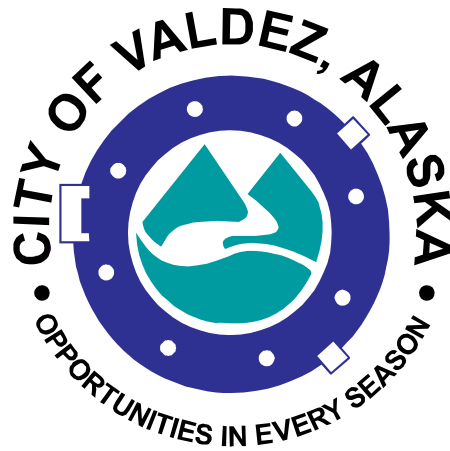
Project Number: 23-350-2206

Contract Number: 2256

Cost Code: 350-0310-55000.2206

Issued for Construction

Date: TBD



City of Valdez
Capital Facilities and Engineering
300 Airport Road, Suite 201
P.O. Box 307
Valdez, Alaska 99686

Project Manager:
Lindy Vititow

Construction Plan Set Completed By:
Wolf Architecture, Inc
625 South Cobb Street, Ste. 200
Palmer, AK 99645



**City of Valdez
Contract Documents**

**Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256**

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**City of Valdez
Invitation to Bid**

Date: February 6, 2025

**Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256**

This project includes, but is not necessarily limited to:

Base Bid – Renovation of Five Rooms

Approximately 1600 sq. ft. located in the lower level of the Valdez Civic Center, including Green Room, Men’s and Women’s Dressing Rooms, Men’s and Women’s Toilet/Shower Rooms. All work included in construction documents **not** noted as an Alternate are to be completed as Base Bid.

- A. Remove and replace finishes-flooring, ceiling (partial), casework, toilet partitions
- B. Remove and replace casework, sinks, faucets.
- C. Install new lighting throughout, patch and paint ceilings as necessary.
- D. Remove and replace mirrors and trims; add window treatment where shown.
- E. Relocate/add data outlets.
- F. Paint walls, doors, frames
- G. Upgrade ventilation to Green Room and Dressing Rooms.
- H. Install new tack board and prepare for OFCI large screen monitor.
- I. Reroute Fire alarm circuits above ceiling.

Alternate 1 - Toilet Fixtures, Wall, Finish Replacement

- a. Demo plumbing walls, fixtures, partitions, accessories in Toilet/Shower Rooms
- b. Rebuild plumbing walls, install new supply/waste lines, fixtures, supports and finishes, toilet partitions
- c. Re-skin Toilet/Shower Rm walls, install new GWB and wall protection.

Alternate 2 - Lighting

- a. Prepare for and install upgraded light fixtures as indicated in Electrical
- b. Provide and install acoustic ceiling tiles
- c. Standoff mirrors to align with face of new light fixtures

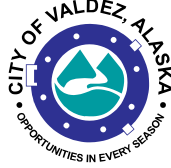
Alternate 3 - Data

- a. Add data drops, see Electrical

Engineers Estimate for construction (all-inclusive of Base Bid and Alternates 1, 2, and 3 work) is under \$ 775,000.00.

Sealed bids will be accepted electronically until 3:00 pm (local AK time) on March 4, 2025, at www.bidexpress.com. The bids will be publicly opened at that time.

A non-mandatory but highly encouraged pre-bid conference will be held at the office of the Capital Facilities Director, 300 Airport Road, Suite 201, Valdez, Alaska on **February 18, 2025, at 3:00 pm (local AK time)**. Remote access instructions to the pre-bid meeting are provided within the bid package under “Instructions to Bidders – 17. Pre-Bid Conference”.



Deadline for all Questions regarding this bid will be 3:00pm (local AK time) on February 21, 2025. All Questions must be submitted in writing through www.bidexpress.com. Answers to all questions received will be issued in the form of an addendum.

Complete sets of the bid documents may be purchased from Digital Blueprint, 903 West Northern Lights Blvd., Anchorage, AK 99503, (907) 274-4060. Bid documents may also be downloaded from the City of Valdez solicitation page at www.bidexpress.com **Bidders are encouraged to register as a plan holder at the link listed within the bid posting to ensure receipt of any addendum issued for this project.**

A **Bidders Qualifications Packet** is included with this bid package. All Bidders **MUST** complete the packet to be eligible for an award of contract.

Bid security in the amount of 5% of the total bid is required.

For bids in excess of \$100,000, Payment and Performance Bonds in the amount of 100% of the contract amount are required.

The City reserves the right to waive any irregularities or informalities in a bid and to reject any and all bids without cause.

Current minimum prevailing wage rates as published by the Alaska Department of Labor must be paid if required by law.

Requirements of the Alaska Employment Preference (AS 36.10) must be met.

The City of Valdez encourages disadvantaged, minority and women-owned firms to respond and is available to assist said firms in learning how to do business with the City.

The City of Valdez “Standard Specifications and Standard Details” shall be used. An electronic copy is available from the City of Valdez website at <http://www.valdezak.gov> under “standards and specifications” located on the “quick links” portion of the Capital Facilities Department page.



**City of Valdez
Instructions to Bidders**

**Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256**

CAUTION:

Your bid may be rejected if it is not properly executed. Check that the following items have been accomplished to help assure a responsive bid. Please read Sections 6 and 7 carefully.

1. Bid Form
 - A. The Bid Form has been executed and signed.
 - B. Addendum Acknowledgement Form has been executed and signed.
2. Bidder Qualifications Packet
3. Bid Security or Bid Bond
 - A. An executed Bid Security (Bid Bond) in the amount indicated on the Invitation to Bid.
 - B. Verify that the Certificate showing the Corporate Principal on the form is executed if applicable.
4. Alaska Business License, a copy of your current license must be included.
5. Alaska Contactor Certificate of Registration
 - A. A copy of your current Alaska Contractor License of Registration in the bidder's name must be included with the bid.
 - B. The Contractor is required to verify that the appropriate license(s) is in place prior to submitting their bid for the project's scope of work.
6. A bid may be rejected if it contains any alterations or erasures that are not initialed by the signer of the bid.

Note: Any certified checks may be held uncollected at the risk of bidders submitting them.

1. General

Bidders are requested to study and follow these instructions about the method and form for submitting bids to avoid having their bid rejected.

Bidders will find all required forms and documents contained within this assembly. Please notice under Section 7, Required Documents for Bid, as to which forms and documents are required for your bid to be considered.

2. Explanation to Bidders

Requests from bidders concerning interpretations or clarifications of the bid documents shall be made in writing to the project manager through Bid Express at www.bidexpress.com. Such requests shall arrive at least three working days prior to the date for opening bids. There needs to be sufficient time allowed for a reply to reach all bidders before the submission of the bids. Explanations made will be in the form of an addendum to the specifications or drawings and will be furnished to all bidders and receipt of the addendum must be acknowledged on the Addendum Form.



3. Site Conditions

Bidders are encouraged to visit the site to ascertain pertinent local conditions, location, accessibility, terrain, labor conditions, conditions of surrounding areas, and any other aspect that may impact the project. A site visit will be held immediately after the pre-bid meeting.

4. Addenda Requirements

All bids must include the Addendum Acknowledgement Form. If addendums have been issued the bidder must state on the form all the addendums have been acknowledged. If no addendums were issued then the bidder is to write “NONE” on the form. The Addendum Acknowledgement Form shall be reviewed prior to acceptance of the bid.

5. Submissions of Bids

All bids must be submitted electronically through Bid Express at www.bidexpress.com. Hard copy or paper submissions will not be accepted.

All electronic bidders must first register on bidexpress.com. Instead of paying paper bidding costs (hand or hired delivery costs), a fee of \$40 will be incurred for those who wish to bid electronically on a pay-per solicitation basis. Alternatively, you may subscribe for \$50 per month for unlimited electronic bid submission for all agencies posting solicitations on the bidexpress.com website, plus get email notifications by agency/work type/commodity code.

For bidders who are bidding online and wish to utilize the electronic bid bond option, please see the [FAQs](#) page regarding electronic bid bonds (bottom of the page in the link).

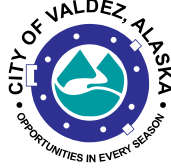
For additional guidance, please contact the Bid Express team at toll free (888) 352-2439 (select option 1) or at support@bidexpress.com

6. Preparation of Bids

Bids shall be submitted on the forms furnished on Bid Express.

The Bid Form will provide for quotation or price for all items. Bidders must quote on all items. Failure to do so may result in disqualification. Alternative bids will not be acceptable unless requested.

Bids can be modified until the bid deadline on Bid Express. Modification by facsimile or email will NOT be allowed for bids.



7. Required Documents for Bid

The following listed documents are to be completed and submitted at the time of bidding. Deviation from these requirements will be grounds for rejection of the bid.

- A. Addendum Acknowledgement Form, fully completed original (see Item 6 above also)
- B. Bid Schedule, fully completed original (see Item 6 above also)
- C. Bidder Qualifications Packet
- D. Bid Bond, original
- E. Copy of current and appropriate Alaska Contractor License for this Scope of Work.
- F. Copy of current Alaska Business License

8. Required Documents for Award of the Contract

The following documents must be executed prior to award of the contract and the initiation of work. Contractors are urged to expedite the completion of these documents. This will allow the contract award and notice to proceed to be issued expeditiously. These documents must be submitted within ten (10) working days after the date of notice of award.

- A. Agreement Pages (2 signed copies)
- B. Entity Acknowledgement (Corporate, LLC, Limited Partnership, Individual)
- C. Non-collusion Affidavit
- D. Contract Bond (Payment Bond: See Bonding Requirements below)
- E. Contract Bond (Performance Bond: See Bonding Requirements below)
- F. Certificate of Insurance naming City of Valdez as an "Additional Insured"
- G. Original signature pages (last page of bid schedule and bid bond)
- H. Certificate of good standing for a Corporation or LLC
- I. City of Valdez Business Registration
- J. Executed W-9 Form
- K. Proof of application for City of Valdez building permit submitted to the Planning Department.

9. Bonding Requirements

- A. Bid Security (Bid Bond or Certified Check)

Bid Security is required and shall be in the form of a Certified Check for each bid or a Bid Bond prepared on the attached Bid Bond Form.

The Bid Bond must be executed by the bidder as principal and be executed by a surety company authorized to transact business in the State of Alaska. The Owner must approve the surety company.

The Bid Security shall be issued for five percent (5%) of the bid amount.

Bid Securities will be returned to all except the three lowest bidders. The remaining certified checks or bid bonds will be returned, after the Owner and the accepted bidder have executed the Contract. Failure of the Owner to return the certified checks or bid



bonds in a timely manner will create no liability on the part of the Owner. If no award has been made within sixty (60) days after the bid opening, all bidders except the one who has received the notice of intent to award may request the return of their cash, check or bid bonds.

B. Contract Payment Bond

A Contract Payment Bond is not required if the total dollar amount of the contract is less than One Hundred Thousand Dollars (\$100,000).

A Contract Payment Bond is required if the total dollar amount of the contract is equal to or greater than One Hundred Thousand Dollars (\$100,000). Contract Payment Bond will be in the amount of One Hundred Percent (100%) of the Bid amount.

Contract Payment Bond shall be prepared on the Payment Bond Form that is attached. The Bond must be executed by the Contractor as principal and executed by a surety company authorized to transact business in the State of Alaska. The Owner must approve the surety company.

C. Contract Performance Bond

A Contract Performance Bond is not required if the total dollar amount of the contract is less than One Hundred Thousand Dollars (\$100,000).

A Contract Performance Bond is required if the total dollar amount of the contract is equal to or greater than One Hundred Thousand Dollars (\$100,000). Contract Performance Bond will be in the amount of One Hundred Percent (100%) of the Bid amount.

Contract Performance Bond shall be prepared on the Performance Bond Form that is attached. The Bond must execute by the Contractor as principal and executed by a surety company authorized to transact business in the State of Alaska. The Owner must approve the surety company.

Section 2.80.080 of Valdez City Code provides for a modified contractor bond. Bidders shall familiarize themselves with exemptions allowed and the requirements for exemptions.

10. Bidder Qualifications

Before a bid is considered for award, the apparent low bidder may be requested to submit a statement of facts or proof in detail as to his previous experience in performing similar or comparable work, technical abilities, equipment, size, manpower and financial resources to complete and perform the work as outlined in the contract documents, plans and specifications.



11. Withdrawal of Bids

Bids may be withdrawn by written request received from the bidder prior to the bid opening time. Errors on the part of the bidder in preparing the bid, confers no right for the withdrawal of the bid after the bid has been opened.

12. Bidders Interested in More than One Bid

If any one party, by or in name of his or their agent, partner or other person, offers more than one bid, all such bids will be rejected. A party who quoted prices to a bidder is not disqualified from quoting prices to other bidders or from a bid directly for the work.

13. Rejection of Bids

The Owner reserves the right to reject any and all bids, when such rejection is in the interest of the Owner; to reject the bid of a bidder who previously failed to perform properly or to complete on time; and to reject the bid of a bidder who is not, in the opinion of the Owner in, in a position to perform the contract; or to waive any irregularities or informalities in a bid.

14. Hiring of Local Labor

The Owner encourages every Contractor and Subcontractor to employ, to the maximum extent practical and allowed by law, qualified people who regularly reside in the project area.

15. Local Bidder Preference

The Valdez City Code provides for a local bidder preference as follows:

Section 2.80.020 Definitions

“Local bidder” means a bidder that is not delinquent in the payment of any taxes, fees, assessments, or other charges owing the city and satisfies one of the requirements set forth in subsections (1) through (3) of this definition for a period of eighteen consecutive months immediately prior to the opening of a competitive city bid for which the bidder wishes to utilize the local bidder preference:

1. If the bidder is a corporation or limited liability company, the bidder’s primary business address has a city of Valdez postal zip code, as reflected on the bidder’s state of Alaska business license or the records of the State of Alaska Department of Commerce, Community and Economic Development, Division of Corporations;
2. If the bidder is an individual, the bidder’s primary business or residential address has a city of Valdez postal zip code, as reflected on the bidder’s state of Alaska business license;
3. If the bidder is a general partnership, a limited partnership, or a joint venture, at least one of the general partners has a postal zip code compliant with subsection (1) or (2) of this definition.



Section 2.80.065H Competitive Bidding

Except where prohibited by state or federal grant requirements, a local bidder, as defined in Section 2.80.020, may be given consideration as low bidder where the offer is the lesser of ten percent or fifty thousand dollars in excess of the lowest offer received from a bidder not qualified as a local bidder. The city may split the award between two or more suppliers in any manner the City deems to be in its best interest.

16. Award of Bid

The bid, if awarded, will be awarded to the highest scoring qualified and responsive firm by the terms of the City Code and this document.

17. Pre-Bid Conference

A non-mandatory Pre-Bid Conference will be held at the Capital Facilities Conference room, 300 Airport Road, Suite 206, Valdez, Alaska on **February 18, 2025, at 3:00pm**. Please contact the City's project manager, Lindy Vititow, by e-mail at (LVititow@valdezak.gov) if you would like an e-mail sent to you with the Microsoft Teams electronic link to join this meeting remotely OR log into Microsoft Teams and enter the following access information below. A site visit will immediately follow the pre-bid conference.

Valdez Civic Center Green Room Renovation-Pre-Bid Meeting

Microsoft Teams: Remote Access Instructions-

Meeting ID: 225 445 076 43

Passcode: c8bJ9Ut7

18. Pre-Award Conference

Before the award of the contract a Pre-Award Conference may be held between the Architect or Project Manager and the apparent low bidder.



**City of Valdez
Addendum Acknowledgement**

**Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256**

The bidder acknowledges receipt of the following addenda and certifies that their contents have been considered in the preparation of this Bid. If there are no addendums please state NONE above your name.

Addendum Number _____	Dated _____	Initials _____
Addendum Number _____	Dated _____	Initials _____
Addendum Number _____	Dated _____	Initials _____
Addendum Number _____	Dated _____	Initials _____
Addendum Number _____	Dated _____	Initials _____
Addendum Number _____	Dated _____	Initials _____
Addendum Number _____	Dated _____	Initials _____
Addendum Number _____	Dated _____	Initials _____
Addendum Number _____	Dated _____	Initials _____
Addendum Number _____	Dated _____	Initials _____

See Attached Electronic Copy!

Company Name

Authorizing Name

Date

Title

Signature

Addendum Acknowledgment

The bidder acknowledges receipt of the following addenda and certifies that their contents have been considered in the preparation of this Bid. If an addendum is issued after you have submitted your bid, you will need to come back to this form and update your Addendum Acknowledgment to reflect the new addendum.

Addendum Acknowledgment

Addendum 1 issued 2/24/25

Initials *

BB

Addendum 2 issued 2/27/25

Initials *

BB

Company Name *

Barnett Building LLC

Authorizing Name *

Brad Barnett

Date *

03/04/2025

Title *

Owner

.

Signature *

Brad Barnett

NON-COLLUSIVE AFFIDAVIT

State of Alaska

County of Valdez/Cordova

Brad Barnett Barnett Building LLC being first duly sworn,
deposes and says:

That he/she is Owner (a partner or officer of the firm of, etc.) the party making the foregoing proposal or bid, and attests to the following:

- (1) That Affiant employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he/she received payment, other than persons regularly employed by the Affiant whose services in connection with the construction of public building or project, or in securing the public contract were in the regular course of their duties for Affiant; and
- (2) That no part of the contract price received by Affiant was paid to any person, corporation, firm, association or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by the Affiant whose services in connection with the construction of the public building or project were in the regular course of their duties for Affiant; and
- (3) That such proposal or bid is genuine and not collusive or sham; that said bidder has not colluded, conspired, connived or agreed, directly or indirectly, with any Bidder or person, to put in a sham bid or to refrain from bidding, and has not in any manner, directly or indirectly, sought by agreement or collusion, or communication or conference, with any person, to fix the bid price of Affiant or of any other Bidder, or to fix any overhead, profit or cost element of said bid price, or of that of any other Bidder, or to secure any advantage against the Housing Authority of any person interested in the proposed contract; and that all statements in said proposal or bid are true.

[Handwritten Signature]

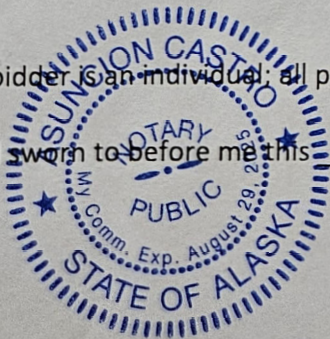
(Signature)*

(Signature)*

(Signature)*

*Bidder if the bidder is an individual; all partners if Bidder is a partnership; officer if Bidder is a corporation.

Subscribed and sworn to before me this 4th day of March, 2025



[Handwritten Signature]
Notary Public

My Commission expires: Aug. 29, 2025



**City of Valdez
Bid Schedule
Page 1 of 2**

**Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256**


<u>Item No.</u>	<u>Item Description</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Total Item Price</u>
1	Mobilization and Demobilization	All Req'd	Lump Sum	N/A	
2	All Labor and Materials required per construction documents and specifications to complete Base Bid work	All Req'd	Lump Sum	N/A	
3	Submittals, Shop & Record Drawings, O&M Manuals, and Close-out Punchlist	All Req'd	Lump Sum	N/A	
4	Owner's Contingency	1	Lump Sum	\$35,000	\$35,000
PLEASE NOTE	Line Items Below are for Additive Alternate pricing only and for work beyond the Base Bid Above. Pricing for these Alternates is Required for Bids to be Accepted. Additive Alternates May or May NOT be Awarded.				
ADDITIVE ALTERNATE 1	Toilet Fixtures, Wall, Finish Replacement - All Labor and Materials required to complete Alt. 1 work, per the construction drawings and specifications.	All Req'd	Lump Sum	N/A	
ADDITIVE ALTERNATE 2	Lighting - All Labor and Materials required to complete Alt. 2 work, per the construction drawings and specifications.	All Req'd	Lump Sum	N/A	
ADDITIVE ALTERNATE 3	Data - All Labor and Materials required to complete Alt. 3 work, per the construction drawings and specifications.	All Req'd	Lump Sum	N/A	

Bid Schedule Page 1 of 2**\$449,900.00**

Item No.	Item Description	Quantity	Unit	Unit Price	Extension
1	Mobilization and Demobilization	1.0000	LS	\$10,000.00	\$10,000.00
2	All Labor and Materials required per construction documents and specifications to complete base bid work	1.0000	LS	\$354,900.00	\$354,900.00
3	Submittals, Shop & Record Drawings, O&M Manuals, and Close-out Punchlist	1.0000	LS	\$50,000.00	\$50,000.00
4	Owners Contingency	1.0000	LS	\$35,000.00	\$35,000.00
				Total:	\$449,900.00

Bid Schedule Alternate 1 Page 1 of 2

\$135,760.00


Item Code	Description	Quantity	Units	Unit Price	Extension
 Alternate: Owner-agency may award independently from entire bid.					
AA-1	Toilet Fixtures, Wall, Finish Replacement - All Labor and Materials required to complete Alt. 1 work, per the construction drawings and specifications.	1.0000	LS	\$135,760.00	\$135,760.00

Alternate Total: \$135,760.00

Total: \$135,760.00

Bid Schedule Alternate 2 Page 1 of 2


\$95,220.00

Item Code	Description	Quantity	Units	Unit Price	Extension
 Alternate: Owner-agency may award independently from entire bid.					
AA-2	Lighting - All Labor and Materials required to complete Alt, 2 work, per the construction drawings and specifications.	1.0000	LS	\$95,220.00	\$95,220.00
Alternate Total:					\$95,220.00

Total: \$95,220.00

Bid Schedule Alternate 3 Page 1 of 2

\$20,960.00

Item Code	Description	Quantity	Units	Unit Price	Extension
 Alternate: Owner-agency may award independently from entire bid.					
AA-3	Data - All Labor and Materials required to complete Alt. 3 work, per the construction drawings and specifications.	1.0000	LS	\$20,960.00	\$20,960.00

Alternate Total: \$20,960.00

Total: \$20,960.00



City of Valdez
Bid Schedule
Page 2 of 2

Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256

Total **Base Bid** Amount (Add Line Items 1-4):

_____ Dollars _____ Cents
(\$ _____)

I, _____, hereinafter called Bidder, an individual doing business as _____, (strike out inapplicable words:) a partnership, a corporation incorporated in the State of Alaska, a joint venture, hereby submits this bid and agrees: to hold this bid open for forty five (45) days, to accept the provisions of the Instruction to Bidders, to accomplish the work in accordance with the contract documents, plans, specifications, for the lump sum and unit price amounts as set forth in this bid schedule.

Respectfully submitted this _____ day of _____, 202__

BIDDER:

Company Name

Authorizing Name

Address

Title

City, State, Zip Code

Signature

Telephone Number

Email Address

CORPORATE SEAL

Federal I.D. or S.S.N.

ATTEST:

Signature of Corporate Sec.

Print Name

See Attached Electronic Copy

Bid Schedule Page 2 of 2 - ORIGINAL WILL NEED TO BE SUBMITTED BY SUCCESSFUL BIDDER

I (*authorized name below*), herinafter called Bidder, an individual doing business as (*company name below*), (strike out inapplicable words in original document:) a partnership, a corporation incorporated in the State of Alaska, a joint venture, hereby submits this bid and agrees: to hold this bid open for forty five (45) days, to accept the provisions of the Instruction to Bidders, to accomplish the work in accordance with the contract documents, plans, specifications for the lump sum and unit price amounts as set forth in this bid schedule.

Company Name *

Barnett Building LLC

Authorizing Name *

Brad Barnett

Address *

Po Box 182

Date *

03042025

City, State, Zip Code *

Valdez, Ak 99686

Title *

Owner

Telephone Number *

(907) 255-2723

Signature (typed) *

Brad Barnett

**Federal I.D. or
S.S.N. ***

81-1184628



**City of Valdez
Bid Bond**

KNOW ALL MEN BY THERE PRESENTS, that we

Barnett Building LLC
PO Box 182
Valdez, AK 99686-0182

(Insert full name and address or legal title of Contractor)

as Principal, hereinafter called the Principal, and

Lexon Insurance Company
10002 Shelbyville Road, Ste. 100
Louisville, KY 40223-2910

(Insert full name and address or legal title of Surety)

a corporation duly organized under the laws of the State of Alaska as surety, hereinafter called the Surety, are held and firmly bound unto

City of Valdez
P.O. Box 307
Valdez, Alaska 99686

as Obligee, hereinafter called the Obligee, in the sum of

five percent (5%) of the total bid amount Dollars (\$ five percent (5%) of the total bid amount),

For the payment of which sum well and truly to be made, the said Principal and the Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Whereas, the Principal has submitted a bid for

**Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256**

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with Obligee in accordance with terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

Signed and sealed this 3rd day or March, 2025

(Witness)

DocuSigned by:
Barnett Building LLC
(Principal) CC1971A99002105...
LLC Member Brad Barnett
(Title)

(Witness)

DocuSigned by:
Lexon Insurance Company
(Surety) (Seal)
Shelby Roberts
(Title) Shelby Roberts, Attorney-in-Fact
6EA3775358644A2...





POWER OF ATTORNEY

KNOW ALL BY THESE PRESENTS, that **Endurance Assurance Corporation**, a Delaware corporation ("EAC"), **Endurance American Insurance Company**, a Delaware corporation ("EAIC"), **Lexon Insurance Company**, a Texas corporation ("LIC"), and/or **Bond Safeguard Insurance Company**, a South Dakota corporation ("BSIC"), each, a "Company" and collectively, "**Sompo International**," do hereby constitute and appoint: Shelby Roberts

as true and lawful Attorney(s)-In-Fact to make, execute, seal, and deliver for, and on its behalf as surety or co-surety; bonds and undertakings given for any and all purposes, also to execute and deliver on its behalf as aforesaid renewals, extensions, agreements, waivers, consents or stipulations relating to such bonds or undertakings provided, however, that no single bond or undertaking so made, executed and delivered shall obligate the Company for any portion of the penal sum thereof in excess of the sum of \$250,000.00

Such bonds and undertakings for said purposes, when duly executed by said attorney(s)-in-fact, shall be binding upon the Company as fully and to the same extent as if signed by the President of the Company under its corporate seal attested by its Corporate Secretary.

This appointment is made under and by authority of certain resolutions adopted by the board of directors of each Company by unanimous written consent effective the 30th day of March, 2023 for BSIC and LIC and the 17th day of May, 2023 for EAC and EAIC, a copy of which appears below under the heading entitled "Certificate".

This Power of Attorney is signed and sealed by facsimile under and by authority of the following resolution adopted by the board of directors of each Company by unanimous written consent effective the 30th day of March, 2023 for BSIC and LIC and the 17th day of May, 2023 for EAC and EAIC and said resolution has not since been revoked, amended or repealed:

RESOLVED, that the signature of an individual named above and the seal of the Company may be affixed to any such power of attorney or any certificate relating thereto by facsimile, and any such power of attorney or certificate bearing such facsimile signature or seal shall be valid and binding upon the Company in the future with respect to any bond or undertaking to which it is attached.

IN WITNESS WHEREOF, each Company has caused this instrument to be signed by the following officers, and its corporate seal to be affixed this 25th day of May, 2023.

Endurance Assurance Corporation
By: *Richard M Appel*
Richard Appel; SVP & Senior Counsel



Endurance American Insurance Company
By: *Richard M Appel*
Richard Appel; SVP & Senior Counsel



Lexon Insurance Company
By: *Richard M Appel*
Richard Appel; SVP & Senior Counsel



Bond Safeguard Insurance Company
By: *Richard M Appel*
Richard Appel; SVP & Senior Counsel



ACKNOWLEDGEMENT

On this 25th day of May, 2023, before me, personally came the above signatories known to me, who being duly sworn, did depose and say that he/she is an officer of each of the Companies; and that he executed said instrument on behalf of each Company by authority of his office under the by-laws of each Company.

By: *Amy Taylor*
Amy Taylor, Notary Public - My Commission Expires 3/9/27



CERTIFICATE

I, the undersigned Officer of each Company, DO HEREBY CERTIFY that:

1. That the original power of attorney of which the foregoing is a copy was duly executed on behalf of each Company and has not since been revoked, amended or modified; that the undersigned has compared the foregoing copy thereof with the original power of attorney, and that the same is a true and correct copy of the original power of attorney and of the whole thereof;
2. The following are resolutions which were adopted by the board of directors of each Company by unanimous written consent effective 30th day of March, 2023 for BSIC and LIC and the 17th day of May, 2023 for EAC and EAIC and said resolutions have not since been revoked, amended or modified:

"RESOLVED, that each of the individuals named below is authorized to make, execute, seal and deliver for and on behalf of the Company any and all bonds, undertakings or obligations in surety or co-surety with others: RICHARD M. APPEL, MATTHEW E. CURRAN, MARGARET HYLAND, SHARON L. SIMS, CHRISTOPHER L. SPARRO, and be it further

RESOLVED, that each of the individuals named above is authorized to appoint attorneys-in-fact for the purpose of making, executing, sealing and delivering bonds, undertakings or obligations in surety or co-surety for and on behalf of the Company."

3. The undersigned further certifies that the above resolutions are true and correct copies of the resolutions as so recorded and of the whole thereof.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the corporate seal this 3rd day of March, 2025.

By: *Daniel S. Lorie*
Daniel S. Lorie, Secretary

NOTICE: U. S. TREASURY DEPARTMENT'S OFFICE OF FOREIGN ASSETS CONTROL (OFAC)

No coverage is provided by this Notice nor can it be construed to replace any provisions of any surety bond or other surety coverage provided. This Notice provides information concerning possible impact on your surety coverage due to directives issued by OFAC. **Please read this Notice carefully.**

The Office of Foreign Assets Control (OFAC) administers and enforces sanctions policy, based on Presidential declarations of "national emergency". OFAC has identified and listed numerous foreign agents, front organizations, terrorists, terrorist organizations, and narcotics traffickers as "Specially Designated Nationals and Blocked Persons". This list can be located on the United States Treasury's website - <https://www.treasury.gov/resource-center/sanctions/SDN-List>.

In accordance with OFAC regulations, if it is determined that you or any other person or entity claiming the benefits of any coverage has violated U.S. sanctions law or is a Specially Designated National and Blocked Person, as identified by OFAC, any coverage will be considered a blocked or frozen contract and all provisions of any coverage provided are immediately subject to OFAC. When a surety bond or other form of surety coverage is considered to be such a blocked or frozen contract, no payments nor premium refunds may be made without authorization from OFAC. Other limitations on the premiums and payments may also apply.

Any reproductions are void.

Surety Claims Submission: LexonClaimAdministration@sompo-intl.com

Telephone: 615-553-9500 Mailing Address: Sompo International; 12890 Lebanon Road; Mount Juliet, TN 37122-2870

Alaska Department of Commerce, Community, and Economic Development

Division of Corporations, Business, and Professional Licensing
PO Box 110806, Juneau, AK 99811-0806

This is to certify that

BARNETT BUILDING LLC

PO Box 182, Valdez, AK 99686

owned by

BARNETT BUILDING LLC

is licensed by the department to conduct business for the period

October 2, 2023 to December 31, 2025
for the following line(s) of business:

23 - Construction



This license shall not be taken as permission to do business in the state without having complied with the other requirements of the laws of the State or of the United States.

This license must be posted in a conspicuous place at the business location.
It is not transferable or assignable.

Julie Sande
Commissioner

BARNETT BUILDING LLC
PO Box 182
Valdez, AK 99686



Department of Commerce, Community, and Economic Development

CORPORATIONS, BUSINESS & PROFESSIONAL LICENSING

[State of Alaska](#) / [Commerce](#) / [Corporations, Business, and Professional Licensing](#) / [Search & Database Download](#) / [Professional Licenses](#) / License Details

LICENSE DETAILS

This serves as primary source verification* of the license.

License #: 109624

Program: Construction Contractors

Type: General Contractor With Residential Contractor Endorsement

Status: Active

DBA: Barnett Building

Issue Date: 03/29/2016

Effective Date: 12/31/2024

Expiration Date: 09/30/2026

Mailing Address: VALDEZ, AK, UNITED STATES

Public Note: CONTRACTOR HAS PREVIOUS LICENSE. CONE39323

*Primary Source verification: License information provided by the Alaska Division of Corporations, Business and Professional Licensing, per AS 08 and 12 AAC.

Owners

Owner Name	Entity Number
BARNETT BUILDING LLC	10035099

Relationships

Title	License/Entity #	Name	License Status	Expiration Date
Residential Endorsement Assignee	109625	Brad Barnett	Active	09/30/2026

Designations

No Designations Found

Agreements & Actions

No Agreements Or Actions

2/28/2025 12:12:47 PM (Alaskan Standard Time)

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CONTACT US



City of Valdez
Agreement Page 1 of 2

Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256

This agreement is made on the ____ day of _____, 202__, by and between the City of Valdez, Alaska, hereinafter called the Owner, acting through its Mayor, and Barnett Building, LLC doing business as an limited liability company located in Valdez, Alaska hereinafter called the Contractor.

The Contractor agrees to this Contract known as: Barnett Building, LLC

Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256

Furthermore the Contractor agrees to accept as full and complete payment for all work to be done in this Contract for the lump sum and per unit prices as set forth in the Bid Form and Addendums in the Contract Documents for this project. The total amount of this Contract shall be: Seven Hundred and One thousand -Eight Hundred and Forty Dollars and Zero Cents. **\$701,840.00**. Part of this amount includes an Owner's Contingency of \$35,000 that is used at the owner's discretion and is NOT required to be paid out.

The Contractor hereby agrees to commence work on this project within ten (10) working days after the date of the written Notice to Proceed and to Substantially Complete all work in accordance with the Contract Documents and Addendums by November 1, 2025. The Contractor further agrees to meet Final Completion and Project Close-out by November 25, 2025, in accordance with the Contract Documents and Addendums. Said contract documents are listed in the Table of Contents herein. All documents listed therein are by this reference made a part hereof.

The Contractor further agrees to pay, as liquidated damages, the sum of (Seven Hundred Fifty dollars) (\$ 750.00) for each calendar day in excess of the "substantial completion" date specified in the written Notice to Proceed in which this project remains substantially incomplete and liquidated damages, in the sum of (One Thousand dollars) (\$ 1,000.00) for each calendar day in excess of the "final completion and project close-out" date specified in the written Notice to Proceed has not been met.

The Owner agrees to pay the Contractor for the performance of the Contract, subject to additions and deductions, as provided in the City of Valdez Standard Specifications Section 10 Standard General Provisions of this Contract, and to make payments on account thereof as provided in the City of Valdez Standard Specifications Section 10 Standard General Provisions and City of Valdez City Code.



**City of Valdez
Agreement Page 2 of 2**

**Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256**

IN WITNESS WHEREOF, the parties to this presence have executed this Contract in two (2) counterparts, each of which shall be deemed as original, in the year and day first mentioned above.

Barnett Building, LLC

City of Valdez, Alaska, Authorized

Signature

Dennis Fleming, Mayor

Name

Date

Title

Attested:

Date

Sheri L. Pierce, MMC, City Clerk

Date

Mailing Address

Recommended:

City, State, Zip Code

John Douglas, City Manager

Federal I.D. or S.S.N.

Date

Corporate Secretary

Nathan Duval, Capital Facilities Director

Date

Approved as to Form:
Brena, Bell & Walker, P.C.

Attest: _____
Corporate Secretary

Jon S. Wakeland

Date



**City of Valdez
Corporate Acknowledgement**

**Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256**

(To be filled in when Contract is executed in behalf of Corporation)

UNITED STATES OF AMERICA)
)SS.
STATE OF ALASKA)

The foregoing instrument was acknowledged before me this ___ day of _____, 20_____.

(Name of Officer)

(Title of Officer)

(Name of Corporation)

_____ Corporation, on behalf of said Corporation.
(State of Incorporation)

Notary Public

My Commission Expires: _____



**City of Valdez
Labor and Material Payment Bond**

**Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256**

Know all men by these presents that:

(Insert full name and address or legal title of Contractor)

as Principal, hereinafter called Principal, and,

(Here insert full name and address or legal title of Surety)

as Surety, hereinafter called Surety, are held and firmly bound unto

**City of Valdez
P.O. Box 307
Valdez, Alaska 99686**

as Obligee, hereinafter called Owner, for the use and benefit of claimants as herein below defined, in the amount of

Dollars (\$ _____),
(Here insert a sum equal to the contract amount)

for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS,

Principal has by written agreement dated _____, 20____, entered into a contract with Owner for

**Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256**

in accordance with Drawings and Specifications prepared by

**Wolf Architecture
625 S Cobb St
Palmer, AK 99645**

which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.



**City of Valdez
Labor and Material Payment Bond**

**Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256**

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Principal shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract, then this obligation shall be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. A claimant is defined as one having a direct contract with the Principal or with a Subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.

2. The above named Principal and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expirations of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The Owner shall not be liable for the payment of any costs or expenses of any such suit.

3. No suit or action shall be commenced hereunder by any claimant:

a) Unless claimant, other than one having a direct contract with the Principal, shall have given written notice to any two of the following: the Principal, the Owner, or the Surety above named, within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials are

furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, Owner or Surety, at any place where an office is regularly maintained for the transaction of business. Or served in any manner in which legal process may be served in the state in which aforesaid project is located, save that such service need not be made by a public officer.

b) After the expiration of one (1) year following the date on which Principal ceased Work on said Contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

c) Other than in a state court of competent jurisdiction in and for the county of other political subdivision of the state in which the Project, or any part thereof is situated, or in the United States District Court for the district in which the Project, or any part thereof, is situated, and not elsewhere.

4. The amount of this bond shall be reduced by and to the extent of any payment of payments made in good faith hereunder, inclusive of the payment by Surety or mechanic's liens which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against the bond

Signed and Sealed this _____, day of _____, 202__

(Witness)

(Principal)

(Seal)

(Title)

(Witness)

(Surety)

(Seal)

(Title)



**City of Valdez
Performance Bond**

**Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256**

KNOW ALL MEN BY THESE PRESENTS: that

(Here insert full name and address or legal title of contractor)

as Principal, hereinafter called Contractor, and ,

(Here insert full name and address or legal title Surety)

as Surety, hereinafter called Surety, are held and firmly bound unto

**City of Valdez
P.O. Box 307
Valdez, AK 99686**

as Obligee, hereinafter called Owner, in the amount of

Dollars (\$)

for the payment whereof Contractor and Surety bind themselves, their heirs, executor, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS,

Contractor has by written agreement dated _____, 20____, entered into a contract with Owner for

**Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256**

in accordance with Drawings and Specifications prepared by

**Wolf Architecture
625 S Cobb St
Palmer, AK 99645**

which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.



**City of Valdez
Performance Bond**

**Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256**

Now, therefore the condition of this obligation is such that, if Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the Owner.

Whenever Contractor shall be, and declared by Owner to be in default under the Contract, the Owner having performed Owner’s obligations thereunder, the Surety may promptly remedy the default, or shall promptly comply with one of the following:

1. Complete the Contract in accordance with its terms and conditions, or
2. Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or, if the Owner elects, upon determination by the bidder, arrange for contract between such bidder and Owner, and make available as Work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term “balance of the contract price,” as used in this paragraph, shall mean the total amount payable by Owner to contractor under the Contract and any amendments thereto, less the amount properly paid by Owner to Contractor.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the Owner named herein or the heirs, executors, administrators or successors of the Owner.

Signed and Sealed this ____ day of _____, 20 ____

(Witness)

(Principal) (Seal)

(Title)

(Witness)

(Surety) (Seal)

(Title)



**City of Valdez
Contractor Certificate of Substantial Completion**

**Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256**

CONTRACTOR: _____

This is to certify that I, _____, am a duly authorized official of the said CONTRACTOR working in the capacity of _____, and in my official capacity representing said CONTRACTOR do hereby certify as follows:

1. The work of the subject Contract above has been performed, and materials used and installed in accordance with and in conformity to, the Contract Drawings, Contract Specifications, City of Valdez Standard Specifications and Details.
2. The Contract work is now substantially complete in all parts and requirements.
3. I understand that neither the determination by the Engineer--Architect that the work is substantially complete nor the acceptance thereof by the Owner shall operate as a bar to claim against the Contractor under the terms of the guarantee provisions of the Contract Documents.
4. The work to which this Certificate applies has been properly inspected and that work is hereby declared to be substantially complete in accordance with the Contract Documents.
5. The date of Substantial Completion is the date upon which all guarantees and warranties begin.
6. The Owner accepts the Project or specified area as described under "REMARKS," of the Project as substantially complete and will assume full possession of the Project or specified area of the Project at _____(time) on _____ day, _____, 202__.

CONTRACTOR

CITY OF VALDEZ, OWNER

(Signature)

Capital Facilities Director

(Title)

Date

Date

REMARKS: _____



City of Valdez
Contract Release Page 1 of 2

Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256

The undersigned, _____
for itself, its successors in interest, assigns trustees, administrators, subcontractors, suppliers, and laborers do hereby release and forever discharge the CITY OF VALDEZ, ALASKA a municipal corporation, from all actions, causes of actions, suits, controversies, claims, damages and demands of every kind and nature, mature or to mature in the future, for and by reason of any matter, thing or claim arising out of the following Contract:

Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256

The undersigned also intends hereby to discharge the City of Valdez from all liability for any and all damages or injuries presently undiscovered or unanticipated. The undersigned's intention hereby is to waive any right it may subsequently have to set aside this release under the doctrine of Witt v. Watkins, 579 P.2d 1065 (Alaska 1978).

The undersigned further agrees to defend, indemnify and hold harmless the City of Valdez against any claims, liens, or causes of action arising under or by virtue of this Contract, including, but not limited to, any claim that the undersigned, any successor in interest, assignee, trustee, administrator, subcontractor, supplier or laborer of the undersigned or any other person might make or claim that he could possibly make against the City of Valdez.

The undersigned certifies that he has not assigned any amounts payable under this Contract to anyone.

The undersigned hereby acknowledges receipt of the amount of \$ _____
as full and final payment in consideration for all services, materials and labors rendered in connection with this Contract.

The undersigned hereby declares that the terms of this RELEASE have been completely read and are fully understood, and said terms are voluntarily accepted for the purpose of making a full and final release of any and all claims, disputed or otherwise, arising under or by virtue of this Contract.



**City of Valdez
Contract Release Page 2 of 2**

**Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256**

IN WITNESS WHEREOF, I have hereunto set my hand and seal this _____ day of _____, 20____.

COMPANY

SIGNATURE

TITLE

STATE OF ALASKA)
)ss.
THIRD JUDICIAL DISTRICT)

THIS IS TO CERTIFY that on this _____ day of _____, 20____, before me, Notary Public in and for the State of Alaska, personally appeared _____ of _____, known to me to be its _____ and acknowledged to me that he has read this foregoing RELEASE and knew contents thereof to be true and correct to the best of his knowledge and belief, and that he signed the same freely and voluntarily for the uses and purposes therein mentioned, and that he was duly authorized to execute the foregoing document according to the Bylaws or by Resolutions of said corporation.

WITNESS my hand and notarial seal this _____ day of _____, 20____.

Notary Public in and for Alaska
My Commission expires: _____



**City of Valdez
Special Provisions**

**Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256**

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**City of Valdez
Special Provisions**

**Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256**

SP 01 General Statement

The Special Provisions set forth conditions and requirements unique to this Project and are supplemental to, and supersede, the City of Valdez “Standard Specifications and Standard Details.”

SP 02 Scope of Work

Base Bid

The Scope of Work of the Base Bid of this Contract shall include providing all labor, materials, tools, equipment, transportation, supervision and facilities necessary to:

Complete all work to renovate five rooms-approximately 1600 sq. ft.-in the lower level of the Valdez Civic Center which includes: Green Room, Men’s and Women’s Dressing Rooms, Men’s and Women’s Toilet/Shower Rooms. Base Bid includes all work within the construction documents NOT noted as an Alternate. The Base Bid Work includes, but is not limited to:

- A. Remove and replace finishes - flooring, ceiling (partial), casework, toilet partitions
- B. Remove and replace casework, sinks, faucets.
- C. Install new lighting throughout, patch and paint ceilings as necessary.
- D. Remove and replace mirrors and trims; add window treatment where shown.
- E. Relocate/add data outlets
- F. Paint walls, doors, frames
- G. Upgrade ventilation to Green Room and Dressing Rooms.
- H. Install new tack board and OFCI large screen monitor.
- I. Reroute Fire alarm circuits above ceiling.

The Scope of Work is more specifically described in the attached drawings and specifications titled “Valdez Civic Center Green Room Renovation”.

Alternate Bid(s)

The Scope of Work of the Additive Alternates Bid of this Contract shall include providing all labor, materials, tools, equipment, transportation, supervision and facilities necessary to:

1. ALT. 1-Toilet Fixtures, Wall, Finish Replacement

- A. Demo Plumbing Walls, Fixtures, Partitions, Accessories in Toilet/Shower Rooms



**City of Valdez
Special Provisions**

- B. Rebuild Plumbing Walls, Install New Supply/Waste Lines, Fixtures, Supports, Finishes, Trim, and Toilet Partitions
- C. Re-Skin Toilet/Shower Rm Walls, Install new GWB and Wall Protection

2. ALT. 2-Lighting

- A. Prepare For & Install Upgraded Light Fixtures as indicated in Electrical Drawings and Specifications
- B. Provide & Install Acoustic Ceiling Tile
- C. Stand Off Mirrors to Align with Face of New Light Fixtures

3. ALT. 3-Data Drops

- A. Provide Additional Data Drops as Indicated in Electrical Drawings and Specifications

NOTE: All “Substitution Requests” must be submitted digitally through Bid Express at www.bidexpress.com, prior to the Deadline for all Questions regarding this bid which is 3:00pm (local AK time) on February 21, 2025. “Substitution Requests” must be submitted meeting all requirements within “Specifications Section 1.4 – Substitution Requests”, in order to be considered. All Substitution Requests must be pre-approved by the City of Valdez and issued within an addendum prior to the bid deadline, to include those substitutions within your bid.

SP 03 Time of Completion

On-site work in the building may NOT commence prior to August 18, 2025. All work shall be substantially complete in accordance with the Contract Documents and Addendums by November 1, 2025, as stated within the written Notice to Proceed.

Substantial Completion shall be defined as the stage in the progress of the work when the work is sufficiently complete in accordance with the Contract Documents so the Owner (City) can occupy or use the structure or that which is the subject of the contract, for its intended use.

Liquidated damages will be assessed in the sum of Seven Hundred Fifty dollars (\$ 750.00) for each calendar day after the “substantial completion” date of November 1, 2025, is not met and during which the Project remains “substantially” incomplete.

All work must meet the “final completion and project close-out” requirement deadline of November 25, 2025.

Liquidated damages will be assessed in the sum of One Thousand dollars (\$ 1,000.00) for each calendar day after November 25, 2025, during which the Project does not meet “final completion and project closeout” requirements.



The Contractor shall submit a construction schedule to the City's Project Manager for review and approval prior to the start of any work on site.

SP 04 Special Site Conditions

Construction may not begin prior to August 18, 2025. The staging of equipment and materials may start earlier if coordinated with the Project Manager area and approval of the Civic Center Manager.

Contractor staging area will be provided within the north parking lot adjacent to the Civic Center building. The exact staging location must be coordinated and pre-approved by the City's Project Manager and the Civic Center Manager prior to any construction materials and/or equipment being placed on-site.

The Contractor will be provided a work window at the Civic Center of 24 hours per day, 7 days a week, **EXCEPT** for one to two evenings per month, during a public music event held by the Valdez Art's Council. These monthly events will take place one or two evenings in September, October, and November 2025 from the hours of 4:00pm-10:00pm. During these Art Council Music Events, no construction work will be allowed to take place. The exact dates for these events will be provided to the awarded Contractor once the Art's Council has finalized their music schedule.

The Civic Center will remain open for business during construction. The Contractor will need to provide signage and detours to route patrons away from dangerous work areas and into safe entrances.

The work on this project takes place inside a public building. Workers will need to be professional and courteous while on the job site. Loud, obnoxious behavior and cursing within earshot of the public and staff will not be tolerated.

Smoking is prohibited inside the Civic Center. Smokers must follow the Civic Center's protocol for smoking outside.

The Contractor will be responsible for the disposal of all refuse and debris generated by the project. The City has, on a limited 'first come first served' basis, dumpsters for use free of charge on City projects if available.

Dump fees will be waived. The Contractor will be responsible for hauling demolished materials and construction waste out to the City Baler facility on South Sawmill Drive. The Baler is located approximately 5 miles out of town. Please contact the Baler ahead of time to make arrangements for the disposal of such materials. **The Baler's number is 907-835-2356.** The project name or contract number will be required on all Baler disposal forms and when calling to reserve or empty dumpsters.

The Contractor must coordinate with the City Project Manager an approved location for the construction dumpster prior to being placed on-site.



Local building permit fees are waived. The Contractor will be responsible for obtaining any required local building permits before the NTP is issued. The Contractor will need to call the City Planning Department at 907-834-3401. The Contractor is responsible for coordinating and obtaining all required inspections with the City Building Inspector for the duration of the project.

The City submitted all project drawings and specifications to the Alaska State Fire Marshal's office for review. Upon reviewing the work within the project's construction documents, they deemed a State Fire Marshal permit is NOT required.

Contractor is required to furnish and maintain a portable restroom facility on-site for the use of construction workers for the duration of the project. The location of the temporary portable restroom facility must be pre-approved by the City's Project Manager and the Civic Center Manager, prior to on-site installation.

The Contractor will be responsible for moving furniture and other items necessary to complete the work.

The Contractor is responsible for setting up detours and safety barricades if their work is in a public area and will interfere with normal traffic flow.

The Contractor is responsible for making sure all emergency egress exits are always safely accessible during construction operations.

The Contractor is responsible for maintaining normal work environments for Civic Center staff and public use of this facility. An approved work plan and proper on-site supervision must be provided by the Contractor throughout all stages of construction to final completion.

The Contractor will be responsible for protecting hallway carpet, interior walls, ceilings, and doorways adjacent to and within proximity of all construction work.

SP 05 Hazardous Waste Generation

Every effort to minimize or eliminate the generations of hazardous waste shall be used by the Contractor in the performance of the work of this Contract. Unless there is no substitute, no hazardous material shall be used in the performance of the work of this Contract.

SP 06 Coordination and Schedule

The Contractor shall, within ten (10) working days of the date of the Notice to Proceed, submit to the Project Manager a schedule as required in Section 10.5, Control of Work, Article 5.3. The schedule shall be updated every week. An updated schedule shall be submitted with each of the Contractor's Periodic Payment Requests. Failure to provide an updated schedule will be cause to withhold partial payment.



SP 07 Site Preservation, Restoration, Cleanup and Environmental Reporting

The Contractor shall be solely responsible for damage to public or private property caused by construction operations. The Contractor shall take all precautions necessary to control dust. The Contractor shall notify the City of any claims of damage, and shall clean and restore any property so damaged at the sole expense of the Contractor. All spills or releases of any hazardous substance shall be reported to the appropriate governmental agency as well as notice to the City. Contractor shall be responsible for all associated cleanup costs and fines.

At all times during the work, keep the premises clean and orderly. Upon completion of the work, repair all damage caused by equipment and leave the Project free of rubbish and excess materials of any kind.

SP 08 Permits

The Contractor shall obtain all licenses and permits that are required to do the work. A Building Permit will be required but there will be no charge.

SP 09 Order of Award of Alternative Bids

Additive Alternate and/or Deductive Alternative Bids will be awarded, if any are awarded, in any order determined to be the most advantageous combination by the owner.

SP 10 Payment

Payments shall be in accordance with Section 10.07, Measurement and Payment of the CVSS. All invoices for payment must be submitted on a City of Valdez *Periodic Payment Request Form*. An electronic copy of this form (Excel Spreadsheet) will be made available for the Contractor's use.

Disbursement of money to a person, firm or corporation will be made only after all the various receivable accounts of the general government and any municipal utility or enterprise have been reviewed for outstanding balances owed, and the disbursement will be reduced by setting off the amount of any delinquent indebtedness due the city from such person, firm or corporation.

All contracts to which the city is a party which will or may involve the disbursement of city funds shall contain the following clause, or its substantial equivalent: "Disbursement of money by the City of Valdez hereunder shall subject to set-off pursuant to the provisions of the Valdez City Code." Such contracts include, but are not limited to, oral contracts, employment contracts, construction contracts, purchasing contracts and contracts of any municipal utility or enterprise, including customer's deposits.

SP 11 Change Orders

Changes to the work may be accomplished after award of the contract by change order. Any change to the scope of work, including any cost difference or change in completion date from that shown in the original contract, shall be approved by the Owner in writing prior to initiation



of any such work. The Contractor shall provide a written breakdown showing costs of all materials, labor, and any markups for the work for review by the Owner prior to approval. The total amount of Contractor markups on such work shall be limited to not more than 20% of the actual cost of the work (materials and labor), or not more than 30% of the total cost of the work if such work shall be performed by a subcontractor.

SP 12 Warranty

The Contractor will provide a minimum one-year warranty from date of substantial completion on all Contractor and Subcontractor supplied materials, labor and services provided.

SP 13 Closeout

Tax Clearances

Upon completion of the project, the Contractor shall grant permission to the Alaska Department of Labor and Workforce Development to provide the Owner with clearance that all Payroll Taxes have been paid by the Contractor and all Subcontractors that have worked on the project.

In addition, the Contractor shall grant permission to the Alaska Department of Revenue to provide the Owner with clearance that all Corporate Taxes have been paid by the Contractor.

Certified Payroll

The Contractor shall provide the Owner with an approved Notice of Completion from the Alaska Department of Labor and Workforce Development upon completion of the project.

Per ADOLWD directive, a portion of the final payment shall be retained by the Owner until such time as an approved Notice of Completion is received. This standard shall also be applied to include the Payroll and Corporate tax clearances.

Release of Liens

Following final payment of the contract, the Contractor shall provide the Owner with a Release of Liens removing all claims the Owner.

Consent of Surety

Following final payment of the contract where Payment and Performance bonds have been issued, the Contractor shall in addition provide the Owner with a Consent of Surety.

Maintenance, Operation, Ownership of the Completed Project

The Contractor shall provide project documentation required to establish an effective facility management and preventative maintenance program that satisfies the requirements of AS 14.11.011(b)(4).



SP 14 References to City of Valdez Standard Specifications (CVSS)

The City of Valdez Standard Specifications & Standard Details, Streets-Drainage-Utilities-Parks, dated April 2003, hereafter referred to as CVSS, are incorporated in and become a part of the Contract Documents for the work, The Standard Specifications are available for purchase from the Engineer's Office of the City of Valdez, P.O. Box 307, Valdez, Alaska 99686 or can be downloaded from the City's website at <https://www.valdezak.gov/228/Capital-Projects-Engineering>. All work under this Contract shall comply with the latest edition and addenda to all applicable codes, ordinances, and standards.

It shall be the responsibility of the Bidder to prepare his bid so all materials and/or different arrangements of connections or fittings shall harmoniously conform with the intent of the Contract Drawings, CVSS, and the Special Provisions.

SP 15 Construction Specifications

The Specifications for construction of the work of this Project are incorporated into the following pages and on the attached drawings titled "Valdez Civic Center Green Room Renovation". These drawings are by reference included herein.



**City of Valdez
Modifications and Additions to the Standard Specifications**

**Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256**

Division 10 Standard General Provisions

Article 4.17 Record Drawings

Add the following:

The Contractor shall maintain on the job site one complete set of drawings and specifications on which all items located at the job site and all changes of material, equipment, or dimensions shall be recorded and kept current on a daily basis and shall be made available to the City of Valdez at all times. This shall include the work of the entire scope of the project and subtrades. Progress pay estimates will not be processed if the City of Valdez determines that the Contractor has failed to keep "Record Drawings" as specified. Work shall be neat and legible and, upon completion of the job, shall be turned over to the City of Valdez with a certificate of correctness.

Article 5.5 Shop Drawings, G. Resubmittal

Add the following:

Contractor to pay Architect / Engineer's current hourly rate for review time of third and subsequent resubmittals on an individual specification

Article 7.5 Progress Payments

Add the following:

Any request for payments for work accomplished within the calendar fiscal year (January 1st to December 31st) must be received by the city no later than January 31st of the following year. Failure to provide a request for payment by Jan. 31st for work accomplished the previous year will delay payment. Failure to provide a request for payment by January 31st for work accomplished the previous year will be subject to a penalty. Penalty may be assessed at a minimum of \$1000 and up to 5% of the invoice not to exceed \$10,000.

Article 7.7 Final Payments

Add the following:

Any request for final payment for work accomplished within the calendar fiscal year (January 1st to December 31st) must be received by the city no later than January 31st of the following year. Failure to provide a request for final payment by January 31st for work accomplished the



previous year will delay payment. Failure to provide a request for payment by January 31st for work accomplished the previous year will be subject to a penalty. Penalty may be assessed at a minimum of \$1000 and up to 5% of the invoice not to exceed \$10,000.



**City of Valdez
Minimum Prevailing Wage Rates**

**Project: Civic Center Green Room Renovation
Project Number: 23-350-2206 / Contract Number: 2256**

Minimum Prevailing Wage Rates and Title 36 Public Contracts Follows
See attached Links:

<http://labor.state.ak.us/lss/pamp600.htm>
<http://labor.alaska.gov/lss/forms/Pam400.pdf>

In accordance with the requirements of AS 36.05.070 and AS 36.05.080, the following provisions are included where applicable:

- (1) The Contractor or subcontractors of the Contractor shall pay all employees unconditionally and not less than once a week;
- (2) wages may not be less than those stated in the advertised specifications, regardless of the contractual relationship between the Contractor or subcontractors and laborers, mechanics, or field surveyors;
- (3) the scale of wages to be paid shall be posted by the Contractor in a prominent and easily accessible place at the site of the work;
- (4) Owner shall withhold so much of the accrued payments as is necessary to pay to laborers, mechanics, or field surveyors employed by the Contractor or subcontractors the difference between
 - (A) the rates of wages required by the contract to be paid laborers, mechanics, or field surveyors on the work; and
 - (B) the rates of wages in fact received by laborers, mechanics, or field surveyors.
- (5) If it is found that a laborer, mechanic, or field surveyor employed by the Contractor or subcontractor has been or is being paid a rate of wages less than the rate of wages required by the contract to be paid, the Owner may, by written notice to the Contractor, terminate the Contractor's right to proceed with the work or the part of the work for which there is a failure to pay the required wages and to prosecute the work to completion by contract or otherwise, and the Contractor and the Contractor's sureties are liable to Owner for excess costs for completing the work.

Title 36

Public Contracts



Wage and Hour Administration Pamphlet 400

Statutes Regulations

January 2021

Alaska Department of Labor
and Workforce Development
Labor Standards and Safety Division



**ALASKA DEPARTMENT OF LABOR
& WORKFORCE DEVELOPMENT**

Anchorage

**Alaska Department of Labor and Workforce Development
Wage and Hour Administration
1251 Muldoon Road, Suite 113
Anchorage, AK 99504
Phone: (907) 269-4900
Fax: (907) 269-4915
Email: statewide.wagehour@alaska.gov**

Fairbanks

**Alaska Department of Labor and Workforce Development
Wage and Hour Administration
675 Seventh Avenue, Station J-1
Fairbanks, AK 99701
Phone: (907) 451-2886
Fax: (907) 451-2885
Email: statewide.wagehour@alaska.gov**

Juneau

**Alaska Department of Labor and Workforce Development
Wage and Hour Administration
P.O. Box 111149
Juneau, AK 99811-1149
Phone: (907) 465-4842 Fax: (907) 465-3584
Email: statewide.wagehour@alaska.gov**

If you would like to receive Wage and Hour Administration **regulation notices** or **publications information**, they are available via electronic mail, by signing up in the GovDelivery System, <https://public.govdelivery.com/accounts/AKDOL/subscriber/new> and selecting topics *LSS – Wage and Hour – Forms and Publications* or *LSS – Wage and Hour Regulations*.

Publications are also available online at <http://labor.alaska.gov/lss/home.htm>

The Alaska Department of Labor and Workforce Development is focused on putting Alaskans to work. An important part of that mission is to ensure that working conditions and wage payment practices are legal. This publication, *Pamphlet 400, Title 36, Public Contracts*, is designed to assist employers and employees by providing the applicable laws and regulations.

This pamphlet is set out in two sections. The first section contains the Alaska Statutes (pages 1-9), and the second section contains the Alaska Administrative Code or regulations (pages 10-23). The index of topics on page 24 should provide assistance in locating all of the places a particular topic is referenced.

When reviewing the subjects contained in this pamphlet, keep in mind that the statutes carry the greater weight. The regulations have been established to further clarify and interpret language used in the statutes.

Many wage and hour issues are complex. Please take advantage of the Wage and Hour Administration's cost-free counseling services to answer your questions regarding this pamphlet and Alaska's labor laws. You may call or come in to the nearest Wage and Hour Administration office, Monday through Friday, during regular business hours and a wage and hour investigator will be happy to assist you. Addresses and phone numbers for these offices are listed on the first page of this pamphlet.

For additional copies of this pamphlet, contact the nearest Wage and Hour Administration office in Anchorage, Juneau, or Fairbanks, or you may download and print this pamphlet from our internet site at: <http://labor.alaska.gov/lss/forms/Pam400.pdf>

TITLE 36. Public Contracts

Wage and Hour Administration

Pamphlet 400 - Statutes and Regulations

January 2021

State of Alaska

Alaska Department of Labor and Workforce Development

Labor Standards and Safety Division

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Disclaimer:

Note to Readers: The statutes and administrative regulations listed in this publication were taken from the official codes, as of the effective date of the publication. However, there may be errors or omissions that have not been identified and changes that occurred after the publication was printed. **This publication is intended as an informational guide only and is not intended to serve as a precise statement of the statutes and regulations of the State of Alaska. To be certain of the current laws and regulations, please refer to the official codes.**

**ALASKA STATUTES
TITLE 36. PUBLIC CONTRACTS**

CHAPTER 05. WAGES AND HOURS OF LABOR.

Section:

- 05. Applicability
- 10. Wage rates on public construction
- 20. Basis for determining wage
- 30. Authority
- 35. Notification of contract awards
- 40. Filing schedule of employees, wages paid, and other information
- 45. Notice of work and completion; withholding of payment
- 60. Penalty for violation of this chapter
- 70. Wage rates in specifications and contacts for public works
- 80. Failure to pay agreed wages
- 90. Payment of wages from withheld payments and listing contractors who violate contracts
- 100. Effect of AS 36.05.070-36.05.110 on other laws
- 110. Contracts entered into without advertising

This chapter was modeled after the federal Davis-Bacon Act. 40 U.S.C. § 276a et seq. *Fowler v. City of Anchorage*, Sup. Ct. Op. No. 1699 (File No. 3586), 583 p.2d 817 (1978).

Sec. 36.05.005. Applicability.

This chapter applies only to a public construction contract that exceeds \$25,000.
(§ 1 ch 28 SLA 2011)

Sec. 36.05.010. Wage rates on public construction.

A contractor or subcontractor who performs work on a public construction contract in the state shall pay not less than the current prevailing rate of wages for work of a similar nature in the region in which the work is done. The current prevailing rate of wages is that contained in the latest determination of prevailing rate of wages issued by the Department of Labor and Workforce Development at least 10 days before the final date for submission of bids for the contract. The rate shall remain in effect for the life of the contract or for 24 calendar months, whichever is shorter. At the end of the initial 24-month period, if new wage determinations have been issued by the department, the latest wage determination shall become effective for the next 24-month period or until the contract is completed whichever occurs first. This process shall be repeated until the contract is completed.

(§ 14-2-1 ACLA 1949; am § 1 ch 142 SLA 1972; am § 1 ch 89 SLA 1976; am § 1 ch 69 SLA 1993; am § 1 ch 28 SLA 2011)

Sec. 36.05.020. Basis for determining wage.

A subcontract that is performed on public construction may be reduced to a basis of day labor for the purpose of determining whether or not the subcontractor or contractors have paid at not less than the prevailing scale of wage.

(§ 14-2-2 ACLA 1949)

Sec. 36.05.030. Authority; investigations; hearings; regulations; enforcement.

(a) The Department of Labor and Workforce Development has the authority to determine the prevailing wage, and whether or not this chapter is being violated. The department may when necessary for the enforcement of this chapter

(1) conduct investigations and hold hearings concerning wages;

(2) compel the attendance of witnesses and the production of books, papers and documents;

(3) adopt regulations.

(b) If a person violates this chapter the attorney general shall, when requested by the Department of Labor and Workforce Development, enforce these provisions.

(§ 14-2-3 ACLA 1949; am § 2 ch 142 SLA 1972)

Sec. 36.05.035. Notification of contract awards.

Upon awarding a public construction contract, the state or a political subdivision of the state shall

(1) immediately notify the commissioner of labor and workforce development of the amount of the contract, the effective date of the contract, the identity of the contractor and all subcontractors, the site or sites of construction and provide a project description; and

(2) verify that the bonding requirements of AS 36.25 have been met and that the requirements of AS 08.18 have been met.

(§ 3 ch 142 SLA 1972)

Sec. 36.05.040. Filing schedule of employees, wages paid, and other information.

All contractors or subcontractors who perform work on a public construction contract for the state or for a political subdivision of the state shall, before the Friday of every second week, file with the Department of Labor and Workforce Development a sworn affidavit for the previous reporting period, setting out in detail the number of persons employed, wages paid, job classification of each employee, hours worked each day and week, and other information on a form provided by the Department of Labor and Workforce Development.

(§ 14-2-4 ACLA 1949; am § 4 ch 142 SLA 1972; am § 1 ch 111 SLA 2003)

Sec. 36.05.045. Notice of work and completion; withholding of payment.

(a) Before commencing work on a public construction contract, the person entering into the contract with a contracting agency shall designate a primary contractor for purposes of this section. Before work commences, the primary contractor shall file a notice of work with the Department of Labor and Workforce Development. The notice of work must list work to be performed under the public construction contract by each contractor who will perform any portion of work on the contract and the contract price being paid to each contractor. The primary contractor shall pay all filing fees for each contractor performing work on the contract, including a filing fee based on the contract price being paid for work performed by the primary contractor's employees. The filing fee payable shall be the sum of all fees calculated for each contractor. The filing fee shall be one percent of each contractor's contract price. The total filing fee payable by the primary contractor under this subsection may not exceed \$5,000. In this subsection, "contractor" means an employer who is using employees to perform work on the public construction contract under the contract or a subcontract.

(b) Upon completion of all work on the public construction contract, the primary contractor shall file with the Department of Labor and Workforce Development a notice of completion together with payment of any additional filing fees owed due to increased contract amounts. Within 30 days after the department's receipt of the primary contractor's notice of completion, the department shall inform the contracting agency of the amount, if any, to be withheld from the final payment.

(c) A contracting agency

(1) may release final payment on a public construction contract to the extent that the agency has received verification from the Department of Labor and Workforce Development that

(A) the primary contractor has complied with (a) and (b) of this section;

(B) the Department of Labor and Workforce Development is not conducting an investigation under this title; and

(C) the Department of Labor and Workforce Development has not issued a notice of a violation of this chapter to the primary contractor or any other contractors working on the public construction contract; and

(2) shall withhold from the final payment an amount sufficient to pay the department's estimate of what may be needed to compensate the employees of any contractors under investigation on this construction contract, and any unpaid filing fees.

(d) The notice and filing fee required under (a) of this section may be filed after work has begun if

(1) the public construction contract is for work undertaken in immediate response to an emergency; and

(2) the notice and fees are filed not later than 14 days after the work has begun.

(e) A false statement made on a notice required by this section is punishable under AS 11.56.210. (§ 2 ch 111 SLA 2003; am § 1 ch 28 SLA 2011)

Sec. 36.05.050. Hours to constitute day's work. [Repealed by § 1 ch 3 SLA 1973.]

Sec. 36.05.060. Penalty for violation of this chapter.

A contractor who violates this chapter is guilty of a misdemeanor, and upon conviction is punishable by a fine of not less than \$100 nor more than \$1,000, or by imprisonment for not less than 10 days nor more than 90 days, or by both. Each day a violation exists constitutes a separate offense.

(§ 14-2-6 ACLA 1949; am § 6 ch 142 SLA 1972)

Sec. 36.05.070. Wage rates in specifications and contracts for public works.

(a) The advertised specifications for a public construction contract that requires or involves the employment of mechanics, laborers, or field surveyors must contain a provision stating the minimum wages to be paid various classes of laborers, mechanics, or field surveyors and that the rate of wages shall be adjusted to the wage rate under AS 36.05.010.

(b) Repealed by § 17 ch 142 SLA 1972.

(c) A public construction contract under (a) of this section must contain provisions that

(1) the contractor or subcontractors of the contractor shall pay all employees unconditionally and not less than once a week;

(2) wages may not be less than those stated in the advertised specifications, regardless of the contractual relationship between the contractor or subcontractors and laborers, mechanics, or field surveyors;

(3) the scale of wages to be paid shall be posted by the contractor in a prominent and easily accessible place at the site of the work;

(4) the state or a political subdivision shall withhold so much of the accrued payments as is necessary to pay to laborers, mechanics, or field surveyors employed by the contractor or subcontractors the difference between

(A) the rates of wages required by the contract to be paid laborers, mechanics, or field surveyors on the work; and

(B) the rates of wages in fact received by laborers, mechanics or field surveyors.

(§ 1 ch 52 SLA 1959; am §§ 7, 8, 17 ch 142 SLA 1972; am § 2 ch 89 SLA 1976; am § 1 ch 28 SLA 2011)

Sec. 36.05.080. Failure to pay agreed wages.

Every contract within the scope of AS 36.05.070 shall contain a provision that if it is found that a laborer, mechanic, or field surveyor employed by the contractor or subcontractor has been or is being paid a rate of wages less than the rate of wages required by the contract to be paid, the state or its political subdivision may, by written notice to the contractor, terminate the contractor's right to

proceed with the work or the part of the work for which there is a failure to pay the required wages and to prosecute the work to completion by contract or otherwise, and the contractor and the contractor's sureties are liable to the state or its political subdivision for excess costs for completing the work.
(§2 Ch 52 SLA 1959)

Sec. 36.05.090. Payment of wages from withheld payments and listing contractors who violate contracts.

(a) The state disbursing officer in the case of a state public construction contract and the local fiscal officer in the case of a political subdivision public construction contract shall pay directly to laborers, mechanics, or field surveyors from accrued payments withheld under the terms of the contract the wages due laborers, mechanics, or field surveyors under AS 36.05.070.

(b) The state disbursing officer or the local fiscal officer shall distribute to all departments of the state government and to all political subdivisions of the state a list giving the names of persons who have disregarded their obligations to employees. A person appearing on this list and a firm, corporation, partnership or association in which the person has an interest may not work as a contractor or subcontractor on a public construction contract for the state or a political subdivision of the state until three years after the date of publication of the list. If the accrued payments withheld under the contract are insufficient to reimburse all the laborers, mechanics, or field surveyors with respect to whom there has been a failure to pay the wages required under AS 36.05.070, the laborers, the mechanics or field surveyors have the right of action or intervention or both against the contractor and the contractor's sureties conferred by law upon persons furnishing labor or materials, and in the proceedings it is not a defense that the laborers, mechanics or field surveyors accepted or agreed to accept less than the required rate of wages or voluntarily made refunds.
(§ 3 ch 52 SLA 1959; am § 9 ch 142 SLA 1972; am § 1 ch 28 SLA 2011)

Sec. 36.05.100. Effect of AS 36.05.070 - 36.05.110 on other laws.

AS 36.05.070 - 36.05.110 do not supersede or impair authority granted by state law to provide for the establishment of specific wage rates.
(§ 4 ch 52 SLA 1959; am § 10 ch 142 SLA 1972)

Sec. 36.05.110. Contracts entered into without advertising.

The fact that a public construction contract authorized by law is entered into upon a cost-plus-a-fixed-fee basis or otherwise, without advertising for proposals, does not make AS 36.05.070 - 36.05.110 inapplicable if those sections are otherwise applicable to the contract.
(§ 5 ch 52 SLA 1959; am § 1 ch 28 SLA 2011)

Sec. 36.05.120. Regulations governing contractors.
[Repealed by § 17 ch 142 SLA 1972.]

ARTICLE 2. GENERAL PROVISIONS

Section:

900. Definition

Sec. 36.05.900. Definition.

In this chapter, "contracting agency" means the state or a political subdivision of the state that has entered into a public construction contract with a contractor.
(§ 3 ch 111 SLA 2003)

CHAPTER 10. EMPLOYMENT PREFERENCE

Section:

- 05. Legislative Findings
- 07. State policy
- 20. Apprentices
- 30. Reduction of work force
- 40. Application to contracts involving federal funds
- 70. Unavailability of preferred workers
- 75. Duties of commissioner of Labor and Workforce Development
- 76. Duties of state or political subdivision
- 80. Chapter incorporated in contracts
- 90. Publication of list of violators
- 100. Penalty
- 120. Investigations and hearings 900. Effect of judicial decisions
- 125. Enforcement
- 130. Resident hire report
- 140. Eligibility for preference
- 150. Determination of zone of underemployment
- 160. Preference for residents of economically distressed zones (Deleted)
- 170. Preference for economically disadvantaged minority residents (Deleted)
- 175. Preference for economically disadvantaged female (Deleted)
- 180. Projects subject to preference
- 190. Reporting provisions
- 200. Criminal penalties
- 210. Civil penalties
- 900. Effect of judicial decisions
- 990. Definitions

Sec. 36.10.005. Legislative findings.

- (a) The legislature finds that
 - (1) because of its unique climate and its distance from the contiguous states, the state has historically suffered from unique social, seasonal, geographic, and economic conditions that result in an unstable economy;
 - (2) the unstable economy is a hardship on the residents of the state and is aggravated by the large numbers of seasonal and transient nonresident workers;
 - (3) the rate of unemployment among residents of the state is one of the highest in the nation;
 - (4) the state has one of the highest ratios of nonresident to resident workers in the nation;

(5) the state has a compelling interest in reducing the level of unemployment among its residents;

(6) the construction industry in the state accounts for a substantial percentage of the available employment;

(7) construction workers receive a greater percentage of all unemployment benefits paid by the state than is typical of other states;

(8) historically, the rate of unemployment in the construction industry in the state is higher than the rate of unemployment in other industries in the state;

(9) it is appropriate for the state to consider the welfare of its residents when it funds construction activity;

(10) it is in the public interest for the state to allocate public funds for capital projects in order to reduce unemployment among its resident construction workers;

(11) the influx of nonresident construction workers contributes to or causes the high unemployment rate among resident construction workers because nonresident workers compete with residents for the limited number of available construction jobs;

(12) nonresident workers displace a substantial number of qualified, available, and unemployed Alaska workers on jobs on state funded public works projects;

(13) the state has a special interest in seeing that the benefits of state construction spending accrue to its residents;

(14) the natural resources of land owned by the state belong to the citizens of the state;

(15) Alaskans have chosen to use the majority of the royalties derived from the state's natural resources to fund state government;

(16) the vast majority of the state's revenue is derived from natural resource income rather than from other forms of taxation;

(17) because the state has no personal income tax or sales tax, nonresident workers use services provided by the state but do not contribute fairly to the costs of those services; and

(18) Alaskans, more than the residents of other states, suffer economically when nonresidents displace qualified residents since resident workers contribute local taxes as well as their share of the royalties from natural resources.

(b) The legislature further finds that

(1) the state and its political subdivisions, when acting as a market participant in funding public works projects, should give Alaska residents an employment preference to promote a more stable economy;

(2) the state and its political subdivisions have a duty of loyalty to their citizens and should fulfill this duty by giving residents preference for employment on public works projects they fund;

(3) there is a legitimate and compelling governmental interest and that the public health and welfare will suffer if state residents are not afforded employment preference in state funded construction related work.

(c) The legislature finds that the following factors are reasonable but not exclusive indicators of the ratio of nonresident to resident employees in the state:

(1) the ratio of applicants for unemployment insurance who list out-of-state residences to applicants who list residences in the state;

(2) the ratio of employees who are subject to unemployment insurance coverage and who did not apply for or were denied a permanent fund dividend to employees who were found eligible for a dividend.

(d) The legislature finds that

(1) the number of state residents who are unable to find work is considerably higher than is reflected by unemployment rates based on nationally accepted measures;

(2) many rural state residents who wish to work do not seek employment as frequently as necessary to meet federal definitions of unemployment because of continuing lack of employment opportunities in rural areas of the state.

(§ 1 ch 69 SLA 1985; am § 2 ch 33 SLA 1986)

Sec. 36.10.006. Statement of purpose.

[Repealed § 16 ch 20 SLA 2002.]

Sec. 36.10.007. State policy.

It is the policy of this state that, to fulfill the duty of loyalty owed to its citizens and to remedy social or economic problems, the state will grant an employment preference to residents when the state is acting as a market participant.

(§ 1 ch 69 SLA 1985)

Sec. 36.10.010. Employment preference.

[Repealed § 11 ch 33 SLA 1986.]

Sec. 36.10.020. Apprentices.

Apprentices must be properly registered apprentices in their particular craft.

(§ 1c ch 177 SLA 1960)

Sec. 36.10.030. Reduction of work force.

When a work force is reduced, resident workers, except supervisory personnel, shall be terminated last.

(§ 1d ch 177 SLA 1960)

Sec. 36.10.040. Application to contracts involving federal funds.

In a contract involving expenditure of federal aid funds, this chapter may not be enforced in a manner that conflicts with federal statutes giving preference to veterans or prohibiting other preferences or discriminations among United States citizens.

(§ 2 ch 177 SLA 1960)

Sec. 36.10.050. Employment of aliens.

[Repealed by § 17 ch 142 SLA 1972.]

Sec. 36.10.060. Employment of prisoners.

[Repealed by § 6 ch 53 SLA 1982.]

Sec. 36.10.070. Unavailability of preferred workers.

(a) An employer subject to hiring requirements under this chapter may request the Department of Labor and Workforce Development to assist in locating qualified, eligible employees. After receiving a request for assistance, the department shall refer qualified, eligible, available residents to the employer to fill the employer's hiring needs. The employer shall cooperate with the department.

(b) If the department is unable to refer a sufficient number of qualified, eligible, available residents able to perform the work, the commissioner of labor may approve the hiring of residents who are not eligible for preference and nonresidents for the balance of the request.

(§ 5 ch 177 SLA 1960; am § 2 ch 208 SLA 1972; am § 3 ch 33 SLA 1986)

Sec. 36.10.075. Regulations.

(a) The commissioner of labor and workforce development shall adopt regulations necessary to carry out the provisions of this chapter including but not limited to the method, time and content of reporting by employers covered by this chapter and reporting provisions permitting on-going supervision by the Department of Labor and Workforce Development on all public works projects covered by this chapter.

(b) The commissioner of labor and workforce development shall adopt regulations to encourage and require the hiring of residents to the maximum extent permitted by law.

(§ 3 ch 208 SLA 1972; am § 4 ch 33 SLA 1986)

Sec. 36.10.076. Notifications by state or political subdivision.

An agency or political subdivision of the state covered by the provisions of this chapter shall notify the Department of Labor and Workforce Development periodically regarding planned public works. Notification shall be in the form and manner prescribed by the Department of Labor and Workforce Development.

(§ 3 ch 208 SLA 1972)

Sec. 36.10.080. Chapter incorporated in contracts.

The provisions of this chapter are considered to be a part of every public works contract.

(§ 6 ch 177 SLA 1960; am § 16 ch 9 SLA 2014)

Sec. 36.10.090. Publication of list of violators.

(a) The commissioner of labor and workforce development shall distribute to all departments and agencies of the state government and to all political subdivisions of the state a list of the names of persons or firms convicted of a violation of this chapter. A person appearing on the list or a firm, corporation, partnership or association in which the person has an interest may not work as a contractor or subcontractor on a public construction contract for the state or a political subdivision until after three years from the date of publication of the list.

(b) A local government or school district covered by the provisions of this chapter that is found to be in violation of these provisions may be required to forfeit all or part of the state aid made available for the project in which the violation occurs and in addition may be denied up to 12 months of state community assistance or public school funding. A state department or agency head found to be in violation of this chapter may be required to forfeit the position of the department or agency head.

(c) A person or governmental entity covered by the provisions of (b) of this section who is not satisfied by a decision of the Department of Labor and Workforce Development may, as the final administrative process, appeal the decision to a committee consisting of the commissioners of transportation and public facilities, labor, and workforce development, and administration.

The commissioner of transportation and public facilities is the chairman of the committee. A quorum for conducting business is three members and any decision made must be supported by a majority of the committee members. The committee may, upon a showing of hardship, waive all or any part of the penalty provisions of this chapter.

(§ 7 ch 177 SLA 1960; am § 12 ch 142 SLA 1972; am § 4 ch 208 SLA 1972; am E.O. No. 39, § 11 (1977); am § 35 ch 83 SLA 1998; am § 13 ch 44 SLA 2016)

Sec. 36.10.100. Retainage and Penalty.

(a) A contractor who violates a provision of this chapter shall have deducted from amounts due to the contractor under the contract the prevailing wages that should have been paid to a displaced resident, and these amounts shall be retained by the contracting agency.

(b) A contractor or the agent of a contractor who violates a provision of this chapter is guilty of a misdemeanor, and upon conviction is punishable by a fine of not more than \$500, or by imprisonment for not more than 90 days, or by both. (§ 8 ch 177 SLA 1960)

Sec. 36.10.110. Definitions.

[Repealed by § 17 ch 142 SLA 1972.]

Sec. 36.10.120. Investigations and hearings.

The Department of Labor and Workforce Development may, when necessary to enforce this chapter,

(1) conduct investigations and hold hearings relating to employment preference;

(2) compel the attendance of witnesses and the production of books, papers and documents;

(§ 13 ch 142 SLA 1972; am § 46 ch 53 SLA 1973)

Sec. 36.10.125. Enforcement.

(a) The attorney general shall, when requested by the Department of Labor and Workforce Development, enforce the provisions of this chapter. The attorney general may obtain a court order prohibiting a contractor or subcontractor violating this chapter from continuing to work on existing public construction contracts of the state or a political subdivision of the state. The state or political subdivision of the state may prosecute the work to

completion by contract or otherwise, and the contractor or subcontractor and the sureties of the contractor or subcontractor are liable for excess costs for completing the work.

(b) A private person is entitled to bring an action in the superior court to enforce the provisions of this chapter if that private person first gives at least 20 days notice to the commissioner of labor and workforce development. The notice must set out

- (1) the intent of the private person to bring an action under this subsection;
- (2) the specific violation complained of; and
- (3) the name of the person accused of the violation.

(c) In an action brought under (b) of this section, the court may, in its discretion, order denial of state community assistance, revenue sharing, or public school funding, forfeiture of office or position, or injunctive or other relief. If the court finds for the plaintiff in an action brought under (b) of this section, it may award the plaintiff an amount equal to the actual costs and attorney fees incurred by the plaintiff.

(§ 13 ch 142 SLA 1972; am § 1 ch 183 SLA 1976; am § 36 ch 83 SLA 1998; am § 14 ch 44 SLA 2016)

Sec. 36.10.130. Resident hire report.

The attorney general and the commissioner of labor and workforce development shall report annually to the governor on the status of employment in the state, the effect of nonresident employment on the employment of residents in the state, and methods to increase resident hire. The report shall be submitted by January 31 of each year, and the governor shall notify the legislature that the report is available.

(§ 5 ch 33 SLA 1986; am § 55 ch 21 SLA 1995)

Sec. 36.10.140. Eligibility for preference; approval of job-training programs.

(a) A person is eligible for an employment preference under this chapter if the person certifies eligibility as required by the Department of Labor and Workforce Development, is a resident, and

- (1) is receiving unemployment benefits under AS 23.20 or would be eligible to receive benefits but has exhausted them;
- (2) is not working and has registered to find work with a public or private employment agency or a local hiring hall;
- (3) is underemployed or marginally employed as defined by the department; or
- (4) has completed a job-training program approved by the department and is either not employed or is engaged in employment that does not use the skills acquired in the job-training program.

(b) In approving job-training programs under (a) of this section, the department shall use information and findings from other state and federal agencies as much as possible.

(c) An employer subject to a resident hiring requirement under this chapter shall certify that persons

employed as residents under the preference were eligible for the preference at the time of hiring.

(d) A labor organization that dispatches members for work on a public works project under a collective bargaining agreement shall certify that persons dispatched as residents to meet a preference were eligible for the preference at the time of dispatch.

(e) An employer or labor organization may request assistance from the Department of Labor and Workforce Development in verifying the eligibility of an applicant for a hiring preference under this chapter.

(§ 5 ch 33 SLA 1986)

Sec. 36.10.150. Determination of zone of underemployment.

(a) Immediately following a determination by the commissioner of labor and workforce development that a zone of underemployment exists, and for the next two fiscal years after the determination, qualified residents of the zone who are eligible under AS 36.10.140 shall be given preference in hiring for work on each project under AS 36.10.180 that is wholly or partially sited within the zone. The preference applies on a craft-by-craft or occupational basis.

(b) The commissioner of labor and workforce development shall determine the amount of work that must be performed under this section by qualified residents who are eligible for an employment preference under AS 36.10.140. In making this determination, the commissioner shall consider the nature of the work, the classification of workers, availability of eligible residents, and the willingness of eligible residents to perform the work.

(c) The commissioner shall determine that a zone of underemployment exists if the commissioner finds that

- (1) the rate of unemployment within the zone is substantially higher than the national rate of unemployment;
- (2) a substantial number of residents in the zone have experience or training in occupations that would be employed on a public works project;
- (3) the lack of employment opportunities in the zone has substantially contributed to serious social or economic problems in the zone; and
- (4) employment of workers who are not residents is a peculiar source of the unemployment of residents of the zone. (§ 5 ch 33 SLA 1986)

Sec. 36.10.180. Projects subject to preference.

(a) The preferences established in AS 36.10.150 - 36.10.175 apply to work performed

- (1) under a contract for construction, repair, preliminary surveys, engineering studies, consulting, maintenance work, or any other retention of services necessary to complete a given project that is let by the state or any agency of the state, a department, office, state board, commission, public corporation, or other organizational unit of or created under the executive, legislative or judicial branch of state government,

including the University of Alaska and the Alaska Railroad Corporation, or by a political subdivision of the state including a regional school board with respect to an educational facility under AS 14.11.020;

(2) on a public works project under a grant to a municipality under AS 37.05.315 or AS 37.06.010;

(3) on a public works project under a grant to a named recipient under AS 37.05.316;

(4) on a public works project under a grant to an unincorporated community under AS 37.05.317 or AS 37.06.020; and

(5) on any other public works project or construction project that is funded in whole or in part by state money.

(b) If the governor has declared an area to be an area impacted by an economic disaster under AS 44.33.285, then the preference for residents of the area established under AS 44.33.285 - 44.33.310 supersedes the preference under AS 36.10.150 - 36.10.175 for contracts awarded by the state.

(c) The commissioner shall define the boundaries of a zone within which a preference applies.
(§ 5 ch 33 SLA 1986; am § 2 ch 80 SLA 1993)

Sec. 36.10.190. Reporting provisions.

An employer obligated to meet resident hire requirements under this chapter shall comply with the reporting provisions that the commissioner of labor and workforce development determines are reasonably necessary to carry out this chapter. Except for statistical data, all information regarding specific employees is confidential and may not be released by the Department of Labor and Workforce Development. However, confidential employee information may be shared between departments for purposes of this chapter.

(§ 5 ch 33 SLA 1986)

Sec. 36.10.200. Criminal penalties.

(a) A person who makes a false sworn statement in connection with a certification of eligibility for an employment preference under this chapter is subject to criminal prosecution for perjury as provided in AS 11.56.200.

(b) A person who makes an unsworn falsification, with the intent to mislead a public servant in the performance of a duty, in connection with a certification of eligibility for an employment preference under this chapter, is subject to criminal prosecution as provided in AS 11.56.210.

(§ 5 ch 33 SLA 1986)

Sec. 36.10.210. Civil penalties.

(a) In addition to any criminal penalties imposed, after a hearing the department may impose a civil penalty on a person who, in connection with certification of eligibility for an employment preference under this chapter,

(1) made a false sworn statement; or

(2) made an unsworn falsification with intent to mislead a public servant in the performance of a duty.

(b) The amount of the civil penalty under (a) of this section for a person who falsely certifies that the person is eligible for an employment preference under this chapter is not more than \$400 for each false certification.

(c) The amount of the civil penalty under (a) of this section for an employer who falsely certifies that employees are residents eligible for a preference under this chapter is not more than \$2,000 for each of the first five false certifications. The penalty for the sixth false certification made by an employer and for each false certification thereafter is at least \$2,000 and not more than \$4,000.

(§ 5 ch 33 SLA 1986)

Sec. 36.10.900. Severability.

If a provision of this chapter, or the application of a provision to a person or circumstance, is held invalid, the remainder of this chapter and the application to other persons or circumstances shall not be affected by the holding. The remainder shall be enforced to the greatest extent constitutionally permissible under the constitutions of the United States and the State of Alaska.

(§ 5 ch 33 SLA 1986)

Sec. 36.10.990. Definitions.

In this chapter

(1) "qualified" means possesses the requisite education, training, skills, or experience to perform the work;

(2) "zone" includes a census area in the state, an economic region of the state, and the state as a whole.

(§ 5 ch 33 SLA 1986)

CHAPTER 15. ALASKA PRODUCT PREFERENCES.

ARTICLE 1. FOREST PRODUCTS PREFERENCE

Section:

10. Use of local forest products required in projects financed by public money

20. Insertion of clause in calls for bids and in contracts

Sec. 36.15.010. Use of local forest products required in projects financed by public money.

In a project financed by state money in which the use of timber, lumber, and manufactured lumber products is required, only timber, lumber and manufactured lumber projects originating in this state from local forests shall be used wherever practicable. (§ 14-3-1 ACLA 1949)

Sec. 36.15.020. Insertion of clause in calls for bids and in contracts.

A clause containing the substance of AS 36.15.010 shall be inserted in all calls for bids and in all contracts awarded. (§ 14-3-2 ACLA 1949)

CHAPTER 25. CONTRACTORS' BONDS.**Section:**

- 10. Bonds of contractors for public buildings or works
- 20. Rights of persons furnishing labor or material
- 25. Optional municipal exemption

Sec. 36.25.010. Bonds of contractors for public buildings or works.

(a) Except as provided in AS 44.33.300, before a contract exceeding \$100,000 for the construction, alteration, or repair of a public building or public work of the state or a political subdivision of the state is awarded to a general or specialty contractor, the contractor shall furnish to the state or a political subdivision of the state the following bonds, which become binding upon the award of the contract to that contractor:

(1) a performance bond with a corporate surety qualified to do business in the state, or at least two individual sureties who shall each justify in a sum equal to the amount of the bond; the amount of the performance bond shall be equivalent to the amount of the payment bond;

(2) a payment bond with a corporate surety qualified to do business in the state, or at least two individual sureties who shall each justify in a sum equal to the amount of the bond for the protection of all persons who supply labor and material in the prosecution of the work provided for in the contract; when the total amount payable by the terms of the contract is not more than \$1,000,000, the payment bond shall be in a sum of one-half the total amount payable by the terms of the contract; when the total amount payable by the terms of the contract is more than \$1,000,000 and not more than \$5,000,000, the payment bond shall be in a sum of 40 percent of the total amount payable by the terms of the contract; when the total amount payable by the terms of the contract is more than \$5,000,000, the payment bond shall be in sum of \$2,500,000.

(b) This section does not limit the authority of the contracting officer to require a performance bond or other security in addition to those, or in cases other than the cases specified in (a) of this section.

(c) When no payment bond has been furnished, the contracting department may not approve final payments to the contractor until the contractor files a written certification that all persons who supplied labor or material in the prosecution of the work provided for in the contract have been paid.

(§ 1 ch 49 SLA 1953; am § 1 ch 77 SLA 1964; am § 14 ch 142 SLA 1972; am §§ 1, 2 ch 180 SLA 1976; am § 8 ch 277 SLA 1976; am 34 ch 108 SLA 1982)

Sec. 36.25.020. Rights of persons furnishing labor or material.

(a) A person who furnishes labor or material in the prosecution of the work provided for in the contract for which a payment bond is furnished under AS 36.25.010 and who is not paid in full before the expiration of 90 days after the last day on which the labor is performed or

material is furnished for which the claim is made, may sue on the payment bond for the amount unpaid at the time of the suit.

(b) However, a person having direct contractual relationships with a subcontractor but no contractual relationship express or implied with the contractor furnishing the payment bond has a right of action on the payment bond upon giving written notice to the contractor within 90 days from the last date on which the person performed labor or furnished material for which the claim is made. The notice must state with substantial accuracy the amount claimed and the name of the person to whom the material was furnished or for whom the labor was performed. The notice shall be served by mailing it by registered mail, postage prepaid, in an envelope addressed to the contractor at any place where the contractor maintains an office or conducts business, or the contractor's residence, or in any manner in which a peace officer is authorized to serve summons.

(c) A suit brought under this section shall be brought in the name of the state or the political subdivision of the state for the use of the person suing in the court with jurisdiction. A suit under this section is subject to AS 08.18.151. A suit may not be started after the expiration of one year after the date of final settlement of the contract. The state or political subdivision of the state is not liable for costs or expenses of the suit.

(§ 2 ch 49 SLA 1953; am § 15 ch 142 SLA 1972 am §58 ch 14 SLA 1987)

Sec. 36.25.025. Optional municipal exemption.

A municipality, by ordinance adopted by its governing body, may exempt contractors from compliance with the provisions as AS 36.25.010(a) if the estimated cost of the project does not exceed \$400,000, and

(1) the contractor is, and for two years immediately preceding the award of the contract has been, a licensed contractor having its principal office in the state;

(2) the contractor certifies that it has not defaulted on a contract awarded to the contractor during the period of three years preceding the award of a contract for which a bid is submitted;

(3) the contractor submits a financial statement, prepared within a period of nine months preceding the submission of a bid for the contract and certified by a public accountant or a certified public accountant licensed under AS 08.04, demonstrating that the contractor has a net worth of not less than 20 percent of the amount of the contract for which a bid is submitted; and

(4) the total amount of all contracts that the contractor anticipates performing during the term of performance of the contract for which a bid is submitted does not exceed the net worth of the contractor reported in the certified financial statement prepared and submitted under (3) of this section by more than seven times.

(§ 1 ch 81 SLA 1978)

CHAPTER 95. GENERAL PROVISIONS**Section:**

10. Definitions

Sec. 36.95.010. Definitions.

In this title, unless the context requires otherwise,

(1) "contractor" means the contractor including subcontractors performing work necessary to facilitate public construction;

(2) "laborer, mechanic, or field surveyor" means a person who engages in work which is basically physical or unskilled in nature; or who engages in work, requiring the use of tools or machines, which basically consists of the shaping and working of materials into some type of structure, machine or other object; or who engages in outdoor tasks related to the operation of findings and delineating contour, dimensions, position, topography, as of any part of the earth's surface, by preparation of measured plan or description of any area or other portion of country or of road or line through any area or other portion of country;

(3) "public construction" or "public works" means the on-site field surveying, erection, rehabilitation, alteration, extension or repair, including painting or redecorating of buildings, highways or other improvements to real property under contract for the state, a political subdivision of the state, or a regional school board;

(4) "resident" means a person who establishes residency under AS 01.10.055;

(5) "retainage" means money withheld from a contractor until completion of a contract or satisfaction of other contingency as evidenced by approval of the applicable pay estimate;

(6) "state or a political subdivision of the state" means any state department, state agency, state university, borough, city, village, school district or other state subdivision;

(7) "wages" includes fringe benefits.

(§ 16 ch 142 SLA 1972; am § 3 ch 89 SLA 1976; am § 16 ch 147 SLA 1978; am § 2 ch 85 SLA 1982; am § 92 ch 6 SLA 1984; am §§ 6, 11 ch 33 SLA 1986)

**ALASKA ADMINISTRATIVE CODE
TITLE 8. LABOR**

PART 2. RESIDENT EMPLOYMENT

CHAPTER 30. PUBLIC CONTRACTS.

Article:

1. Wages and Hours
(8 AAC 30.010 – 8 AAC 30.040)
2. Wage Scale
(8 AAC 30.050)
3. Employment Preference
(8 AAC 30.060 – 8 AAC 30.088)
4. Investigations and Hearings
(8 AAC 30.090 – 8 AAC 30.110)
5. Debarment
(8 AAC 30.200 – 8 AAC 30.240)
6. General Provisions
(8 AAC 30.900 – 8 AAC 30.920)

ARTICLE 1. WAGES AND HOURS.

Section:

10. Notification of contract awards
20. Certified payroll
25. Fringe benefit contributions
27. Notice of violation requiring withholding
30. Notification of withholding accrued payments
40. Notification of termination of contract

8 AAC 30.010. Notification of Contract Awards.

(a) Within 20 days of awarding a public contract, the state or political subdivision of the state shall notify the commissioner in writing that the contract has been awarded. The writing shall conform to the requirements of AS 36.05.035.

(b) Verification of contractors bonding requirements shall be by certified statement furnished to the commissioner by the state or political subdivision of the state which awarded the contract.

(Eff. 7/8/73, Register 47)

Authority: AS 36.05.030 AS 36.05.035

8 AAC 30.020. Certified Payroll.

(a) Before Friday of every second week, each contractor, subcontractor, or owner/operator who performs work on a public construction contract for the state or political subdivision of the state shall file with the department a certified payroll (Form 07-6058) that covers the preceding reporting period.

(b) The certified payroll shall be submitted to the department's regional office in the judicial district in which the work is performed:

- 1st Judicial District - Department of Labor and Workforce Development, Juneau
- 3rd Judicial District - Department of Labor and Workforce Development, Anchorage

2nd and 4th Judicial Districts - Department of Labor and Workforce Development, Fairbanks

(c) Instead of submitting Form 07-6058, a contractor may submit the contractor's payroll form. However, the payroll form must contain the same information and statement of compliance required by Form 07-6058.

(d) Owner/operators who perform duties as laborers, mechanics, or field surveyors while working as contractors or subcontractors on a public work project shall be included on their certified payrolls in the same manner as any other laborer, mechanic or field surveyor. However, an owner/operator who performs duties as a laborer, mechanic, field surveyor is not required to pay themselves each reporting period, but shall report hours worked and actual payments received under the terms of the contract and the period covered by each payment. After deducting operating expenses, the actual payment received by an owner/operator performing duties as a laborer, mechanic, or field surveyor must meet or exceed the minimum prevailing rate of pay in the applicable classification for each hour worked on a public construction project.

(e) If a contractor is under contract to provide trucks on a public construction project and leases a truck to an individual truck driver or dispatches an owner/operator working on that same project, the contractor shall pay no less than the prevailing wage for each hour worked each certified payroll reporting period to that driver.

(Eff. 7/8/73, Register 47; am 7/30/82, Register 83; am 8/9/01; Register 159; am 3/2/2008, Register 185)

Authority: AS 36.05.030 AS 36.05.040
AS 36.10.075

Editor's Note:

As of Register 151 (October 1999), the regulations attorney made technical revisions under AS 44.62.125 (b)(6) to reflect the name change of the Department of Labor to the Department of Labor and Workforce Development made by ch. 58, SLA 1999 and the corresponding title change of the commissioner of labor.

Form 07-6058 (payroll form) required in 8 AAC 30.020 may be obtained from the Department of Labor and Workforce Development, Wage and Hour Administration, 1251 Muldoon Road, Suite 113, Anchorage, AK 99504; telephone: (907) 269-4900. The form is also available on the department's website at:
<http://labor.alaska.gov/lss/lssforms.htm>

8 AAC 30.025. Fringe Benefit Contributions.

(a) Employers must remit contributions to union trusts, approved private pension plans, or other approved fringe benefit plans by the 15th of the month following the accrual of the contribution. If the plan itself has a more stringent remittance deadline, the plan deadline shall prevail. A copy of the actual deposit or other satisfactory proof shall be provided the department upon request.

(b) A private pension plan or other fringe benefit plan as referenced in (a) of this section must meet the following conditions in order to be approved as an offset against the prevailing wage rate requirement for fringe benefits:

(1) plan contributions must be

(A) irrevocable;

(B) deposited on a regular basis, not less than monthly, to a trustee or third-party administrator;

(C) free of administrative expense charges to employees, except reasonable and customary administrative fees charged to the plan as a whole, subject to approval of the plan trustee;

(D) non-discretionary;

(E) factored across all work performed by an employee in public construction and non-public construction with the exception of an automatic vesting 401(k) plan;

(2) plan contributions may not be made on behalf of employees who are not eligible to participate in the plan;

(3) except for an automatic vesting 401(k) plan, plan contributions must not be funded solely through hours worked on public construction projects.

(c) Except for an automatic vesting 401(k) plan which allows the actual hourly amount contributed to the plan during the public construction project to be directly credited against fringe benefit payment requirements, to establish an hourly rate for credit against prevailing wage requirements, the amount paid by the employer for the benefit shall be divided by the hours worked by the employee under the plan during the interval under which payments are due to the plan administrator. To allow for seasonal variations, the plan costs may be calculated on an annual basis.

(d) If the hourly rate established under (c) of this section does not meet the prevailing fringe benefit rate, the remainder must be paid to the employee.

(e) If a pension plan meets the requirements under 29 U.S.C. 1001 – 1461 (Employee Retirement Income Security Act of 1974) and includes a minimum vesting requirement, any forfeited amounts must remain in the trust, subject to the authority of the trustee and may not revert to the employer.

(f) The department may disallow an employer from taking credit for fringe benefit contributions as an offset to prevailing wage requirements if the provisions of this section are not met. Upon request, the employer shall provide the following to the department:

(1) a copy of the plan;

(2) a copy of the plan adoption agreement;

(3) the name, address, and telephone number of the plan broker;

(4) the name, address, and telephone number of the plan administrator;

(5) the United States Internal Revenue Service approval letter;

(6) the calculations of the hourly cost equivalent for the plan.

(g) An apprentice shall receive 100 percent of the prevailing fringe benefit rate established in the applicable *Laborers' and Mechanics' Minimum Rates of Pay*, unless a bona fide fringe benefit plan is specified in the applicable Standards of Apprenticeship approved by the United States Department of Labor, Office of Apprenticeship.

(h) In this section, "automatic vesting 401(k) plan," means a 401(k) plan maintained in compliance with 29 U.S.C. 1001 – 1461 (Employee Retirement Income Security Act of 1974) that allows for immediate vesting in the plan to ensure that the employee will not be subject to any forfeiture of amounts contributed to the plan since it has no vesting requirements.

(Eff. 1/2/91, Register 116; am 3/2/2008, Register 185; am 8/12/2018, Register 227)

Authority: AS 23.05.060 AS 36.05.030
AS 36.05.070

8 AAC 30.027. Notice of violation requiring withholding.

When the department determines, under the authority of AS 36.05.030, that a violation has occurred, it shall notify the contracting agency as to the nature and estimated amount of the violation so that the contracting agency can fulfill its obligation to withhold funds under AS 36.05.070

(4). (Eff. 1/2/91, Register 116)

Authority: AS 23.05.060 AS 36.05.030
AS 36.05.070

8 AAC 30.030. Notification of withholding accrued payments.

(a) If the state or a political subdivision of the state withholds accrued payments under those provisions of its contracts required by AS 36.05.070(c)(4), the state or political subdivision shall notify the commissioner within three working days.

(b) Notification shall be in writing and contain the following information:

(1) name of state agency or political subdivision of the state that awarded the contract;

(2) name of state agency or political subdivision of the state that is withholding accrued payments;

(3) contractor's name and address;

(4) address of construction site;

(5) job classification being underpaid;

(6) wage rate required by contract; and

(7) wage rate actually being paid.

(Eff. 7/8/73, Register 47)

Authority: AS 36.05.030 AS 36.05.070

8 AAC 30.040. Notification of Termination of Contract.

(a) If the state or a political subdivision of the state terminates a contract under those provisions of its contract required under AS 36.05.080, the state or political subdivision of the state shall notify the department within three working days.

(b) Notification shall be in writing and contain the following information:

- (1) name of state agency or political subdivision of the state that awarded the contract;
- (2) name of state agency or political subdivision of the state that is terminating the contract;
- (3) contractor's name and address;
- (4) address of construction site;
- (5) job classification being underpaid;
- (6) wage rate required by contract;
- (7) wage rate actually being paid; and
- (8) proposed action to be taken to complete construction.

(Eff. 7/8/73, Register 47)

Authority AS 36.05.030 AS 36.05.080

ARTICLE 2. WAGE SCALE.**Section:**

50. Wage Scale

8 AAC 30.050. Wage Scale.

(a) The department will determine the prevailing wage rate to be paid laborers, mechanics, and field surveyors. The department will publish this determination in the pamphlet *Laborers' and Mechanics' Minimum Rates of Pay*. The department will periodically revise the prevailing wage rates, on a regional basis, to correspond with the prevailing wage rate for similar work.

(b) The prevailing wage will be determined on a regional basis for two geographic regions of the state, north of North 63 degrees latitude and south of North 63 degrees latitude. A region may be subdivided into zones if the commissioner determines that the prevailing wage rate has local variations within the region. In determining the prevailing wage rate for a region or zone, the department will consider the prevailing wage that represents majority penetration for each work classification. If there is no majority penetration the department may set the prevailing wage rate in the following manner:

(1) If less than a majority of the persons employed at a particular skill level in a particular job class receive the same wage, the prevailing wage rate will be determined by taking the arithmetic mean (average) of the wages in the survey for the job class being considered.

(2) Prior to calculating the arithmetic mean, the survey will be adjusted by eliminating five percent of the extreme wage rates.

(3) For example, in a survey consisting of 75 different pay rates the rates will be arrayed in order of size. Five percent at both ends of the scale, the four

highest and four lowest, will be eliminated. The remaining 67 rates will be the final survey from which the arithmetic mean will be determined to be the prevailing rate of pay.

(4) In determining the prevailing wage rate for a region or zone, the department will consider the prevailing union wage, local practice, and any other standard considered by the department to be appropriate.

(c) Special prevailing wage rate determinations may be requested for special projects or special worker classifications, if the work to be performed does not conform to traditional public construction for which a prevailing wage rate has been established under (a) of this section. Requests for special wage rate determinations must be in writing and filed with the commissioner at least 30 days before the award of the contract. An applicant for a special wage rate determination shall have the responsibility to support the necessity for the special rate. An application for a special wage rate determination filed under this section must contain

(1) a specification of the contract or project on which the special rates will apply and a description of the work to be performed;

(2) a brief narrative explaining why special wage rates are necessary;

(3) the job class or classes involved;

(4) the special wage rates the applicant is requesting, including survey or other relevant wage data to support the requested rates;

(5) the approximate number of employees who will be affected; and

(6) any other information which might be helpful in determining if special wage rates are appropriate.

(d) The prevailing wage rate established in (a) of this section shall be considered the minimum wage rate that shall be paid to various classes of laborers, mechanics, and field surveyors.

(e) This section shall be made part of every contract that falls within the scope of AS 36.05.010 and 36.05.070(a).

(Eff. 7/8/73, Register 47; am 7/30/82, Register 83; am 8/9/2001, Register 159; am 3/2/2008, Register 185; am 11/25/2018, Register 228)

Authority: AS 36.05.010 AS 36.05.030
AS 36.05.070

Editor's note:

The pamphlet titled *Laborers' and Mechanics' Minimum Rates of Pay* may be obtained from the Department of Labor and Workforce Development, 1251 Muldoon Road, Suite 113, Anchorage, AK 99504; telephone: (907) 269-4900. The pamphlet is also available on the department's website at:

<http://labor.alaska.gov/lss/lssforms.htm>.

8 AAC 30.051. Purpose.

The purpose of 8 AAC 30.052 – 8 AAC 30.056 is to ensure that wages paid to laborers, mechanics, and field surveyors do not fall below the prevailing rate of pay.

8 AAC 30.052. Board and lodging; remote sites.

(a) A contractor on a public construction project located 65 or more road miles from the international airport closest to the project area in either Fairbanks, Juneau, or Anchorage, or that is inaccessible by road in a two-wheel drive vehicle, shall provide adequate board and lodging to each laborer, mechanic, or field surveyor while the person is employed on the project. If commercial lodging facilities are not available, the contractor shall provide temporary lodging facilities. Lodging facilities must comply with all applicable state and federal laws. For a highway project, the location of the project is measured from the midpoint of the project.

(b) A contractor is not required to provide board and lodging:

(1) to a laborer, mechanic, or field surveyor who is a domiciled resident of the project area; or

(2) on a laborer, mechanic, or field surveyor's scheduled days off, when the person can reasonable travel between the project and the person's permanent residence; for the purposes of this paragraph, "scheduled day off" means a day in which a person does not perform work on-site, is not required to remain at or near the job location for the benefit of the contractor, and is informed of the day off at least seven days before the day off.

(c) Upon a contractor's written request, the commissioner may waive the requirements of (a) of this section where:

(1) the project is inaccessible by road in a two-wheel drive vehicle, but the laborer, mechanic, or field surveyor can reasonable travel between the project and the person's permanent residence within one hour; or

(2) a laborer, mechanic, or field surveyor is not a domiciled resident of the project area, but has established permanent residence, with the intent to remain indefinitely, within 65 road miles of the project, or for a highway project, the mid-point of the project.

(Eff. 11/25/2018, Register 228)

Authority: AS 23.05.060 AS 36.05.030
AS 36.10.075 AS 36.05.010

8 AAC 30.054. Per diem instead of board and lodging.

(a) A contractor may pay a laborer, mechanic, or field surveyor per diem instead of providing board and lodging, when the following conditions are met

(1) the department determines that per diem instead of board and lodging is an established practice for the work classification; the department shall publish and periodically revise its determinations in the pamphlet *Laborers' and Mechanics' Minimum Rates of Pay*;

(2) the contractor pays each laborer, mechanic, or field surveyor the appropriate per diem rate as published and periodically revised in the pamphlet *Laborers' and Mechanics' Minimum Rates of Pay*; and

(3) the contractor pays the per diem to each laborer, mechanic, or field surveyor on the same day that wages are paid.

(b) A contractor may not pay per diem instead of board and lodging on a highway project located

(1) west of Livengood on the Elliot Highway, AK-2;

(2) on the Dalton Highway, AK-11;

(3) north of milepost 20 on the Taylor Highway, AK-5;

(4) each of Chicken on the Top of the World Highway; or

(5) south of Tetlin Junction to the Alaska-Canada border on the Alaska Highway, AK-2.

(Eff. 11/25/2018, Register 228)

Authority: AS 23.05.060 AS 36.05.030
AS 36.05.010 AS 36.10.075

8 AAC 30.056. Alternative arrangement.

Upon a contractor's written request, the commissioner may approve an alternative board and lodging or per diem arrangement, provided

(1) the arrangement does not reduce the laborer, mechanic, or field surveyor's wages below the prevailing wage rate; and

(2) the laborer, mechanic, or field surveyor voluntarily enters into and signs the written arrangement; a labor organization representing laborers, mechanics, or field surveyors may enter into the written agreement on their behalf.

(Eff. 11/25/2018, Register 228)

Authority: AS 23.05.060 AS 36.05.010
AS 36.05.030 AS 36.10.075

ARTICLE 3. Employment Preference.**Section:**

60. *(Repealed)*

61. Contracting agency report requirements

62. Employer reporting requirements

64. Hiring preference for residents of zone of underemployment

65. *(Repealed)*

66. *(Repealed)*

67. *(Repealed)*

68. Determination that lack of employment opportunities has substantially contributed to serious social or economic problems

70. *(Repealed)*

71. *(Repealed)*

72. Determining residency

73. Determination of resident hiring preferences

78. Resident hiring preferences in overlapping or multiple zones

80. *(Repealed)*

81. Compliance with preference requirements

82. Department determination of eligibility for preference

84. Appeals of eligibility determinations

86. Approval of job training programs

8 AAC 30.060. Resident Hiring.

[Repealed 9/27/87]

8 AAC 30.061. Contracting agency reporting requirements.

(a) Within 20 days after awarding a contract or grant covered by AS 36.10.180, a state agency or political subdivision of the state shall file with the department a notice containing

- (1) the name and address of the state agency or political subdivision awarding the contract or grant;
- (2) the name of the head of the state agency or political subdivision awarding the contract or grant;
- (3) the date of the contract or grant award;
- (4) the total amount of the contract or grant;
- (5) the location of the project; and
- (6) the name and address of each contractor and subcontractor performing work on the project.

(b) A state agency or political subdivision of the state shall report immediately to the department any changes or additions regarding the notice required in (a) of this section which involve either

- (1) a change in the identity of a contractor or subcontractor performing work on the project; or
- (2) a change in the total amount of the contract if the change exceeds \$10,000.

(Eff. 9/27/87, Register 103)

Authority: AS 36.10.075 AS 36.10.076

8 AAC 30.062. Employer reporting requirements.

(a) Upon request by the department, an employer required to file a quarterly report of employment and wages under AS 23.20.105 - 23.20.535 shall include in its quarterly report the following information for each employee:

- (1) either the occupational title or the four-digit standard occupational classification code for the last position held by the employee; and
- (2) the two-digit geographic area code of the employee's primary work location.

(b) The department will provide each employer required to submit information under (a) of this section with a list of occupational codes and titles applicable to its industry and a map showing the boundaries and code for each geographic area of the state.

(Eff. 9/27/87, Register 103)

Authority: AS 36.10.075 AS 36.10.190

8 AAC 30.064. Hiring preference for residents of zone of underemployment.

(a) For purposes of AS 36.10.150, the commissioner will determine that an area is a zone of underemployment if

- (1) the rate of unemployment within the area is at least 10 percent greater than the average national unemployment rate for the most recent 12-month period for which unemployment insurance figures are available, or a longer period determined appropriate by the commissioner to take into account unemployment trends exceeding a one-year period; for example, if the national unemployment rate is seven percent, the rate of unemployment in the area must be at least 7.7 percent for the area to be a zone of underemployment;

(2) at least 10 percent of the jobs in a particular craft or occupation that would be used on a particular public-funded project could be filled by residents of the area who are trained or experienced in that craft or occupation; a determination under this paragraph will be based on data for the quarter of highest employment for the most recent calendar year for which data is available;

(3) the lack of employment opportunities has substantially contributed to serious social or economic problems in the area, as determined under 8 AAC 30.068; and

(4) the employment of nonresidents is a peculiar source of unemployment for residents of the area, as determined under 8 AAC 30.069.

(b) For a public-funded project, the percentage of positions which must be reserved under AS 36.10.150 for eligible residents, in a craft or occupation subject to a hiring preference, is the percentage that would result in a determination under (a) of this section that the area was not a zone of underemployment. The department will compute the percentage for an occupation or craft and announce it after the determination under (a) of this section is made.

(Eff. 9/27/87, Register 103; am 6/8/11, Register 198)

Authority AS 36.10.075 AS 36.10.150

8 AAC 30.065. Hiring Preference for Residents of Economically Distressed Zone.

[Repealed 8/9/2001]

8 AAC 30.066. Hiring Preference for Economically Disadvantaged Minority Residents.

[Repealed 8/9/2001]

8 AAC 30.067. Hiring Preference for Economically Disadvantaged Female Residents.

[Repealed 8/9/2001]

8 AAC 30.068. Determination that lack of employment opportunities has substantially contributed to serious social or economic problems.

For purposes of AS 36.10.150 - 36.10.175 and this chapter, the lack of employment opportunities has substantially contributed to serious social or economic problems if changes in indicators of social and economic problems are linked to changes in the number of people who want to work and are unable to obtain work. The commissioner will use correlation analysis, testimony, professional studies, or other evidence to establish the relationship between unemployment and social or economic problems.

(Eff. 9/27/87, Register 103)

Authority: AS 36.10.075 AS 36.10.160

AS 36.10.175 AS 36.10.150

AS 36.10.170

8 AAC 30.069. Determination of peculiar source of unemployment.

For purposes of AS 36.10.150 - 36.10.175, and 8 AAC 30.064, the commissioner will determine that employment of nonresidents is a peculiar source of unemployment if more than 10 percent of the residents of an area who are trained or experienced in a craft or

occupation are unemployed and more than 10 percent of the total number of workers employed in that area in that craft or occupation are not residents of the area.

(Eff. 9/27/87, Register 103; am 08/9/01; Register 159)

Authority: AS 36.10.075 AS 36.10.160
AS 36.10.175 AS 36.10.150
AS 36.10.170

8 AAC 30.070. Annual Report by Agency or Political Subdivision of the State.

[Repealed 9/27/87.]

8 AAC 30.071. Determination of Past Economic Discrimination.

[Repealed.]

(Eff. 9/27/87, Register 103; repealed 08/9/01; Register 159)

8 AAC 30.072. Determining residency.

The department will consider the following information in determining whether a person is a resident:

(1) where the person, the person's spouse, and the person's dependent children maintain their principal place of abode;

(2) where the person's dependent children are enrolled in school;

(3) the person's address on driver's licenses;

(4) the person's address on motor vehicle registrations;

(5) where the person's bank, credit union, or other financial accounts are maintained;

(6) the person's address on hunting, fishing, trapping, or other licenses;

(7) where the person is registered to vote;

(8) the person's address as shown on Department of Revenue permanent fund dividend records; and

(9) any other relevant facts.

(Eff. 9/27/87, Register 103)

Authority: AS 36.10.075 AS 36.10.14
AS 36.95.010(4)

8 AAC 30.073. Determination of resident hiring preferences.

(a) The commissioner will, at least biennially, determine whether an area is a zone of preference under AS 36.10 and this chapter if enough data is available to make that determination.

(b) The commissioner will include, in the annual resident hire report required under AS 36.10.130, all resident preference determinations made during the previous calendar year.

(c) When an area has been determined to be a resident hiring zone of preference, the department will notify all contractors of record who are or will be performing work on public-funded projects in the zone, and will notify all state agencies and political subdivisions that have public-funded projects in the zone.

(d) Upon notification under (c) of this section, the resident hiring preference requirements are effective

immediately and apply to all public-funded projects in the zone.

(Eff. 9/27/87, Register 103; am 3/2/2008, Register 185)

Authority: AS 36.10.075

8 AAC 30.078. Resident hiring preferences in overlapping or multiple zones.

(a) If two areas are determined to be zones of preference under AS 36.10 and this chapter for the same resident hiring preference, and one of the zones is located entirely within the other, the preference requirements will apply to the larger zone.

(b) As provided in AS 36.10.150 - 36.10.175, if a public-funded project is located in more than one zone, the entire project is subject to the resident hiring preferences in effect in those zones.

(Eff. 9/27/87, Register 103)

Authority: AS 36.10.075

8 AAC 30.080.

[Repealed 12/4/76]

8 AAC 30.081. Compliance with preference requirements.

(a) To comply with AS 36.10.150 - 36.10.175, an employer subject to a resident hiring preference shall meet the relevant resident hire percentage, prescribed under this chapter, for each separate workweek. If an area has been determined to be a zone of preference for more than one type of resident hiring preference, the requirements of each preference apply. An employer may count the hire of an eligible resident toward satisfaction of each preference for which the resident qualifies.

(b) An employer subject to a resident hiring preference shall certify that each person hired as a resident under the preference was eligible for the preference at the time of hiring. The employer's certification must be provided on the weekly certified payroll form filed with the department (Form 07-6058); must include the name and residence address of each employee on the project, including supervisory employees; and must include a statement of compliance with all resident hiring preferences in effect.

(c) A labor organization that dispatches members for work on a public-funded project subject to a resident hiring preference shall certify to the employer at the time of dispatch that each person dispatched as a resident to meet a preference was eligible for the preference at the time of dispatch. The labor organization's certification must be in writing and must include the name and residence address of each person dispatched to the project.

(d) An employer subject to a resident hiring preference who is unable to find enough eligible residents may request from the department a waiver to hire an ineligible person for a specific job. The waiver request must be submitted to the department at least seven calendar days before the waiver is required to be considered for approval. Within three working days, the

department shall determine whether the contractor's proposed minimum qualifications for the position covered by the waiver request are acceptable. The employer must place an advertisement using at least one public form of statewide advertising, such as a newspaper with statewide circulation, and must request that the Alaska Employment Service post a statewide facilitated recruitment job order through the Alaska Job Center Network. The advertisement and the job order must run for at least three calendar days, and both must

(1) state that the purpose of the request is to satisfy employment preference requirements of this state under AS 36.10 and that applicants must be residents of this state;

(2) list the job title and minimum qualifications as accepted by the department;

(3) identify the rate of pay including fringe benefits and other compensation, such as travel or room and board;

(4) identify the job location, expected duration of the job, and the number of expected daily and weekly work hours; and

(5) specify that all job seekers apply through the Alaska Job Center Network.

(e) An employer subject to a resident hiring preference who is unable to find enough eligible residents from either private sources or from the applicants referred by the state employment center under (d) of this section may request from the department a waiver to hire an ineligible person for a specific job. A request for a waiver under this subsection must contain

(1) a description of the job for which a waiver is requested, to include the wages, benefits, expected start date, work schedule, and job duration;

(2) the required qualifications for the job for which a waiver is requested;

(3) the qualifications of the person for whom the waiver is requested;

(4) the name and residence address of the person for whom the waiver is requested;

(5) a description of the employer's efforts to obtain an eligible resident from private sources for the job for which a waiver is requested;

(6) a copy of the recruitment report from the Alaska Job Center Network containing the following information and documentation;

(A) a copy of the job order, a listing of all applicants from the job order and other private recruitment efforts, and the listing of the applicants referred to the employer;

(B) the recruitment result report to show the number of individuals interviewed, hired or not hired;

(C) and, a statement from the Alaska Job Center Network that the employer did or did not comply with the recruitment requirements;

(7) the name and location of the project for which the waiver is requested; and

(8) an explanation of why each applicant referred was not hired.

(f) The department will grant a waiver to employ an ineligible person if the employer establishes, to the department's satisfaction, that there are no qualified eligible residents for a specific job. A waiver granted by the department expires six months from the approval date, at the completion of the specific job for which the ineligible person was hired, or at the time the ineligible person terminates, whichever occurs first. The department will either grant or deny the waiver within 20 working days after receiving the request for a waiver and the supporting evidence required under (e) of this section.

(g) A waiver granted under this section will be determined invalid unless the same benefits provided to the ineligible nonresident, such as housing and transportation to the work site, are also offered and provided to eligible resident applicants.

(Eff. 9/27/87, Register 103; am 3/2/2008, Register 185)
 Authority: AS 36.10.070 AS 36.10.140 AS 36.180
 AS 36.10.190 AS 36.10.075

8 AAC 30.082. Department determination of eligibility for preference.

(a) Following a determination under this chapter that an area is a zone of preference, the department's assistance may be requested in determining a person's eligibility for a resident hiring preference in a craft or occupation on a public-funded project. Application for an eligibility determination must be made on a form available from the division or from any state employment center. An applicant may mail or deliver the completed application to the division or to any state employment center.

(b) A person will be determined to be eligible for a resident hiring preference if the person establishes, to the department's satisfaction, that he or she meets the eligibility criteria in AS 36.10.140 and 36.10.150 - 36.10.175. An applicant will be notified of the department's determination.

(c) The department will, in its discretion, request that an applicant provide additional information to the department. The additional information will be made a part of the application, and will, in the department's discretion, be used in determining the applicant's eligibility.

(d) If a person is determined under this section to be ineligible, a new application may be submitted if there are new or previously undisclosed facts bearing upon eligibility. The applicant shall note that the application is not an initial application and shall set out the new or previously undisclosed facts.

(e) An employer may rely on the department's determination of eligibility under this section in meeting the requirements of AS 36.10.140(c) and 36.10.150 - 36.10.175.

(Eff. 9/27/87, Register 103)

Authority: AS 36.10.070 AS 36.10.075
 AS 36.10.140

8 AAC 30.084. Appeals of eligibility determinations.

(a) A determination by the department under 8 AAC 30.082 that a person is not eligible for a resident hiring preference is final unless the applicant, or the applicant's representative, files a written appeal with the department within 20 days after receipt of the determination.

(b) An appeal must contain the name and mailing address of the applicant, the reasons for the appeal, and any arguments or information in support of the appeal.

(c) The department will, in its discretion, consider any relevant evidence in deciding an appeal even if the evidence is not admissible under Alaska rules of evidence. The department will, in its discretion, request additional information from the applicant. The applicant must respond in writing to a request for additional information within 10 days after receipt of the request. The department will, in its discretion, grant an extension of time to an applicant for good cause shown.

(d) Any notices or other documents in connection with an appeal will be mailed to the last address furnished by the applicant.

(e) The department will issue a written decision on the appeal within 30 days after receipt of the appeal or within 30 days after the submission of additional information requested under (c) of this section. The decision will include findings of fact and conclusions of law, and will be served on all parties to the appeal. The decision under this subsection is the final decision of the department.

(Eff. 9/27/87, Register 103)

Authority: AS 36.10.075 AS 36.10.140

8 AAC 30.086. Approval of job training programs.

(a) For the purposes of AS 36.10.140(a)(4), the following types of job training programs are approved:

(1) a program approved by the Alaska Commission on Postsecondary Education, or by an equivalent agency in another state if the program is located in another state; or

(2) a program approved by the United States Department of Labor, Office of Apprenticeship.

(b) For the purposes of AS 36.10.140(a)(4), the following types of training programs will, in the department's discretion, be approved:

(1) a program sponsored or conducted by an employer or union; or

(2) a program approved under the Workforce Innovation and Opportunity Act (WIOA) 2014, Pub. L. No 113-138).

(Eff. 9/27/87, Register 103; am 8/12/2018, Register 227)

Authority: AS 36.10.140

8 AAC 30.088. Computations regarding hiring preference requirements.

Computing the number of workers or positions for resident employment preference under AS 36.10 and this chapter might result in a number that contains a fraction. In such cases, the fraction is to be dropped. For example, a result of 4.8 workers should be shown as 4 workers.

(Eff. 9/27/87, Register 103)

Authority: AS 36.10.075

ARTICLE 4. INVESTIGATIONS AND HEARINGS.**Section:**

90. Investigations, Conference, and Persuasion

100. Hearings

110. Decisions

8 AAC 30.090. Investigations, conference, and persuasion.

(a) The division will investigate potential violations of AS 36 (Public Contracts), on its own motion or on the complaint of any person.

(b) If, after preliminary investigation, the division finds that probably cause exists to believe that a violation of AS 36.05 or AS 36.10 has occurred, the division will provide the respondent believed to have violated AS 36.05 or AS 36.10 a copy of the complaint or a description of the alleged violation by personal service or certified mail to the last known address of the respondent and to the respondent's registered agent, if any. If respondent is a subcontractor, the division will also provide the prime contractor with a copy of the complaint or a description of the alleged violation by personal service or certified mail to the prime contractor's registered agent.

(c) The division will attempt to eliminate the alleged violation through conference and persuasion by providing the respondent and prime contractor an opportunity for an information conference to discuss the matter and attempt to eliminate the alleged violations.

(d) If an alleged violation is not rectified by the informal conference, or if the respondent or prime contractor fails to attend the conference without good cause, the division will notify the respondent and the prime contractor in writing of the failure of the informal conference. The division will include in its notification a summary of the division's investigative findings.

(e) The respondent or the prime contractor may request a hearing by sending the division a written request postmarked not later than 30 days of the date of the division's notification of the failure of the informal conference under (d) of this section. The hearing request must identify any investigative findings in dispute and the basis for the dispute, including any affirmative defenses. Upon receipt of a request for a hearing, the division will refer the case for hearing. Hearings under this section will be conducted in accordance with 8 AAC 30.100.

(f) If no timely request for hearing is received, the division's investigative findings will be final.

(Eff. 12/4/76, Register 60; am 7/30/82, Register 83; am 1/2/91, Register 116; am 8/9/01, Register 159; am 3/2/2008, Register 185; am 8/12/2018, Register 227)

Authority: AS 23.05.060 AS 36.10.075

AS 36.10.120 AS 36.05.030

8 AAC 30.100. Hearings.

(a) Both respondent and complainant may be represented by counsel. If counsel for a party notifies the division, in writing, that counsel is appearing in the matter on behalf of the party, service of notices, memoranda, recommendations, or other papers will be considered sufficient if made on counsel.

(b) The division will give notice to the respondent and to the complainant, if any, of the time and place of the hearing on an alleged violation of AS 36.05 or AS 36.10 by certified mail, or by personal service at least 15 days before the hearing. Mailing to the last known address or the address listed with the division of occupational licensing for construction contractors shall be considered valid service. The notice will contain a copy of the complaint and a description of the alleged violation which will be considered at the hearing.

(c) The location of the hearing will be designated by the division with due regard for the convenience of all persons involved. All hearings are public.

(d) The director will appoint a wage and hour investigator or contract with an attorney licensed in this state to serve as hearing officer, to preside over the hearing, and to make findings of fact and conclusions of law to be used as a basis for the director's decision. An investigator who has investigated the alleged violations or taken part in the informal conference under 8 AAC 30.090 will not be appointed hearing officer.

(e) The hearing officer has full authority to control the procedure of the hearing and to rule on all motions and objections.

(f) The hearing officer may admit any relevant evidence, regardless of the existence of any common law or statutory or court rule which might make improper the admission of such evidence over objection in civil actions, if it is the sort of evidence on which responsible persons are accustomed to rely in the conduct of serious affairs. Hearsay evidence may be used for the purpose of supplementing or explaining any direct evidence but will not be sufficient in itself to support a finding unless it would be admissible over objection in civil actions.

(g) Oral evidence must be given under oath or affirmation. A record of the proceedings will be kept.

(h) The hearing officer, respondent, and complainant may

(1) call and examine witnesses;

(2) cross-examine opposing witnesses on any matter relevant to the issue at hand even though that matter was not covered in direct examination; and

(3) introduce exhibits.

(i) If the respondent or complainant does not testify in that person's own behalf, that person may be called and examined as if under cross-examination.

(j) The hearing officer may, for good cause shown, continue a hearing from day to day or recess it to a later date or to a different place by announcement at the hearing or by notice.

(Eff. 12/4/76, Register 60; am 1/2/91, Register 116; am

8/9/01; Register 159)

Authority: AS 23.05.060 AS 36.10.075
AS 36.10.120 AS 36.05.030

8 AAC 30.110. Decisions.

(a) The hearing officer will prepare a written recommendation to the director containing findings of fact and conclusions of law. A copy of the recommendations will be mailed or otherwise delivered to the respondent and to the complainant, if any. The director will act upon the hearing officer's recommendation and render a final decision within 30 days.

(b) Upon making a decision, the director will serve it upon the respondent and complainant, if any, by personal service or certified mail, return receipt requested. If the director determines that the respondent has violated AS 36.05 or AS 36.10, the decision may contain such cease and desist orders and other orders and relief, including a recommendation that the respondent be placed on a list of violators who are barred from performing public contracts as provided under AS 36.05.090 and AS 36.10.090, as the director considers appropriate to correct the unlawful conduct. If, after the director's decision finding the respondent in violation of AS 36.05 or AS 36.10 is served on the respondent, the director determines that the respondent has not ceased or has failed to correct the unlawful conduct, the director will refer the matter to the attorney general for enforcement.

(Eff. 12/4/76, Register 60; am 8/9/01, Register 159)

Authority: AS 23.05.060 AS 36.10.075
AS 36.10.125 AS 36.05.030
AS 36.10.120

ARTICLE 5. DEBARMENT.**Section:**

- 200. Review and Recommendations
- 210. Hearings
- 220. Decisions
- 230. Appeals
- 240. Request for Removal

8 AAC 30.200. Review and Recommendations.

(a) Contractors or subcontractors who have disregarded their obligations to employees as defined in 8 AAC 30.900 may be subject to debarment for three years.

(b) Debarment will be considered in those cases in which a contractor or subcontractor has committed willful, aggravated or repeated violations of the provisions of AS 36.05.

(c) The standards to be considered in determining if the contractor's or subcontractor's violations merit recommendation for debarment are

(1) falsification or concealment of records;

(2) refusal to pay prevailing wages;

(3) failure to pay prevailing wages;

(4) extent and seriousness of the violations; or

(5) three or more violations on the same or separate contracts within a five-year period.

(d) A prime contractor may be considered for debarment in cases where the violations are committed by its subcontractors. Criteria considered in determining whether a prime should be debarred are:

(1) a history of subcontractors violating under that prime;

(2) failure of the prime contractor to notify its subcontractors of the requirements of AS 36.05; and

(3) informing subcontractors how not to comply, or assisting a subcontractor in not complying with AS 36.05.

(e) At the completion of an enforcement action against a contractor or subcontractor for a violation of AS 36.05, the investigator will review the file to determine if a recommendation for debarment is warranted in accordance with (c) or (d) of this section. If it is determined that a recommendation for debarment is proper, the investigator will forward the recommendation citing specific statutes through his or her supervisor to the director. The director will review the recommendation of the investigator and determine if the case will be referred for hearing.

(f) When, as a result of an investigation conducted by the department, the director finds reasonable cause to believe that a contractor or subcontractor has committed willful or aggravated violations of AS 36.05 which constitute a disregard of its obligations to employees under that chapter, the director shall notify by personal service or certified mail to the last known address, the contractor or subcontractor and its responsible officers, of the finding. The director shall afford the contractor or subcontractor and any other parties notified an opportunity for a hearing as to whether debarment action should be taken under AS 36.05.090. The director will furnish to those notified a summary of the investigative findings. If the contractor or subcontractor or any other parties notified request a hearing, the request must be made by letter postmarked within 30 days of the date of the letter from the director. The request must set forth any findings which are in dispute and the reasons therefore, including any affirmative defenses to be raised. Upon receipt of a request for a hearing, the director shall refer the case for hearing to determine the facts in dispute.

(g) Hearings under this section shall be conducted in accordance with 8 AAC 30.210. If no hearing is requested within 30 days of the date of the director's letter, the director's findings shall be final.

(Eff. 1/2/91, Register 116)

Authority: AS 23.05.060 AS 36.05.030
AS 36.05.090

8 AAC 30.210. Hearings.

(a) The respondent may be represented by counsel. If counsel for a party notifies the division, in writing, that counsel is appearing in the matter on behalf of the party, service of notices, memoranda, recommendations, or

other papers will be considered sufficient if made on counsel.

(b) The division will give notice to the respondent of the time and place of the hearing on an alleged violation of AS 36.05 by certified mail or by personal service at least 15 days before the hearing. The notice will contain a summary of investigative findings that will be considered at the hearing. Service on the address a contractor or subcontractor has provided to the division of occupational licensing for the purpose of obtaining a contractor's license, or the last known address furnished by the contractor or subcontractor, shall be considered valid service.

(c) The location of the hearing will be designated by the division with due regard for the convenience of all persons involved. All hearings are public.

(d) The director will appoint a wage and hour investigator or contract with an attorney licensed in this state to serve as hearing officer to preside over the hearing and to make findings of fact and conclusions of law to be used as a basis for the director's decision. An investigator who has investigated the alleged violations or taken part in the informal conference under 8 AAC 30.090 will not be appointed hearing officer.

(e) The hearing officer has full authority to control the procedure of the hearing and to rule on all motions and objections.

(f) The hearing officer may admit any relevant evidence, regardless of the existence of any common law or statutory or court rule that might make improper the admission of such evidence over objection in civil actions, if the evidence is the sort of evidence on which responsible persons are accustomed to rely in the conduct of serious affairs. Hearsay evidence may be used for the purpose of supplementing or explaining any direct evidence but is not sufficient in itself to support a finding unless the hearsay evidence would be admissible over objection in civil actions. The hearing officer may issue subpoenas at the request of either party or on the hearing officer's own motion.

(g) Oral evidence must be given under oath or affirmation. A record of the proceedings will be kept.

(h) The hearing officer, respondent, and complainant may

(1) call and examine witnesses;

(2) cross-examine opposing witnesses on any matter relevant to the issue at hand even though that matter was not covered in direct examination; and

(3) introduce exhibits.

(i) If the respondent does not testify in the respondent's own behalf, that person may be called and examined as if under cross-examination.

(j) The hearing officer may, for good cause shown, continue a hearing from day to day or recess it to a later date or to a different place by announcement at the hearing or by notice.

(k) The department has the burden of proving that the alleged violations have occurred. The standard of proof required is by a preponderance of the evidence.

(Eff. 1/2/91, Register 116; am 8/9/01, Register 159)
 Authority: AS 23.05.060 AS 36.05.030
 AS 36.05.090

8 AAC 30.220. Decisions.

(a) Within 90 days of concluding a hearing, the hearing officer will prepare a written recommendation to the director containing findings of fact and conclusions of law. A copy of the recommendations will be mailed or otherwise delivered to the respondent and to the complainant, if any. The director may accept the recommendations, in part or in whole, or may remand the matter for further hearing. The director must act upon the hearing officer's recommendation and render a decision within 30 days.

(b) Upon making a decision, the director will serve it upon the respondent by personal service or certified mail. If the director determines that the respondent has disregarded its obligations to employees under AS 36.05, the decision will order that the respondent be placed on a list of violators who are barred from performing public contracts as provided under AS 36.05.090.

(c) In the absence of or in addition to action of a state disbursing officer or local fiscal officer, the department will distribute a list reflecting the names of debarred contractors and the effective period of the debarment.

(Eff. 1/2/91, Register 116; am 3/2/2008, Register 185)
 Authority: AS 23.05.060 AS 36.05.030
 AS 36.05.090

8 AAC 30.230. Appeals.

The director's decision is final. Appeals must be filed in superior court in accordance with Alaska court Rules of Appellate Procedure.

(Eff. 1/2/91, Register 116)

Authority: AS 23.05.060 AS 36.05.030
 AS 36.05.090

8 AAC 30.240. Request for Removal.

Any person or firm debarred under AS 36.05.090 and 8 AAC 30.220 may, in writing, request removal from the debarment list after six months from the date the debarment took effect. All requests should be directed to the director of labor standards and safety and must contain a full explanation of the reasons why such person or firm should be removed from the debarred list. In cases where the contractor or subcontractor failed to make full restitution of wages and fringe benefit contributions to all underpaid employees, a request for removal will not be considered until all underpayments, including appropriate interest, are made. In other cases, the director will examine the facts and circumstances surrounding the violative practices which caused the debarment and issue a decision as to whether or not the person or firm has demonstrated a current responsibility to comply with AS 36.05 and therefore should be removed from the ineligible list.

(Eff. 1/2/91, Register 116)

Authority: AS 23.05.060 AS 36.05.030
 AS 36.05.090

ARTICLE 6. GENERAL PROVISIONS.

Section:

900. General Definitions

910. Definition of "On-Site."

920. Definition of "Economic Region."

8 AAC 30.900. General Definitions.

In this chapter and in AS 36

(1) "commissioner" means the commissioner of labor and workforce development;

(2) "crafts" and "occupations" mean the occupations identified in the *Standard Occupational Classification Manual* (2018 edition);

(3) "debar" or "debarment" means being placed on a list of persons who are barred from performing public contracts under AS 36.05.090;

(4) "department" means the Alaska Department of Labor and Workforce Development;

(5) "director" means the director of the labor standards and safety division of the department;

(6) "disregarded their obligations to employees" (or a grammatical variant) as used in AS 36.05.090 and this chapter includes any of the following:

(A) failure or refusal to pay basic prevailing wages;

(B) failure or refusal to pay fringe benefits into the appropriate union trust, approved private pension plan, or other approved fringe benefit plan within applicable time limits;

(C) failure to pay at least once a week;

(D) failure to pay unconditionally; or

(E) failure to report wage payments to employees accurately and timely as required by AS 36.05.040;

(7) "division" means the labor standards and safety division of the department;

(8) "eligible resident" means a person who meets the requirements of AS 36.10.140(a) and AS 01.10.055 and who, under 8 AAC 30.072, would be determined to be a resident of an area that has been determined by the department under this chapter to be a resident hiring zone of preference;

(9) "hire" and its derivatives mean engaging an individual to work on a public-funded project, and includes the transfer of an existing employee from one location to another or from one craft or occupation to another;

(10) "interest" as used in AS 36.05.090 means more than five percent investment in a partnership or association, more than ten percent share in stock in a corporation, or holding any elected or appointed office in the business entity;

(11) "majority penetration" means that the majority of qualified laborers, mechanics, and field surveyors working at a particular skill level in a particular job class, as indicated by response to a department survey, receive a particular wage;

(12) "marginally employed" means that a person is employed for fewer than 30 hours a week and the person wishes to work 30 hours or more a week;

(13) "owner/operator" as used in 8 AAC 30.020(d) means those independent contractors who by virtue of the duties they perform, or the manner in which they perform them, cannot be considered employees of the person or entity who has contracted for their services; in this paragraph, "independent contractor" means a person who

(A) has an express contract to perform the services;

(B) is free from direction and control over the means and manner of providing services, subject only to the right of the individual for whom, or entity for which, the services are provided to specify the desired results, completion schedule, or range of work hours, or to monitor the work for compliance with contract plans and specifications, or federal, state, or municipal law;

(C) incurs most of the expenses for tools, labor, and other operational costs necessary to perform the services;

(D) has the opportunity for profit and loss as a result of the services performed for the other individual or entity; and

(E) is free to hire and fire employees to help perform the services for the contracted work;

(14) *[repealed 8/9/2001;]*

(15) "person" and "persons" as used in AS 36.05.090 means a person as that term is defined in AS 01.10.060 (8);

(16) "prevailing wage rate" means the total of the basic hourly rate, health and welfare, pension, legal service, apprentice training payments and other fringe benefits which inure to the benefit of the worker, as published by the department;

(17) "public-funded project" means a project described in AS 36.10.180 and AS 36.95.010 (3);

(18) "qualified" means having the education, training and experience necessary to perform the duties and satisfy the terms and conditions which are usual for the industry or profession or having the status specified in AS 36.95.010 (4);

(19) "state agency" means a state agency described in AS 36.10.180 (a)(1);

(20) "state employment centers" means those offices maintained by the department whose functions are to aid the unemployed in finding employment;

(21) "underemployed" means employed in a job that requires less skill or training than a job for which the employee is trained and qualified.

(22) "domiciled resident" means a person living within 65 road miles of a public construction project, or in the case of a highway project, the mid-point of the project, for at least 12 consecutive months prior to the award of the public construction project;

(23) "employed on the project" means the time period from the date the laborer, mechanic, or field

surveyor first reports on-site to the project through the final date the person reports on-site to the project.

(Eff. 7/8/73, Register 47; am 12/4/76, Register 60; am 7/30/82, Register 83; am 9/27/87, Register 103; am 1/2/91, Register 116; am 8/9/01, Register 159; am 8/12/2018, Register 227; am 11/25/2018, Register 228; am 1/10/2021, Register 273)

Authority: AS 23.05.060 AS 36.10.075
AS 36.95.010 AS 36.05.030
AS 36.10.140

Editor's note:

Copies of the Standard Occupational Classification Manual adopted by reference in 8 AAC 30.900(2) are available for review at the Anchorage, Fairbanks, and Juneau offices of the department.

As of Register 151 (October 1999), the regulations attorney made technical revisions under AS 44.62.125 (b)(6) to reflect the name change of the Department of Labor to the Department of Labor and Workforce Development made by ch. 58, SLA 1999 and the corresponding title change of the commissioner of labor.

8 AAC 30.910. Definition of "on-site."

(a) In AS 36.95.010(3), "on-site" means at the physical place where the construction called for in a contract will remain when work on it has been completed and at other property used by the contractor or subcontractor in the construction which can reasonably be said to be included in the site because of proximity. The scope of "on-site"

(1) has the following exceptions:

(A) for a truck driver employee or truck driver owner/operator working for a contractor or subcontractor on the project, "on-site" encompasses all round-trip truck driving activity associated with delivering or hauling away materials, equipment, or supplies for the purposes of completing a public construction contract;

(B) for a truck driver employee or truck driver owner/operator who is working for a contractor or subcontractor on the project, and who, for the purposes of completing a public construction contract, hauls materials, equipment, or supplies away from a public construction project footprint, but does not return to the public construction project, "on-site" encompasses the haul-away activities until the truck is offloaded;

(C) a truck driver performing delivery as an employee of a bona fide material supplier or common carrier is not "on-site" when delivering materials from a location that is not "on-site," including that material supplier's home yard or warehouse, if that location is not dedicated exclusively or nearly so to performance of one or more public construction projects;

(2) is extensive for larger projects, including airports, dams and roads, and includes the whole area in which the contract construction activity will take place; work areas separate from the physical footprint of the construction activity, including fabrication plants, mobile factories, batch plants, borrow pits, rock quarries, job headquarters, tool yards, and similar work areas, are "on-

site” if they are in close proximity and are dedicated exclusively or nearly so to performance of one or more public construction projects during the period of contract construction activity;

(3) for smaller projects, normally includes no more than the building itself and its grounds and other land or structures that are “down the block” or “across the street” that the contractor or subcontractor uses in performance of a particular public construction project.

(b) Laborers, mechanics, or field surveyors who perform duties within the limits of “on-site” are subject to the department’s wage decision for all hours spent working “on-site.” Workers who, under this subsection, are subject to the department’s wage decision include

(1) flaggers;

(2) barricade suppliers who set up or move barricades or other traffic control devices;

(3) employees of bona fide material suppliers or common carriers who perform work “on-site,” other than mere delivery, including drivers or delivery workers assisting in specific placement of asphalt or concrete during construction operations, stocking materials in rooms or on floors, or otherwise performing work in construction;

(4) workers who perform mobilization or demobilization activities;

(5) workers contracted or employed by material or equipment suppliers who erect, clean, repair, construct, or perform operational checks, other than contractually obligated warranty work, on equipment or material located “on-site”; and

(6) laborers, mechanics, or field surveyors who are engaged by a person or business that is hired or contracted by a prime construction contractor or subcontractor to provide services that are integral and necessary to the construction project; workers who are subject to this paragraph

(A) shall be considered to be “on-site” in the performance of those duties that the contractor or subcontractor was required to perform;

(B) include a trucking firm other than a common carrier whose services are engaged by a construction contractor or subcontractor on a public works job to pick up materials from a supplier’s delivery point and transport them to the job site.

(c) Not included in “on-site” are permanent home offices, branch plants, fabrication plants, tool yards, and other establishments of a contractor or subcontractor whose locations and continuance are governed by its general business operations. This is so even though mechanics, laborers, and field surveyors working at these establishments may repair or maintain machinery used in contract performance or make doors, windows, frames, or forms called for by the contract while continuing normal commercial work. Regardless of the activities performed at these establishments, the department’s wage decision does not apply, because they are not “on-site.” However, if mechanics, laborers, or field surveyors are required to go to a place that is “on-site” to perform activities on the

contract, the department’s wage decision is applicable for the actual time so spent, not including travel.

(d) For purposes of this section, a location or work area, or the existence or continuing operation of an enterprise, is dedicated exclusively or nearly so to one or more public construction projects if

(1) the location, work area, or enterprise is established in conjunction with one or more public construction projects; and

(2) during the year before a public construction project and during the life of a public construction project, less than 10 percent of documented sales or other uses are attributed to non-public construction projects.

(e) For purposes of this section, a site is in proximity to a public construction project if it is nearby the public construction project footprint and used on a regular and recurring basis to complete the public construction contract. The department will determine whether a site is in proximity to a public construction project on a project-by-project basis, taking into account

(1) the type of project;

(2) whether the use of a nearby site is required for completion of the project;

(3) whether the area of contract operations is developed or undeveloped; and

(4) the geographical lay of the land.

(f) In this section,

(1) “bona fide material supplier”

(A) means a commercial enterprise that holds itself out to the public as offering to supply sand, gravel, ready-mixed concrete, hot asphalt, or other construction materials to multiple clients for both public and private jobs; does not include a commercial enterprise whose existence or continuing operation is dedicated exclusively or nearly so to one or more public construction projects;

(2) “common carrier”

(A) means a commercial enterprise that holds itself out to the public as offering to transport freight or passengers and delivers multiple types of materials to multiple clients for both public and private jobs on a recurrent basis over established routes; in this subparagraph, “freight”

(i) means materials, supplies, and equipment, other than materials described in (ii) of this subparagraph;

(ii) does not include dirt, sand, gravel, rock, or other naturally occurring earth materials;

(B) does not include a commercial enterprise whose existence or continuing operation is dedicated exclusively or nearly so to one or more public construction projects.

(Eff. 7/30/82, Register 83; am 1/2/91, Register 116; am 8/9/2001, Register 159; am 3/24/2011, Register 197)

Authority: AS 23.05.060 AS 36.05.030

AS 36.10.075

8 AAC 30.920. Definition of "Economic Region."

In AS 36.10, "economic region" means a geographic area of the state sharing similar economic or demographic characteristics.

(Eff. 9/27/87, Register 103)

Authority: AS 36.10.075 AS 36.10.990

Editor's note:

Forms and any other assistance needed for compliance with 8 AAC 30 may be obtained by contacting any state employment center or the Department of Labor and Workforce Development, Wage and Hour Administration, 1251 Muldoon Road, Suite 113, Anchorage, Alaska 99504.

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PAMPHLET No. 600

Title 36. Public Contracts
AS 36.05

A woman wearing a brown hard hat with stickers, a high-visibility yellow safety vest over a black and white long-sleeved shirt, and khaki pants is sitting on a yellow utility vehicle. She is smiling and looking towards the camera. The vehicle has a black canopy and a red fire extinguisher mounted on the side. The background shows a forested hillside under a clear blue sky.

MINIMUM RATES OF PAY For Laborers and Mechanics

Effective September 1, 2024

Issue 49

DEPARTMENT OF LABOR
AND WORKFORCE DEVELOPMENT
Wage and Hour

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September 1, 2024

TO ALL CONTRACTING AGENCIES:

At the Alaska Department of Labor and Workforce Development our goal is putting Alaskans to work. This pamphlet is designed to help contractors awarded public construction contracts understand the most significant laws of the State of Alaska pertaining to prevailing wages.

This pamphlet identifies current prevailing wage rates for public construction contracts (any construction projects awarded for the State of Alaska or its political subdivisions, such as local governments and certain non-profit organizations). Because these rates may change in a subsequent determination, please be sure you are using the appropriate rates. The rates published in this edition become effective September 1, 2024.

The prevailing wage rates contained in this pamphlet are applicable to public construction projects with a final bid date of September 11, 2024, or later. As the law now provides, these rates will remain stable during the life of a contract or for 24 calendar months, whichever is shorter. **The 24-month period begins on the date the prime contract is awarded.** Upon expiration of the initial 24-month period, the latest wage rates issued by the department shall become effective for a subsequent 24-month period or until the original contract is completed, whichever occurs first. This process shall be repeated until the original contract is completed.

The term “original contract” means the signed contract that resulted from the original bid and any amendments, including changes of work scope, additions, extensions, change orders, and other instruments agreed to by the parties that have not been subject to subsequent open bid procedures.

If a higher federal rate is required due to partial federal funding or other federal participation, the higher rate must be paid.

For additional copies of this pamphlet go to: <http://labor.state.ak.us/lss/pamp600.htm>

For questions regarding prevailing wage or employment preference requirements, please contact the nearest Wage and Hour office. These offices are listed on Page x.

Sincerely,

A handwritten signature in blue ink that reads "Catherine Muñoz".

Catherine Muñoz
Commissioner

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Wage Rates Pages 1-26

Note to Readers: The statutes and administrative regulations listed in this publication were taken from the official codes, as of the effective date of the publication. However, there may be errors or omissions that have not been identified and changes that occurred after the publication was printed. This publication is intended as an informational guide only and is not intended to serve as a precise statement of the statutes and regulations of the State of Alaska. To be certain of current laws and regulations, please refer to the official codes.

EXCERPTS FROM ALASKA LAW

Sec. 36.05.005. Applicability.

This chapter applies only to a public construction contract that exceeds \$25,000.

Sec. 36.05.010. Wage rates on public construction.

A contractor or subcontractor who performs work on a public construction contract in the state shall pay not less than the current prevailing rate of wages for work of a similar nature in the region in which the work is done. The current prevailing rate of wages is that contained in the latest determination of prevailing rate of wages issued by the Department of Labor and Workforce Development at least 10 days before the final date for submission of bids for the contract. The rate shall remain in effect for the life of the contract or for 24 calendar months, whichever is shorter. At the end of the initial 24-month period, if new wage determinations have been issued by the department, the latest wage determination shall become effective for the next 24-month period or until the contract is completed, whichever occurs first. This process shall be repeated until the contract is completed.

Sec. 36.05.040. Filing schedule of employees, wages paid, and other information.

All contractors or subcontractors who perform work on a public construction contract for the state or for a political subdivision of the state shall, before the Friday of every second week, file with the Department of Labor and Workforce Development a sworn affidavit for the previous reporting period, setting out in detail the number of persons employed, wages paid, job classification of each employee, hours worked each day and week, and other information on a form provided by the Department of Labor and Workforce Development.

Sec. 36.05.045. Notice of work and completion; withholding of payment.

- (a) Before commencing work on a public construction contract, the person entering into the contract with a contracting agency shall designate a primary contractor for purposes of this section. Before work commences, the primary contractor shall file a notice of work with the Department of Labor and Workforce Development. The notice of work must list work to be performed under the public construction contract by each contractor who will perform any portion of work on the contract and the contract price being paid to each contractor. The primary contractor shall pay all filing fees for each contractor performing work on the contract, including a filing fee based on the contract price being paid for work performed by the primary contractor's employees. The filing fee payable shall be the sum of all fees calculated for each contractor. The filing fee shall be one percent of each contractor's contract price. The total filing fee payable by the primary contractor under this subsection may not exceed \$5,000. In this subsection, "contractor" means an employer who is using employees to perform work on the public construction contract under the contract or a subcontract.
- (b) Upon completion of all work on the public construction contract, the primary contractor shall file with the Department of Labor and Workforce Development a notice of completion together with payment of any additional filing fees owed due to increased contract amounts. Within 30 days after the department's receipt of the primary contractor's notice of completion, the department shall inform the contracting agency of the amount, if any, to be withheld from the final payment.
- (c) A contracting agency
 - (1) may release final payment of a public construction contract to the extent that the agency has received verification from the Department of Labor and Workforce Development that
 - (A) the primary contractor has complied with (a) and (b) of this section;
 - (B) the Department of Labor and Workforce Development is not conducting an investigation under this title; and
 - (C) the Department of Labor and Workforce Development has not issued a notice of a violation of this chapter to the primary contractor or any other contractors working on the public construction contract; and

- (2) shall withhold from the final payment an amount sufficient to pay the department's estimate of what may be needed to compensate the employees of any contractors under investigation on this construction contract, and any unpaid filing fees.
- (d) The notice and filing fee required under (a) of this section may be filed after work has begun if
 - (1) The public construction contract is for work undertaken in immediate response to an emergency; and
 - (2) The notice and fees are filed not later than 14 days after the work has begun.
- (e) A false statement made on a notice required by this section is punishable under AS 11.56.210.

Sec. 36.05.060. Penalty for violation of this chapter.

A contractor who violates this chapter is guilty of a misdemeanor and upon conviction is punishable by a fine of not less than \$100 nor more than \$1,000, or by imprisonment for not less than 10 days nor more than 90 days, or by both. Each day a violation exists constitutes a separate offense.

Sec. 36.05.070. Wage rates in specifications and contracts for public works.

- (a) The advertised specifications for a public construction contract that requires or involves the employment of mechanics, laborers, or field surveyors must contain a provision stating the minimum wages to be paid various classes of laborers, mechanics, or field surveyors and that the rate of wages shall be adjusted to the wage rate under AS 36.05.010.
- (b) Repealed by §17 ch 142 SLA 1972.
- (c) A public construction contract under (a) of this section must contain provisions that
 - (1) the contractor or subcontractors of the contractor shall pay all employees unconditionally and not less than once a week;
 - (2) wages may not be less than those stated in the advertised specifications, regardless of the contractual relationship between the contractor or subcontractors and laborers, mechanics, or field surveyors;
 - (3) the scale of wages to be paid shall be posted by the contractor in a prominent and easily accessible place at the site of the work;
 - (4) the state or a political subdivision shall withhold so much of the accrued payments as is necessary to pay to laborers, mechanics, or field surveyors employed by the contractor or subcontractors the difference between
 - (A) the rates of wages required by the contract to be paid laborers, mechanics, or field surveyors on the work; and
 - (B) the rates of wages in fact received by laborers, mechanics, or field surveyors.

Sec. 36.05.080. Failure to pay agreed wages.

Every contract within the scope of AS 36.05.070 shall contain a provision that if it is found that a laborer, mechanic, or field surveyor employed by the contractor or subcontractor has been or is being paid a rate of wages less than the rate of wages required by the contract to be paid, the state or its political subdivision may, by written notice to the contractor, terminate the contractor's right to proceed with the work or the part of the work for which there is a failure to pay the required wages and to prosecute the work to completion by contract or otherwise, and the contractor and the contractor's sureties are liable to the state or its political subdivision for excess costs for completing the work.

Sec. 36.05.090. Payment of wages from withheld payments and listing contractors who violate contracts.

- (a) The state disbursing officer in the case of a state public construction contract and the local fiscal officer in the case of a political subdivision public construction contract shall pay directly to laborers, mechanics, or field surveyors from accrued payments withheld under the terms of the contract the wages due laborers, mechanics, or field surveyors under AS 36.05.070.
- (b) The state disbursing officer or the local fiscal officer shall distribute to all departments of the state government and to all political subdivisions of the state a list giving the names of persons who have disregarded their obligations to employees. A person appearing on this list and a firm, corporation, partnership, or association in which the person has an interest may not work as a contractor or

subcontractor on a public construction contract for the state or a political subdivision of the state until three years after the date of publication of the list. If the accrued payments withheld under the contract are insufficient to reimburse all the laborers, mechanics, or field surveyors with respect to whom there has been a failure to pay the wages required under AS 36.05.070, the laborers, mechanics, or field surveyors have the right of action or intervention or both against the contractor and the contractor's sureties conferred by law upon persons furnishing labor or materials, and in the proceedings it is not a defense that the laborers, mechanics, or field surveyors accepted or agreed to accept less than the required rate of wages or voluntarily made refunds.

Sec. 36.05.900. Definition.

In this chapter, "contracting agency" means the state or a political subdivision of the state that has entered into a public construction contract with a contractor.

EXCERPTS FROM ALASKA ADMINISTRATIVE CODE

*****Notice:** Regulations relating to board and lodging and per diem went into effect on November 25, 2018. The new regulations are excerpted here***

8 AAC 30.051. Purpose. The purpose of 8 AAC 30.052 – 8 AAC 30.056 is to ensure that wages paid to laborers, mechanics, and field surveyors do not fall below the prevailing rate of pay.

8 AAC 30.052. Board and lodging; remote sites. (a) A contractor on a public construction project located 65 or more road miles from the international airport closest to the project area in either Fairbanks, Juneau, or Anchorage, or that is inaccessible by road in a two-wheel drive vehicle, shall provide adequate board and lodging to each laborer, mechanic, or field surveyor while the person is employed on the project. If commercial lodging facilities are not available, the contractor shall provide temporary lodging facilities. Lodging facilities must comply with all applicable state and federal laws. For a highway project, the location of the project is measured from the midpoint of the project.

(b) A contractor is not required to provide board and lodging:

(1) to a laborer, mechanic, or field surveyor who is a domiciled resident of the project area; or

(2) on a laborer, mechanic, or field surveyor's scheduled days off, when the person can reasonably travel between the project and the person's permanent residence; for the purposes of this paragraph, "scheduled day off" means a day in which a person does not perform work on-site, is not required to remain at or near the job location for the benefit of the contractor, and is informed of the day off at least seven days before the day off.

(c) Upon a contractor's written request, the commissioner may waive the requirements of (a) of this section where:

(1) the project is inaccessible by road in a two-wheel drive vehicle, but the laborer, mechanic, or field surveyor can reasonably travel between the project and the person's permanent residence within one hour; or

(2) a laborer, mechanic, or field surveyor is not a domiciled resident of the project area, but has established permanent residence, with the intent to remain indefinitely, within 65 road miles of the project, or for a highway project, the mid-point of the project.

8 AAC 30.054. Per diem instead of board and lodging. (a) A contractor may pay a laborer, mechanic, or field surveyor per diem instead of providing board and lodging, when the following conditions are met:

(1) the department determines that per diem instead of board and lodging is an established practice for the work classification; the department shall publish and periodically revise its determinations in the pamphlet *Laborers and Mechanics Minimum Rates of Pay*;

(2) the contractor pays each laborer, mechanic, or field surveyor the appropriate per diem rate as published and periodically revised in the pamphlet *Laborers and Mechanics Minimum Rates of Pay*; and

(3) the contractor pays the per diem to each laborer, mechanic, or field surveyor on the same day that wages are paid.

(b) A contractor may not pay per diem instead of board and lodging on a highway project located

- (1) west of Livengood on the Elliot Highway, AK-2;
- (2) on the Dalton Highway, AK-11;
- (3) north of milepost 20 on the Taylor Highway, AK-5;
- (4) east of Chicken on the Top of the World Highway; or
- (5) south of Tetlin Junction to the Alaska-Canada border on the Alaska Highway, AK-2.

8 AAC 30.056. Alternative arrangement. Upon a contractor’s written request, the commissioner may approve an alternative board and lodging or per diem arrangement, provided

- (1) the arrangement does not reduce the laborer, mechanic, or field surveyor’s wages below the prevailing wage rate; and
- (2) the laborer, mechanic, or field surveyor voluntarily enters into and signs the written arrangement; a labor organization representing laborers, mechanics, or field surveyors may enter into the written agreement on their behalf.

8 AAC 30.900. General definitions (selected excerpts only):

In this chapter and in AS 36

- (22) “domiciled resident” means a person living within 65 road miles of a public construction project, or in the case of a highway project, the mid-point of the project, for at least 12 consecutive months prior to the award of the public construction project;
- (23) “employed on the project” means the time period from the date the laborer, mechanic, or field surveyor first reports on-site to the project through the final date the person reports on-site to the project.

ADDITIONAL INFORMATION

PER DIEM

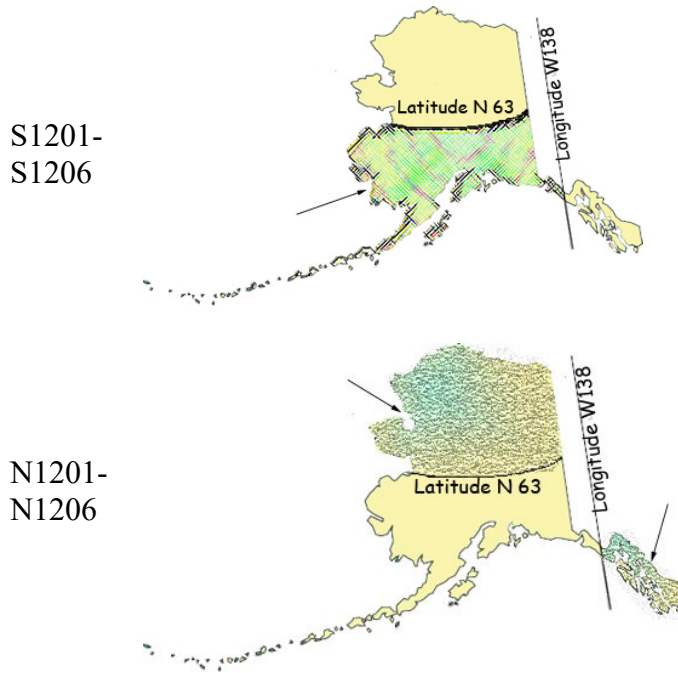
Notice: New regulations relating to board and lodging and per diem went into effect on November 25, 2018. The regulations provide a comprehensive set of requirements for the provision of board and lodging or per diem for workers on remote projects. Please refer to Alaska Administrative Code 8 AAC Chapter 30 and read the chapter carefully.

The Alaska Department of Labor and Workforce Development has determined that per diem is an established work practice for certain work classifications. These classifications are indicated throughout the Pamphlet by an asterisk (*) under the classification title. If all of the conditions of 8 AAC 30.054 are met, an employer may pay workers in these classifications per diem instead of providing board and lodging on a remote project.

Per Diem Rate: As of May 1, 2019, the minimum per diem rate is \$100.00 per day, or part thereof, the worker is employed on the project. In the event that a contractor provides lodging facilities, but no meals, the department will accept a payment of \$48 per day for meals to meet the per diem requirements.

LABORER CLASSIFICATION CLARIFICATION

The laborer rates categorized in class code S1201-S1206 apply in one area of Alaska; the area that is south of N63 latitude and west of W138 Longitude. The laborer rates categorized in class code N1201-N1206 apply in two areas of Alaska; the Alaska areas north of N63 latitude and east of W138 longitude. The following graphic representations should assist with clarifying the applicable wage rate categories:



APPRENTICE RATES

Apprentice rates at less than the minimum prevailing rates may be paid to apprentices according to an apprentice program which has been registered and approved by the Commissioner of the Alaska Department of Labor and Workforce Development in writing or according to a bona fide apprenticeship program registered with the U.S. Department of Labor, Office of Apprenticeship Training. **Any employee listed on a payroll at an apprentice wage rate who is not registered as above shall be paid the journeyman prevailing minimum wage in that work classification.** Wage rates are based on prevailing crew makeup practices in Alaska and apply to work performed regardless of either the quality of the work performed by the employee or the titles or classifications which may be assigned to individual employees.

FRINGE BENEFIT PLANS

Contractors/subcontractors may compensate fringe benefits to their employees in any one of three methods. The fringe benefits may be paid into a union trust fund, into an approved benefit plan, or paid directly on the paycheck as gross wages.

Where fringe benefits are paid into approved plans, funds, or programs including union trust funds, the payments must be contributed at least monthly. If contractors submit their own payroll forms and are paying fringe benefits into approved plans, funds, or programs, the employer’s certification must include, in addition to those requirements of 8 AAC 30.020(c), a statement that fringe benefit payments have been or will be paid at least monthly. Contractors who pay fringe benefits to a plan must ensure the plan is one approved by the Internal Revenue Service and that the plan meets the requirements of 8 AAC 30.025 (eff. 3/2/08) in order for payments to be credited toward the prevailing wage obligation.

SPECIAL PREVAILING WAGE RATE DETERMINATION

Special prevailing wage rate determinations may be requested for special projects or a special worker classification if the work to be performed does not conform to traditional public construction for which a prevailing wage rate has been established under 8 AAC 30.050(a) of this section. Requests for special wage rate determinations must be in writing and filed with the Commissioner at least 30 days before the award of the contract. An applicant for a special wage rate determination shall have the responsibility to support the necessity for the special rate. An application for a special wage rate determination filed under this section must contain:

- (1) a specification of the contract or project on which the special rates will apply and a description of the work to be performed;
- (2) a brief narrative explaining why special wage rates are necessary;
- (3) the job class or classes involved;
- (4) the special wage rates the applicant is requesting, including survey or other relevant wage data to support the requested rates;
- (5) the approximate number of employees who would be affected; and
- (6) any other information which might be helpful in determining if special wage rates are appropriate.

Requests made pursuant to the above should be addressed to:

Director
Alaska Department of Labor and Workforce Development
Labor Standards and Safety Division
Wage and Hour
P.O. Box 111149
Juneau, AK 99811-1149

-or-

Email: statewide.wagehour@alaska.gov

EMPLOYMENT PREFERENCE INFORMATION

In October 2019, the Alaska Attorney General issued a formal opinion stating that the Alaska Statutes 36.10.150 of the State’s 90% Employment Preference law, also known as the Alaska Resident Hire law, violates both the U.S. and Alaska Constitutions. As a result, the state has stopped all enforcement activity. A copy of the Attorney General opinion is found here:

http://law.alaska.gov/pdf/opinions/opinions_2019/19-005_AK-hire.pdf

**Alaska Department of Labor and Workforce Development
Labor Standards and Safety Division
Wage and Hour
Web site: <http://labor.state.ak.us/lss/pamp600.htm>**

Anchorage

1251 Muldoon Road, Suite 113
Anchorage, Alaska 99504-2098
Phone: (907) 269-4900

Email:
statewide.wagehour@alaska.gov

Juneau

PO Box 111149
Juneau, Alaska 99811
Phone: (907) 465-4842

Email:
statewide.wagehour@alaska.gov

Fairbanks

Regional State Office Building
675 7th Ave., Station J-1
Fairbanks, Alaska 99701-4593
Phone: (907) 451-2886

Email:
statewide.wagehour@alaska.gov

LABOR STANDARDS AND SAFETY NOTICE REQUESTS

If you would like to receive Wage and Hour or Mechanical Inspection **regulation notices** or **publications information**, they are available via electronic mail, by signing up in the GovDelivery System, <https://public.govdelivery.com/accounts/AKDOL/subscriber/new> and selecting topics *LSS – Wage and Hour – Forms and Publications*, *LSS – Mechanical Inspection Regulations*, or *LSS – Wage and Hour Regulations*.

Publications are also available online at <http://labor.alaska.gov/lss/home.htm>

DEBARMENT LIST

AS 36.05.090(b) states that “the state disbursing officer or the local fiscal officer shall distribute to all departments of the state government and to all political subdivisions of the state a list giving the names of persons who have disregarded their obligations to employees.”

A person appearing on the following debarment list and a firm, corporation, partnership, or association in which the person has an interest may not work as a contractor or subcontractor on a public construction contract for the state or a political subdivision of the state for three years from the date of debarment.

Company Name

Debarment Expires

No companies are currently debarred.

Laborers' & Mechanics' Minimum Rates of Pay

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
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Boilermakers

*See per diem note on last page

A0101	Boilermaker (journeyman)	51.08	8.57	18.72	2.50	VAC 4.25	SAF 0.34	85.46
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Bricklayers & Blocklayers

*See per diem note on last page

A0201	Blocklayer	52.77		8.71	0.65	L&M 0.20	ANU 2.45	64.78
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Bricklayer
 Marble or Stone Mason
 Refractory Worker (Firebrick, Plastic, Castable, and Gunitite Refractory Applications)
 Terrazzo Worker
 Tile Setter

A0202	Tuck Pointer Caulker	52.77		8.71	0.65	L&M 0.20	ANU 2.45	64.78
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Cleaner (PCC)

A0203	Marble & Tile Finisher	40.91		8.83	0.53	L&M 0.20	ANU 2.45	52.92
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Terrazzo Finisher

A0204	Torginal Applicator	40.91		8.83	0.53	L&M 0.20	ANU 2.45	52.92
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Carpenters, Region I (North of 63 latitude)

*See per diem note on last page

N0301	Carpenter (journeyman)	48.54	8.75	15.82	1.75	L&M 0.10	SAF	74.96
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Lather/Drywall/Acoustical

Carpenters, Region II (South of N63 latitude)

*See per diem note on last page

S0301	Carpenter (journeyman)	48.54	8.75	16.36	1.75	L&M 0.10	SAF	75.50
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Lather/Drywall/Acoustical

Cement Masons

*See per diem note on last page

Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Cement Masons
 *See per diem note on last page

A0401	Group I, including:	46.93	8.80	11.80	1.53		L&M 0.10	69.16
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- Application of Sealing Compound
- Application of Underlayment
- Building, General
- Cement Finisher
- Cement Mason (journeyman)
- Concrete
- Concrete Paving
- Concrete Polishing
- Concrete Repair
- Curb & Gutter, Sidewalk
- Curing of All Concrete
- General Concrete Pour Tender
- Grouting & Caulking of Tilt-Up Panels
- Grouting of All Plates
- Patching Concrete
- Screed Pin Setter
- Screeder or Rodder
- Spackling/Skim Coating

A0402	Group II, including:	46.93	8.80	11.80	1.53		L&M 0.10	69.16
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- Form Setter

A0403	Group III, including:	46.93	8.80	11.80	1.53		L&M 0.10	69.16
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- Concrete Saw Cutter Operator (All Control Joints and Self-powered)
- Curb & Gutter Machine
- Floor Grinder
- Pneumatic Power Tools
- Power Chipping & Bushing
- Sand Blasting Architectural Finish
- Screed & Rodding Machine Operator
- Troweling Machine Operator (all concrete surfaces)

A0404	Group IV, including:	46.93	8.80	11.80	1.53		L&M 0.10	69.16
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- Acoustical or Imitation Acoustical Finish
- Application of All Composition Mastic
- Application of All Epoxy Material
- Application of All Plastic Material
- Finish Colored Concrete
- Gunite Nozzleman
- Hand Powered Grinder

Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	Benefits	THR
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Cement Masons
 *See per diem note on last page

A0404	Group IV, including:	46.93	8.80	11.80	1.53		L&M	69.16
	Preparing, scratching and browsing of all ceilings and walls, finished with terrazo or tile							
	Tunnel Worker							

A0405	Group V, including:	46.93	8.80	11.80	1.53		L&M	69.16
	Casting and finishing							
	EIFS Systems							
	Finishing of all interior and exterior plastering							
	Fireproofing (Pryocrete, Cafco, Albi-Clad, sprayed fiberglass)							
	Gypsum, Portland Cement							
	Kindred material and products							
	Operation and control of all types of plastering machines, including power tools and floats, used by the industry							
	Overcoating and maintenance of interior/exterior plaster surfaces							
	Plasterer							
	Support and control of all concrete 3D printing operations							
	Use of 3D structural and architectural printing and finishes							
	Use of sustainable materials and equipment practices							
	Veneer plastering process (Rapid Plaster, U.S.G. "Imperial Systems", and Pabcoat Systems")							
	Venetian plaster and color-integrated Italian/Middle-Eastern line plaster							

Culinary Workers

A0501	Baker/Cook	29.95	7.53	8.83			LEG	46.31
A0503	General Helper	25.92	7.53	8.83			LEG	42.28
	Housekeeper							
	Janitor							
	Kitchen Helper							
A0504	Head Cook	29.95	7.53	8.83			LEG	46.31
A0505	Head Housekeeper	26.20	7.53	8.83			LEG	42.56
	Head Kitchen Help							

Dredgemen
 *See per diem note on last page

Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
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Dredgemen

*See per diem note on last page

A0601	Assistant Engineer	49.52	11.75	15.50	1.05	L&M 0.10	77.92
	Craneman						
	Electrical Generator Operator (primary pump/power barge/dredge)						
	Engineer						
	Welder						
A0602	Assistant Mate (deckhand)	48.20	11.75	15.50	1.05	L&M 0.10	76.60
A0603	Fireman	48.70	11.75	15.50	1.05	L&M 0.10	77.10
A0605	Leverman Clamshell	52.39	11.75	15.50	1.05	L&M 0.10	80.79
A0606	Leverman Hydraulic	50.39	11.75	15.50	1.05	L&M 0.10	78.79
A0607	Mate & Boatman	49.52	11.75	15.50	1.05	L&M 0.10	77.92
A0608	Oiler (dredge)	48.70	11.75	15.50	1.05	L&M 0.10	77.10

Electricians

*See per diem note on last page

A0701	Inside Cable Splicer	50.94	14.40	14.42	0.95	L&M 0.25	LEG 0.15	81.11
A0702	Inside Journeyman Wireman, including: Technicians (including use of drones in electrical construction)	50.94	14.40	14.42	0.95	L&M 0.25	LEG 0.15	81.11
A0703	Power Cable Splicer	70.34	14.40	19.30	0.95	L&M 0.25	LEG 0.15	105.39
A0704	Tele Com Cable Splicer	54.03	14.40	18.02	0.95	L&M 0.25	LEG 0.15	87.80
A0705	Power Journeyman Lineman, including: Power Equipment Operator Technician (including use of drones in electrical construction)	68.59	14.40	19.25	0.95	L&M 0.25	LEG 0.15	103.59
A0706	Tele Com Journeyman Lineman, including: Technician (including use of drones in telecommunications construction) Tele Com Equipment Operator	52.28	14.40	17.97	0.95	L&M 0.25	LEG 0.15	86.00

Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	Benefits	THR
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Electricians
*See per diem note on last page

A0707	Straight Line Installer - Repairman	52.28	14.40	17.97	0.95	L&M	LEG	86.00
A0708	Powderman	66.59	14.40	19.19	0.95	L&M	LEG	101.53
A0710	Material Handler	28.82	14.52	5.86	0.15	L&M	LEG	49.65
A0712	Tree Trimmer Groundman	32.26	14.40	14.52	0.15	L&M	LEG	61.63
A0713	Journeyman Tree Trimmer	41.32	14.40	14.79	0.15	L&M	LEG	70.96
A0714	Vegetation Control Sprayer	44.92	14.40	14.90	0.15	L&M	LEG	74.67
A0715	Inside Journeyman Communications CO/PBX	50.94	14.40	14.42	0.95	L&M	LEG	81.11

Elevator Workers
*See per diem note on last page

A0802	Elevator Constructor	48.00	16.17	20.96	0.75	L&M	VAC	92.51
A0803	Elevator Constructor Mechanic	68.57	16.17	20.96	0.75	L&M	VAC	115.36

Heat & Frost Insulators/Asbestos Workers (North of 63rd Parallel)
*See per diem note on last page

N0902	Asbestos Abatement-Mechanical Systems	43.85	9.24	11.12	1.50	IAF	LML	65.90
N0903	Asbestos Abatement/General Demolition All Systems	43.85	9.24	11.12	1.50	IAF	LML	65.90
N0904	Insulator, Group II	43.85	9.24	11.12	1.50	IAF	LML	65.90
N0905	Fire Stop	43.85	9.24	11.12	1.50	IAF	LML	65.90

Heat & Frost Insulators/Asbestos Workers (South of 63rd Parallel)
*See per diem note on last page

S0902	Asbestos Abatement-Mechanical Systems	43.35	9.24	11.12	1.50	IAF	LML	65.40
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Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	Benefits	THR
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Heat & Frost Insulators/Asbestos Workers (South of 63rd Parallel)

*See per diem note on last page

						IAF	LML	
S0903	Asbestos Abatement/General Demolition All Systems	43.35	9.24	11.12	1.50	0.14	0.05	65.40
S0904	Insulator, Group II	43.35	9.24	11.12	1.50	0.14	0.05	65.40
S0905	Fire Stop	43.35	9.24	11.12	1.50	0.14	0.05	65.40

IronWorkers

*See per diem note on last page

						L&M	IAF	
A1101	Ironworkers, including:	46.49	10.16	26.45	0.87	0.20	0.24	84.41
	Bender Operators							
	Bridge & Structural							
	Hangar Doors							
	Hollow Metal Doors							
	Industrial Doors							
	Machinery Mover							
	Ornamental							
	Reinforcing							
	Rigger							
	Sheeter							
	Signalman							
	Stage Rigger							
	Toxic Haz-Mat Work							
	Welder							
A1102	Helicopter	47.49	10.16	26.45	0.87	0.20	0.24	85.41
	Helicopter (used for rigging and setting)							
	Tower (energy producing windmill type towers to include nacelle and blades)							
A1103	Fence/Barrier Installer	42.99	10.16	26.45	0.87	0.20	0.24	80.91
A1104	Guard Rail Layout Man	43.73	10.16	26.45	0.87	0.20	0.24	81.65
A1105	Guard Rail Installer	43.99	10.16	26.45	0.87	0.20	0.24	81.91

Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)

*See per diem note on last page

Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)
 *See per diem note on last page

						L&M	LEG	
N1201	Group I, including:	38.25	9.95	21.51	1.65	0.30	0.20	71.86
	Asphalt Worker (shovelman, plant crew)							
	Brush Cutter							
	Camp Maintenance Laborer							
	Carpenter Tender or Helper							
	Choke Setter, Hook Tender, Rigger, Signalman							
	Concrete Labor (curb & gutter, chute handler, curing, grouting, screeding)							
	Crusher Plant Laborer							
	Demolition Laborer							
	Ditch Digger							
	Dumpman							
	Environmental Laborer (hazard/toxic waste, oil spill)							
	Fence Installer							
	Fire Watch Laborer							
	Flagman							
	Form Stripper							
	General Laborer							
	Guardrail Laborer, Bridge Rail Installer							
	Hydro Seeder Nozzleman							
	Laborer, Building							
	Landscaper or Planter							
	Laying of Mortarless Decorative Block (retaining walls, flowered decorative block 4 feet or less - highway or landscape work)							
	Material Handler							
	Pneumatic or Power Tools							
	Portable or Chemical Toilet Serviceman							
	Pump Man or Mixer Man							
	Railroad Track Laborer							
	Sandblast, Pot Tender							
	Saw Tender							
	Slurry Work							
	Steam Cleaner Operator							
	Steam Point or Water Jet Operator							
	Storm Water Pollution Protection Plan Worker (SWPPP Worker - erosion and sediment control Laborer)							
	Tank Cleaning							
	Utiliwalk & Utilidor Laborer							
	Watchman (construction projects)							
	Window Cleaner							

N1202	Group II, including:	39.25	9.95	21.51	1.65	0.30	0.20	72.86
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Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)
 *See per diem note on last page

						L&M	LEG	
N1202	Group II, including:	39.25	9.95	21.51	1.65	0.30	0.20	72.86

- Burning & Cutting Torch
- Cement or Lime Dumper or Handler (sack or bulk)
- Certified Erosion Sediment Control Lead (CESCL Laborer)
- Choker Splicer
- Chucktender (wagon, air-track & hydraulic drills)
- Concrete Laborer (power buggy, concrete saws, pumpcrete nozzleman, vibratorman)
- Culvert Pipe Laborer
- Cured Inplace Pipelayer
- Environmental Laborer (asbestos, marine work)
- Floor Preparation, Core Drilling
- Foam Gun or Foam Machine Operator
- Green Cutter (dam work)
- Gunite Operator
- Hod Carrier
- Jackhammer/Chipping Gun or Pavement Breaker
- Laser Instrument Operator
- Laying of Mortarless Decorative Block (retaining walls, flowered decorative block over 4 feet - highway or landscape work)
- Mason Tender & Mud Mixer (sewer work)
- Pilot Car
- Pipelayer Helper
- Plasterer, Bricklayer & Cement Finisher Tender
- Powderman Helper
- Power Saw Operator
- Railroad Switch Layout Laborer
- Sandblaster
- Scaffold Building & Erecting
- Sewer Caulker
- Sewer Plant Maintenance Man
- Thermal Plastic Applicator
- Timber Faller, Chainsaw Operator, Filer
- Timberman

						L&M	LEG	
N1203	Group III, including:	40.15	9.95	21.51	1.65	0.30	0.20	73.76

- Bit Grinder
- Camera/Tool/Video Operator
- Guardrail Machine Operator
- High Rigger & Tree Topper
- High Scaler
- Multiplate

Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)

*See per diem note on last page

N1203	Group III, including:	40.15	9.95	21.51	1.65	L&M	LEG	73.76
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- Plastic Welding
- Slurry Seal Squeegee Man
- Traffic Control Supervisor
- Welding Certified (in connection with laborer's work)

N1204	Group IIIA	44.28	9.95	21.51	1.65	L&M	LEG	77.89
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- Asphalt Raker, Asphalt Belly Dump Lay Down
- Drill Doctor (in the field)
- Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)
- Pioneer Drilling & Drilling Off Tugger (all type drills)
- Pipelayers
- Powderman (Employee Possessor)
- Storm Water Pollution Protection Plan Specialist (SWPPP Specialist)
- Traffic Control Supervisor, DOT Qualified

N1205	Group IV	27.82	9.95	21.51	1.65	L&M	LEG	61.43
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- Final Building Cleanup
- Permanent Yard Worker

N1206	Group IIIB	50.11	5.90	21.51	1.65	L&M	LEG	79.67
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- Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)(over 5,000 hours)
- Federal Powderman (Responsible Person in Charge)
- Grade Checking (setting or transferring of grade marks, line and grade, GPS, drones)
- Pioneer Drilling & Drilling Off Tugger (all type drills)(over 5,000 hours)
- Stake Hopper

Laborers (The area that is south of N63 latitude and west of W138 longitude)

*See per diem note on last page

S1201	Group I, including:	38.25	9.95	21.51	1.65	L&M	LEG	71.86
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- Asphalt Worker (shovelman, plant crew)
- Brush Cutter
- Camp Maintenance Laborer
- Carpenter Tender or Helper
- Choke Setter, Hook Tender, Rigger, Signalman
- Concrete Labor (curb & gutter, chute handler, curing, grouting, screeding)

Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Laborers (The area that is south of N63 latitude and west of W138 longitude)

*See per diem note on last page

						L&M	LEG	
S1201	Group I, including:	38.25	9.95	21.51	1.65	0.30	0.20	71.86
	Crusher Plant Laborer							
	Demolition Laborer							
	Ditch Digger							
	Dumpman							
	Environmental Laborer (hazard/toxic waste, oil spill)							
	Fence Installer							
	Fire Watch Laborer							
	Flagman							
	Form Stripper							
	General Laborer							
	Guardrail Laborer, Bridge Rail Installer							
	Hydro Seeder Nozzleman							
	Laborer, Building							
	Landscaper or Planter							
	Laying of Mortarless Decorative Block (retaining walls, flowered decorative block 4 feet or less - highway or landscape work)							
	Material Handler							
	Pneumatic or Power Tools							
	Portable or Chemical Toilet Serviceman							
	Pump Man or Mixer Man							
	Railroad Track Laborer							
	Sandblast, Pot Tender							
	Saw Tender							
	Slurry Work							
	Steam Cleaner Operator							
	Steam Point or Water Jet Operator							
	Storm Water Pollution Protection Plan Worker (SWPPP Worker - erosion and sediment control Laborer)							
	Tank Cleaning							
	Utiliwalk & Utilidor Laborer							
	Watchman (construction projects)							
	Window Cleaner							

						L&M	LEG	
S1202	Group II, including:	39.25	9.95	21.51	1.65	0.30	0.20	72.86
	Burning & Cutting Torch							
	Cement or Lime Dumper or Handler (sack or bulk)							
	Certified Erosion Sediment Control Lead (CESCL Laborer)							
	Choker Splicer							
	Chucktender (wagon, air-track & hydraulic drills)							
	Concrete Laborer (power buggy, concrete saws, pumpcrete nozzleman, vibratorman)							

Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Laborers (The area that is south of N63 latitude and west of W138 longitude)
 *See per diem note on last page

S1202 Group II, including:	39.25	9.95	21.51	1.65	L&M 0.30	LEG 0.20	72.86
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- Culvert Pipe Laborer
- Cured Inplace Pipelayer
- Environmental Laborer (asbestos, marine work)
- Floor Preparation, Core Drilling
- Foam Gun or Foam Machine Operator
- Green Cutter (dam work)
- Gunite Operator
- Hod Carrier
- Jackhammer/Chipping Gun or Pavement Breaker
- Laser Instrument Operator
- Laying of Mortarless Decorative Block (retaining walls, flowered decorative block over 4 feet - highway or landscape work)
- Mason Tender & Mud Mixer (sewer work)
- Pilot Car
- Pipelayer Helper
- Plasterer, Bricklayer & Cement Finisher Tender
- Powderman Helper
- Power Saw Operator
- Railroad Switch Layout Laborer
- Sandblaster
- Scaffold Building & Erecting
- Sewer Caulker
- Sewer Plant Maintenance Man
- Thermal Plastic Applicator
- Timber Faller, Chainsaw Operator, Filer
- Timberman

S1203 Group III, including:	40.15	9.95	21.51	1.65	L&M 0.30	LEG 0.20	73.76
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- Bit Grinder
- Camera/Tool/Video Operator
- Guardrail Machine Operator
- High Rigger & Tree Topper
- High Scaler
- Multiplate
- Plastic Welding
- Slurry Seal Squeegee Man
- Traffic Control Supervisor
- Welding Certified (in connection with laborer's work)

S1204 Group IIIA	44.28	9.95	21.51	1.65	L&M 0.30	LEG 0.20	77.89
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Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Laborers (The area that is south of N63 latitude and west of W138 longitude)

*See per diem note on last page

						L&M	LEG	
S1204	Group IIIA	44.28	9.95	21.51	1.65	0.30	0.20	77.89
	Asphalt Raker, Asphalt Belly Dump Lay Down							
	Drill Doctor (in the field)							
	Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)							
	Pioneer Drilling & Drilling Off Tugger (all type drills)							
	Pipelayers							
	Powderman (Employee Possessor)							
	Storm Water Pollution Protection Plan Specialist (SWPPP Specialist)							
	Traffic Control Supervisor, DOT Qualified							

						L&M	LEG	
S1205	Group IV	27.82	9.95	21.51	1.65	0.30	0.20	61.43
	Final Building Cleanup							
	Permanent Yard Worker							

						L&M	LEG	
S1206	Group IIIB	50.11	5.90	21.51	1.65	0.30	0.20	79.67
	Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)(over 5,000 hours)							
	Federal Powderman (Responsible Person in Charge)							
	Grade Checking (setting or transferring of grade marks, line and grade, GPS, drones)							
	Pioneer Drilling & Drilling Off Tugger (all type drills)(over 5,000 hours)							
	Stake Hopper							

Millwrights

*See per diem note on last page

						L&M		
A1251	Millwright (journeyman)	55.42	8.75	15.00	1.11	0.20	0.25	80.73
A1252	Millwright Welder	56.42	8.75	15.00	1.11	0.20	0.25	81.73

Painters, Region I (North of N63 latitude)

*See per diem note on last page

						L&M		
N1301	Group I, including:	40.33	9.97	15.10	1.10	0.10		66.60
	Brush							
	General Painter							
	Hand Taping							
	Hazardous Material Handler							
	Lead-Based Paint Abatement							

Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
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Painters, Region I (North of N63 latitude)
 *See per diem note on last page

N1301	Group I, including:	40.33	9.97	15.10	1.10	L&M 0.10	66.60
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Roll

N1302	Group II, including:	40.85	9.97	15.10	1.10	L&M 0.10	67.12
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- Bridge Painter
- Epoxy Applicator
- General Drywall Finisher
- Hand/Spray Texturing
- Industrial Coatings Specialist
- Machine/Automatic Taping
- Pot Tender
- Sandblasting
- Specialty Painter
- Spray
- Structural Steel Painter
- Wallpaper/Vinyl Hanger

N1304	Group IV, including:	44.54	9.97	18.61	1.10	0.10	74.32
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- Glazier
- Storefront/Automatic Door Mechanic

N1305	Group V, including:	39.66	9.97	5.00	1.10	0.10	55.83
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- Carpet Installer
- Floor Coverer
- Heat Weld/Cove Base
- Linoleum/Soft Tile Installer

N1306	Group VI, including:	69.78	11.01	7.80	1.10	0.10	89.79
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Traffic Control Striper

Painters, Region II (South of N63 latitude)
 *See per diem note on last page

S1301	Group I, including :	35.97	9.97	17.45	1.10	L&M 0.10	64.59
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- Brush
- General Painter
- Hand Taping
- Hazardous Material Handler
- Lead-Based Paint Abatement
- Roll

Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
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Painters, Region II (South of N63 latitude)

*See per diem note on last page

S1301	Group I, including :	35.97	9.97	17.45	1.10	L&M 0.10	64.59
	Spray						
S1302	Group II, including :	37.22	9.97	17.45	1.10	L&M 0.10	65.84
	General Drywall Finisher						
	Hand/Spray Texturing						
	Machine/Automatic Taping						
	Wallpaper/Vinyl Hanger						
S1303	Group III, including :	37.32	9.97	17.45	1.10	L&M 0.10	65.94
	Bridge Painter						
	Epoxy Applicator						
	Industrial Coatings Specialist						
	Pot Tender						
	Sandblasting						
	Specialty Painter						
	Structural Steel Painter						
S1304	Group IV, including:	45.20	9.97	17.25	1.10	L&M 0.10	73.62
	Glazier						
	Storefront/Automatic Door Mechanic						
S1305	Group V, including:	39.66	9.97	5.00	1.10	L&M 0.10	55.83
	Carpet Installer						
	Floor Coverer						
	Heat Weld/Cove Base						
	Linoleum/Soft Tile Installer						
S1306	Group VI, including:	69.78	11.01	7.80	1.10	0.10	89.79
	Traffic Control Striper						

Piledrivers

*See per diem note on last page

A1401	Piledriver	48.54	8.75	15.82	1.75	L&M 0.10	IAF 74.96
	Assistant Dive Tender						
	Carpenter/Piledriver						
	Rigger						
	Sheet Stabber						

Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	Benefits	THR
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Piledrivers
*See per diem note on last page

A1401	Piledriver	48.54	8.75	15.82	1.75	L&M	IAF	74.96
	Skiff Operator							
A1402	Piledriver-Welder/Toxic Worker	49.54	8.75	15.82	1.75	L&M	IAF	75.96
A1403	Remotely Operated Vehicle Pilot/Technician	52.85	8.75	15.82	1.75	L&M	IAF	79.27
	Single Atmosphere Suit, Bell or Submersible Pilot							
A1404	Diver (working) **See note on last page	92.65	8.75	15.82	1.75	L&M	IAF	119.07
A1405	Diver (standby) **See note on last page	52.85	8.75	15.82	1.75	L&M	IAF	79.27
A1406	Dive Tender **See note on last page	51.85	8.75	15.82	1.75	L&M	IAF	78.27
A1407	Welder (American Welding Society, Certified Welding Inspector)	54.10	8.75	15.82	1.75	L&M	IAF	80.52

Plumbers, Region I (North of N63 latitude)
*See per diem note on last page

N1501	Journeyman Pipefitter	51.66	12.45	18.70	1.75	L&M	S&L	85.76
	Plumber							
	Welder							

Plumbers, Region II (South of N63 latitude)
*See per diem note on last page

S1501	Journeyman Pipefitter	44.50	13.88	16.02	2.30	L&M		76.90
	Plumber							
	Welder							

Plumbers, Region IIA (1st Judicial District)
*See per diem note on last page

X1501	Journeyman Pipefitter	48.00	15.17	12.25	2.95	L&M		78.61
	Plumber							
	Welder							

Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Power Equipment Operators

*See per diem note on last page

						L&M	
A1601	Group I, including:	50.39	11.75	15.50	1.05	0.10	78.79
	Asphalt Roller: Breakdown, Intermediate, and Finish						
	Back Filler						
	Barrier Machine (Zipper)						
	Beltcrete with Power Pack & similar conveyors						
	Bending Machine						
	Boat Coxswain						
	Bulldozer						
	Cableways, Highlines & Cablecars						
	Cleaning Machine						
	Coating Machine						
	Concrete Hydro Blaster						
	Cranes (45 tons & under or 150 feet of boom & under (including jib & attachments))						
	(a) Hydralifts or Transporters, (all track or truck type)						
	(b) Derricks						
	(c) Overhead						
	Crushers						
	Deck Winches, Double Drum						
	Ditching or Trenching Machine (16 inch or over)						
	Drag Scraper, Yarder, and similar types						
	Drilling Machines, Core, Cable, Rotary and Exploration						
	Finishing Machine Operator, Concrete Paving, Laser Screed, Sidewalk, Curb & Gutter Machine						
	Grade Checker and/or Line and Grade including Drone						
	Helicopters						
	Hover Craft, Flex Craft, Loadmaster, Air Cushion, All-Terrain Vehicle, Rollagon, Bargecable, Nodwell, & Snow Cat						
	Hydro Ax, Feller Buncher & similar						
	Hydro Excavation (Vac-Truck and Similar)						
	Loaders (2 1/2 yards through 5 yards, including all attachments):						
	(a) Forklifts (with telescopic boom & swing attachment)						
	(b) Front End & Overhead, (2-1/2 yards through 5 yards)						
	(c) Loaders, (with forks or pipe clamp)						
	(d) Loaders, (elevating belt type, Euclid & similar types)						
	Material Transfer Vehicle (Elevating Grader, Pickup Machine, and similar types)						
	Mechanic, Welder, Bodyman, Electrical, Camp & Maintenance Engineer						
	Micro Tunneling Machine						
	Mixers: Mobile type with hoist combination						
	Motor Patrol Grader						
	Mucking Machine: Mole, Tunnel Drill, Horizontal/Directional Drill Operator and/or Shield						

Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Power Equipment Operators
 *See per diem note on last page

							L&M	
A1601	Group I, including:	50.39	11.75	15.50	1.05	0.10		78.79
	Off-Road Hauler (including Articulating and Haul Trucks)							
	Operator on Dredges							
	Piledriver Engineer, L.B. Foster, Puller or similar paving breaker							
	Plant Operator (Asphalt & Concrete)							
	Power Plant, Turbine Operator 200 k.w. & over (power plants or combination of power units over 300 k.w.)							
	Remote Controlled Equipment							
	Scraper (through 40 yards)							
	Service Oiler/Service Engineer							
	Shot Blast Machine							
	Shovels, Backhoes, Excavators with all attachments, and Gradealls (3 yards & under)							
	Sideboom (under 45 tons)							
	Sub Grader (Gurries & similar types)							
	Tack Tractor							
	Truck Mounted Concrete Pump, Conveyor/Tele-belt, & Creter							
	Wate Kote Machine							

							L&M	
A1602	Group IA, including:	52.39	11.75	15.50	1.05	0.10		80.79
	Camera/Tool/Video Operator (Slipline)							
	Certified Welder, Electrical Mechanic, Camp Maintenance Engineer, Mechanic (over 10,000 hours)							
	Cranes (over 45 tons or 150 feet including jib & attachments)							
	(a) Clamshells & Draglines (over 3 yards)							
	(b) Tower Cranes							
	Licensed Water/Waste Water Treatment Operator							
	Loaders (over 5 yards)							
	Motor Patrol Grader, Dozer, Grade Tractor (finish: when finishing to final grade and/or to hubs, or for asphalt)							
	Power Plants (1000 k.w. & over)							
	Profiler, Reclaimer, and Roto-Mill							
	Quad							
	Scrapers (over 40 yards)							
	Screed							
	Shovels, Backhoes, Excavators with all attachments (over 3 yards)							
	Sidebooms (over 45 tons)							
	Slip Form Paver, C.M.I. & similar types							
	Topside (Asphalt Paver, Slurry machine, Spreaders, and similar types)							

							L&M	
A1603	Group II, including:	49.52	11.75	15.50	1.05	0.10		77.92
	Boiler - Fireman							

Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Power Equipment Operators
 *See per diem note on last page

A1603	Group II, including:	49.52	11.75	15.50	1.05		L&M 0.10	77.92
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- Cement Hogs & Concrete Pump Operator
- Conveyors (except those listed in Group I)
- Hoists on Steel Erection, Towermobiles & Air Tuggers
- Horizontal/Directional Drill Locator
- Locomotives, Rod & Geared Engines
- Mixers
- Screening, Washing Plant
- Sideboom (cradling rock drill, regardless of size)
- Skidder
- Trenching Machines (under 16 inches)
- Water/Waste Water Treatment Operator

A1604	Group III, including:	48.70	11.75	15.50	1.05		L&M 0.10	77.10
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- "A" Frame Trucks, Deck Winches
- Bombardier (tack or tow rig)
- Boring Machine
- Brooms, Power (sweeper, elevator, vacuum, or similar)
- Bump Cutter
- Compressor
- Farm Tractor
- Forklift, Industrial Type
- Gin Truck or Winch Truck (with poles when used for hoisting)
- Hoists, Air Tuggers, Elevators
- Loaders:
 - (a) Elevating-Athey, Barber Greene & similar types
 - (b) Forklifts or Lumber Carrier (on construction job sites)
 - (c) Forklifts, (with tower)
 - (d) Overhead & Front End, (under 2-1/2 yards)
- Locomotives: Dinkey (air, steam, gas & electric) Speeders
- Mechanics, Light Duty
- Oil, Blower Distribution
- Posthole Digger, Mechanical
- Pot Fireman (power agitated)
- Power Plant, Turbine Operator, (under 200 k.w.)
- Pumps, Water
- Roller (other than Asphalt)
- Saws, Concrete
- Skid Hustler
- Skid Steer (with all attachments)
- Stake Hopper

Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	Benefits	THR
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Power Equipment Operators
 *See per diem note on last page

A1604	Group III, including:	48.70	11.75	15.50	1.05		L&M 0.10	77.10
	Straightening Machine							
	Tow Tractor							

A1605	Group IV, including:	41.66	11.75	15.50	1.05		L&M 0.10	70.06
	Crane Assistant Engineer/Rig Oiler							
	Drill Helper							
	Parts & Equipment Coordinator							
	Spotter							
	Steam Cleaner							
	Swamper (on trenching machines or shovel type equipment)							

Roofers
 *See per diem note on last page

A1701	Roofer & Waterproofer	49.62	13.75	3.91	0.81		L&M 0.10	0.06	68.25
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A1702	Roofer Material Handler	36.23	13.75	3.91	0.81		L&M 0.10	0.06	54.86
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Sheet Metal Workers, Region I (North of N63 latitude)
 *See per diem note on last page

N1801	Sheet Metal Journeyman	54.00	12.80	15.94	1.80		L&M 0.12		84.66
	Air Balancing and duct cleaning of HVAC systems								
	Brazing, soldering or welding of metals								
	Demolition of sheet metal HVAC systems								
	Fabrication and installation of exterior wall sheathing, siding, metal roofing, flashing, decking and architectural sheet metal work								
	Fabrication and installation of heating, ventilation and air conditioning ducts and equipment								
	Fabrication and installation of louvers and hoods								
	Fabrication and installation of sheet metal lagging								
	Fabrication and installation of stainless steel commercial or industrial food service equipment								
	HVAC-R Service Mechanic, servicing and maintaining HVAC-R Systems								
	Manufacture, fabrication assembly, installation and alteration of all ferrous and nonferrous metal work								
	Metal lavatory partitions								
	Preparation of drawings taken from architectural and engineering plans required for fabrication and erection of sheet metal work								

Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	L&M	Benefits	THR
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Sheet Metal Workers, Region I (North of N63 latitude)

*See per diem note on last page

N1801	Sheet Metal Journeyman	54.00	12.80	15.94	1.80		L&M 0.12		84.66
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- Sheet Metal shelving, lockers
- Sheet Metal venting, chimneys and breaching
- Skylight installation

Sheet Metal Workers, Region II (South of N63 latitude)

*See per diem note on last page

S1801	Sheet Metal Journeyman	48.75	12.80	15.30	2.06		L&M 0.43		79.34
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- Air Balancing and duct cleaning of HVAC systems
- Brazing, soldering or welding of metals
- Demolition of sheet metal HVAC systems
- Fabrication and installation of exterior wall sheathing, siding, metal roofing, flashing, decking and architectural sheet metal work
- Fabrication and installation of heating, ventilation and air conditioning ducts and equipment
- Fabrication and installation of louvers and hoods
- Fabrication and installation of sheet metal lagging
- Fabrication and installation of stainless steel commercial or industrial food service equipment
- HVAC-R Service Mechanic, servicing and maintaining HVAC-R Systems
- Manufacture, fabrication assembly, installation and alteration of all ferrous and nonferrous metal work
- Metal lavatory partitions
- Preparation of drawings taken from architectural and engineering plans required for fabrication and erection of sheet metal work
- Sheet Metal shelving, lockers
- Sheet Metal venting, chimneys and breaching
- Skylight installation

Sprinkler Fitters

*See per diem note on last page

A1901	Sprinkler Fitter	56.61	11.91	18.35	0.54		L&M 0.25		87.66
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Surveyors

*See per diem note on last page

A2001	Chief of Parties	57.54	12.98	14.14	1.25		L&M 0.10		86.01
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Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
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Surveyors
*See per diem note on last page

A2002	Party Chief	53.55	12.98	14.14	1.25	L&M 0.10	82.02
A2003	Line & Grade Technician/Office Technician/GPS, Drones	50.65	12.98	14.14	1.25	L&M 0.10	79.12
A2004	Associate Party Chief (including Instrument Person & Head Chain Person)/Stake Hop/Grademan	48.29	12.98	14.14	1.25	L&M 0.10	76.76
A2006	Chain Person (for crews with more than 2 people)	43.46	12.98	14.14	1.25	L&M 0.10	71.93

Truck Drivers
*See per diem note on last page

A2101	Group I, including: Air/Sea Traffic Controllers Ambulance/Fire Truck Driver (EMT certified) Boat Coxswain Captains & Pilots (air & water) Deltas, Commanders, Rollagons, & similar equipment (when pulling sleds, trailers or similar equipment) Dump Trucks (including articulating end dumps, rockbuggy, side dump, belly dump, & trucks with pups) over 40 yards up to & including 60 yards Fueller Helicopter Transporter Liquid Vac Truck/Super Vac Truck Material Coordinator or Purchasing Agent Oil Distributor Truck Ready-mix (over 12 yards up to & including 15 yards) (over 15 yards to be negotiated) Semi with Double Box Mixer Tireman, Medium Duty (Truck Tires up to 1200-24") Water Wagon (250 Bbls and above)	49.51	12.98	14.14	1.25	L&M 0.10	77.98
A2102	Group 1A including: Dump Trucks (including rockbuggy, side dump, belly dump & trucks with pups) over 60 yards up to & including 100 yards (over 100 yards to be negotiated) Jeeps (driver under load) Lowboys, including tractor attached trailers & jeeps, up to & including 12 axles (over 12 axles or 150 tons to be negotiated) Tireman Heavy Duty (earthmover tires, i.e., loader, scraper, haul truck)	50.92	12.98	14.14	1.25	L&M 0.10	79.39

Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Truck Drivers

*See per diem note on last page

						L&M	
A2103	Group II, including:	48.10	12.98	14.14	1.25	0.10	76.57

- All Deltas, Commanders, Rollagons, & similar equipment
- Batch Trucks (8 yards & up)
- Batch Trucks (up to & including 7 yards)
- Boom Truck/Knuckle Truck (over 5 tons)
- Cacasco Truck/Heat Stress Truck
- Construction and Material Safety Technician
- Dump Trucks (including articulating end dump, rockbuggy, side dump, belly dump, & trucks with pups) over 20 yards up to & including 40 yards
- Gin Pole Truck, Winch Truck, Wrecker (truck mounted "A" frame manufactured rating over 5 tons)
- Mechanics
- Partsman
- Ready-mix (up to & including 12 yards)
- Stringing Truck
- Turn-O-Wagon or DW-10 (not self loading)

						L&M	
A2104	Group III, including:	47.19	12.98	14.14	1.25	0.10	75.66

- Boom Truck/Knuckle Truck (up to & including 5 tons)
- Dump Trucks (including articulating end dump, rockbuggy, side dump, belly dump, & trucks with pups) over 10 yards up to & including 20 yards
- Expeditor (electrical & pipefitting materials)
- Gin Pole Truck, Winch Truck, Wrecker (truck mounted "A" frame manufactured rating 5 tons & under)
- Greaser - Shop
- Semi or Truck & Trailer
- Thermal Plastic Layout Technician
- Traffic Control Technician
- Trucks/Jeeps (push or pull)

						L&M	
A2105	Group IV, including:	46.55	12.98	14.14	1.25	0.10	75.02

- Air Cushion or similar type vehicle
- All Terrain Vehicle
- Buggymobile
- Bull Lift & Fork Lift, Fork Lift with Power Boom & Swing Attachment (over 5 tons)
- Bus Operator (over 30 passengers)
- Cement Spreader, Dry
- Combination Truck-Fuel & Grease
- Compactor (when pulled by rubber tired equipment)
- Dump Trucks (including rockbuggy, side dump, belly dump, & trucks with pups) up to & including 10 yards

Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Truck Drivers
 *See per diem note on last page

						L&M	
A2105	Group IV, including:	46.55	12.98	14.14	1.25	0.10	75.02
	Dumpster						
	Expeditor (general)						
	Fire Truck/Ambulance Driver						
	Flat Beds, Dual Rear Axle						
	Foam Distributor Truck Dual Axle						
	Front End Loader with Fork						
	Grease Truck						
	Hydro Seeder, Dual Axle						
	Hyster Operators (handling bulk aggregate)						
	Loadmaster (air & water operations)						
	Lumber Carrier						
	Ready-mix, (up to & including 7 yards)						
	Rigger (air/water/oilfield)						
	Tireman, Light Duty						
	Track Truck Equipment						
	Truck Vacuum Sweeper						
	Warehouseperson						
	Water Truck (Below 250 Bbls)						
	Water Truck (straight)						
	Water Wagon, Semi						

						L&M	
A2106	Group V, including:	45.70	12.98	14.14	1.25	0.10	74.17
	Buffer Truck						
	Bull Lifts & Fork Lifts, Fork Lifts with Power Boom & Swing Attachments (up to & including 5 tons)						
	Bus Operator (up to 30 passengers)						
	Farm Type Rubber Tired Tractor (when material handling or pulling wagons on a construction project)						
	Flat Beds, Single Rear Axle						
	Foam Distributor Truck Single Axle						
	Fuel Handler (station/bulk attendant)						
	Gear/Supply Truck						
	Gravel Spreader Box Operator on Truck						
	Hydro Seeder, Single Axle						
	Pickups (pilot cars & all light-duty vehicles)						
	Rigger						
	Swamper						
	Tack Truck (welders/gear)						
	Team Drivers (horses, mules, & similar equipment)						

Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Tunnel Workers, Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)
 *See per diem note on last page

						L&M	LEG	
N2201	Group I, including:	42.08	9.95	21.51	1.65	0.30	0.20	75.69
	Brakeman							
	Mucker							
	Nipper							
	Storm Water Pollution Protection Plan Worker (SWPPP Worker - erosion and sediment control Laborer)							
	Topman & Bull Gang							
	Tunnel Track Laborer							

						L&M	LEG	
N2202	Group II, including:	43.18	9.95	21.51	1.65	0.30	0.20	76.79
	Burning & Cutting Torch							
	Certified Erosion Sediment Control Lead (CESCL Laborer)							
	Concrete Laborer							
	Floor Preparation, Core Drilling							
	Jackhammer/Chipping Gun or Pavement Breaker							
	Laser Instrument Operator							
	Nozzlelemen, Pumpcrete or Shotcrete							
	Pipelayer Helper							

						L&M	LEG	
N2203	Group III, including:	44.17	9.95	21.51	1.65	0.30	0.20	77.78
	Miner							
	Retimberman							

						L&M	LEG	
N2204	Group IIIA, including:	48.71	9.95	21.51	1.65	0.30	0.20	82.32
	Asphalt Raker, Asphalt Belly Dump Lay Down							
	Drill Doctor (in the field)							
	Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)							
	Pioneer Drilling & Drilling Off Tugger (all type drills)							
	Pipelayer							
	Powderman (Employee Possessor)							
	Storm Water Pollution Protection Plan Specialist (SWPPP Specialist)							
	Traffic Control Supervisor, DOT Qualified							

						L&M	LEG	
N2206	Group IIIB, including:	55.12	5.90	21.51	1.65	0.30	0.20	84.68
	Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)(over 5,000 hours)							
	Federal Powderman (Responsible Person in Charge)							
	Grade Checking (setting or transferring of grade marks, line and grade, GPS, drones)							
	Pioneer Drilling & Drilling Off Tugger (all type drills)(over 5,000 hours)							

Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	Benefits	THR
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Tunnel Workers, Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)
 *See per diem note on last page

						L&M	LEG	
N2206	Group IIIB, including:	55.12	5.90	21.51	1.65	0.30	0.20	84.68
	Stake Hopper							

Tunnel Workers, Laborers (The area that is south of N63 latitude and west of W138 longitude)
 *See per diem note on last page

						L&M	LEG	
S2201	Group I, including:	42.08	9.95	21.51	1.65	0.30	0.20	75.69
	Brakeman							
	Mucker							
	Nipper							
	Storm Water Pollution Protection Plan Worker (SWPPP Worker - erosion and sediment control Laborer)							
	Topman & Bull Gang							
	Tunnel Track Laborer							

						L&M	LEG	
S2202	Group II, including:	43.18	9.95	21.51	1.65	0.30	0.20	76.79
	Burning & Cutting Torch							
	Certified Erosion Sediment Control Lead (CESCL Laborer)							
	Concrete Laborer							
	Floor Preparation, Core Drilling							
	Jackhammer/Chipping Gun or Pavement Breaker							
	Laser Instrument Operator							
	Nozzlemen, Pumpcrete or Shotcrete							
	Pipelayer Helper							

						L&M	LEG	
S2203	Group III, including:	44.17	9.95	21.51	1.65	0.30	0.20	77.78
	Miner							
	Retimberman							

						L&M	LEG	
S2204	Group IIIA, including:	48.71	9.95	21.51	1.65	0.30	0.20	82.32
	Asphalt Raker, Asphalt Belly Dump Lay Down							
	Drill Doctor (in the field)							
	Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)							
	Pioneer Drilling & Drilling Off Tugger (all type drills)							
	Pipelayer							
	Powderman (Employee Possessor)							
	Storm Water Pollution Protection Plan Specialist (SWPPP Specialist)							
	Traffic Control Supervisor, DOT Qualified							

Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
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Tunnel Workers, Laborers (The area that is south of N63 latitude and west of W138 longitude)
 *See per diem note on last page

						L&M	LEG	
S2206	Group IIIB, including:	55.12	5.90	21.51	1.65	0.30	0.20	84.68
	Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)(over 5,000 hours)							
	Federal Powderman (Responsible Person in Charge)							
	Grade Checking (setting or transferring of grade marks, line and grade, GPS, drones)							
	Pioneer Drilling & Drilling Off Tugger (all type drills)(over 5,000 hours)							
	Stake Hopper							

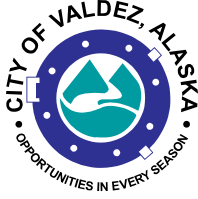
Tunnel Workers, Power Equipment Operators
 *See per diem note on last page

A2207	Group I	55.43	11.75	15.50	1.05	0.10		83.83
A2208	Group IA	57.63	11.75	15.50	1.05	0.10		86.03
A2209	Group II	54.47	11.75	15.50	1.05	0.10		82.87
A2210	Group III	53.57	11.75	15.50	1.05	0.10		81.97
A2211	Group IV	45.83	11.75	15.50	1.05	0.10		74.23

* Per diem is an established practice for this classification. This means that per diem is an allowable alternative to board and lodging if all criteria are met. See 8 AAC 30.051-08 AAC 30.056, and the per diem information on page vii of this Pamphlet.

** Work in combination of classifications: Employees working in any combination of classifications within the diving crew (working diver, standby diver, and tender) in a shift are paid in the classification with the highest rate for a minimum of 8 hours per shift.

Wage benefits key: ANU=Annuity, BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation



CITY OF VALDEZ
Project Title: Civic Center Green Room Renovation
Project No.: 23-350-2206
Contract No.: 2256

TO: All Recipients

Date: February 24, 2025

SUBJECT: Addendum No.1

This two (2) page Addendum forms a part of the project scope documents and modifies the project scope for the above-referenced project. **Acknowledge receipt of this Addendum in the space provided on the Bid Form.** Failure to do so may subject the Bidder to disqualification.

This Addendum makes the following changes and/or clarifications:

Question #1: Will there be an emergency lighting in the room? I don't see any shown on the drawings.

Answer#1 (RSA Response): Emergency lighting is not required for these areas.

Question #2: The demo drawing shows removing the exit signs, but I don't see new ones being installed. Did I miss them or are we not installing them?

Answer #2 (RSA Response): Exit lights are not required for these areas. Note, the existing exit lights to be demolished are the tritium style exit lights that will require special hazardous material handling/disposal in accordance with Specification 26 05 05 Part 3.7. Valdez landfill does not maintain a haz-mat cell.

Question #3: Can you please explain the intent of sheet note #4 on E3.1? Is the intent to install a 1" EMT to each data box location or just to install a 1" EMT across the mechanical room?

Answer #3 (RSA Response): The main intent of the note was to call out the approximate location of the existing I.T. Cabinet/Telecom Rack so the bidders knew where to route all of the Cat 6 cables (as flagged in the Basement Key Plan in the bottom right of the sheet). The 1" conduit call out is not meant to be explicit, as there are more Cat 6 cables shown on the drawings than would fit in a single 1" conduit. Per the project specifications, 1" conduit is the minimum allowed for telecom cables, however, J-hooks are also permitted within the specifications and as noted in General Note B on Sheet E3.1. If the Contractor chooses to utilize 1" conduit for the runs back to the I.T. Cabinet/Telecom Rack, then multiple conduits will be required, and the conduit fills shall be in accordance with the NEC and project specifications.



Question #4: For Alternate 2 we are supposed to figure on installing 1-1/2” standoffs for the mirrors. There is no specific standoff type called out in the specifications. On page A6.0, detail 6, it looks like the standoff is made from wood based on the hatching. Could we get more information or a spec on what kind of standoff is required?

Answer #4 (Wolf Response): The intent of the detail is for the standoff to provide uniform and level support for each mirror while accomplishing a frameless, ‘floating’ appearance that aligns with the face of the Alternate 2 light fixtures. The design, as drawn, anticipates the stand-off as a flat, dimensional material that can be painted black and be positively attached to the wall. An appropriate mirror adhesive will then be used to mount the glass to the backing structure without fasteners or set screws.

Change/ Clarification:

The “Owner’s Contingency amount” listed within the original posted Bid Schedule may be modified by the Owner. The Owner will determine adequate contingency amount upon bid evaluation, but prior to final award of contract.

Change/ Clarification: An additional Special Conditions “SP 16 Owner’s Contingency” has been added to the contract Special Provisions clarifying in detail the Owner’s Contingency that is included within the Bid Schedule. (See additional contract verbiage below)

SP 16 Owner’s Contingency

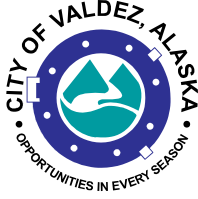
Owner’s Contingency funds will be used at the sole discretion of the City of Valdez. The Contractor must obtain pre-approval in writing from the Owner authorizing the use of these Owner’s Contingency funds. At the sole discretion and pre-approval of the Owner, these contingency funds are to be used for unforeseen conditions, modifications and or additions to the original scope of work not outlined within these construction contract documents, drawings and specifications. Any unused Owner’s Contingency funds shall be returned to the Owner at the end of the Project.

Change/ Clarification: Additional contract language under Special Provisions has been added within SP 04 Special Site Conditions (See additional contract verbiage below).

Ensure all Contractor access is through the Loading Dock doors. No access through the main Civic Center entrance.

Contractor parking will be located within the Staging Area near the Loading Dock.

End of Addendum



CITY OF VALDEZ
Project Title: Civic Center Green Room Renovation
Project No.: 23-350-2206
Contract No.: 2256

TO: All Recipients

Date: February 27, 2025

SUBJECT: Addendum No. 2

This one (1) page Addendum forms a part of the project scope documents and modifies the project scope for the above-referenced project. **Acknowledge receipt of this Addendum in the space provided on the Bid Form.** Failure to do so may subject the Bidder to disqualification.

This Addendum makes the following changes and/or clarifications:

Clarification:

Bidders must submit the required “Bidders Qualifications Packet” in one .pdf file format. The location for uploading the “Bidders Qualification Packet” .pdf file can be found under the section titled Bid Qualifications Envelope within the project’s Bid Express solicitation page.

End of Addendum

VALDEZ CIVIC CTR GREEN ROOM RENOVATION

314 CLIFTON CT.
VALDEZ, AK

OWNER

VALDEZ, AK
212 CHENEGA STREET
VALDEZ
907-835-4560
LINDY VITITOW

AK 99645

ARCHITECT

WOLF ARCHITECTURE, INC.
625 SOUTH COBB, STE. 200
PALMER
907-746-6670
GARY WOLF

AK 99645

MECHANICAL ENGINEER

RSA ENGINEERS
670 WEST FIREWEED LANE
ANCHORAGE
907-276-0521
EVAN MATHERS

AK 99503

ELECTRICAL ENGINEER

RSA ENGINEERS
670 WEST FIREWEED LANE
ANCHORAGE
907-276-0521
DAVIN BLUBAUGH

AK 99503

INTERIOR DESIGNER

MIA RENTZ STUDIO
625 SOUTH COBB, STE. 200
PALMER
907-746-6670
MARIA RENTZ

AK 99645



ALTERNATES

- ALT. 1--TOILET FIXTURES, WALL, FINISH REPLACEMENT
 - DEMO PLUMBING WALL, FIXTURES, PARTITIONS, ACCESSORIES IN MENS & WOMENS TOILET ROOMS
 - REBUILD PLUMBING WALL, INSTALL NEW FIXTURES & TRIMS
 - REFINISH WALLS, INSTALL WALL PROTECTION
- ALT. 2--LIGHTING
 - PREPARE FOR & INSTALL ALT. 2 LIGHT FIXTURES
 - PROVIDE & INSTALL ACOUSTIC TILE CEILING
 - STAND-OFF MIRRORS
- ALT. 3--DATA DROPS
 - PROVIDE ADDITIONAL DROPS AS INDICATED

INDEX OF DRAWINGS

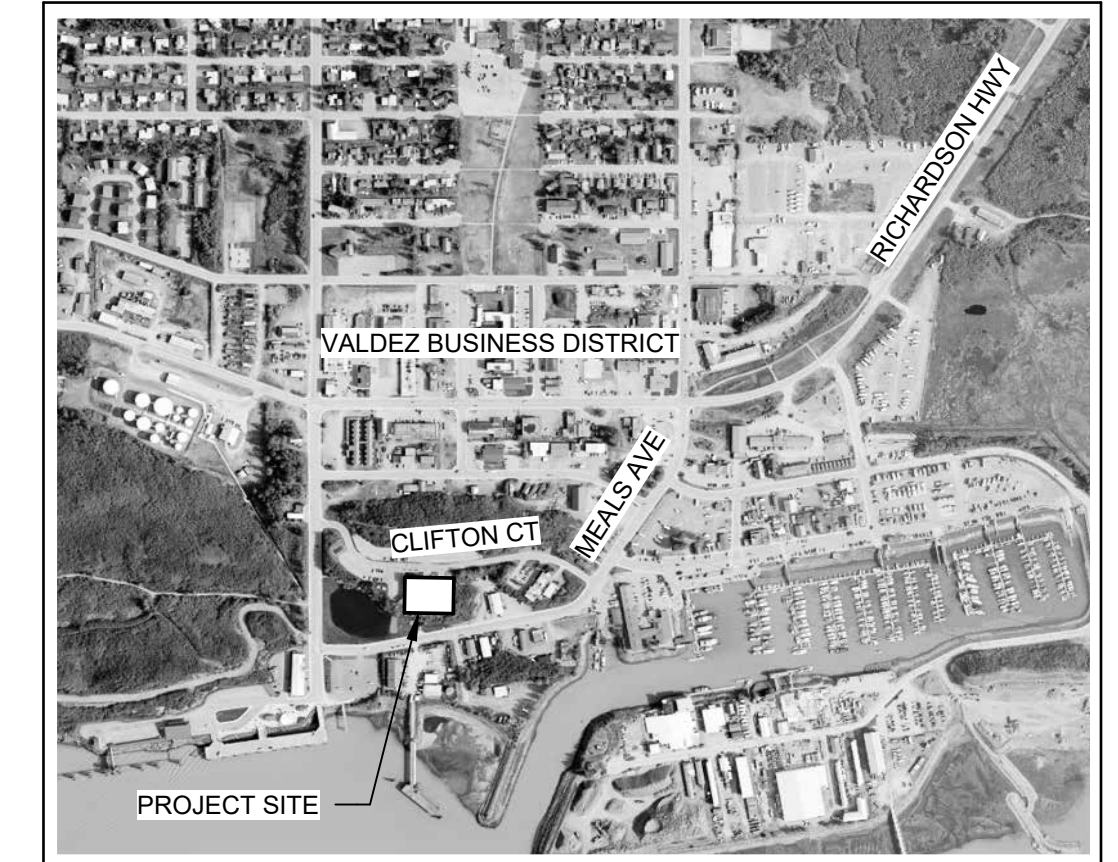
GENERAL	
G0.01	COVER & INDEX SHEET
G0.02	ARCHITECTURAL SYMBOLS AND ABBREVIATIONS
G0.03	PENETRATION DETAILS
G0.04	TYPICAL ADA DETAILS
ARCHITECTURAL	
A1.1	BASEMENT FLOOR PLAN DEMO
A1.2	BASEMENT REFLECTED CEILING PLAN DEMO
A1.3	BASEMENT FLOOR PLAN
A1.4	BASEMENT REFLECTED CEILING PLAN
A4.0	INTERIOR ELEVATIONS
A4.1	INTERIOR ELEVATIONS
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PROJECT INFORMATION

PROJECT NAME: VALDEZ CIVIC CTR GREEN ROOM RENOVATION
PROJECT ADDRESS: 314 CLIFTON CT, VALDEZ, ALASKA 99686
ARCHITECT: WOLF ARCHITECTURE, INC. CONTACT: GARY WOLF
625 SOUTH COBB, STE. 200 PHONE: 907-746-6670
PALMER AK 99645 FAX: 907-746-6680
DESCRIPTION: DRESSING ROOM, BATHROOM, AND GREEN ROOM RENOVATION
ZONING:



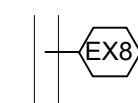
2-1-2025 CONSTRUCTION DRAWINGS

GENERAL NOTES

- THESE DRAWINGS WERE PREPARED FROM AS-BUILT DOCUMENTS PROVIDED BY THE CITY OF VALDEZ. ACTUAL FIELD CONDITIONS MAY DEVIATE FROM THESE DRAWINGS. CONTRACTOR TO NOTIFY THE ARCHITECT IN WRITING SHOULD EXISTING CONDITIONS DIFFER FROM THE DRAWINGS.
- CONTRACTOR RESPONSIBLE TO PROVIDE COMPLETE, INSTALLED, WARRANTIED FIXTURES, SYSTEMS AND ASSEMBLIES.
- CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS OF EXISTING CONSTRUCTION IMPACTED BY THE WORK. LIDAR SCAN PROVIDED FOR OVERVIEW OF EXISTING CONDITIONS: <https://my.matterport.com/show/?m=CYrmk4dXcMM>
- CONTRACTOR TO PROTECT ALL EXISTING EQUIPMENT, FINISHES, INSTALLATIONS, AND OWNER PROPERTY AFFECTED BY THE WORK OR WORKER TRAFFIC.
- CONTRACTOR TO PROVIDE EXTERIOR TOILET FACILITIES FOR WORKERS; COORDINATE LOCATION WITH OWNER.
- THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DRAWINGS, DIMENSIONS, SPECIFICATIONS, AND SCHEDULES PRIOR TO PROCEEDING WITH ANY WORK OF FABRICATION. NOTIFY ARCHITECT IMMEDIATELY OF ANY UNCERTAINTY OR DISCREPANCY.
- DRAWINGS SHALL NOT BE SCALED.
- NOTES ON THE DRAWINGS INDICATE A CONDITION AT ONE LOCATION, WHETHER INDICATED AS TYPICAL OR NOT, THE NOTE SHALL APPLY TO ALL SIMILAR LOCATIONS UNLESS NOTED OTHERWISE.
- SEE SHEET G0.02 FOR SYMBOLS, ABBREVIATIONS, ETC.
- ALL EXITS TO REMAIN PASSABLE FOR EGRESS THROUGHOUT COURSE OF PROJECT. COORDINATE WITH OWNER.
- CONTRACTOR TO COORDINATE ALL SITE ACCESS AND ACCESS TO THE BUILDING WITH OWNER AND BUILDING SECURITY PRIOR TO BEGINNING WORK.

WALL ASSEMBLIES

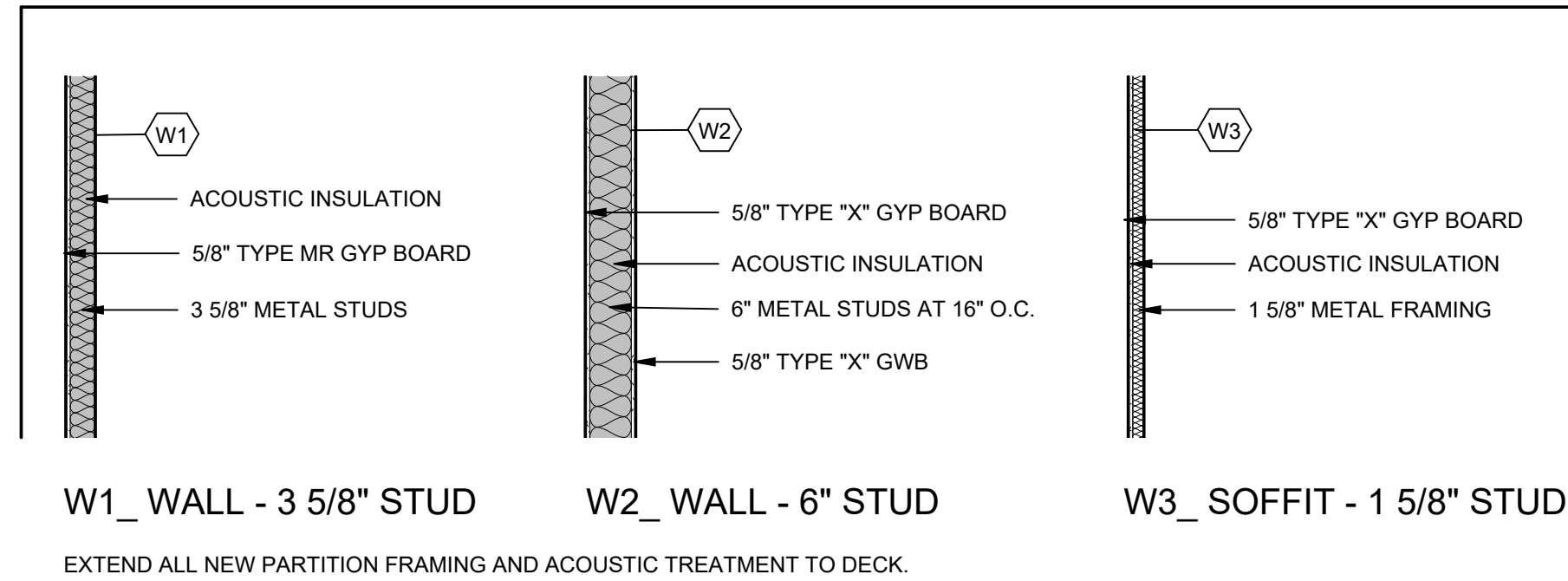
WALL TAG KEY



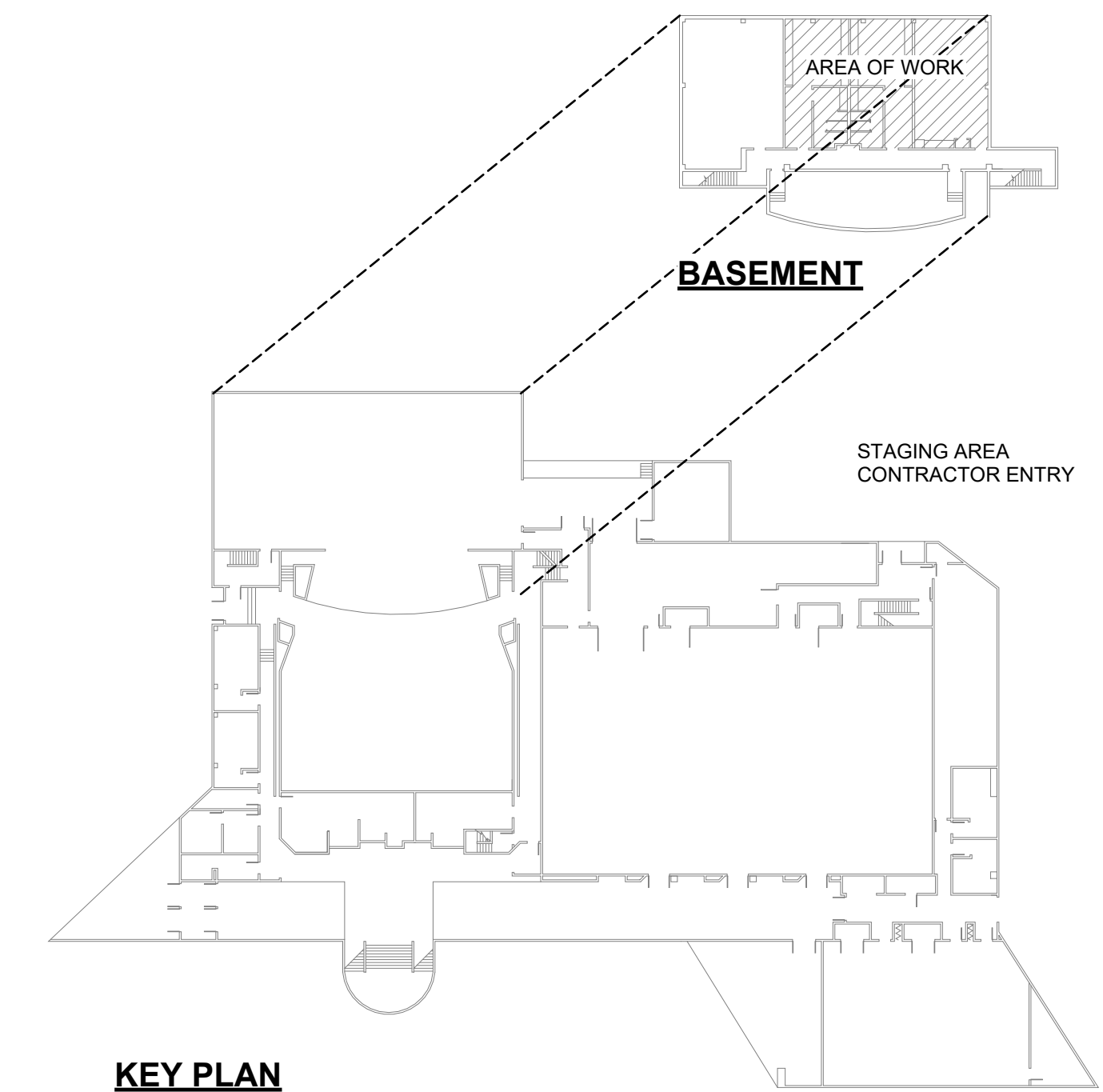
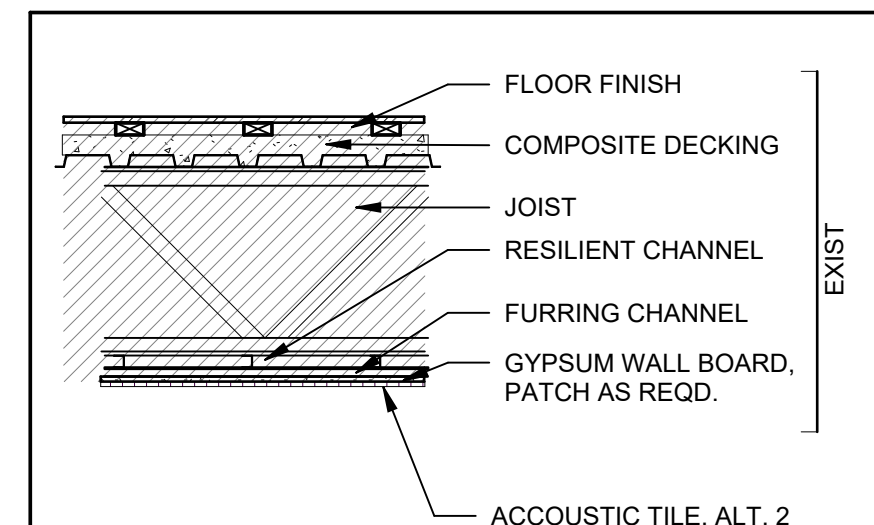
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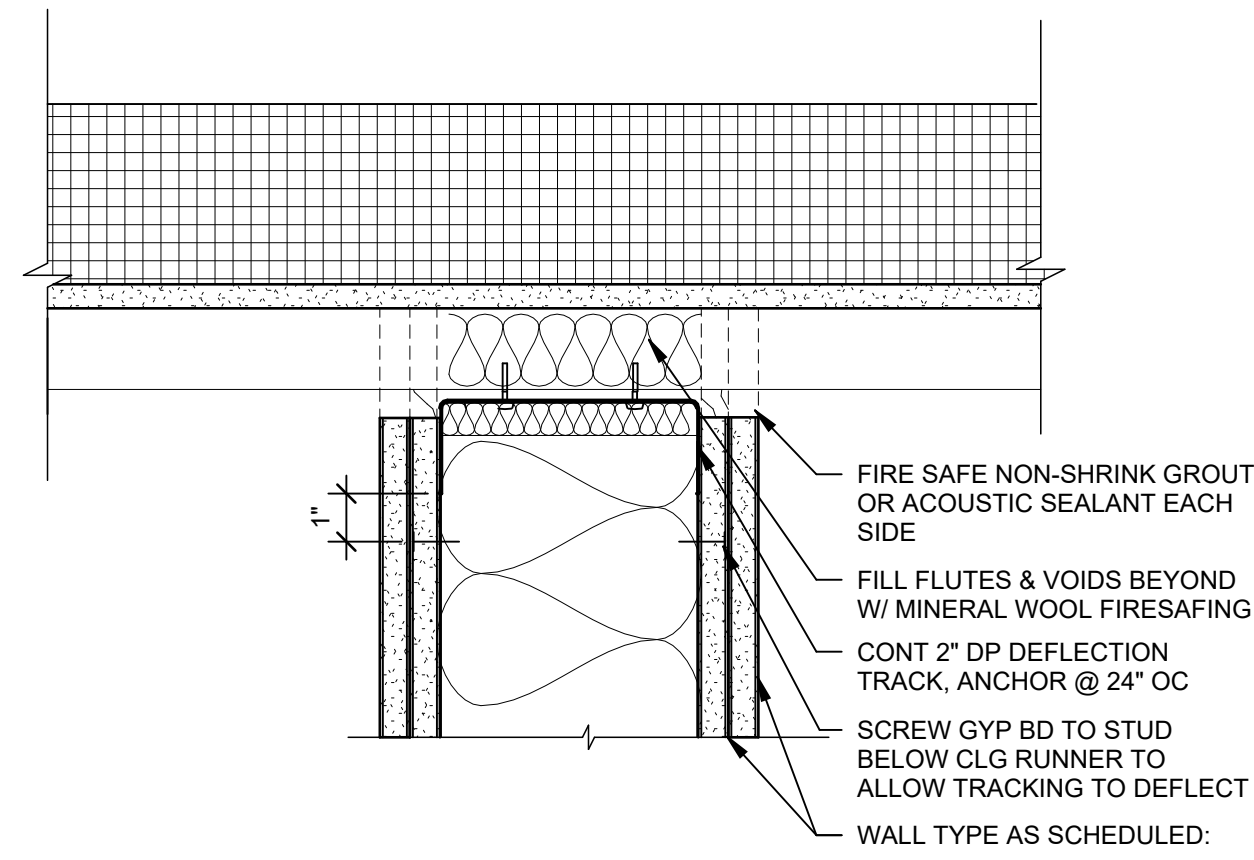
- A WALL ASSEMBLY CONTINUES THE FULL ROOM LENGTH, INCLUDING ANY JOGS, ANGLES, RECESSES, OR STUB WALLS FOR THE SIDE OF THE WALL UPON WHICH THE TAG OCCURS.
- ALL INTERIOR STUD FRAMING AND FURRING IS 16" O.C. UNO.
- EXTEND FRAMING, INSULATION, & SHEATHING COMPONENTS TO BOTTOM OF DECK OR STRUCTURE ABOVE, UNLESS NOTED OTHERWISE.
- PROVIDE FS25 VAPOR BARRIER AT ALL WALLS LOCATIONS NOTED WITH VAPOR BARRIER WHERE VAPOR BARRIER IS NOT COVERED BY SHEATHING (I.E., SHELL SPACES, INTERSTITIAL SPACES ABOVE CEILINGS).
- PROVIDE R-11 ACOUSTIC INSULATION IN INTERIOR FRAMED WALLS AS NOTED ON THE WALL ASSEMBLIES AND FLOOR PLANS. ACOUSTIC INSULATION IS NOT REQUIRED AT PARTIAL HEIGHT AND PARTIAL LENGTH WALLS, WALLS BETWEEN STORAGE ROOMS AND HALLWAYS, OR ELECTRICAL ROOMS.
- ALL GYPSUM BOARD TO BE TYPE "X" UNO. ALL GYPSUM BOARD IN "WET" ROOM WALLS (TOILET ROOMS, CUSTODIAL ROOMS) TO BE WATER RESISTANT TYPE EXCEPT AS NOTED. DO NOT USE WATER RESISTANT GYPSUM BOARD ON CEILINGS. WALLS BEHIND CERAMIC TILE FINISH TO RECEIVE CEMENT BACKER BOARD.
- ALL GYPSUM BOARD SURFACES TO BE PREPARED FOR PAINT GRADE FINISH UNO.
- FOR FINISHES, REFER TO FINISH SCHEDULE AND INTERIOR ELEVATIONS.
- WALL ASSEMBLY TAGS DESCRIBE MAJOR EXTENT OF EXTERIOR WALL ASSEMBLY. SEE ELEVATIONS AND DETAILS FOR TRANSITIONS IN, AND LOCATIONS OF, CHANGES IN EXTERIOR WALL ASSEMBLIES.
- PROVIDE MOISTURE RESISTANT GYPSUM BOARDS WHERE NOTED ON INTERIOR ELEVATIONS.

INTERIOR WALL ASSEMBLIES--NEW

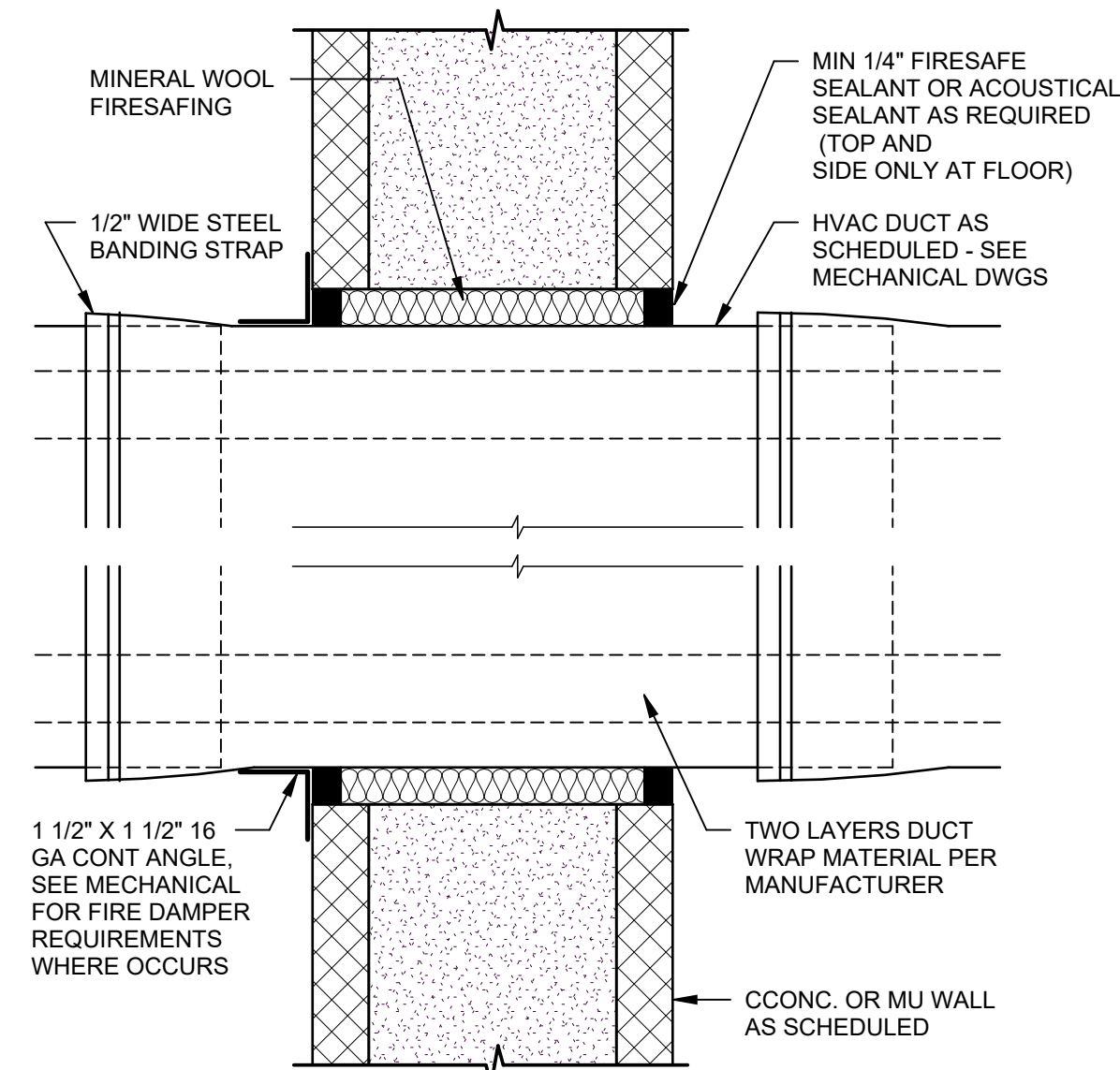


FLOOR / CEILING ASSEMBLIES--EXIST.

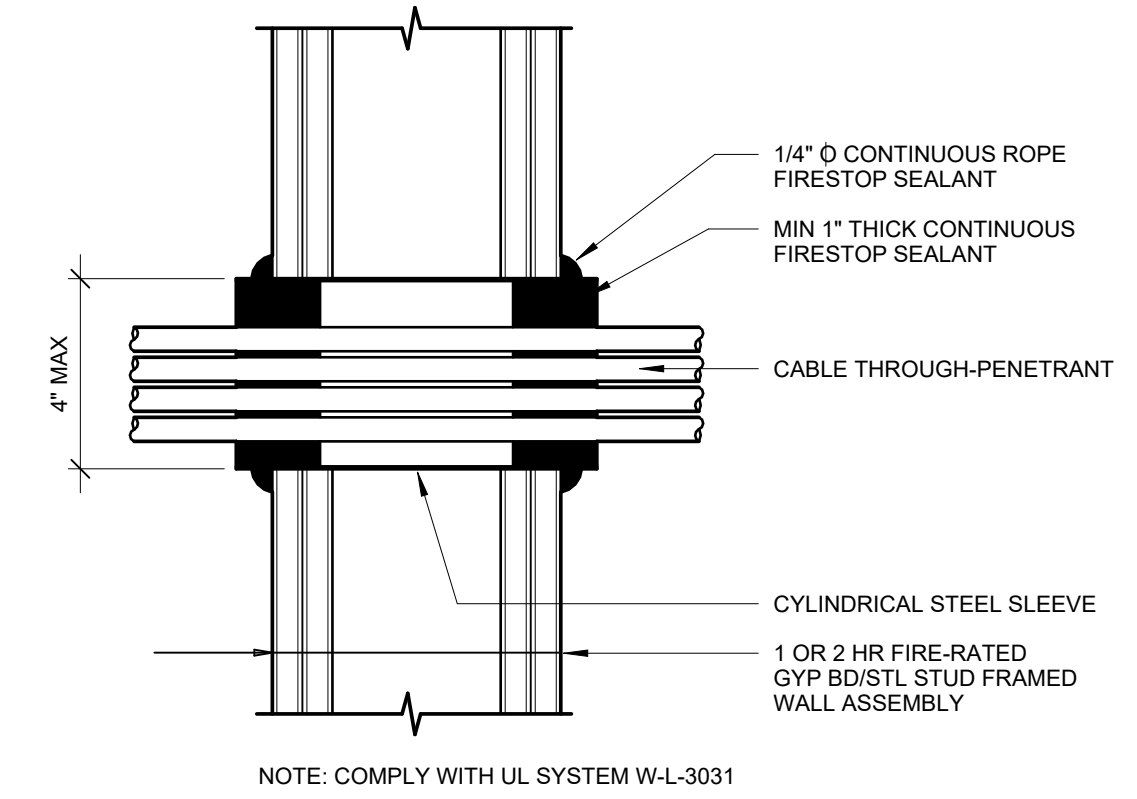




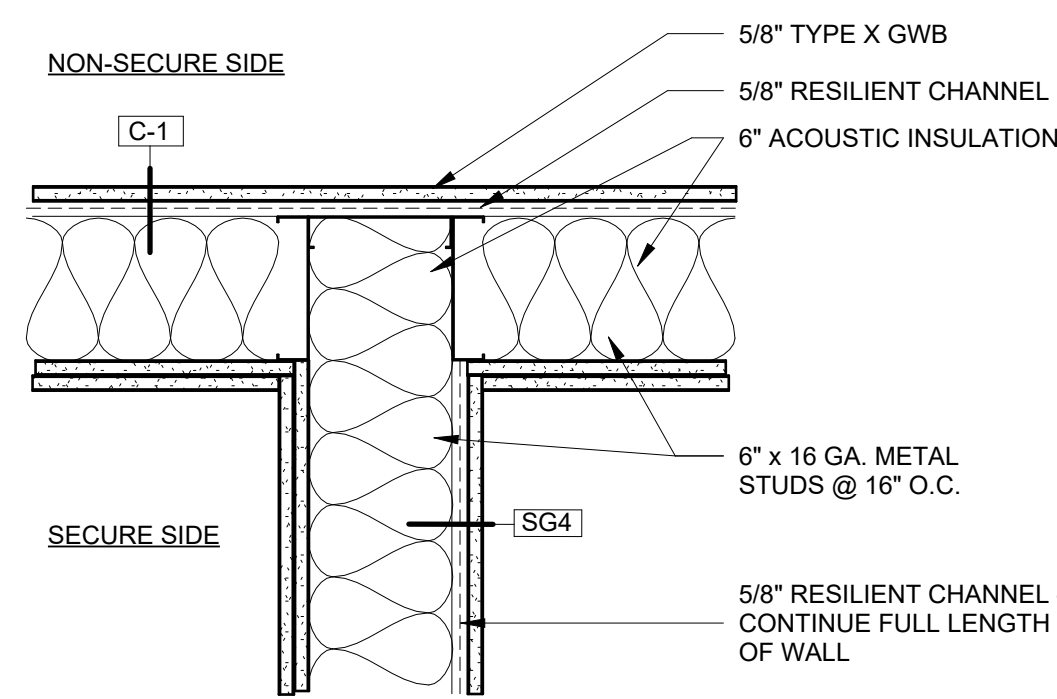
7 STC RATED WALL @ ROOF DECK WALL
Scale: 3" = 1'-0"



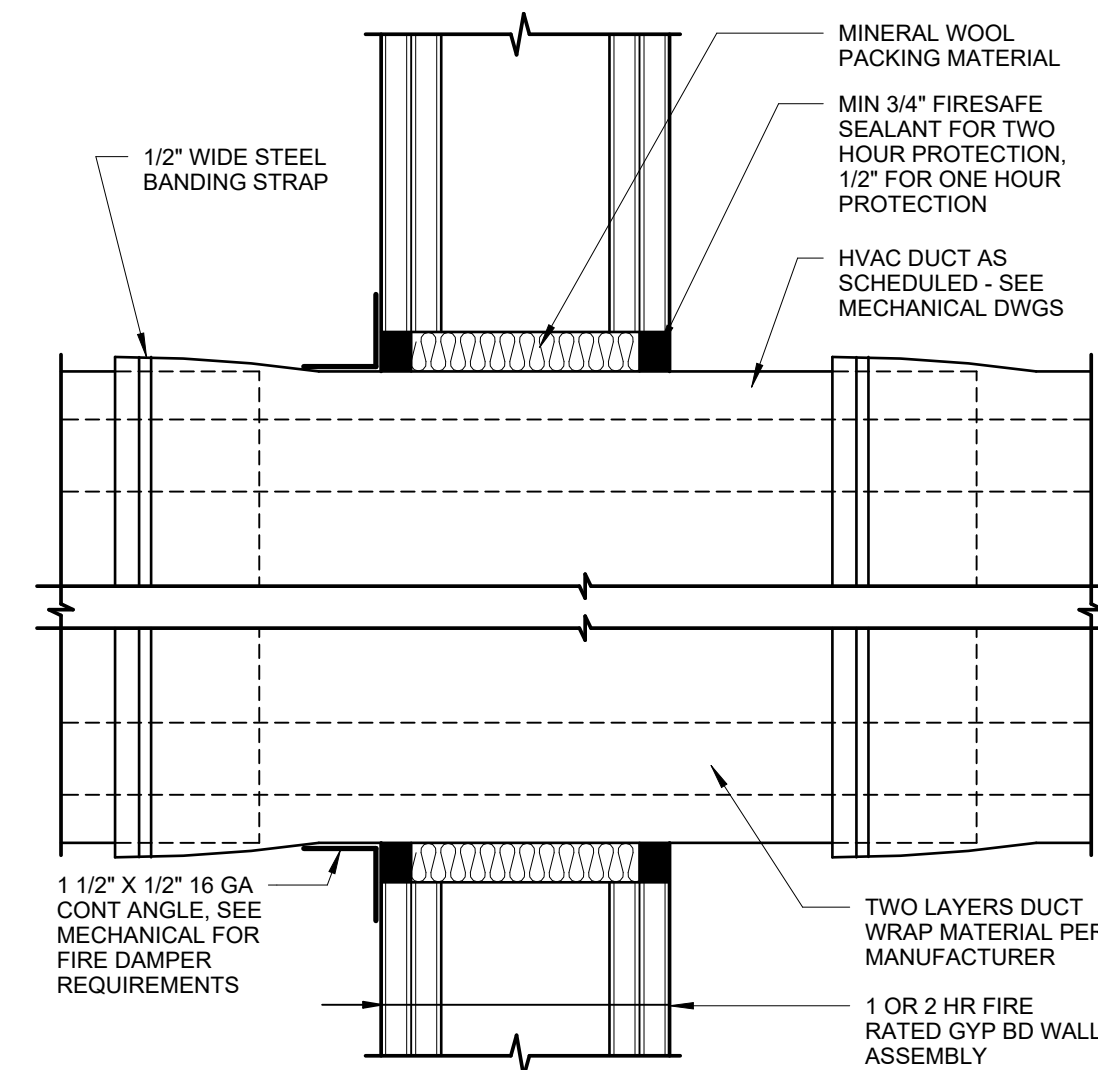
4 TYP METAL DUCT THROUGH CMU WALL OR FLOOR
Scale: 3" = 1'-0"



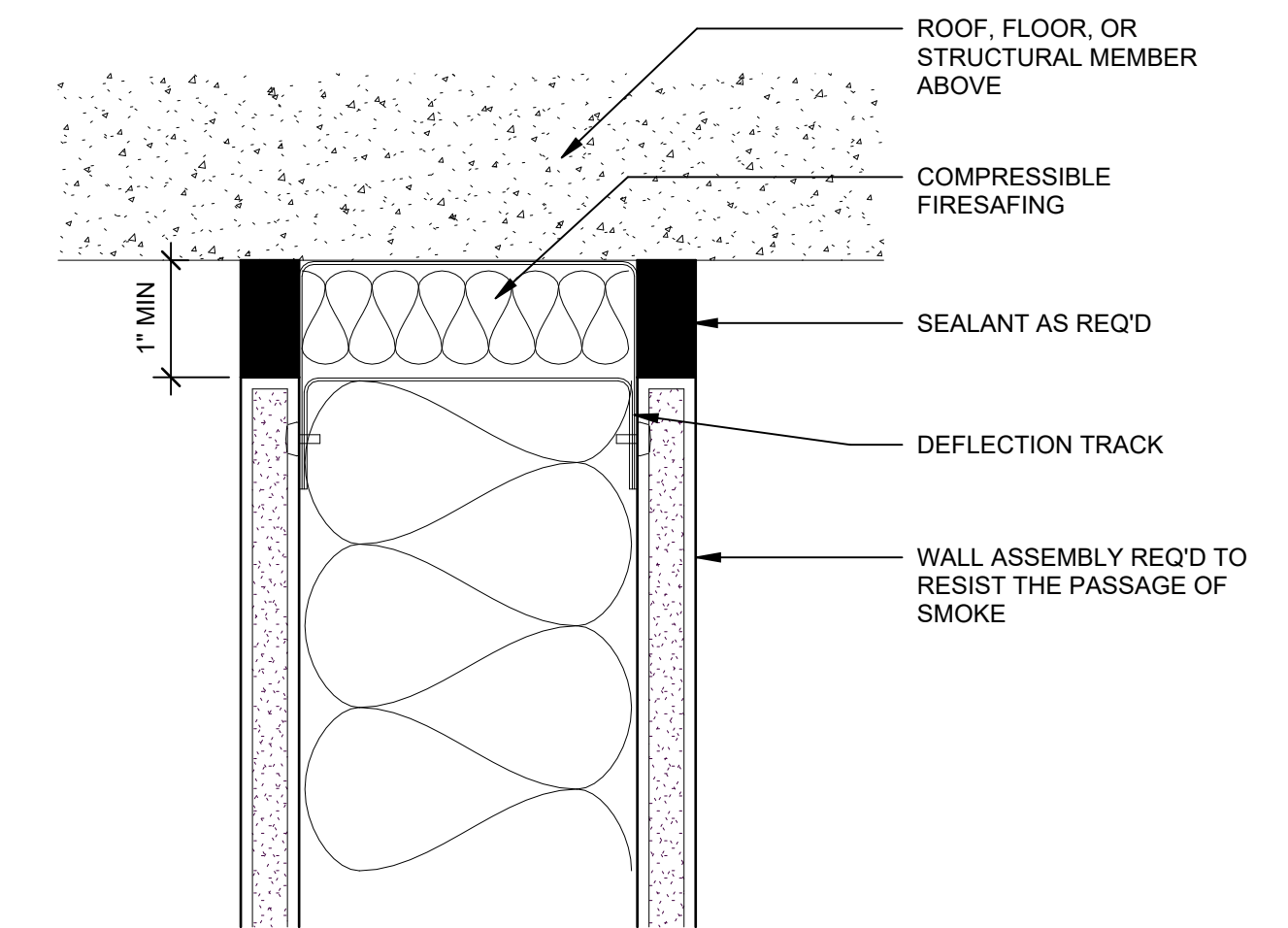
1 TYP CABLE THROUGH WALL
Scale: 3" = 1'-0"



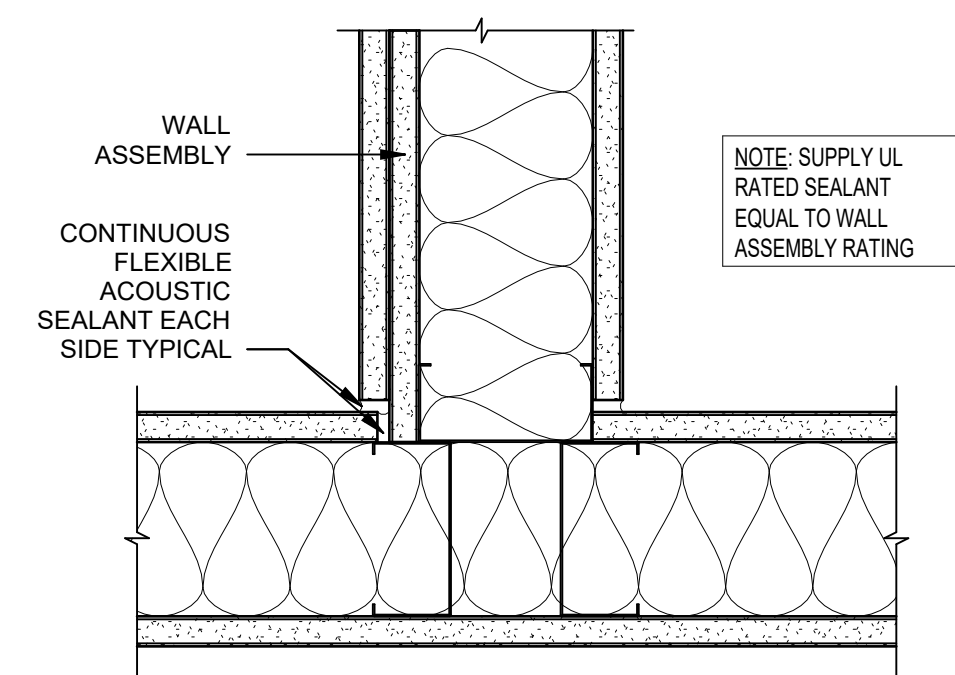
9 STC - CEILING AT WALL
Scale: 1 1/2" = 1'-0"



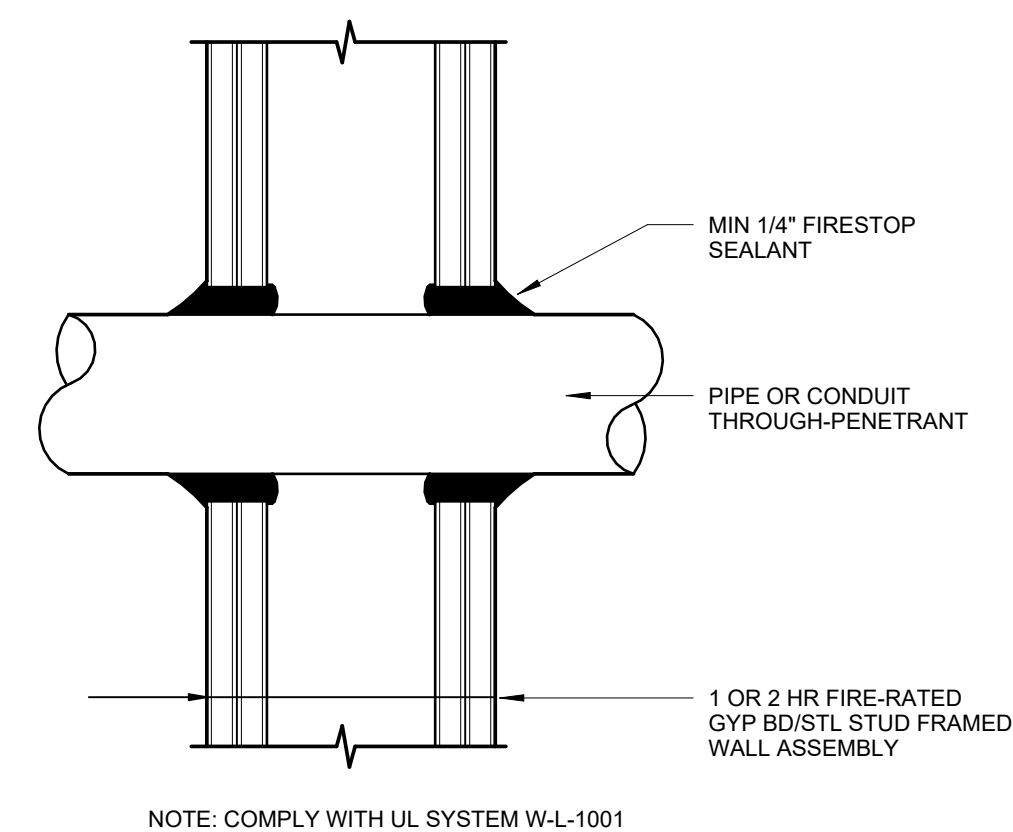
5 TYP METAL DUCT THROUGH WALL
Scale: 3" = 1'-0"



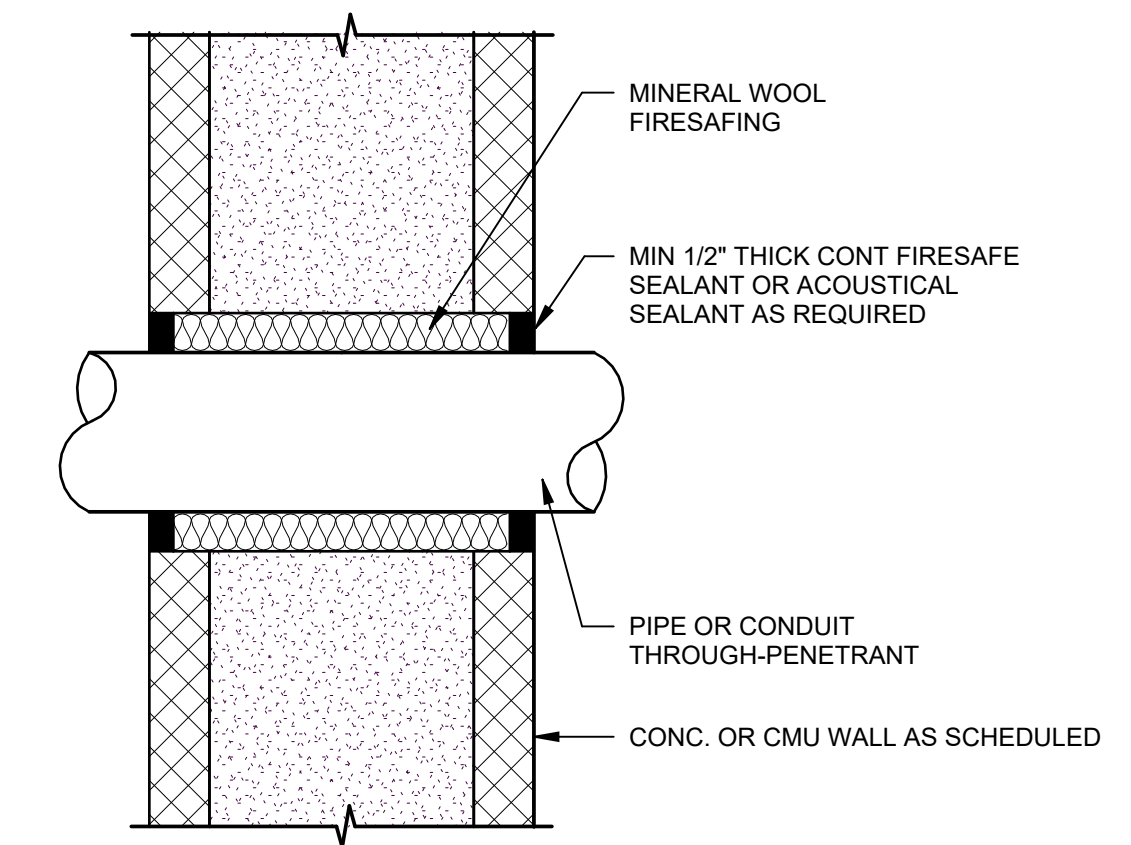
2 TYP DEFLECTION HEAD
Scale: 6" = 1'-0"



8 PLAN DETAIL AT ACOUSTIC WALL
Scale: 3" = 1'-0"

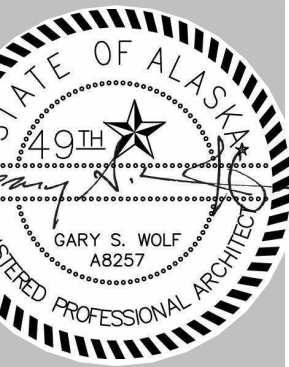


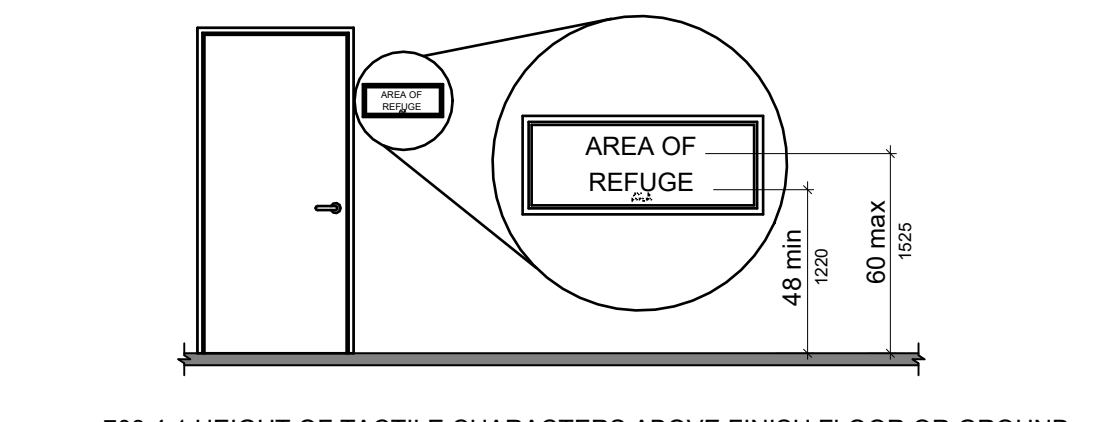
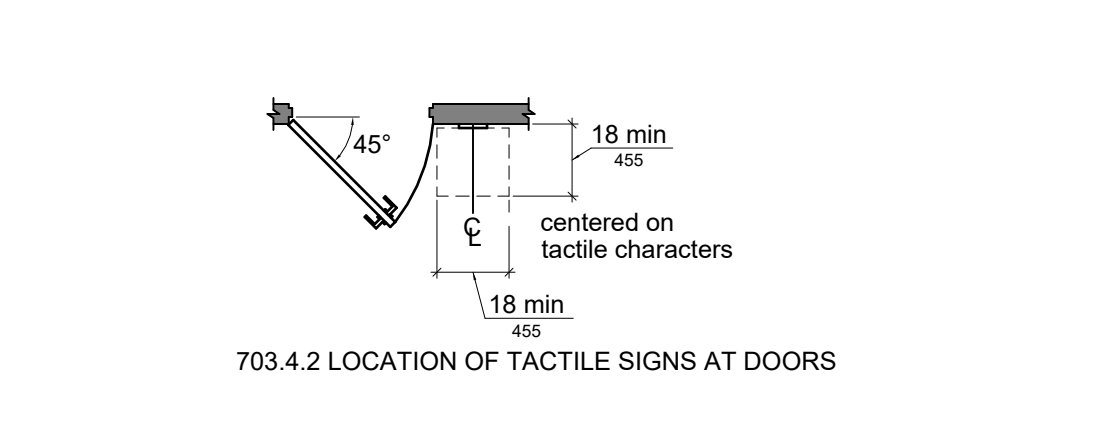
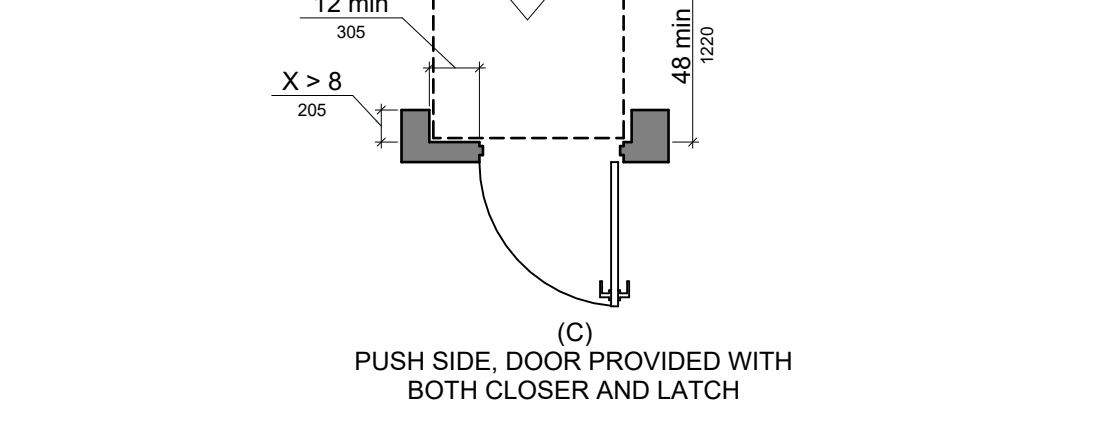
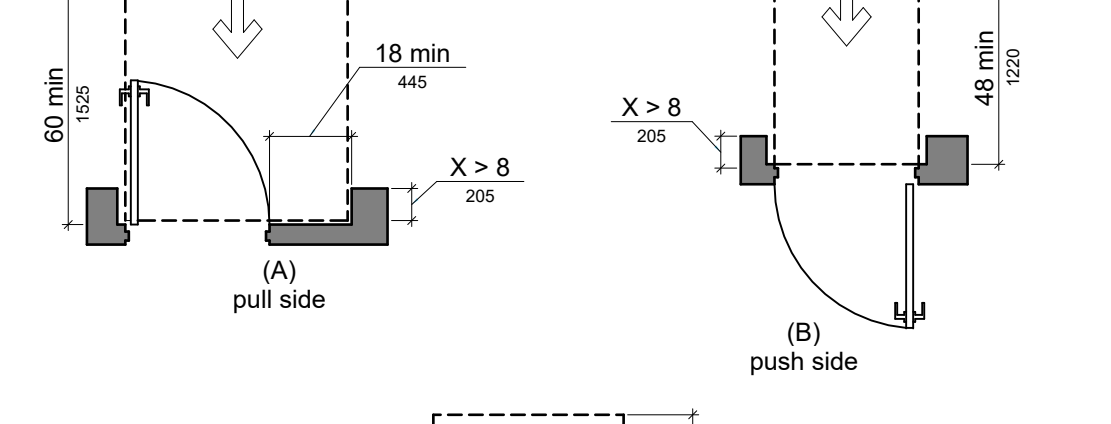
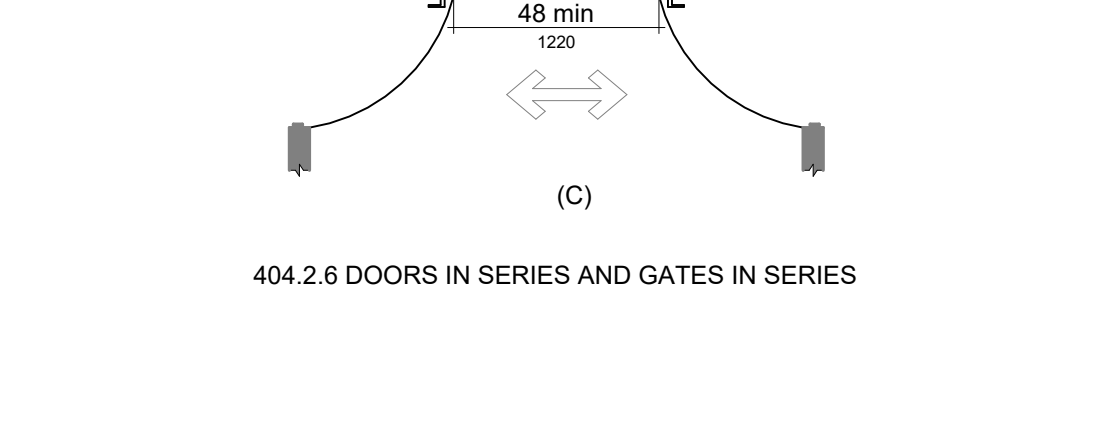
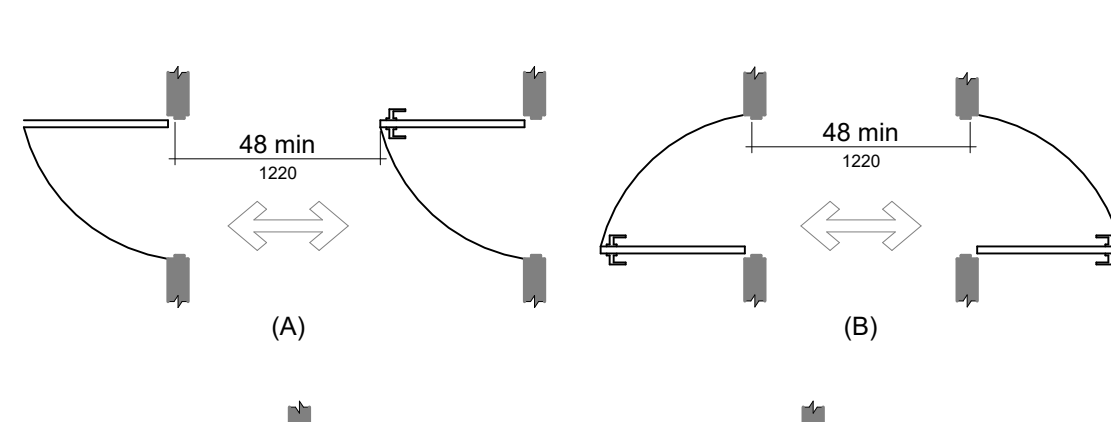
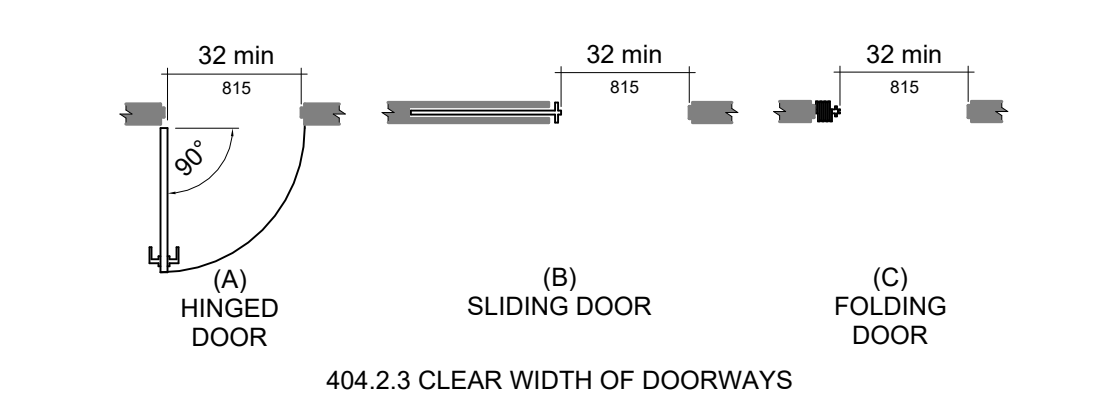
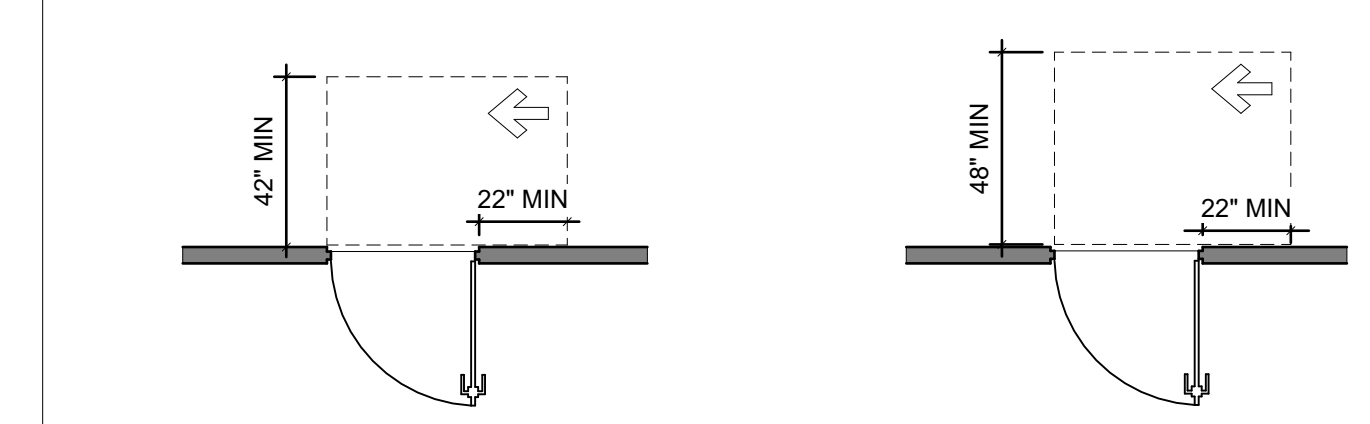
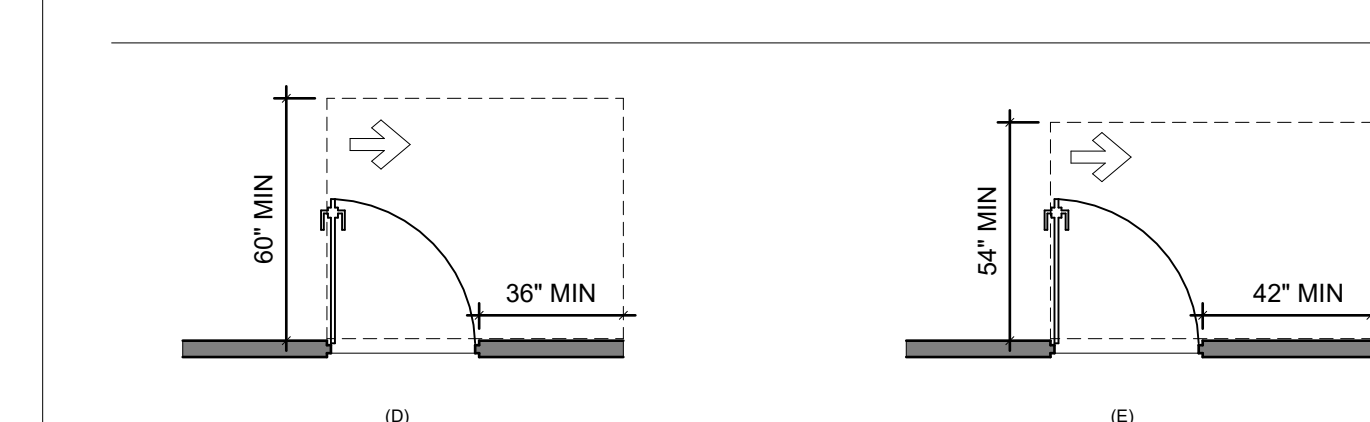
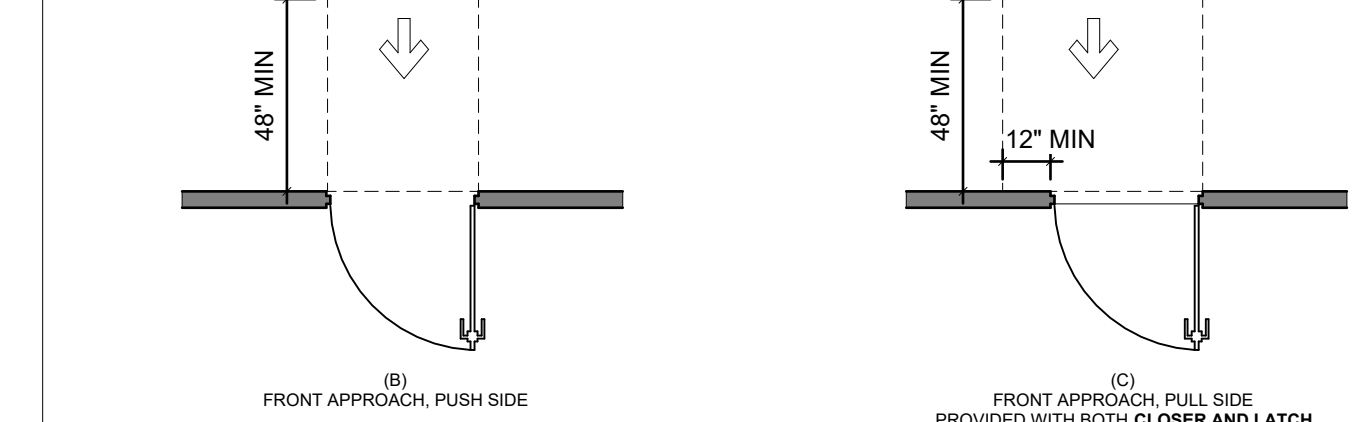
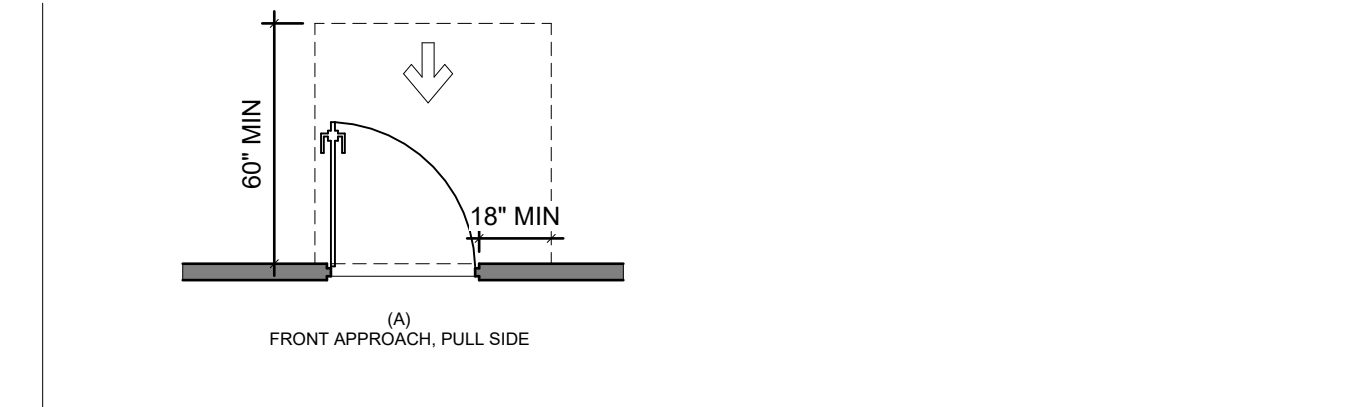
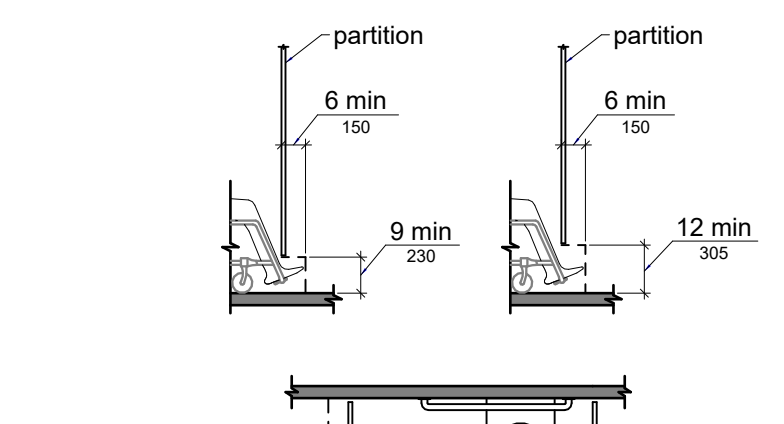
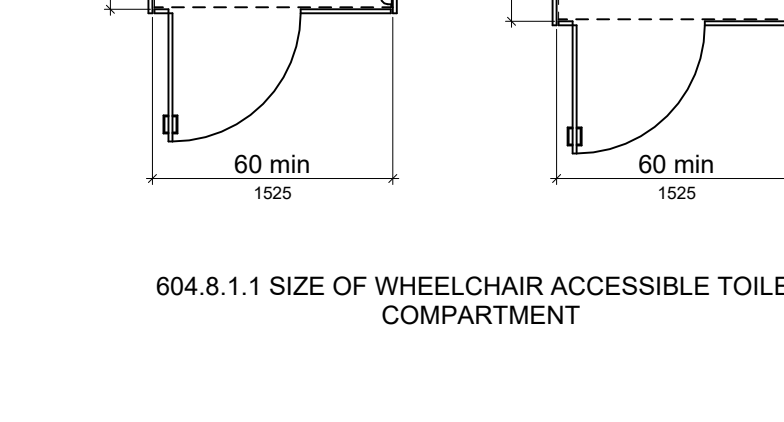
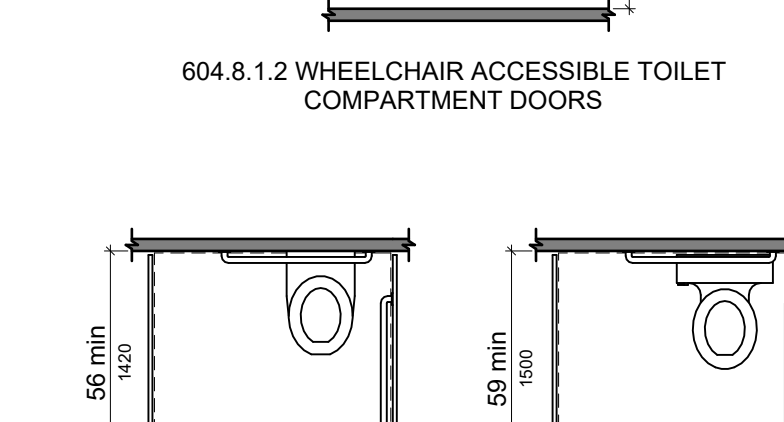
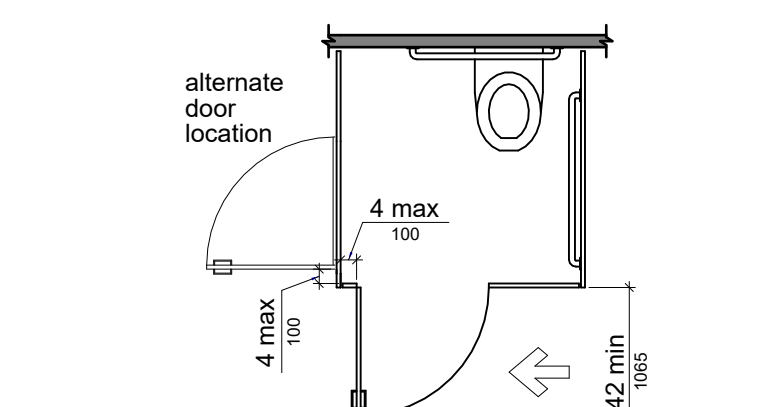
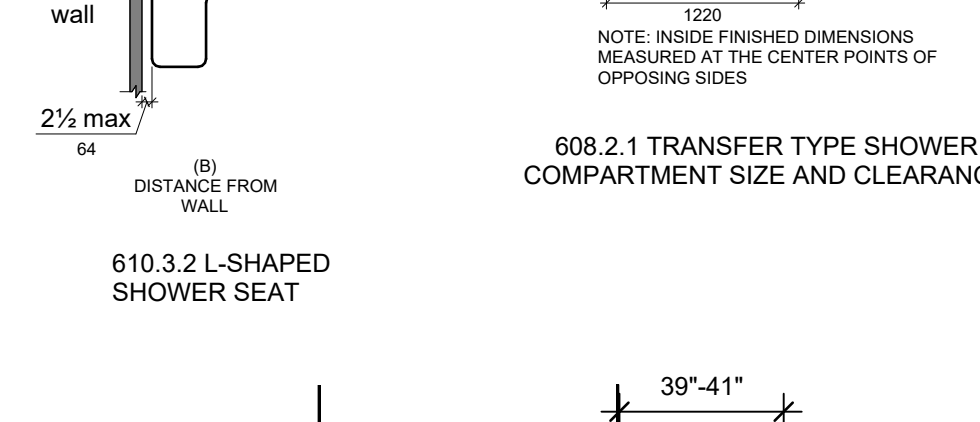
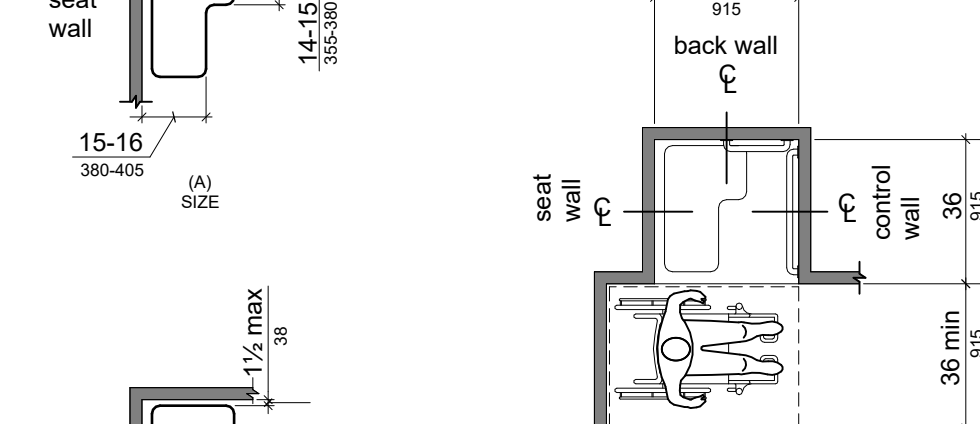
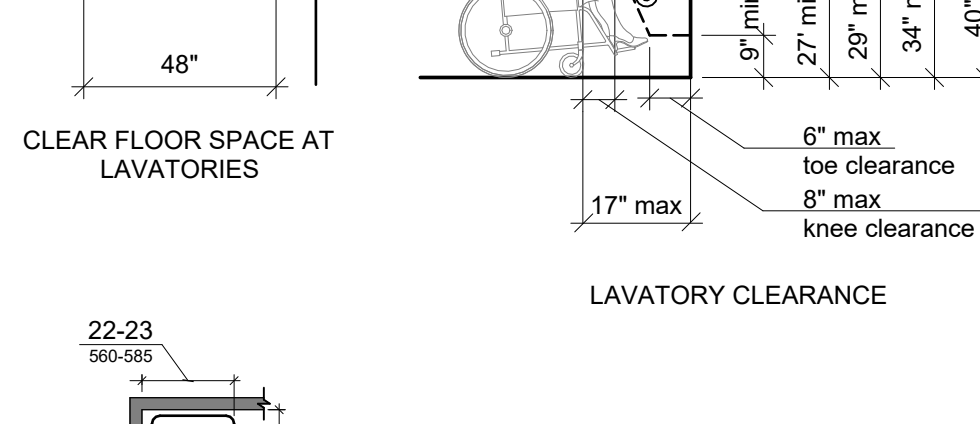
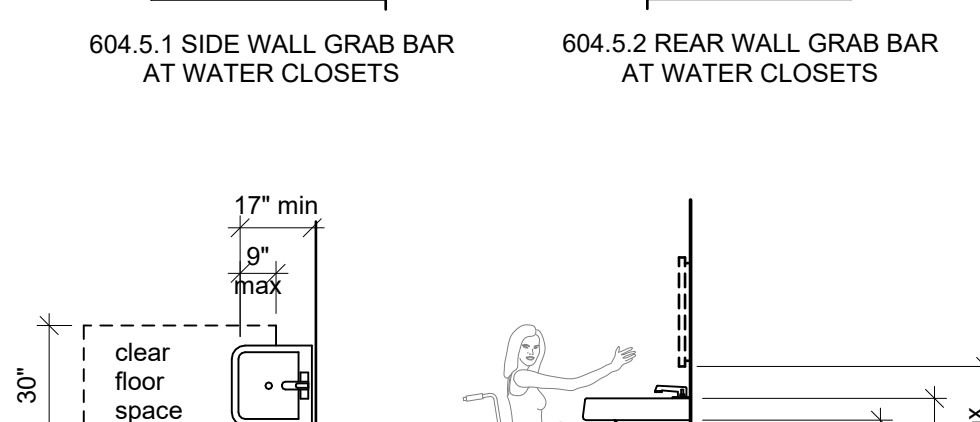
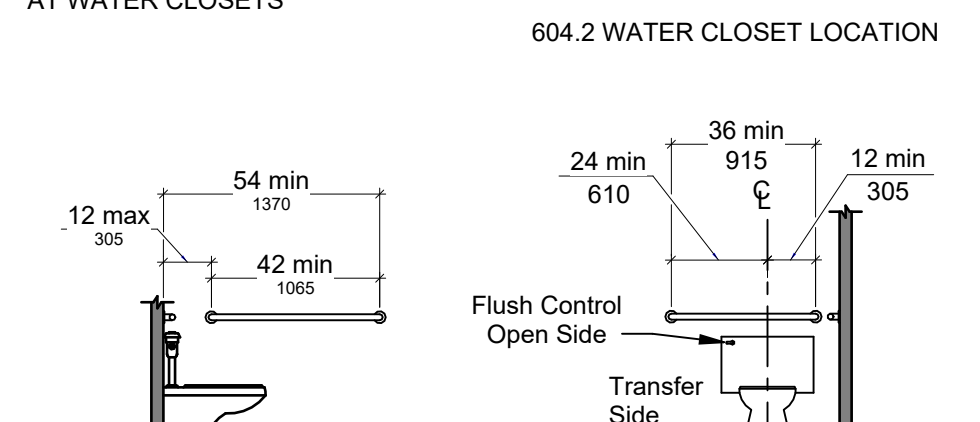
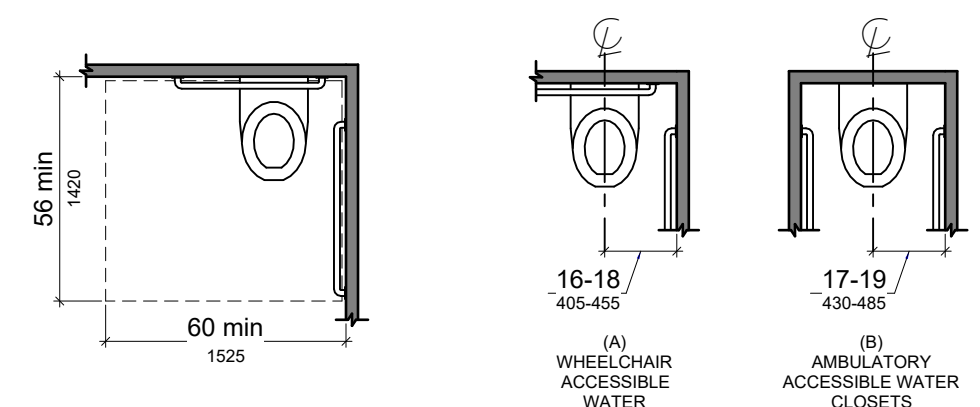
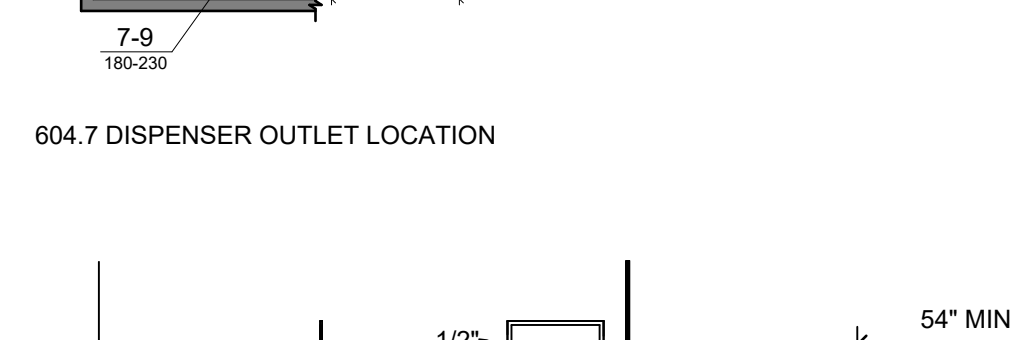
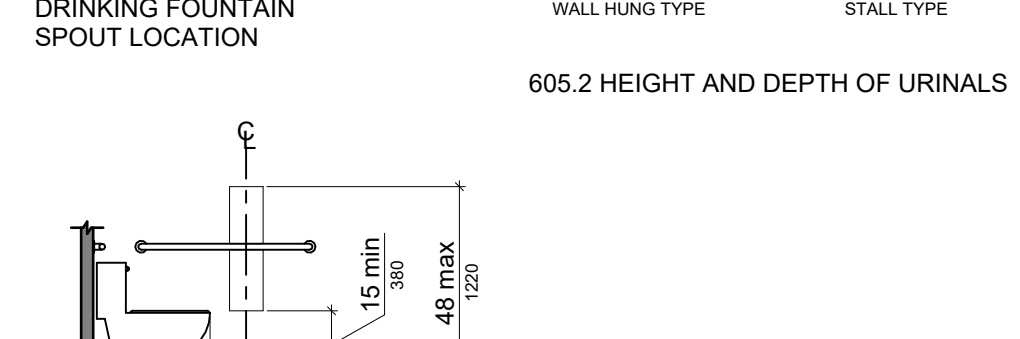
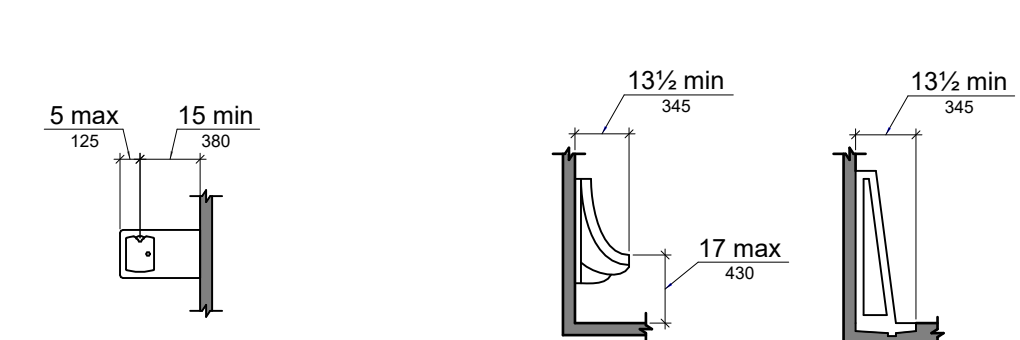
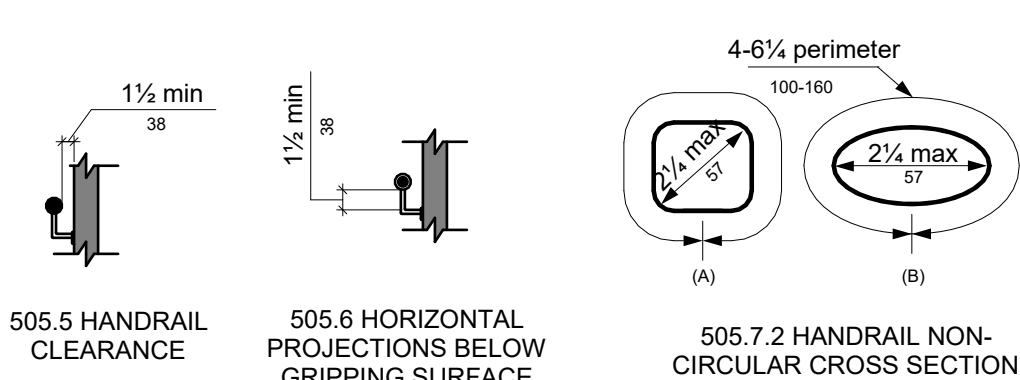
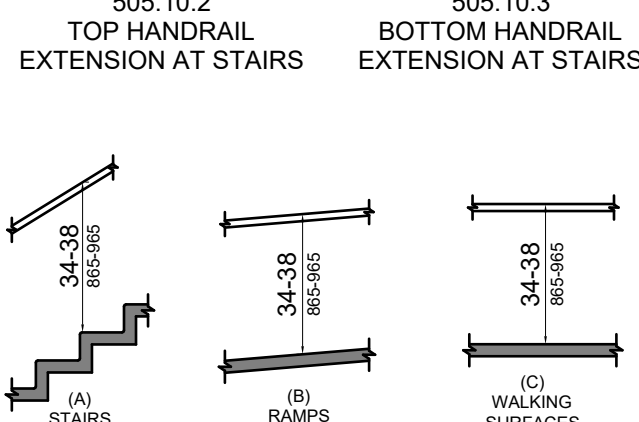
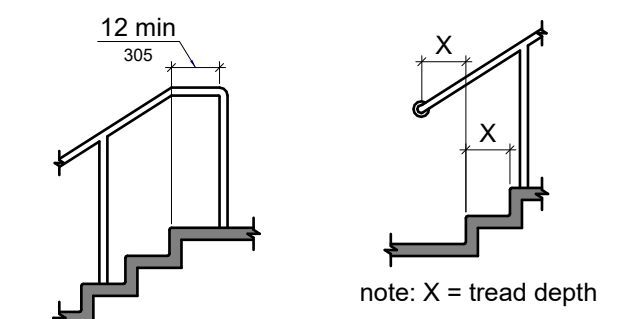
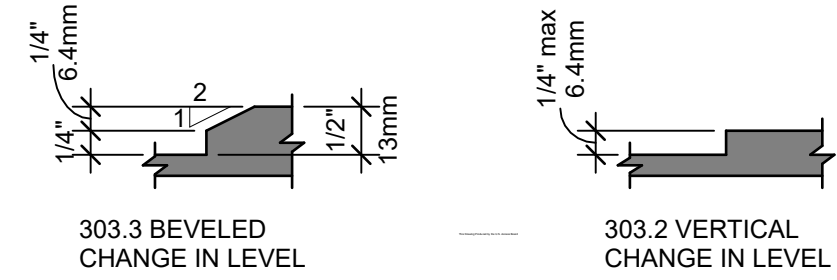
6 TYP PIPE OR CONDUIT THROUGH WALL
Scale: 3" = 1'-0"



3 TYP PIPE OR CONDUIT THROUGH CMU WALL OR FLOOR
Scale: 3" = 1'-0"

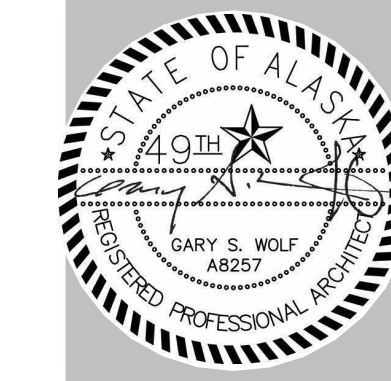
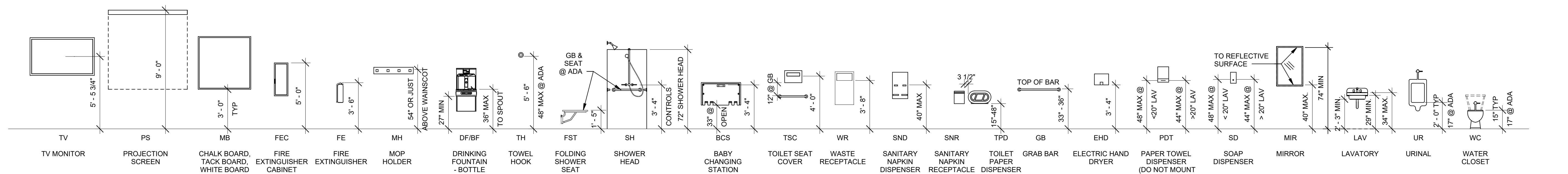
NOTE: SEE G1.03 FOR WALL AND FLOOR ASSEMBLY RATINGS.





TYPICAL TOILET ROOM ACCESSORY ARRANGEMENTS

Scale: 1/4" = 1'-0"



625 S COBB ST
PALMER, AK
T: 907.746.6670
F: 907.746.6680
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GENERAL NOTES

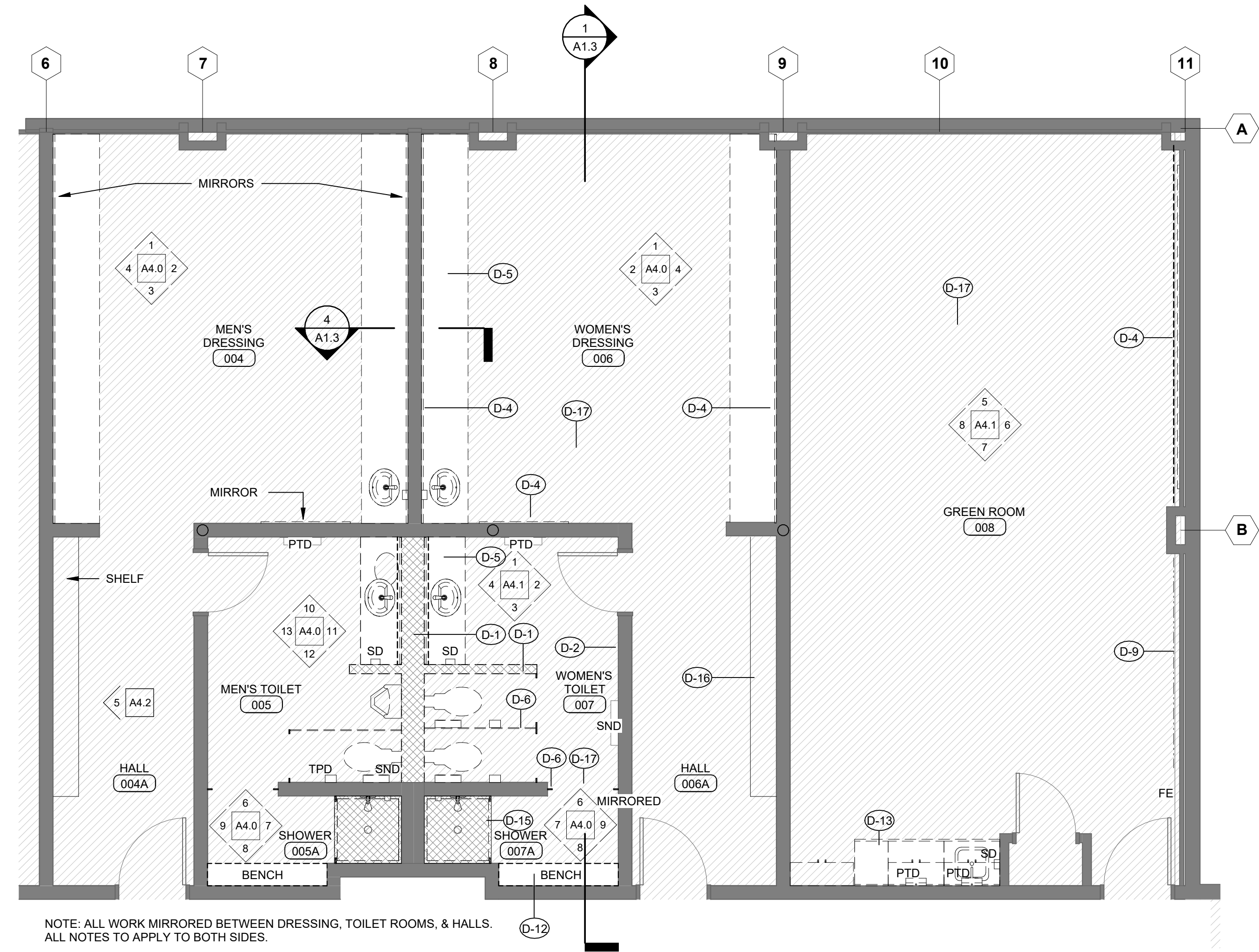
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- CONTRACTOR TO COORDINATE ALL SITE ACCESS AND ACCESS TO THE BUILDING WITH OWNER AND BUILDING SECURITY PRIOR TO BEGINNING WORK.

DEMO PLAN SHEET NOTES

- CONTRACTOR SHALL VISIT SITE TO FAMILIARIZE THEMSELVES WITH EXTENT OF REMOVAL/DEMOLITION.
- LIMIT WORK TO SPACES INDICATED. PROTECT ALL ADJACENT ASSEMBLIES, FINISHES AND APPURTENANCES. DAMAGE SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR OR REPLACE BACK TO ORIGINAL CONDITION.
- ALL ITEMS NOTED "SALVAGE" TO BE PROTECTED FOR REINSTALLATION OR PRESENTED TO OWNER AT A LOCATION OF THEIR CHOOSING.
- ITEMS NOT NOTED AS "SALVAGE" BECOME CONTRACTOR'S PROPERTY AND SHALL BE REMOVED FROM SITE.
- DEMOLITION NOTES LISTED ARE INTENDED TO CONVEY A GENERAL DESCRIPTION OF THE DEMOLITION WORK THROUGH THE PROJECT. HOWEVER, THESE NOTES MAY NOT ADDRESS EVERY DEMOLITION CONDITION NECESSARY FOR THE SUCCESSFUL COMPLETION OF THE PROJECT. THE CONTRACTOR IS RESPONSIBLE TO REMOVE AND OR DEMOLISH ANY EXISTING CONDITIONS REQUIRED FOR THE SUCCESSFUL INSTALLATION OF ANY NEW CONSTRUCTION IDENTIFIED IN THESE DOCUMENTS.
- DASHED LINES INDICATE LOCATIONS OF DEMOLITION.
- SEE MECHANICAL AND ELECTRICAL FOR SUB-TRADES EXTENT OF DEMOLITION.
- SEE FINISH PLAN FOR FLOORING DEMO AND NEW FLOORING EXTENT.
- WHERE UNFINISHED WALL, FLOOR, OR CEILING ARE EXPOSED BY DEMOLITION, FINISH TO LEVEL MATCHING ADJACENT FINISHES.
- OBTAIN DEMO PERMIT PRIOR TO BEGINNING WORK.

LEGEND - DEMO PLANS

	DEMO ITEM (WALL, DOOR, WINDOW, ETC.)
	DEMO WALL AND/OR FINISH
	DEMO-ALTERNATE 1

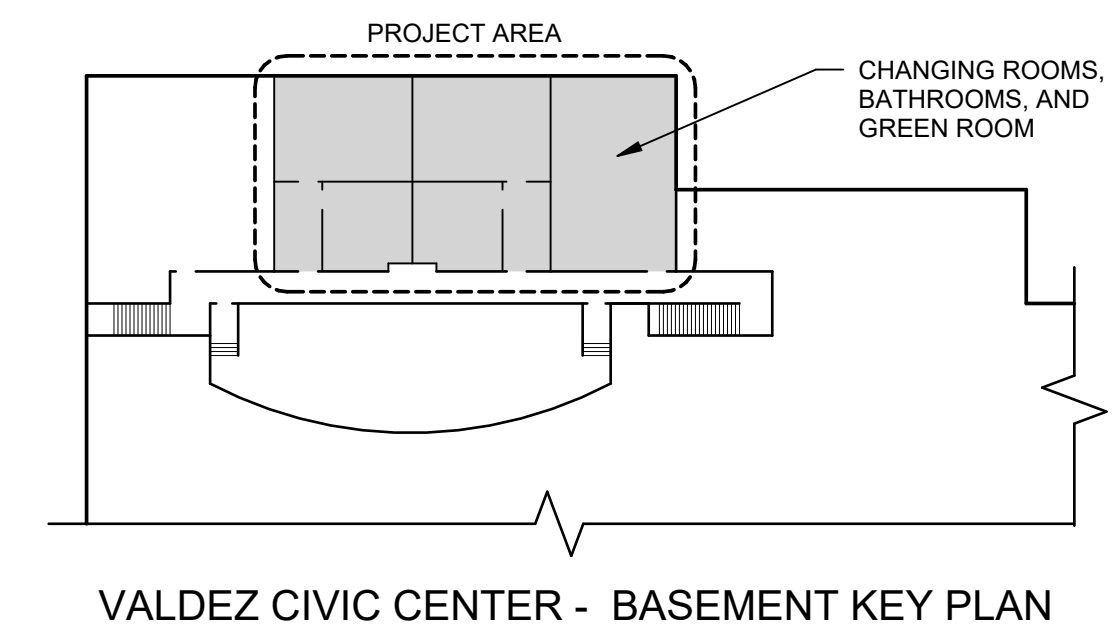


NOTE: ALL WORK MIRRORED BETWEEN DRESSING, TOILET ROOMS, & HALLS. ALL NOTES TO APPLY TO BOTH SIDES.

1 BASEMENT - DEMO

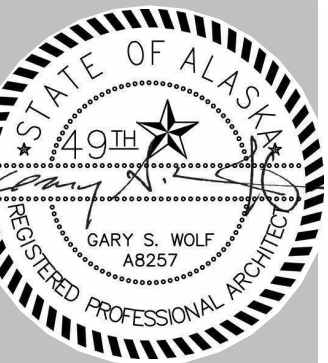
Scale: 1/4" = 1'-0"

KEYNOTE LEGEND	
KEY VALUE	TEXT
D-1	DEMO WALL FRAMING, FINISHES, FIXTURES, ACCESSORIES, ETC.; ALT. 1 SEE ELECT/MECH
D-2	REMOVE MASONITE WALL BOARDS AND SUBSTRATE, PREP FOR NEW FINISH, ALT. 1
D-4	REMOVE MIRRORS; PREPARE SUBSTRATE FOR NEW FINISHES.
D-5	REMOVE COUNTER, BACKSPASH; PRESERVE/REINFORCE SUPPORTS.
D-6	REMOVE TOILET PARTITIONS, SUPPORTS, ACCESSORIES ETC., ALT. 1
D-9	REMOVE CHALKBOARD; RETURN TO OWNER.
D-12	REMOVE BENCH & SUPPORTS, REFINISH WOOD FOR REINSTALLATION.
D-13	DEMO CASEWORK, RETURN TO OWNER.
D-15	DEMO SHOWER PAN, SURROUND & SUBSTRATE, PREP FOR NEW FINISH, ALT. 1.
D-16	REMOVE/PROTECT SHELVING FOR REINSTALLATION.
D-17	REMOVE FLOOR COVERING, PREPARE SUBSURFACE FOR NEW FINISH.



PROJECT: 2316
 DRAWN: Author
 CHECKED: Checker
 DATE: 2-1-2025
 FULL SIZE DRAWINGS: 27" x 36"

VALDEZ CIVIC CTR GREEN ROOM RENOVATION
 CONSTRUCTION DRAWINGS
 CITY OF VALDEZ
 314 CLIFTON CT, VALDEZ, ALASKA 99686

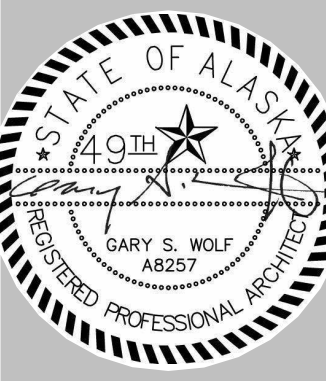


625 S COBB ST
 PALMER, AK
 T: 907.746.6670
 F: 907.746.6680
 wolfarchitecture.com

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 ARCHITECTURE

SHEET CONTENTS
 BASEMENT FLOOR PLAN
 DEMO

A1.1



LEGEND

- CEILING ACCESS PANEL, 18"x18" UNO.
- CEILING HEIGHT (HEIGHTS INDICATED ARE RELATIVE TO 100'-0" FLOOR LEVEL).
- PROJECTOR (POSITIONS SHOWN ARE APPROXIMATE. FINAL POSITION TO BE VERIFIED WITH OWNER).
- SUSPENDED LIGHT FIXTURES
- SUPPLY DIFFUSERS
- RETURN AIR REGISTER OR EXHAUST FAN
- EXIT LIGHT
- SMOKE DETECTOR
- HEAT DETECTOR
- INTERCOM
- PAGING SPEAKER
- INFRARED DETECTOR
- SPEAKER
- VIDEO CAMERA
- DAYLIGHT SENSOR
- MOTION DETECTOR

GENERAL RCP NOTES

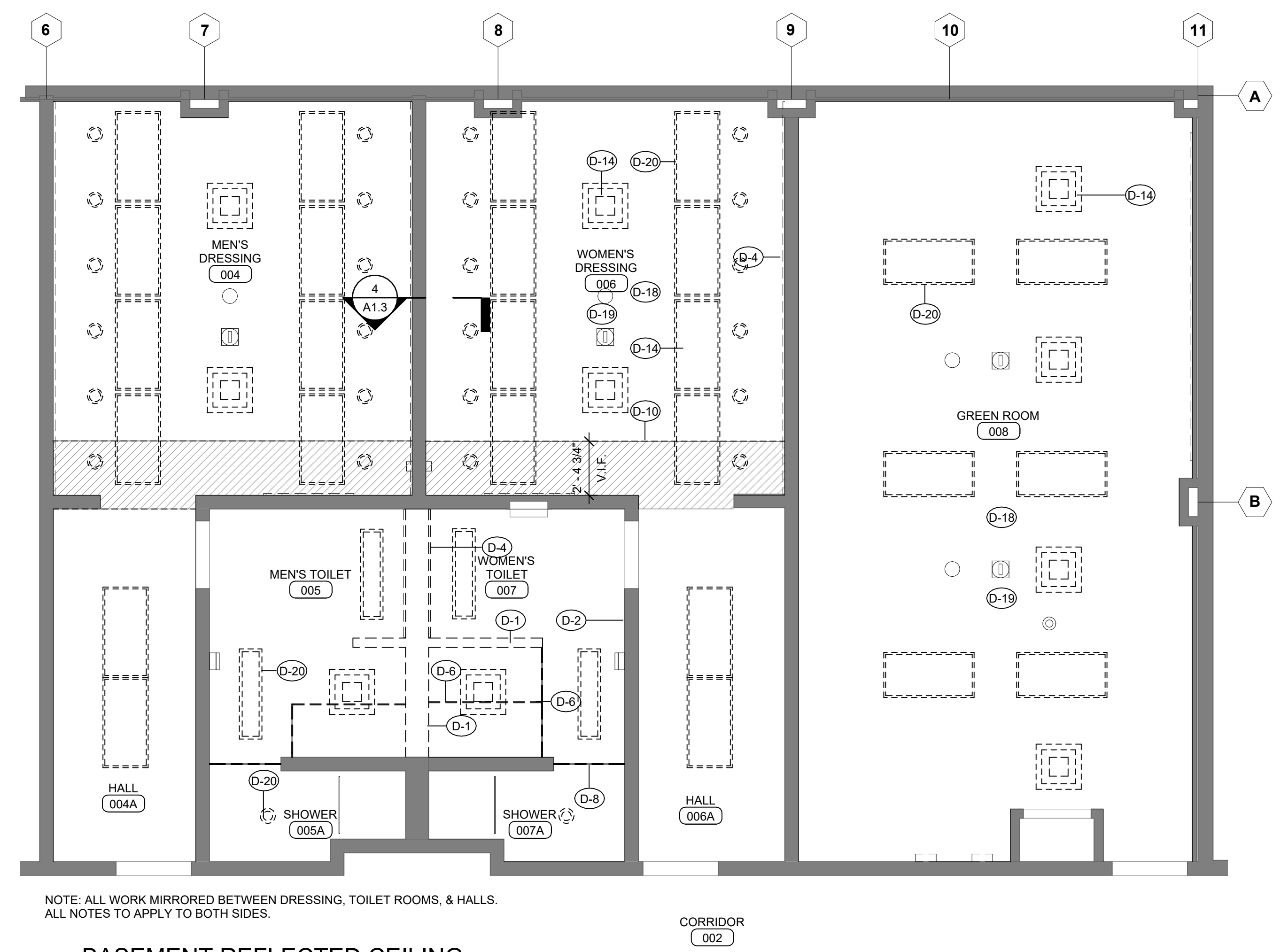
1. GENERALLY CENTER CEILING GRIDS IN EACH ROOM TO PROVIDE EQUALLY SIZED PANELS ON OPPOSITE WALLS. IF PLANS INDICATE A GRID ALIGNING WITH A COLUMN, WALL, SOFFIT, ETC. START GRID AT THE INDICATED SURFACE. AVOID PANELS LESS THAN 12" IN WIDTH.
2. SEE FINISH SCHEDULE FOR COLORS.
3. ALL GYP BD CEILING AND SOFFITS TO BE PATCHED AND PAINTED TO PROVIDE UNIFORM SURFACE APPEARANCE.
4. ALL EXPOSED STEEL FRAMING AND DECK AT CEILINGS TO BE PAINTED.
5. EXCEPT AT STORAGE, MECHANICAL AND ELECTRICAL UTILITY ROOMS PAINT ALL EXPOSED DUCTWORK, PIPING AND CONDUITS.
6. CEILING HEIGHT TO BE MEASURED FROM FINISH FLOOR LEVEL OF THE ROOM OR THE AREA WHERE CEILING IS IN.
7. SEE DETAIL SHEETS FOR TYPICAL ACOUSTIC CEILING SEISMIC AND BRACING DETAILS.

DEMO REFLECTED CEILING PLAN SHEET NOTES

1. CONTRACTOR SHALL VISIT SITE TO FAMILIARIZE THEMSELVES WITH EXTENT OF REMOVAL/DEMOLITION.
2. LIMIT WORK TO SPACES INDICATED, PROTECT ALL ADJACENT ASSEMBLIES, FINISHES AND APPURTENANCES.
3. ALL ITEMS NOTED "SALVAGE" TO BE PROTECTED FOR REINSTALLATION OR PRESENTED TO OWNER AT A LOCATION OF THEIR CHOOSING.
4. ITEMS NOT NOTED AS "SALVAGE" BECOME CONTRATOR'S PROPERTY AND SHALL BE REMOVED FROM SITE.
5. DEMOLITION NOTES LISTED ARE INTENDED TO CONVEY A GENERAL DESCRIPTION OF THE DEMOLITION WORK THROUGH THE PROJECT. HOWEVER, THESE NOTES MAY NOT ADDRESS EVERY DEMOLITION CONDITION NECESSARY FOR THE SUCCESSFUL COMPLETION OF THE PROJECT. THE CONTRACTOR IS RESPONSIBLE TO REMOVE AND OR DEMOLISH ANY EXISTING CONDITIONS REQUIRED FOR THE SUCCESSFUL INSTALLATION OF ANY NEW CONSTRUCTION IDENTIFIED IN THESE DOCUMENTS.
6. DASHED LINES INDICATE LOCATIONS OF DEMOLITION.
7. SEE MECHANICAL AND ELECTRICAL FOR SUB-TRADES EXTENT OF DEMOLITION.
8. LIGHTING AND MECHANICAL DIFFUSERS INDICATED FOR DEMOLITION TO BE SLAVAGED FOR RE-USE IF IN GOOD ENOUGH CONDITION.
9. COORDINATE FIRE ALARM AND FIRE SUPPRESSION WORK AND FIXTURE LOCATIONS WITH DESIGN-BUILD SUBCONTRACTOR; EVALUATE HEAD LOCATIONS TO ENSURE COVERAGE.
10. INFILL WALL AND CEILING AREAS TO MATCH FINISH, LEVEL, AND APPEARANCE OF ADJACENT EXISTING SURFACES, UNLESS NOTED OTHERWISE.
11. WHERE UNFINISHED WALL OR CEILING AREAS ARE EXPOSED BY DEMOLITION, FINISH TO LEVEL MATCHING ADJACENT FINISHES.
12. OBTAIN DEMO PERMIT PRIOR TO BEGINNING WORK.

LEGEND - DEMO PLANS

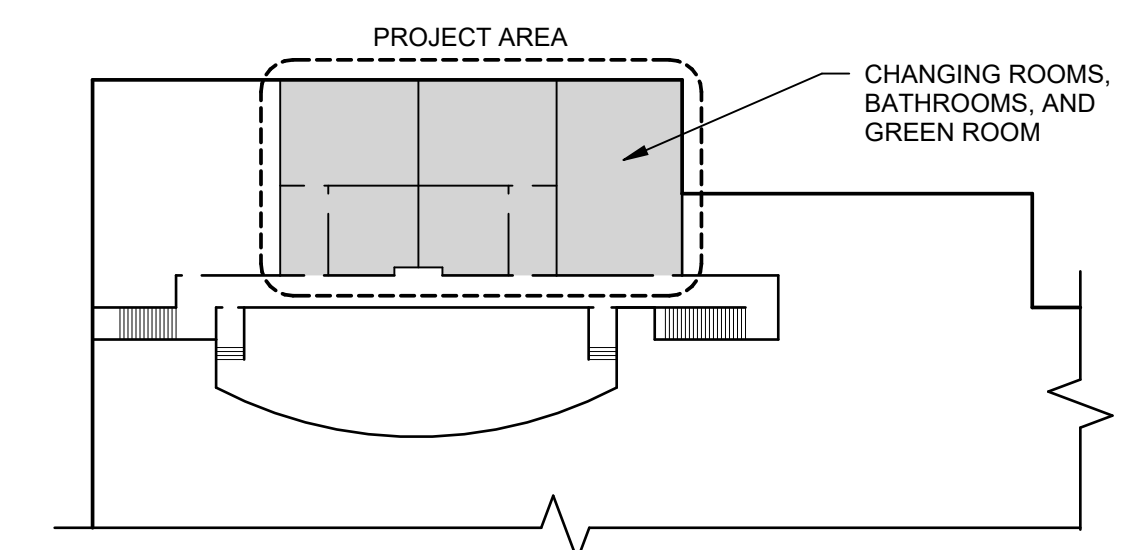
- DEMO ASSEMBLY, COMPONENT (WALL, DOOR, FIXTURE, ETC.)
- REMOVE FIXTURE, SALVAGE
- DEMO CEILING ASSEMBLY TO PREPARE FOR NEW CHASE



NOTE: ALL WORK MIRRORED BETWEEN DRESSING, TOILET ROOMS, & HALLS.
 ALL NOTES TO APPLY TO BOTH SIDES.

1 BASEMENT REFLECTED CEILING PLAN - DEMO
 Scale: 1/4" = 1'-0"

KEYNOTE LEGEND	
KEY VALUE	TEXT
D-1	DEMO WALL FRAMING, FINISHES, FIXTURES, ACCESSORIES, ETC.; ALT. 1 SEE ELECT/MECH
D-2	REMOVE MASONITE WALL BOARDS AND SUBSTRATE, PREP FOR NEW FINISH, ALT. 1
D-4	REMOVE MIRRORS; PREPARE SUBSTRATE FOR NEW FINISHES.
D-6	REMOVE TOILET PARTITIONS, SUPPORTS, ACCESSORIES ETC., ALT. 1
D-8	DEMO ACCESSORIES, ALT. 1.
D-14	COORDINATE WITH MECH/ELECT FOR DEMO.
D-18	DEMO CEILING ASSEMBLY TO PREPARE FOR NEW LIGHT FIXTURES, ALT. 2
D-19	REMOVE/REINSTALL FIRE DETECTION/ALARM DEVICES AS NECESSARY TO FACILITATE RENOVATION.
D-20	REMOVE EXISTING LIGHT FIXTURES, BALLASTS, AND CONNECTIONS.

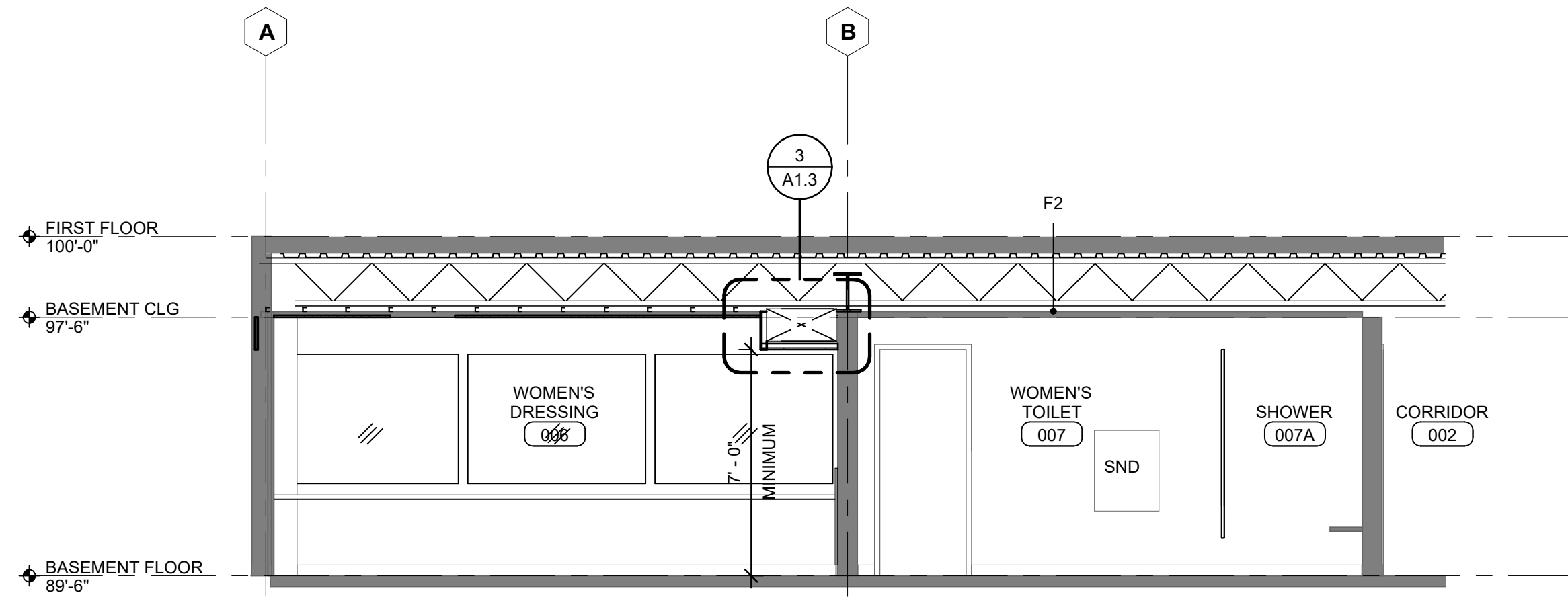


VALDEZ CIVIC CENTER - BASEMENT KEY PLAN

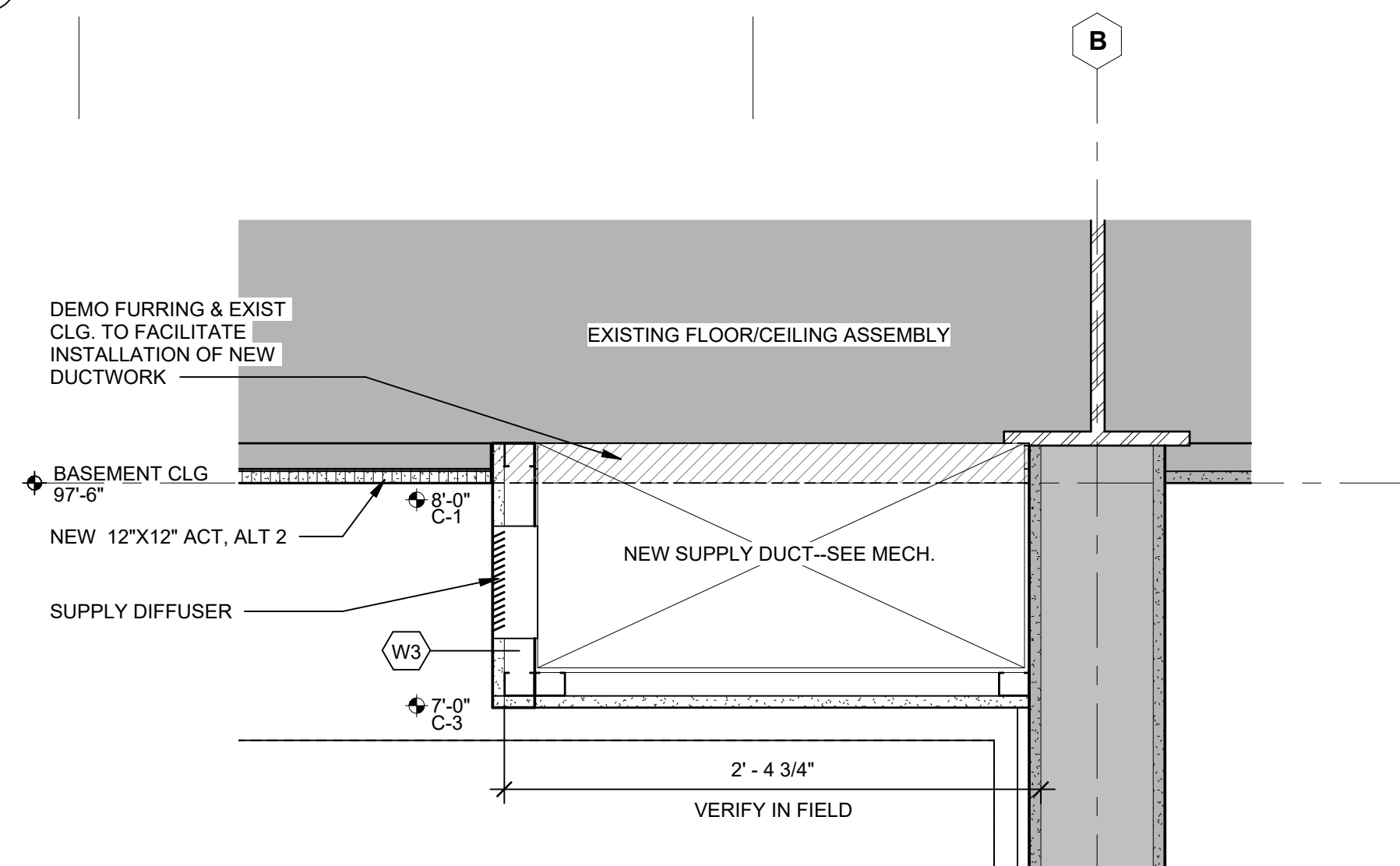
GENERAL NOTES

- THESE DRAWINGS WERE PREPARED FROM AS-BUILT DOCUMENTS PROVIDED BY THE CITY OF VALDEZ. ACTUAL FIELD CONDITIONS MAY DEVIATE FROM THESE DRAWINGS. CONTRACTOR TO NOTIFY THE ARCHITECT IN WRITING SHOULD EXISTING CONDITIONS DIFFER FROM THE DRAWINGS.
- CONTRACTOR RESPONSIBLE TO PROVIDE COMPLETE, INSTALLED, WARRANTIED FIXTURES, SYSTEMS AND ASSEMBLIES.
- CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS OF EXISTING CONSTRUCTION IMPACTED BY THE WORK. LIDAR SCAN PROVIDED FOR OVERVIEW OF EXISTING CONDITIONS: <https://my.matterport.com/show/?m=CYrmk4dXcMM>
- CONTRACTOR TO PROTECT ALL EXISTING EQUIPMENT, FINISHES, INSTALLATIONS, AND OWNER PROPERTY AFFECTED BY THE WORK OR WORKER TRAFFIC.
- CONTRACTOR TO PROVIDE EXTERIOR TOILET FACILITIES FOR WORKERS; COORDINATE LOCATION WITH OWNER.
- THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DRAWINGS, DIMENSIONS, SPECIFICATIONS, AND SCHEDULES PRIOR TO PROCEEDING WITH ANY WORK OF FABRICATION. NOTIFY ARCHITECT IMMEDIATELY OF ANY UNCERTAINTY OR DISCREPANCY.
- DRAWINGS SHALL NOT BE SCALED.
- NOTES ON THE DRAWINGS INDICATE A CONDITION AT ONE LOCATION, WHETHER INDICATED AS TYPICAL OR NOT, THE NOTE SHALL APPLY TO ALL SIMILAR LOCATIONS UNLESS NOTED OTHERWISE.
- SEE SHEET G0.02 FOR SYMBOLS, ABBREVIATIONS, ETC.
- ALL EXITS TO REMAIN PASSABLE FOR EGRESS THROUGHOUT COURSE OF PROJECT. COORDINATE WITH OWNER.
- CONTRACTOR TO COORDINATE ALL SITE ACCESS AND ACCESS TO THE BUILDING WITH OWNER AND BUILDING SECURITY PRIOR TO BEGINNING WORK.

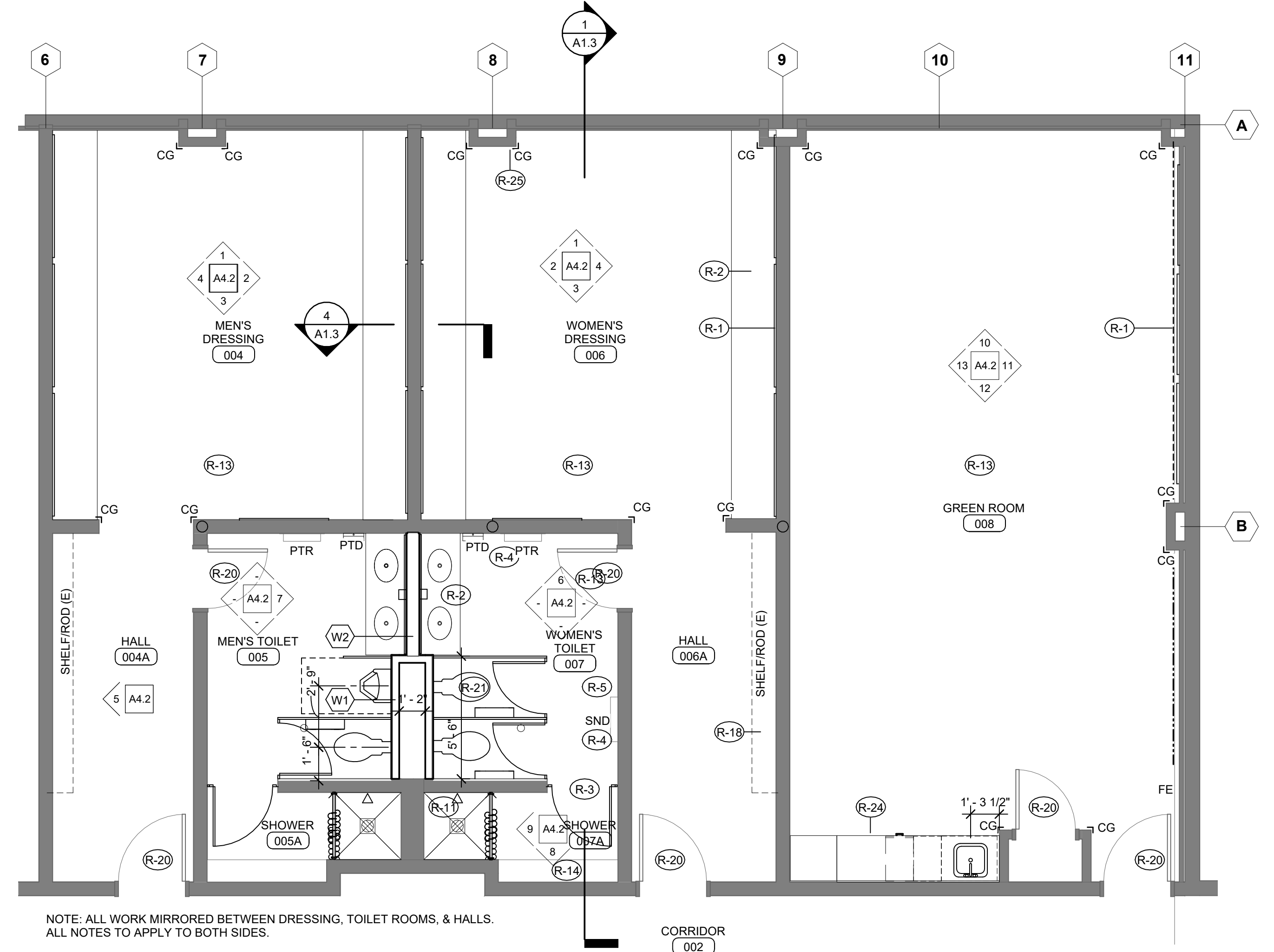
KEYNOTE LEGEND	
KEY VALUE	TEXT
R-1	INSTALL MIRROR, SIZES TO BE VIF
R-2	SOLID SURFACE COUNTERTOP AND BACKSPLASH.
R-3	INSTALL NEW TOILET PARTITIONS, ALT. 1.
R-4	INSTALL NEW TOILET RM. ACCESSORIES.
R-5	INSTALL VINYL WALL COVERING AND TRIMS.
R-11	INSTALL NEW SHOWER SURROUND, ROD/CURTAIN, AND TRIMS, SEE MECH.
R-13	INSTALL NEW FLOORING AND RUBBER BASE.
R-14	REINSTALL REFINISHED BENCH.
R-18	REPAINT AND REINSTALL COAT RACK.
R-20	REPAINT DOORS AND FRAMES.
R-21	INSTALL NEW PLUMBING FIXTURES AND TRIMS, SEE MECH.
R-24	NEW CASEWORK.
R-25	INSTALL CORNER GUARD, MATCH ADJACENT SURFACE COLOR.



1 BUILDING SECTION
Scale: 1/4" = 1'-0"

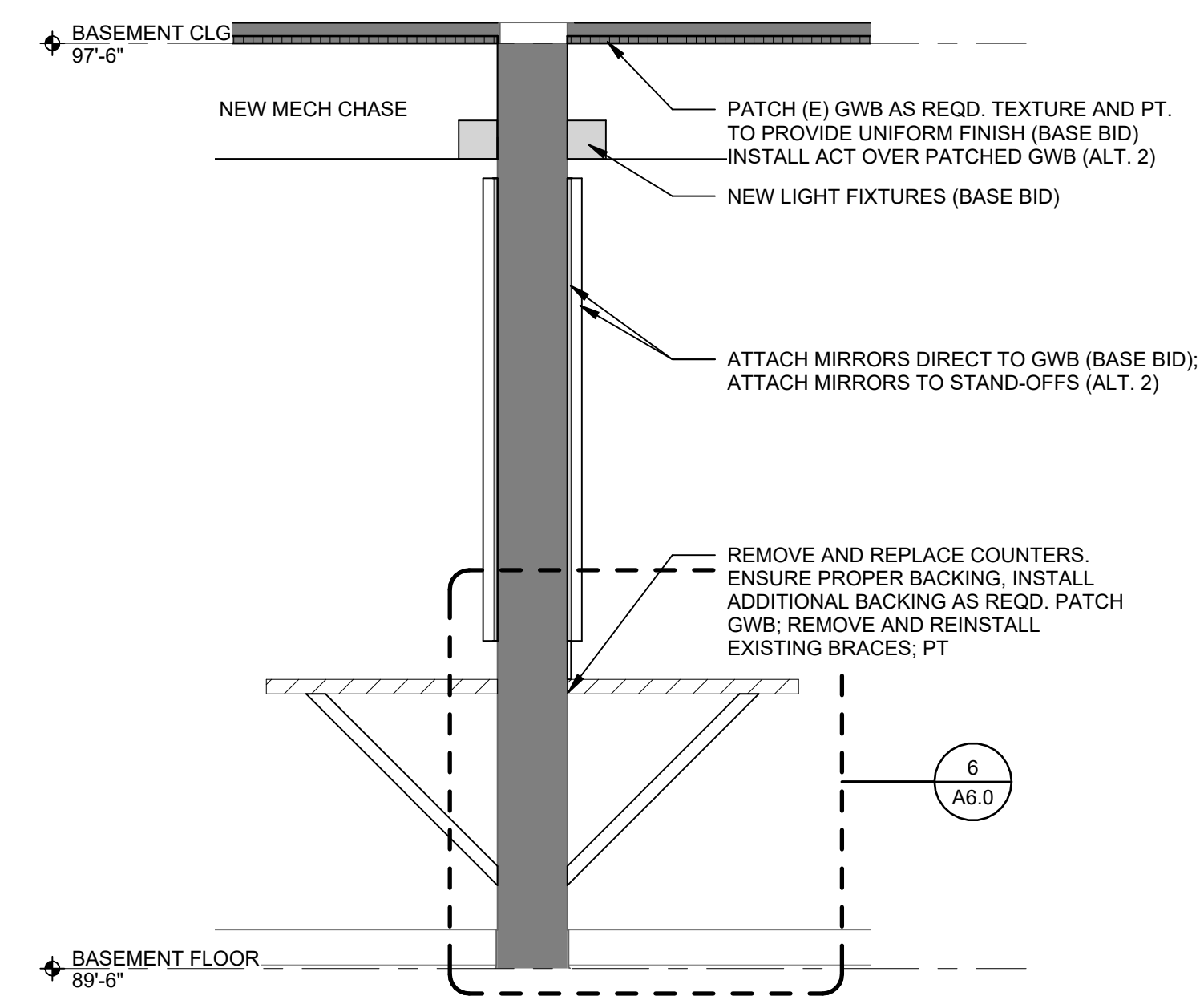


3 HVAC CHASE
Scale: 1 1/2" = 1'-0"

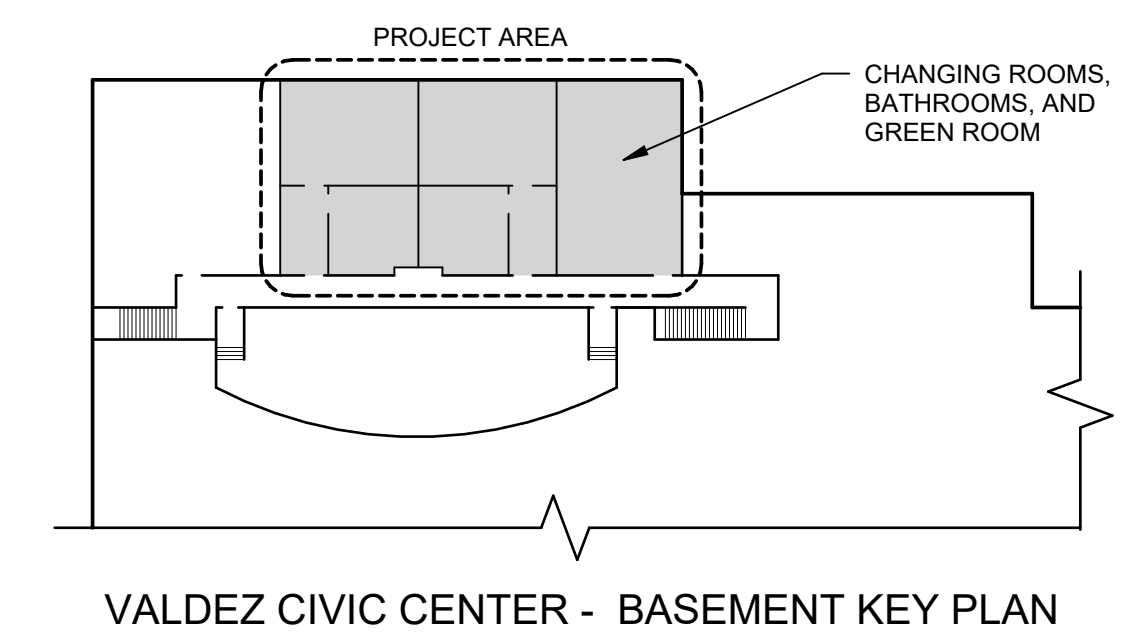


NOTE: ALL WORK MIRRORED BETWEEN DRESSING, TOILET ROOMS, & HALLS. ALL NOTES TO APPLY TO BOTH SIDES.

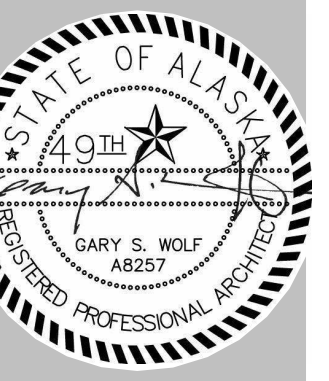
2 BASEMENT - NEW
Scale: 1/4" = 1'-0"

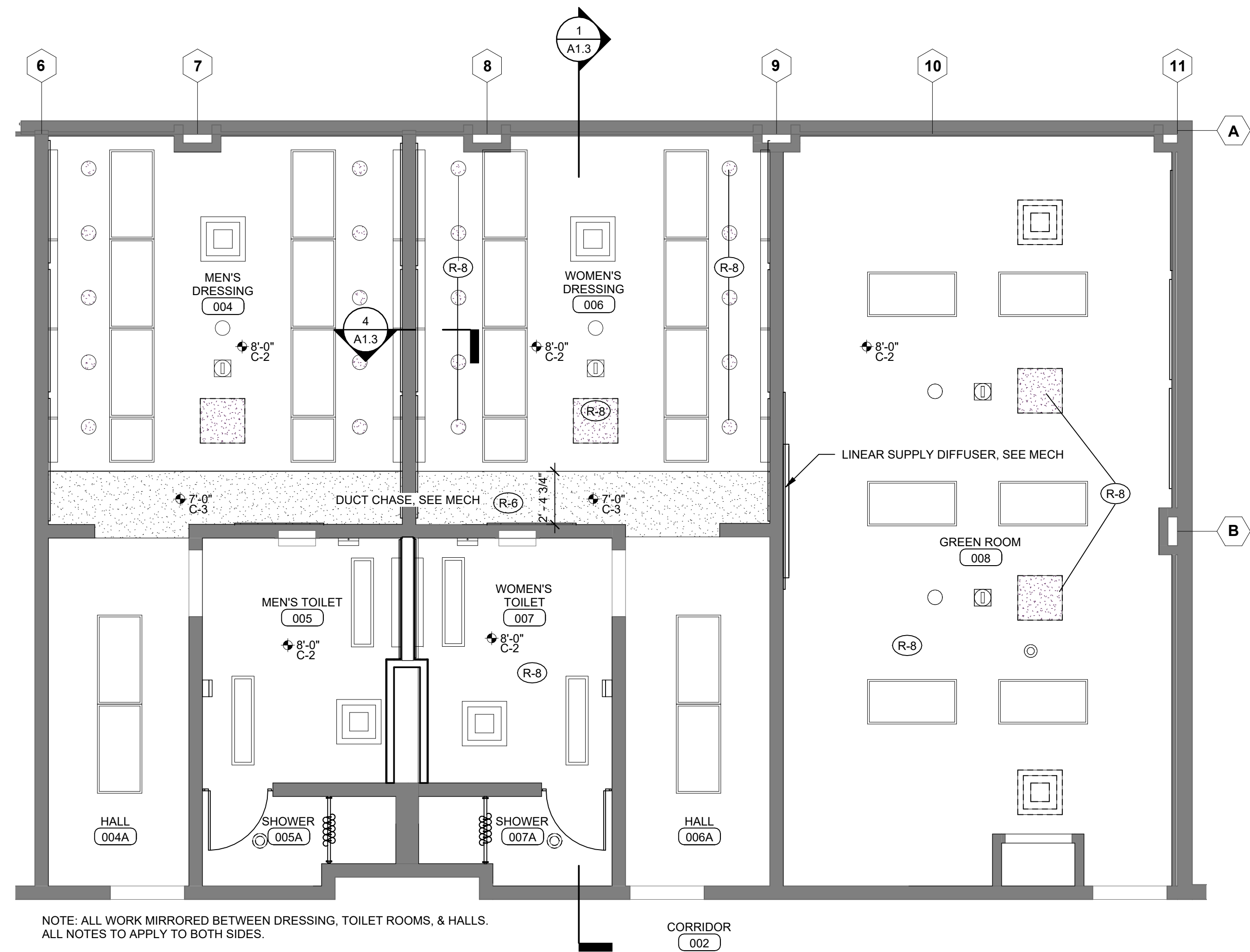


4 WALL SECTION
Scale: 3/4" = 1'-0"



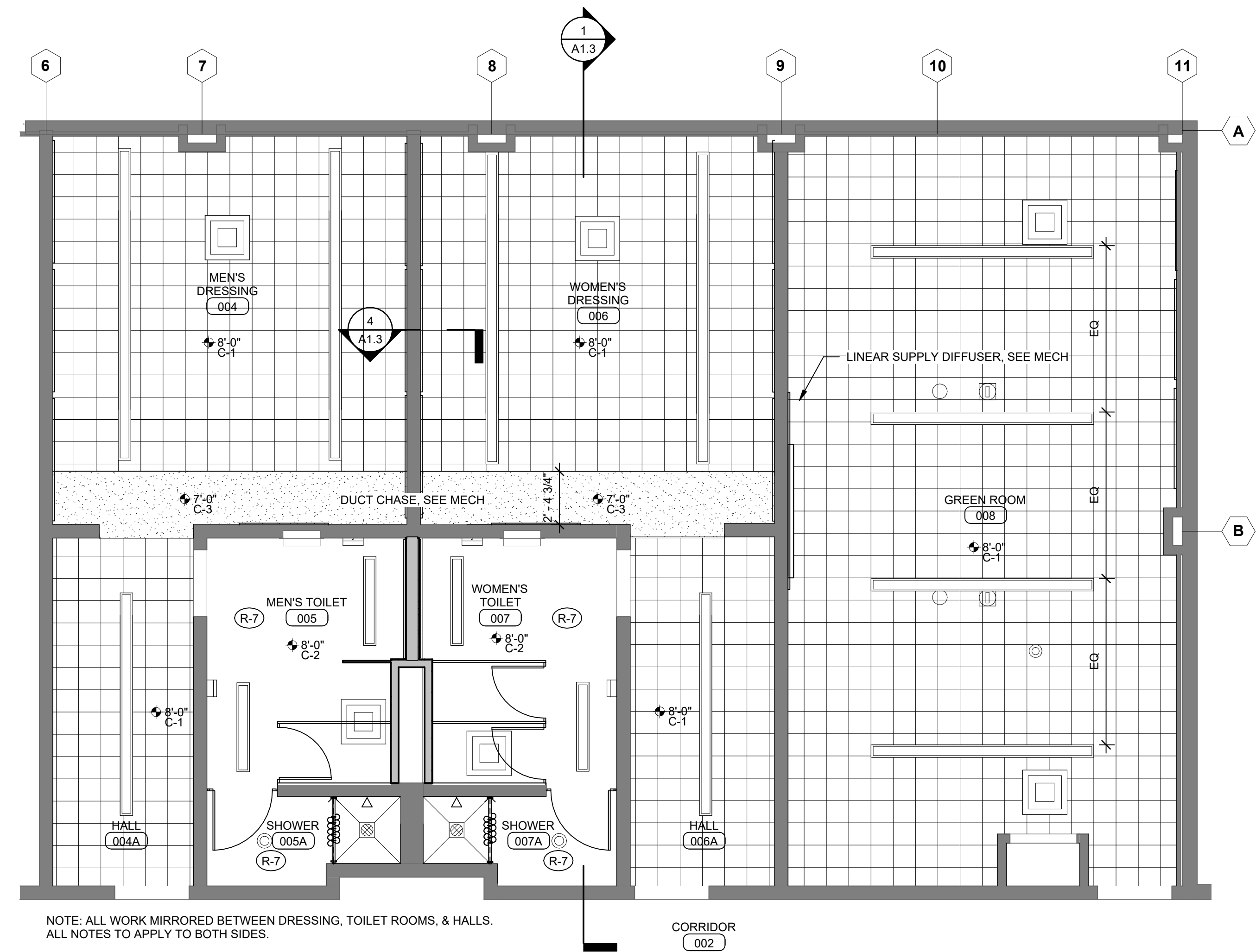
VALDEZ CIVIC CENTER - BASEMENT KEY PLAN





1 BASEMENT REFLECTED CEILING PLAN - BASE BID

Scale: 1/4" = 1'-0"



2 BASEMENT REFLECTED CEILING PLAN - ALT 2

Scale: 1/4" = 1'-0"

LEGEND

- CEILING ACCESS PANEL, 18"X18" UNO.
- CEILING HEIGHT (HEIGHTS INDICATED ARE RELATIVE TO 100'-0" FLOOR LEVEL).
- PROJECTOR (POSITIONS SHOWN ARE APPROXIMATE. FINAL POSITION TO BE VERIFIED WITH OWNER).
- SUSPENDED LIGHT FIXTURES
- SUPPLY DIFFUSERS
- RETURN AIR REGISTER OR EXHAUST FAN
- EXIT LIGHT
- SMOKE DETECTOR
- HEAT DETECTOR
- INTERCOM
- PAGING SPEAKER
- INFRARED DETECTOR
- SPEAKER
- VIDEO CAMERA
- DAYLIGHT SENSOR
- MOTION DETECTOR

GENERAL RCP NOTES

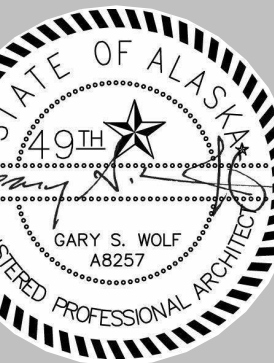
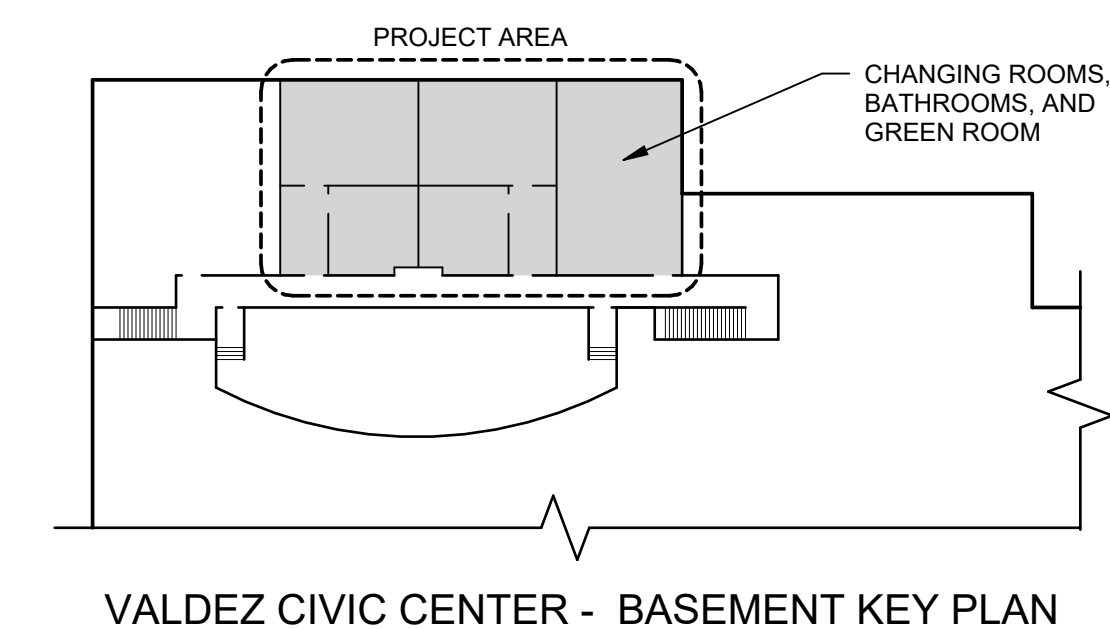
1. GENERALLY CENTER CEILING GRIDS IN EACH ROOM TO PROVIDE EQUALLY SIZED PANELS ON OPPOSITE WALLS. IF PLANS INDICATE A GRID ALIGNING WITH A COLUMN, WALL, SOFFIT, ETC. START GRID AT THE INDICATED SURFACE. AVOID PANELS LESS THAN 12" IN WIDTH.
2. SEE FINISH SCHEDULE FOR COLORS.
3. ALL GYP BD CEILING AND SOFFITS TO BE PATCHED AND PAINTED TO PROVIDE UNIFORM SURFACE APPEARANCE.
4. ALL EXPOSED STEEL FRAMING AND DECK AT CEILINGS TO BE PAINTED.
5. EXCEPT AT STORAGE, MECHANICAL AND ELECTRICAL UTILITY ROOMS PAINT ALL EXPOSED DUCTWORK, PIPING AND CONDUITS.
6. CEILING HEIGHT TO BE MEASURED FROM FINISH FLOOR LEVEL OF THE ROOM OR THE AREA WHERE CEILING IS IN.
7. SEE DETAIL SHEETS FOR TYPICAL ACOUSTIC CEILING SEISMIC AND BRACING DETAILS.

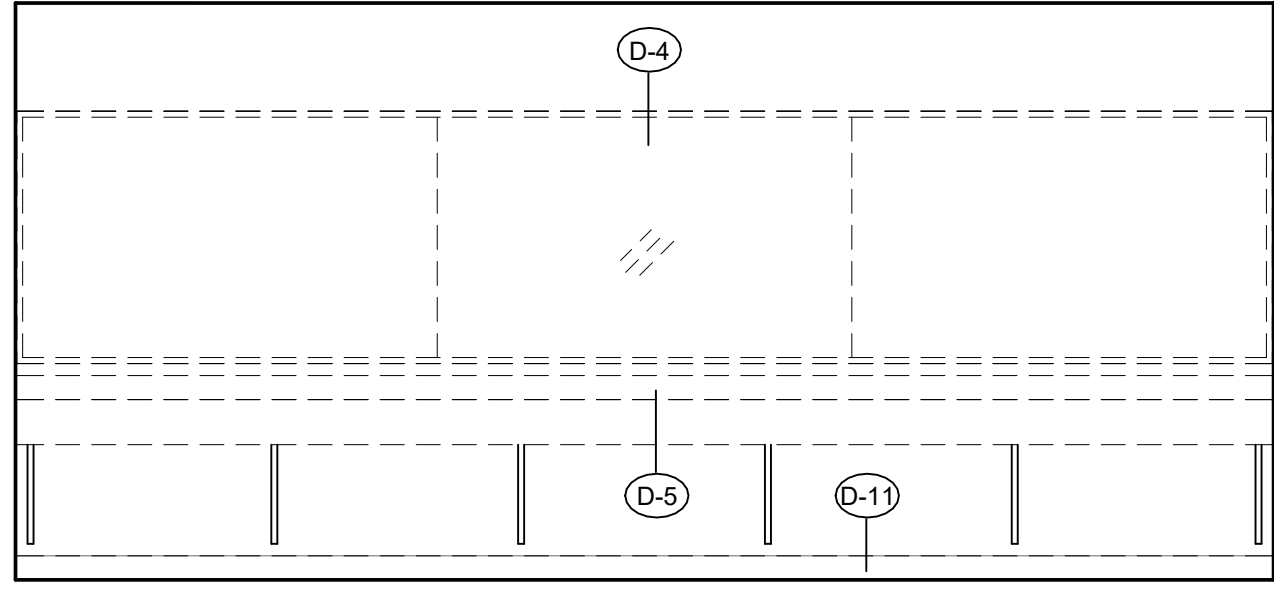
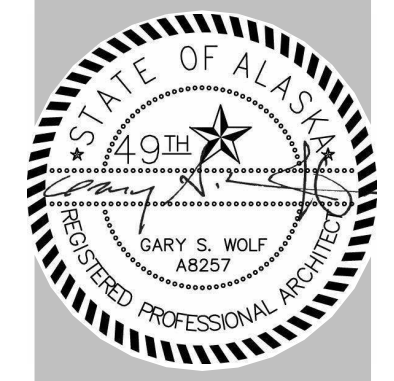
RCP - CODED NOTES

- C-1 12X12 ACT DIRECT APPLIED TO GWB
- C-2 EXIST. GWB CLG ON FURRING
- C-3 12X12 ACT DIRECT APPLIED TO GWB

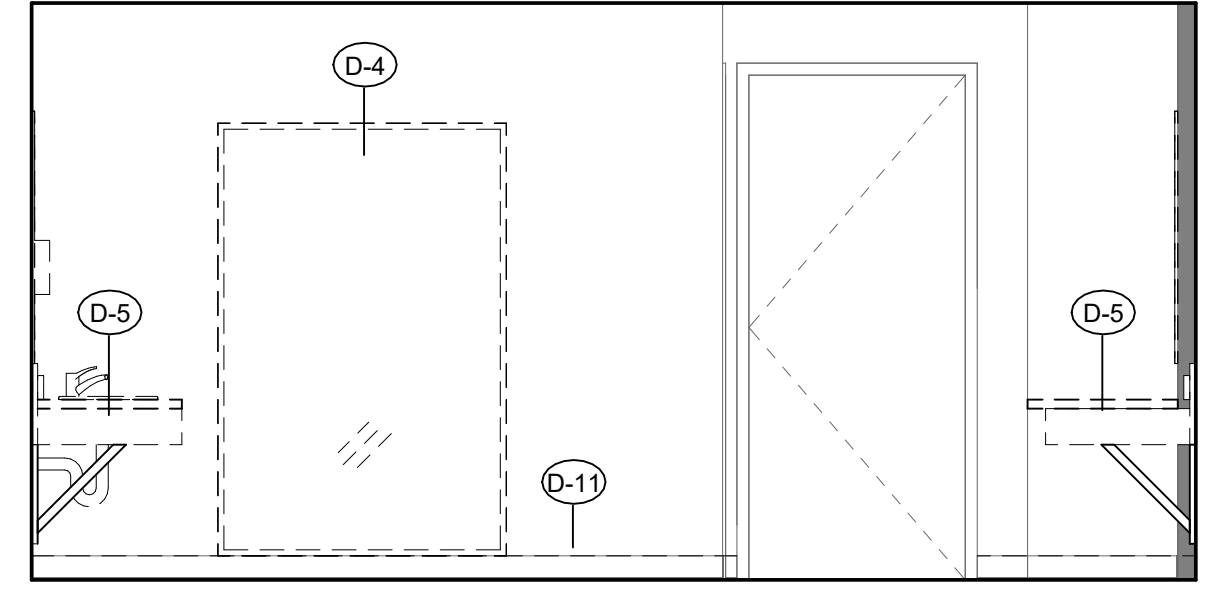
KEYNOTE LEGEND

KEY VALUE	TEXT
R-6	HVAC CHASE, SEE MECH
R-7	CLEAN ALL GWB WALL AND CEILING SURFACES IN ROOM, PRIME AND PAINT.
R-8	PATCH GWB CLG, PROVIDE CONSISTENT FINISH, PAINT ENTIRE GWB SURFACE PLANE.

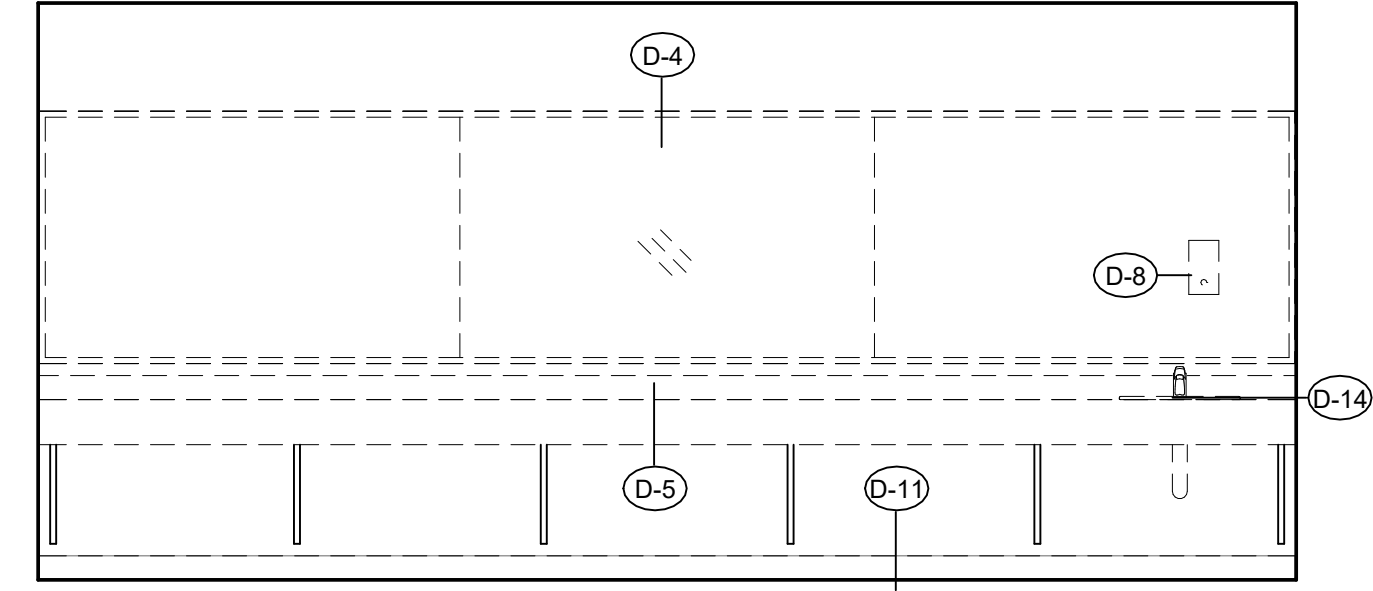




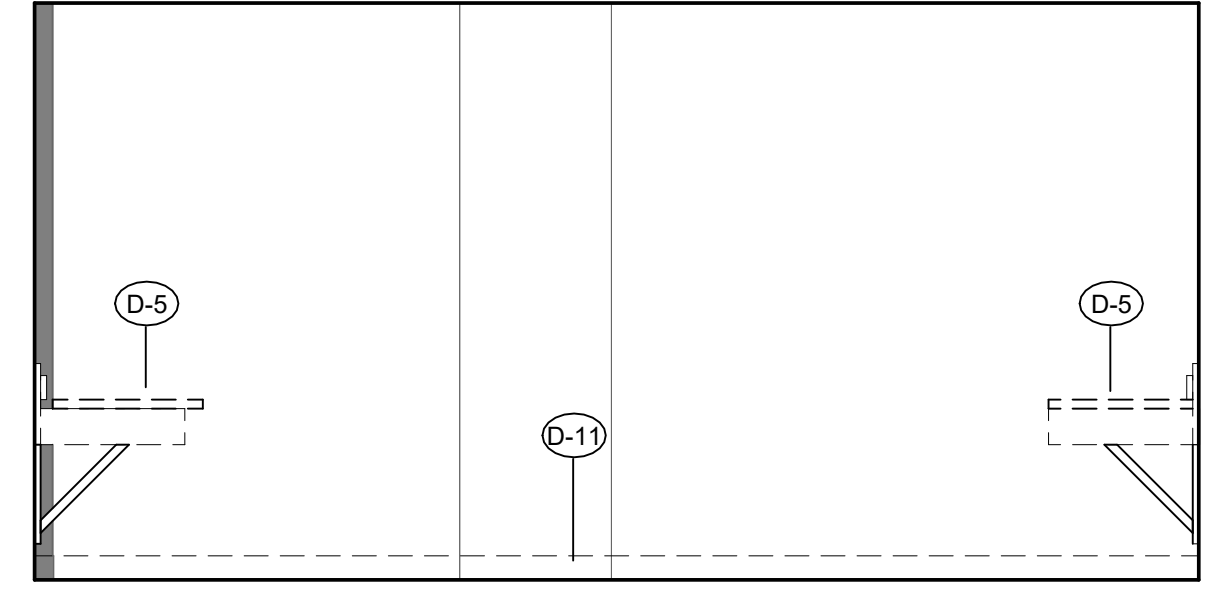
4 004/006 DRESSING - D
 Scale: 3/8" = 1'-0"



3 004/006 DRESSING - C
 Scale: 3/8" = 1'-0"



2 004/006 DRESSING - B
 Scale: 3/8" = 1'-0"

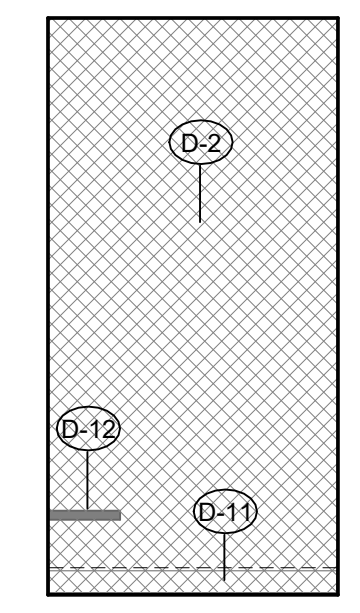
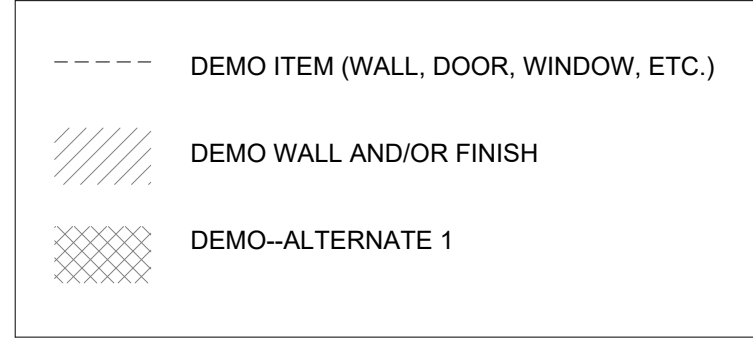


1 004/006 DRESSING - A
 Scale: 3/8" = 1'-0"

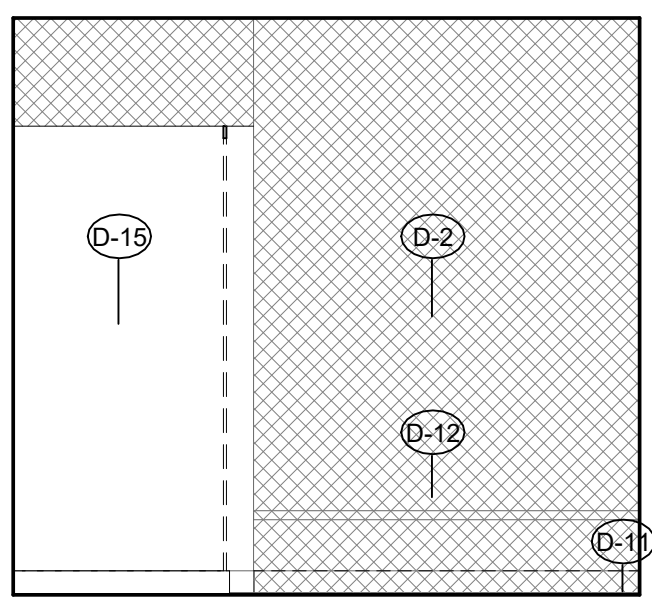
DEMO PLAN SHEET NOTES

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- LIMIT WORK TO SPACES INDICATED, PROTECT ALL ADJACENT ASSEMBLIES, FINISHES AND APPURTENANCES. DAMAGE SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR OR REPLACE BACK TO ORIGINAL CONDITION.
- ALL ITEMS NOTED "SALVAGE" TO BE PROTECTED FOR REINSTALLATION OR PRESENTED TO OWNER AT A LOCATION OF THEIR CHOOSING.
- ITEMS NOT NOTED AS "SALVAGE" BECOME CONTRACTOR'S PROPERTY AND SHALL BE REMOVED FROM SITE.
- DEMOLITION NOTES LISTED ARE INTENDED TO CONVEY A GENERAL DESCRIPTION OF THE DEMOLITION WORK THROUGHOUT THE PROJECT. HOWEVER, THESE NOTES MAY NOT ADDRESS EVERY DEMOLITION CONDITION NECESSARY FOR THE SUCCESSFUL COMPLETION OF THE PROJECT. THE CONTRACTOR IS RESPONSIBLE TO REMOVE AND OR DEMOLISH ANY EXISTING CONDITIONS REQUIRED FOR THE SUCCESSFUL INSTALLATION OF ANY NEW CONSTRUCTION IDENTIFIED IN THESE DOCUMENTS.
- DASHED LINES INDICATE LOCATIONS OF DEMOLITION.
- SEE MECHANICAL AND ELECTRICAL FOR SUB-TRADES EXTENT OF DEMOLITION.
- SEE FINISH PLAN FOR FLOORING DEMO AND NEW FLOORING EXTENT.
- IN FILL WALL AND FLOOR AREAS TO MATCH FINISH, LEVEL, AND APPEARANCE OF ADJACENT EXISTING SURFACES, UNLESS NOTED OTHERWISE.
- WHERE UNFINISHED WALL, FLOOR, OR CEILING AREAS ARE EXPOSED BY DEMOLITION, FINISH TO LEVEL MATCHING ADJACENT FINISHES.
- OBTAIN DEMO PERMIT PRIOR TO BEGINNING WORK.

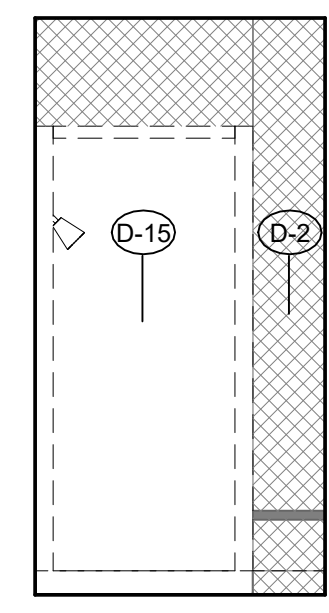
LEGEND - DEMO PLANS



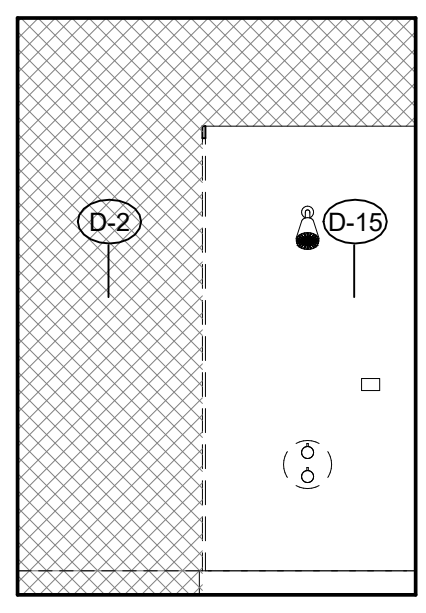
9 005A/007A SHOWER - D
 Scale: 3/8" = 1'-0"



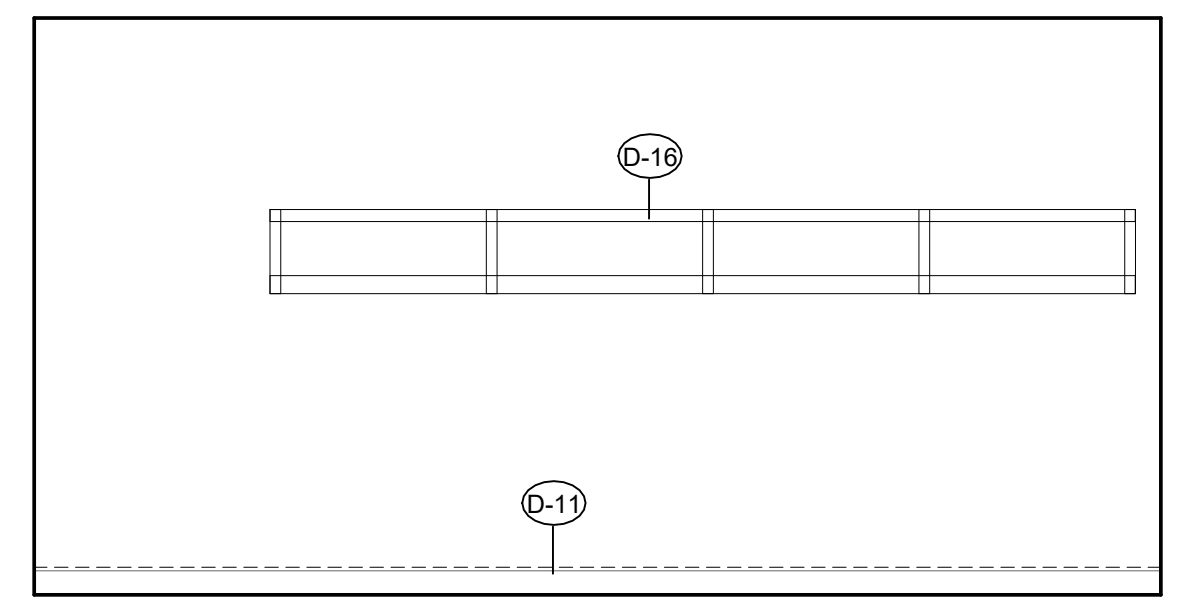
8 005A/007A SHOWER - C
 Scale: 3/8" = 1'-0"



7 005A/007A SHOWER - B
 Scale: 3/8" = 1'-0"

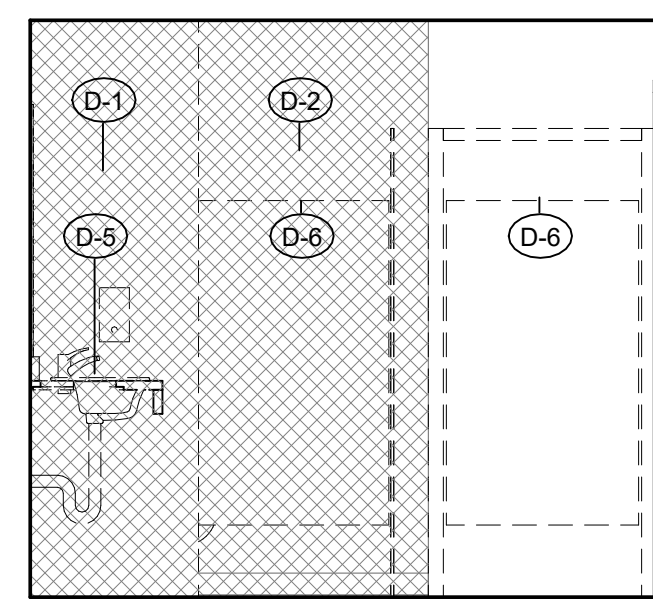


6 005A/007A SHOWER - A
 Scale: 3/8" = 1'-0"

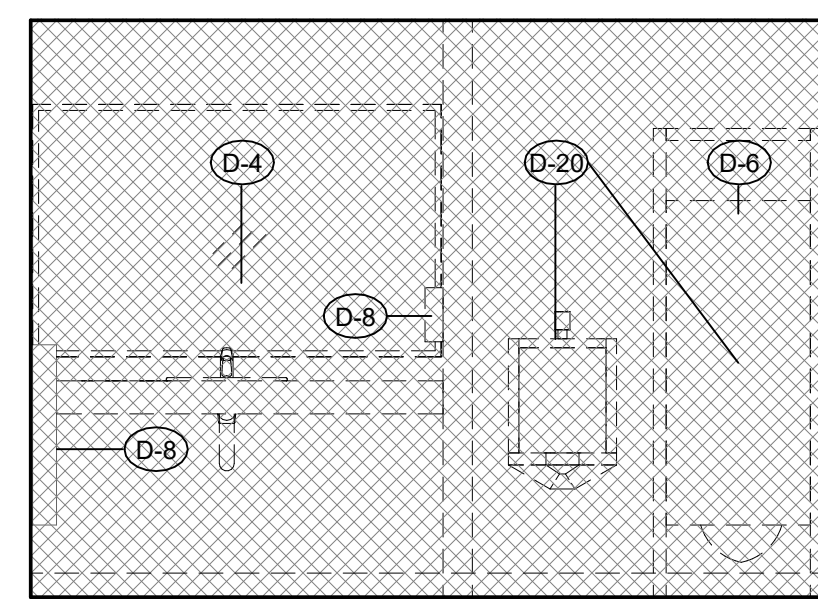


5 004A/006A HALL - A
 Scale: 3/8" = 1'-0"

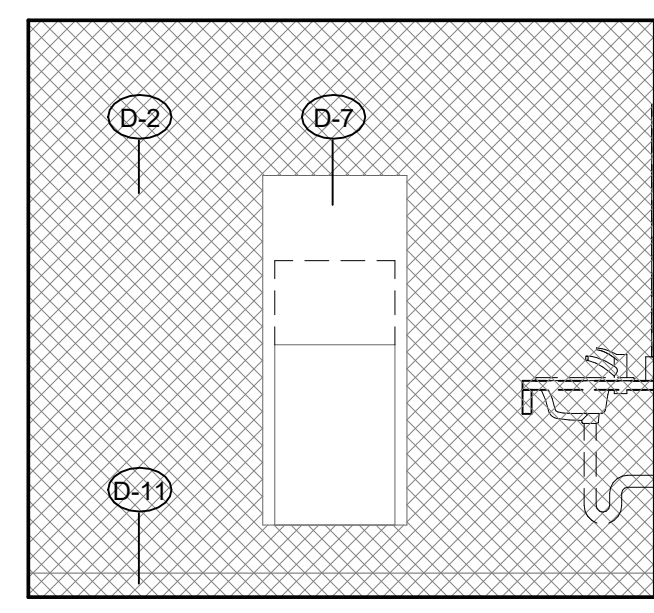
KEYNOTE LEGEND	
KEY VALUE	TEXT
D-1	DEMO WALL FRAMING, FINISHES, FIXTURES, ACCESSORIES, ETC.; ALT. 1 SEE ELECT/MECH
D-2	REMOVE MASONITE WALL BOARDS AND SUBSTRATE, PREP FOR NEW FINISH, ALT. 1
D-4	REMOVE MIRRORS; PREPARE SUBSTRATE FOR NEW FINISHES.
D-5	REMOVE COUNTER, BACKSPASH; PRESERVE/REINFORCE SUPPORTS.
D-6	REMOVE TOILET PARTITIONS, SUPPORTS, ACCESSORIES ETC., ALT. 1
D-7	REMOVE OR PROTECT PT DISPENSER/WASTE FOR REINSTALLATION.
D-8	DEMO ACCESSORIES, ALT. 1.
D-11	DEMO WALL BASE; PREPARE FOR NEW BASE.
D-12	REMOVE BENCH & SUPPORTS, REFINISH WOOD FOR REINSTALLATION.
D-14	COORDINATE WITH MECH/ELECT FOR DEMO.
D-15	DEMO SHOWER PAN, SURROUND & SUBSTRATE, PREP FOR NEW FINISH, ALT. 1.
D-16	REMOVE/PROTECT SHELIVING FOR REINSTALLATION.
D-20	REMOVE EXISTING LIGHT FIXTURES, BALLASTS, AND CONNECTIONS.



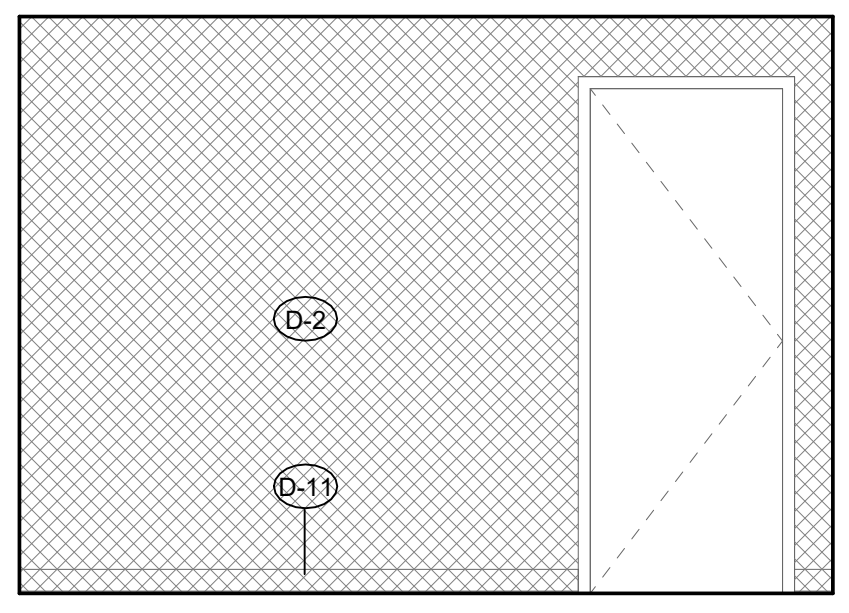
12 005 MEN'S TOILET - C
 Scale: 3/8" = 1'-0"



11 005 MEN'S TOILET - B
 Scale: 3/8" = 1'-0"



10 005 MEN'S TOILET - A
 Scale: 3/8" = 1'-0"

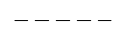




13 005 MEN'S TOILET - D
 Scale: 3/8" = 1'-0"

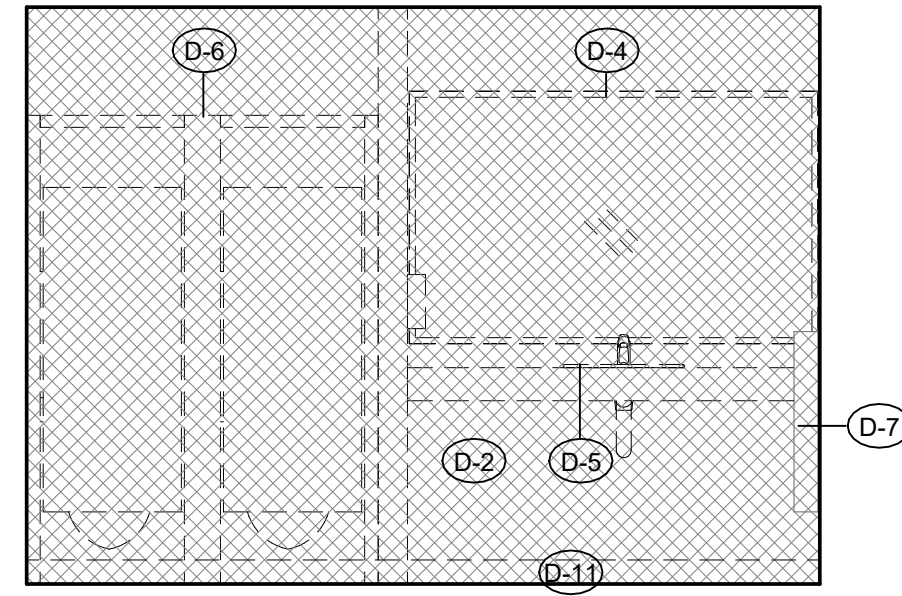
DEMO PLAN SHEET NOTES

1. CONTRACTOR SHALL VISIT SITE TO FAMILIARIZE THEMSELVES WITH EXTENT OF REMOVAL/DEMOLITION.
2. LIMIT WORK TO SPACES INDICATED. PROTECT ALL ADJACENT ASSEMBLIES, FINISHES AND APPURTENANCES. DAMAGE SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR OR REPLACE BACK TO ORIGINAL CONDITION.
3. ALL ITEMS NOTED "SALVAGE" TO BE PROTECTED FOR REINSTALLATION OR PRESENTED TO OWNER AT A LOCATION OF THEIR CHOOSING.
4. ITEMS NOT NOTED AS "SALVAGE" BECOME CONTRACTOR'S PROPERTY AND SHALL BE REMOVED FROM SITE.
5. DEMOLITION NOTES LISTED ARE INTENDED TO CONVEY A GENERAL DESCRIPTION OF THE DEMOLITION WORK THROUGH THE PROJECT. HOWEVER, THESE NOTES MAY NOT ADDRESS EVERY DEMOLITION CONDITION NECESSARY FOR THE SUCCESSFUL COMPLETION OF THE PROJECT. THE CONTRACTOR IS RESPONSIBLE TO REMOVE AND OR DEMOLISH ANY EXISTING CONDITIONS REQUIRED FOR THE SUCCESSFUL INSTALLATION OF ANY NEW CONSTRUCTION IDENTIFIED IN THESE DOCUMENTS.
6. DASHED LINES INDICATE LOCATIONS OF DEMOLITION.
7. SEE MECHANICAL AND ELECTRICAL FOR SUB-TRADES EXTENT OF DEMOLITION.
9. SEE FINISH PLAN FOR FLOORING DEMO AND NEW FLOORING EXTENT.
10. INFILL WALL AND FLOOR AREAS TO MATCH FINISH, LEVEL, AND APPEARANCE OF ADJACENT EXISTING SURFACES, UNLESS NOTED OTHERWISE.
11. WHERE UNFINISHED WALL, FLOOR, OR CEILING AREAS ARE EXPOSED BY DEMOLITION, FINISH TO LEVEL MATCHING ADJACENT FINISHES.
12. OBTAIN DEMO PERMIT PRIOR TO BEGINNING WORK.

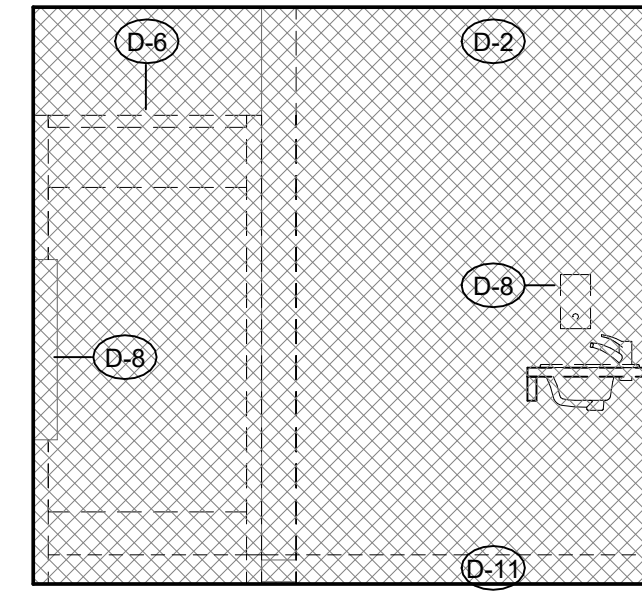
LEGEND - DEMO PLANS

	DEMO ITEM (WALL, DOOR, WINDOW, ETC.)
	DEMO WALL AND/OR FINISH
	DEMO-ALTERNATE 1

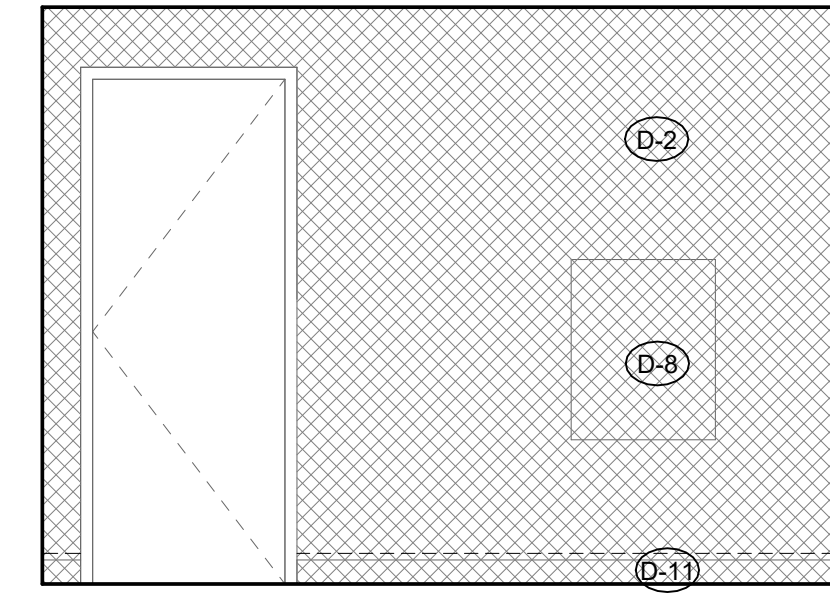
KEYNOTE LEGEND	
KEY VALUE	TEXT
D-1	DEMO WALL FRAMING, FINISHES, FIXTURES, ACCESSORIES, ETC.; ALT. 1 SEE ELECT/MECH
D-2	REMOVE MASONITE WALL BOARDS AND SUBSTRATE, PREP FOR NEW FINISH, ALT. 1
D-4	REMOVE MIRRORS; PREPARE SUBSTRATE FOR NEW FINISHES.
D-5	REMOVE COUNTER, BACKSPASH; PRESERVE/REINFORCE SUPPORTS.
D-6	REMOVE TOILET PARTITIONS, SUPPORTS, ACCESSORIES ETC., ALT. 1
D-7	REMOVE OR PROTECT PT DISPENSER/WASTE FOR REINSTALLATION.
D-8	DEMO ACCESSORIES, ALT 1.
D-9	REMOVE CHALKBOARD; RETURN TO OWNER.
D-11	DEMO WALL BASE; PREPARE FOR NEW BASE.
D-13	DEMO CASEWORK, RETURN TO OWNER.
D-14	COORDINATE WITH MECH/ELECT FOR DEMO.



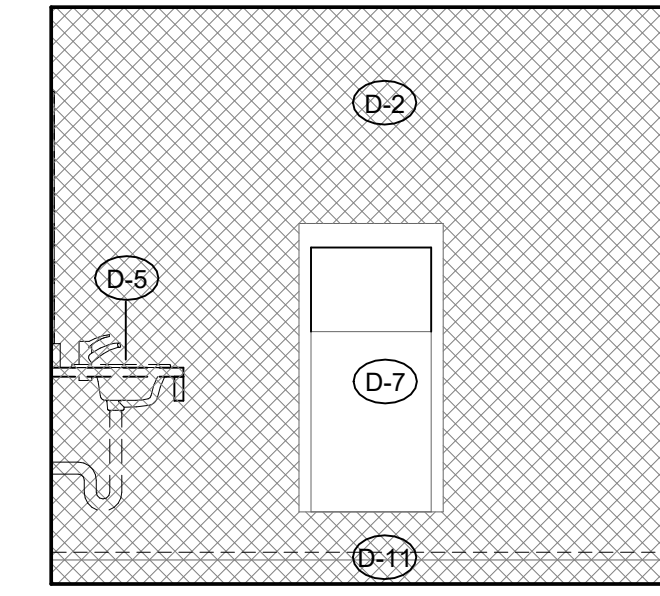
4 007 WOMEN'S TOILET - D
Scale: 3/8" = 1'-0"



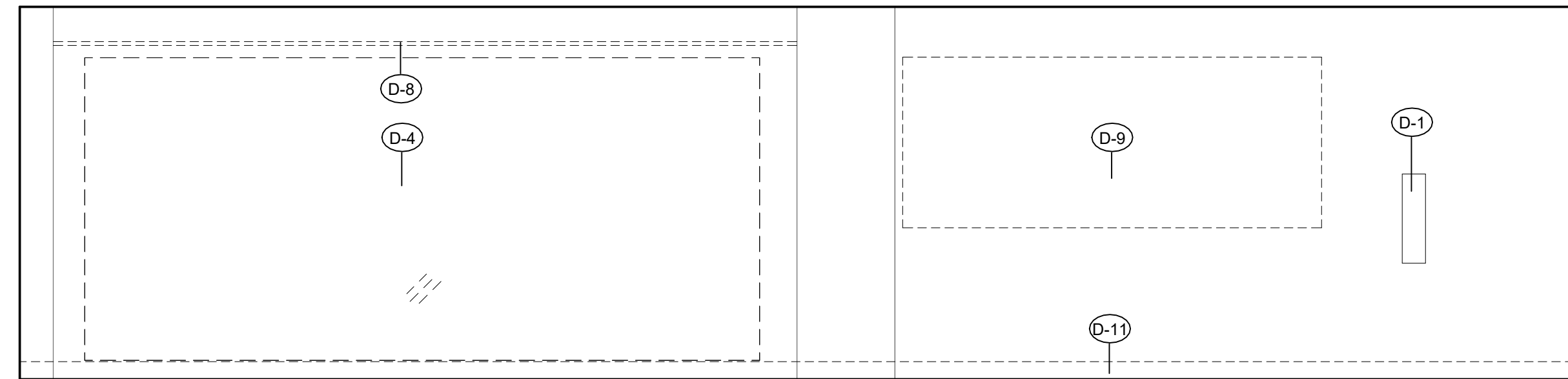
3 007 WOMEN'S TOILET - C
Scale: 3/8" = 1'-0"



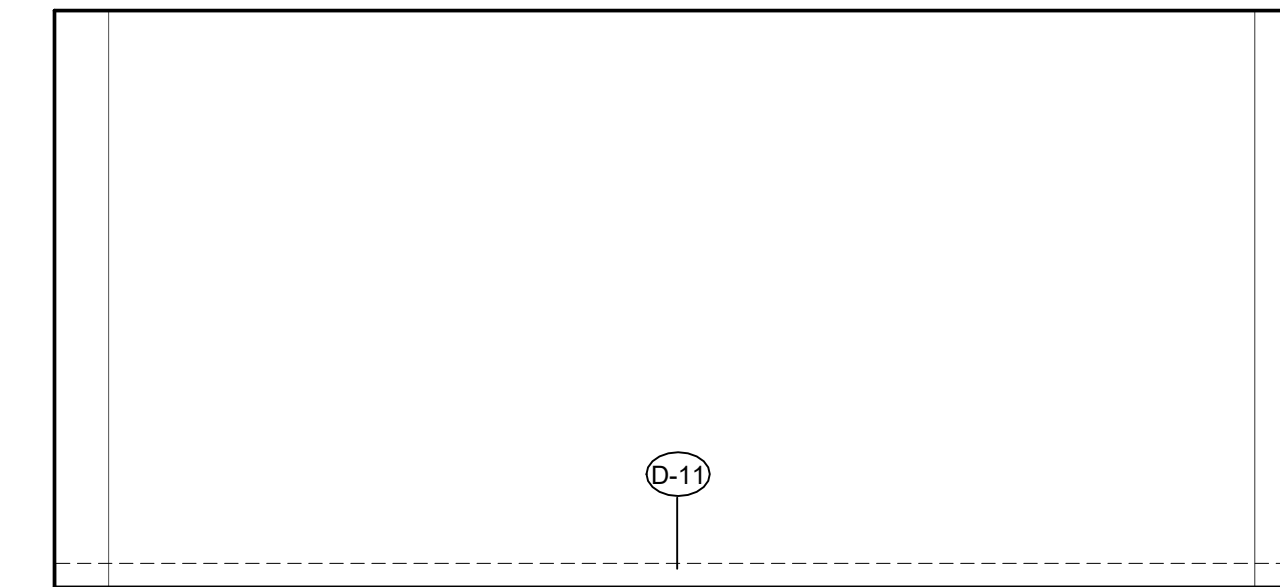
2 007 WOMEN'S TOILET - B
Scale: 3/8" = 1'-0"



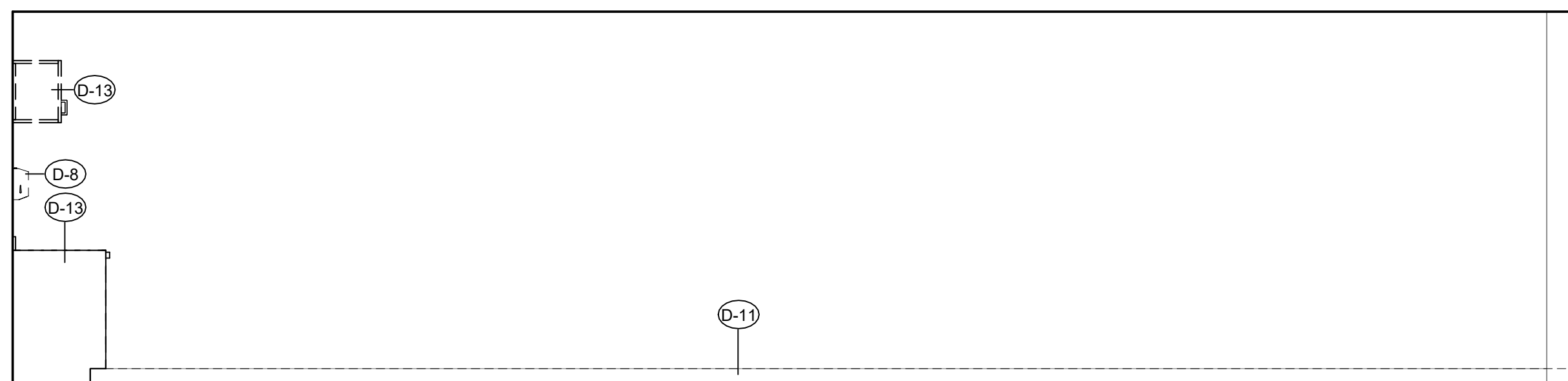
1 007 WOMEN'S TOILET - A
Scale: 3/8" = 1'-0"



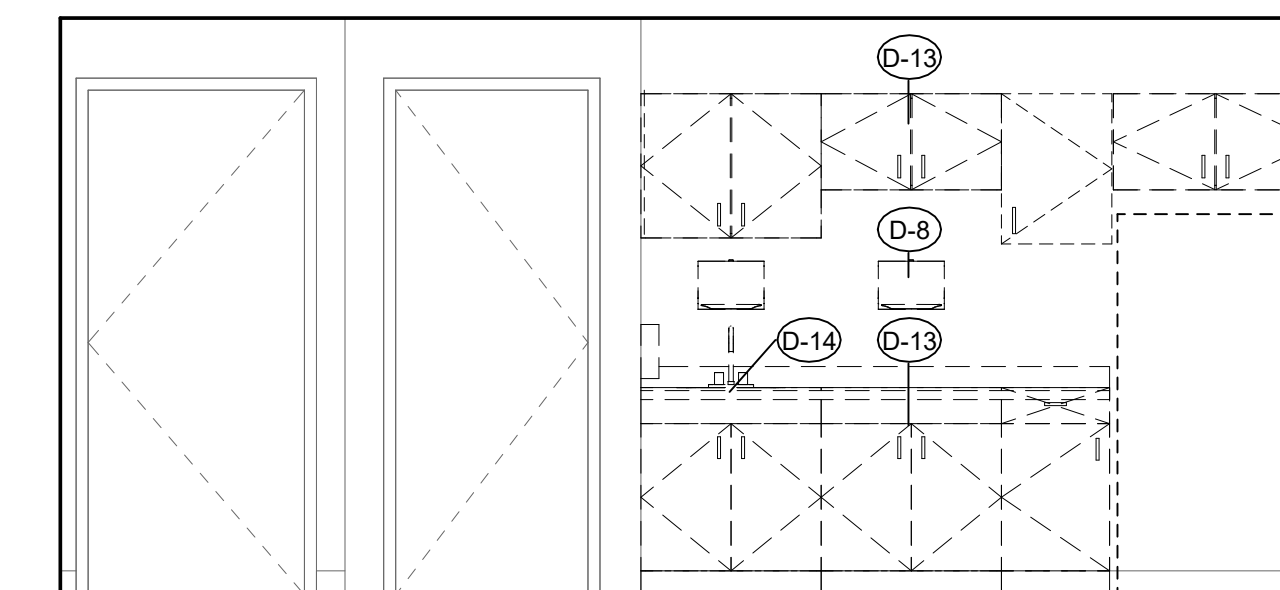
6 008 GREEN ROOM - B
Scale: 3/8" = 1'-0"



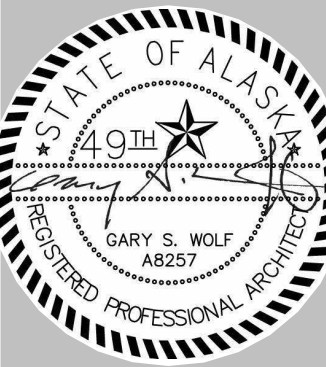
5 008 GREEN ROOM - A
Scale: 3/8" = 1'-0"

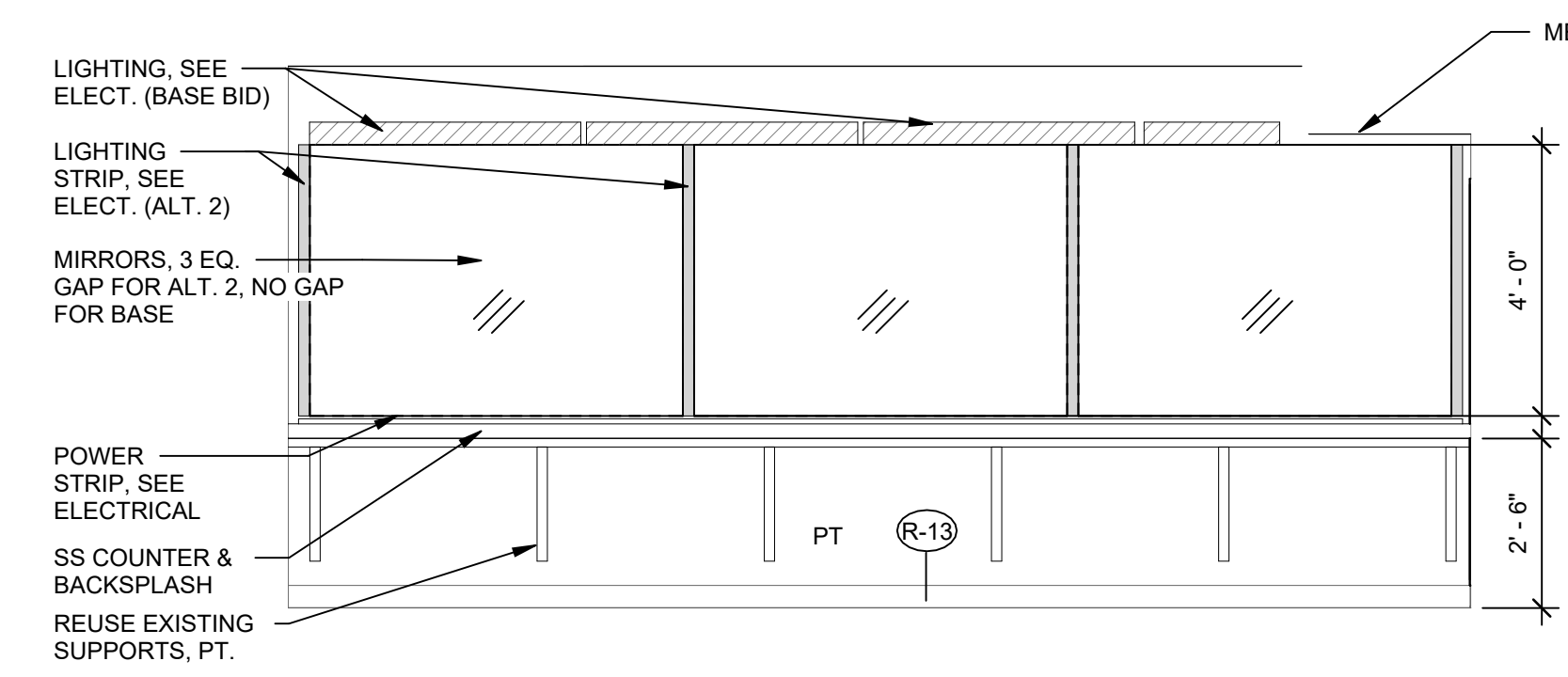
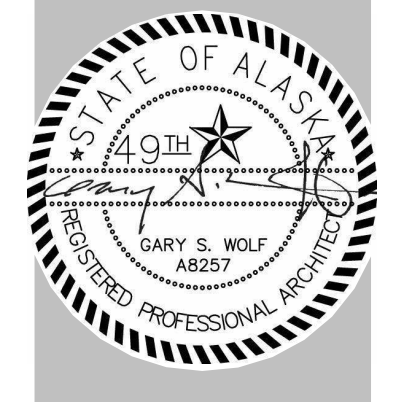


8 008 GREEN ROOM - D
Scale: 3/8" = 1'-0"

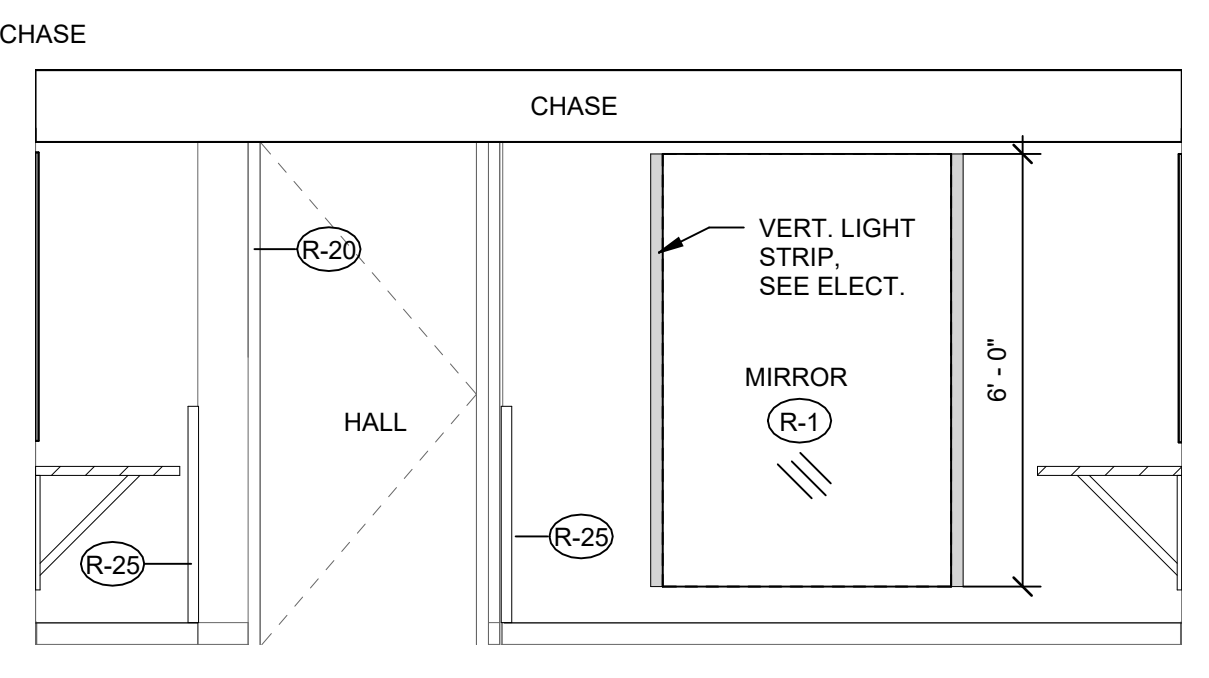


7 008 GREEN ROOM - C
Scale: 3/8" = 1'-0"

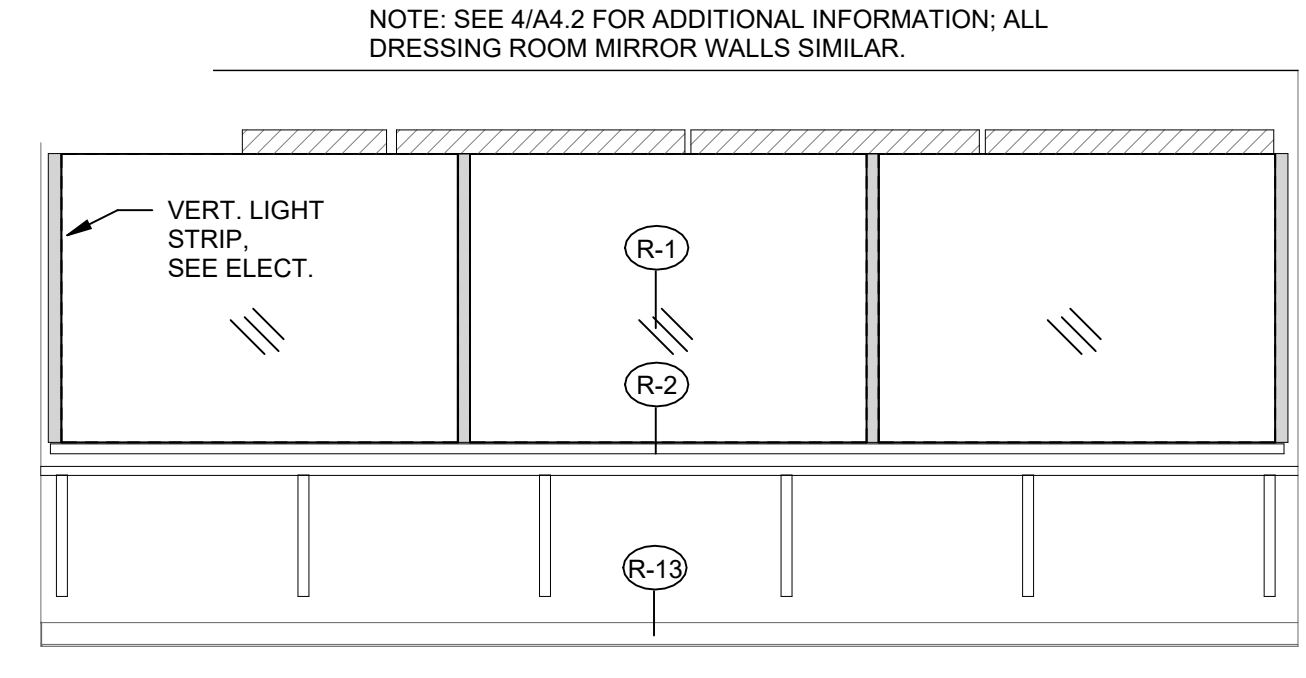




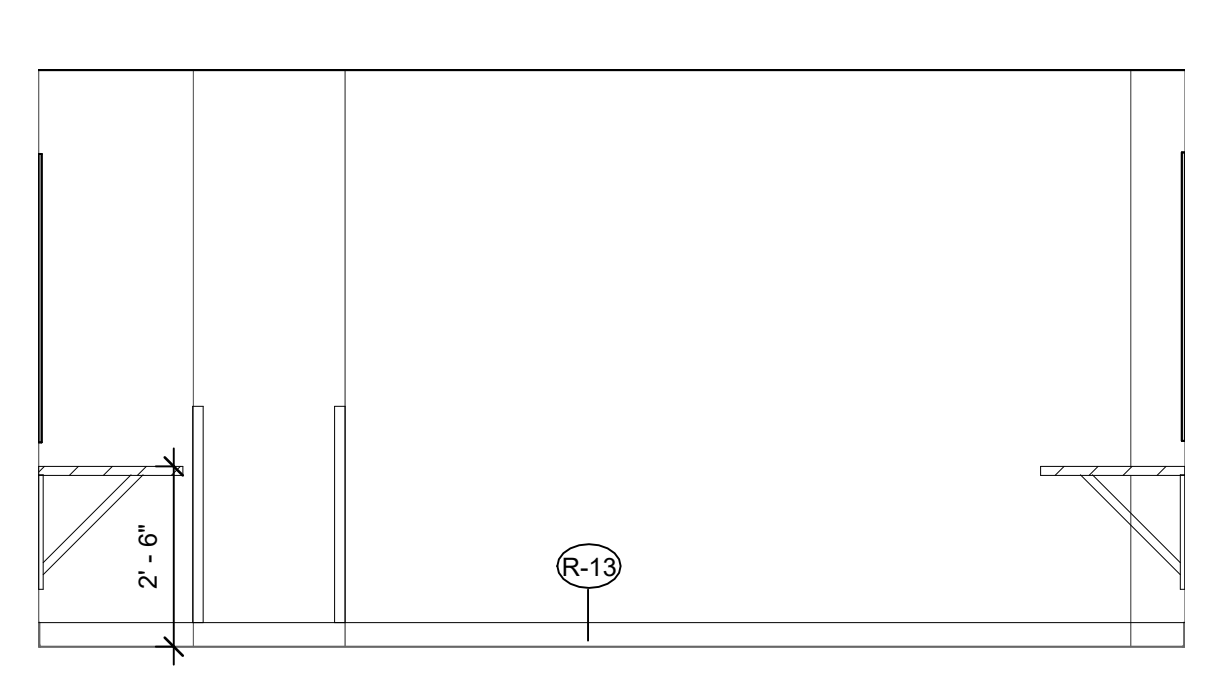
4 004/006 DRESSING-D-RENO
 Scale: 3/8" = 1'-0"



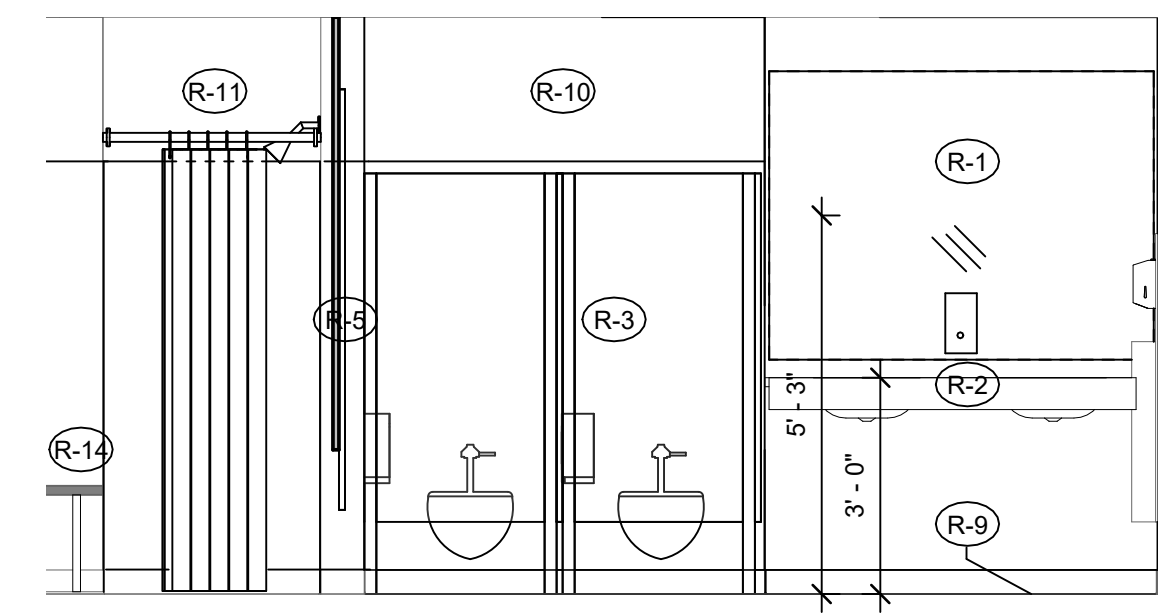
3 004/006 DRESSING-C-RENO
 Scale: 3/8" = 1'-0"



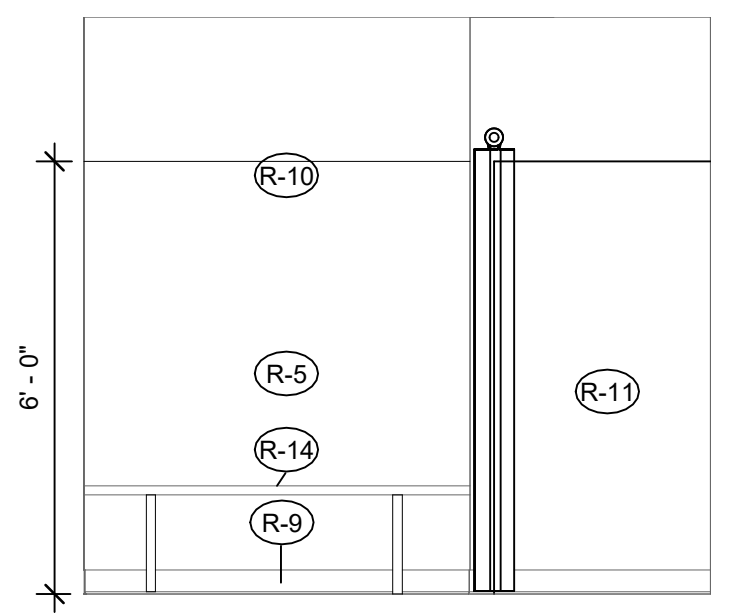
2 004/006 DRESSING-B-RENO
 Scale: 3/8" = 1'-0"



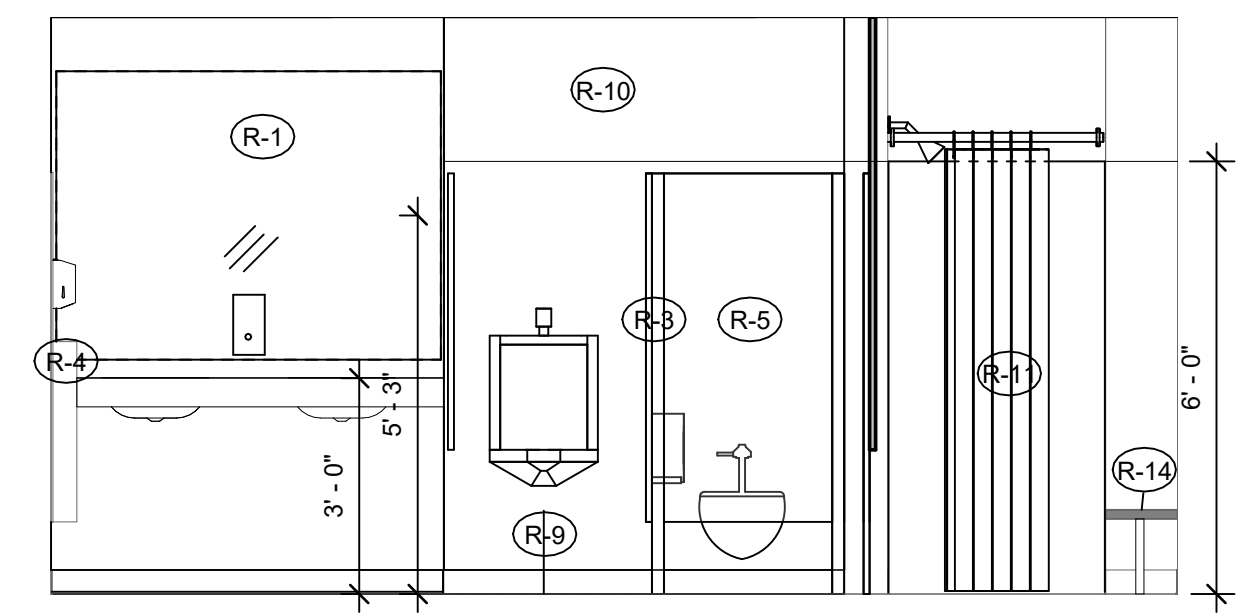
1 004/006 DRESSING A-RENO
 Scale: 3/8" = 1'-0"



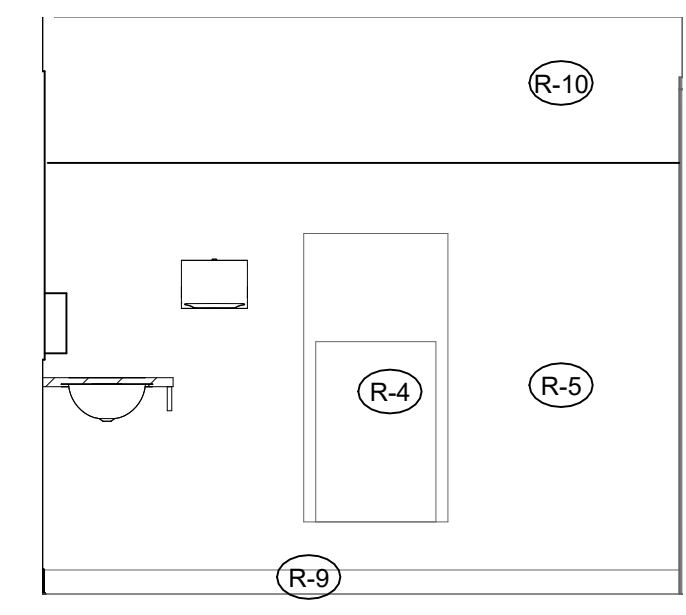
9 007 W TOILET-D-RENO
 Scale: 3/8" = 1'-0"



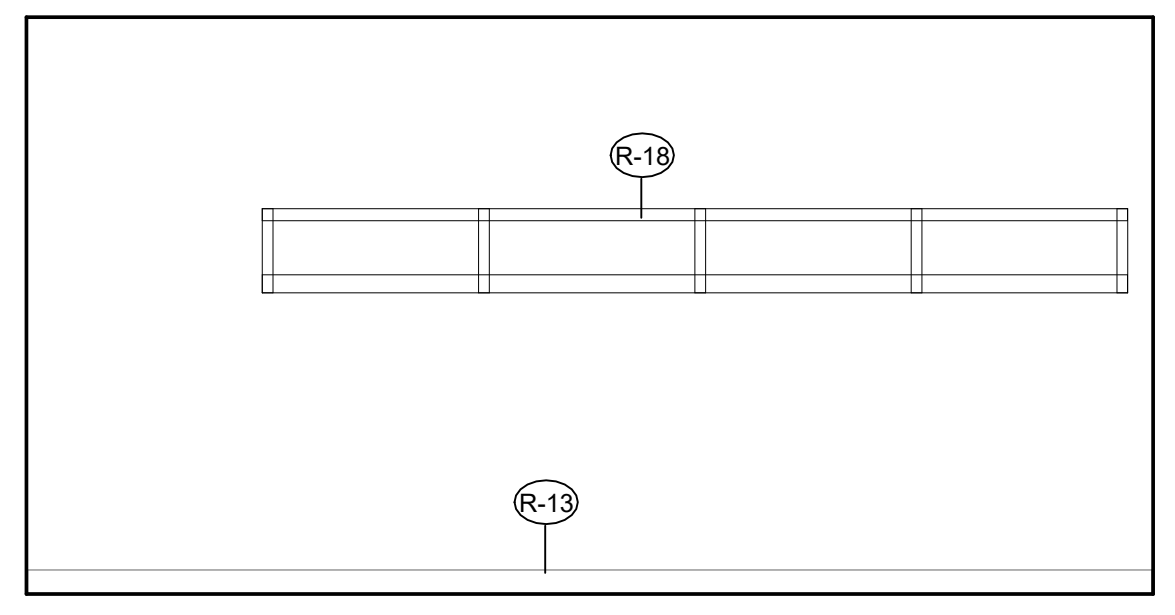
8 005A/007A SHOWER - C - RENO
 Scale: 3/8" = 1'-0"



7 005 M TOILET - B-RENO
 Scale: 3/8" = 1'-0"



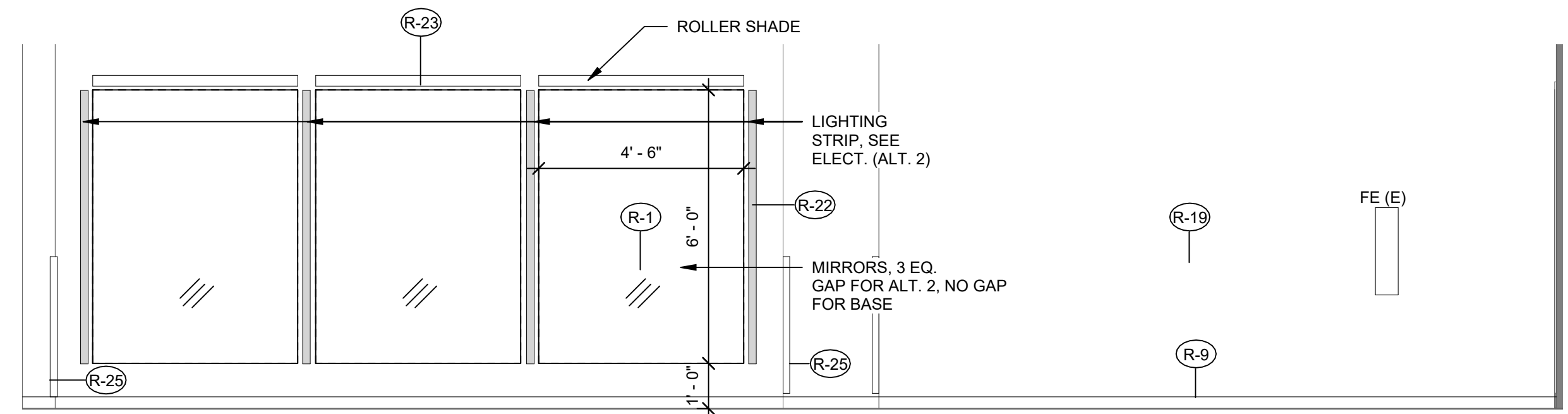
6 005/007 W/M TOILET - A - RENO
 Scale: 3/8" = 1'-0"



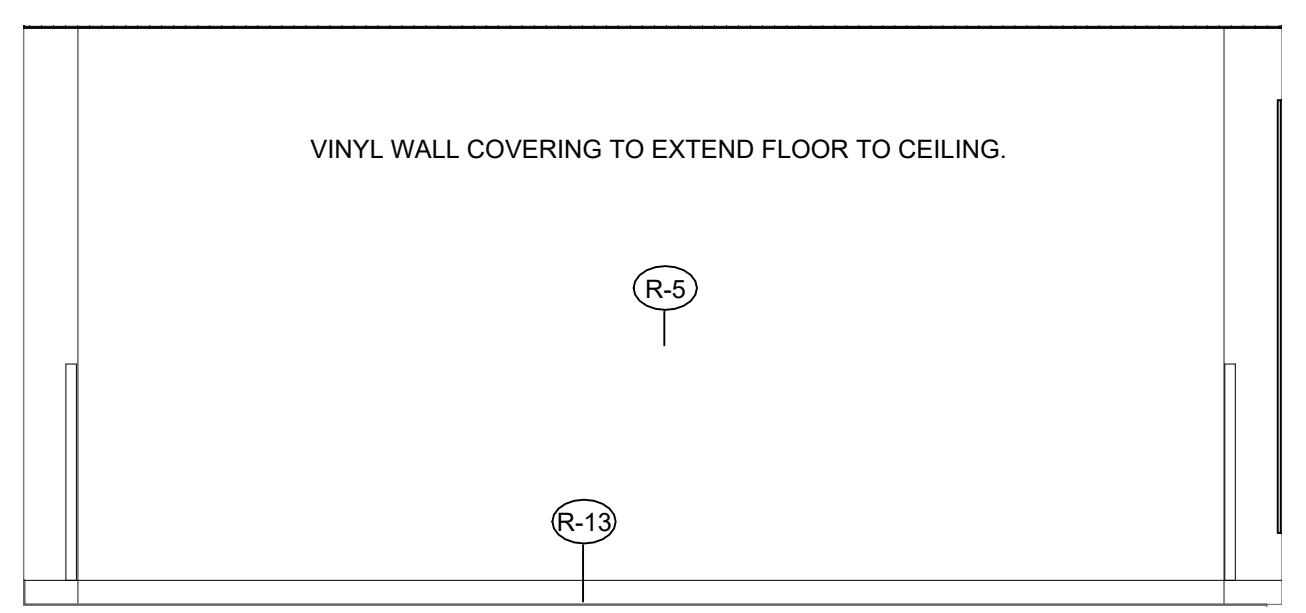
5 004A/006A HALL - A RENO
 Scale: 3/8" = 1'-0"

KEYNOTE LEGEND	
KEY VALUE	TEXT
R-1	INSTALL MIRROR, SIZES TO BE VIF
R-2	SOLID SURFACE COUNTERTOP AND BACKSPLASH.
R-3	INSTALL NEW TOILET PARTITIONS, ALT. 1.
R-4	INSTALL NEW TOILET RM. ACCESSORIES.
R-5	INSTALL VINYL WALL COVERING AND TRIMS.
R-9	INSTALL NEW FLOORING WITH SELF-COVE BASE.
R-10	NEW GWB, TAPE AND PT.
R-11	INSTALL NEW SHOWER SURROUND, ROD/CURTAIN, AND TRIMS, SEE MECH.
R-13	INSTALL NEW FLOORING AND RUBBER BASE.
R-14	REINSTALL REFINISHED BENCH.
R-18	REPAINT AND REINSTALL COAT RACK.
R-19	PATCH ALL IMPERFECTIONS, PAINT.
R-20	REPAINT DOORS AND FRAMES.
R-22	INSTALL NEW LIGHT FIXTURES, SEE ELECTRICAL.
R-23	INSTALL NEW ROLLER SHADES.
R-25	INSTALL CORNER GUARD, MATCH ADJACENT SURFACE COLOR.

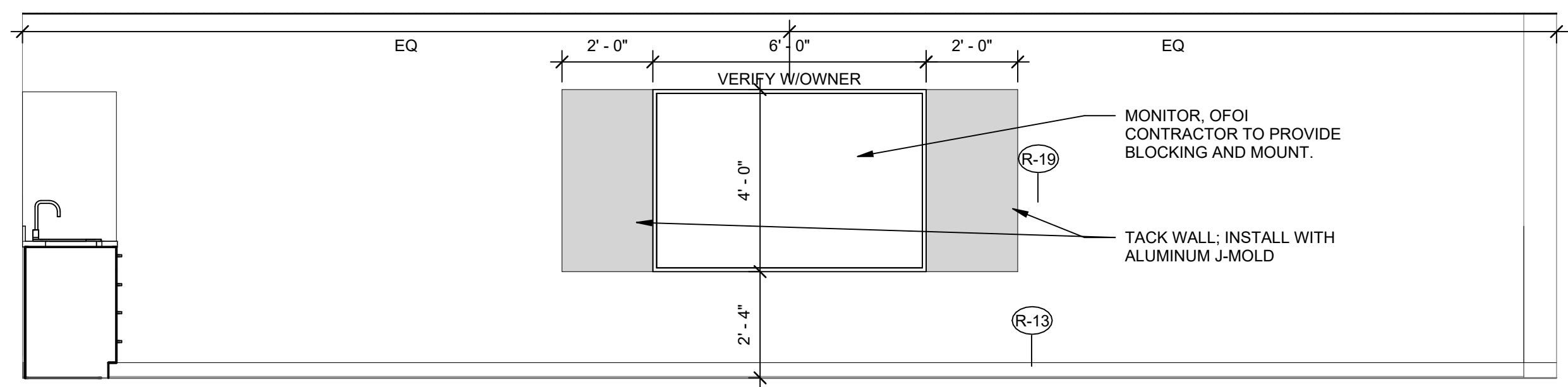
NOTES:
 1. FOR CASEWORK DETAILS, SEE DETAILS SHEETS A5-SERIES.
 2. SEE G0.04 FOR ACCESSORY AND FIXTURE MOUNTING HEIGHTS



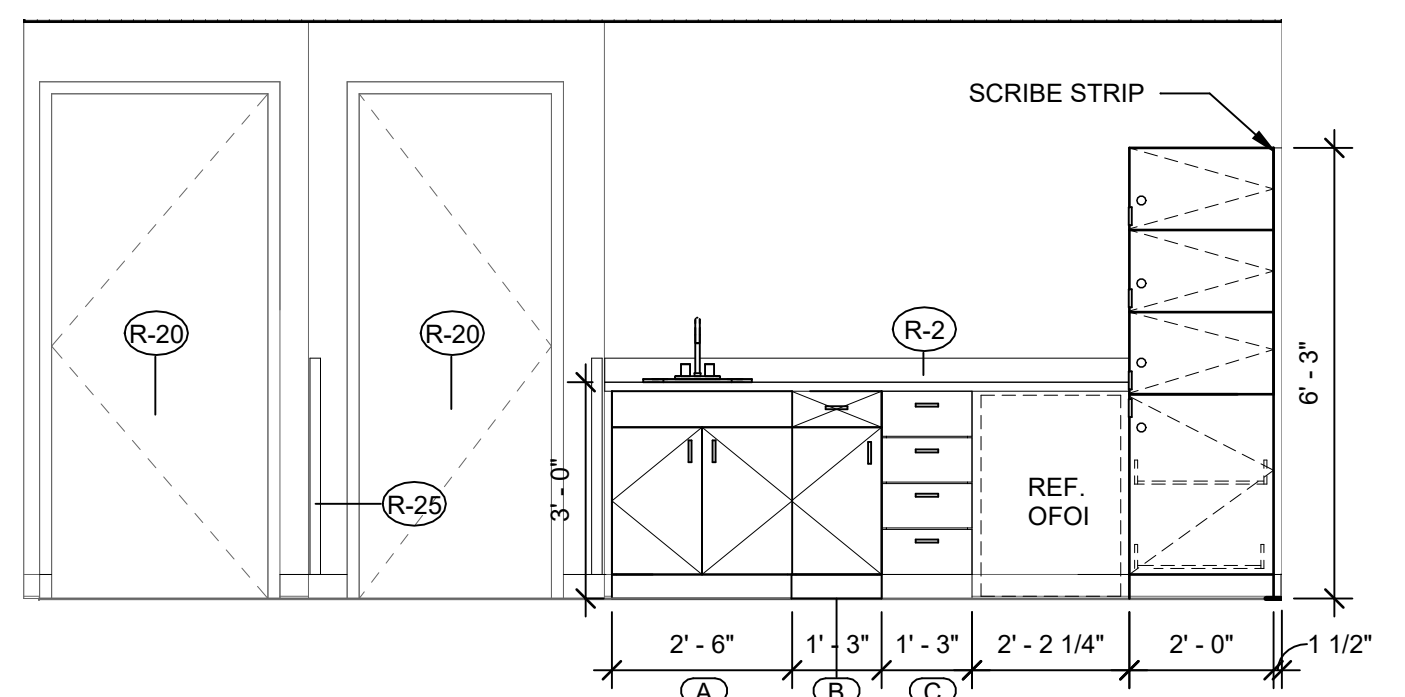
11 008 GREEN RM - B - RENO
 Scale: 3/8" = 1'-0"



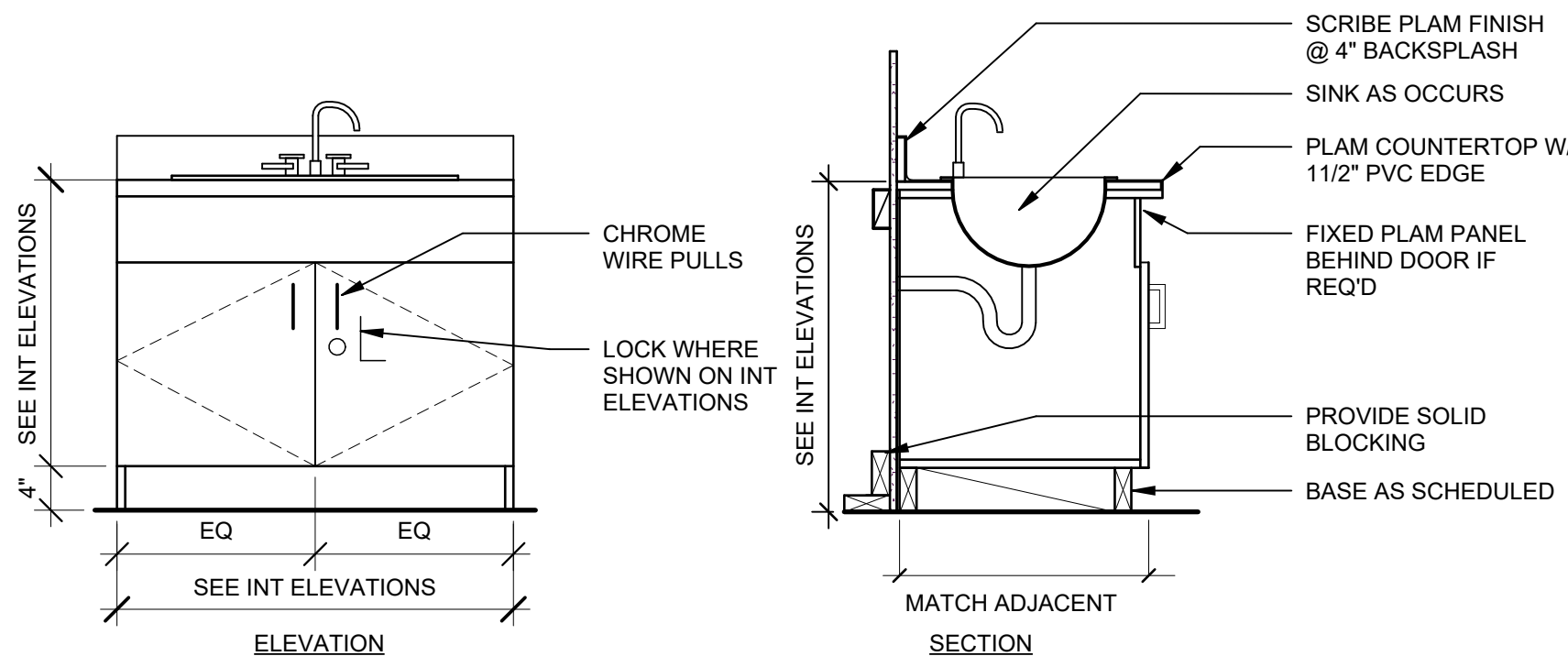
10 008 GREEN ROOM - A - RENO
 Scale: 3/8" = 1'-0"



13 008 GREEN ROOM - D - RENO
 Scale: 3/8" = 1'-0"



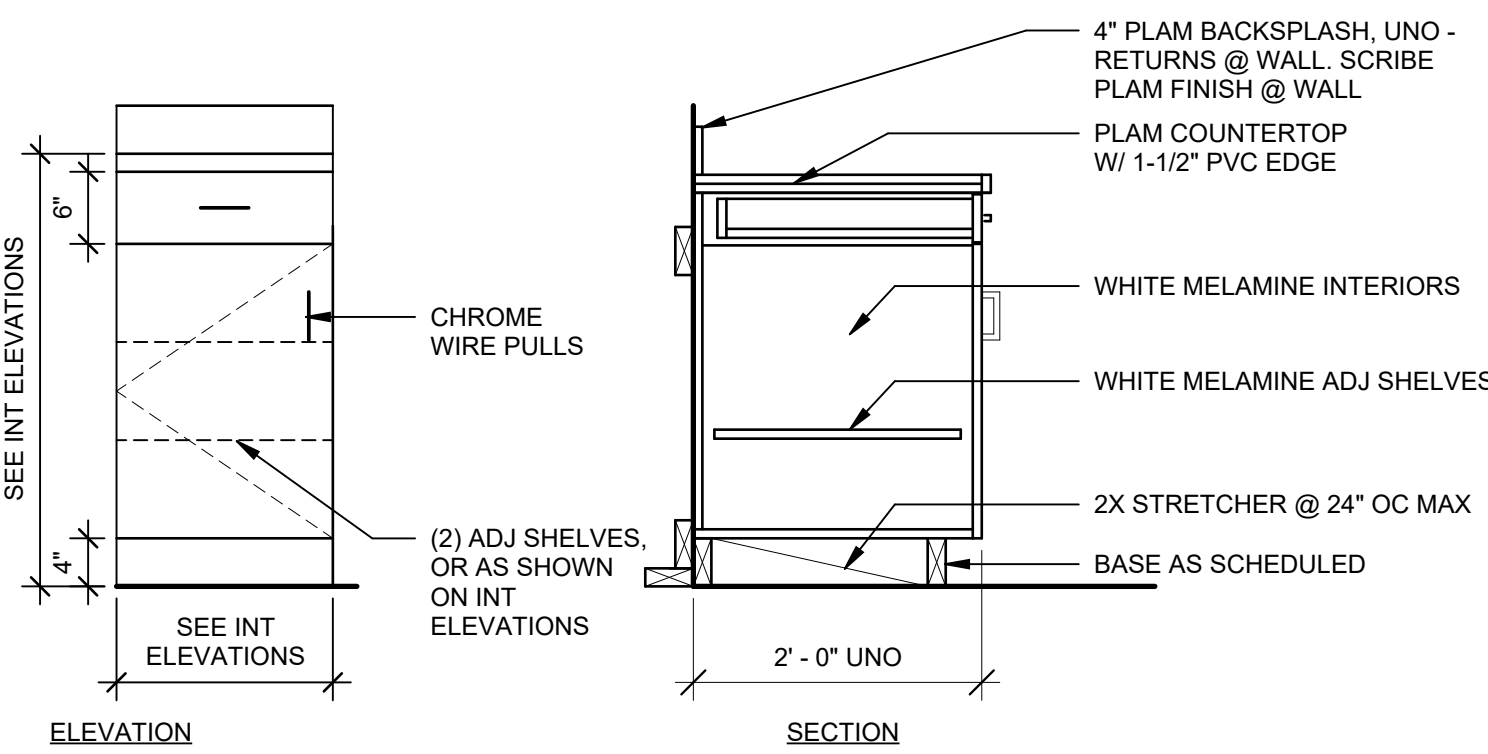
12 008 GREEN ROOM - C - RENO
 Scale: 3/8" = 1'-0"



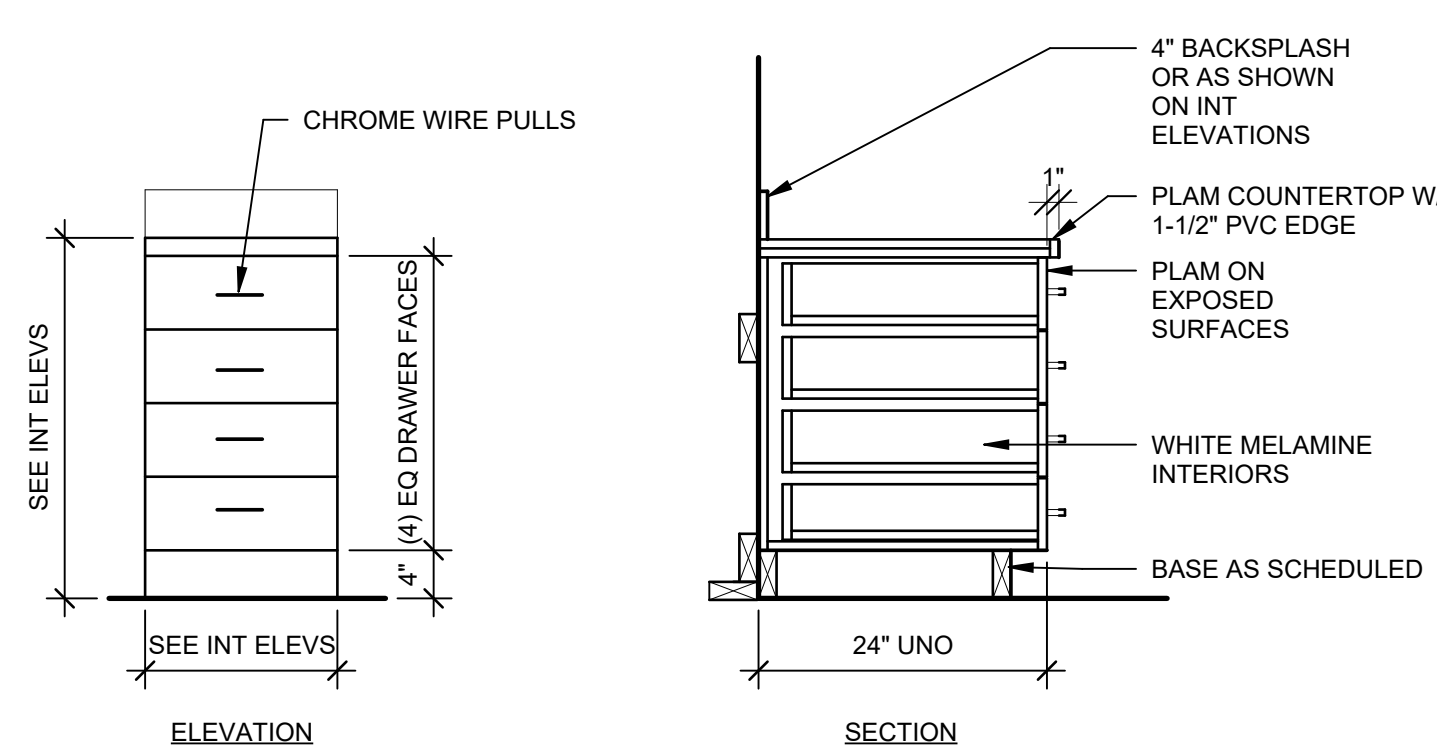
1 TYPE "A" - BASE CABINET WITH SINK
Scale: 3/4" = 1'-0"

FINISH MATERIAL SCHEDULE

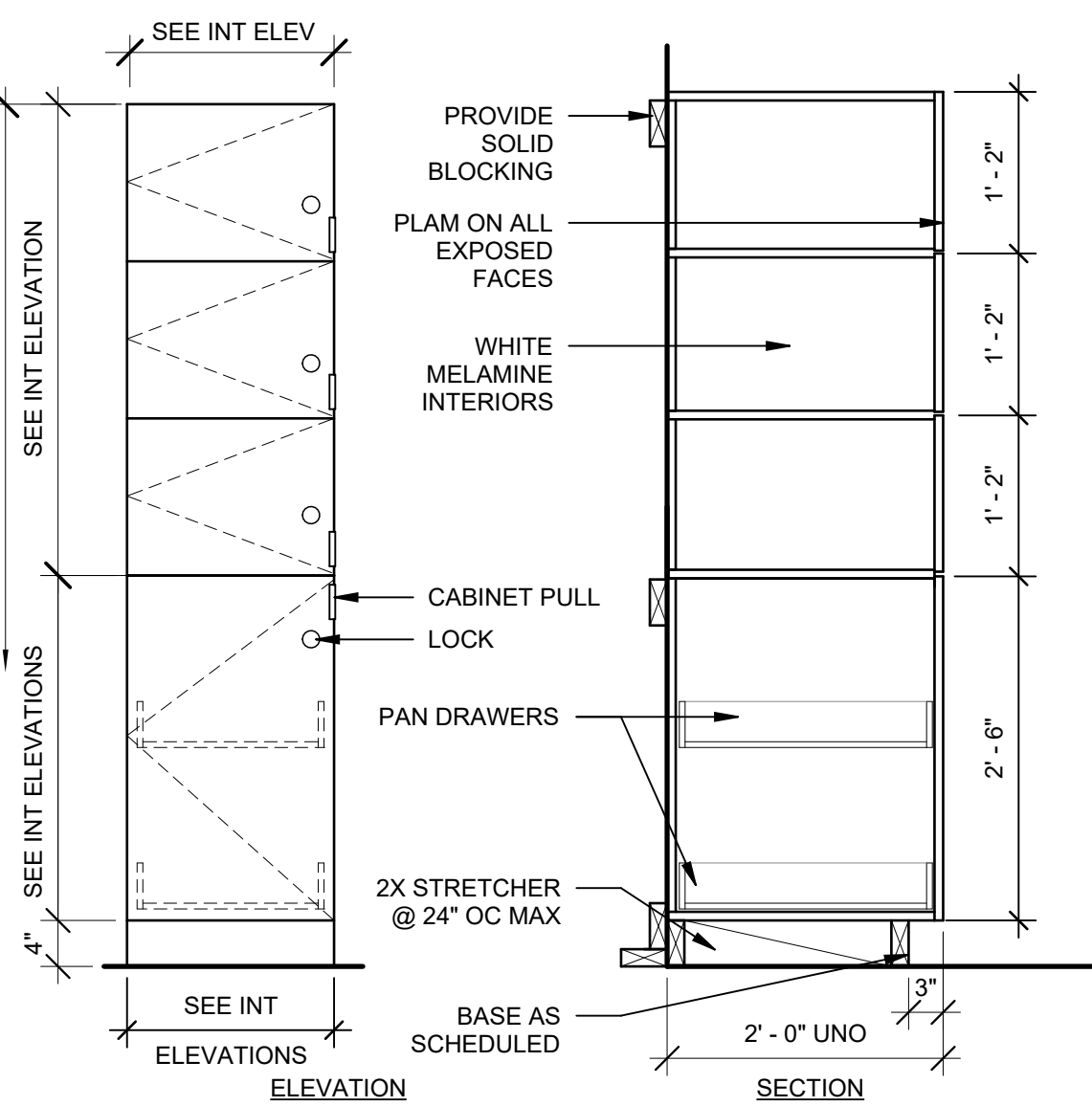
ACOUSTIC CEILING TILE	ACT-1	ARMSTRONG	12"x12" IMPRESSION, SURFACE MOUNT	ALT. 2
CARPET TILE	CPT-1	MOHAWK	AQUA RHYTHM 558 FRESH WATER	12"x36"
RUBBER FLOORING	RS-1	NORA	NORAPLAN UNITA 7101 HEAR-N-THERE	48"W X 2.0MM
	RS-2	NORA	NORAPLAN UNITA 7110 EAST-N-WEST	48"W X 2.0MM
PAIN	PT-1	SHERWIN WILLIAMS	SW8917 SHELL WHITE	
	PT-2	SHERWIN WILLIAMS	SWXXXX MATCH EXISTING DOOR/FRAMES	
	PT-3	SHERWIN WILLIAMS	SW6205 COMFORT GRAY	
PLASTIC LAMINATE	PL-1	FORMICA	5349-58 FOSSIL	
	PL-2	WILSONART	8211K-28 PHANTOM PEARL	
RUBBER BASE	RB-1	ROPPE	174 SMOKE	
SOLID SURFACE COUNTERTOPS	SS-1	CORIAN	CAMEO WHITE	
	SS-2	CORIAN	ARTISTA DUST	
WALL COVERING	RVS-1	INPRO	0154 CLAMSHELL	ALT. 1
	RVS-2	INPRO	0373 MORNING SAGE	
TOILET PARTITIONS	SCRANTON	LINEN		ALT. 1



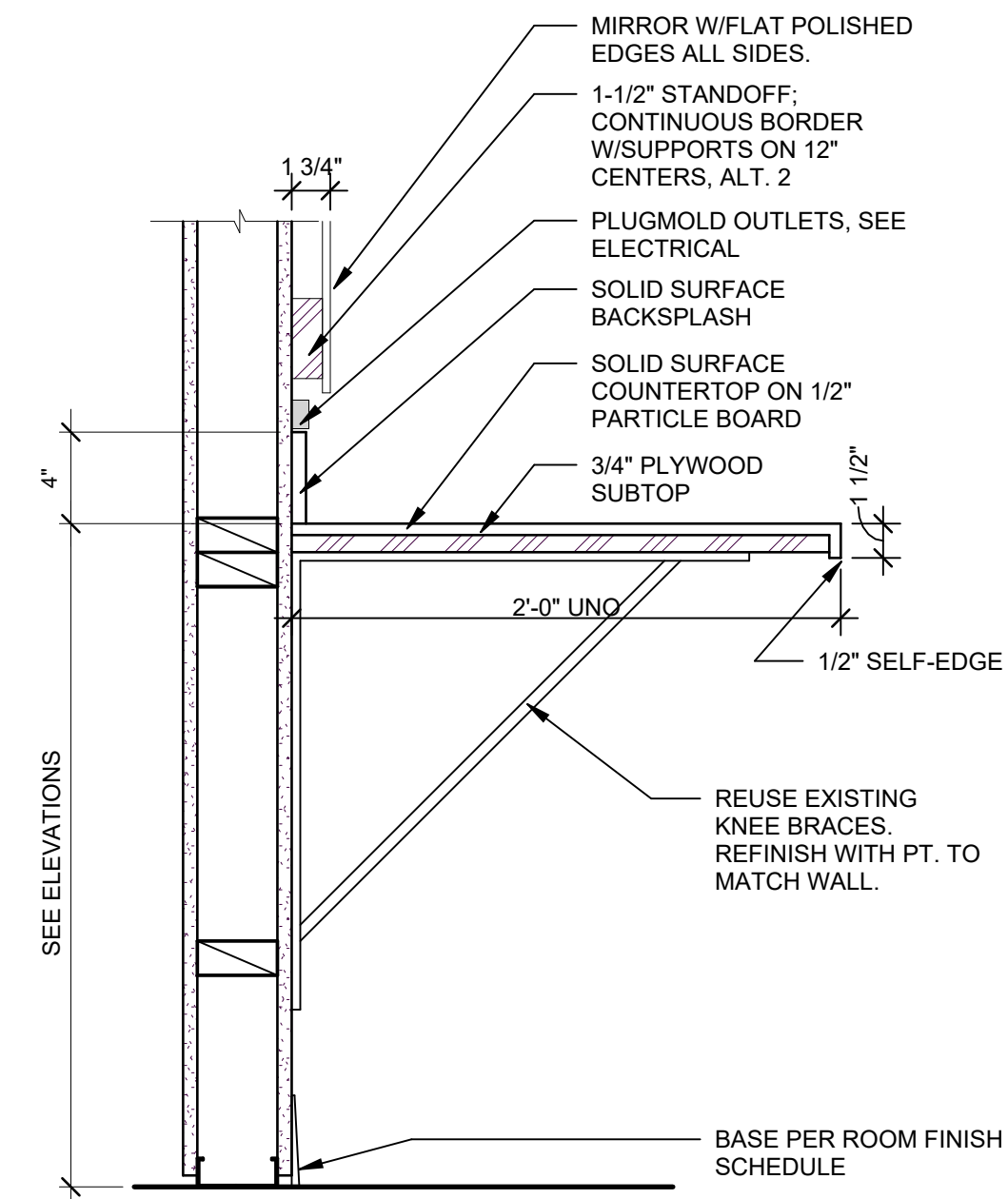
2 TYPE "B" - BASE CABINET W/ DRAWER
Scale: 3/4" = 1'-0"



3 TYPE "C" - TYP DRAWER
Scale: 3/4" = 1'-0"



5 TYPE "D" - FOOD LOCKERS
Scale: 3/4" = 1'-0"

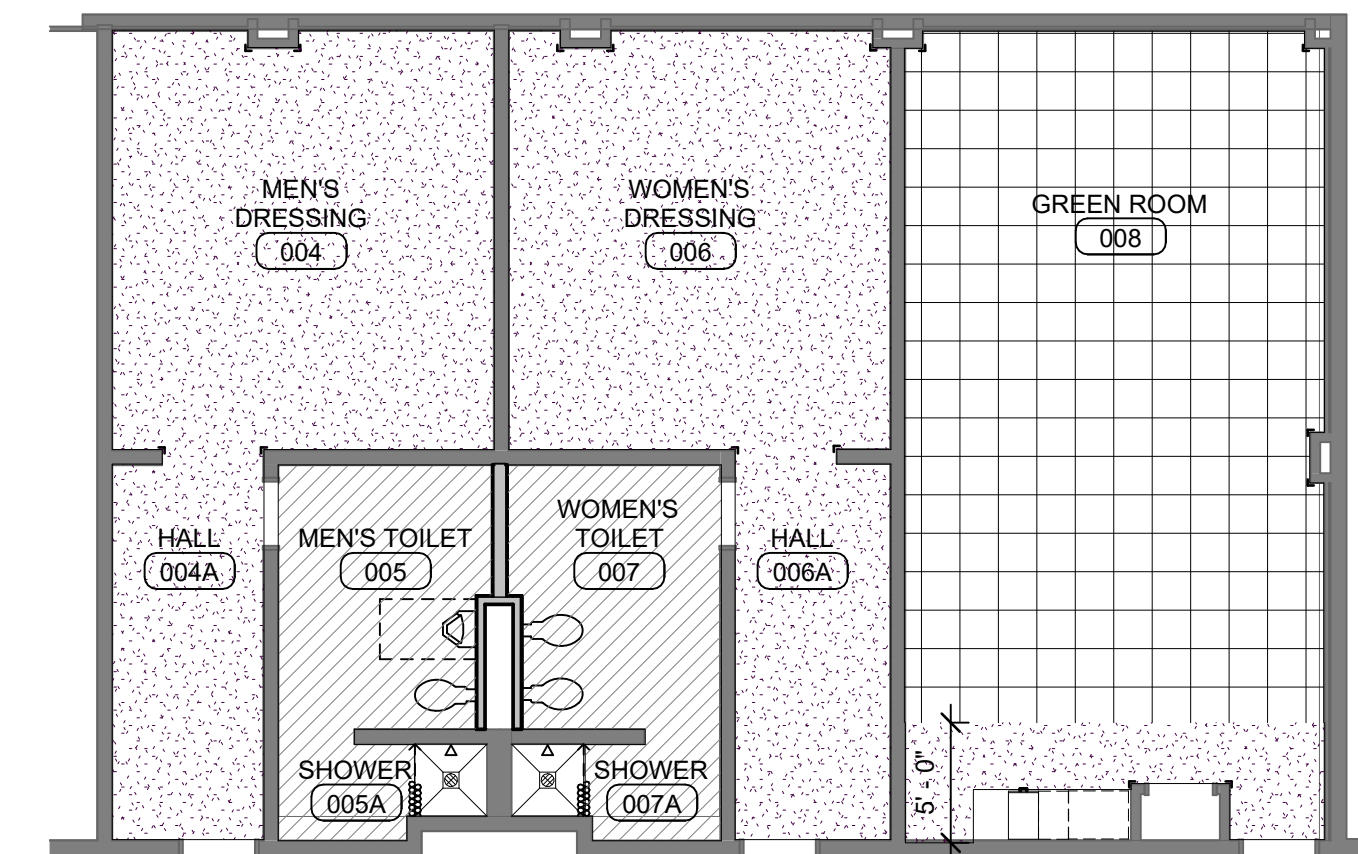
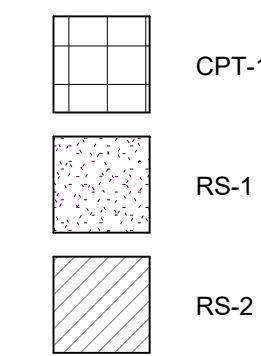


6 DRESSING ROOM COUNTER
Scale: 1 1/2" = 1'-0"

ROOM FINISH SCHEDULE

ROOM NUMBER	NAME	CEILING	FLOOR MAT	BASE CLR	NORTH WALL FIN	EAST WALL FIN	SOUTH WALL FIN	WEST WALL FIN	NOTES
002	CORRIDOR	NA	NA	NA	NA	NA	NA	NA	PAINT DOORS AND FRAMES
004	MEN'S DRESSING	PT-1; ACT-1 (ALT. 2)	RS-1	RB-1	PT-1	PT-1	PT-1	PT-1	MIRRORS; ACT-1 FOR ALT. 2; SS-2 COUNTER
004A	HALL	PT-1; ACT-1 (ALT. 2)	RS-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1 FOR ALT. 2
005	MEN'S TOILET	PT-1	RS-2	RS-2	RVS-1/PT-3	RVS-1/PT-3	RVS-1/PT-3	RVS-1/PT-3	RVS-1 FOR ALT. 1; SS-1 COUNTER
005A	SHOWER	PT-1	RS-2	RS-2	RVS-1/PT-3	RVS-1/PT-3	RVS-1/PT-3	RVS-1/PT-3	RVS - FOR ALT. 1
006	WOMEN'S DRESSING	PT-1; ACT-1 (ALT. 2)	RS-1	RB-1	PT-1	PT-1	PT-1	PT-1	MIRRORS; ACT-1 FOR ALT. 2; SS-1 COUNTER
006A	HALL	PT-1; ACT-1 (ALT. 2)	RS-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1 FOR ALT. 2
007	WOMEN'S TOILET	PT-1	RS-2	RS-2	RVS-1/PT-3	RVS-1/PT-3	RVS-1/PT-3	RVS-1/PT-3	RVS-1 FOR ALT. 1; SS-1 COUNTER
007A	SHOWER	PT-1	RS-2	RS-2	RVS-1/PT-3	RVS-1/PT-3	RVS-1/PT-3	RVS-1/PT-3	RVS-1 FOR ALT. 1
008	GREEN ROOM	PT-1; ACT-1 (ALT. 2)	CPT-1/RS-1	RB-1	RVS-2	PT-1	PT-1	PT-1	MIRRORS/TACK WALL/MONITOR; ACT-1 FOR ALT. 2; SS-1 COUNTER

FLOOR FINISH LEGEND



4 FLOOR FINISH PLAN
Scale: 1/8" = 1'-0"

PLASTIC LAMINATE AND CASEWORK FINISH NOTES

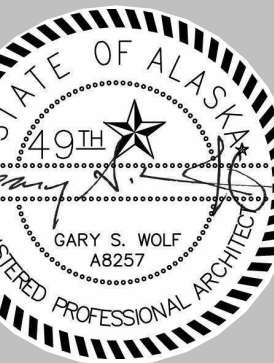
- ALL INTERIOR LOW PRESSURE LAMINATE TO BE WHITE.
- ALL PVC EDGE BANDING TO BE CLOSEST COLOR TO THE ADJACENT P-LAM.
- SEE DETAILS FOR LOCATIONS OF SPECIALTY CASEWORK.
- STEEL SUPPORT BRACKETS BELOW COUNTERTOP SHALL BE PAINTED TO MATCH ADJACENT BASE CABINETS. IF NO BASE CABINETS OCCUR, SUPPORT BRACKETS SHALL BE PAINTED TO MATCH WALL COLOR.

INTERIOR FINISH GENERAL NOTES

- ALL FLOORING/COLOR TRANSITIONS WHERE REQUIRED SHALL BE CENTERED UNDER DOOR.
- PAINT ALL INTERIOR MECHANICAL LOUVERS, WHERE EXPOSED TO MATCH ADJACENT SURFACE, UNLESS NOTED OTHERWISE.
- PAINT ALL DOOR & FRAMES PAINT TO MATCH EXISTING COLOR AND SHEEN.
- FOR ALL PRODUCTS, FOLLOW MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.
- FOR FLOORING PRODUCTS, PREPARE THE SUBFLOOR AS INDICATED IN MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS. AT A MINIMUM, THIS SHOULD INCLUDE A CLEAN, LEVEL SURFACE AT INTERIOR TEMPERATURES 3 DAYS PRIOR TO INSTALLATION (OR AS REQUIRED BY MANUFACTURER). IF SUBFLOOR MOISTURE CONTENT OR RELATIVE HUMIDITY LEVELS ARE REQUIRED FOR THE FLOORING INSTALL, VERIFY THOSE LEVELS PRIOR TO INSTALLATION.

PROJECT: 2316
DRAWN: CWE
CHECKED: GW
DATE: 2-1-2025
FULL SIZE DRAWING: 27" x 34"

VALDEZ CIVIC CTR GREEN ROOM RENOVATION
CONSTRUCTION DRAWINGS
CITY OF VALDEZ
314 CLIFTON CT, VALDEZ, ALASKA 99666



625 S COBB ST
PALMER, AK
T: 907.746.6670
F: 907.746.6680
wolfarchitecture.com



SHEET CONTENTS
ROOM FINISH PLAN/SCHEDULE

A6.0

PIPING LEGEND

	WASTE
	VENT PIPING
	COLD WATER
	HOT WATER
	HOT WATER RECIRCULATED
	SEE ABBREVIATIONS FOR MEDIA
	PIPE UP
	PIPE DOWN
	TEE UP
	TEE DOWN
	CAP
	UNION
	DIRECTION OF FLOW
	BALL VALVE
	GATE VALVE
	GAS SHUT-OFF VALVE
	2-WAY CONTROL VALVE
	3-WAY CONTROL VALVE
	CHECK VALVE
	BALANCE VALVE
	REDUCED PRESSURE BACKFLOW PREVENTER
	PRESSURE REDUCING VALVE
	FLEXIBLE PIPING CONNECTOR
	PRESSURE/TEMPERATURE RELIEF VALVE
	HOSE BIBB
	PUMP
	CLEANOUT
	METER
	FILTER
	WATER HAMMER ARRESTOR
	THERMOMETER
	PRESSURE GAUGE W/ ISOLATION COCK
	STRAINER W/ BLOWDOWN
	PIPE GUIDE
	PIPE ANCHOR
	FLOOR CLEANOUT
	FLOOR DRAIN
	FLOOR SINK
	DETAILED PIPE UP & DOWN

DUCTWORK LEGEND

	THERMOSTAT
	SENSOR
	CARBON DIOXIDE SENSOR
	THERMOSTAT OR SENSOR WITH GUARD
	DIFFERENTIAL PRESSURE SENSOR
	DUCT STATIC PRESSURE SENSOR
	SNOW/ICE DETECTOR
	SUPPLY AIR UP & DOWN
	RETURN AIR UP & DOWN
	EXHAUST AIR UP & DOWN
	VOLUME DAMPER
	MOTORIZED CONTROL DAMPER
	SOUND LINED DUCTWORK
	DUCT SIZE - EXTERIOR INSULATED (1ST FIGURE-SIDE SHOWN) (2ND FIGURE-SIDE NOT SHOWN)
	EXTERNALLY INSULATED DUCTWORK
	TURNING VANES
	FLEXIBLE DUCT
	FIRE DAMPER
	SMOKE DAMPER
	VAV BOX
	COIL IF REQUIRED

LOGIC

	POINT OF CONNECTION
	DETAIL NUMBER
	SHEET LOCATED ON
	DIRECTION OF VIEW
	SECTION NUMBER
	SHEET LOCATED ON
	RADIATION DESIGNATOR
	LENGTH
	GPM
	SHEET NOTES
	CONNECTION
	NECK SIZE
	CFM
	DIFFUSER OR GRILLE TYPE

ABBREVIATIONS

AAV	AUTOMATIC AIR VENT	DIA	DIAMETER	HGS	HEATING GLYCOL SUPPLY	PH	PHASE
ABV	ABOVE	DIM	DIMENSION	HOA	HAND-OFF-AUTO	PSI	POUNDS PER SQUARE INCH
AC-X	AIR CONDITIONING UNIT DESIGNATOR	DN	DOWN	HP	HORSEPOWER	PSIG	POUNDS PER SQUARE INCH GAUGE
ADA	AMERICANS WITH DISABILITIES ACT GUIDELINES	DWG	DRAWING	HW	HOT WATER	R/A	RETURN AIR
AD	ACCESS DOOR	(E)	EXISTING EQUIPMENT DESIGNATOR	HWC	HOT WATER CIRCULATED	RD-X	ROOF DRAIN DESIGNATOR
AF	AIR FOIL	E/A	EXHAUST AIR	HWG-X	HOT WATER GENERATOR DESIGNATOR	RL	RAINLEADER
AFB	ABOVE FINISHED FLOOR	EAT	ENTERING AIR TEMPERATURE	IBC	INTERNATIONAL BUILDING CODE	RPM	REVOLUTIONS PER MINUTE
AFG	ABOVE FINISHED GRADE	EFF	EFFICIENCY	IN	INCHES	SA-X	SOUND ATTENUATOR DESIGNATOR
AFMS	AIR FLOW MONITORING STATION	EF-X	EXHAUST FAN DESIGNATOR	INS.	INSULATION	SA	SUPPLY AIR
AHAP	AS HIGH AS POSSIBLE	EGT	ENTERING GLYCOL TEMPERATURE	LAT	LEAVING AIR TEMPERATURE	SCFM	STANDARD CUBIC FEET PER MINUTE
AHU-X	AIR HANDLING UNIT DESIGNATOR	ENT	ENTERING	LAV	LAVATORY	SP	STATIC PRESSURE
AL	ALUMINUM	ESP	EXTERNAL STATIC PRESSURE	LF	LINEAL FEET	SQ	SQUARE
AMPS	AMPERES	ET-X	EXPANSION TANK DESIGNATOR	LGT	LEAVING GLYCOL TEMPERATURE	T/A	TRANSFER AIR
APD	AIR PRESSURE DROP	EXIST	EXISTING	LWT	LEAVING WATER TEMPERATURE	TEMP	TEMPERATURE
ARCH	ARCHITECTURAL	EXH	EXHAUST	MAX	MAXIMUM	TOD	TOP OF DUCT
AS-X	AIR SEPARATOR DESIGNATOR	F	FAHRENHEIT	MBH	THOUSAND BTUH	TSP	TOTAL STATIC PRESSURE
B-X	BOILER DESIGNATOR	FC	FORWARD CURVE	MCA	MINIMUM CIRCUIT AMPACITY	T'STAT	THERMOSTAT
BDD	BACKDRAFT DAMPER	FCO	FLOOR CLEAN OUT	MFGR	MANUFACTURER	TTL	TOTAL
BLDG	BUILDING	FD-X	FLOOR DRAIN DESIGNATOR	M/A	MAKEUP AIR	TYP/TYP.	TYPICAL
BOD	BOTTOM OF DUCT	FIN	FINISHED	MIN/MIN.	MINIMUM	UH-X	UNIT HEATER DESIGNATOR
BTUH	BRITISH THERMAL UNIT/HOUR	FLA	FULL LOAD AMPS	MOD	MOTOR OPERATED DAMPER	UPC	UNIFORM PLUMBING CODE
CAP	CAPACITY	FLR	FLOOR	MTD	MOUNTED	V	VENT
CFM	CUBIC FEET PER MINUTE	FPM	FEET PER MINUTE	NAT.	NATURAL	VAC	VOLT-AC
CH-X	CHILLER DESIGNATOR	FS-X	FLOOR SINK DESIGNATOR	NC	NOISE CRITERIA	VEL	VELOCITY
CIRC	CIRCULATING	FT	FEET	N.C.	NORMALLY CLOSED	VDC	VOLT-DC
CLG	CEILING	G	NATURAL GAS	NO.	NUMBER	VTR	VENT THRU ROOF
CLG	CEILING	GA	GAUGE	N.O.	NORMALLY OPEN	W	WASTE
CONT	CONTINUED	GAL	GALLONS	NTS	NOT TO SCALE	W/	WITH
C.O./CO	CLEANOUT	GALV	GALVANIZED	O/A	OUTSIDE AIR	W/O	WITHOUT
CONN	CONNECTION	GPH	GALLONS PER HOUR	O.D.	OUTSIDE DIAMETER	W.C.	WATER COLUMN
CP-X	CIRCULATION PUMP DESIGNATOR	GPM	GALLONS PER MINUTE	OC	ON CENTER	WCO	WALL CLEAN OUT
CU-X	CONDENSING UNIT DESIGNATOR	GT-X	GLYCOL TANK DESIGNATOR	OD	OUTSIDE DAMPER	WG	WATER GAUGE
CUH-X	CABINET UNIT HEATER DESIGNATOR	GTD	GLYCOL TEMPERATURE DROP	OD-X	OVERFLOW DRAIN DESIGNATOR	WHA	WATER HAMMER ARRESTOR
CU	COPPER	HB-X	HOSE BIBB DESIGNATOR	OL	OVERFLOW RAINLEADER	WPD	WATER PRESSURE DROP
CW	COLD WATER	HC-X	HEATING COIL DESIGNATOR	P-X	PLUMBING FIXTURE DESIGNATOR	YCO	YARD CLEAN OUT
dB	DECIBELS	HD	HEAD	PD	PRESSURE DROP		
DEG	DEGREE	HGR	HEATING GLYCOL RETURN	PG/P.G.	PROPYLENE GLYCOL		

PLUMBING FIXTURE SCHEDULE - BASE BID

SYMBOL	FIXTURE	CW	HW	WASTE	VENT	TRAP	MANUFACTURER	MODEL	POWER REQ.	FINISH	REMARKS
LV-1	LAVATORY - COUNTER UNDERMOUNTED	1/2"	1/2"	1-1/2"	1-1/4"	1-1/4"	KOHLER BASE	K-2609 BACHATA	BATTERY	STAINLESS	WITH SLOAN EBF-85 SENSOR ACTIVATED BATTERY FAUCET, METAL GRID STRAINER, ASSE 1070 TEMPERING VALVE
SH-1	SHOWER	1/2"	1/2"	2"	1-1/2"	2"	AQUARIUS BASE	G 3697 SH CENTER	NONE	WHITE	BASE BID: PROVIDE DELTA T13H132 UNIVERSAL SHOWER TRIM, R10000-UNWS VALVE BODY, ADJUSTABLE MAXIMUM TEMPERATURE, PRESSURE BALANCED, MANUALLY SET HANDLE STOP TO DELIVER MAXIMUM 110F WATER. ADD-ALT: REPLACE SHOWER SURROUND AS INDICATED IN SCHEDULE WITH CENTER DRAIN, TWO SOAP TRAYS, CHROME CURTAIN ROD AND VINYL SHOWER CURTAIN
SK-1	BAR SINK	1/2"	1/2"	1-1/2"	1-1/4"	1-1/2"	ELKAY BASE	ECTRU12179T	NONE	STAINLESS	WITH LK5000CR PULL-OUT FAUCET, GRID STRAINER

PLUMBING FIXTURE SCHEDULE - ADD-ALT #1

SYMBOL	FIXTURE	CW	HW	WASTE	VENT	TRAP	MANUFACTURER	MODEL	POWER REQ.	FINISH	REMARKS
UR-1	URINAL - WALL MOUNTED	3/4"	-	2"	1-1/2"	-	KOHLER	K-4989-T FRESHMAN	BATTERY	WHITE	WITH EXPOSED SLOAN 186-SMO 1.0 GPF BATTERY POWERED SENSOR, WALL CARRIER
WC-1	WATER CLOSET - WALL MOUNTED	1"	-	3"	2"	-	KOHLER	K-4325 KINGSTON	BATTERY	WHITE	WITH EXPOSED SLOAN 111-SMO 1.6 GPF BATTERY POWERED SENSOR, WALL CARRIER SET AT COMFORT HEIGHT, ELONGATED SPLIT RIM SEAT

AIR INLET/OUTLET SCHEDULE

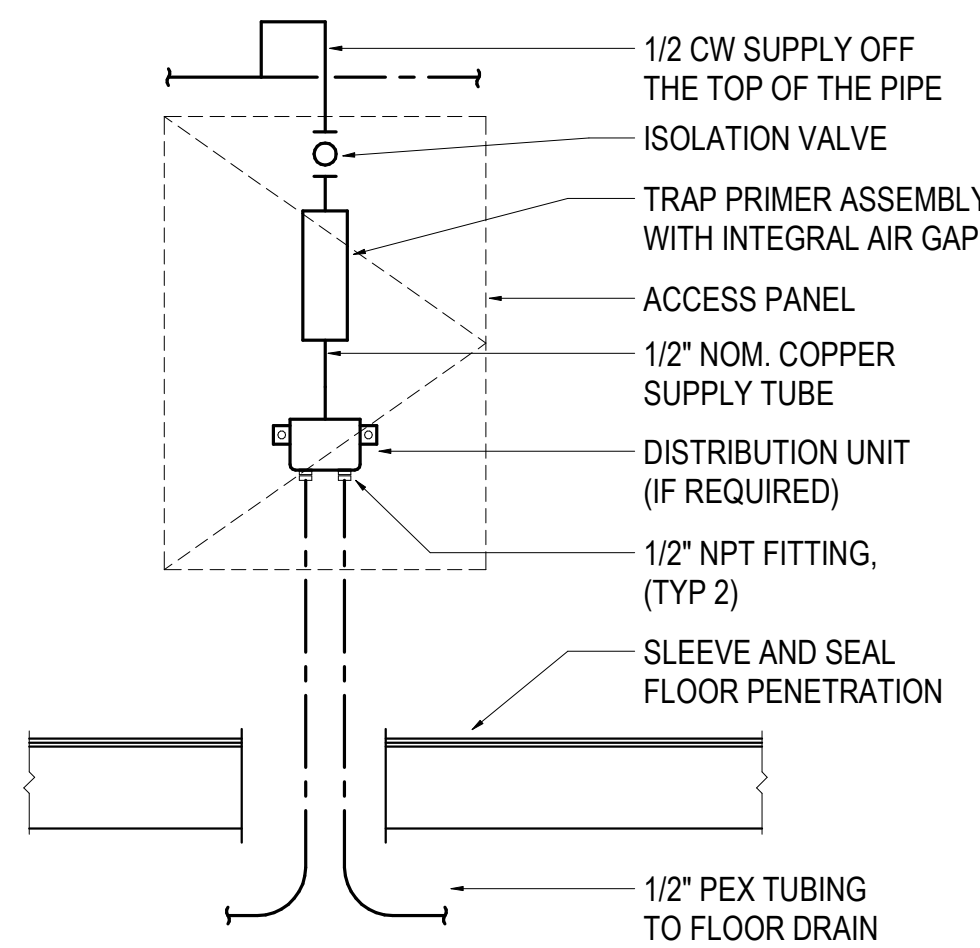
SYMBOL	MFGR	MODEL	TYPE	USE	MATERIAL	FINISH	CFM	FACE SIZE (IN)	NC	THROW	REMARKS
A	TITUS	300FL	WALL/DUCT	SUPPLY	ALUMINUM	PER ARCH	PER PLANS	PER PLANS	<25	2-WAY	WITH INTEGRAL OBD, MOUNTING PER PLANS
B	TITUS	45F	CEILING	RETURN	ALUMINUM	PER ARCH	PER PLANS	PER PLANS	<25	-	MOUNTING FOR HARD LID CEILING AS REQUIRED
C	TITUS	45F	CEILING	EXHAUST	ALUMINUM	PER ARCH	PER PLANS	PER PLANS	<25	-	MOUNTING FOR HARD LID CEILING AS REQUIRED

PROJECT NOTES

- SAW CUT SLAB AS REQUIRED TO ACCESS UNDERSLAB PIPING. COORDINATE WITH ARCHITECTURAL AND STRUCTURAL AS REQUIRED.
- IN-FILL HOLES/OPENINGS REMAINING IN EXISTING WALL ASSEMBLIES FOLLOWING DEMOLITION OF EXISTING PIPING AND DUCTWORK. PATCH AND FINISH SLAB AS REQUIRED, COORDINATE WITH ARCHITECTURAL FINISHES.
- VENTILATION SYSTEM TO BE PROTECTED DURING DEMOLITION AND RENOVATION PER SMACNA.
- BRANCH PIPING TO INDIVIDUAL PLUMBING FIXTURES SHALL EQUAL THE SIZE REQUIRED BY THE PLUMBING FIXTURES SCHEDULE UNLESS OTHERWISE INDICATED.
- PROVIDE CLEANOUTS ON ALL INDIVIDUAL SINK, URINAL, AND LAVATORY RISERS.
- PROVIDE WATER HAMMER ARRESTOR SHOCK-TROL DEVICES AT EACH FIXTURE'S SEPARATE WATER CONNECTION, SIZE AND LOCATION AS REQUIRED BY THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- PROVIDE WATER HAMMER ARRESTOR SHOCK-TROL DEVICES AT EACH FIXTURE'S SEPARATE WATER CONNECTION, SIZE AND LOCATION AS REQUIRED BY THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- PROVIDE ACCESS DOORS OF APPROPRIATE SIZE AS REQUIRED TO ALL EQUIPMENT AND VALVES LOCATED ABOVE HARD LID CEILINGS OR WITHIN WALLS REQUIRING PERMANENT ACCESS.
- MINIMUM REMODELED WASTE PIPE SIZE UNDER SLAB SHALL BE 2". PLUMBING FIXTURES WITH A 1-1/2" OR SMALLER WASTE CONNECTION SIZE WHICH DO NOT CONNECT INTO A 2" OR LARGER WASTE PIPE ABOVE SLAB SHALL TRANSITION TO A 2" WASTE PIPE ABOVE SLAB. IF A RISER CLEANOUT IS REQUIRED, CLEANOUT SHALL BE MINIMUM OF 2" IN SIZE.
- BRANCH DUCTWORK TO INDIVIDUAL DIFFUSERS SHALL EQUAL THE DIFFUSER NECK SIZE UNLESS OTHERWISE INDICATED.
- CLEAN ALL DIFFUSERS AND GRILLES AFTER REMODEL WORK IS COMPLETED.

1 TRAP PRIMER DETAIL

NOT TO SCALE



PROJ. NO. M3119
DRAWN: EMM
CHECKED: EMM
DATE: 2/2/2025
FULL SIZE DRAWINGS: 22" x 34"

CIVIC CENTER GREEN ROOM RENOVATION
CONSTRUCTION DRAWINGS
CITY OF VALDEZ
314 CLIFTON CT. VALDEZ, ALASKA 99686

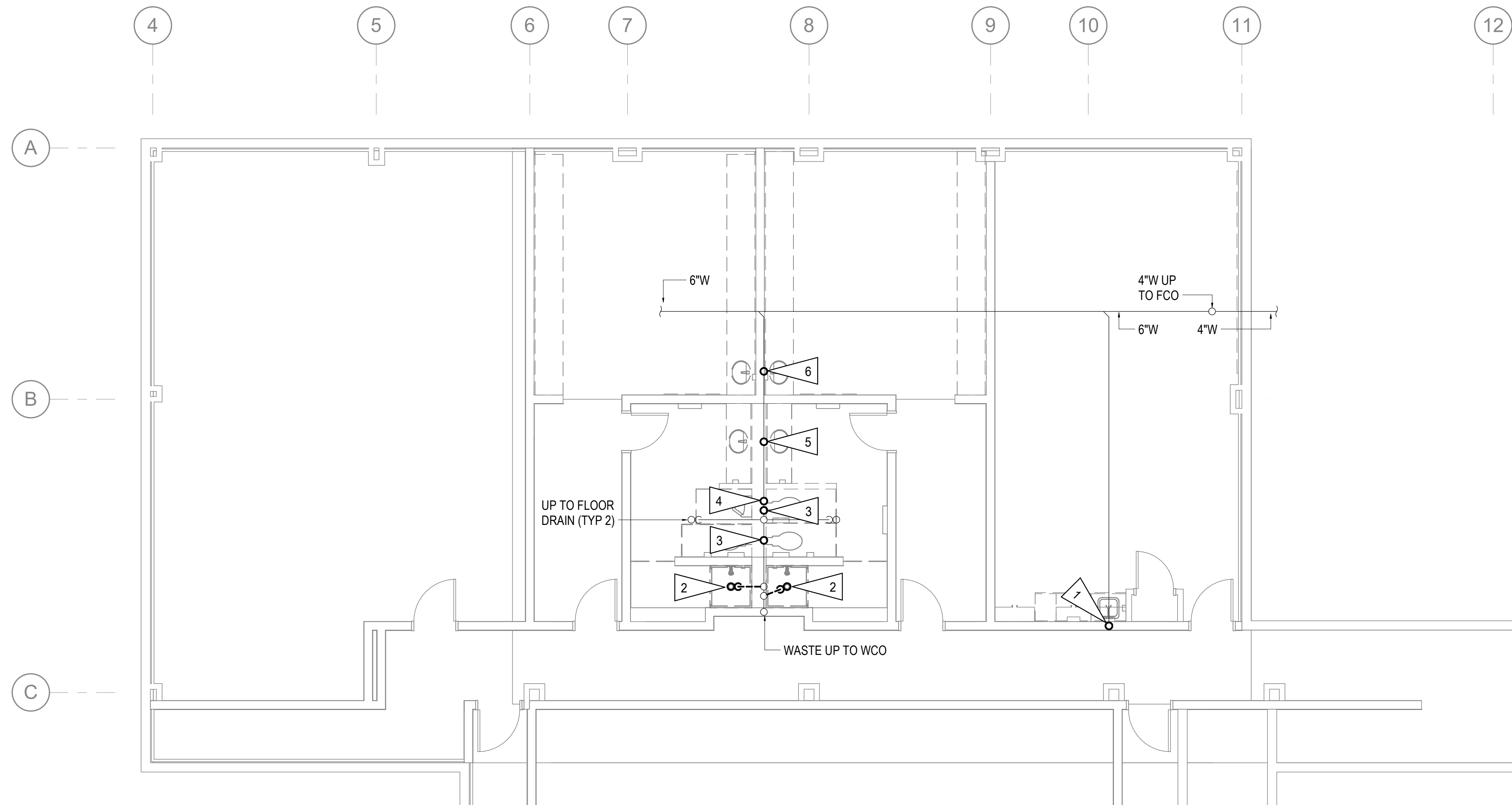


625 S COBB ST
PALMER, AK
T: 907.746.6670
F: 907.746.6680
wolfoarchitecture.com

Wolf
ARCHITECTURE

SHEET CONTENTS
LEGEND, ABBREVIATIONS, SCHEDULES, DETAIL, AND PROJECT NOTES

M0.1



1 UNDERFLOOR PLUMBING DEMOLITION PLAN
 3/16" = 1'-0"

SHEET NOTES:

1. DEMOLISH WASTE SERVING SINK ABOVE TO EXTENT REQUIRED TO RECONNECT.
2. BASE BID: NO SCOPE. ADD-ALT #1: DEMOLISH DRAIN AND TRAP SERVING SHOWER ABOVE. DEMOLISH VENT AND WASTE PIPING AS REQUIRED TO RECONNECT.
3. BASE BID: NO SCOPE. ADD-ALT #1: DEMOLISH WASTE AND VENT BRANCH PIPING SERVING WATER CLOSET ABOVE.
4. BASE BID: NO SCOPE. ADD-ALT #1: DEMOLISH WASTE BRANCH PIPING SERVING URINAL ABOVE.
5. DEMOLISH WASTE BRANCH PIPING SERVING BACK-TO-BACK LAVATORIES ABOVE.
6. DEMOLISH WASTE BRANCH PIPING SERVING BACK-TO-BACK HAND WASH SINKS ABOVE.

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CHECKED	EMM
DATE	2/2/2025
FULL SIZE DRAWINGS: 22" x 34"	

CIVIC CENTER GREEN ROOM RENOVATION
 CONSTRUCTION DRAWINGS
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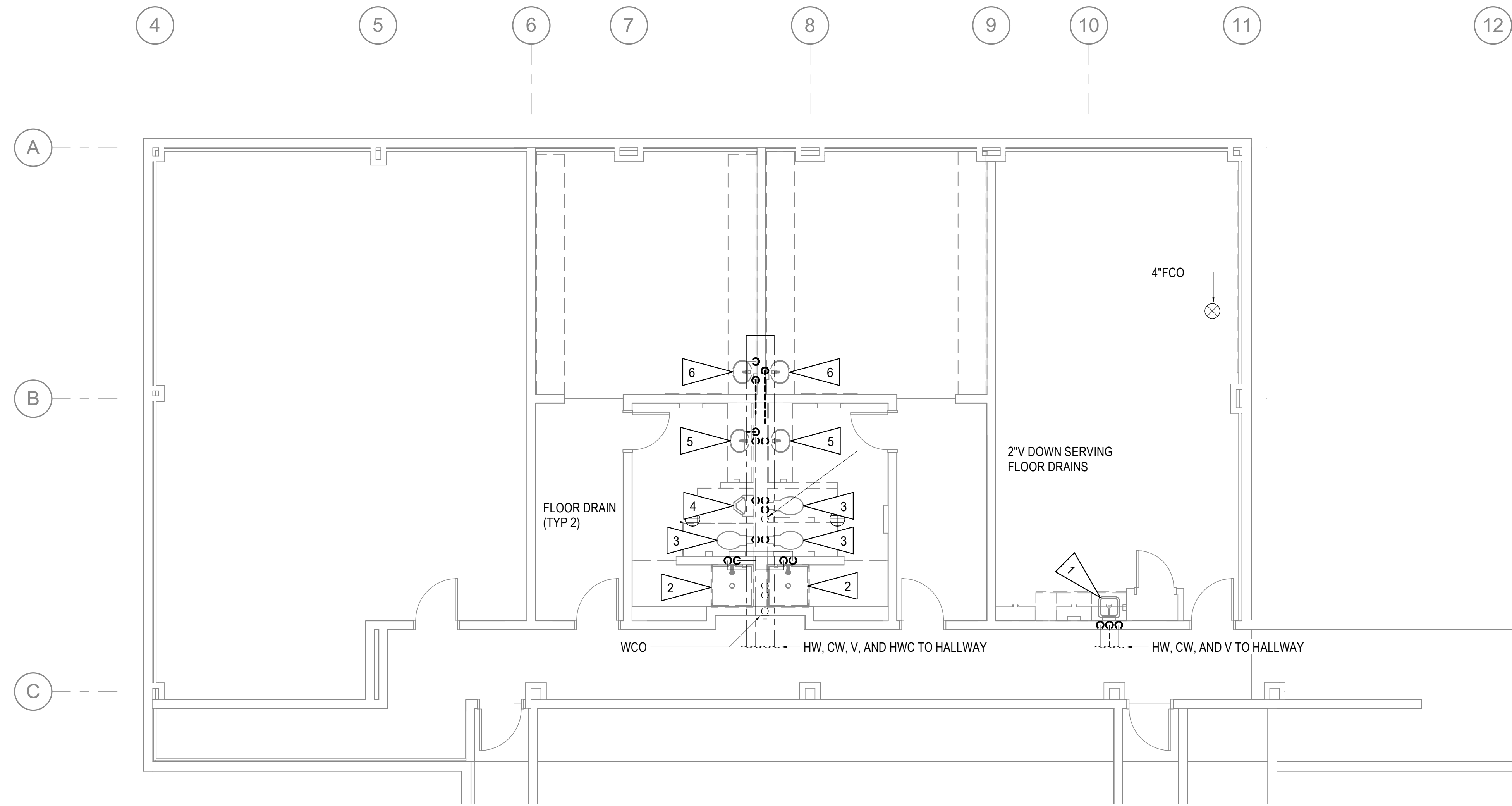


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 PALMER, AK 99670
 T: 907.746.6670
 F: 907.746.6680
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SHEET CONTENTS
UNDERSLAB PLUMBING DEMOLITION PLAN

M1.1



1 BASEMENT PLUMBING DEMOLITION PLAN
3/16" = 1'-0"

SHEET NOTES:

1. DEMOLISH SINK, TRIM, TRAP, AND HW/CW/W BRANCH PIPING AS REQUIRED TO RECONNECT.
2. BASE BID: DEMOLISH SHOWER TRIM AND HW/CW BRANCH PIPING AS REQUIRED TO RECONNECT. ADD-ALT #1: DEMOLISH SHOWER ENCLOSURE, SHOWER ROD/CURTAIN, AND V/W BRANCH PIPING AS REQUIRED TO RECONNECT.
3. BASE BID: NO SCOPE. ADD-ALT #1: DEMOLISH WATER CLOSET, CARRIER, AND CW/W/W BRANCH PIPING BACK TO MAIN.
4. BASE BID: NO SCOPE. ADD-ALT #1: DEMOLISH URINAL, CARRIER, AND CW/W/W BRANCH PIPING BACK TO MAIN.
5. DEMOLISH COUNTER MOUNTED LAVATORY, TRIM, TRAP, AND HW/CW/W/W BRANCH PIPING BACK TO MAIN.
6. DEMOLISH COUNTER MOUNTED SINK, TRIM, TRAP, AND HW/CW/W/W BRANCH PIPING BACK TO MAIN.

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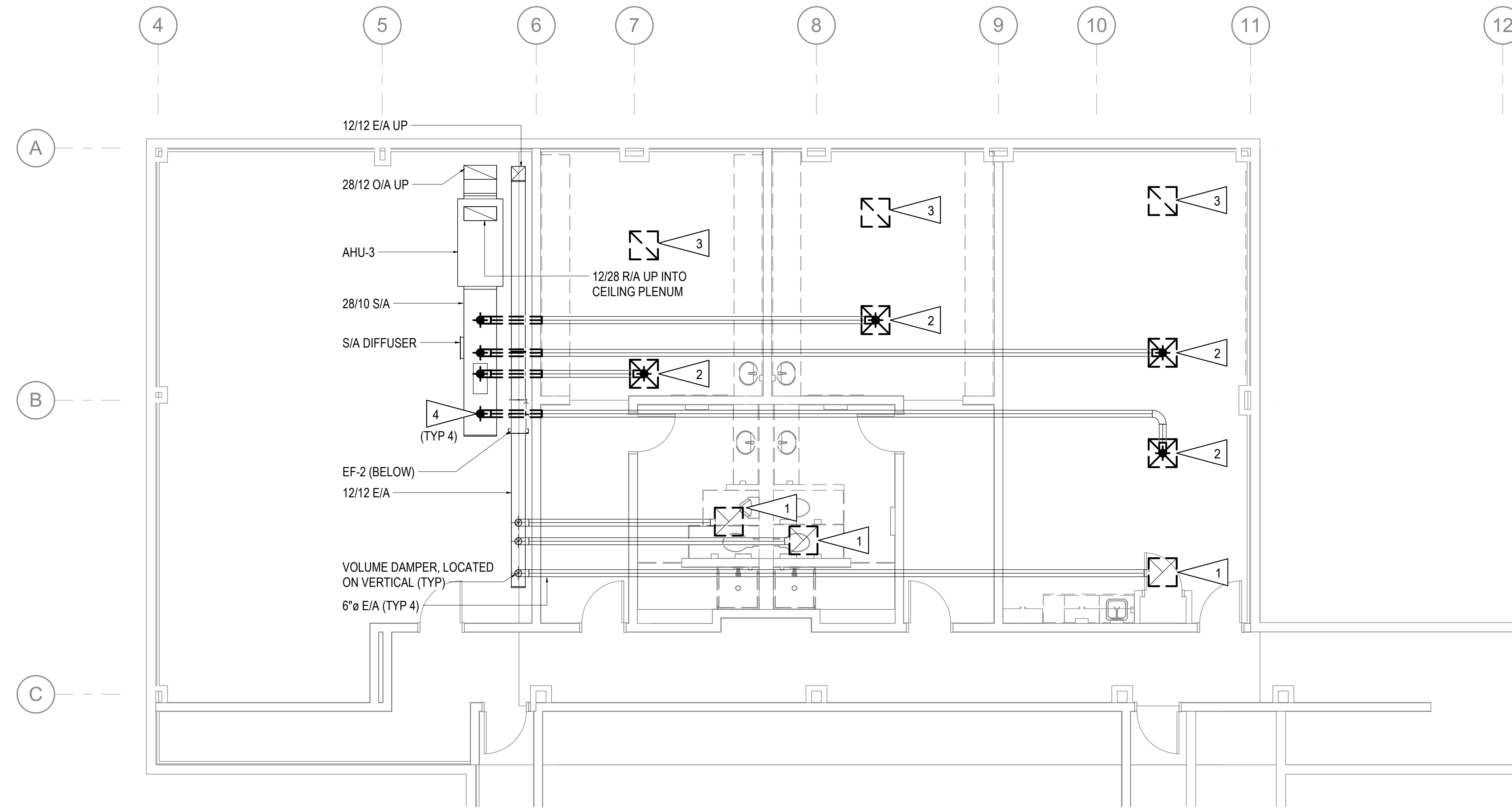
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Mechanical and
Electrical Consulting
Engineers
Evan Mathers
ME-167480
Anchorage, AK 99503
CORPORATE #1-ASCC242

625 S COBB ST
PALMER, AK 99670
T: 907.746.6670
F: 907.746.6680
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SHEET CONTENTS
BASEMENT PLUMBING
DEMOLITION PLAN

M1.2



1 HVAC DEMOLITION PLAN
3/16" = 1'-0"

SHEET NOTES:

1. DEMOLISH EXHAUST GRILL. DEMOLISH DUCTWORK TO EXTENT REQUIRED TO RECONNECT.
2. DEMOLISH SUPPLY DIFFUSER. SUPPLY DUCTWORK TO BE ABANDONED IN PLACE AS INDICATED. PATCH AND INFILL CEILING PER ARCH.
3. DEMOLISH RETURN GRILL.
4. DEMOLISH SUPPLY DUCTWORK INTO SUPPLY PLENUM TO EXTENT INDICATED. ABANDON REMAINING SUPPLY DUCTWORK IN PLACE AS INDICATED. PATCH AND INFILL WALL AS PER ARCH.

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CIVIC CENTER GREEN ROOM RENOVATION
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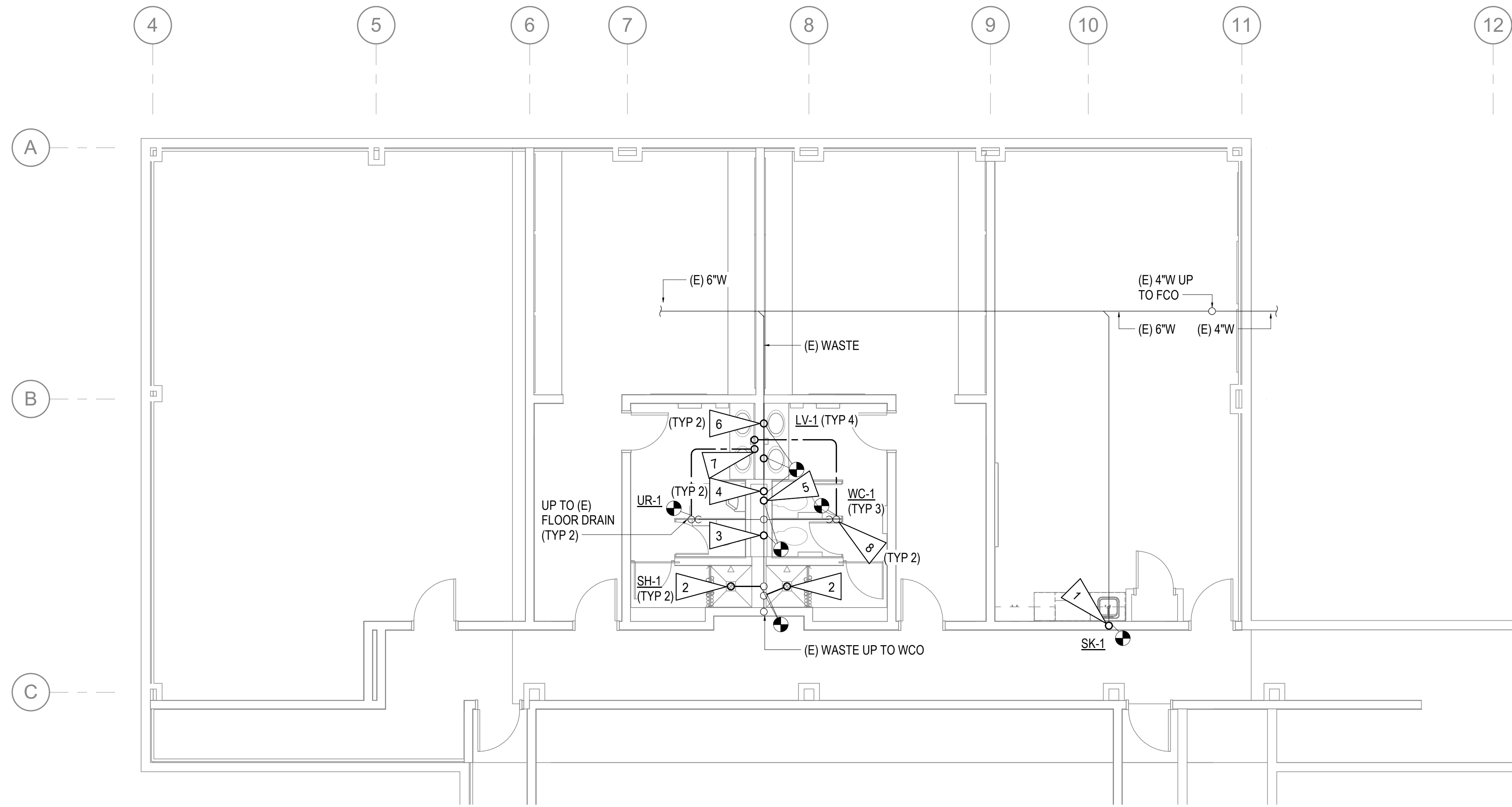


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Engineers
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PALMER, AK 99670
T: 907.746.6670
F: 907.746.6680
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SHEET CONTENTS
BASEMENT HVAC
DEMOLITION PLAN

M1.3



1 UNDERFLOOR PLUMBING RENOVATION PLAN
 3/16" = 1'-0"

SHEET NOTES:

1. CONNECT SINK TO WASTE PIPING AS REQUIRED.
2. BASE BID: NO SCOPE. ADD-ALT #1: PROVIDE NEW TRAP PIPING AND ASSOCIATED V/W PIPING BACK TO MAINS.
3. BASE BID: NO SCOPE. ADD-ALT #1: CONNECT BACK-TO-BACK WATER CLOSETS TO WASTE MAIN WITH 3"W.
4. BASE BID: NO SCOPE. ADD-ALT #1: CONNECT WATER CLOSET TO WASTE MAIN AS REQUIRED.
5. BASE BID: NO SCOPE. ADD-ALT #1: CONNECT URINAL TO WASTE MAIN AS REQUIRED
6. CONNECT BACK-TO-BACK LAVATORIES TO WASTE MAIN WITH 2"W.
7. BASE BID: NO SCOPE. ADD-ALT #1: 1/2"CW UP TO TRAP PRIMER DISTRIBUTION UNIT, SEE DETAIL
8. BASE BID: NO SCOPE. ADD-ALT #1: CONNECT 1/2"CW FROM TRAP PRIMER TO INLET ON FLOOR DRAIN OR DIRECTLY INTO FLOOR DRAIN TRAP.

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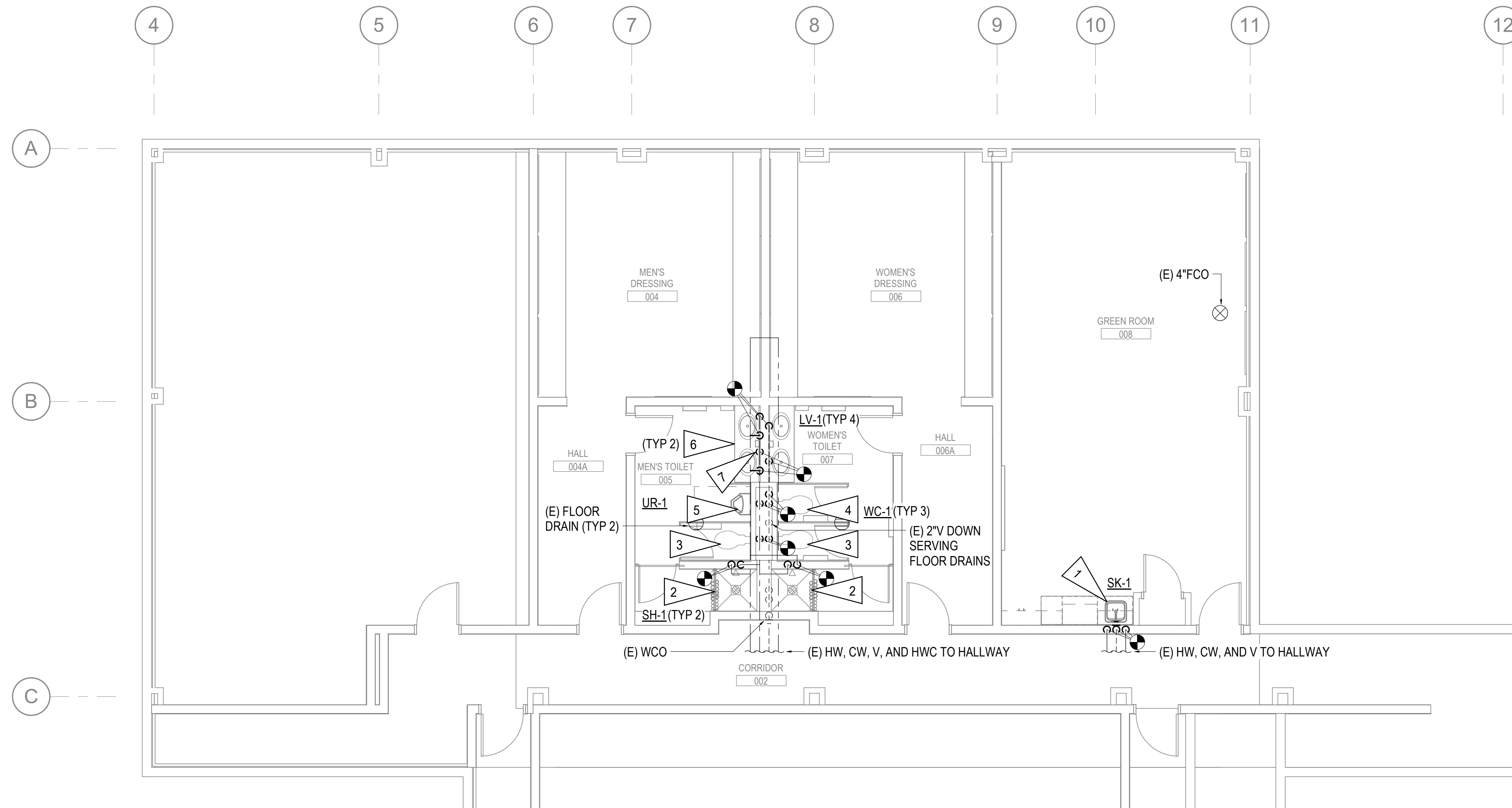
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 STATE OF ALASKA

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 PALMER, AK 99667
 T: 907.746.6670
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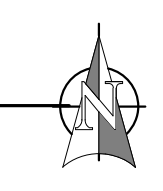
SHEET CONTENTS
 UNDERSLAB PLUMBING
 RENOVATION PLAN

M2.1



1 PLUMBING RENOVATION PLAN

3/16" = 1'-0"



SHEET NOTES: X

1. PROVIDE HW/CW/V PIPING AS REQUIRED TO RECONNECT SINK TO ASSOCIATED PIPING. PROVIDE 2"WCO ON WASTE PIPING ACCESSIBLE BENEATH SINK.
2. BASE BID: PROVIDE HW/CW PIPING AS REQUIRED TO RECONNECT SHOWER TO ASSOCIATED PIPING MAINS. ADD-ALT #1: PROVIDE V PIPING AS REQUIRED TO RECONNECT SHOWER TO ASSOCIATED PIPING MAINS.
3. BASE BID: NO SCOPE. ADD-ALT #1: PROVIDE 1-1/4"CW AND 2"V BRANCH PIPING AS REQUIRED TO CONNECT BACK-TO-BACK WATER CLOSETS TO ASSOCIATED MAINS.
4. BASE BID: NO SCOPE. ADD-ALT #1: PROVIDE CW/V BRANCH PIPING AS REQUIRED TO CONNECT WATER CLOSET TO ASSOCIATED PIPING MAINS.
5. BASE BID: NO SCOPE. ADD-ALT #1: PROVIDE CW/V BRANCH PIPING AS REQUIRED TO CONNECT URINAL TO ASSOCIATED PIPING MAINS.
6. PROVIDE 3/4"HW/CW AND 1-1/2"V PIPING AS REQUIRED TO CONNECT BACK-TO-BACK LAVATORIES TO ASSOCIATED PIPING MAINS.
7. BASE BID: NO SCOPE. ADD-ALT #1: CONNECT 1/2"CW SERVING TRAP PRIMER TO CW BRANCH PIPING SERVING INDIVIDUAL LV-1. SEE DETAIL 1
MO.1

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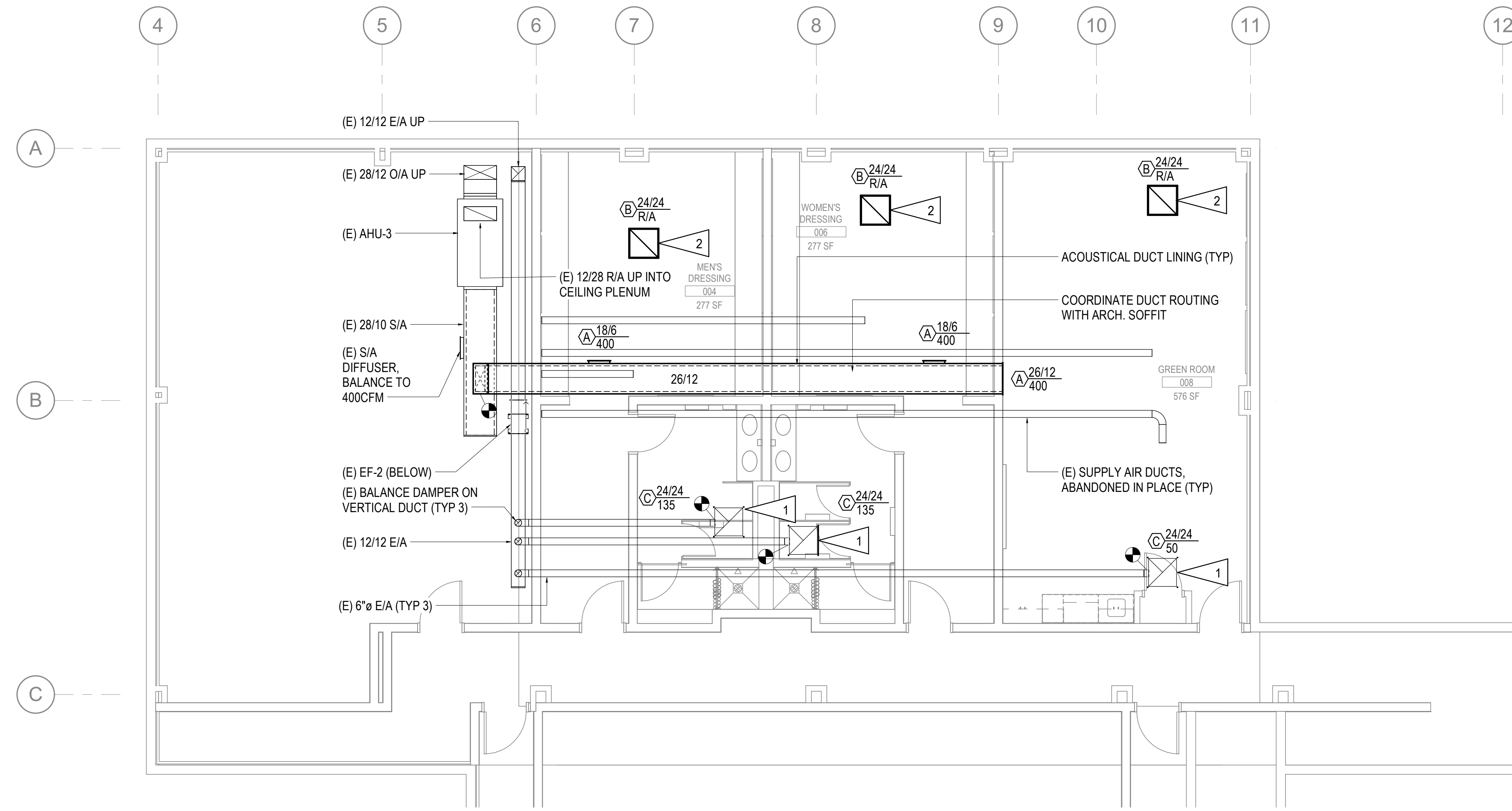
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SHEET CONTENTS
 BASEMENT PLUMBING
 RENOVATION PLAN

M2.2



1 HVAC RENOVATION PLAN
3/16" = 1'-0"

SHEET NOTES:

1. RECONNECT EXHAUST GRILLS TO EXISTING DUCTWORK AND REBALANCE TO CFM INDICATED ON PLANS.
2. INSTALL RETURN GRILLE IN CEILING. OPEN TO PLENUM.

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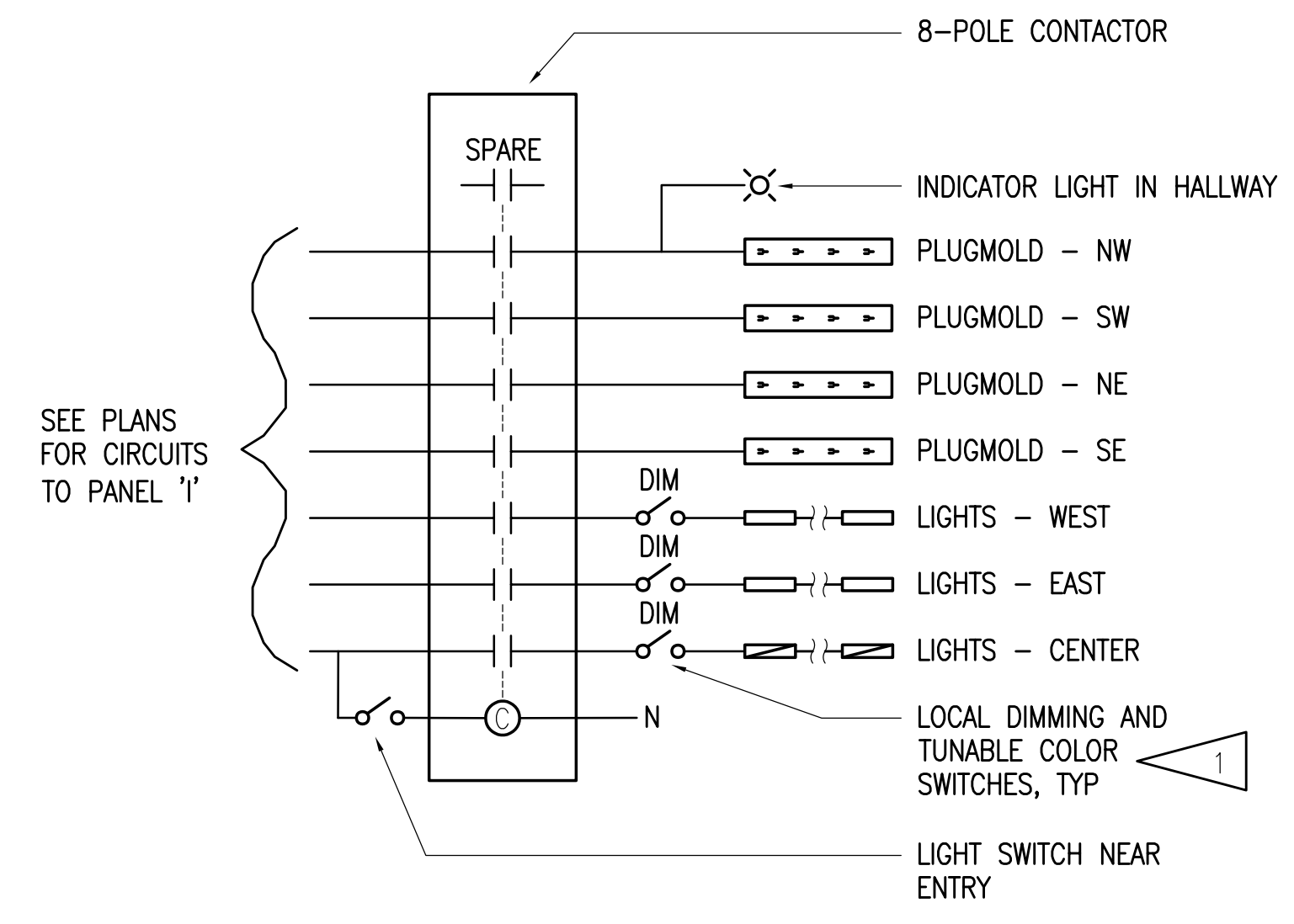
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Wolf
 ARCHITECTURE
 625 S COBB ST
 PALMER, AK
 T: 907.746.6670
 F: 907.746.6680
 wolfarchitecture.com

SHEET CONTENTS
BASEMENT HVAC RENOVATION PLAN

M3.1

ELECTRICAL LEGEND			
	LIGHT FIXTURE - SURFACE MTD ON WALL		FIRE ALARM STROBE LIGHT (WALL, CLG MOUNTED)
	LIGHT FIXTURE - RECESSED DOWNLIGHT		PHOTOELECTRIC SMOKE DETECTOR
	EMERGENCY EXIT SIGN - SURFACE MTD WALL, EXISTING		MAGNETIC HOLD OPEN
	LINEAR LIGHT FIXTURE - RECESSED MTD		DUPLEX RECEPTACLE TO BE REMOVED (DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED TYPICAL)
	LINEAR LIGHT FIXTURE - WALL MTD, EM		NOTE TAG (No. INDICATES NOTE)
	FIXTURE TAG (LETTER INDICATES TYPE)		CIRCUIT TAG (No. INDICATES CIRCUIT)
	SINGLE POLE SWITCH		EQUIPMENT TAG (No. INDICATES TYPE)
	SINGLE POLE SWITCH (LOWER CASE LETTER INDICATES SWITCHING)	AFF	ABOVE FINISHED FLOOR
	THREE WAY SWITCH, FOUR WAY SWITCH	AFG	ABOVE FINISHED GRADE
	DIMMER SWITCH	C	CONDUIT
	KEY OPERATED SWITCH	CO	CONDUIT ONLY
	PILOT LIGHT SWITCH	CLG	DENOTES ITEM LOCATED ON THE CEILING
	OCCUPANCY SENSOR WALL SWITCH (DUALTECH)	E	DENOTES EXISTING ITEM
	OCCUPANCY SENSOR - CEILING MOUNTED (DUALTECH)	EM	DENOTES EMERGENCY POWER
	CONDUIT, CONCEALED	GFCI	GROUND FAULT CIRCUIT INTERRUPTER
	NUMBER AND SIZE OF WIRES (NO MARKS = 3 #12)	GRSC	GALVANIZED RIGID STEEL CONDUIT
	HOMERUN TO PANEL (PANEL AND CIRCUIT No.)	K	KELVIN
	SURFACE RACEWAY	LED	LIGHT EMITTING DIODE
	EXISTING PANEL	LM	LUMENS
	DUPLEX RECEPTACLE	MCB	MAIN CIRCUIT BREAKER
	DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTER	MLO	MAIN LUGS ONLY
	QUADRAPLEX RECEPTACLE	NEC	NATIONAL ELECTRICAL CODE
	SPECIAL PURPOSE OUTLET	NTS	NOT TO SCALE
	JUNCTION BOX	OFOI	OWNER FURNISHED OWNER INSTALLED
	MOTOR (SIZED AS SHOWN)	R	DENOTES EXISTING ITEM THAT HAS BEEN RELOCATED
	FRACTIONAL HORSEPOWER MOTOR STARTER	TYP	TYPICAL
	TELECOMMUNICATION OUTLET (COMBINATION TELEPHONE & DATA) NUMBER DENOTES CABLE DROPS TO EACH JACK	UON	UNLESS OTHERWISE NOTED
	FIRE ALARM HORN/STROBE LIGHT (WALL, CLG MOUNTED)		



1 TYPICAL DRESSING ROOM CONTACTOR DETAIL
NOT TO SCALE

GENERAL NOTES:

- A. PROVIDE ALL MOUNTING HARDWARE AS REQUIRED FOR A COMPLETE INSTALLATION.

SHEET NOTES:

- 1. BASE BID: LOCAL DIMMING SWITCHES ONLY.
ADD ALT #2: LOCAL DIMMING AND TUNABLE COLOR SWITCHES.

ELECTRICAL LOAD CALCULATION			
EXISTING LOADS REMOVED (IN KVA):			
LIGHTING	2.98 KVA		
	SUBTOTAL:	2.98 KVA	
TOTAL LOADS REMOVED:			-2.98 KVA
TOTAL LOADS REMOVED (IN AMPS):			-8 A
NEW LOADS ADDED (IN KVA)			
RECEPTACLES (PLUG MOLD)	2.16 KVA		
MIRCOWAVE	1.20 KVA		
REFRIGERATOR	1.20 KVA		
LIGHTING	1.61 KVA		
	SUBTOTAL:	6.17 KVA	
TOTAL LOADS ADDED:			6.17 KVA
TOTAL LOADS ADDED (IN AMPS):			17 A
NET LOAD CHANGE:			3.19 KVA
NET LOAD CHANGE (IN AMPS):			9 A
RESULT: THE EXISTING SERVICE HAS ADEQUATE CAPACITY FOR THE EXISTING AND NEW LOADS ADDED.			

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Wolf ARCHITECTURE
625 S COBB ST
PALMER, AK
T: 907.746.6670
F: 907.746.6680
wolfoarchitecture.com

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Mechanical and
Electrical Consulting
Engineers
Anchorage, AK 99503
Company No. AEC0242

SHEET CONTENTS
ELECTRICAL LEGEND
AND SCHEDULES

E0.1

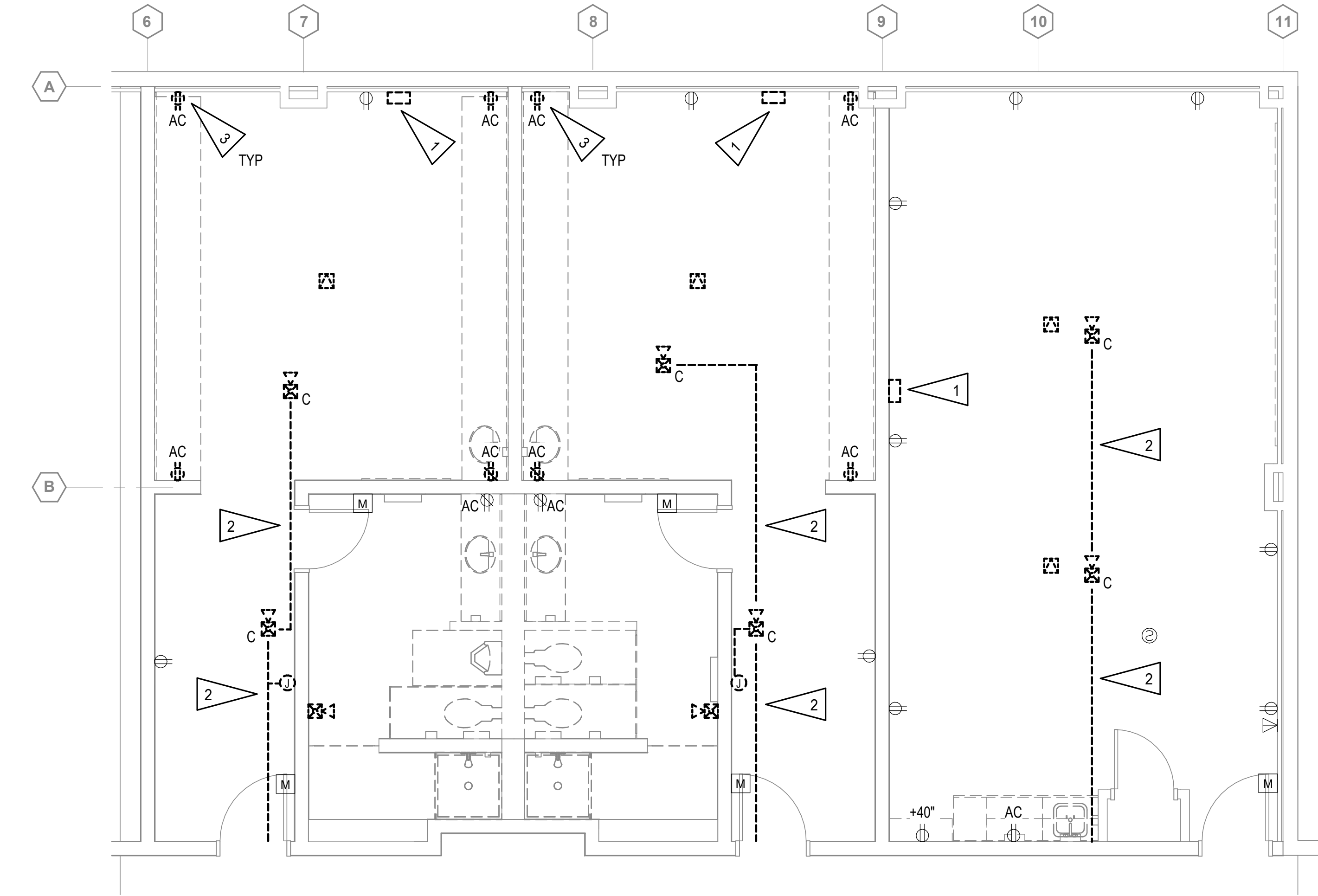
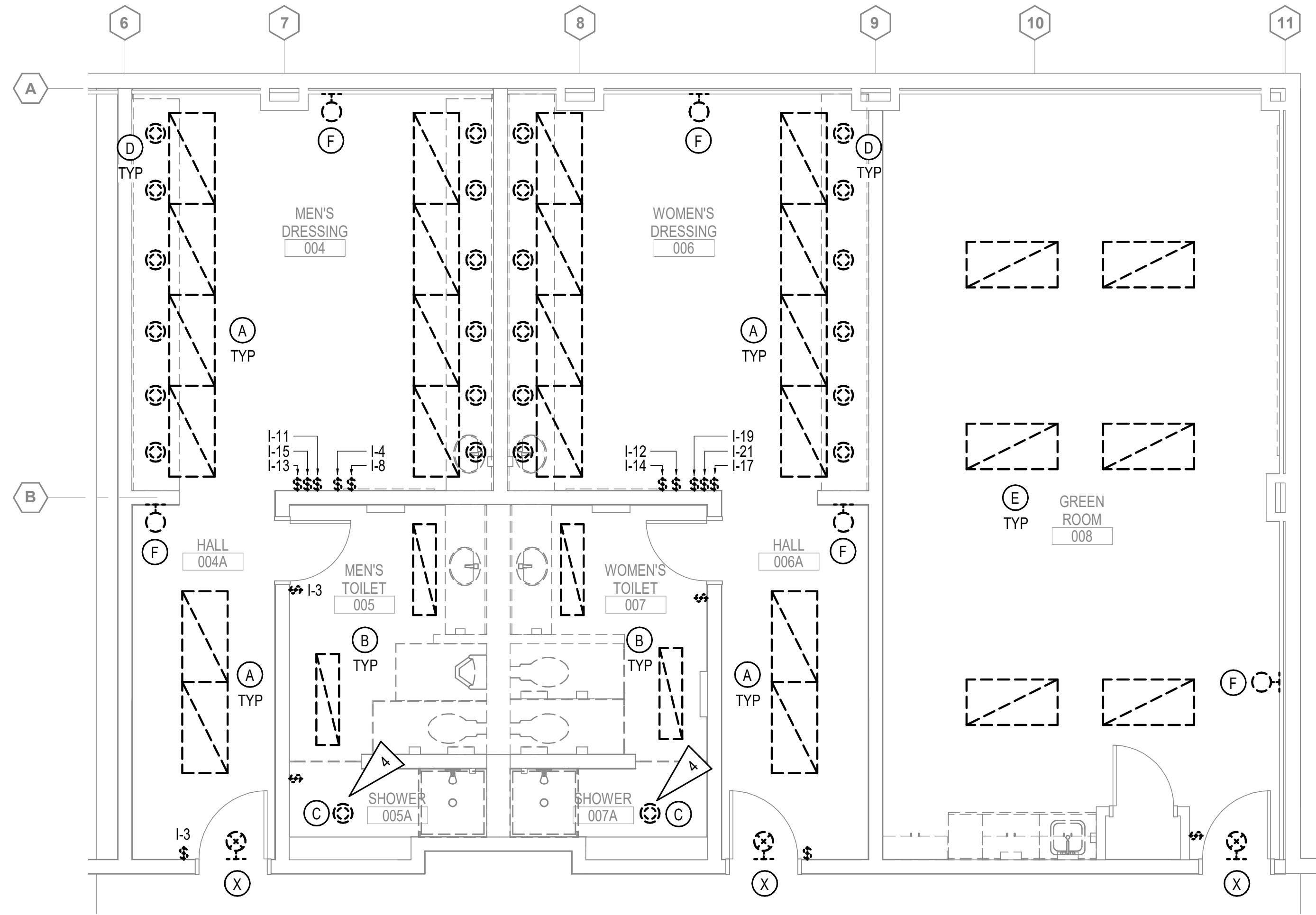
EXISTING LIGHT FIXTURE SCHEDULE		
(A)	2L T8 RECESSED 2X4	64W
(B)	2L T8 RECESSED 1X4	64W
(C)	SHOWER DOWNLIGHT	26W
(D)	RECESSED DOWNLIGHT	26W
(E)	4L T8 RECESSED 2X4	128W
(F)	INTERIOR FLOOD LIGHT	?W
(X)	EXIT SIGN	10W

GENERAL NOTES:

- A. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HERE-IN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS SCHEDULED FOR DEMOLITION PRIOR TO START OF WORK
- B. THE OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL SALVAGEABLE MATERIALS. THE CONTRACTOR SHALL DELIVER SALVAGED MATERIALS AS DIRECTED BY THE OWNER. THE CONTRACTOR SHALL DISPOSE OF, OFF SITE, ALL UNWANTED MATERIALS.
- C. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.
- D. DEMOLISH EXISTING FIXTURES AND SALVAGE LIGHTING CIRCUIT FOR REUSE.
- E. SALVAGE ALL FIRE ALARM DEVICES FOR REUSE. SALVAGE FIRE ALARM CIRCUITS TO THE FULLEST EXTENT PRACTICAL.

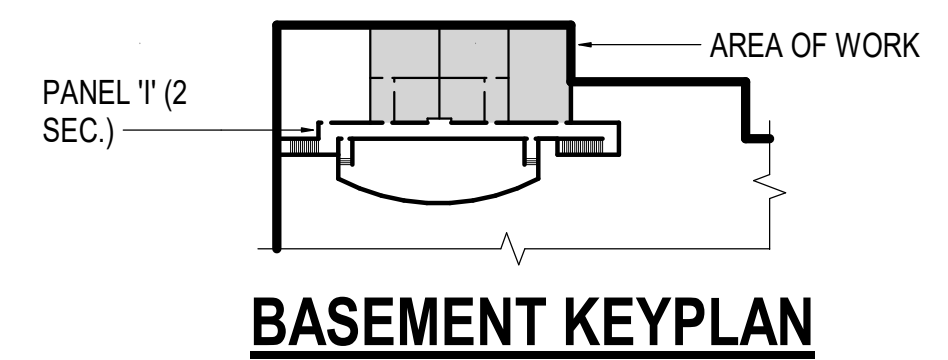
SHEET NOTES: #

- 1. DEMOLISH SPEAKERS, VOLUME KNOB AND ANY INTERCOM RELATED CABLING BACK TO SOURCE. FOR BIDDING PURPOSES, ASSUME HEADEND EQUIPMENT IS 100FT AWAY.
- 2. DEMOLISH SURFACE MOUNTED FIRE ALARM CONDUIT AND JUNCTION BOXES. SALVAGE DEVICES AND CIRCUITS FOR REUSE.
- 3. DEMOLISH AC RECEPTACLES SHOWN. SALVAGE BRANCH CIRCUIT FOR REUSE.
- 4. DEMOLISH FIXTURE LENS/LAMPS. SALVAGE RECESSED HOUSING FOR NEW RETROFIT KIT.



1 LIGHTING DEMOLITION PLAN
1/4" = 1'-0"

2 POWER AND SIGNAL DEMOLITION PLAN
1/4" = 1'-0"



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625 S COBB ST PALMER, AK 99670
T: 907.746.6670 F: 907.746.6680
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SHEET CONTENTS
ELECTRICAL DEMOLITION PLANS

E1.1

LIGHT FIXTURE SCHEDULE - BASE BID

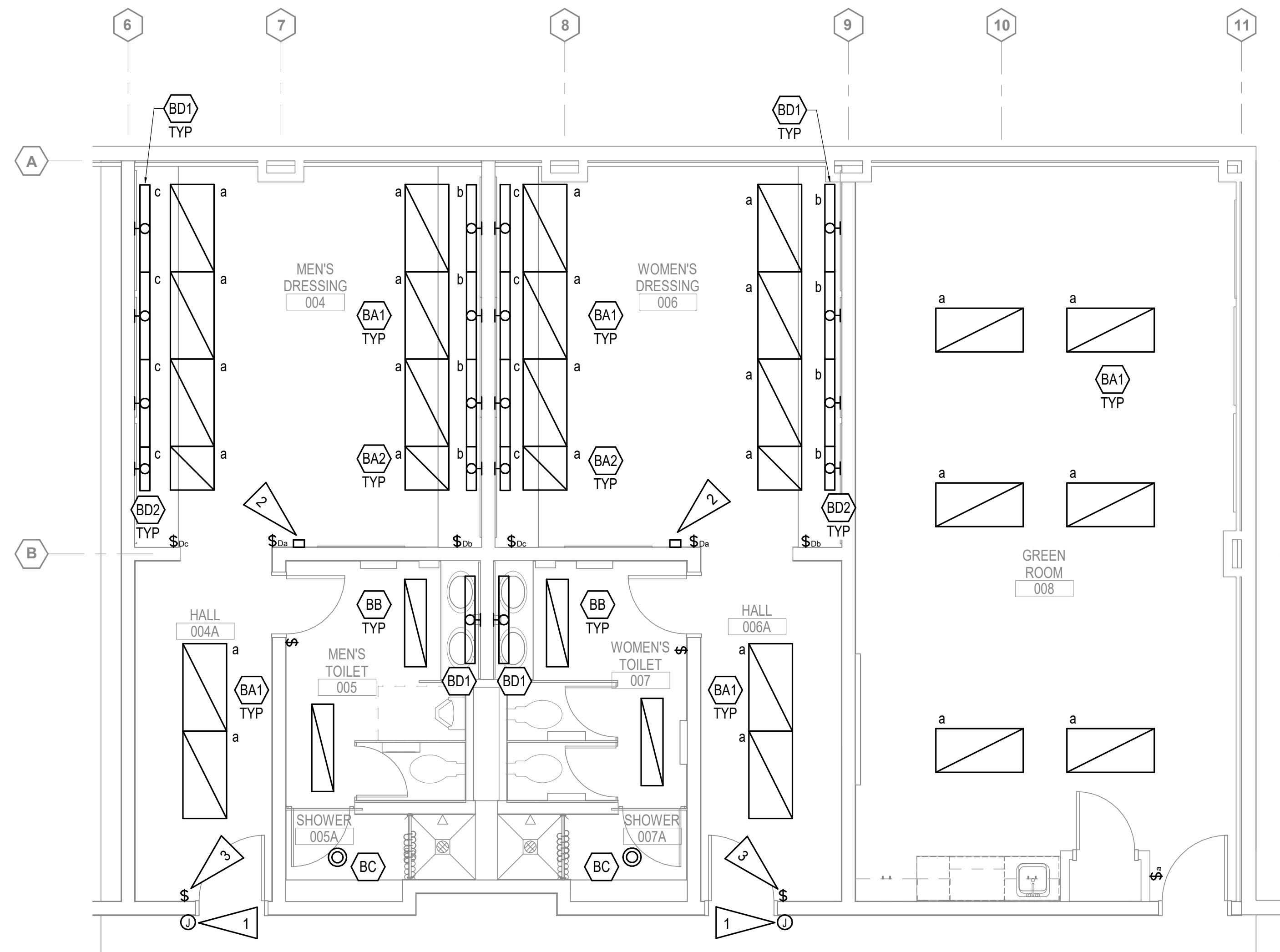
TYPE	LOCATION	MANUFACTURER AND CATALOG NUMBER (OR APPROVED EQUAL)	LUMINAIRE DESCRIPTION	MOUNTING		LAMPS	BALLAST/DRIVER	TOTAL INPUT WATTS
				TYPE	HEIGHT			
BA1	AS SHOWN	METALUX #24CZ2-30-UNV-L840-CD-1-U	2X4 LED TROFFER WITH RIBBED FROSTED LENS AND TUNABLE WHITE	RECESSED	CEILING	4000K LED 3028LM	120/277V, 0-10V DIMMING DRIVER TO 10%	22
BA2	AS SHOWN	METALUX #22CZ2-20-UNV-L840-CD-1-U	SAME AS TYPE 'BA1' EXCEPT 2X2 AND LOWER LUMEN OUTPUT	RECESSED	CEILING	4000K LED 2142LM	120/277V, 0-10V DIMMING DRIVER TO 10%	16
BB	AS SHOWN	METALUX #14CZ2-35-UNV-L840-CD-1-U	1X4 LED TROFFER WITH RIBBED FROSTED LENS	RECESSED	CEILING	4000K LED 3699LM	120/277V, 0-10V DIMMING DRIVER TO 10%	29
BC	SHOWER	HALO #RL56-06-9FSD2W-1E-WH-RL56TRMSN	5/8-INCH RECESSED LED RETROFIT MODULE, SATIN NICKEL OVERLAY, UL WET LISTING, AND SELECTABLE COLOR TEMPERATURE (FIELD SET AT 4000K)	RECESSED	CEILING	4000L LED 600LM	120V DIMMABLE TO 5%	7
BD1	AS SHOWN	METALUX #4-BCLEL-LD4-32SL-F-UNV-L840-CD-1-U	4' VANITY LED WRAPAROUND WITH FROSTED LENS	WALL	ABOVE MIRROR	4000K LED 3200LM	120/277V, 0-10V DIMMING DRIVER TO 10%	32
BD2	AS SHOWN	METALUX #2-BCLEL-LD4-16SL-F-UNV-L840-CD-1-U	SAME AS TYPE 'BD1' EXCEPT 2' LENGTH AND LOWER LUMEN OUTPUT	WALL	ABOVE MIRROR	4000K LED 1600LM	120/277V, 0-10V DIMMING DRIVER TO 10%	19

GENERAL NOTES:

- A. PATCH, REPAIR, AND PAINT DRYWALL AS REQUIRED TO ACCOMMODATE WORK.
- B. PROVIDE EXTENSION OF EXISTING LIGHTING CIRCUITS AS REQUIRED TO ACCOMMODATE NEW WORK. ROUTE UNSWITCHED CONDUCTORS THROUGH LIGHTING CONTACTOR AS REQUIRED PER SHEET NOTES 1, 2 AND 3 BELOW.
- C. PROVIDE FIELD MODIFICATIONS TO THE EXISTING CHANNEL/STRUT SUPPORTING THE DRYWALL CEILING AS REQUIRED TO ACCOMMODATE THE NEW CEILING LIGHTING LAYOUT. COORDINATE WITH ARCHITECTURAL FOR ADDITIONAL REQUIREMENTS.
- D. SEE LIGHT FIXTURE SCHEDULE ON THIS SHEET FOR WORK SHOWN.

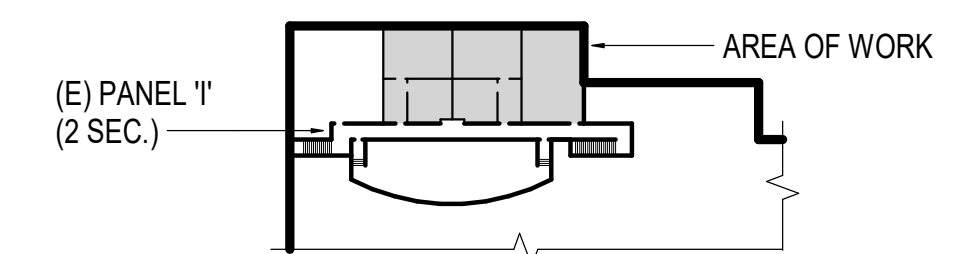
SHEET NOTES:

1. PROVIDE AND INSTALL ALPINETECH #PLB12M-120, OR APPROVED EQUAL, RED INDICATOR LED LIGHT MOUNTED ON A SINGLE GANG STAINLESS STEEL WALLPLATE CONNECTED TO CONTACTOR IN ROOM CONTROLLING THE DRESSING ROOM MIRROR LIGHTING AND PLUGMOLD PER NEC 520.73 AND 520.74. PROVIDE PLACARD INDICATING CIRCUIT(S) CONTROLLED. REFERENCE 1/E0.1 FOR TYPICAL WIRING DETAIL.
2. PROVIDE LIGHTING CONTACTOR FOR CONTROL OF DRESSING ROOM MIRROR LIGHTING AND PLUGMOLD. SEE NOTE 1. REFERENCE 1/E0.1 FOR TYPICAL WIRING DETAIL.
3. CONNECT SWITCH TO CONTROL LOCAL CONTACTOR. SEE NOTE 2 AND DETAIL 1/E0.1.



1 LIGHTING REMODEL PLAN - BASE BID

1/4" = 1'-0"



BASEMENT KEYPLAN



RSA
Mechanical and
Electrical Consulting
Engineers
625 S COBB ST
PALMER, AK 99670
T: 907.746.6670
F: 907.746.6680
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SHEET CONTENTS
LIGHTING REMODEL
PLAN & FIXTURE
SCHEDULE - BASE BID

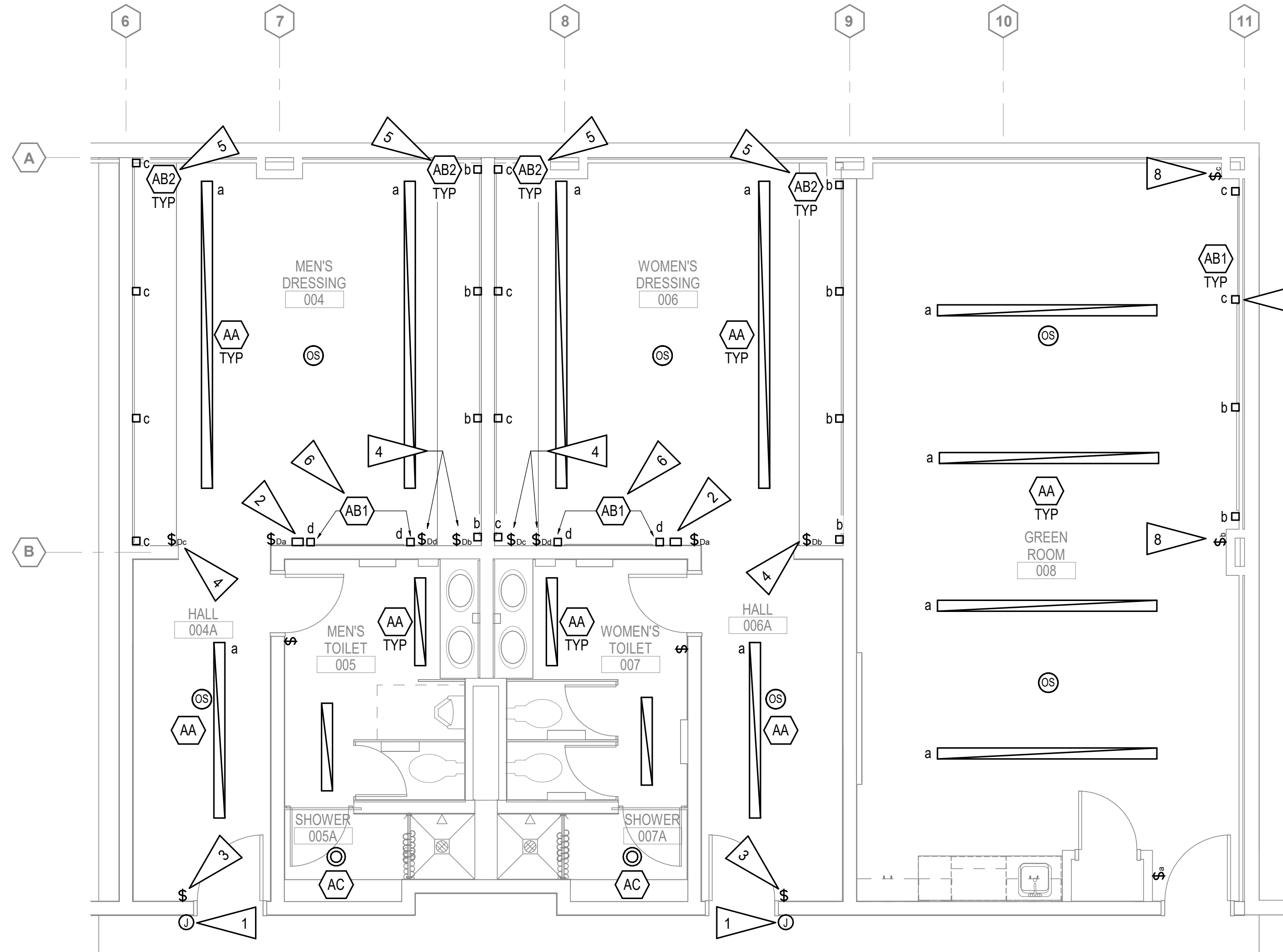
E2.1

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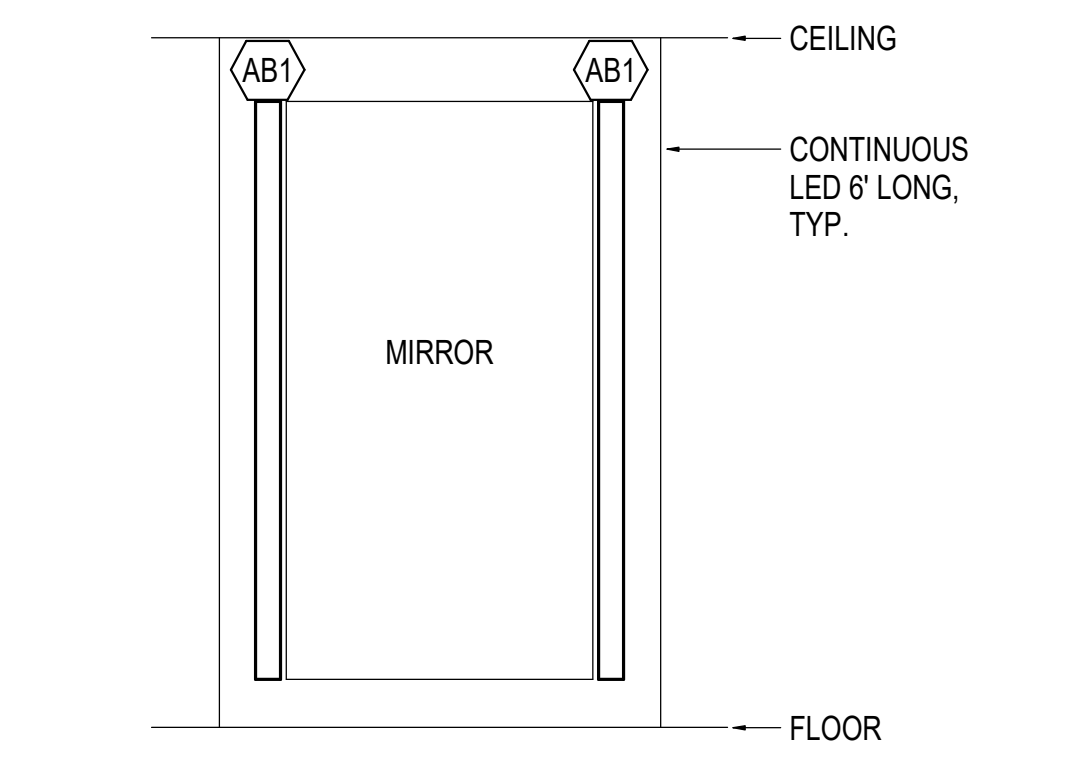
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LIGHT FIXTURE SCHEDULE - ADDITIVE ALTERNATE #2

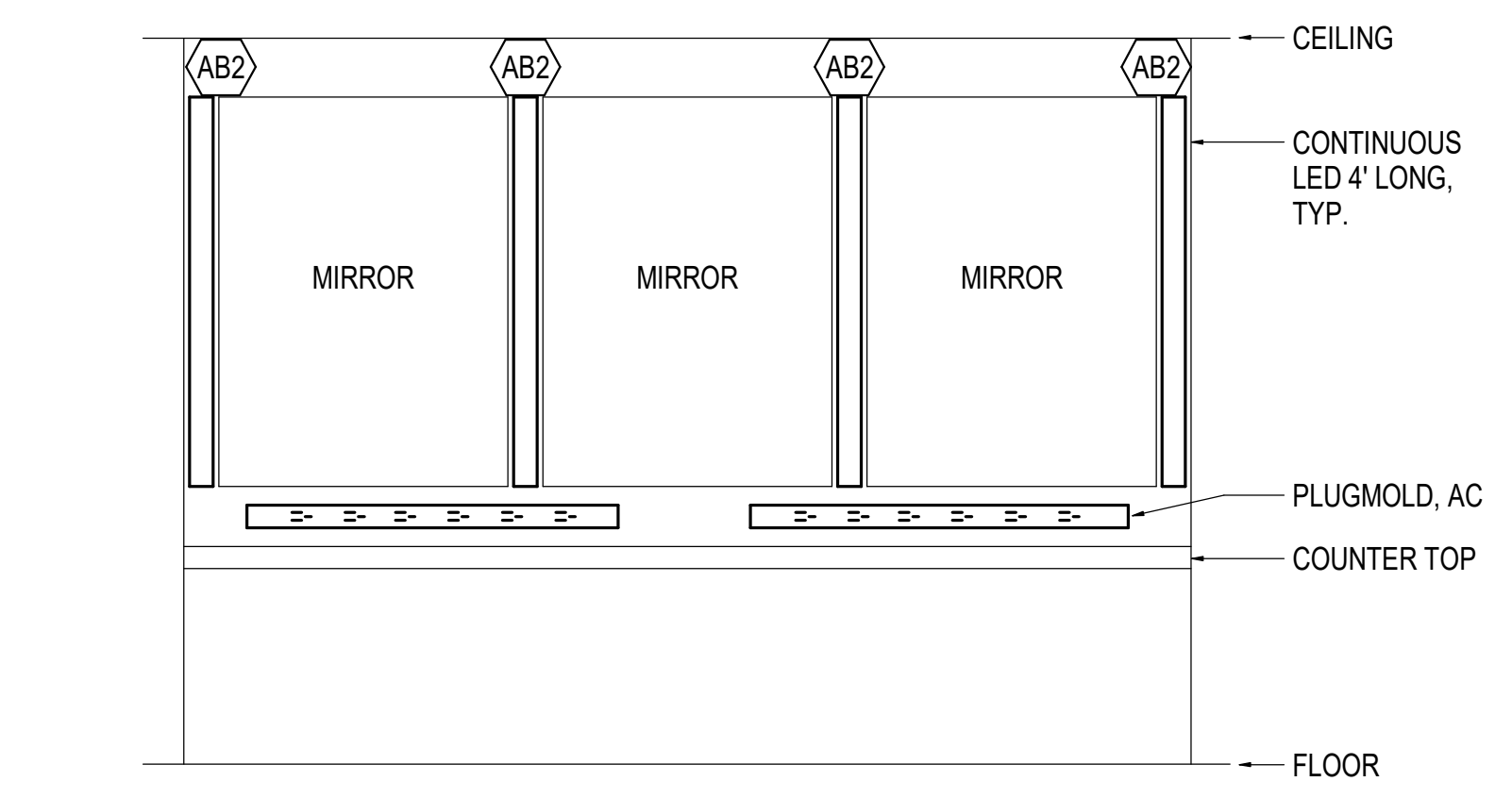
TYPE	LOCATION	MANUFACTURER AND CATALOG NUMBER (OR APPROVED EQUAL)	LUMINAIRE DESCRIPTION	MOUNTING		LAMPS	BALLAST/DRIVER	TOTAL INPUT WATTS
				TYPE	HEIGHT			
AA	AS SHOWN	PRECISION ARCHITECTURAL LIGHTING #MLR5-HO-K40-80-X-OF-TR-LOH-UNV-DIM1	LOW PROFILE LINEAR SLOT LED LUMINAIRE. SEE PLANS FOR LENGTHS REQUIRED	RECESSED	CEILING	4000K LED 908LM/FT	120/277V, 0-10V DIMMING DRIVER TO 1%	8W/FT
AB1	AS SHOWN	EXTANT ARCHITECTURAL LIGHTING #HTG-1-TD-SM-6-DML-MEODF-XX-VU-D-WP	LINEAR SURFACE MOUNT LED LUMINAIRE, 6' LENGTH, WITH INTEGRAL DRIVER, MEDIUM OUTPUT, DIFFUSING OPTICS, AND WHITE FINISH. PROVIDE TUNABLE WHITE	SEE 2/E2.2 AND 4/E2.2	SEE 2/E2.2 AND 4/E2.2	4000K LED 552LM/FT	120/277V, 0-10V DIMMING DRIVER TO 1%	5W/FT
AB2	AS SHOWN	EXTANT ARCHITECTURAL LIGHTING #HTG-1-TD-SM-4-DML-MEODF-XX-VU-D-WP	SAME AS TYPE 'AB1' EXCEPT 4' LENGTH	SEE 3/E2.2	SEE 3/E2.2	4000K LED 552LM/FT	120/277V, 0-10V DIMMING DRIVER TO 1%	5W/FT
AC	SHOWER	HALO #RL56-06-9FSD2W-1E-WH-RL56TRMSN	5/6-INCH RECESSED LED RETROFIT MODULE, SATIN NICKEL OVERLAY, UL WET LISTING, AND SELECTABLE COLOR TEMPERATURE (FIELD SET AT 4000K)	RECESSED	CEILING	4000L LED 600LM	120V DIMMABLE TO 5%	7



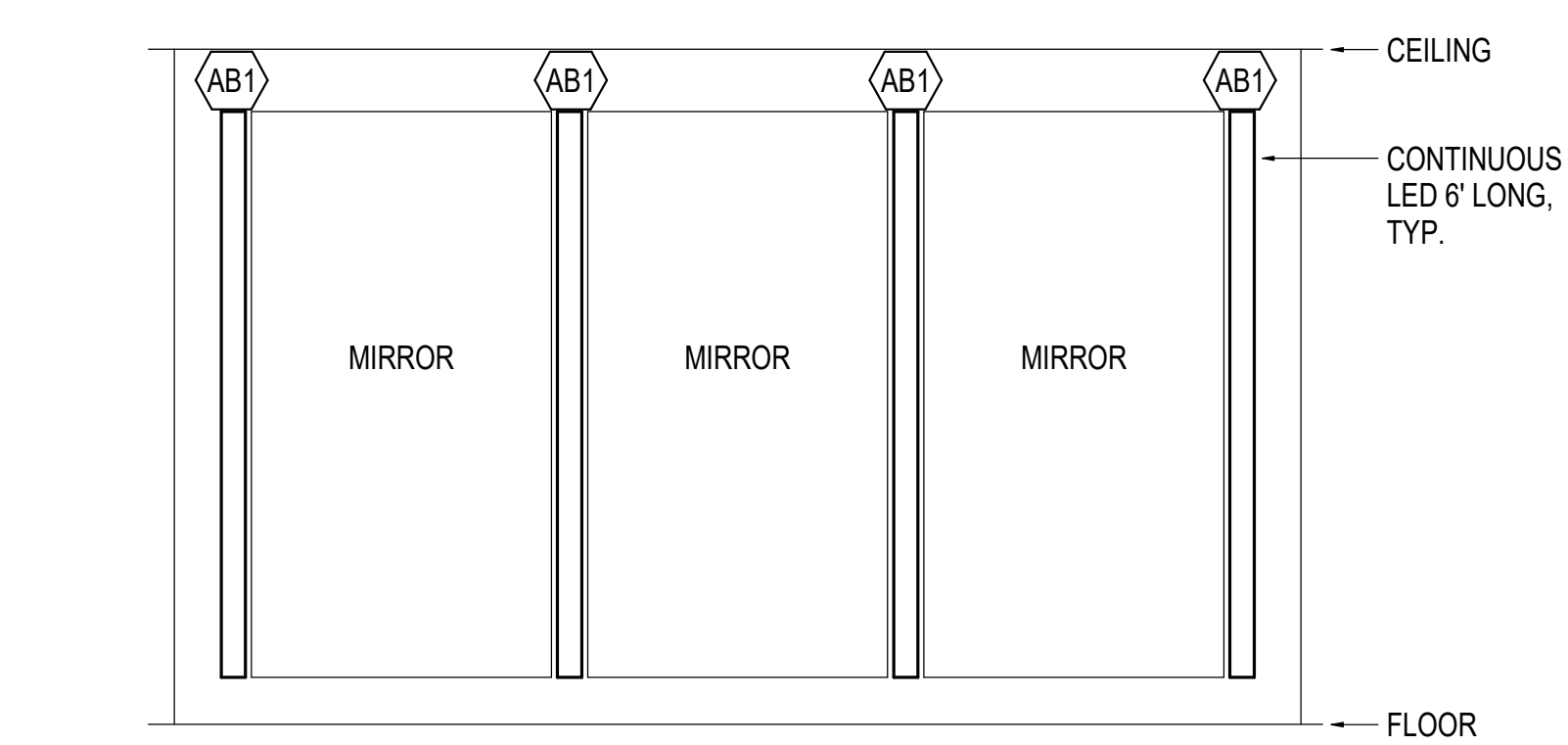
1 LIGHTING REMODEL PLAN - ADDITIVE ALTERNATE #2
1/4" = 1'-0"



2 DRESSING ROOM S. WALL TYPICAL ELEVATION DETAIL
NOT TO SCALE



3 DRESSING ROOM E. & W. WALL TYPICAL ELEVATION DETAIL
NOT TO SCALE



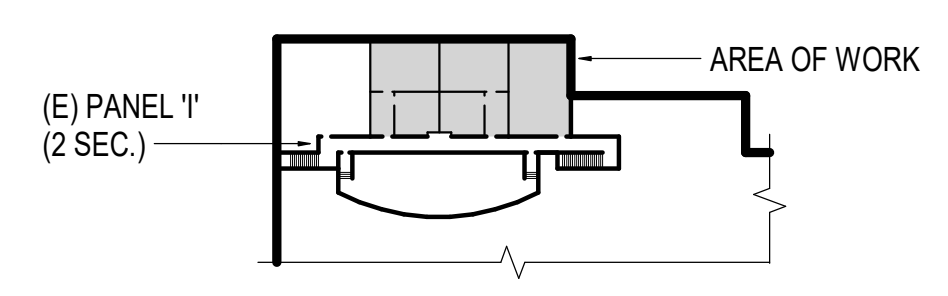
4 GREENROOM E. WALL ELEVATION DETAIL
NOT TO SCALE

GENERAL NOTES:

- A. PATCH, REPAIR, AND PAINT DRYWALL AS REQUIRED TO ACCOMMODATE WORK.
- B. PROVIDE EXTENSION OF EXISTING LIGHTING CIRCUITS AS REQUIRED TO ACCOMMODATE NEW WORK. ROUTE UNSWITCHED CONDUCTORS THROUGH LIGHTING CONTACTOR AS REQUIRED PER SHEET NOTES 1, 2 AND 3 BELOW.
- C. PROVIDE FIELD MODIFICATIONS TO THE EXISTING CHANNEL/STRUT SUPPORTING THE DRYWALL CEILING AS REQUIRED TO ACCOMMODATE THE NEW CEILING LIGHTING LAYOUT. COORDINATE WITH ARCHITECTURAL FOR ADDITIONAL REQUIREMENTS.
- D. SEE LIGHT FIXTURE SCHEDULE ON THIS SHEET FOR WORK SHOWN.

SHEET NOTES:

1. PROVIDE AND INSTALL ALPINETECH #PLB12M-120, OR APPROVED EQUAL, RED INDICATOR LED LIGHT MOUNTED ON A SINGLE GANG STAINLESS STEEL WALLPLATE CONNECTED TO CONTACTOR IN ROOM CONTROLLING THE DRESSING ROOM MIRROR LIGHTING AND PLUGMOLD PER NEC 520.73 AND 520.74. PROVIDE PLACARD INDICATING CIRCUIT(S) CONTROLLED. REFERENCE 1/E0.1 FOR TYPICAL WIRING DETAIL.
2. PROVIDE LIGHTING CONTACTOR FOR CONTROL OF DRESSING ROOM MIRROR LIGHTING AND PLUGMOLD. SEE NOTE 1. REFERENCE 1/E0.1 FOR TYPICAL WIRING DETAIL.
3. CONNECT SWITCH TO CONTROL LOCAL CONTACTOR. SEE NOTE 2 AND DETAIL 1/E0.1.
4. PROVIDE DIMMING AND TUNABLE COLOR SWITCH COMPATIBLE WITH FIXTURES CONTROLLED. NOTE, THIS SWITCHING SCHEME REQUIRES DUAL POWER PACKS FOR PROPER OPERATION. INSTALL PER THE MANUFACTURER'S INSTRUCTIONS.
5. FIXTURES TO RUN DOWN LEFT AND RIGHT SIDE OF MIRROR. SEE 3/E2.2 FOR ELEVATION DETAIL. EXTEND AND RECONNECT TO EXISTING CIRCUIT.
6. FIXTURE TO RUN DOWN LEFT AND RIGHT SIDE OF MIRROR. SEE 2/E2.2 FOR ELEVATION DETAIL. EXTEND AND RECONNECT TO EXISTING CIRCUIT.
7. FIXTURE TO RUN DOWN LEFT AND RIGHT SIDE OF MIRROR. SEE 4/E2.2 FOR ELEVATION DETAIL. EXTEND AND RECONNECT TO EXISTING CIRCUIT.
8. PROVIDE TUNABLE COLOR SWITCH COMPATIBLE WITH FIXTURES CONTROLLED. INSTALL PER THE MANUFACTURER'S INSTRUCTIONS.



BASEMENT KEYPLAN

PROJ: NO M3119
DRAWN: KB, NVF
CHECKED: DB
DATE: 2/2/2025
FULL SIZE DRAWINGS: 22" x 34"

CIVIC CENTER GREEN ROOM RENOVATION
CONSTRUCTION DOCUMENTS
CITY OF VALDEZ
314 CLIFTON CT, VALDEZ, ALASKA 99686



RS&A
Mechanical and Electrical Consulting Engineers
625 S COBB ST
PALMER, AK 99670
T: 907.746.6670
F: 907.746.6680
wolfoarchitecture.com

Wolf
ARCHITECTURE

SHEET CONTENTS
LIGHTING REMODEL PLAN, DETAILS & FIXTURE SCHEDULE - ADDITIVE ALTERNATE #2

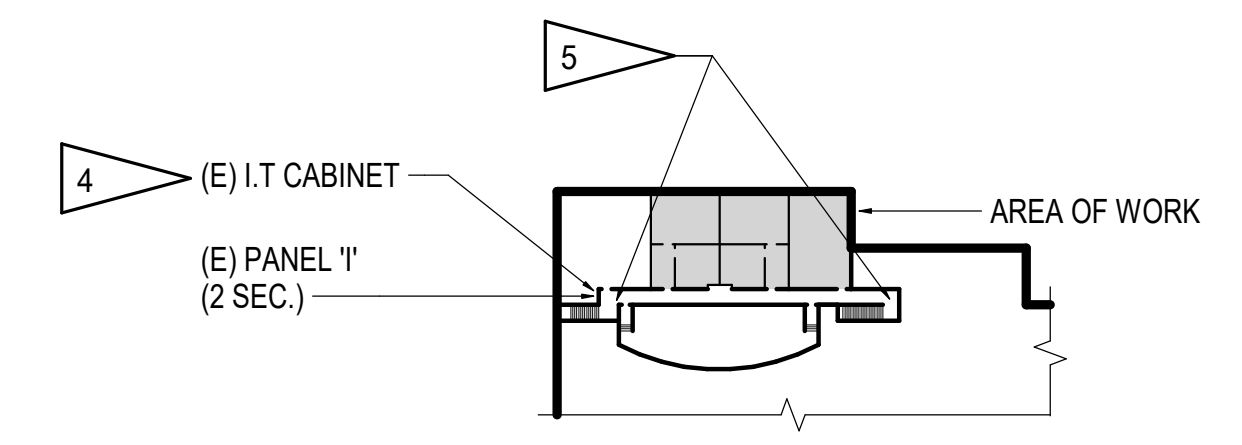
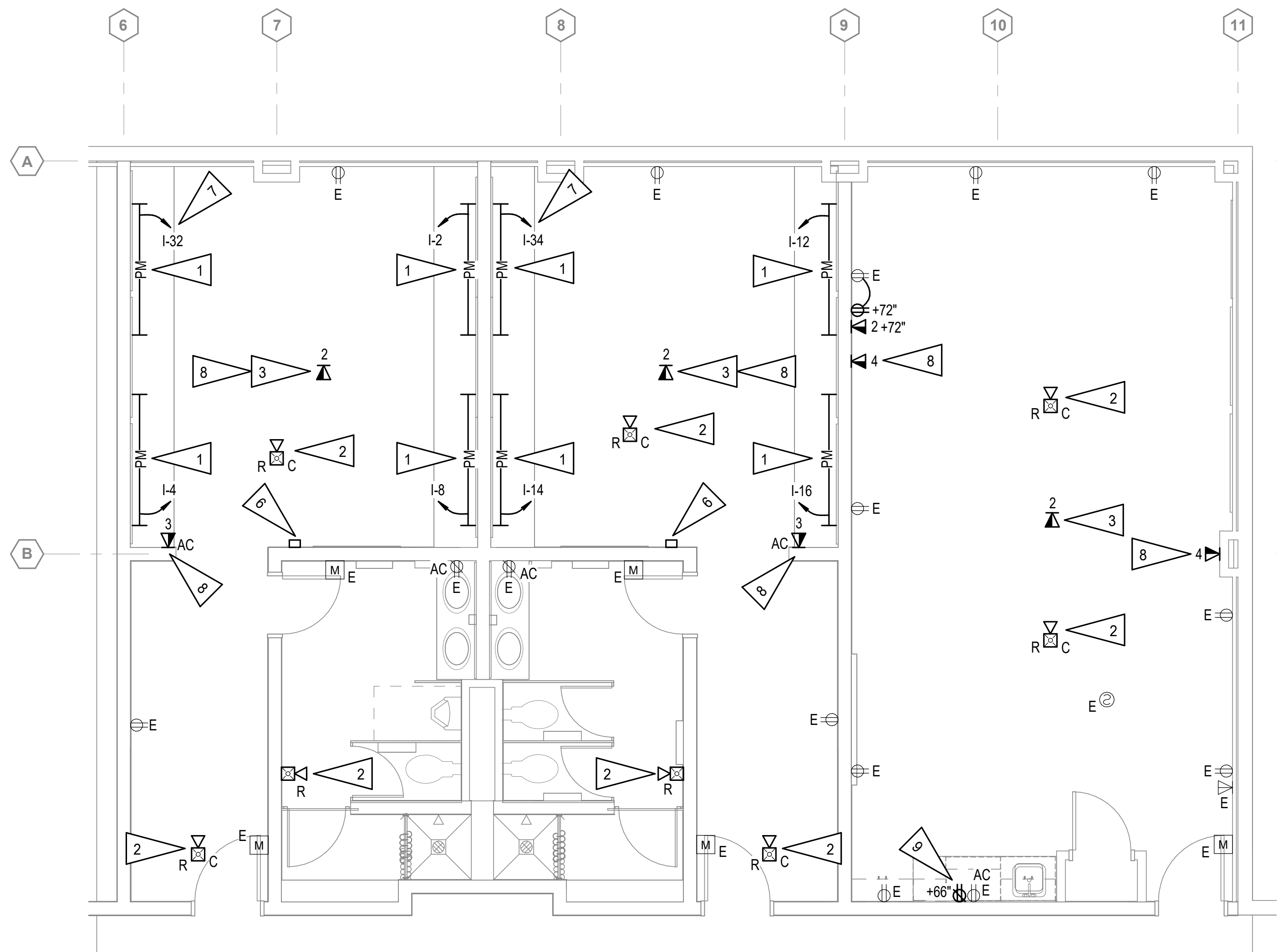
E2.2

GENERAL NOTES:

- A. PATCH, REPAIR, AND PAINT DRYWALL AS REQUIRED TO ACCOMMODATE WORK.
- B. USE NEW DUCT/CHASE AREA TO ROUTE NEW J-HOOKS FOR DATA BACK TO MECH ROOM/IT CLOSET AREA.
- C. CIRCUIT NUMBERS SHOWN ARE ASSUMED ONLY. FIELD VERIFY PRIOR TO BEGINNING WORK. PROVIDE SEPARATE CIRCUIT TO EACH LENGTH OF PLUGMOLD.

SHEET NOTES: #

- 1. PROVIDE 72" LENGTH OF PLUGMOLD WITH (6) RECEPTACLES LOCATED ABOVE COUNTER. FEED FROM CIRCUITS SHOWN (FIELD VERIFY). ROUTE CIRCUITS THROUGH CONTACTOR. SEE NOTES 1 AND 2 ON LIGHTING PLANS AND DETAIL 1/E0.1.
- 2. REINSTALL FIRE ALARM DEVICE WITH FISHED-IN FIRE ALARM RATED MC CABLE AND RECESSED BOXES.
- 3. PROVIDE DATA OUTLET RECESSED IN CEILING FOR OFOI WIRELESS ACCESS POINT.
- 4. ROUTE 1" C WITH NUMBER OF CAT 6 CABLES AS SHOWN BACK TO I.T CABINET AND TERMINATE ON (E) SPARE PATCH PANELS.
- 5. BASE BID: NO WORK.
ADD ALT #3: PROVIDE (2) DATA DROPS ON EITHER END OF HALLWAY FOR OFOI CAMERAS.
- 6. CONTACTOR. SEE NOTES 1 AND 2 ON LIGHTING PLANS AND DETAIL 1/E0.1.
- 7. PROVIDE NEW 20A, 1-POLE CIRCUIT BREAKER FOR NEW HOMERUN NOTED. CIRCUIT BREAKER SHALL BE LISTED FOR USE WITHIN EXISTING SQUARE D TYPE NQOB PANELBOARD.
- 8. BASE BID: NO WORK.
ADD ALT #3: PROVIDE INDICATED NUMBER OF DATA DROPS AT LOCATION.
- 9. PROVIDE NEW GFCI RECEPTACLE AT EXISTING JUNCTION BOX LOCATION. CONNECT TO NEAREST CIRCUIT WITH SPARE CAPACITY.
- 10. PROVIDE NEW RECEPTACLE AT LOCATION. CONNECT TO NEAREST CIRCUIT WITH SPARE CAPACITY.



1 POWER AND SIGNAL REMODEL PLAN
1/4" = 1'-0"

PROJ. NO. M3119
DRAWN BY KB, NVF
CHECKED BY DB
DATE 2/2/2025
FULL SIZE DRAWINGS: 22" x 34"

CIVIC CENTER GREEN ROOM RENOVATION
CONSTRUCTION DOCUMENTS
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RSA
Mechanical and
Electrical Consulting
Engineers
625 S COBB ST
PALMER, AK 99670
T: 907.746.6670
F: 907.746.6680
wolfarchitecture.com

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ARCHITECTURE

SHEET CONTENTS
POWER AND SIGNAL
REMODEL PLAN

E3.1

**CITY OF VALDEZ
CAPITAL FACILITIES
VALDEZ, ALASKA**



**Volume 1 of 1
Construction Documents**

FOR

Valdez Civic Center Green Room Renovation
Project No. COV 23-350-2206

February 1, 2025

CITY OF VALDEZ CIVIC CENTER GREEN ROOM RENOVATION

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SECTION 01 11 00

SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A.** Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.
- B.** City of Valdez General Conditions take precedence if conflicts occur.

1.2 SUMMARY

- A.** This Section includes the following:
 - 1.** Work covered by the Contract Documents.
 - 2.** Work Sequence.
 - 3.** Contractor Qualifications
 - 4.** Type of the Contract.
 - 5.** Owner-furnished products.
 - 6.** Products ordered in advance.
 - 7.** Use of premises.
 - 8.** Owner's occupancy requirements.
 - 9.** Work restrictions.
 - 10.** Specification formats and conventions.
- B.** Related Sections include the following:
 - 1.** Section 01 50 00 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.
 - 2.** Section 01 23 00, Alternates
 - 3.** Section 01 17 70, Closeout Procedures

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A.** Project Identification: **Civic Center Green Room Renovation**
 - 1.** Project Location: **314 Clifton Court, Valdez, Alaska 99686**
- B.** Owner: City of Valdez, 212 Chenega Ave., Valdez, Alaska
 - 1.** Owner's Representative: Lindy Vititow, Project Manager, 300 Airport Rd. Ste 201, Valdez, Alaska
- C.** Architect: Wolf Architecture, Inc., 625 South Cobb St. Ste. 200, Palmer, Alaska

- A.** The Work includes provisions for all supplies, tools, equipment, scaffolding, transportation, utilities, services, superintendence, and labor, and the furnishing of all materials, items, and accessories needed for the total construction of the project in strict conformance with the Contract Documents and to deliver to Owner a complete, operating facility suitable for occupancy and use as a public safety building.
- B.** The Work consists of renovation of several rooms in the Valdez Civic Center Basement.
1. All Architectural, Mechanical, and Electrical work required to complete the Building upgrades.
 2. Coordination/cooperation with other contractors/owner's agents
 3. Work is required to be done without disruption of Civic Center operations. Contractor required to propose and have Owner-approved plan for any disruption of access or use.
 4. All work included in construction documents not noted as an alternate to be completed as Base Bid. Including but not limited to:
 - a. Remove and replace finishes—flooring, ceiling (partial), casework, toilet partitions
 - b. Remove and replace casework, sinks, faucets.
 - c. Install new lighting throughout; patch and paint ceilings as necessary.
 - d. Remove and replace mirrors and trims; add window treatment where shown.
 - e. Relocate/add data outlets.
 - f. Paint walls, doors, frames
 - g. Upgrade ventilation to Green Room and Dressing Rooms.
 - h. Install new tack board and prepare for OFCI large screen monitor.
 - i. Reroute Fire alarm circuits above ceiling.

1.05 WORK SEQUENCE

- A.** The schedule below contains certain specific dates. Completion dates shall be adhered to and are the last acceptable dates, unless modified by mutual agreement between the Contractor and the Owner. All dates indicate midnight, unless otherwise stipulated. The only exceptions to this schedule are defined in the General Conditions, Section 8.3 Delays and Extensions of Time.

1. Construction Work Window	June 16-November 25, 2025*
2. Substantial Completion:	60 days after start of construction
3. Final Completion:	TBD based on Owner approval

***Construction work is not permitted outside of this window. Construction schedule must be submitted and pre-approved by the COV Project Manager prior to the start of work on site.**

1.06 CONTRACTOR'S USE OF PREMISES

A. Work Rules:

Note: The Owner reserves the right to direct the Contractor to immediately remove any individual that the Owner determines has violated these rules or constitutes a danger to COV Staff or Employees.

1. Behavior:
 - a. The Owner's Representative will not tolerate inappropriate behavior by any worker on a job site toward COV personnel or members of the public.
 - b. The Contractor shall not allow obscene, offensive or otherwise inappropriate material to be displayed in job offices, trailers or on the project site or building under construction. If such material is displayed it shall be immediately removed by the Contractor and/or when requested by the Owner's Representative.
2. Fire Safety:
 - a. Where significant or continued non-compliance with fire safety is noted, Owner's Representative reserves the right to stop the work at no extra cost or extension of time, pending remedial action. Reimburse Owner as appropriate, for any fines or penalties levied by the local fire department.
 - b. Report all construction fires and/or hazardous spills immediately via 911 and to Owner's Representative.
 - c. Outdoor storage and staging operations may not impede egress, restrict fire fighting access, or present a fire exposure to new construction. Provide adequate separation between buildings and construction trailers.
3. Use of the Site:
 - a. Limit use of the premises to the work in areas indicated and as determined by the Owner so as to not interfere with Civic Center operations. Use of the site allows limited use of dock and parking lot as identified in drawings or in pre-bid conference.
 - b. Civic Center operations shall not be impeded in any way during contract period without the written consent of the Owner.

Coordinate with Owner for removal schedule on demolition items

4. Temporary Enclosures:
 - a. Security: Protect Work, stored products, and construction equipment from theft and vandalism and protect premises from entry by unauthorized persons. At the end of work day, close temporary enclosures and lock exterior doors and/or gate. Secure all openings at any time site is left unoccupied.
 - b. Safety: Ensure movement through hallway at all times for adequate emergency egress out of construction area.

5. Construction staging, material storage, worker parking to be located on north parking lot. Exact location within this parking lot must be coordinated and pre-approved by COV Project Manager. Access to work area limited to service dock entrance.

1.07 CONSTRUCTION WORK HOURS AND DATES

The hours of construction are limited to: No limits on hours or days of the week during 60 day construction period without prior notice by COV Project Manager.

Construction Schedule must be submitted which conforms to dates above.

1.09 RELATED WORK BY OWNER OR OTHERS

- A. NIC, OFOI Items: Items designated on the Drawings and/or described in the Specifications as "NIC" (Not in Contract) or "OFOI" (Owner Furnished/Owner Installed) are not included in the Contract. Owner provided furnishings and equipment may arrive on site prior to Final Completion and the Contractor must make accommodation for the equipment within the facility.
 1. Owner Furnished Equipment and Furnishings
Chairs and Tables
- B. Contractor's Responsibilities:
 1. Designate delivery date for each portion of the Work in the Progress Schedule.
 2. Storage of products if requested.
 3. Coordinate installation with Owner.
 4. Provide all preparatory work necessary for proper installation including blocking and backing and finish work including caulking, grouting, furring, preparation of subfloors for finish flooring materials, and painting adjacent surfaces as required for NIC or OFOI equipment.

1.10 OWNER-FURNISHED PRODUCTS

- A.** OFCI Items: Items designated on project Drawings and/or described as "OFCI" (Furnished by Owner and installed by Contractor).
- 1.** Green Room wall monitor—mount and blocking
 - 2.** Toilet Room Accessories
 - a. Paper towel dispensers
 - b. Toilet paper dispensers
 - c. Hand soap dispensers
- B.** Contractor's Responsibilities:
- a. Designate submittals and delivery date for each product in Progress Schedule.
 - b. Review shop drawings, product data, samples, and other submittals. Submit to Architect with notification of any observed discrepancies or problems anticipated due to non-conformance with Contract Documents.
 - c. Receive and unload products at site.
 - d. Inspect deliveries jointly with Owner, record shortages and damaged or defective items.
 - e. Handle products at site, including uncrating and storage.
 - f. Protect products from damage and from exposure to elements.
 - g. Assemble, install, connect, adjust, and finish products as stipulated in respective specifications sections.
 - h. Provide installation inspections required by public authorities.
 - i. Clean, repair, or replace items damaged by Contractor.
 - j. Remove and dispose of crating and packing materials for Owner-furnished materials and equipment delivered to the site.

1.11 CONTRACTOR DESIGNED ELEMENTS

- A.** Where work of this Contract requires Contractor design, Contractor shall comply with following requirements.

1. Submit Shop Drawings and calculations to Architect for design team review.
2. All Shop Drawings and calculations shall be stamped by a registered architect or engineer licensed in State of Alaska.

1.13 EXISTING UTILITIES

- A. Contractor may use electric power and water in facility as long as tools/equipment does not overload circuits.
- B. Contractor to provide temporary, portable toilet facilities for workers. Locate in Owner-designated staging area.

1.15 TYPE OF CONTRACT

- A. Project will be constructed under a single prime contract.

1.16 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Divisions and Sections using the 50-division format and CSI/CSC's "MasterFormat" numbering system.
 1. Section Identification: The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.
 2. Division 1: Sections in Division 1 govern the execution of the Work of all Sections in the Specifications.
- B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
 2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may

be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.

- a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 10 00

SECTION 01 23 00

ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A.** This Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

- A.** Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1.** The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

- A.** Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1.** Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B.** Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
- C.** Execute accepted alternates under the same conditions as other work of the Contract.

- D.** Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A.** ALTERNATE 1--TOILET FIXTURES, WALL, FINISH REPLACEMENT
- a. Demo plumbing walls, fixtures, partitions, accessories in Toilet/Shower Rooms
 - b. Rebuild plumbing walls, install new supply/waste lines, fixtures, supports and finishes, toilet partitions
 - c. Re-skin Toilet/Shower Rm walls, install new GWB and wall protection.
- B.** ALTERNATE 2--LIGHTING
- a. Prepare for and install upgraded light fixtures as indicated in Electrical
 - b. Provide and install acoustic ceiling tile
 - c. Stand off mirrors to align with face of new light fixtures
- C.** ALTERNATE 3—DATA
- d. Add data drops, see Electrical

END OF SECTION 01 23 00

SECTION 01 26 00

CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A.** This Section specifies administrative and procedural requirements for handling and processing Contract modifications.
- B.** Related Sections include the following:
 - 1.** Division 1 Section "Product Requirements" for administrative procedures for handling requests for substitutions made after Contract award.

1.3 MINOR CHANGES IN THE WORK

- A.** Architect will issue through the City of Valdez Project Manager supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time.

1.4 PROPOSAL REQUESTS

- A.** Owner-Initiated Proposal Requests: The COV Project Manager, or the Architect at the request of the COV Project Manager, will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1.** Proposal Requests issued by the Architect or Project Manager are for information only. Proposal Requests are not to be considered as instructions either to stop work in progress or to execute the proposed change.
 - 2.** Within 20 days after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change must be made.
 - a.** Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.

- b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - e. The Contractor is required to notify Owner in writing as soon as possible if it determined that an estimated cost cannot be determined and state the reason why an estimate cannot be given. The inability to provide a cost will not be considered as a basis of delay by the Contractor.
- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to the Architect and Project Manager.
 - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 - 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - 4. Include costs of labor and supervision directly attributable to the change.
 - 5. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - 6. Comply with requirements in Division 1 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.
- C. Proposal Request Form: Use forms provided by Owner. The use of any other form is prohibited and will not be considered as valid by the Matanuska Susitna Borough.

1.5 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Proposal Request, the Owner's Project Manager will issue a Change Order for signatures of Owner and Contractor.
- B. The Owners Project Managers signature does not authorize the change order.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 26 00

SECTION 01 29 00

PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A.** This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B.** Related Sections include the following:
 - 1.** Division 1 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 2.** Division 1 Section "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.

1.3 DEFINITIONS

- A.** Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

- A.** Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule. A cost-loaded CPM Schedule may serve to satisfy requirements for the Schedule of Values.
 - 1.** Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:
 - a.** Application for Payment forms with Continuation Sheets.
 - b.** Submittals Schedule.

- c. Contractor's Construction Schedule.
 2. Submit the Schedule of Values to Architect through the Project Manager at the earliest possible date but no later than fourteen days before the date scheduled for submittal of initial Applications for Payment.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.
 1. Identification: Include the following Project identification on the Schedule of Values:
 - a. Project name and location.
 - b. Name of Architect.
 - c. Architect's project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division.
 - b. Description of the Work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Change Orders (numbers) that affect value.
 - f. Dollar value.
 - 1) Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
 3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate. Include separate line items under required principal subcontracts for operation and maintenance manuals, punch list activities, Project Record Documents, and demonstration and training in the amount of 5 percent of the Contract Sum.
 4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
 5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site. If specified, include evidence of insurance or bonded warehousing.

6. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
7. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
8. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.
9. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and Project Manager and paid for by Owner.
 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Forms: Use forms provided by Owner for Applications for Payment. Sample copies are included at end of this Section.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect or Project Manager will return incomplete applications without action.
 1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
 2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
 3. Indicate percentage complete for work complete for each item listed on pay request.

- E.** Transmittal: Submit three, (3) signed and notarized original copies of each Application for Payment to the Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- F.** Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 5. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.
- G.** Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of Values.
 3. Contractor's Construction Schedule (preliminary if not final).
 4. Products list.
 5. Schedule of unit prices.
 6. Submittals Schedule (preliminary if not final).
 7. Copies of building permits.
 8. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 9. Certificates of insurance and insurance policies.
 10. Performance and payment bonds.
- H.** Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

- I. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
 1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
 5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
 6. AIA Document G707, "Consent of Surety to Final Payment."
 7. Evidence that claims have been settled.
 8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
 9. Final, liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 29 00

SECTION 01 31 00

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A.** This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1.** Coordination Drawings.
 - 2.** Administrative and supervisory personnel.
 - 3.** Project meetings.
 - 4.** Requests for Interpretation (RFIs) and Field Memos (FMs) which may be issued by Owner or Architect.
- B.** Each contractor shall participate in coordination requirements. Certain areas of responsibility will be assigned to a specific contractor.
- C.** Related Sections include the following:
 - 1.** Division 1 Section "Construction Progress Documentation" for preparing and submitting Contractor's Construction Schedule.
 - 2.** Division 1 Section "Execution Requirements" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
 - 3.** Division 1 Section "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

- A.** RFI: Request from Contractor seeking interpretation or clarification of the Contract Documents.

1.4 COORDINATION

- A.** Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work.

Coordinate construction operations, included in different sections, which depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
 3. Make adequate provisions to accommodate items scheduled for later installation.
 4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.
 5. Along with periodic inspections by the City building inspector, the Contractor is required to plan for **rough in** and **substantial completion inspections** by the Owner and design team. **Contractor is to coordinate and schedule these inspections and notify the Architect one week in advance of the inspections.**
- B.** Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C.** Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's Construction Schedule.
 2. Preparation of the Schedule of Values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Pre-installation conferences.
 7. Project closeout activities.
 8. Startup and adjustment of systems.
 9. Project closeout activities.
- D.** Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.
1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as Owner's property.

1.5 SUBMITTALS

- A.** Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components

or if coordination is required for installation of products and materials fabricated by separate entities.

1. Content: Project-specific information, drawn accurately to scale. Do not base Coordination Drawings on reproductions of the Contract Documents or standard printed data. Include the following information, as applicable:
 - a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
 - b. Indicate required installation sequences.
 - c. Indicate dimensions shown on the Contract Drawings and make specific note of dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect for resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
2. Sheet Size: At least 8-1/2 by 11 inches(215 by 280 mm) but no larger than 30 by 42 inches.
3. Number of Copies: Submit drawings in PDF format and post on project internet based posting site.
4. Refer to individual Sections for Coordination Drawing requirements for Work in those Sections.

B. Key Personnel Names: Within fifteen (15) days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.6 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

A. General: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work.

1.7 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.

B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than fifteen (15) days after execution of the Agreement. Hold the conference at Project site or another

convenient location. Conduct the meeting to review responsibilities and personnel assignments.

1. Attendees: Authorized representatives of Owner, Construction Manager, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Critical work sequencing and long-lead items.
 - c. Designation of key personnel and their duties.
 - d. Procedures for processing field decisions and Change Orders.
 - e. Procedures for RFIs.
 - f. Procedures for testing and inspecting.
 - g. Procedures for processing Applications for Payment.
 - h. Distribution of the Contract Documents.
 - i. Submittal procedures.
 - j. Preparation of Record Documents.
 - k. Use of the premises and existing building.
 - l. Work restrictions.
 - m. Owner's occupancy requirements.
 - n. Responsibility for temporary facilities and controls.
 - o. Construction waste management and recycling.
 - p. Parking availability.
 - q. Office, work, and storage areas.
 - r. Equipment deliveries and priorities.
 - s. First aid.
 - t. Security.
 - u. Progress cleaning.
 - v. Working hours.
- C. Pre-installation Conferences: Conduct a pre-installation conference at Project site before each construction activity that requires coordination with other construction.
1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect, Owner and Construction Manager of scheduled meeting dates.
 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. The Contract Documents.
 - b. Options.
 - c. Related RFIs.
 - d. Related Change Orders.

- e. Purchases.
 - f. Deliveries.
 - g. Submittals.
 - h. Owner Access.
 - i. Possible conflicts.
 - j. Compatibility problems.
 - k. Time schedules.
 - l. Weather limitations.
 - m. Manufacturer's written recommendations.
 - n. Warranty requirements.
 - o. Compatibility of materials.
 - p. Acceptability of substrates.
 - q. Temporary facilities and controls.
 - r. Space and access limitations.
 - s. Regulations of authorities having jurisdiction.
 - t. Testing and inspecting requirements.
 - u. Installation procedures.
 - v. Coordination with other work.
 - w. Required performance results.
 - x. Protection of adjacent work.
 - y. Protection of construction and personnel.
- 3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
 - 4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.
 - 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Progress Meetings:** Conduct progress meetings at regular intervals agreed to by the Owner. Coordinate dates of meetings with preparation of payment requests.
- 1. Attendees: In addition to representatives of Owner, Construction Manager, and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to

ensure that current and subsequent activities will be completed within the Contract Time.

- 1) Review schedule for next period.
- b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Work hours.
 - 10) Hazards and risks.
 - 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Status of correction of deficient items.
 - 14) Field observations.
 - 15) RFIs.
 - 16) Status of proposal requests.
 - 17) Pending changes.
 - 18) Status of Change Orders.
 - 19) Pending claims and disputes.
 - 20) Documentation of information for payment requests.
 - 21) Field Memos (FM-O # for requested by owner to contractor for proposals)
3. Minutes: Architect will record and distribute to Contractor and Owner the meeting minutes.
4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.
 - a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

1.8 REQUESTS FOR INTERPRETATION

- A. Procedure: Immediately on discovery of the need for interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, prepare and submit an RFI in the form specified.
 1. RFIs shall originate with Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

- B.** Content of the RFI: Include a detailed, legible description of item needing interpretation and the following:
1. Project name.
 2. Date.
 3. Name of Contractor.
 4. Name of Architect and Construction Manager.
 5. RFI number, numbered sequentially.
 6. Specification Section number and title and related paragraphs, as appropriate.
 7. Drawing number and detail references, as appropriate.
 8. Field dimensions and conditions, as appropriate.
 9. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 10. Contractor's signature.
 11. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.
 - a. Supplementary drawings prepared by Contractor shall include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments.
- C.** Architect's and Construction Manager's Action: Architect and Construction Manager will review each RFI, determine action required, and return it. Allow seven (7) working days for Architect's response for each RFI. RFIs received after 1:00 p.m. will be considered as received the following working day.
1. The following RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for coordination information already indicated in the Contract Documents.
 - d. Requests for adjustments in the Contract Time or the Contract Sum.
 - e. Requests for interpretation of Architect's actions on submittals.
 - f. Incomplete RFIs or RFIs with numerous errors.
 2. Architect's action may include a request for additional information, in which case Architect's time for response will start again.
 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 1 Section "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect and Construction Manager in writing within ten (7) days of receipt of the RFI response. The 7 day timeframe referenced above will be included within the timeframe allowed for Proposal Requested outlined in Specification Section 01250. If the Contractor requires additional time to determine costs for a particular proposal, notification must be given to the MSB within 14 days.
- D.** On receipt of Architect's and Construction Manager's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify

Architect and Construction Manager within seven (7) days if Contractor disagrees with response.

PART 2 - ELECTRONIC DOCUMENT PROCESSING SERVICE

2.1 DEFINITIONS

A. Web Based Software (also known as “Electronic Document Processing Services”): An internet based programs, processes and information used to manage the construction of the project. Project management entails processes such as scheduling, calculating a critical path, building timelines, creating task lists, managing resources, controlling documents and providing audit trails. Each of these processes can be controlled through project management software solutions.

2.2 CONTENT

A. To expedite the electronic review process, the contractor shall process all documents through a web-based software service.

B. Sending documents via email, FTP or paper, unless otherwise noted, will not be accepted.

C. The web-based software shall allow an unlimited number of users to be added to the project.

D. The web-based software shall provide status logs, reports, searching and automated notifications.

E. The web-based software shall include at a minimum the following modules:

- a)** Submittals
- b)** Submittal Register
- c)** RFIs (Request for Information)
- d)** Field Reports
- e)** Pay Applications
- f)** Storage for Construction Documents and Specifications
- g)** Revision Documents (ASI, CCD, PR, PCO, COR, CO, etc)
- h)** Meeting Minutes
- i)** Gantt charts and milestones

F. The web-based software shall provide integrated web-based markup tools. All users shall be able to markup a centralized file to eliminate redundancy of files.

G. The routing of the documents shall be automated, so the documents will automatically be sent to design team users based on trade or discipline.

H. The web-based software company shall provide a minimum of two training sessions per

project by web conference.

- I. The web-based software shall include a downloadable offline archive of all project data.
- J. The web-based software shall provide tools for subcontractors to submit documents to contractor. Software must be capable of allowing contractor to review information before submitting to the design team and owner. It is at the contractor's discretion if the subcontractor submits documents through the web-based software.
- K. Color samples and other submittals requiring physical review shall be logged into the system and delivered by mail or courier as stipulated in other sections.

PART 3 - PRODUCTS

Basis of Design: Autodesk Construction Cloud, Newforma, or Procore.

END OF SECTION 01 31 00

SECTION 01 32 00

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A.** This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1.** Contractor's Construction Schedule.
 - 2.** Submittals Schedule.
- B.** Related Sections include the following:
 - 1.** Division 1 Section "Payment Procedures" for submitting the Schedule of Values.
 - 2.** Division 1 Section "Project Management and Coordination" for submitting and distributing meeting and conference minutes.
 - 3.** Division 1 Section "Submittal Procedures" for submitting schedules and reports.
 - 4.** Division 1 Section "Quality Requirements" for submitting a schedule of tests and inspections.

1.3 DEFINITIONS

- A.** Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
 - 1.** Predecessor Activity: An activity that precedes another activity in the network.
 - 2.** Successor Activity: An activity that follows another activity in the network.
- B.** Event: The starting or ending point of an activity.
- C.** Float: The measure of leeway in starting and completing an activity.
 - 1.** Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
 - 2.** Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.

3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

D. Major Area: A story of construction, a separate building, or a similar significant construction element.

E. Milestone: A key or critical point in time for reference or measurement.

1.4 SUBMITTALS

A. Submittals Schedule: Submit digital PDF file of schedule. Arrange the following information in a tabular format:

1. Scheduled date for first submittal.
2. Specification Section number and title.
3. Submittal category (action or informational).
4. Name of subcontractor.
5. Description of the Work covered.
6. Scheduled date for Architect's and Construction Manager's final release or approval.

B. Contractor's Construction Schedule: Submit an electronic copy of schedule, in PDF Format, and labeled to comply with requirements for submittals. Include type of schedule (Initial or Updated) and date on label.

1.5 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.

B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from parties involved.
2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 SUBMITTALS SCHEDULE

- A.** Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.
1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
 2. Final Submittal: Submit concurrently with the first complete submittal of Contractor's Construction Schedule.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A.** Procedures: Comply with procedures contained in AGC's "Construction Planning & Scheduling."
- B.** Time Frame: Extend schedule from date established for the Notice to Proceed to date of Final Completion.
1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- C.** Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
1. Activity Duration: Define activities so no activity is longer than twenty (20) days, unless specifically allowed by Architect.
 2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
 3. Submittal Review Time: Include review and resubmittal times indicated in Division 1 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
 4. Startup and Testing Time: Include not less than 20 days for startup and testing.
 5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's and Construction Manager's administrative procedures necessary for certification of Substantial Completion.
- D.** Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
1. Phasing: Arrange list of activities on schedule by phase.

2. Provide specific timetable for mechanical and electrical work associated with the renovation and replacement of existing systems. Specifically detail downtime associated with replacement of existing boilers and associated equipment.
 3. Indicate amount of time projected in which the facility will be operating off a temporary generator related to the work on the existing electrical system.
- E. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion.
- F. Cost Correlation: At the head of schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of the Work performed as of dates used for preparation of payment requests.
1. Refer to Division 1 Section "Payment Procedures" for cost reporting and payment procedures.

2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's Construction Schedule within thirty (30) days of date established for the Notice to Proceed. Base schedule on the Preliminary Construction Schedule and whatever updating and feedback was received since the start of Project.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
1. For construction activities that require 3 months or longer to complete, indicate an estimated completion percentage in ten (10) percent increments within time bar.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 3. As the Work progresses, indicate Actual Completion percentage for each activity.

- B.** Distribution: Distribute copies of approved schedule to Architect, Construction Manager, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
- 1.** Post copies in Project meeting rooms and temporary field offices.
 - 2.** When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 01 32 00

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A.** This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B.** Related Sections include the following:
 - 1.** Division 1 Section "Payment Procedures" for submitting Applications for Payment and the Schedule of Values.
 - 2.** Division 1 Section "Project Management and Coordination" for submitting and distributing meeting and conference minutes and for submitting Coordination Drawings.
 - 3.** Division 1 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's Construction Schedule and the Submittals Schedule.
 - 4.** Division 1 Section "Quality Requirements" for submitting test and inspection reports.
 - 5.** Division 1 Section "Closeout Procedures" for submitting warranties.
 - 6.** Division 1 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
 - 7.** Division 1 Section "Operation and Maintenance Data" for submitting operation and maintenance manuals.
 - 8.** Division 1 Section "Demonstration and Training" for submitting videotapes of demonstration of equipment and training of Owner's personnel.
 - 9.** Divisions 2 through 28 Sections for specific requirements for submittals in those Sections.

1.3 DEFINITIONS

- A.** Action Submittals: Written and graphic information that requires Architect's and Construction Manager's responsive action.

- B.** Informational Submittals: Written information that does not require Architect's and Construction Manager's responsive action. Submittals may be rejected for not complying with requirements.

1.4 SUBMITTAL PROCEDURES

- A.** General: Electronic copies of base drawings utilized as the basis of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals.
- B.** Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 1.** Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 2.** Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a.** Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C.** Submittals Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation" for list of submittals and time requirements for scheduled performance of related construction activities.
- D.** Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
 - 1.** Initial Review: Allow fifteen (15) days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 - 2.** Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 - 3.** Resubmittal Review: Allow fifteen (15) days for review of each resubmittal.
 - 4.** Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow fifteen (15) days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.
- E.** Identification: Place a permanent label or title block on each submittal for identification.
 - 1.** Indicate name of firm or entity that prepared each submittal on label or title block.
 - 2.** Provide a space approximately 6 by 8 inches (150 by 200 mm) on label or beside title block to record Contractor's review and approval markings and action taken by Architect and Construction Manager.

3. Include the following information on label for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.
 - d. Name and address of Contractor.
 - e. Name and address of subcontractor.
 - f. Name and address of supplier.
 - g. Name of manufacturer.
 - h. Submittal number or other unique identifier, including revision identifier.
 - 1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 06100.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 06100.01.A).
 - i. Number and title of appropriate Specification Section.
 - j. Drawing number and detail references, as appropriate.
 - k. Location(s) where product is to be installed, as appropriate.
 - l. Other necessary identification.
- F. Deviations: Highlight, encircle or otherwise specifically identify deviations from the Contract Documents on submittals.
- G. Additional Copies: Unless additional copies are required for final submittal, and unless Architect or Construction Manager observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
 1. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect and Construction Manager.
 2. Additional copies submitted for maintenance manuals will not be marked with action taken and will be returned.
- H. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect and Construction Manager will return submittals, without review, received from sources other than Contractor.
 1. Transmittal Form: Use AIA Document G810 or CSI Form 12.1A.
 2. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect and Construction Manager on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same label information as related submittal.
- I. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
 1. Note date and content of previous submittal.
 2. Note date and content of revision in label or title block and clearly indicate extent of revision.

3. Resubmit submittals until they are marked with approval notation from Architect's (and Construction Manager's) action stamp.
- J. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- K. Use for Construction: Use only final submittals with mark indicating approval notation from Architect's and Construction Manager's action stamp taken by Architect and Construction Manager.

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
 1. Contractor is to set up a permanent project specific electronic file storage site for transmittal of project documents including but not limited to submittals, pay requests, log updates, Requests for proposals, RFI's and schedule updates. Site access is required to secure and access limited to Contractor, Owner, and Architect.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's written recommendations.
 - b. Manufacturer's product specifications.
 - c. Manufacturer's installation instructions.
 - d. Standard color charts.
 - e. Manufacturer's catalog cuts.
 - f. Wiring diagrams showing factory-installed wiring.
 - g. Printed performance curves.
 - h. Operational range diagrams.
 - i. Mill reports.
 - j. Standard product operation and maintenance manuals.
 - k. Compliance with specified referenced standards.
 - l. Testing by recognized testing agency.
 - m. Application of testing agency labels and seals.
 - n. Notation of coordination requirements.
 4. Submit Product Data before or concurrent with Samples.

5. Number of Copies: one (1) PDF copy of data, unless otherwise indicated. Architect, through Construction Manager, will review and upload reviewed files to project cloud location. Mark up and retain one returned copy as a Project Record Document.
- C. Shop Drawings:** Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data. Submittal of Architect's CAD Drawings is not permitted as a formal submittal.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Dimensions.
 - b. Identification of products.
 - c. Fabrication and installation drawings.
 - d. Roughing-in and setting diagrams.
 - e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
 - f. Shop work manufacturing instructions.
 - g. Templates and patterns.
 - h. Schedules.
 - i. Design calculations.
 - j. Compliance with specified standards.
 - k. Notation of coordination requirements.
 - l. Notation of dimensions established by field measurement.
 - m. Relationship to adjoining construction clearly indicated.
 - n. Seal and signature of professional engineer if specified.
 - o. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches(215 by 280 mm) but no larger than 30 by 42 inches.
 3. Number of Copies: Submit two (2) opaque copies and a digital PDF of each submittal, unless copies are required for operation and maintenance manuals. Submit Two (2) copies where copies are required for operation and maintenance manuals. Architect and Construction Manager will retain One (1) copies; remainder will be returned. Mark up and retain one returned copy as a Project Record Drawing.
- D. Samples:** Submit Physical Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed. Digital samples will be rejected.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.

- c. Sample source.
 - d. Number and title of appropriate Specification Section.
 - 3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
 - 4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit Two (2) full sets of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect, through Construction Manager will return submittal with options selected.
 - 5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit two (2) sets of Samples. Architect and Construction Manager will retain one (1) Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a Project Record Sample.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least Two (2) sets of paired units that show approximate limits of variations.
- E. Product Schedule or List: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
 - 1. Type of product. Include unique identifier for each product.
 - 2. Number and name of room or space.
 - 3. Location within room or space.
 - 4. Number of Copies: Submit digital PDF file of product schedule or list, unless otherwise indicated. Architect, through Construction Manager, will review and return.

- a.** Mark up and retain one returned copy as a Project Record Document.
- F.** Contractor's Construction Schedule: Comply with requirements specified in Division 1 Section "Construction Progress Documentation" for Construction Manager's action.
- G.** Submittals Schedule: Comply with requirements specified in Division 1 Section "Construction Progress Documentation."
- H.** Application for Payment: Comply with requirements specified in Division 1 Section "Payment Procedures."
- I.** Schedule of Values: Comply with requirements specified in Division 1 Section "Payment Procedures."
- J.** Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
 - 1.** Name, address, and telephone number of entity performing subcontract or supplying products.
 - 2.** Number and title of related Specification Section(s) covered by subcontract.
 - 3.** Drawing number and detail references, as appropriate, covered by subcontract.
 - 4.** Number of Copies: Submit subcontractor list through document electronic document service Architect.
 - a.** Mark up and retain one returned copy as a Project Record Document.

2.2 INFORMATIONAL SUBMITTALS

- A.** General: Prepare and submit Informational Submittals required by other Specification Sections.
 - 1.** Number of Copies: Submit digital PDF file of each submittal, unless otherwise indicated. Architect and Construction Manager will not return copies.
 - 2.** Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
 - 3.** Test and Inspection Reports: Comply with requirements specified in Division 1 Section "Quality Requirements."
- B.** Coordination Drawings: Comply with requirements specified in Division 1 Section "Project Management and Coordination."
- C.** Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

- D.** Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.
- E.** Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- F.** Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- G.** Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- H.** Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- I.** Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- J.** Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- K.** Research/Evaluation Reports: Prepare written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:

 - 1. Name of evaluation organization.
 - 2. Date of evaluation.
 - 3. Time period when report is in effect.
 - 4. Product and manufacturers' names.
 - 5. Description of product.
 - 6. Test procedures and results.
 - 7. Limitations of use.
- L.** Schedule of Tests and Inspections: Comply with requirements specified in Division 1 Section "Quality Requirements."
- M.** Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

- N.** Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- O.** Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- P.** Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements specified in Division 1 Section "Operation and Maintenance Data."
- Q.** Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.
- R.** Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:
1. Preparation of substrates.
 2. Required substrate tolerances.
 3. Sequence of installation or erection.
 4. Required installation tolerances.
 5. Required adjustments.
 6. Recommendations for cleaning and protection.
- S.** Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:
1. Name, address, and telephone number of factory-authorized service representative making report.
 2. Statement on condition of substrates and their acceptability for installation of product.
 3. Statement that products at Project site comply with requirements.
 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 6. Statement whether conditions, products, and installation will affect warranty.
 7. Other required items indicated in individual Specification Sections.

- T.** Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.
- U.** Material Safety Data Sheets (MSDSs): Submit information directly to Owner; do not submit to Architect, except as required in "Action Submittals" Article.
 - 1.** Architect will not review submittals that include MSDSs and will return the entire submittal for resubmittal.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A.** Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect and Construction Manager.
- B.** Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S AND CONSTRUCTION MANAGER'S / ACTION

- A.** General: Architect and Construction Manager will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B.** Action Submittals: Architect and Construction Manager will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect and Construction Manager will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
- C.** Informational Submittals: Architect and Construction Manager will review each submittal and will not return it or will return it if it does not comply with requirements. Architect and Construction Manager will forward each submittal to appropriate party.
- D.** Partial submittals are not acceptable, will be considered non-responsive, and will be returned without review.
- E.** Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 01 33 00

SECTION 01 40 00

QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A.** This Section includes administrative and procedural requirements for quality assurance, and quality control.
- B.** Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1.** Specific quality-assurance and control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
 - 2.** Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
 - 3.** Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, Construction Manager, or authorities having jurisdiction are not limited by provisions of this Section.
- C.** Related Sections include the following:
 - 1.** Division 1 Section "Construction Progress Documentation" for developing a schedule of required tests and inspections.
 - 2.** Division 1 Section "Cutting and Patching" for repair and restoration of construction disturbed by testing and inspecting activities.
 - 3.** Divisions 2 through 16 Sections for specific test and inspection requirements.

1.3 DEFINITIONS

- A.** Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

- B.** Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect or Construction Manager.
- C.** Preconstruction Testing: Tests and inspections that are performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.
- D.** Rough-In Inspection: Inspection performed by Owner, Architect, Engineers, and/or other authorized individual to verify the products and materials incorporated into the work has been done in accordance with design standards and specifications prior to work being enclosed or otherwise obscured from view.
- E.** Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with industry standards.
- F.** Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.
- G.** Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- H.** Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- I.** Substantial Inspection: Inspection performed by Owner, Architect, Engineers, and/or other authorized individual to verify the products and materials incorporated into the work have been done in accordance with design standards and specifications.
- J.** Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
 - 1.** Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to trades people of the corresponding generic name.
- K.** Experienced: When used with an entity, "experienced" means having successfully completed a minimum of five (5) previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.4 CONFLICTING REQUIREMENTS

- A.** General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B.** Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.5 SUBMITTALS

- A.** Qualification Data:

1.6 QUALITY ASSURANCE

- A.** General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B.** Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- C.** Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D.** Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- E.** Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.
- F.** Specialists: Certain sections of the Specifications require that specific construction activities shall be performed by entities who are recognized experts in those

operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirement for specialists shall not supersede building codes and regulations governing the Work.

G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 548; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.

1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.

2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

H. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.7 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.

2. Costs for retesting and re-inspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor.

B. Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.

1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.

a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.

2. Notify testing agencies at least twenty four (24) hours in advance of time when Work that requires testing or inspecting will be performed.

3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.

4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.

5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

- C. **Manufacturer's Field Services:** Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 1 Section "Submittal Procedures."
- D. **Retesting/Reinspecting:** Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- E. **Testing Agency Responsibilities:** Cooperate with Architect, Construction Manager, and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
 - 1. Notify Architect, Construction Manager, and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 - 2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
 - 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 - 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 - 5. Does not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 - 6. Do not perform any duties of Contractor.
- F. **Associated Services:** Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
 - 1. Access to the Work.
 - 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 - 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 - 4. Facilities for storage and field curing of test samples.
 - 5. Delivery of samples to testing agencies.
 - 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 - 7. Security and protection for samples and for testing and inspecting equipment at Project site.
- G. **Coordination:** Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
 - 1. Schedule times for tests, inspections, obtaining samples, and similar activities.
 - 2. Schedule times for Owner Rough-In and Substantial Inspections of all mechanical and electrical systems one week prior to inspection.

- H.** Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Submit schedule within thirty (30) days of date established for the Notice to Proceed.
- 1.** Distribution: Distribute schedule to Owner, Architect, Construction Manager, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

1.8 SPECIAL TESTS AND INSPECTIONS

- A.** Special Tests and Inspections: Conducted by a qualified testing agency or special inspector as required by authorities having jurisdiction, as indicated in individual Specification Sections, and as follows:
- 1.** Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
 - 2.** Notifying Architect, Construction Manager, and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
 - 3.** Submitting a certified written report of each test, inspection, and similar quality-control service to Architect, through Construction Manager, with copy to Contractor and to authorities having jurisdiction.
 - 4.** Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
 - 5.** Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
 - 6.** Retesting and re-inspecting corrected work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A.** Prepare a record of tests and inspections. Include the following:
- 1.** Date test or inspection was conducted.
 - 2.** Description of the Work tested or inspected.
 - 3.** Date test or inspection results were transmitted to Architect.
 - 4.** Identification of testing agency or special inspector conducting test or inspection.
- B.** Maintain log at Project site. Post changes and modifications as they occur. Provide access to test and inspection log for Architect's and Construction Manager's reference during normal working hours.

3.2 REPAIR AND PROTECTION

- A.** General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 - 1.** Provide materials and comply with installation requirements specified in other Specification Sections. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.
 - 2.** Comply with the Contract Document requirements for Division 1 Section "Cutting and Patching."
- B.** Protect construction exposed by or for quality-control service activities.
- C.** Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01 40 00

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A.** This Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

1.3 DEFINITIONS

- A.** Permanent Enclosure: As determined by Architect, permanent or temporary roofing is complete, insulated, and weathertight; exterior walls are insulated and weathertight; and all openings are closed with permanent construction or substantial temporary closures.

1.4 USE CHARGES

- A.** General: Cost or use charges for temporary facilities shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Architect, Owner's on-site project representative, testing agencies, and authorities having jurisdiction.
- B.** Portable Toilet Facilities: Contractor to provide temporary toileting facilities at their own expense for duration of
- C.** Garbage: Contractor to provide for collection, removal and proper disposal of all demolished materials. Owner may waive dump fees for non-hazardous materials.
- D.** Water Service: Contractor may use on site water for contract activities without charge.
- E.** Electric Power Service: Contractor may use on site electricity for contract activities without charge.

1.5 SUBMITTALS

- A.** Site Plan: Show temporary facilities, staging areas, and parking areas for construction personnel. Construction activities are not allowed to impede emergency service or police use of site.

1.6 QUALITY ASSURANCE

- A.** Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B.** Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.7 PROJECT CONDITIONS

- A.** Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 TEMPORARY FACILITIES

- A.** Field Offices/Storage, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.

2.2 EQUIPMENT

- A.** Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A.** Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

1. Locate facilities to limit site disturbance as specified in Division 01 Section "Summary."

B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:

1. Provide non-combustible construction for offices, shops, and sheds located within construction area or within 40 feet of building lines. Comply with NFPA 241.

2. Maintain support facilities until near Substantial Completion. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

B. Parking: Provide temporary parking areas for construction personnel so as to not impede on street traffic, access to the Civic Center. Project related personnel may not use user intended parking unless approved in advance by COV Project Manager.

C. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with Division 1 Section "Execution Requirements" for progress cleaning requirements.

3.3 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

1. Comply with work restrictions specified in Division 1 Section "Summary."

B. Security Enclosure and Lockup: Install substantial temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.

C. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

D. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations,

and similar activities. Owner to erect temporary wall in Attic to limit access to Record Storage area. Contractor to coordinate access with Owner.

3.4 OPERATION, TERMINATION, AND REMOVAL

- A.** Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B.** Maintenance: Maintain facilities in good operating condition until removal.
 - 1.** Maintain operation of temporary enclosures, heating, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C.** Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- D.** Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - 1.** Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
 - 2.** At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements specified in Division 1 Section "Closeout Procedures."

END OF SECTION 01 50 00

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; product substitutions; and comparable products.
- B. Related Sections include the following:
 - 1. Division 1 Section "Alternates" for products selected under an alternate.
 - 2. Division 1 Section "References" for applicable industry standards for products specified.
 - 3. Division 1 Section "Closeout Procedures" for submitting warranties for Contract closeout.
 - 4. Divisions 2 through 33 Sections for specific requirements for warranties on products and installations specified to be warranted.

1.3 DEFINITIONS

- A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance,

physical properties, appearance, and other characteristics that equal or exceed those of specified product.

- B. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
- C. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers.

1.4 SUBMITTALS

- A. Substitution Requests: **Submit digitally through Bid Express within question period prior to bid date.** Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified material or product cannot be provided.
 - b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated. Highlight the changes between the specified product and the proposed substitution.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
 - g. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.

- h. Cost information, including a proposal of change, if any, in the Contract Sum.
 - i. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
 - j. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within prior to bid date.

B. Comparable Product Requests: Submit one .PDF copy of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within 15 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.
 - a. Form of Approval: As specified in Division 1 Section "Submittal Procedures."
 - b. Use product specified if Architect cannot make a decision on use of a comparable product request within time allocated.

C. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 1 Section "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.

B. Delivery and Handling:

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.

2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.

C. Storage:

1. Store products to allow for inspection and measurement of quantity or counting of units.
2. Store materials in a manner that will not endanger Project structure.
3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
4. Store cementitious products and materials on elevated platforms.
5. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
7. Protect stored products from damage and liquids from freezing.

1.7 PRODUCT WARRANTIES

- A.** Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
1. **Manufacturer's Warranty:** Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 2. **Special Warranty:** Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.
- B.** **Special Warranties:** Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.
1. **Manufacturer's Standard Form:** Modified to include Project-specific information and properly executed.
 2. **Specified Form:** When specified forms are included with the Specifications, prepare a written document using appropriate form properly executed.
 3. Refer to Divisions 2 through 26 Sections for specific content requirements and particular requirements for submitting special warranties.

- C. Submittal Time: Comply with requirements in Division 1 Section "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, that are new at time of installation.
1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 4. Where products are accompanied by the term "as selected," Architect will make selection.
 5. Where products are accompanied by the term "match sample," sample to be matched is Architect's.
 6. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.
- B. Product Selection Procedures:
1. Product Options: Where Specifications indicate that sizes, profiles, and dimensional requirements on Drawings are based on a specific product or system, provide the specified product or system. Comply with provisions in Part 2 "Product Substitutions" Article for consideration of an unnamed product or system.
 2. Basis-of-Design Product: Where Specifications name a product and include a list of manufacturers, provide the specified product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product by the other named manufacturers.
 3. Sole Source Products: Under limited circumstances and in order for Owner to reasonably service and repair essential systems, no substitutions will be allowed. Examples of this include: Stand by Generator and Load Bank, Door Hardware.

2.2 PRODUCT SUBSTITUTIONS

- A.** Timing: Architect and Owner will consider requests for substitution however these may be rejected at discretion of Architect and Owner.
- B.** Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
1. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
 2. Requested substitution does not require extensive revisions to the Contract Documents.
 3. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 4. Substitution request is fully documented and properly submitted.
 5. Requested substitution will not adversely affect Contractor's Construction Schedule.
 6. Requested substitution is compatible with other portions of the Work.
 7. Requested substitution has been coordinated with other portions of the Work.
 8. Requested substitution provides specified warranty.

2.3 COMPARABLE PRODUCTS

- A.** Conditions: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
1. Evidence that the proposed product does not require extensive revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 3. Evidence that proposed product provides specified warranty.
 4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
 5. Samples, if requested.

END OF SECTION 01 60 00

PRODUCT REQUIREMENTS
01 60 00-6

SECTION 01 73 10

CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A.** This Section includes procedural requirements for cutting and patching.
- B.** Related Sections include the following:
 - 1.** Division 1 Section "Selective Demolition" for demolition of selected portions of the building.
 - 2.** Divisions 2 through 28 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

1.3 DEFINITIONS

- A.** Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.
- B.** Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.4 QUALITY ASSURANCE

- A.** Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
- B.** Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
 - 1.** Primary operational systems and equipment.
 - 2.** Air or smoke barriers.

3. Fire-detection/alarm systems.
 4. Mechanical systems piping and ducts.
 5. Control systems.
 6. Communication systems.
 7. Electrical wiring systems.
- C. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
1. Water, moisture, or vapor barriers.
 2. Membranes and flashings.
 3. Equipment supports.
 4. Piping, ductwork, vessels, and equipment.
 5. Noise- and vibration-control elements and systems.
- D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities or cause impact to Owners employee. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- E. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A.** Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
 - 1.** Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.
 - 2.** Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A.** Temporary Support: Provide temporary support of Work to be cut.
- B.** Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- C.** Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

3.3 PERFORMANCE

- A.** General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1.** Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B.** Cutting: Cut in-place construction using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1.** In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2.** Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3.** Concrete: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.

4. Proceed with patching after construction operations requiring cutting are complete.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
- D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION 01 73 10

SECTION 01 73 29

CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A.** This Section includes procedural requirements for cutting and patching.
- B.** Related Sections include the following:
 - 1.** Division 1 Section "Selective Demolition" for demolition of selected portions of the building.
 - 2.** Divisions 2 through 28 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

1.3 DEFINITIONS

- A.** Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.
- B.** Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.4 QUALITY ASSURANCE

- A.** Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
- B.** Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
 - 1.** Primary operational systems and equipment.
 - 2.** Air or smoke barriers.

3. Fire-detection/alarm systems.
 4. Mechanical systems piping and ducts.
 5. Control systems.
 6. Communication systems.
 7. Electrical wiring systems.
- C. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
1. Water, moisture, or vapor barriers.
 2. Membranes and flashings.
 3. Equipment supports.
 4. Piping, ductwork, vessels, and equipment.
 5. Noise- and vibration-control elements and systems.
- D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities or cause impact to Owners employee. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- E. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A.** Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
 - 1.** Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.
 - 2.** Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A.** Temporary Support: Provide temporary support of Work to be cut.
- B.** Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- C.** Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

3.3 PERFORMANCE

- A.** General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1.** Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B.** Cutting: Cut in-place construction using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1.** In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2.** Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3.** Concrete: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.

4. Proceed with patching after construction operations requiring cutting are complete.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
- D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION 01 73 29

SECTION 01 77 00

CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A.** This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1.** Inspection procedures.
 - 2.** Warranties.
 - 3.** Final cleaning.
- B.** Related Sections include the following:
 - 1.** Division 1 Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.
 - 2.** Division 1 Section "Execution Requirements" for progress cleaning of Project site.
 - 3.** Division 1 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
 - 4.** Division 1 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 5.** Divisions 2 through 33 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.3 SUBSTANTIAL COMPLETION

- A.** Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
 - 1.** Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2.** Advise Owner of pending insurance changeover requirements.

3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
5. Prepare and submit Project Record Documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
8. Complete startup testing of systems.
9. Submit test/adjust/balance records.
10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
11. Advise Owner of changeover in heat and other utilities.
12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
13. Complete final cleaning requirements, including touchup painting.
14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for Final Completion.

1.4 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Preparation: Submit one PDF copy of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest room number to highest room number.

2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of Architect
 - d. Name of Contractor.
 - e. Page number.
4. A re-inspection will be performed by the Architect and Owner.

1.5 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
 1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
 2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training videotapes.
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
 1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.6 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

- B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 - 1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
- D. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:

- a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - d. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - e. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - f. Sweep concrete floors broom clean in unoccupied spaces.
 - g. Remove labels that are not permanent.
 - h. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - 1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
 - i. Wipe surfaces of mechanical and electrical equipment, and food service equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - j. Replace parts subject to unusual operating conditions.
 - k. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - l. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - m. Clean ducts, blowers, and coils if units were operated without filters during construction.
 - n. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 - o. Leave Project clean and ready for occupancy.
- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 01 77 00

SECTION 01 78 23

OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A.** This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1.** Operation manuals for systems, subsystems, and equipment.
 - 2.** Maintenance manuals for the care and maintenance of products, materials, finishes, systems and equipment.
- B.** Related Sections include the following:
 - 1.** Division 1 Section "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
 - 2.** Division 1 Section "Closeout Procedures" for submitting operation and maintenance manuals.
 - 3.** Division 1 Section "Project Record Documents" for preparing Record Drawings for operation and maintenance manuals.
 - 4.** Divisions 2 through 33 Sections for specific operation and maintenance manual requirements for the Work in those Sections.

1.3 DEFINITIONS

- A.** System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B.** Subsystem: A portion of a system with characteristics similar to a system.

1.4 SUBMITTALS

- A.** Initial Submittal: Submit three (3) draft copies of each manual at least fifteen (15) days before requesting inspection for Substantial Completion prior to training. Include a

complete operation and maintenance directory. Architect will return one copy of draft and mark whether general scope and content of manual are acceptable.

- B.** Final Submittal: Submit three (3) copies of each manual in final form at least fifteen (15) days before final inspection. Architect will return copy with comments within fifteen (15) days after final inspection.
 - 1.** Correct or modify each manual to comply with Architect's/Engineers comments. Submit three (3) copies of each corrected manual within fifteen (15) days of receipt of Architect's comments.
 - 2.** Submit one full copy of O&M manual in PDF Format and post on Project web based data storage site (if applicable).

1.5 COORDINATION

- A.** Where operation and maintenance documentation includes information on installations by more than one factory-authorized service representative, assemble and coordinate information furnished by representatives and prepare manuals.

PART 2 - PRODUCTS

2.1 MANUALS, GENERAL

- A.** Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
 - 1.** Title page.
 - 2.** Table of contents.
 - 3.** Manual contents.
- B.** Title Page: Enclose title page in transparent plastic sleeve. Include the following information:
 - 1.** Subject matter included in manual.
 - 2.** Name and address of Project.
 - 3.** Name and address of Owner.
 - 4.** Date of submittal.
 - 5.** Name, address, and telephone number of Contractor.
 - 6.** Name and address of Architect.
- C.** Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents:** Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch(215-by-280-mm) paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
 - a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
 - b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.
 2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
 3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.
 4. Supplementary Text: Prepared on 8-1/2-by-11-inch(215-by-280-mm) white bond paper.
 5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
 - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.2 OPERATION MANUALS

- A. Content:** In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
1. Operating standards.
 2. Operating procedures.
 3. Operating logs.
 4. Wiring diagrams.

5. Control diagrams.
 6. Sequence of Operations
 - a. Include drawing coordinating system components
 7. Precautions against improper use.
 8. License requirements including inspection and renewal dates.
- B.** Descriptions: Include the following:
1. Product name and model number.
 2. Manufacturer's name.
 3. Equipment identification with serial number of each component.
 4. Equipment function.
 5. Operating characteristics.
 6. Limiting conditions.
 7. Performance curves.
 8. Engineering data and tests.
 9. Complete nomenclature and number of replacement parts.
- C.** Operating Procedures: Include the following, as applicable:
1. Startup procedures.
 2. Equipment or system break-in procedures.
 3. Routine and normal operating instructions.
 4. Regulation and control procedures.
 5. Instructions on stopping.
 6. Normal shutdown instructions.
 7. Seasonal and weekend operating instructions.
 8. Required sequences for electric or electronic systems.
 9. Special operating instructions and procedures.
- D.** Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.
- E.** Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.3 PRODUCT MAINTENANCE MANUAL

- A.** Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- B.** Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C.** Product Information: Include the following, as applicable:

1. Product name and model number.
 2. Manufacturer's name.
 3. Color, pattern, and texture.
 4. Material and chemical composition.
 5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
1. Inspection procedures.
 2. Types of cleaning agents to be used and methods of cleaning.
 3. List of cleaning agents and methods of cleaning detrimental to product.
 4. Schedule for routine cleaning and maintenance.
 5. Repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.

2.4 SYSTEMS AND EQUIPMENT MAINTENANCE MANUAL

- A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.
- B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
1. Standard printed maintenance instructions and bulletins.
 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
 3. Identification and nomenclature of parts and components.
 4. List of items recommended to be stocked as spare parts.
- D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:

1. Test and inspection instructions.
 2. Troubleshooting guide.
 3. Precautions against improper maintenance.
 4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 5. Aligning, adjusting, and checking instructions.
 6. Demonstration and training videotape, if available.
- E. Maintenance and Service Schedules:** Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
 2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
- F. Spare Parts List and Source Information:** Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- G. Maintenance Service Contracts:** Include copies of maintenance agreements with name and telephone number of service agent.
- H. Warranties and Bonds:** Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

- A. Product Maintenance Manual:** Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- B. Operation and Maintenance Manuals:** Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

- C. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
 - 1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.

- D. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.
 - 1. Do not use original Project Record Documents as part of operation and maintenance manuals.
 - 2. Comply with requirements of newly prepared Record Drawings in Division 1 Section "Project Record Documents."

- E. Comply with Division 1 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 01 78 23

SECTION 01 78 39

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A.** This Section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1.** Record Drawings.
 - 2.** Record Product Data.
- B.** Related Sections include the following:
 - 1.** Division 1 Section "Closeout Procedures" for general closeout procedures.
 - 2.** Division 1 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 3.** Divisions 2 through 33 Sections for specific requirements for Project Record Documents of the Work in those Sections.

1.3 SUBMITTALS

- A.** Record Drawings: Comply with the following:
 - 1.** Number of Copies: Submit one printed copy of marked-up Record Prints and one digital copy in pdf format to Architect at completion of project.
- B.** Record Product Data: Submit three (3) copies of each Product Data submittal.
 - 1.** Where Record Product Data is required as part of operation and maintenance manuals, submit marked-up Product Data as an insert in manual instead of submittal as Record Product Data.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

- A. Record Prints:** Maintain one set of black-line white prints of the Contract Drawings and Shop Drawings.
1. Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an understandable drawing technique—preferably digital.
 - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to routing of piping and conduits.
 - c. Actual equipment locations.
 - d. Duct size and routing.
 - e. Locations of concealed internal utilities.
 - f. Changes made by Change Order or Construction Change Directive.
 - g. Changes made following Architect's written orders.
 - h. Field records for variable and concealed conditions.
 3. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
 4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 5. Mark important additional information that was either shown schematically or omitted from original Drawings.
 6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Record Electronic Drawings:** Immediately before inspection for Certificate of Substantial Completion, review marked-up Record Prints with Architect and Construction Manager.
1. Incorporate changes and additional information previously marked on Record Prints. Delete, redraw, and add details and notations where applicable.

2. Refer instances of uncertainty to Architect through Construction Manager for resolution.
 3. Provide an electronic PDF copy (or scan) or redline drawing set.
- C.** Newly Prepared Record Drawings: Prepare new Drawings instead of preparing Record Drawings where Architect determines that neither the original Contract Drawings nor Shop Drawings are suitable to show actual installation.
1. New Drawings may be required when a Change Order is issued as a result of accepting an alternate, substitution, or other modification.
 2. Consult Architect and Construction Manager for proper scale and scope of detailing and notations required to record the actual physical installation and its relation to other construction. Integrate newly prepared Record Drawings into Record Drawing sets; comply with procedures for formatting, organizing, copying, binding, and submitting.
- D.** Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 2. Record electronic Drawings: Organize information into separate electronic PDF files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification.
 3. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Architect and Construction Manager.
 - e. Name of Contractor.

2.2 RECORD PRODUCT DATA

- A.** Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 3. Note related Change Orders and Record Drawings where applicable.

2.3 MISCELLANEOUS RECORD SUBMITTALS

- A.** Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

- A.** Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.
- B.** Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's and Construction Manager's reference during normal working hours.

END OF SECTION 01 78 39

SECTION 02 41 19

SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A.** This Section includes the following:
 - 1.** Demolition and removal of selected portions of building or structure.
 - 2.** Salvage of existing items to be reused or recycled.
- B.** Related Sections include the following:
 - 1.** Division 1 Section "Summary" for use of premises, and Owner-occupancy requirements.
 - 2.** Division 1 Section "Temporary Facilities and Controls" for temporary construction and environmental-protection measures for selective demolition operations.
 - 3.** Division 1 Section "Construction Waste Management" for disposal of demolished materials.
 - 4.** Division 1 Section "Cutting and Patching" for cutting and patching procedures.

1.3 DEFINITIONS

- A.** Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- B.** Remove and Salvage: Detach items from existing construction and deliver them to Owner
- C.** Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
- D.** Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 MATERIALS OWNERSHIP

- A. Items of interest or value to Owner that may be encountered during selective demolition remain Owner's property. Carefully remove and salvage each item or object in a manner to prevent damage and deliver promptly to Owner.

1.5 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI A10.6 and NFPA 241.

1.6 PROJECT CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
 - 1. Comply with requirements specified in Division 1 Section "Summary."
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: Hazardous materials are known to be present and are to be selectively demolished per Div 2 specification. Refer to appendix for known hazardous materials. Bids must provide unit costs for removal of materials not currently identified.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
- E. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs.
 - 1. Comply with requirements specified in Division 1 Section "Photographic Documentation."
- F. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems: Maintain services/systems indicated to remain and protect them against damage during selective demolition operations.
 - 1. Comply with requirements for existing services/systems interruptions specified in Division 1 Section "Summary."
- B. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - 1. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 - 2. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing.
 - a. Where entire wall is to be removed, existing services/systems may be removed with removal of the wall.
- C. Piping and Ductwork Removed: Drawings do not show all existing piping which is to be removed. Unless indicated otherwise, where existing equipment has been removed, or its use replaced by new equipment, remove connecting piping back to the branch in the main so that there will be no dead ends or unused pipe lines in mechanical spaces at completion.

- D. Wiring and Conduit Removed: Drawings do not show all existing conduit and wire which is to be removed. Unless indicated otherwise, where existing equipment has been removed, or its use replaced by new equipment, remove connecting conduit and wire back to the source of supply or nearest point in the circuit where equipment to remain is connected from so that there will be no unused conduit or wire in project area at completion.

3.3 SELECTIVE DEMOLITION, GENERAL

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

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
5. Maintain adequate ventilation when using cutting torches.
6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
9. Dispose of demolished items and materials promptly.

- B. Reuse of Building Elements: Do not demolish building elements beyond what is indicated on Drawings without Architect's approval.

- C. Removed and Salvaged Items:

1. Clean salvaged items.
2. Store items in a secure area until delivery to Owner.
3. Transport items to Owner's storage area designated by Owner.
4. Protect items from damage during transport and storage.

D. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.
2. Protect items from damage during transport and storage.
3. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

3.4 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
4. Comply with requirements specified in Division 1 Section "Construction Waste Management."

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

D. Fluorescent Bulbs, Ballasts and old Thermostats: Remove and dispose of with a verified acceptance location for fluorescent bulbs, ballasts and mercury-containing thermostats.

- 1) Fluorescent bulbs – both linear and compact bulbs are to be packaged and disposed of with a location that accepts fluorescent bulbs for reclamation.
- 2) Ballasts – ballasts containing PCBs shall be disposed of with an agency registered for EPA approved PCB storage and disposal. Note that if a ballast does not have a note stating "No PCBs", it should be assumed to have PCBs.
- 3) Thermostats – older dial thermostats that contain mercury shall be disposed of with an agency registered for EPA approved storage and disposal.

3.5 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

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END OF SECTION 01732

SELECTIVE DEMOLITION
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SECTION 06 40 16

INTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Plastic-laminate faced cabinets.
 - 2. Plastic-laminate faced countertops
 - 3. Plastic-Laminate Faced HDF w/ PVC edge banding at closet and utility shelving.
 - 4. Melamine faced finishing of interior woodwork.
- B. Related Sections include the following:
 - 1. Division 6 Section "Rough Carpentry" for wood furring, blocking, shims, and hanging strips required for installing woodwork and concealed within other construction before woodwork installation.
 - 2. Division 6 Section "Finish Carpentry" for interior carpentry exposed to view that is not specified in this Section.

1.3 DEFINITIONS

- A. Interior architectural woodwork includes wood furring, blocking, shims, and hanging strips for installing woodwork items unless concealed within other construction before woodwork installation.

1.4 SUBMITTALS

- A. Product Data: For high-pressure decorative laminate, cabinet hardware and accessories, and finishing materials and processes.
- B. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.
 - 1. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcement specified in other Sections.
 - 2. Show locations and sizes of cutouts and holes for plumbing fixtures, faucets, and other items installed in architectural woodwork.
- C. Samples for Initial Selection:
 - 1. Plastic laminates.
 - 2. PVC edge material.
 - 3. Wood for cabinetry
- D. Samples for Verification:
 - 1. Exposed cabinet hardware and accessories, one unit for each type and finish.

2. For each species and cut of lumber and panel products with non-factory-applied finish, with 1/2 of exposed surface finished, 50 sq. in. for lumber
- E. Product Certificates: For each type of product, signed by product manufacturer.
 - F. Qualification Data: For fabricator.
 - G. Product Certificates: For each type of product including the following:
 1. Composite wood and agrifiber products.
 2. Thermoset decorative panels.
 3. High-pressure decorative laminate.
 4. Adhesives.
- 1.5 QUALITY ASSURANCE**
- A. Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate products similar to those required for this Project and whose products have a 10 year record of successful in-service performance.
 - B. Installer Qualifications: Fabricator or approved by fabricator.
 - C. Quality Standard: Unless otherwise indicated, comply with AWI's "Architectural Woodwork Quality Standards" for grades of interior architectural woodwork indicated for construction, finishes, installation, and other requirements.
 1. Provide AWI Quality Certification Program labels or certificates indicating that woodwork, complies with requirements of grades specified.
 2. The Contract Documents contain selections chosen from options in the quality standard and additional requirements beyond those of the quality standard. Comply with such selections and requirements in addition to the quality standard.
- 1.6 DELIVERY, STORAGE, AND HANDLING**
- A. Do not deliver woodwork until painting and similar operations that could damage woodwork have been completed in installation areas. If woodwork must be stored in other than installation areas, store only in areas where environmental conditions comply with requirements specified in "Project Conditions" Article.
 - B. Stack lumber, plywood, and other panels flat with spacers between each bundle to provide air circulation. Protect materials from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.
 - C. Deliver interior finish carpentry materials only when environmental conditions meet requirements specified for installation areas. If interior finish carpentry materials must be stored in other than installation areas, store only where environmental conditions meet requirements specified for installation areas.

1.7 PROJECT CONDITIONS

- A.** Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.
- B.** Field Measurements: Where woodwork is indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
 - 1.** Locate concealed framing, blocking, and reinforcements that support woodwork by field measurements before being enclosed, and indicate measurements on Shop Drawings.

1.8 COORDINATION

- A.** Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that interior architectural woodwork can be supported and installed as indicated.

PART 2 - PRODUCTS

2.1 WOODWORK FABRICATORS

- A.** Available Fabricators: Subject to compliance with requirements, fabricators offering interior architectural woodwork that may be incorporated into the Work include, but are not limited to, the following:
 - 1.** JR Heritage (Casework)
 - 2.** PAC West, Inc. (Casework)
 - 3.** Paramount Cabinets (Casework)
 - 4.** Counter Intelligence (Casework)
 - 5.** Available Manufacturers

2.2 MATERIALS

- A.** General: Provide materials that comply with requirements of AWI's quality standard for each type of woodwork and quality grade specified, unless otherwise indicated.
- B.** Quality Standard: Unless otherwise indicated, comply with the "Architectural Woodwork Standards" for grades of architectural plastic-laminate cabinets indicated for construction, finishes, installation, and other requirements.
 - 1.** The Contract Documents contain selections chosen from options in the quality standard and additional requirements beyond those of the quality standard. Comply with those selections and requirements in addition to the quality standard.
- C.** Grade: Custom.
- D.** Type of Construction: Frameless.

- E.** Cabinet, Door, and Drawer Front Interface Style: Flush overlay.
- F.** High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated or if not indicated, as required by woodwork quality standard.
 - 1.** Manufacturers: Subject to compliance with requirements,
- G.** Laminate Cladding for Exposed Surfaces:
 - 1.** Horizontal Surfaces: Grade HGS.
 - 2.** Postformed Surfaces: Grade HGP.
 - 3.** Vertical Surfaces: Grade HGS.
 - 4.** Edges: PVC edge banding,
 - a.** Edge of Doors 0.12 inch (3 mm) thick, (Custom color matching laminate in color, pattern, and finish
 - b.** Edge of countertop 0.12 inch (3 mm) thick, (Custom color matching laminate in color, pattern, and finish
 - 5.** Pattern Direction: As indicated.
- H.** Materials for Semi-exposed Surfaces:
 - 1.** Surfaces Other Than Drawer Bodies: High-pressure decorative laminate, NEMA LD 3, Grade VGS.
 - a.** Edges of Plastic-Laminate Shelves: PVC edge banding, 0.12 inch (3 mm) thick, matching laminate in color, pattern, and finish.
 - b.** For semi-exposed backs of panels with exposed plastic-laminate surfaces, provide surface of high-pressure decorative laminate, NEMA LD 3, Grade VGS.
 - 2.** Drawer Sides and Backs: Thermoset decorative panels with PVC or polyester edge banding.
 - 3.** Drawer Bottoms: Thermoset decorative panels matching drawers sides and backs.
- I.** High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated or, if not indicated, as required by woodwork quality standard.
 - 1.** Available Manufacturers: Subject to compliance with requirements, manufacturers offering high-pressure decorative laminates that may be incorporated into the Work include, but are not limited to, the following:
 - a.** Formica Corporation.
 - b.** Nevamar Company, LLC; Decorative Products Div.
 - c.** Panolam Industries International Incorporated (Pionite) .
 - d.** Wilsonart International; Div. of Premark International, Inc.
 - e.** Substitutions allowed in accordance with Division 1 product substitution requirements.

2.3 WOOD MATERIALS

- A. Wood Products: Provide materials that comply with requirements of referenced quality standard for each type of woodwork and quality grade specified unless otherwise indicated.
1. Wood Moisture Content: 15 percent.

2.4 MISCELLANEOUS MATERIALS

- A. Fasteners for Interior Finish Carpentry: Nails, screws, and other anchoring devices of type, size, material, and finish required for application indicated to provide secure attachment, concealed where possible.
- B. Glue: Aliphatic-resin, polyurethane, or resorcinol wood glue recommended by manufacturer for general carpentry use.
1. Wood glue shall have a VOC content of 30 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- C. Multipurpose Construction Adhesive: Formulation complying with ASTM D 3498 that is recommended for indicated use by adhesive manufacturer.
1. Adhesive shall have a VOC content of 70 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

2.5 FABRICATION

- A. Ease edges of lumber less than 1 inch (25 mm) in nominal thickness to 1/16-inch (1.5-mm) radius and edges of lumber 1 inch (25 mm) or more in nominal thickness to 1/8-inch (3-mm) radius.
- B. Composite Wood and Agrifiber Products: Provide materials that comply with requirements of referenced quality standard for each type of woodwork and quality grade specified unless otherwise indicated.
1. Particleboard: Particleboard complying with requirements in ANSI A208.1, Grade M-2, except for density.
 - 1) Products: Subject to compliance with requirements.
 2. Thermoset Decorative Panels: Medium-density fiberboard finished with thermally fused, melamine-impregnated decorative paper and complying with requirements of NEMA LD 3, Grade VGL, for test methods 3.3, 3.4, 3.6, 3.8, and 3.10.

2.6 CABINET HARDWARE AND ACCESSORIES

- A.** General: Provide cabinet hardware and accessory materials associated with architectural cabinets, except for items specified in Division 8 Section "Door Hardware"
- B.** Butt Hinges: 2-3/4-inch(70-mm), 5-knuckle steel hinges made from 0.095-inch-(2.4-mm-) thick metal, and as follows:
 - 1.** Semiconcealed Hinges for Overlay Doors: BHMA A156.9, B01521.
- C.** Back-Mounted Pulls: BHMA A156.9, B02011.
- D.** Wire Pulls: Back mounted, solid metal 4 inches(100 mm) long, 5/16 inch(8 mm) in diameter.
- E.** Adjustable Shelf Rests (for drilled holes): steel with brushed chrome finish.
- F.** Grommets for Cable Passage through Countertops: 2-inch(51-mm) min. OD, molded-plastic grommets and matching plastic caps with slot for wire passage. Color to be selected by Architect from Manufacturer's standard colors.
 - 1.** Product: Subject to compliance with requirements, provide "SG series" or "LG series" by Doug Mockett & Company, Inc.
- G.** Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.
 - 1.** Satin Chromium Plated: BHMA 626 for brass or bronze base; BHMA 652 for steel base.
- H.** For concealed hardware, provide manufacturer's standard finish that complies with product class requirements in BHMA A156.9.
- I.** Knee Brace: Rakks 18"x24" Surface Mount EH Counter Support Bracket Clear Anodized
- J.** Door and Drawer Silencers: BHMA A156.16, L03011.

2.7 MISCELLANEOUS MATERIALS

- A.** Furring, Blocking, Shims, and Hanging Strips: As specified in Division 6 Section "Rough carpentry"; Fire retardant treated Softwood or hardwood lumber, kiln dried to less than 15 percent moisture content.
- B.** Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide nonferrous-metal or hot-dip galvanized anchors and inserts on inside face of exterior walls and elsewhere as required for corrosion resistance. Provide toothed-steel or lead expansion sleeves for drilled-in-place anchors.

2.8 FABRICATION, GENERAL

- A.** Interior Woodwork Grade: Unless otherwise indicated, provide Select-grade interior woodwork complying with referenced quality standard.
- B.** Wood Moisture Content: Comply with requirements of referenced quality standard for wood moisture content in relation to ambient relative humidity during fabrication and in installation areas.
- C.** Complete fabrication, including assembly, finishing, and hardware application, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

- D. Shop-cut openings to maximum extent possible to receive hardware, appliances, plumbing fixtures, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.
 - 1. Seal edges of openings in countertops with a coat of varnish.

2.9 PLASTIC-LAMINATE CABINETS

- A. Grade: Custom.
- B. AWI Type of Cabinet Construction: Flush overlay.
- C. Structural Cabinet Body:
 - 1. Cabinet Backs: 1/2-inch-(12.7-mm-) thick, inset from rear of body and fully bound (dadoed) four sides. Provide 3/4-inch- (19-mm-) thick stiffeners fastened to back/body. Back perimeter shall be toe-nailed with 16gauge mechanical fasteners for tight interior fitting and direct connection of back panel to body.
 - 2. Interior Structure: All cabinets over 36 inches wide shall be furnished with a mechanically fastened, yet removable, vertical divider to reduce horizontal member/shelf deflection.
 - 3. Interior Depth: Wall cabinets shall have a clear inside nominal depth of 12 inches unless detailed otherwise.
 - 4. Shelf Loading: Shelves shall meet the loading/deflection standards of the National Particleboard Association.
 - 5. Structural Base Cabinet Support: Cabinet sub-base shall be of a separate and continuous ladder-type platform design leveled and floor mounted prior to cabinet body placement. Material shall be Fire retardant treated exterior grade plywood or standard base material as recommended for application by manufacturer. No cabinet sides-to-floor will be allowed.
- D. Laminate Cladding for Exposed Surfaces: High-pressure decorative laminate complying with the following requirements:
 - 1. Horizontal Surfaces Other Than Tops: Grade HGS.
 - 2. Vertical Surfaces: Grade HGS.
 - 3. Edges: PVC edge banding, 0.12 inch(3 mm) thick, matching laminate in color, pattern, and finish.
- E. Colors, Patterns, and Finishes: Refer to Sheet A6.6 Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:
 - See Finish Schedule and drawings for locations as indicated on drawings

2.10 PLASTIC-LAMINATE COUNTERTOPS

- A. Grade: Custom.
- B. High-Pressure Decorative Laminate Grade: HGS.
- C. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:
 - See Finish Schedule and drawings for locations as indicated on drawings
- D. Edge Treatment: 3mm PVC Edging –

- 1. Provide custom color from available manufactures to match laminate.
- E. Core Material: Medium-density fiberboard made with exterior glue.
- F. Core Material at Sinks: Exterior-grade plywood.

2.11 SHOP FINISHING

- A. Quality Standard: Comply with AWI Section 1500, unless otherwise indicated.
- B. Finish for Natural Finish Wood: Catalyzed Lacquer
- C. General: Finish architectural woodwork at fabrication shop as specified in this Section. Defer only final touchup, cleaning, and polishing until after installation.
- D. Preparations for Finishing: Comply with referenced quality standard for sanding, filling countersunk fasteners, sealing concealed surfaces, and similar preparations for finishing architectural woodwork, as applicable to each unit of work.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Before installation, condition woodwork to average prevailing humidity conditions in installation areas.
- B. Before installing architectural woodwork, examine shop-fabricated work for completion and complete work as required, including removal of packing and backpriming.

3.2 INSTALLATION

- A. Grade: Install woodwork to comply with requirements for the same grade specified in Part 2 for fabrication of type of woodwork involved.
- B. Assemble woodwork and complete fabrication at Project site to comply with requirements for fabrication in Part 2, to extent that it was not completed in the shop.
- C. Install woodwork level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb (including tops) to a tolerance of 1/8 inch in 96 inches(3 mm in 2400 mm).
- D. Scribe and cut woodwork to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
- E. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Secure with countersunk, concealed fasteners and blind nailing as required for complete installation.
- F. Cabinets: Install without distortion so doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete installation of hardware and accessory items as indicated.
 - 1. Install cabinets with no more than 1/8 inch in 96-inch(3 mm in 2400-mm) sag, bow, or other variation from a straight line.
 - 2. Fasten wall cabinets securely through back, near top and bottom, at ends and not more than 16 inches(400 mm) o.c..

- G.** Countertops: Anchor securely by screwing through corner blocks of base cabinets or other supports into underside of countertop.
 - 1.** Install countertops with no more than 1/8 inch in 96-inch(3 mm in 2400-mm) sag, bow, or other variation from a straight line.
 - 2.** Secure backsplashes to tops with manufacturer's standard backsplash attachment system. Secure backsplashes to walls with adhesive.
 - 3.** Calk space between backsplash and wall with sealant specified in Division 7 Section "Joint Sealants."
- H.** Refer to Division 9 Sections for final finishing of installed architectural woodwork not indicated to be shop finished.

3.3 ADJUSTING AND CLEANING

- A.** Repair damaged and defective woodwork, where possible, to eliminate functional and visual defects; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.
- B.** Clean, lubricate, and adjust hardware.
- C.** Clean woodwork on exposed and semiexposed surfaces. Touch up shop-applied finishes to restore damaged or soiled areas.

END OF SECTION 06 40 16

SECTION 06 61 16

SOLID SURFACE COUNTERTOPS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A.** Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A.** Section Includes:
 - 1.** Solid-surface-material countertops and backsplashes.
- B.** Related Sections:
 - 1.** Section 06402 "Architectural Woodwork."

1.3 ACTION SUBMITTALS

- A.** Product Data: For countertop materials
- B.** Shop Drawings: For countertops. Show materials, finishes, edge and backsplash profiles, methods of joining, and cutouts for plumbing fixtures.
- C.** Samples for Initial Selection: For each type of material exposed to view.
- D.** Samples for Verification: For the following products:
 - 1.** Countertop material, 2 inches square of each material

1.4 PROJECT CONDITIONS

- A.** Field Measurements: Verify dimensions of countertops by field measurements after base cabinets are installed but before countertop fabrication is complete.

1.5 COORDINATION

- A.** Coordinate locations of utilities that will penetrate countertops or backsplashes.

PART 2 - PRODUCTS

2.1 SOLID-SURFACE-MATERIAL

- A.** Configuration: Provide countertops with the following front and backsplash style:
 - 1.** Front: Straight, slightly eased at top.
- B.** Countertops & Sills: 1/2-inch-, solid surface material with front edge built up with same material.
- C.** Fabrication: Fabricate tops in one piece with shop-applied edges and backsplashes unless otherwise indicated. Comply with solid-surface-material manufacturer's written instructions for adhesives, sealers, fabrication, and finishing.
 - 1.** Fabricate with loose backsplashes for field assembly.
- D.** Locations:
 - 1.** Dressing Room and Toilet Room countertops, and as indicated on the drawings.

2.2 COUNTERTOP MATERIALS

- A.** Particleboard: ANSI A208.1, Grade M-2
- B.** Plywood: Exterior softwood plywood complying with DOC PS 1, Grade C-C Plugged, touch sanded
- C.** Solid Surface Material: Homogeneous solid sheets of filled plastic resin complying with ANSI SS1.
 - 1.** Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a.** Corian
 - b.** Any qualified available manufacturer
 - 2.** Type: Provide Type is indicated.
 - 3.** Colors and Patterns:
 - a.** Corian: Cameo White
 - b.** Corian: Artista Dust

PART 3 - EXECUTION

3.1 INSTALLATION

- A.** Install countertops level to a tolerance of 1/8 inch in 8 feet .

- B.** Fasten countertops according to manufacturer installation instructions. Pre-drill holes for screws as recommended by manufacturer. Align adjacent surfaces and, using adhesive in color to match countertop, form seams to comply with manufacturer's written instructions. Carefully dress joints smooth, remove surface scratches, and clean entire surface.
- 1.** Seal edges of cutouts in particleboard subtops by saturating with varnish.

END OF SECTION 06 61 16

SECTION 07 92 00

JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A.** This Section includes joint sealants for the following applications:
 - 1.** Interior joints in the following vertical surfaces and horizontal non traffic surfaces:
 - a.** Control and expansion joints on exposed interior surfaces of exterior walls.
 - b.** Vertical joints on exposed surfaces of walls and partitions.
 - c.** Perimeter joints between interior wall surfaces and frames of interior doors, windows.
 - d.** Joints between plumbing fixtures and adjoining walls, floors, and counters.
 - e.** Other joints as indicated.
 - 2.** Interior joints in the following horizontal traffic surfaces:
 - a.** Isolation joints in cast-in-place concrete slabs; prepare per flooring manufacturer instructions.
 - b.** Penetrations in ceiling.
 - c.** Other joints as indicated.
- B.** Related Sections include the following:
 - 1.** Division 8 Section "Glazing" for glazing sealants.
 - 2.** Division 9 Section "Gypsum Board Assemblies" for sealing perimeter joints of gypsum board partitions to reduce sound transmission.

1.3 PERFORMANCE REQUIREMENTS

- A.** Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.
- B.** Provide joint sealants for interior applications that establish and maintain airtight and water-resistant continuous joint seals without staining or deteriorating joint substrates.

1.4 SUBMITTALS

- A.** Samples for Verification: For each type and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- wide joints formed between two 6-inch-long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

1.5 QUALITY ASSURANCE

- A.** Installer Qualifications: Manufacturer's authorized Installer who is approved or licensed for installation of elastomeric sealants required for this Project.
- B.** Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.

1.6 PROJECT CONDITIONS

- A.** Do not proceed with installation of joint sealants under the following conditions:
 - 1.** When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.
 - 2.** When joint substrates are wet.
 - 3.** Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 - 4.** Contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A.** Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed in other Part 2 articles.

2.2 MATERIALS, GENERAL

- A.** Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer, based on testing and field experience.
- B.** Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.3 ELASTOMERIC JOINT SEALANTS

- A.** Elastomeric Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
- B.** Suitability for Contact with Food: Where elastomeric sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.
- C.** Single-Component Non sag Polysulfide Sealant :
1. Products:
 - a. Pacific Polymers, Inc.; Elastoseal 230 Type I (Gun Grade).
 - b. Polymeric Systems Inc.; PSI-7000.
 2. Type and Grade: S (single component) and NS (nonsag).
 3. Class: 25.
 4. Use Related to Exposure: NT (nontraffic).
 5. Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.
 - a. Use O Joint Substrates: galvanized steel, wood.
- D.** Multicomponent Nonsag Neutral-Curing Silicone Sealant:
1. Products:
 - a. Dow Corning Corporation; 756 H.P.
 2. Type and Grade: M (multicomponent) and P (pourable).
 3. Class: 50.
 4. Use Related to Exposure: NT (nontraffic).
 5. Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.
 - a. Use O Joint Substrates: galvanized steel.
- E.** Single-Component Mildew-Resistant Neutral-Curing Silicone Sealant:
1. Products:
 - a. Pecora Corporation; 898.
 - b. Tremco; Tremsil 600 White.
 2. Type and Grade: S (single component) and NS (nonsag).
 3. Class: 25.
 4. Use Related to Exposure: NT (nontraffic).
 5. Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.
 - a. Use O Joint Substrates: galvanized steel.
- F.** Multi-component Non sag Urethane Sealant:
1. Products:

- a. Sika Corporation, Inc.; Sikaflex - 2c NS TG.
- b. Sonneborn, Division of ChemRex Inc.; NP 2.
- c. Tremco; Vulkem 227.
- d. Tremco; Vulkem 322 DS.
2. Type and Grade: M (multicomponent) and NS (nonsag).
3. Class: 25.
4. Uses Related to Exposure: T (traffic) and NT (nontraffic).
5. Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O Joint Substrates: (galvanized steel, wood).

2.4 LATEX JOINT SEALANTS

- A. Latex : Comply with ASTM C 834, Type P, Grade NF.
- B. Products:
 1. Pecora Corporation; AC-20+.
 2. Sonneborn, Division of ChemRex Inc.; Sonolac.
 3. Tremco; Tremflex 834.

2.5 PREFORMED TAPE SEALANTS

- A. Back-Bedding Mastic Tape Sealant: Preformed, butyl-based elastomeric tape sealant with a solids content of 100 percent; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape manufacturers for application indicated; packaged on rolls with a release paper backing; and complying with ASTM C 1281 and AAMA 800 for products indicated below:
 1. AAMA 804.3 tape, where indicated.
 2. AAMA 806.3 tape, for applications in which tape is subject to continuous pressure.
 3. AAMA 807.3 tape, for applications in which tape is not subject to continuous pressure.
- B. Expanded Cellular Tape Sealant: Closed-cell, PVC foam tape sealant; factory coated with adhesive on both surfaces; packaged on rolls with release liner protecting adhesive; and complying with AAMA 800 for the following types:
 1. Type 1, for applications in which tape acts as the primary sealant.
 2. Type 2, for applications in which tape is used in combination with a full bead of liquid sealant.

2.6 JOINT-SEALANT BACKING

- A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are

approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

2.7 MISCELLANEOUS MATERIALS

- A.** Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B.** Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C.** Masking Tape: Non staining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A.** Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B.** Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A.** Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
 - 1.** Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 - 2.** Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
 - a.** Concrete.
 - b.** Masonry.

3. Remove laitance and form-release agents from concrete.
 4. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
 - a. Metal.
 - b. Glass.
- B.** Joint Priming: Prime joint substrates, where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C.** Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

- A.** General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B.** Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C.** Acoustical Sealant Application Standard: Comply with recommendations in ASTM C 919 for use of joint sealants in acoustical applications as applicable to materials, applications, and conditions indicated.
- D.** Install sealants using proven techniques that comply with the following and at the same time backings are installed:
1. Place sealants so they directly contact and fully wet joint substrates.
 2. Completely fill recesses in each joint configuration.
 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- E.** Tooling of Non sag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
1. Remove excess sealant from surfaces adjacent to joints.
 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 3. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.

F. Installation of Preformed Tapes: Install according to manufacturer's written instructions.

3.4 CLEANING

A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

END OF SECTION 07 92 00

SECTION 08 31 13

ACCESS DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A.** This Section includes the following:
 - 1.** Access doors and frames for walls and ceilings.
- B.** Related Sections include the following:
 - 1.** Division 9 Section "Gypsum Board" for Access doors in Gypsum ceilings and walls.
 - 2.** Division 23 Section "Duct Accessories" for heating and air-conditioning duct access doors.

1.3 SUBMITTALS

- A.** Product Data: For each type of access door and frame indicated. Include construction details, fire ratings, materials, individual components and profiles, and finishes.

1.4 QUALITY ASSURANCE

- A.** Source Limitations: Obtain each type of access door(s) and frame(s) through one source from a single manufacturer.
- B.** Size Variations: Obtain Architect's acceptance of manufacturer's standard-size units, which may vary slightly from sizes indicated or if a size is not indicated an appropriately sized accessed panel required for maintenance.

1.5 COORDINATION

- A. Verification: Determine specific locations and sizes for access doors needed to gain access to concealed plumbing, mechanical, or other concealed work, and indicate in the schedule specified in "Submittals" Article.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Steel Finishes: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
 - 1. Surface Preparation for Steel Sheet: Clean surfaces to comply with SSPC-SP 1, "Solvent Cleaning," to remove dirt, oil, grease, or other contaminants that could impair paint bond. Remove mill scale and rust, if present, from uncoated steel, complying with SSPC-SP 5/NACE No. 1, "White Metal Blast Cleaning," or SSPC-SP 8, "Pickling."
 - 2. Factory-Primed Finish: Apply shop primer immediately after cleaning and pretreating.

2.2 ACCESS DOORS AND FRAMES FOR WALLS AND CEILINGS

- A. **GWB Soffit or Wall Mounted:**
 - 1. Basis of Design: Williams Brothers Corp.
 - a. Exposed Rooms **GWB** (except for accessing mechanical equipment in offices):
WB RDW 410 series
 - b. Exposed Utility or concealed **GWB**: WB 300
 - 2. Steel Sheet: electrolytic zinc-coated, ASTM A 591/A 591M with cold-rolled steel sheet substrate complying with ASTM A 1008/A 1008M, Commercial Steel (CS), exposed.
- B. **Wall Mounted sound-rated access panels for Green Room, Dressing Rooms, or other occupied Rooms:**
 - 1. Basis of Design: Williams Brothers Corp. WB 650 STC series
 - 2. Steel Sheet: electrolytic zinc-coated, ASTM A 591/A 591M with cold-rolled steel sheet substrate complying with ASTM A 1008/A 1008M, Commercial Steel (CS), exposed
- C. **Concealed Areas or Utility Rooms: Flush Access Doors and Frames with Exposed Trim:** Fabricated from Galvanized steel typically except in food processing areas utilize stainless-steel sheet.
 - 1. Locations: Wall and ceiling surfaces.

2. Door: Minimum 0.060-inch-(1.5-mm-) thick sheet metal, set flush with exposed face flange of frame.
3. Frame: Minimum 0.060-inch-(1.5-mm-) thick sheet metal with 1-1/4-inch wide, surface-mounted trim.
4. Hinges: Continuous piano.
5. Lock: Cylinder.

D. Other Available Manufacturers:

1. Acudor Products, Inc.
2. Babcock-Davis; A Cierra Products Co.
3. Bar-Co, Inc. Div.; Alfab, Inc.
4. Cendrex Inc.
5. Dur-Red Products.
6. Elmdor/Stoneman; Div. of Acorn Engineering Co.
7. Jensen Industries.
8. J. L. Industries, Inc.
9. Karp Associates, Inc.
10. Larsen's Manufacturing Company.
11. MIFAB, Inc.
12. Milcor Inc.
13. Nystrom, Inc.
14. Williams Bros. Corporation of America (The).

2.3 FABRICATION

- A. General:** Provide access door and frame assemblies manufactured as integral units ready for installation.
- B. Metal Surfaces:** For metal surfaces exposed to view in the completed Work, provide materials with smooth, flat surfaces without blemishes. Do not use materials with exposed pitting, seam marks, roller marks, rolled trade names, or roughness.
- C. Doors and Frames:** Grind exposed welds smooth and flush with adjacent surfaces. Furnish attachment devices and fasteners of type required to secure access panels to types of supports indicated.
1. Exposed Flanges: Nominal 1 to 1-1/2 inches wide around perimeter of frame.
 2. Provide mounting holes in frames for attachment of units to metal or wood framing.
- D. Latching Mechanisms:** Furnish number required to hold doors in flush, smooth plane when closed.
1. For cylinder lock, furnish two keys per lock and key all locks alike.

PART 3 - EXECUTION

3.1 INSTALLATION

- A.** Comply with manufacturer's written instructions for installing access doors and frames.
- B.** Set frames accurately in position and attach securely to supports with plane of face panels aligned with adjacent finish surfaces.
- C.** Install doors flush with adjacent finish surfaces or recessed to receive finish material.

3.2 ADJUSTING AND CLEANING

- A.** Adjust doors and hardware after installation for proper operation.
- B.** Remove and replace doors and frames that are warped, bowed, or otherwise damaged.

END OF SECTION 08 31 13

SECTION 08830

MIRRORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A.** Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A.** Section includes the following types of silvered flat glass mirrors:
 - 1.** Annealed monolithic glass mirrors.
 - 2.** Tempered glass mirrors qualifying as safety glazing.
- B.** Related Requirements:
 - 1.** Section 088000 "Glazing" for glass with reflective coatings used for vision and spandrel lites.
 - 2.** Section 102800 "Toilet, Bath, and Laundry Accessories" for metal-framed mirrors.

1.3 ACTION SUBMITTALS

- A.** Product Data: For each type of product.
 - 1.** Mirrors. Include description of materials and process used to produce each type of silvered flat glass mirror specified that indicates sources of glass, glass coating components, edge sealer, and quality-control provisions.
- B.** Shop Drawings: Include mirror elevations, edge details, mirror hardware, and attachment details.
- C.** Samples: For each type of the following:
 - 1.** Mirrors: 12 inches square, including edge treatment on two adjoining edges.
 - 2.** Mirror Clips: Full size.
 - 3.** Mirror Trim: 12 inches long.

1.4 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each type of mirror and mirror mastic.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For mirrors to include in maintenance manuals.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who employs glass installers for this Project who are certified under the National Glass Association's Certified Glass Installer Program.

1.7 PRECONSTRUCTION TESTING

- A. Preconstruction Mirror Mastic Compatibility Test: Submit mirror mastic products to mirror manufacturer for testing to determine compatibility of mastic with mirror backing.
 - 1. Testing is not required if data are submitted based on previous testing of mirror mastic products and mirror backing matching those submitted.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Protect mirrors according to mirror manufacturer's written instructions and as needed to prevent damage to mirrors from moisture, condensation, temperature changes, direct exposure to sun, or other causes.
- B. Comply with mirror manufacturer's written instructions for shipping, storing, and handling mirrors as needed to prevent deterioration of silvering, damage to edges, and abrasion of glass surfaces and applied coatings. Store indoors.

1.9 FIELD CONDITIONS

- A. Environmental Limitations: Do not install mirrors until ambient temperature and humidity conditions are maintained at levels indicated for final occupancy.

1.10 WARRANTY

- A. Special Warranty: Manufacturer agrees to replace mirrors that deteriorate within specified warranty period. Deterioration of mirrors is defined as defects developed from normal use that are not attributed to mirror breakage or to maintaining and

cleaning mirrors contrary to manufacturer's written instructions. Defects include discoloration, black spots, and clouding of the silver film.

1. Warranty Period: Five years from date of Substantial Completion

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A.** Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. Avalon Glass and Mirror Company.
 2. Binswanger Glass.
 3. Donisi Mirror Company.
 4. D & W Incorporated.
 5. Gardner Glass Products, Inc.
 6. Glasswerks LA, Inc.
 7. Guardian Industries Corp.
 8. Independent Mirror Industries, Inc.
 9. Lenoir Mirror Company.
 10. National Glass Industries.
 11. Trulite Glass & Aluminum Solutions.
 12. Virginia Mirror Company, Inc.
 13. Walker Glass Co., Ltd.
- B.** Source Limitations for Mirrors: Obtain mirrors from single source from single manufacturer.
- C.** Source Limitations for Mirror Accessories: Obtain mirror glazing accessories from single source.

2.2 SILVERED FLAT GLASS MIRRORS

- A.** Mirrors, General: ASTM C 1503;
- B.** Annealed Monolithic Glass Mirrors: Mirror Select Quality, clear
1. Nominal Thickness: 6.0 mm
- C.** Tempered Glass Mirrors: All mirrors to be of tempered glazing. Mirror Glazing Quality for blemish requirements and complying with ASTM C 1048 for Kind FT, Condition A, tempered float glass before silver coating is applied; clear.
1. Nominal Thickness: 6.0 mm

- D. Large Wall Mounted Mirrors to be included in the work are indicated in the drawings and are located in all toilet rooms.
 - 1. See Contract Documents for size and locations of mirrors.

2.3 MISCELLANEOUS MATERIALS

- A. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.
- B. Edge Sealer: Coating compatible with glass coating and approved by mirror manufacturer for use in protecting against silver deterioration at mirrored glass edges.
- C. Mirror Mastic: An adhesive setting compound, asbestos-free, produced specifically for setting mirrors and certified by both mirror and mastic manufacturer as compatible with glass coating and substrates on which mirrors will be installed.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Franklin International.
 - b. Laurence, C. R. Co., Inc.
 - c. Liquid Nails Adhesive.
 - d. Palmer Products Corporation.
 - 2. Adhesive shall have a VOC content of 70 g/L or less.
 - 3. Adhesive shall comply with the testing and product requirements of the California Department of Public Health's (formerly, the California Department of Health Services') "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

2.4 FABRICATION

- A. Fabricate mirrors in the shop to greatest extent possible.
- B. Fabricate cutouts for notches and holes in mirrors without marring visible surfaces. Locate and size cutouts so they fit closely around penetrations in mirrors.
- C. Mirror Edge Treatment: Flat polished
 - 1. Seal edges of mirrors with edge sealer after edge treatment to prevent chemical or atmospheric penetration of glass coating.
 - 2. Require mirror manufacturer to perform edge treatment and sealing in factory immediately after cutting to final sizes.

- D. Film-Backed Safety Mirrors: Apply film backing with adhesive coating over mirror backing paint, as recommended in writing by film-backing manufacturer, to produce a surface free of bubbles, blisters, and other imperfections.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, over which mirrors are to be mounted, with Installer present, for compliance with installation tolerances, substrate preparation, and other conditions affecting performance of the Work.
- B. Verify compatibility with and suitability of substrates, including compatibility of existing finishes or primers with mirror mastic.
- C. Proceed with installation only after unsatisfactory conditions have been corrected and surfaces are dry.

3.2 PREPARATION

- A. Comply with mastic manufacturer's written installation instructions for preparation of substrates, including coating substrates with mastic manufacturer's special bond coating where applicable.

3.3 INSTALLATION

- A. General: Install mirrors to comply with mirror manufacturer's written instructions and with referenced GANA publications. Mount mirrors accurately in place in a manner that avoids distorting reflected images.
 - 1. GANA Publications: "Glazing Manual" and "Mirrors, Handle with Extreme Care: Tips for the Professional on the Care and Handling of Mirrors."
- B. Provide a minimum airspace of 1/8 inch between back of mirrors and mounting surface for air circulation between back of mirrors and face of mounting surface.
- C. Install mirrors with mastic and temporary braces.
 - a. Frameless Installation: Install mirrors to wall or standoff backing with adhesive.
 - b. Base Bid: Butt mirrors edge to edge, ensure mirrors are plumb and level.
 - c. Alternate 2: separate mirrors to ensure equal and sufficient clearance for installation of light fixtures.
- 2. Install mastic as follows:

- a. Apply barrier coat to mirror backing where approved in writing by manufacturers of mirrors and backing material.
- b. Apply mastic to comply with mastic manufacturer's written instructions for coverage and to allow air circulation between back of mirrors and face of mounting surface.
- c. After mastic is applied, align mirrors and press into place while maintaining a minimum airspace of 1/8 inch between back of mirrors and mounting surface.

3.4 CLEANING AND PROTECTION

- A. Protect mirrors from breakage and contaminating substances resulting from construction operations.
- B. Do not permit edges of mirrors to be exposed to standing water.
- C. Maintain environmental conditions that prevent mirrors from being exposed to moisture from condensation or other sources for continuous periods of time.
- D. Clean exposed surface of mirrors not more than four days before date scheduled for inspections that establish date of Substantial Completion. Clean mirrors as recommended in writing by mirror manufacturer.

END OF SECTION 08830

SECTION 09 22 00

NON-LOAD-BEARING STEEL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes non-load-bearing steel framing members for the following applications:
 - 1. Interior framing systems (e.g., supports for partition walls, framed soffits, furring, etc.)
 - 2. Interior suspension systems (e.g., supports for ceilings, suspended soffits, etc.).
- B. Related Sections include the following:
 - 1. Division 1 Section "Delegated Design Submittal Requirements"
 - 2. Division 7 Section "Building Insulation" for insulation.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Delegated Design for wall framing in excess of 6' in height requiring seismic support.

1.4 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.
- B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

PART 2 - PRODUCTS

2.1 NON-LOAD-BEARING STEEL FRAMING, GENERAL

- A. Framing Members, General: Comply with ASTM C 754 for conditions indicated.
 - 1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal, unless otherwise indicated.
 - 2. Protective Coating: ASTM A 653/A 653M, G40(Z120) ASTM A 653/A 653M, G60(Z180) Coating with equivalent corrosion resistance of ASTM A 653/A 653M, G40(Z120)], hot-dip galvanized, unless otherwise indicated.

2.2 SUSPENSION SYSTEM COMPONENTS

- A. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.0625-inch-(1.59-mm-) diameter wire, or double strand of 0.0475-inch-(1.21-mm-) diameter wire.
- B. Wire Hangers: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.162-inch(4.12-mm) diameter.
- C. Flat Hangers: Steel sheet, 1 by 3/16 inch(25.4 by 4.76 mm) by length indicated .
- D. Carrying Channels: Cold-rolled, commercial-steel sheet with a base-metal thickness of 0.0538 inch(1.37 mm) and minimum 1/2-inch-(12.7-mm-) wide flanges.
 - 1. Depth: 2 inches(51 mm).
- E. Furring Channels (Furring Members):
 - 1. Cold-Rolled Channels: 0.0538-inch(1.37-mm) bare-steel thickness, with minimum 1/2-inch-(12.7-mm-) wide flanges, 3/4 inch(19.1 mm) deep.
 - 2. Steel Studs: ASTM C 645.
 - a. Minimum Base-Metal Thickness: As indicated on Drawings.
 - b. Depth: 1-5/8 inches(41.3 mm).
 - 3. Hat-Shaped, Rigid Furring Channels: ASTM C 645, 7/8 inch(22.2 mm) deep.
 - a. Minimum Base Metal Thickness: 0.0179 inch(0.45 mm).
 - 4. Resilient Furring Channels:
 - a. 1/2-inch-(12.7-mm-) deep members designed to reduce sound transmission.
 - b. 7/8" furring channels at RSIC clip installation
 - c. Configuration: Asymmetrical or hat shaped.
- F. Grid Suspension System for Ceilings: ASTM C 645, direct-hung system composed of main beams and cross-furring members that interlock.
 - 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Armstrong World Industries, Inc.; Drywall Grid Systems.
 - b. Chicago Metallic Corporation; 640-C Drywall Furring System.
 - c. USG Corporation; Drywall Suspension System.

2.3 STEEL FRAMING FOR FRAMED ASSEMBLIES

- A. Steel Studs and Runners: ASTM C 645.**
 - 1. Minimum Base-Metal Thickness: 0.0312 inch(0.79 mm).
 - 2. Depth: As indicated on Drawings.
 - 3. Coordinate with structural drawings for additional requirements.

- B. Slip-Type Head Joints: Where indicated, provide one of the following:**
 - 1. Double-Runner System: ASTM C 645 top runners, inside runner with 2-inch-(50.8-mm-) deep flanges in thickness not less than indicated for studs and fastened to studs, and outer runner sized to friction fit inside runner.
 - 2. Deflection Track: Steel sheet top runner manufactured to prevent cracking of finishes applied to interior partition framing resulting from deflection of structure above; in thickness not less than indicated for studs and in width to accommodate depth of studs.
 - a. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) Steel Network Inc. (The); VertiClip SLD Series.

- C. Firestop Tracks: Top runner manufactured to allow partition heads to expand and contract with movement of the structure while maintaining continuity of fire-resistance-rated assembly indicated; in thickness not less than indicated for studs and in width to accommodate depth of studs.**
 - 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - 2. Products: Subject to compliance with requirements, provide one of the following:
 - a. Fire Trak Corp.; Fire Trak attached to studs with Fire Trak Slip Clip.

- D. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.**
 - 1. Minimum Base-Metal Thickness: 0.0312 inch.

- E. Cold-Rolled Channel Bridging: 0.0538-inch bare-steel thickness, with minimum 1/2-inch-(12.7-mm-) wide flanges.**
 - 1. Depth: 1-1/2 inches(38.1 mm).
 - 2. Clip Angle: Not less than 1-1/2 by 1-1/2 inches0.068-inch- thick, galvanized steel.

- F. Hat-Shaped, Rigid Furring Channels: ASTM C 645.**
 - 1. Minimum Base Metal Thickness: 0.0179 inch.
 - 2. Depth: As indicated on Drawings.

- G. Resilient Furring Channels: 7/8-inch deep, steel sheet members designed to reduce sound transmission.**
 - 1. Configuration: Asymmetrical or hat shaped.
 - a. At Sound Isolation Wall utilize hat channel configuration compatible and recommended by manufacturer and testing agency. Take additional precautions to avoid fastening acoustical channel directly to stud.

- H. Cold-Rolled Furring Channels: 0.0538-inch(1.37-mm) bare-steel thickness, with minimum 1/2-inch-(12.7-mm-) wide flanges.
 - 1. Depth: As indicated on Drawings
 - 2. Furring Brackets: Adjustable, corrugated-edge type of steel sheet with minimum bare-steel thickness of 0.0312 inch(0.79 mm).
 - 3. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.0625-inch-(1.59-mm-) diameter wire, or double strand of 0.0475-inch-(1.21-mm-) diameter wire.

- I. Z-Shaped Furring: With slotted or nonslotted web, face flange of 1-1/4 inches(31.8 mm), wall attachment flange of 7/8 inch(22.2 mm), minimum bare-metal thickness of 0.0179 inch(0.45 mm), and depth required to fit insulation thickness indicated.

- J. Acoustic Isolation
 - 1. RSIC (Resilient Sound Isolation Clips) @ 24" o.c. (Max Spacing) Vertical and Horizontal at wall and ceiling assemblies as indicated elsewhere in construction documents.
 - a. Sim. And eq. to products manufactured by
 - 1) PAC Interational , Inc. RSIC-1
 - 2. Resilient Channel
 - a. Clark Dietrich or equal
 - b. Material: Grade 33ksi min. yield strength, G40
 - c. Thickness: 25 gauge steel
 - d. Dimensions: 7/8" or As recommended
 - e. Resilient Channel: ASTM C645
 - f. Galvanized Sheet Steel: ASTM A924 & A1003

2.4 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards.
 - 1. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance.
 - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

2. Ensure procedures to maximize sound isolation are utilized in the construction of acoustical wall assemblies. Avoid direct mechanical fastening pathways of sound isolation system as indicated by manufacturer installation data and assembly testing requirements.

3.2 PREPARATION

- A. **Suspended Assemblies:** Coordinate installation of suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive hangers at spacing required to support the Work and that hangers will develop their full strength.
 1. Furnish concrete inserts and other devices indicated to other trades for installation in advance of time needed for coordination and construction.

3.3 INSTALLATION, GENERAL

- A. **Installation Standard:** ASTM C 754, except comply with framing sizes and spacing indicated.
 1. **Gypsum Board Assemblies:** Also comply with requirements in ASTM C 840 that apply to framing installation.
- B. Install supplementary framing, and blocking to support fixtures, equipment, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
- C. Install bracing at terminations in assemblies.
- D. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

3.4 INSTALLING SUSPENSION SYSTEMS

- A. Install suspension system components in sizes and spacings indicated on Drawings, but not less than those required by referenced installation standards for assembly types and other assembly components indicated.
- B. Isolate suspension systems from building structure where they abut or are penetrated by building structure to prevent transfer of loading imposed by structural movement.
- C. Suspend hangers from building structure as follows:
 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or suspension system.
 - a. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.

2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with locations of hangers required to support standard suspension system members, install supplemental suspension members and hangers in the form of trapezes or equivalent devices.
 - a. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced installation standards
 3. Wire Hangers: Secure by looping and wire tying, either directly to structures or to inserts, eye screws, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause hangers to deteriorate or otherwise fail.
 4. Flat Hangers: Secure to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices and fasteners that are secure and appropriate for structure and hanger, and in a manner that will not cause hangers to deteriorate or otherwise fail.
 5. Do not attach hangers to steel roof deck.
 6. Do not connect or suspend steel framing from ducts, pipes, or conduit.
- D. Seismic Bracing: Sway-brace suspension systems with hangers used for support.
- E. Grid Suspension Systems: Attach perimeter wall track or angle where grid suspension systems meet vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track.
- F. Installation Tolerances: Install suspension systems that are level to within 1/8 inch in 12 feet(3 mm in 3.6 m) measured lengthwise on each member that will receive finishes and transversely between parallel members that will receive finishes.

3.5 INSTALLING FRAMED ASSEMBLIES

- A. Install studs so flanges within framing system point in same direction.
- B. Install tracks (runners) at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts penetrating partitions above ceiling.
1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
 2. Door Openings: Weld jamb studs and screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.
 - a. Install three 18 ga. studs at each jamb, unless otherwise indicated.
 - b. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch(12.7-mm) clearance from jamb stud to allow for installation of control joint in finished assembly.

- c. Extend jamb studs through suspended ceilings and attach to underside of overhead structure.
 3. Other Framed Openings: Frame openings other than door openings the same as required for door openings, unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
 4. Fire-Resistance-Rated Partitions: Install framing to comply with fire-resistance-rated assembly indicated and support closures and to make partitions continuous from floor to underside of solid structure.
 - a. Firestop Track: Where indicated, install to maintain continuity of fire-resistance-rated assembly indicated.
 5. Sound-Rated Partitions: Install framing to comply with sound-rated assembly indicated. Take precautions to avoid direct pathways of mechanical fastening between sound isolation materials and metal framing support.
 6. Overhead Coiling and Rolling Doors: Coordinate Head and jamb framing with structural drawings and manufacturer requirements.
- C. Direct Furring:
 1. Screw to metal framing. (Except at Sound Isolation Walls – Conform to Manufacturers published system installation requirements at sound isolation assemblies.
 2. Attach to concrete screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches(610 mm) o.c.
- D. Z-Furring Members:
 1. At exterior wall, erect insulation (specified in Division 7 Section "Building Insulation") horizontally and hold in place with Z-furring members spaced 24 inches(610 mm) 600 mm] o.c.
 2. Except at exterior corners, securely attach narrow flanges of furring members to wall with concrete stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches(600 mm) o.c.
 3. At exterior corners, attach wide flange of furring members to wall with short flange extending beyond corner; on adjacent wall surface, screw-attach short flange of furring channel to web of attached channel. At interior corners, space second member no more than 12 inches(300 mm) from corner and cut insulation to fit.
- E. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch(3 mm) from the plane formed by faces of adjacent framing.

END OF SECTION 09 22 00

SECTION 09 29 00

GYPSUM BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A.** This Section includes the following:
 - 1.** Interior gypsum board.
 - 2.** Water Resistant gypsum board for walls and ceilings.
- B.** Related Sections include the following:
 - 1.** Division 5 Metal Fabrications
 - 2.** Division 6 Sheathing for Air Infiltration Barrier
 - 3.** Division 7 Section "Building Insulation" for insulation and vapor retarders installed in assemblies that incorporate gypsum board.
 - 4.** Division 7 Section "Joint Sealants" for acoustical sealants installed in assemblies that incorporate gypsum board.
 - 5.** Division 9 Section "Non-Load-Bearing Steel Framing" for non-structural framing and suspension systems that support gypsum board.
 - 6.** Division 9 painting Sections for primers applied to gypsum board surfaces.

1.3 SUBMITTALS

- A.** Product Data: For each type of product indicated.
- B.** Samples: For the following products:
 - 1.** Textured Finishes: 3 samples 12" by 12" for each textured finish indicated and on same backing indicated for Work for approval by Architect. (Very light orange peel) Substrate to be examined and accepted by Architect prior to spraying texture)

1.4 QUALITY ASSURANCE

- A.** Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.
- B.** STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

1.5 STORAGE AND HANDLING

- A.** Store materials inside under cover and keep them dry and protected against damage from weather, condensation, direct sunlight, construction traffic, and other causes. Stack panels flat to prevent sagging.

1.6 PROJECT CONDITIONS

- A.** Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.
- B.** Do not install interior products until installation areas are enclosed and conditioned.
- C.** Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.
 - 1.** Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2.** Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PANELS, GENERAL

- A.** Size: Provide in maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.2 INTERIOR GYPSUM BOARD

- A.** General: Complying with ASTM C 36/C 36M or ASTM C 1396/C 1396M, as applicable to type of gypsum board indicated and whichever is more stringent.

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. American Gypsum Co.
 - b. BPB America Inc.
 - c. G-P Gypsum.
 - d. Lafarge North America Inc.
 - e. National Gypsum Company.
 - f. PABCO Gypsum.
 - g. USG Corporation.
 - h. Substitutions allowed in accordance with Division 1 product substitution requirements.

B. Type X:

1. Thickness: 5/8 inch (15.9 mm).
2. Long Edges: Tapered.

C. Ceiling Type: Manufactured to have more sag resistance than regular-type and Type X gypsum board.

1. Core: 5/8 inch (15.9 mm), Type X.
2. Long Edges: Tapered.

D. Moisture- and Mold-Resistant Type: With moisture- and mold-resistant core and surfaces.

1. Core: 5/8 inch (15.9 mm), Type X.
2. Long Edges: Tapered.

2.3 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.

1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized steel sheet.
2. Shapes:
 - a. Metal Cornerbead.
 - b. LC-Bead: J-shaped; exposed long flange receives joint compound.
 - c. Expansion (control) joint.
 - d. Tear-Away L Bead

B. Aluminum Trim: Extruded accessories of profiles and dimensions indicated.

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Fry Reglet Corp.
 - b. Gordon, Inc.
 - c. Pittcon Industries.
 - d. Substitutions allowed in accordance with Division 1 product substitution requirements.
 - e. Expansion Joint Trim – Fry Reglet CRM50-50-2-PC
2. Aluminum: Alloy and temper with not less than the strength and durability properties of ASTM B 221 (ASTM B 221M), Alloy 6063-T5.
3. Finish: Corrosion-resistant primer compatible with joint compound and finish materials specified

2.4 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C 475/C 475M.
- B. Joint Tape:
 1. Interior Gypsum Wallboard: Paper.
 2. Exterior Gypsum Soffit Board: Paper.
 3. Glass-Mat Gypsum Sheathing Board: 10-by-10 glass mesh.
- C. Joint Compound for Interior Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.
 1. Prefilling: At open joints, and damaged surface areas, use setting-type taping compound.
 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping or drying-type, all-purpose compound.
 - a. Use setting-type compound for installing paper-faced metal trim accessories.
 3. Fill Coat: For second coat, use setting-type, sandable topping or drying-type, all-purpose compound.
 4. Finish Coat: For third coat, use setting-type, sandable topping or drying-type, all-purpose compound.

2.5 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.
- B. Acoustical joint sealant shall have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- C. Acoustical Joint Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Grabber Construction Products; Acoustical Sealant GSC.
 - b. Pecora Corporation; AC-20 FTR, AIS-919.
 - c. Specified Technologies, Inc.; Smoke N Sound Acoustical Sealant.
USG Corporation; SHEETROCK Acoustical Sealant. Acoustical Sealant: As specified in Division 7 Section "Joint Sealants." – Seal at top and bottom of all acoustic walls.
- D. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.
- E. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.
 - 1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch thick.
 - 2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.
- F. Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.
 - 1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.
- G. Acoustical Sealant: As specified in Division 7 Section "Joint Sealants." – Seal at top and bottom of all classroom, toilet room, Practice Rooms, and office walls:
- H. Thermal Insulation: As specified in Division 7 Section "Building Insulation."
- I. Vapor Retarder: As specified in Division 7 Section "Building Insulation."

2.6 TEXTURE FINISHES

- A.** Primer: As recommended by textured finish manufacturer.
- B.** Unaggregated Finish: Water-based, job-mixed, unaggregated, drying-type texture finish for spray application.
 - 1.** Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - a.** G-P Gypsum; Georgia-Pacific ToughRock Wall and Ceiling Texture.
 - b.** USG Corporation; SHEETROCK Wall and Ceiling Spray Texture (Unaggregated).
 - c.** Substitutions allowed in accordance with Division 1 product substitution requirements.
 - 2.** Texture: Very light stiple finish; match texture immediately adjacent to area.

PART 3 - EXECUTION

3.1 EXAMINATION

- A.** Examine areas and substrates, with Installer present, and including welded hollow-metal frames and framing, for compliance with requirements and other conditions affecting performance.
- B.** Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C.** Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLYING AND FINISHING PANELS, GENERAL

- A.** Comply with ASTM C 840.
- B.** Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- C.** Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.

- D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- E. Form control and expansion joints with space between edges of adjoining gypsum panels.
- F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.
 - 1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.
 - 2. Fit gypsum panels around ducts, pipes, and conduits.
 - 3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch- wide joints to install sealant.
- G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch- wide spaces at these locations, and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- H. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- I. Wood Framing: Install gypsum panels over wood framing, with floating internal corner construction. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members, or provide control joints to counteract wood shrinkage.

3.3 APPLYING INTERIOR GYPSUM BOARD

- A. Install interior gypsum board in the following locations:
 - 1. Regular Type: Vertical surfaces, unless otherwise indicated.
 - 2. Type X: As indicated on drawings and where required for fire-resistance-rated assembly.
 - 3. Special Type X: As indicated on Drawings and where required for specific fire-resistance-rated assembly indicated.
 - 4. Ceiling Type: Exposed interior horizontal and ceiling surfaces.
 - 5. Moisture- and Mold-Resistant Type: Located at all food preparation areas, Toilet room areas, and as indicated on drawings.

B. Single-Layer Application:

1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing, unless otherwise indicated.
2. On partitions/walls, apply gypsum panels either vertically (parallel to framing) or horizontally (perpendicular to framing), unless specifically indicated or required by fire-resistance-rated assembly, and minimize end joints.
 - a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
 - b. At stairwells and other high walls, install panels horizontally, unless otherwise indicated or required by fire-resistance-rated assembly.
3. On Z-furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.
4. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

3.4 APPLYING TILE BACKING PANELS

- A. Fiberglass faced Water-Resistant Gypsum Backing Board: Install at locations indicated to receive tile but not subject to wetting, and not indicated to receive Glass-Mat Water-Resistant Backing Panel or Cementitious Backer Unit. Install with 1/4-inch gap where panels abut other construction or penetrations.
- B. Glass-Mat, Water-Resistant Backing Panel: Comply with manufacturer's written installation instructions and install at showers, locations indicated to receive tile or exterior insulation and finish system, and other locations indicated. Install with 1/4-inch gap where panels abut other construction or penetrations.

3.5 INSTALLING TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- B. Control Joints: Install control joints [at locations indicated on Drawings according to ASTM C 840 and in specific locations approved by Architect for visual effect.
- C. Interior Trim: Install in the following locations:
 1. Cornerbead: Use at outside corners, unless otherwise indicated.
 2. LC-Bead: Use at exposed panel edges, unless otherwise indicated.
 3. L-Bead: Use where indicated.
 4. U-Bead: Use where indicated.

5. Tear Away L-Bead: Use where indicated – where wall board meets existing adjacent surfaces

3.6 FINISHING GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints, and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below:
 1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
 2. Level 2: Panels that are substrate for wall protection or ceiling tiles.
 3. Level 4: At panel surfaces that will be exposed to view: Green Room, Dressing Rms, Toilet Rms.

3.7 APPLYING TEXTURE FINISHES

- A. Surface Preparation and Primer: Prepare and apply primer to gypsum panels and other surfaces receiving texture finishes. Apply primer to surfaces that are clean, dry, and smooth.
- B. Texture Finish Application: Mix and apply finish using powered spray equipment, to produce a uniform texture free of starved spots or other evidence of thin application or of application patterns.
- C. Prevent texture finishes from coming into contact with surfaces not indicated to receive texture finish by covering them with masking agents, polyethylene film, or other means. If, despite these precautions, texture finishes contact these surfaces, immediately remove droppings and overspray to prevent damage according to texture-finish manufacturer's written recommendations.

3.8 PROTECTION

- A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- B. Remove and replace panels that are wet, moisture damaged, and mold damaged.

1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 09 29 00

SECTION 09 51 00

ACOUSTICAL TILE CEILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A.** This Section includes acoustical tiles for ceilings and the following:
 - 1.** Concealed suspension systems.
- B.** Related Sections include the following:
 - 1.** Division 9 Section "Acoustical Panel Ceilings" for ceilings consisting of mineral-base and glass-fiber-base acoustical panels and exposed suspension systems.

1.3 DEFINITIONS

- A.** AC: Articulation Class.
- B.** CAC: Ceiling Attenuation Class.
- C.** LR: Light-Reflectance coefficient.
- D.** NRC: Noise Reduction Coefficient.

1.4 SUBMITTALS

- A.** Product Data: For each type of product indicated.
- B.** Samples for Initial Selection: For components with factory-applied color finishes.

1.5 QUALITY ASSURANCE

- A.** Acoustical Testing Agency Qualifications: An independent testing laboratory, or an NVLAP-accredited laboratory, with the experience and capability to conduct the testing indicated. NVLAP-accredited laboratories must document accreditation,

based on a "Certificate of Accreditation" and a "Scope of Accreditation" listing the test methods specified.

B. Source Limitations:

1. Acoustical Ceiling Tile: Obtain each type through one source from a single manufacturer.
2. Gypsum based Ceiling Tile: Obtain each type through one source from a single manufacturer.
3. Suspension System: Obtain each type through one source from a single manufacturer.

C. Source Limitations: Obtain each type of acoustical ceiling tile and supporting suspension system through one source from a single manufacturer.

D. Fire-Test-Response Characteristics: Provide acoustical tile ceilings that comply with the following requirements:

1. Surface-Burning Characteristics: Provide acoustical tiles with the following surface-burning characteristics complying with ASTM E 1264 for Class C materials as determined by testing identical products per ASTM E 84:
 - a. Smoke-Developed Index: 50 or less.

E. Seismic Standard: Provide acoustical tile ceilings designed and installed to withstand the effects of earthquake motions according to the following:

1. Standard for Ceiling Suspension Systems Requiring Seismic Restraint: Comply with ASTM E 580.
2. CISCA's Recommendations for Acoustical Ceilings: Comply with CISCA's "Recommendations for Direct-Hung Acoustical Tile and Lay-in Panel Ceilings--Seismic Zones 0-2."
3. CISCA's Guidelines for Systems Requiring Seismic Restraint: Comply with CISCA's "Guidelines for Seismic Restraint of Direct-Hung Suspended Ceiling Assemblies--Seismic Zones 3 & 4."
4. UBC Standard 25-2, "Metal Suspension Systems for Acoustical Tile and for Lay-in Panel Ceilings."
5. ASCE 7, "Minimum Design Loads for Buildings and Other Structures": Section 9, "Earthquake Loads."

1.6 DELIVERY, STORAGE, AND HANDLING

- A.** Deliver acoustical tiles, suspension system components, and accessories to Project site in original, unopened packages and store them in a fully enclosed, conditioned space where they will be protected against damage from moisture,

humidity, temperature extremes, direct sunlight, surface contamination, and other causes.

- B. Before installing acoustical tiles, permit them to reach room temperature and a stabilized moisture content.
- C. Handle acoustical tiles carefully to avoid chipping edges or damaging units in any way.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install acoustical tile ceilings until spaces are enclosed and weatherproof, wet work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

1.8 COORDINATION

- A. Coordinate layout and installation of acoustical tiles and suspension system with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire-suppression system, and partition assemblies.

PART 2 - PRODUCTS

2.1 ACOUSTICAL TILES, GENERAL

- A. Acoustical Tile Standard: Provide manufacturer's standard tiles of configuration indicated that comply with ASTM E 1264 classifications as designated by types, patterns, acoustical ratings, and light reflectances, unless otherwise indicated.
 - 1. Mounting Method for Measuring NRC: Type E-400; plenum mounting in which face of test specimen is 15-3/4 inches(400 mm) away from test surface per ASTM E 795.
- B. Acoustical Tile Colors and Patterns: Match appearance characteristics indicated for each product type.
 - 1. Where appearance characteristics of acoustical tiles are indicated by referencing pattern designations in ASTM E 1264 and not manufacturers' proprietary product designations, provide products selected by Architect from each manufacturer's full range that comply with requirements indicated for type, pattern, color, light reflectance, acoustical performance, edge detail, and size.

2.2 ACOUSTICAL TILES FOR ACOUSTICAL TILE CEILING (TYPE C-1) ALT. 2

- A.** Basis of Design Product: Subject to compliance with requirements, provide Armstrong World Industries “Duratile” Item No MN80377 or a comparable product by one of the following or approved:
1. BPB USA;
 2. USG Interiors, Inc.;
- B.** Locations: Direct mount locations only
- C.** Classification: Provide tiles complying with ASTM E 1264 for type, form, and pattern as follows:
1. Type III, mineral base with painted finish; Form 2; water felted, sag resistant, anti-microbial.
 2. Color: White.
 3. Grid Face: Tile glue-up
 4. LR: Not less than 0.80 LR (Unperforated).
 5. NRC: Not less than 0.60 NRC.
 6. CAC: Not less than .43 CAC. (Unperforated)
 7. Edge/Joint Detail: flush
 8. Thickness: 3/4 inch
 9. Modular Size: 12x12 inches,

2.3 ACOUSTICAL SEALANT

- A.** Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
1. Acoustical Sealant for Exposed and Concealed Joints:
 - a. Pecora Corporation; AC-20 FTR Acoustical and Insulation Sealant.
 - b. USG Corporation; SHEETROCK Acoustical Sealant.
- B.** Adhesive shall [have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).] [comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."]

- C. Acoustical Sealant for Exposed and Concealed Joints: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834 and effective in reducing airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, including structural framing and substrates to which acoustical tile ceilings attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect ceiling installation and anchorage and with requirements for installation tolerances and other conditions affecting performance of acoustical tile ceilings.
 - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Measure each ceiling area and establish layout of acoustical tiles to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width tiles at borders, and comply with layout shown on reflected ceiling plans.

3.3 INSTALLATION, SUSPENDED ACOUSTICAL TILE CEILINGS

- A. General: Install acoustical tile ceilings to comply with ASTM C 636 and seismic design requirements indicated, per manufacturer's written instructions and CISCA's "Ceiling Systems Handbook."
- B. Suspend ceiling hangers from building's structural members and as follows:
 - 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
 - 2. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
 - 3. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers at spacings required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices.
 - 4. Secure wire hangers to ceiling suspension members and to supports above with a minimum of three tight turns. Connect hangers directly

- either to structures or to inserts, eye screws, or other devices that are secure and appropriate for substrate and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
5. When steel framing does not permit installation of hanger wires at spacing required, install carrying channels or other supplemental support for attachment of hanger wires.
 6. Do not attach hangers to steel deck tabs.
 7. Do not attach hangers to steel roof deck. Attach hangers to structural members.
 8. Space hangers not more than 48 inches(1200 mm) o.c. along each member supported directly from hangers, unless otherwise indicated; provide hangers not more than 8 inches(200 mm) from ends of each member.
 9. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards and publications.
- C. Secure bracing wires to ceiling suspension members and to supports with a minimum of four tight turns. Suspend bracing from building's structural members as required for hangers, without attaching to permanent metal forms, steel deck, or steel deck tabs. Fasten bracing wires into concrete with cast-in-place or postinstalled anchors.
- D. Install suspension system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.
- E. Install acoustical tiles in coordination with suspension system and exposed moldings and trim. Place splines or suspension system flanges into kerfed edges so tile-to-tile joints are closed by double lap of material.
1. Fit adjoining tile to form flush, tight joints. Scribe and cut tile for accurate fit at borders and around penetrations through tile.
 2. Hold tile field in compression by inserting leaf-type, spring-steel spacers between tile and moldings, spaced 12 inches(305 mm) o.c.

3.4 CLEANING

- A. Clean exposed surfaces of acoustical tile ceilings, including trim and edge moldings. Comply with manufacturer's written instructions for cleaning and touchup of minor finish damage. Remove and replace tiles and other ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 09 51 00

SECTION 09 65 13

RESILIENT WALL BASE AND ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A.** This Section includes the following:
 - 1.** Wall base.
 - 2.** Molding accessories.

1.3 SUBMITTALS

- A.** Samples for Initial Selection: For each type of product indicated.

1.4 DELIVERY, STORAGE, AND HANDLING

- A.** Store resilient products and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F(10 deg C) or more than 90 deg F(32 deg C).

1.5 PROJECT CONDITIONS

- A.** Maintain temperatures within range recommended by manufacturer, but not less than [70 deg F(21 deg C)] or more than [95 deg F(35 deg C)] , in spaces to receive floor tile during the following time periods:
 - 1.** 48 hours before installation.
 - 2.** During installation.
 - 3.** 48 hours after installation.
- B.** After post installation period, maintain temperatures within range recommended by manufacturer, but not less than [55 deg F(13 deg C)] > or more than [95 deg F(35 deg C)].
- C.** Install resilient products after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A.** Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed in other Part 2 articles.

1. AFCO-USA, American Floor Products Company, Inc
2. Armstrong World Industries, Inc
3. Azrock Commercial Flooring, DOMCO
4. Burke Mercer Flooring Products
5. Endura;
6. Johnsonite
7. Roppe Corporation;

2.2 COLORS AND PATTERNS

- A.** Colors and Patterns: As selected by Architect from manufacturer's full range - See Sheet A6.0 Room Finish Schedule for color and location

2.3 RESILIENT WALL BASE

- A.** Wall Base:

1. Style: Cove (with top-set toe).
2. Type :rubber, vulcanized thermoset
3. Group :solid, homogeneous
4. Minimum Thickness: 0.125 inch(3.2 mm)].
5. Height 4 inches(102 mm)
6. Lengths: Coils in manufacturer's standard length
7. Outside Corners: Premolded.
8. Inside Corners: Pre-moulded
9. Surface: Smooth.

2.4 RESILIENT MOLDING ACCESSORY

- A.** Description: Carpet bar for tackless installations, Reducer strip for resilient floor covering, Joiner for tile and carpet.

1. Burke Mercer Flooring Products
2. Johnsonite
3. Marley Flexco (USA), Inc.
4. Roppe Corporation

- B.** Material: Rubber

- C. Profile and Dimensions: Manufacturer's standard or as indicated

2.5 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic cement based formulation provided or approved by resilient product manufacturers for applications indicated.
- B. Adhesives: Water-resistant type recommended by manufacturer to suit resilient products and substrate conditions indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances, moisture content, and other conditions affecting performance.
 - 1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient products.
 - 2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Prepare substrates according to manufacturer's written recommendations to ensure adhesion of resilient products.
- B. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
- C. Move resilient products and installation materials into spaces where they will be installed at least 48 hours in advance of installation.
 - 1. Do not install resilient products until they are the same temperature as the space where they are to be installed.
- D. Sweep and vacuum clean substrates to be covered by resilient products immediately before installation. After cleaning, examine substrates for moisture, alkaline salts, carbonation, and dust. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 RESILIENT WALL BASE INSTALLATION

- A.** Apply wall base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.
- B.** Install wall base in lengths as long as practicable without gaps at seams and with tops of adjacent pieces aligned.
- C.** Tightly adhere wall base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
- D.** Do not stretch wall base during installation.
- E.** Premolded Corners: Install premolded corners before installing straight pieces.
- F.** Job-Formed Corners:
 - 1.** Inside Corners: Use straight pieces of maximum lengths possible. Form by cutting an inverted V-shaped notch in toe of wall base at the point where corner is formed. Shave back of base where necessary to produce a snug fit to substrate.

3.4 RESILIENT ACCESSORY INSTALLATION

- A.** Resilient Molding Accessories: Butt to adjacent materials and tightly adhere to substrates throughout length of each piece. Install reducer strips at edges of floor coverings that would otherwise be exposed.

3.5 CLEANING AND PROTECTION

- A.** Perform the following operations immediately after completing resilient product installation:
 - 1.** Remove adhesive and other blemishes from exposed surfaces.
 - 2.** Sweep and vacuum surfaces thoroughly.
 - 3.** Damp-mop surfaces to remove marks and soil.
 - a.** Do not wash surfaces until after time period recommended by manufacturer.
- B.** Protect resilient products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period. Use protection methods recommended in writing by manufacturer.

END OF SECTION 09 65 13

SECTION 09 68 00

TILE CARPETING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A.** Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A.** Section includes
 - 1.** Modular, patterned loop carpet tile.
 - 2.** Walk-off tile.
- B.** Related Requirements:
 - 1.** Division 02 Section "Selective Structure Demolition" for removing existing floor coverings.
 - 2.** Division 09 Section "Resilient Base and Accessories, Resilient Tile Flooring" for resilient wall base and accessories installed with carpet tile.

1.3 SUBMITTALS

- A.** Product Data: For each type of product.
 - 1.** Include manufacturer's written data on physical characteristics, durability, and fade resistance.
 - 2.** Include installation recommendations for each type of substrate.
- B.** Samples: For each of the following products and for each color and texture required. Label each Sample with manufacturer's name, material description, color, pattern, and designation indicated on Drawings and in schedules.
 - 1.** Carpet Tile: Full-size Sample.
 - 2.** Exposed Edge, Transition, and Other Accessory Stripping: 12-inch- (300-mm-) long Samples.
- C.** Product Schedule: For carpet tile. Use same designations indicated on Sheet A6.0 Finish Schedule.

- D. Maintenance Data: For carpet tiles to include in maintenance manuals. Include the following:
 - 1. Methods for maintaining carpet tile, including cleaning and stain-removal products and procedures and manufacturer's recommended maintenance schedule.
 - 2. Precautions for cleaning materials and methods that could be detrimental to carpet tile.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who is certified by the Floor Covering Installation Board or can demonstrate compliance with its certification program requirements.
- B. Fire-Test-Response Characteristics: Provide products with the critical radiant flux classification indicated in Part 2, as determined by testing identical products per ASTM E 648 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.
- C. Product Options: Products and manufacturers named in Part 2 establish requirements for product quality in terms of appearance, construction, and performance. Other manufacturers' products comparable in quality to named products and complying with requirements may be considered. Refer to Division 01 Section "Products and Substitutions."
- D. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Coordination." Review methods and procedures related to carpet tile installation including, but not limited to, the following:
 - 1. Review delivery, storage, and handling procedures.
 - 2. Review ambient conditions and ventilation procedures.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Comply with CRI 104, Section 5, "Storage and Handling".

1.6 INDOOR AIR QUALITY

- A. Emission Rate Standards: As a minimum, all material shall meet the emission rate standards set forth as follows (Emission rate calculations use 900 cubic feet (ft³) or 25.5 cubic meters (m³) for volume determination of product loading):
 - 1. Formaldehyde Emissions Rate Standard: The product emission rate measured in mg/m²/hr shall not exceed an indoor air concentration level of formaldehyde greater than 0.05 ppm at the anticipated loading (m²/m³ within the building) within 14 days of installation.

2. Total Volatile Organic Compound (VOC) Emissions Rate Standard: The product emission rate measured in mg/m²/hr shall not exceed an indoor air concentration level greater than 0.05 ppm at the anticipated loading (m²/m³ within the building) within 14 days of installation.
 3. Phenyl Cyclohexane (4-PC) Emissions Rate Standard: The product emission rate measured in mg/m²/hr shall not exceed an indoor air concentration level greater than 1 ppm at the anticipated loading (m²/m³ within the building) within 14 days of installation.
 4. Regulated Pollutant Standard: Any pollutant regulated as a primary or secondary outdoor air pollutant must meet an emission rate standard that will not generate an air concentration greater than that promulgated by the National Ambient Air Quality Standard (US EPA Code of Federal Regulations Title 40, Part 50).
 5. Otherwise Unmentioned Pollutant Standard: Any pollutant not specifically mentioned in these specifications shall not exceed an emission rate that will produce an air concentration level greater than 1/10 the Threshold Limit Value (TLV) of the industrial workplace standards, within 14 days of installation.
- B.** For all interior materials, furnishings and finishes the Contractor shall disclose in writing to the Owner prior to installation any detectable amounts of substance emitted into the indoor air which are listed on either:
1. The International Agency for Research on Cancer, List of Carcinogens; or
 2. The Carcinogen List of the National Toxicology Program; or
 3. The Reproductive Toxin List of catalog of Teratogenic Agents.
- C.** Emission rate testing pursuant to this specification shall be according to the dynamic environmental chamber technology as prescribed by the U.S. Environmental Protection Agency (EPA-600/8-89-074) and data shall be made available to the Owner for review and approval.
- D.** All floor removal and/or preparation shall be by hand or machine methods. Solvents and/or chemical removers will not be approved.
- E.** Material Safety Data Sheets (MSDS) on all products must be submitted to the Owner for approval prior to material installation.
- F.** All floor coverings, dry furnishing and materials shall be allowed to “air out” prior to installation in the building.
- G.** Products that do not meet the pollutant emission guidelines or air quality standards set forth in this specification are not approved.

1.7 PROJECT CONDITIONS

- A.** Comply with CRI 104 , Section 7.2, "Site Conditions; Temperature and Humidity" and Section 7.12, "Ventilation."

- B.** Environmental Limitations: Do not deliver or install carpet tiles until spaces are enclosed and weathertight, wet work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at occupancy levels during the remainder of the construction period.
- C.** Do not install carpet tiles over concrete slabs until slabs have cured and are sufficiently dry to bond with adhesive and concrete slabs have pH range recommended by carpet tile manufacturer.
- D.** Where demountable partitions or other items are indicated for installation on top of carpet tiles, install carpet tiles before installing these items.

1.8 WARRANTY

- A.** A. General Warranty: Special warranty specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B.** All of the product related warranties listed below must be submitted as published warranties and presented as sample copies prior to approval. The originals must be signed by an official of the corporation that manufactures the carpeting and submitted to the Owner after installation is complete.
 - 1.** Specification Warranty: The manufacturer warrants that the carpet conforms to specifications established for the product identified in the execution section, subject to normal manufacturing tolerances.
 - 2.** Lifetime Wear Warranty: This carpet is warranted by the Manufacturer for indoor commercial use. The manufacturer warrants that the carpet will not wear more than 10% of its surface pile weight from abrasive wear for the life of the carpet from the date of installation. By abrasive wear is meant fiber loss from the carpet through normal abrasion, not crushing or flattening of the carpet pile in any area, nor fiber loss due to abnormal usage of the carpet.
 - 3.** Delamination Warranty: The Manufacturer warrants that the carpet will not delaminate for the life of the carpet.
 - 4.** Tuft Bind: The Manufacturer warrants that its high-performance WOVEN products will provide superior tuft bind capabilities in high-traffic environments for the life of the carpet. Any failure to perform with respect to tuft bind will be independently evaluated, and remedied if a product defect is responsible for substandard performance.
 - 5.** Static Protection Warranty: The Manufacturer warrants that the carpet will not give static discharges in excess of 3.5KV when tested under the AATCC Test Method #134-1979 for the life of the carpet.
 - 6.** Edge Ravel Warranty: The Manufacturer warrants that the carpet will not have continuous ends coming out at seams for the life of the carpet.

7. Zippering Warranty: The Manufacturer warrants that the carpet will not zipper or develop continuous "pile yarn runners" in the body of the carpet for life of the carpet.
8. Dimensional Stability Warranty. The Manufacturer warrants that the carpet will not lose its dimensional stability (i.e., growth or shrinkage with either stretch-in or glue-down installations) for the life of the carpet due to normal variations in atmosphere, temperature or humidity.
9. Impervious to Liquids. The Manufacturer warrants that the carpet will not lose its usable properties for the life of the carpet due to damage from liquids from normal commercial activities, which include but are not limited to such occurrences as spills, cleaning methods, etc.
10. Liquid Barrier. The Manufacturer warrants that the backing will act as a liquid barrier and keep liquids from penetrating through the backing system, as tested under the British Spill Test, and 10,000 IMPACT TEST for the life of the carpet.
11. Warranty Period: 10 years from date of Substantial Completion.

1.9 EXTRA MATERIALS

- A. A. Furnish extra materials described below, before installation begins, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 1. Carpet Tile: Full-size units equal to 5 percent of amount installed for each type indicated, but not less than 10 sq. yd. Must be of the same dye-lot and run sequence as the remainder of the carpet installed.

PART 2 - PRODUCTS

2.1 CARPET TILE

- A. Basis of Design Products: Subject to compliance with requirements, supply the following – See Finish Schedule A 6.4 and Cat A1 sheets for extent, location and patterning:
 1. **CPT-1 Carpet Tile:** Mohawk Group; Aqua Rhythm; 558 Fresh Water, Installed 1/3rd lap.

2.2 INSTALLATION ACCESSORIES

- A. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement-based formulation provided by or recommended by the following:
 1. Carpet manufacturer.
- B. Adhesives: Water-resistant, mildew-resistant, nonstaining, pressure-sensitive type to suit products and subfloor conditions indicated, that complies with flammability

requirements for installed carpet tile and is recommended by carpet tile manufacturer for releasable installation.

1. 1. VOC Limits: Provide adhesives with VOC content not more than 50 g/L when calculated according to 40 CFR 59, Subpart D (EPA method 24).
- C. Metal Edge/Transition Strips: Extruded aluminum with mill finish, 1-1/4" to 1-1/2 " wide, of height required to protect exposed edge of carpet, and of maximum lengths to minimize running joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting carpet tile performance. Examine carpet tile for type, color, pattern, and potential defects.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. General: Comply with CRI 104, Section 6.2, "Site Conditions; Floor Preparation," and with carpet tile manufacturer's written installation instructions for preparing substrates indicated to receive carpet tile installation.
- B. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, depressions, and protrusions in substrates. Fill or level cracks, holes and depressions 1/8 inch (3 mm) wide or wider and protrusions more than 1/32 inch (0.8 mm) unless more stringent requirements are required by manufacturer's written instructions.
- C. Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by carpet tile manufacturer.
- D. Broom and vacuum clean substrates to be covered immediately before installing carpet tile.

3.3 INSTALLATION

- A. General: Comply with CRI 104, Section 14, "Carpet Modules," and with carpet tile manufacturer's written installation instructions.
- B. Installation Method: As recommended in writing by carpet tile manufacturer.
- C. Maintain dye lot integrity. Do not mix dye lots in same area.

- D. Cut and fit carpet tile to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet tile manufacturer.
- E. Extend carpet tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
- F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on finish flooring as marked on subfloor. Use nonpermanent, nonstaining marking device.
- G. Carpet pattern to be: 1/3rd overlapping plank.

3.4 CLEANING AND PROTECTION

- A. Perform the following operations immediately after installing carpet tile:
 - 1. Remove excess adhesive, seam sealer, and other surface blemishes using cleaner recommended by carpet tile manufacturer.
 - 2. Remove yarns that protrude from carpet tile surface.
 - 3. Vacuum carpet tile using commercial machine with face-beater element.
- B. Protect installed carpet tile to comply with CRI 104, Section 16, "Protecting Indoor Installations."
- C. Protect carpet tile against damage from construction operations and placement of equipment and fixtures during the remainder of construction period. Use protection methods indicated or recommended in writing by carpet tile manufacturer.

END OF SECTION 09 68 00

SECTION 09 72 00

WALL PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A.** Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A.** Section Includes:
 - 1.** Vinyl wall covering (Alternate 1)
 - 2.** Vinyl corner guards

1.3 ACTION SUBMITTALS

- A.** Product Data: For each type of product.
 - 1.** Include data on physical characteristics, durability, fade resistance, and fire-test-response characteristics.
- B.** Samples for Initial Selection: For each type of wall covering.

1.4 INFORMATIONAL SUBMITTALS

- A.** Qualification Data: For testing agency.
- B.** Product Test Reports: For each wall covering, for tests performed by a qualified testing agency.

1.5 CLOSEOUT SUBMITTALS

- A.** Maintenance Data: For wall coverings to include in maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A.** Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1.** Wall-Covering Materials: For each type, color, texture, and finish.

1.7 FIELD CONDITIONS

- A.** Environmental Limitations: Do not deliver or install wall coverings until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work above ceilings is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at levels intended for occupants after Project completion during the remainder of the construction period.
- B.** Lighting: Do not install wall covering until lighting that matches conditions intended for occupants after Project completion is provided on the surfaces to receive wall covering.
- C.** Ventilation: Provide continuous ventilation during installation and for not less than the time recommended by wall-covering manufacturer for full drying or curing.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A.** Low-Emitting Materials: Wall-covering system shall comply with the testing and product requirements of the California Department of Public Health's (formerly, the California Department of Health Services) "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- B.** Fire-Test-Response Characteristics: As determined by testing identical wall coverings applied with identical adhesives to substrates according to test method indicated below by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1.** Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - a.** Flame-Spread Index: 25 or less.
 - b.** Fire Rating: Class A

2. Fire-Growth Contribution: No flashover and heat and smoke release according to **NFPA 265**

2.2 VINYL WALL COVERING-ALT. 1

- A. Basis of Design for Rigid Vinyl Sheet RVS-1 and RVS-2:
 1. Inpro Corp Palladium
 2. Thickness: .060" nominal thickness
 3. Size: 4' x 10' sheet
 4. Color: As noted in finish schedule

2.3 VINYL CORNER GUARDS

- A. Manufacturers: Subject to compliance with requirements of Section 01600 by a manufacturer of a comparable product:
 1. Basis-of-Design Product: Subject to compliance with requirements, provide Inpro Corp, Tape-On Corner Guards
 2. Coverage: 1-1/2" Legs,
 3. Size: 48" or as shown on drawings.
 4. Color: Match adjacent color/wall protection
 5. Finish: As noted in finish schedule
 6. Location: As illustrated on drawings
 7. Installation: use HD construction adhesive where/as necessary

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for levelness, wall plumbness, maximum moisture content, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions for surface preparation.
- B. Clean substrates of substances that could impair bond of wall covering, including dirt, oil, grease, mold, mildew, and incompatible primers.
- C. Prepare substrates to achieve a smooth, dry, clean, structurally sound surface free of flaking, unsound coatings, cracks, and defects.

1. Moisture Content: Maximum of 5 percent on new plaster, concrete, and concrete masonry units when tested with an electronic moisture meter.
 2. Plaster: Allow new plaster to cure. Neutralize areas of high alkalinity. Prime with primer recommended in writing by primer/sealer manufacturer and wall-covering manufacturer.
 3. Metals: If not factory primed, clean and apply primer recommended in writing by primer/sealer manufacturer and wall-covering manufacturer.
 4. Gypsum Board: Prime with primer as recommended in writing by primer/sealer manufacturer and wall-covering manufacturer.
 5. Painted Surfaces: Treat areas susceptible to pigment bleeding.
- D. Check painted surfaces for pigment bleeding. Sand gloss, semigloss, and eggshell finish with fine sandpaper.
- E. Remove hardware and hardware accessories, electrical plates and covers, light fixture trims, and similar items.
- F. Acclimatize wall-covering materials by removing them from packaging in the installation areas not less than 24 hours before installation.

3.3 CLEANING

- A. Remove excess adhesive at seams, perimeter edges, and adjacent surfaces.
- B. Use cleaning methods recommended in writing by wall-covering manufacturer.
- C. Replace strips that cannot be cleaned.

END OF SECTION 09 72 00

SECTION 09 90 12

INTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A.** This Section includes surface preparation and the application of paint systems on the following interior substrates:
 - 1. Steel (Structural Steel, Misc. exposed steel sections, Handrails, Exposed roof decking, and bollards.)
 - 2. Galvanized metal (Hollow Metal Doors and Frames)
 - 3. Gypsum board.
 - 4. Wood
- B.** Related Sections include the following:
 - 1. Division 6 Sections for shop priming carpentry with primers specified in this Section.

1.3 SUBMITTALS

- A.** Samples for Verification: For each type of paint system and in each color and gloss of topcoat indicated.
 - 1. Submit Samples on rigid backing, 8 inches(200 mm) square.
 - 2. Step coats on Samples to show each coat required for system.
 - 3. Label each coat of each Sample.
 - 4. Label each Sample for location and application area.
 - 5. Paint samples to be applied to surface similar to surface to be painted.

1.4 QUALITY ASSURANCE

- A.** MPI Standards:
 - 1. Products: Complying with MPI standards indicated and listed in "MPI Approved Products List."

2. Preparation and Workmanship: Comply with requirements in "MPI Architectural Painting Specification Manual" for products and paint systems indicated.
3. Employ an independent testing agency to test and verify the thickness of Intumescent Paint.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F(7 deg C).
 1. Maintain containers in clean condition, free of foreign materials and residue.
 2. Remove rags and waste from storage areas daily.

1.6 PROJECT CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F(10 and 35 deg C).
- B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F(3 deg C) above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 1. Benjamin Moore & Co.
 2. Bennette Paint Mfg. Co., Inc.
 3. Color Wheel Paints & Coatings.
 4. Columbia Paint & Coatings.
 5. Davis Paint Company.
 6. Diamond Vogel Paints.
 7. General Paint.
 8. ICI Paints.
 9. Kelly-Moore Paints.
 10. No-Burn Inc.
 11. Rodda Paint Co.
 12. Sherwin-Williams Company (The).
 13. Spectra-Tone.
 14. Safe-Coat
 15. 3M

2.2 PAINT, GENERAL

A. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

B. Chemical Components of Field-Applied Interior Paints and Coatings: Provide products that comply with the following limits for VOC content, exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24) and the following chemical restrictions; these requirements do not apply to primers or finishes that are applied in a fabrication or finishing shop:

1. Flat Paints and Coatings: VOC content of not more than 50 g/L.
2. Nonflat Paints and Coatings: VOC content of not more than 150 g/L.
3. Aromatic Compounds: Paints and coatings shall not contain more than 1.0 percent by weight of total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).
4. Restricted Components: Paints and coatings shall not contain any of the following:
 - a. Acrolein.
 - b. Acrylonitrile.
 - c. Antimony.
 - d. Benzene.
 - e. Butyl benzyl phthalate.
 - f. Cadmium.
 - g. Di (2-ethylhexyl) phthalate.
 - h. Di-n-butyl phthalate.
 - i. Di-n-octyl phthalate.
 - j. 1,2-dichlorobenzene.
 - k. Diethyl phthalate.
 - l. Dimethyl phthalate.
 - m. Ethylbenzene.
 - n. Formaldehyde.
 - o. Hexavalent chromium.
 - p. Isophorone.
 - q. Lead.
 - r. Mercury.
 - s. Methyl ethyl ketone.
 - t. Methyl isobutyl ketone.

- u. Methylene chloride.
 - v. Naphthalene.
 - w. Toluene (methylbenzene).
 - x. 1,1,1-trichloroethane.
 - y. Vinyl chloride.
- C. Colors: As selected by Architect from manufacturer's full range.
- 1. Project will require multiple accent paint colors – locations designated in finish schedule and on drawings.

2.3 INTERIOR PAINT SCHEDULE

- A. See Interior Finish Key on Room Finish Schedule Sheet for interior finishes and colors
- B. Systems and glass levels are found in the MPI, APSM. All work is Premium Grade.
- C. Hollow metal (Doors & Frames): Institutional Low Odor/VOC, Gloss Level 5.
- D. Toilet Rooms: Epoxy Finish: Water Base Epoxy. Gloss Level 5.
- E. Gypsum Wall Board: PT-1, PT-3, Latex Low Odor/VOC. Gloss Level E3 or GPS-1 in Green Room, Dressing Rooms; 2 on ceilings; and 4 in corridors except where subjected to strong natural light at oblique angles.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - 1. Gypsum Board: 12 percent.
- C. Clean surfaces of grease, dirt, or other debris.
- D. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

- E. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
 - 1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
- B. Remove plates, machined surfaces, and similar items already in place that are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
 - 2. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
- C. Clean substrates of substances that could impair bond of paints, including dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers as required to produce paint systems indicated.
- D. Steel Substrates (Doors and Frames): Remove loose paint, rust or other imperfections. Clean using methods recommended in writing by paint manufacturer.
- E. Gypsum Board Substrates: Do not begin paint application until finishing compound is dry and sanded smooth.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions.
 - 1. Use applicators and techniques suited for paint and substrate indicated.
 - 2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 - 3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.

- B.** Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat. Notify Owners Representative between each coat of paint, prior to application of successive coat of paint.
- C.** If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D.** Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- E.** Intumescent coatings on steel should be applied in thickness recommended by manufacturer to achieve anticipated fire rating (1 hour). Repeat application as many times as necessary to achieve recommended coating thickness.
- F.** Painting Mechanical and Electrical Work: Paint items exposed in equipment rooms and occupied spaces including, but not limited to, the following:
 - 1.** Mechanical Work:
 - a.** Uninsulated metal piping.
 - b.** Uninsulated plastic piping.
 - c.** Pipe hangers and supports.
 - d.** Tanks that do not have factory-applied final finishes.
 - e.** Visible portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets.
 - f.** Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
 - g.** Mechanical equipment that is indicated to have a factory-primed finish for field painting.
 - 2.** Electrical Work:
 - a.** Switchgear.
 - b.** Panelboards.
 - c.** Electrical equipment that is indicated to have a factory-primed finish for field painting.

3.4 CLEANING AND PROTECTION

- A.** At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

- B.** After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C.** Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D.** At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.
- E.** Take care to ensure Intumescent paint is not damaged during the course of construction. Prior to installing ceilings, inspect Intumescent Paint and if damaged areas are noted, reapply intumescent paint at any damaged areas.

END OF SECTION 09 90 12

SECTION 10 10 10

VISUAL DISPLAY SURFACES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Markerboards.
 - 2. Tackboards.

1.3 DEFINITIONS

- A. Tackboard: Framed tackable surface.
- B. Visual Display Boards: Markerboards, and tackboards.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
 - 1. Include sections of typical trim members.
 - 2. No joints permitted in field.
- C. Samples for Initial Selection: For each type of visual display surface indicated and as follows:
 - 1. Samples of accessories involving color selection.
- D. Warranties: Special warranties specified in this Section.

1.5 QUALITY ASSURANCE

- A.** Source Limitations: Obtain each type of visual display surface through one source from a single manufacturer.
- B.** Product Options: Drawings indicate size, profiles, and dimensional requirements of visual display surfaces and are based on the specific system indicated. Refer to Division 1 Section "Product Requirements."
 - 1.** Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.

1.6 DELIVERY, STORAGE, AND HANDLING

- A.** Store visual display units vertically with packing materials between each unit.

1.7 PROJECT CONDITIONS

- A.** Field Measurements: Verify dimensions by field measurements before fabrication and indicate measurements on Shop Drawings.
 - 1.** Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabricating visual display surfaces without field measurements. Coordinate wall construction to ensure that actual dimensions correspond to established dimensions.
 - 2.** Allow for trimming and fitting where taking field measurements before fabrication might delay the Work.

1.8 WARRANTY

- A.** Special Warranty for Porcelain-Enamel Face Sheets: Manufacturer's standard form in which manufacturer agrees to repair or replace porcelain-enamel face sheets that fail in materials or workmanship within specified warranty period.
 - 1.** Failures include, but are not limited to, the following:
 - a.** Surfaces lose original writing and erasing qualities.
 - b.** Surfaces become slick or shiny.
 - c.** Surfaces exhibit crazing, cracking, or flaking.
 - 2.** Warranty Period: 50 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. Product: Subject to compliance with requirements, provide product specified.
 - 2. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.

2.2 MATERIALS, GENERAL

- A. Porcelain-Enamel Face Sheet: Porcelain-enamel-clad, ASTM A 463/A 463M, Type 1, stretcher-leveled aluminized steel, with 0.0236-inch(0.60-mm) uncoated thickness; with porcelain-enamel coating fused to steel at approximately 1000 deg F(538 deg C).
 - 1. Gloss Finish: Low gloss; dry-erase markers wipe clean with dry cloth or standard eraser. Suitable for use as projection screen.
 - a. Product: Claridge Products & Equipment, Inc.; LCS Markerboard.
- B. Particleboard: ANSI A208.1, Grade 1-M-1.
- C. Natural-Cork Sheet: MS MIL-C-15116, Type II seamless single-layer, 1/4-inch- (6.4-mm) thick, compressed fine-grain, bulletin board quality, natural-cork sheet; face sanded for natural finish.
- D. Extruded Aluminum: ASTM B 221(ASTM B 221M), Alloy 6063.

2.3 MARKERBOARD ASSEMBLIES (MB)

- A. Porcelain-Enamel Markerboard Assembly: Balanced, high-pressure, factory-laminated markerboard assembly of 3-ply construction consisting of backing sheet, core material, and porcelain-enamel face sheet with low-gloss finish.
 - 1. Manufacturers:
 - a. AARCO Products, Inc.
 - b. ADP/Lemco, Inc.
 - c. Bangor Cork Company, Inc.
 - d. Best-Rite Manufacturing.
 - e. Claridge Products & Equipment, Inc.
 - f. Egan Visual Inc.
 - g. Ghent Manufacturing Inc.
 - h. Marsh Industries, Inc.
 - i. Platinum Visual Systems; a division of ABC School Equipment, Inc.
 - j. PolyVision Corporation.
 - k. Substitutions as allowed under division 1 Product Substitution requirements
 - 2. Particleboard Core 1/2 inch thick; with thick, aluminum sheet] 0.35-mm- thick, galvanized steel sheet backing.

3. Manufacturer's Standard Core: Minimum 1/4 inch(6 mm) thick, with manufacturer's standard moisture-barrier backing.
4. Laminating Adhesive: Manufacturer's standard moisture-resistant thermoplastic type.

2.4 TACKBOARD (TB)

- A. Basis of Design: Koroseal Tac Wall; color to be selected by Architect.
 1. Provide aluminum trims at perimeter for finished installation.

2.5 MARKERBOARD AND TACKBOARD ACCESSORIES

- A. Aluminum Frames and Trim: Fabricated from not less than 0.062-inch-(1.57-mm-) thick, extruded aluminum; of size and shape indicated.
 1. Factory-Applied Trim: Manufacturer's standard.
- B. Chalktray: Manufacturer's standard, continuous.
 1. Solid Type: Extruded aluminum with ribbed section and smoothly curved exposed ends.

2.6 FABRICATION

- A. Porcelain-Enamel Visual Display Assemblies: Laminate porcelain-enamel face sheet and backing sheet to core material under heat and pressure with manufacturer's standard flexible, waterproof adhesive.
- B. Aluminum Frames and Trim: Fabricate units straight and of single lengths, keeping joints to a minimum. Miter corners to neat, hairline closure.
 1. Where factory-applied trim is indicated, trim shall be assembled and attached to visual display units at manufacturer's factory before shipment.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances, surface conditions of wall, and other conditions affecting performance.
 1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of work.
- B. Examine walls and partitions for proper backing for visual display surfaces.

- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove dirt, scaling paint, projections, and depressions that will affect smooth, finished surfaces of visual display boards.
- B. Prepare surfaces to achieve a smooth, dry, clean surface free of flaking, unsound coatings, cracks, defects, and substances that will impair bond between visual display boards and surfaces.

3.3 INSTALLATION, GENERAL

- A. General: Install visual display surfaces in locations and at mounting heights indicated on Drawings, or if not indicated, at heights indicated below. Keep perimeter lines straight, level, and plumb. Provide grounds, clips, backing materials, adhesives, brackets, anchors, trim, and accessories necessary for complete installation.
 - 1. Mounting Height : 36 inches above finished floor to top of chalktray.or as noted on drawings

3.4 CLEANING AND PROTECTION

- A. Clean visual display surfaces according to manufacturer's written instructions. Attach one cleaning label to visual display surface in each room.
- B. Touch up factory-applied finishes to restore damaged or soiled areas.
- C. Cover and protect visual display surfaces after installation and cleaning

END OF SECTION 10 10 10

SECTION 10 21 13

TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A.** This Section includes solid-polymer units as follows:
 - 1.** Toilet Enclosures: Overhead braced and Floor anchored.
- B.** Related Sections include the following:
 - 1.** Division 6 Section "Rough Carpentry" for blocking.
 - 2.** Division 10 "Toilet and Bath Accessories" for toilet tissue dispensers, grab bars, purse shelves, and similar accessories.

1.3 SUBMITTALS

- A.** Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B.** Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
 - 1.** Show locations of cutouts for compartment-mounted toilet accessories.
- C.** Samples for Initial Selection: For each type of unit indicated.

1.4 QUALITY ASSURANCE

- A.** Comply with requirements in CID-A-A-60003, "Partitions, Toilets, Complete."

1.5 PROJECT CONDITIONS

- A. Field Measurements: Verify actual locations of walls, columns, ceilings, and other construction contiguous with toilet compartments by field measurements before fabrication and indicate measurements on Shop Drawings.
 - 1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabricating toilet compartments without field measurements. Coordinate wall, floor, ceilings, and other contiguous construction to ensure that actual dimensions correspond to established dimensions.

PART 2 - PRODUCTS

2.1 SOLID-POLYMER UNITS

- A. Basis of Design:
 - 1. Manufacturer: Scranton Products, Moosic, PA
 - 2. Style: Hiny Hider
 - 3. Color: Linen
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Accurate Partitions Corporation.
 - 2. Ampco.
 - 3. Bradley Corporation; Mills Partitions.
 - 4. Capitol Partitions, Inc.
 - 5. Comtec Industries.
 - 6. General Partitions Mfg. Corp.
 - 7. Global Steel Products Corp.
 - 8. Metpar Corp.
 - 9. Santana Products, Inc.
 - 10. Sanymetal; a Crane Plumbing Company.
 - 11. Weis-Robart Partitions, Inc.
- C. Door, Panel, and Pilaster Construction: Solid, high-density polyethylene (HDPE)] panel material, not less than 1 inch(25 mm) thick, seamless, with eased edges, and with homogenous color and pattern throughout thickness of material.
 - 1. Color and Pattern: One color and pattern in each room as selected by Architect from manufacturer's full range of colors and patterns.
- D. Pilaster Shoes: Manufacturer's standard design; stainless steel.
- E. Brackets (Fittings):

1. Full-Height (Continuous) Type: Manufacturer's standard design; Stainless Steel

F. Heat-Sink Strip: Manufacturer's standard continuous, extruded-aluminum strip fastened to exposed bottom edges of solid-polymer components to prevent burning.

2.2 ACCESSORIES

A. Hardware and Accessories: Manufacturer's standard design, heavy-duty operating hardware and accessories.

1. Material: Stainless steel.

B. Overhead Bracing: Manufacturer's standard continuous, extruded-aluminum head rail with anti-grip profile and in manufacturer's standard finish.

C. Support Posts for Urinal Screens: Manufacturer's standard aluminum post with floor shoe for anchoring to floor construction.

D. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel or chrome-plated steel or brass, finished to match hardware, with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. For concealed anchors, use hot-dip galvanized or other rust-resistant, protective-coated steel.

2.3 FABRICATION

A. Overhead-Braced Units: Provide manufacturer's standard corrosion-resistant supports, leveling mechanism, fasteners, and anchors at pilasters to suit floor conditions. Make provisions for setting and securing continuous head rail at top of each pilaster. Provide shoes at pilasters to conceal supports and leveling mechanism.

B. Floor-Anchored Units: Provide manufacturer's standard corrosion-resistant anchoring assemblies complete with threaded rods, lock washers, and leveling adjustment nuts at pilasters for structural connection to floor. Provide shoes at pilasters to conceal anchorage.

C. Doors: Unless otherwise indicated, provide 24-inch-(610-mm-) wide in-swinging doors for standard toilet compartments and 36-inch-(914-mm-) wide out-swinging doors with a minimum 32-inch-(813-mm-) wide clear opening for compartments indicated to be accessible to people with disabilities.

1. Hinges: Manufacturer's standard self-closing type that can be adjusted to hold doors open at any angle up to 90 degrees.

2. Latch and Keeper: Manufacturer's standard recessed latch unit designed for emergency access and with combination rubber-faced door strike and keeper.

Provide units that comply with accessibility requirements of authorities having jurisdiction at compartments indicated to be accessible to people with disabilities.

3. Coat Hook: Manufacturer's standard combination hook and rubber-tipped bumper, sized to prevent door from hitting compartment-mounted accessories.
4. Door Bumper: Manufacturer's standard rubber-tipped bumper at out-swinging doors.
5. Door Pull: Manufacturer's standard unit at out-swinging doors that complies with accessibility requirements of authorities having jurisdiction. Provide units on both sides of doors at compartments indicated to be accessible to people with disabilities.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.
 1. Maximum Clearances:
 - a. Pilasters and Panels: 1/2 inch(13 mm).
 - b. Panels and Walls: 1 inch(25 mm).
- B. Overhead-Braced Units: Secure pilasters to floor and level, plumb, and tighten. Secure continuous head rail to each pilaster with not less than two fasteners. Hang doors to align tops of doors with tops of panels and adjust so tops of doors are parallel with overhead brace when doors are in closed position.
- C. Floor-Anchored Units: Set pilasters with anchors penetrating not less than 2 inches(50 mm) into structural floor, unless otherwise indicated in manufacturer's written instructions. Level, plumb, and tighten pilasters. Hang doors and adjust so tops of doors are level with tops of pilasters when doors are in closed position.
- D. Wall-Hung Post-Supported Urinal Screens: Attach with anchoring devices to suit supporting structure. Set units level and plumb and to resist lateral impact.

3.2 ADJUSTING

- A. Hardware Adjustment: Adjust and lubricate hardware according to manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold doors open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doorstop return doors to fully closed position.

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END OF SECTION 10 21 13

SECTION 10 28 13

TOILET AND BATH ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A.** This Section includes the following:
 - 1.** Public-use washroom accessories.
 - 2.** Under lavatory guards.
- B.** Related Sections include the following:
 - 1.** Division 2240 Section "Plumbing Fixtures" for toilet and bath accessories.

1.3 SUBMITTALS

- A.** Product Data: For each type of product indicated. Include the following:
 - 1.** Construction details and dimensions.
 - 2.** Anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.
 - 3.** Material and finish descriptions.
 - 4.** Features that will be included for Project.
 - 5.** Manufacturer's warranty.

1.4 COORDINATION

- A.** Coordinate accessory locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.
- B.** Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.
- C.** Coordinate and install required blocking in wall.

1.5 WARRANTY

- A.** Special Mirror Warranty: Manufacturer's standard form in which manufacturer agrees to replace mirrors that develop visible silver spoilage defects and that fail in materials or workmanship within specified warranty period.
 - 1.** Warranty Period: 15 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

- A.** Steel Sheet: ASTM A 1008/A 1008M, Designation CS (cold rolled, commercial steel), 0.0359-inch(0.9-mm) minimum nominal thickness.
- B.** Galvanized Steel Sheet: ASTM A 653/A 653M, with G60(Z180) hot-dip zinc coating.
- C.** Galvanized Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.
- D.** Fasteners: Screws, bolts, and other devices of same material as accessory unit and tamper-and-theft resistant where exposed, and of galvanized steel where concealed.
- E.** Chrome Plating: ASTM B 456, Service Condition Number SC 2 (moderate service).
- F.** ABS Plastic: Acrylonitrile-butadiene-styrene resin formulation.
- G.** Stainless Steel

2.2 WASHROOM ACCESSORIES

- A.** Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1.** American Specialties, Inc.
 - 2.** Bobrick Washroom Equipment, Inc.
 - 3.** Bradley Corporation.
- B.** Toilet Tissue (Roll) Dispenser (OFCl):
 - 1.** Basis of Design: Georgia Pacific, 59206
 - a.** Two roll
 - b.** Side by side
 - c.** Mounting: Surface mounted.

- C. Sanitary Napkin Disposal (CFCl)
 - 1. Basis of Design: Stainless Steel
 - a. Mounting: Flush Mount
 - b. Size: 7-1/2" w x 10-1/2" h x 3-3/4" d

- D. Paper Towel Dispenser (OFCl)
 - 1. Georgia Pacific enMotion
 - 2. Description: Wall Mounted Automatic Towel Dispenser
 - 3. Mounting: Surfaced Mounted
 - 4. Size 13.75"x9.5"x13.625" (LxWxH)
 - 5. Material and Finish: Plastic

- E. Liquid-Soap Dispenser (OFCl) :
 - 1. Basis of Design: GoJo pump lever
 - 2. Description: Designed for dispensing soap in liquid or lotion form.
 - 3. Mounting: surface mounted.
 - 4. Size: 5-1/4" w x 10" h x 4" d

- F. Trash Receptical (OFCl)
 - 1. Mounting: Semi-Recessed
 - 2. Size: 15-1/4" w-x 30-1/2" h x 7-1/2" d

- G. Grab Bars
 - 1. Basis of Design: American Specialties 3700P series
 - 2. Mounting: Flanges with fasteners.
 - 3. Material: Stainless steel, 0.05 inch(1.3 mm) thick.
 - a. Finish: Smooth, No. 4, satin finish on ends and slip-resistant texture in grip area.
 - 4. Outside Diameter: 1-1/2 inches(38 mm)].
 - 5. Configuration and Length:
 - a. As illustrated on drawings
 - 1) 36" length
 - 2) 42" length
 - 6. Provide eschuteon plates at end of bars.

- H. Shower Rod
 - a. Basis of Design: Bradley 780 - 18"x36" 1-1/4" Stainless Steel

- I. Robe Hook—(Showers)
 - a. Basis of Design: Bobrick B-232x24 Hook Strip at each shower unit
 - b. Material: Stainless steel

2.3 UNDERLAVATORY GUARDS

- A.** Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Plumberex Specialty Products, Inc.
 - 2. TCI Products.
 - 3. Truebro, Inc.

- B.** Under-lavatory Guard :
 - 1. Description: Insulating pipe covering for supply and drain piping assemblies, that prevent direct contact with and burns from piping, and allow service access without removing coverings.
 - 2. Material and Finish: Antimicrobial, molded-plastic, white.

2.4 FABRICATION

- A.** General: Fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with full-length, continuous hinges. Equip units for concealed anchorage and with corrosion-resistant backing plates.

- B.** Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of 4 keys to Owner's representative.

PART 3 - EXECUTION

3.1 INSTALLATION

- A.** Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.

- B.** Grab Bars: Install to withstand a downward load of at least **250 lbf**, when tested according to method in ASTM F 446.

3.2 ADJUSTING AND CLEANING

- A.** Adjust accessories for unencumbered, smooth operation. Replace damaged or defective items.

- B.** Remove temporary labels and protective coatings.

- C. Clean and polish exposed surfaces according to manufacturer's written recommendations.

END OF SECTION 10 28 13

SECTION 12 24 13

ROLLER WINDOW SHADES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A.** Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A.** Section Includes:

- 1.** Manually operated roller blinds with single rollers at other locations

- B.** Related Requirements:

- 1.** Section 061053 "Miscellaneous Rough Carpentry" for wood blocking and grounds for mounting roller shades and accessories.
 - 2.** Section 079200 "Joint Sealants" for sealing the perimeters of installation accessories for light-blocking shades with a sealant.

1.3 ACTION SUBMITTALS

- A.** Product Data: For each type of product.

- 1.** Include styles, material descriptions, construction details, dimensions of individual components and profiles, features, finishes, and operating instructions for roller shades.

- B.** Shop Drawings: Show fabrication and installation details for roller shades, including shadeband materials, their orientation to rollers, and their seam and batten locations.

- C.** Samples for Initial Selection: For each type and color of shadeband material.

- 1.** Include Samples of accessories involving color selection.

- D.** Roller-Shade Schedule: Use same designations indicated on Drawings.

1.4 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each type of shadeband material, signed by product manufacturer.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For roller shades to include in maintenance manuals.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Fabricator of products.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roller shades in factory packages, marked with manufacturer, product name, and location of installation using same designations indicated on Drawings.

1.8 FIELD CONDITIONS

- A. Environmental Limitations: Do not install roller shades until construction and finish work in spaces, including painting, is complete and dry and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
- B. Field Measurements: Where roller shades are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication and indicate measurements on Shop Drawings. Allow clearances for operating hardware of operable glazed units through entire operating range. Notify Architect of installation conditions that vary from Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - 1. Hunter Douglas Contract.
 - 2. Lutron Electronics Co., Inc.
 - 3. MechoShade Systems, Inc.
 - 4. OEM Shades Inc.
- B. Source Limitations: Obtain roller shades from single source from single manufacturer.

2.2 MANUALLY OPERATED, SINGLE-ROLLER

- A.** Rollers: Corrosion-resistant steel or extruded-aluminum tubes of diameters and wall thicknesses required to accommodate operating mechanisms and weights and widths of shadebands indicated without deflection. Provide with permanently lubricated drive-end assemblies and idle-end assemblies designed to facilitate removal of shadebands for service.
 - 1.** Roller Drive-End Location: Right side of inside face of shade
 - 2.** Direction of Shadeband Roll: Regular, from back of roller
 - 3.** Shadeband-to-Roller Attachment: Manufacturer's standard method

- B.** Mounting Hardware: Brackets or endcaps, corrosion resistant and compatible with roller assembly, operating mechanism, installation accessories, and mounting location and conditions indicated.

- C.** Shadebands:
 - 1.** Shadeband Material: Light-filtering fabric
 - 2.** Shadeband Bottom (Hem) Bar: Steel or extruded aluminum.
 - a.** Type: Enclosed in sealed pocket of shadeband material
 - b.** Color and Shading amount: As selected by Architect from manufacturer's full range

- D.** Installation Accessories:
 - 1.** Shade Enclosure Housing: Rectangular, extruded-aluminum enclosure designed for wall mounted installation; with front, top, and back formed as one piece, end plates, and removable bottom closure panel.
 - a.** Height: Manufacturer's standard height required to enclose roller and shadeband when shade is fully open, but not less than 4 inches
 - b.** Provide pocket with lip at lower edge to support acoustical ceiling panel.
 - 2.** Installation Accessories Color and Finish: As selected from manufacturer's full range

2.3 SHADE AND MATERIALS

- A.** Shadeband Material Flame-Resistance Rating: Comply with NFPA 701. Testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

- B.** Light-Filtering Fabric: Woven fabric, stain and fade resistant.
 - 1.** Source: Roller-shade manufacturer
 - 2.** Type: Woven PVC-coated fiberglass and PVC-coated polyester

3. Weave: Mesh
 4. Roll Width: See drawings
 5. Orientation on Shadeband: Up the bolt
 6. Openness Factor: 5 percent.
 7. Color: As selected by Architect from manufacturer's full range
- C. Light-Blocking Fabric: Opaque fabric, stain and fade resistant. (Crew quarters and training room only as second layer of dual layer roller shade)
1. Source: Roller-shade manufacturer
 2. Type: Fiberglass textile with PVC film bonded to both sides
 3. Roll Width: See drawings
 4. Orientation on Shadeband: Up the bolt
 5. Features: Washable, Antistatic treatment
 6. Color: As selected by Architect from manufacturer's full range

2.4 ROLLER-SHADE FABRICATION

- A. Product Safety Standard: Fabricate roller shades to comply with WCMA A 100.1, including requirements for flexible, chain-loop devices; lead content of components; and warning labels.
- B. Unit Sizes: Fabricate units in sizes to fill window and other openings as follows, measured at 74 deg F (23 deg C):
1. Between (Inside) Jamb Installation: Width equal to jamb-to-jamb dimension of opening in which shade is installed less 1/4 inch (6 mm) per side or 1/2-inch (13-mm) total, plus or minus 1/8 inch (3.1 mm). Length equal to head-to-sill or -floor dimension of opening in which shade is installed less 1/4 inch (6 mm), plus or minus 1/8 inch (3.1 mm).
 2. Outside of Jamb Installation: Width and length as indicated, with terminations between shades of end-to-end installations at centerlines of mullion or other defined vertical separations between openings.
- C. Shadeband Fabrication: Fabricate shadebands without battens or seams to extent possible except as follows:
1. Vertical Shades: Where width-to-length ratio of shadeband is equal to or greater than 1:4 provide battens and seams at uniform spacings along shadeband length to ensure shadeband tracking and alignment through its full range of movement without distortion of the material.

PART 3 - EXECUTION

3.1 EXAMINATION

- A.** Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, operational clearances, accurate locations of connections to building electrical system, and other conditions affecting performance of the Work.
- B.** Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 ROLLER-SHADE INSTALLATION

- A.** Install roller shades level, plumb, and aligned with adjacent units according to manufacturer's written instructions.
 - 1.** Opaque Shadebands: Located so shadeband is not closer than 2 inches to interior face of mirrors. Allow clearances for light fixtures between shades (ALT 2).

3.3 ADJUSTING

- A.** Adjust and balance roller shades to operate smoothly, easily, safely, and free from binding or malfunction throughout entire operational range.

3.4 CLEANING AND PROTECTION

- A.** Clean roller-shade surfaces after installation, according to manufacturer's written instructions.
- B.** Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure that roller shades are without damage or deterioration at time of Substantial Completion.
- C.** Replace damaged roller shades that cannot be repaired, in a manner approved by Architect, before time of Substantial Completion.

3.5 DEMONSTRATION

- A.** Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain motor-operated roller shades.

END OF SECTION 12 24 13

SECTION 21 05 00

COMMON WORK RESULTS FOR FIRE SUPPRESSION

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Wet Pipe Sprinkler System.
- B. System Design, Materials, Installation, and Certification.

1.2 SCOPE DESCRIPTION

- A. Revise existing wet pipe sprinkler system as required to protect rooms within the scope of work. Entire system shall be maintained complete and in operating order. This fire protection system shall be in compliance with the contract documents, applicable codes and standards, as well as the Authority having jurisdiction.

1.3 SPECIAL REQUIREMENTS

- A. Provide complete interface with building smoke and fire alarm system.

1.4 CODES AND STANDARDS

- A. IBC Latest Adopted Edition.
- B. NEC Latest Adopted Edition.
- C. UPC Latest Adopted Edition.
- D. IMC Latest Adopted Edition.
- E. IFC Latest Adopted Edition.
- F. NFPA 13 Standard for the Installation of Sprinkler Systems, latest adopted edition.
- G. NFPA 25 Water-Based Fire Protection Systems, latest adopted edition.
- H. NFPA 291, Recommended Practice for Fire Flow Testing and Marking of Hydrants, latest adopted edition.

- I. ASCE Standard 7, Minimum Design Loads for Buildings and Other Structures, latest adopted edition.

1.5 RELATED WORK

- A. Division 02 - Sitework.
- B. Section 09 90 00 - Painting and Coating.
- C. Section 22 05 00 - Common Work Results for Plumbing.
- D. Section 23 05 00 - Common Work Results for HVAC.
- E. Section 26 05 83 - Wiring Connections.
- F. Section 28 31 00 - Fire Detection and Alarm.

1.6 REFERENCES

- A. AWWA C510 Backflow Prevention Devices reduced pressure type and double check valve type.
- B. USC University of Southern California: Foundation for Cross-connection Control and Hydraulic Research.

1.7 QUALITY ASSURANCE

- A. Unless otherwise noted, this is substantially a "performance" specification.
- B. Minimum qualifications of the contractor/subcontractor shall include the following:
 1. Specialist Firm: Company specializing in automatic fire protection/sprinkler systems, possessing a minimum of three years' experience with systems similar in nature to the type specified herein.
 2. Design Certification: Shop drawings shall be prepared by a person with a minimum certification of level II designer, supervised by a Licensed Professional Engineer or a level III or IV Fire Sprinkler Designer, certified by the National Institute for Certification in Engineering Technologies (NICET), in Fire Protection Engineering Technology Automatic Fire Sprinkler System Layout.
 3. Equipment and components: Bear the "UL" label or the "FM" approval marking.
 4. Maintain a complete stock of replacement parts.
 5. Remain on 24 hour call for emergency service.

6. Maintain an office and telephone, with authorized representatives of the Fire Protection Contractor's firm, including the Designated Project Mechanical Sprinkler Supervisor, with a physical presence and address in Alaska.
 7. Bids of wholesalers, contractor or any firm whose principal business is not that of manufacturing and/or installing fire protection systems is not acceptable.
- C. Backflow Prevention: Installation and testing by a certified backflow assembly tester, in accordance with the Uniform Plumbing Code (UPC).

1.8 SUBMITTALS

- A. Submit under provisions of Division 01.
- B. Submit contractor's qualifications, proof of 3 years' experience under this contractor's firm name, and references for at least 5 projects in Alaska of similar type, size, and complexity.
- C. Submit a copy of designer's NICET certification and resume', or Alaska P.E. license number.
- D. Submit shop drawings and hydraulic calculations concurrently to the engineer and the State Fire Marshal for review. Submit one set of stamped approved shop drawings and hydraulic calculations to the Architect/Engineer when available from AHJ. Engineer will retain 1 set of "stamped approved" shop drawings. These sets must include the NICET certification or stamp of a licensed professional engineer as described above.
- E. Submit all written reviews and contractor responses to reviews to the Architect/Engineer.
- F. Submit product data, and sprinkler head layout. Sprinkler head layout shall be reviewed by the Architect/Engineer. All other approvals shall be secured prior to materials fabrication. Additional sprinklers as required shall be added at no additional cost to the contract.
- G. Shop Drawings shall include the following information in compliance with NFPA 13:
 1. Name of Owner, occupant and Building Permit Number.
 2. Location, including street address and legal description.
 3. Point of compass.
 4. Fire Department Connections.
 5. All necessary controlling equipment.
 6. All associated distribution system piping and outlets. Include pipe and fitting types.
 7. Reflected ceiling plan showing ceiling heights, construction type, proposed location and type of sprinkler heads, and other ceiling devices such as HVAC diffusers, loudspeakers, type and location of light fixtures, etc.

8. Interference control between sprinkler system and other trades.
9. Full height cross section.
10. Location of partitions. Identification of full height walls and draft stops.
11. Location and size of unsprinklered concealed spaces.
12. Identification of unheated areas.
13. Water Flow Test Results; include testing agency; time, date and location of test; actual pitot reading at flow hydrant; and equipment used to perform the test.
14. Make, model, Type, orifice, finish and Temperature rating of sprinklers and their respective locations.
15. On systems that are hydraulically calculated, indicate the square footage area protected by each system.
16. Hydraulic node points.
17. Identify low point drain and inspector test stations.
18. Indicate the type and location of all piping hangers and equipment supports.
19. Indicate the type and location of all seismic bracing and restraint.
20. Make, model, size, and locations of all pipe couplings, fittings and flanges.
21. Make, model, size, power requirement, and location of alarm bells, buzzers, detectors, and/or alarm panels.
22. Make, model, size, and configuration of fire pump as well as its installation into the system.
23. Provisions for flushing.
24. Name, address and telephone number of the contractor. If design is by a separate firm, include the name address and telephone number of the design facility.
25. Complete legend of all abbreviations and symbols indicated.
26. Complete schedule of all associated room occupancies.
27. Location of all unit heaters.

1.9 MAINTENANCE INFORMATION AND RECORD DRAWINGS

- A. Submit under provisions of Division 01.
- B. Provide a revised building floor plan showing all revised system control valves, drain stations, air compressors, alarm and control panels, test valves, and other primary fire protection devices. Indicate all sprinkler zones, boundaries, and types of systems. Submit this plan prior to substantial completion for review by the mechanical engineer.
- C. Install one copy of the record hydraulic calculations and shop drawings in a metal sleeve box on the wall near the fire sprinkler riser.
- D. The contractor shall maintain current and up-to-date "Record Drawings" of the fire protection system at the job site, in accordance with Division 01. Significant changes in piping due to onsite coordination with other trades will require recalculation to confirm adequate pipe sizing.

1.10 REVIEWS, APPROVALS, AND PERMITS

- A. Obtain written review and/or approval of the entire fire protection system design and arrangement from the following authorities:
 - 1. Architect/Engineer.
 - 2. State of Alaska Fire Marshal.
- B. Comply with all review comments, revising the system design as required, and resubmitting in a timely manner, so as not to hinder the construction schedule.
- C. Obtain and pay for all required permits, inspections, tests, and approvals as required by authorities having jurisdiction.

1.11 COORDINATION REQUIRED

- A. The contractor shall examine the structural, architectural, mechanical, electrical and all other drawings relating to the building and plan his work accordingly. He shall check and verify all dimensions at the site before fabricating any portion of the system. Any discrepancies in piping and head locations resulting from failure to do so shall be corrected expeditiously to provide proper coordination of all trades.
- B. Coordinate work with that of other trades to ensure that adequate space is provided for all work, including requirements for serviceability and accessibility. Locate sprinkler heads to avoid conflict with light fixtures and other installed equipment.
- C. Sprinklers shall be "centered in units of the ceiling suspension system. Adjust the final location of the sprinklers in the field to accomplish these requirements.

1.12 MATERIALS HANDLING AND STORAGE

- A. Deliver, store, protect, and handle products to the site under provisions of Division 01. Deliver and store valves in manufacturer packaging with labeling in place. Prior to installation, piping onsite shall be wrapped with protective wrapping. Valves, piping, materials, and equipment shall be clean and new when system is accepted by the Owner.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Provide only new materials and equipment, which are standard products of a manufacturer regularly engaged in the manufacture of fire protection equipment.

- B. All products shall bear the "UL" label or "FM" listing and be specifically approved for fire protection application where they are used.

2.2 PIPING

- A. Wet Pipe Sprinkler Systems:
 - 1. Black steel piping, ASTM A135 schedule 10 or ASTM A795 schedule 40, UL Listed or FM Approved for fire sprinkler service.
 - 2. Piping may be roll-grooved, threaded, flanged, or welded for connection. All threaded pipe shall be schedule 40. No plain-end piping fitting connections are allowed.

2.3 GROOVED FITTINGS, COUPLINGS, AND MECHANICAL TEES

- A. Grooved Fittings shall be Victaulic, Gruvlok, or equal. Galvanized fittings shall accompany galvanized piping. Couplings and mechanical tees shall be standard painted Victaulic, Gruvlok, or equal.
- B. Slip-Fit fittings and couplings utilized for joining branch piping to new main piping shall not be allowed.
- C. Contractor shall follow the manufacturer's suggested methods to prepare, carefully, the ends for these fittings to prevent leakage or system breakdown.

2.4 THREADED PIPE FITTINGS

- A. Threaded pipe fitting for this system shall be cast iron 125# ANSI B16.4 or malleable iron 150# ANSI B16.3.

2.5 PIPE FLANGES

- A. Pipe flanges for this system shall be Cast Iron Class 125# ANSI B16.5.

2.6 PIPING HANGERS AND SUPPORTS

- A. Pipe hangers shall conform to NFPA 13 standards.

2.7 FLEXIBLE SPRINKLER HOSE FITTINGS

- A. FM approved and UL listed for use in fire protection service.

- B. Seismically qualified for use pursuant to ICC-ES AC-156 Acceptance Criteria for Seismic Qualification by Shake-Table Testing of Nonstructural Components and Systems.
- C. Composition: 100% Type 304 Stainless Steel. 175 or 300 PSI minimum rated pressure as appropriate for installed system.
- D. Fully welded non-mechanical fittings, braided, leak-tested with minimum 1 inch true-bore internal corrugated hose diameter.
- E. Ceiling bracket of G90 galvanized steel with snap-on clip ends positively attached to the ceiling using tamper-resistant screws. Flexible hose attachment shall be removable hub type with set screw.

2.8 SPRINKLERS

- A. Provide sprinklers as required by NFPA 13 standards and in compliance with the IBC chapter 9 for the entire project. Sprinkler finish and style as follows:
 - 1. In all areas with surface mounted light fixtures attached to finished suspended ceilings, provide standard spray pendant sprinklers, and extended escutcheons to position the sprinkler deflector below the light fixture. Sprinklers and escutcheons to be chrome finish. Tyco TY-FRB or equal.
 - 2. In all areas with recessed lighting flush to the suspended ceiling finish, provide recessed standard spray pendant sprinklers. Sprinklers and escutcheons to be chrome finish. Tyco TY-FRB or equal.
 - 3. Sidewall sprinklers shall be chrome finish in all public areas.
 - 4. Provide sprinkler wrenches for each type of sprinkler.

PART 3 - EXECUTION

3.1 CONTRACTOR COORDINATION

- A. The fire protection contractor shall coordinate his work with the work of all other trades to assure timely installation and efficient use of mechanical areas including but not limited to boiler rooms, fan rooms, and ceiling spaces.
- B. Any work installed without proper coordination shall be promptly removed and reinstalled in a manner to allow for a good practical arrangement of all items which need to be installed by all crafts involved.
- C. In case of coordination dispute, the Architect/Engineer shall be consulted and his decision shall be binding.

- D. All costs associated with coordination and arranging or rearranging of the fire protection system shall be borne by the affected contractor, without causing any additional expense to the Owner.

3.2 PIPING INSTALLATION

- A. Install piping to conserve building space and route piping around access panels and openings. Piping shall not restrict any access opening.
- B. Install low point drain stations in accordance with NFPA 13 standards. Identify the location of drain and test stations with signs on access panels, ceiling panels, or walls adjacent to the station, visible from the floor. Discharge all test pipes and system main drain to outside. Coordinate discharge point with Owner's field representative.
- C. Provide seismic protection for the piping system in accordance with NFPA 13 standards. Attach bracing to structure with through bolts, washers, and nuts. Provide clearance at all structural penetrations. Provide oversized escutcheon plates or flexible connections where sprinklers penetrate non-frangible ceiling membranes.
- D. Piping shall be concealed in all areas with finished ceilings.
- E. When piping is supported from manufactured structural members, the Installation of pipe hangers shall comply with truss manufacturer's recommendations for hanger attachments and loading.
- F. Pipe hangers shall be "Rod and Ring" type hangers throughout. Piping hangers shall have a minimum of ½" of adjustment on each side of the hanger ring nut, to allow for piping grade adjustment in the future.
- G. All "beam clamp" type fasteners shall be installed with retainer straps and locking nuts.
- H. All Trapeze members shall be fastened to truss chords or structural members.

3.3 SYSTEM TEST

- A. Hydrostatically test the entire system in accordance with NFPA 13 standards.
- B. Test all system alarm actuations and alarms.
- C. Trip test dry pipe system to confirm system discharge time.
- D. Perform main drain test.
- E. 48-hour advance notice required for all tests to allow Owner's field representative to witness these tests.

3.4 PAINTING

- A. Refer to Division 09.

3.5 PROJECT CLOSEOUT

- A. The fire protection contractor shall submit a written affidavit at the completion of the system, stating that the fire protection system as installed complies with all referenced codes and standards, to the State Fire Marshal's Office, and the Owner's Insurance Underwriters.
- B. Furnish Written Guarantee to the Owner, that materials installations are free from mechanical defects and guaranteeing to replace and repair any and all unsatisfactory and defective work and items, to the satisfaction of the Owner, in a timely manner, for a period of one year after final acceptance of the building by the Owner, and to be responsible for any damage caused to the premises for any such unsatisfactory work.
- C. The contractor shall respond within reasonable time, not to exceed 15 days to repair or replace latent or hidden defects at such time as they are discovered.
- D. Provide hydraulic placard on system riser. Placard shall indicate sprinkler demand and hose demand as separate numbers.
- E. Post the results of the original main drain test and date performed on the system riser in a permanent fashion.
- F. Contractor shall fully train the Owner's designated maintenance engineer in the operation and maintenance of the entire fire protection system.

END OF SECTION 21 05 00

SECTION 22 05 00

COMMON WORK RESULTS FOR PLUMBING

PART 1 - GENERAL

1.1 SCOPE

- A. All provisions of the Contract including the General and Supplementary Conditions and the General Requirements apply to this work.

1.2 WORK INCLUDED

- A. The work to be included in these and all other plumbing subsections shall consist of providing, installing, adjusting and setting into proper operation complete and workable systems for all items shown on the drawings, described in the specifications or reasonably implied. This shall include the planning and supervision to coordinate the work with other crafts and to maintain a proper time schedule for delivery of materials and installation of the work.
- B. Division 01 of the specifications is to be specifically included as well as all related drawings.

1.3 RELATED WORK

- A. Related Work Specified Elsewhere:
 - 1. Fire Suppression Specifications: Division 21.
 - 2. Heating, Ventilating and Air Conditioning (HVAC) Specifications: Division 23.
 - 3. Electrical Specifications: Division 26.
 - 4. Motors and Connections: Division 26.
 - 5. Starters and Disconnects: Division 26.
- B. Unless otherwise indicated on the electrical drawings or the electrical schedules, provide all plumbing equipment motors, motor starters, thermal overload switches, control relays, time clocks, thermostats, motor operated valves, float controls, damper motors, electric switches, electrical components, wiring and any other miscellaneous Division 22 controls. Disconnect switches are included in the electrical work, unless specifically called out on mechanical plans.
- C. Carefully coordinate all work with the electrical work shown and specified elsewhere.

1.4 REFERENCED CODES - LATEST ADOPTED EDITION

- A. NFPA 13 Installation of Sprinkler Systems.
- B. NFPA 70 National Electrical Code (NEC).
- C. IMC International Mechanical Code.
- D. UPC Uniform Plumbing Code.
- E. IECC International Energy Conservation Code.
- F. IFC International Fire Code.
- G. IFGC International Fuel Gas Code.
- H. IBC International Building Code.

1.5 PROJECT RECORD DRAWINGS

- A. In addition to other requirements of Division 01, mark up a clean set of drawings as the work progresses to show the dimensioned location and routing of all mechanical work which will become permanently concealed. Show routing of work in concealed blind spaces within the building. Show exact dimensions of buried piping off of columns or exterior walls.
- B. Maintain record documents at job site in a clean, dry and legible condition. Keep record documents available for inspection by the Project Manager.
- C. Show the location of all valves and their appropriate tag identification.
- D. At completion of project, deliver these drawings to the Owner and Architect and obtain a written receipt.

1.6 SUBMITTALS

- A. See General Conditions and the General Requirements in Division 01 regarding submittals.
- B. Submit by specification section complete and all at one time; partial submittals will not be considered. Submittals shall be provided in electronic PDF Format. The data in the electronic file shall be arranged and indexed under basic categories in order of the Specification Sections. An index shall be included with bookmarks and identifying tabs between sections and references to sections of specifications.

- C. Catalog sheets shall be complete and the item or model to be used shall be clearly marked, and identified as to which item in the specifications or on the drawings is being submitted and with drawing fixture number where applicable.
- D. Only submit on items specifically required by each specification section. If a submittal has not been requested, it will not be reviewed.
- E. Submit product data for:
 - 1. Hangers and Supports for Plumbing Piping and Equipment.
 - 2. Vibration and Seismic controls for Plumbing Piping and Equipment.
 - 3. Identification for Plumbing Piping and Equipment.
- F. Provide shop drawings with calculations for selection of seismic restraints in accordance with IBC and ASCE 7, certified by a qualified professional engineer, licensed in the State of Alaska. All components shall utilize an IP of 1.0 for seismic calculations.

1.7 OPERATING AND MAINTENANCE MANUALS

- A. See General Conditions and the General Requirements in Division 01 regarding Operating and Maintenance Manuals.
- B. Submit maintenance manuals to the Engineer covering all equipment, fixtures, devices, etc. installed by the Contractor.
- C. The operation and maintenance manuals shall be submitted by specification section complete and all at one time; partial operations and maintenance manual submittals will not be considered. The Operation and maintenance manuals shall be provided in electronic PDF Format. The data in the electronic file shall be arranged and indexed under basic categories. An index shall be included with bookmarks and identifying tabs between sections and references to sections of specifications. The manual shall contain, but not limited to, the following types of information:
 - 1. Cover sheet with name, address, telephone number of Contractor, General Contractor and major equipment suppliers.
 - 2. Catalog cuts of all equipment, fixtures, etc. installed (Marked to identify the specific items used).
 - 3. Manufacturer's maintenance and overhaul instruction booklets including exploded views.
 - 4. Identification numbers of all parts and nearest sources for obtaining parts and services.
 - 5. A copy of valve schedule and reduced scale drawings showing valve locations.
 - 6. Written summary of instructions to Owner.
 - 7. All manufacturers' warranties and guarantees.
 - 8. Contractors Warranty Letter.

- D. A periodic maintenance form that includes all of the equipment shall be provided with the maintenance manual. The form shall list each piece of equipment and how often maintenance is required (daily, weekly, monthly, annually). Opposite each task shall be squares for check-off for a full year (initials) to verify that the tasks are being done.

1.8 HANDLING

- A. See General Conditions and the General Requirements in Division 01 regarding material handling.
- B. Deliver packaged materials to job site in unbroken packages with manufacturer's label, and store to facilitate inspection and installation sequence. All items must be labeled and identified as to make, size and quality.

1.9 SUBSTITUTIONS

- A. See General Conditions and the General Requirements in Division 01 for substitution request procedures.
- B. In accordance with the General Conditions and the General Requirements in Division 01, Substitution and Product Options, all substitute items must fit in the available space, and be of equal or better quality including efficiency performance, size, and weight, and must be compatible with existing equipment. The Architect/Engineer shall be the final authority regarding acceptability of substitutes.

1.10 DIMENSIONS

- A. Before ordering any material or doing any work, the Contractor shall verify all dimensions, including elevations, and shall be responsible for the correctness of the same. No extra charge or compensation will be allowed on account of differences between actual dimensions and measurements indicated on the drawings.
- B. Any differences, which may be found, shall be submitted to the Architect/Engineer for consideration before proceeding with the work.

1.11 MANUFACTURER'S DIRECTIONS

- A. All manufactured articles shall be applied, installed and handled as recommended by the manufacturer, unless specifically called out otherwise. Advise the Architect/Engineer of any such conflicts before installation.

1.12 PERMITS, FEES, ETC.

- A. The Contractor under each Division of these specifications shall arrange for a permit from the local authority. The Contractor shall pay for any inspection fees or other fees and charges required by ordinance, law, codes and these specifications.

1.13 TESTING

- A. The Contractor under each section shall perform the various tests as specified and required by the Architect, Engineer and as required by applicable code, the State and local authorities. The Contractor shall furnish all labor, fuel and materials necessary for making tests.

1.14 TERMINOLOGY

- A. Whenever the words "furnish", "provide", "furnish and install", "provide and install", and/or similar phrases occur, it is the intent that the materials and equipment described be furnished, installed and connected under this Division of the Specifications, complete for operation unless specifically noted to the contrary.
- B. Where a material is described in detail, listed by catalogue number or otherwise called for, it shall be the Contractor's responsibility to furnish and install the material.
- C. The use of the word "shall" conveys a mandatory condition to the contract.
- D. "This section" refers to the section in which the statement occurs.
- E. "The project" includes all work in progress during the construction period.
- F. In describing the various items of equipment, in general, each item will be described singularly, even though there may be a multiplicity of identical or similar items.

1.15 SCHEDULE OF WORK

- A. The work under the various sections must be expedited and close coordination will be required in executing the work. The various trades shall perform their portion of the work at such times as directed so as to meeting scheduled completion dates, and to avoid delaying any other trade. The Architect will set up completion dates. Each contractor shall cooperate in establishing these times and locations and shall process work so as to ensure the proper execution of it.

1.16 COOPERATION AND CLEANING UP

- A. The Contractor for the work under each section of the specifications shall coordinate the Contractors work with the work described in all other sections of the specifications to the end that, as a whole, the job shall be a finished one of its kind, and shall carry on the work in such a manner that none of the work under any section of these specifications shall be handicapped, hindered or delayed at any time.
- B. At all times during the progress of the work, the Contractor shall keep the premises clean and free of unnecessary materials and debris. The Contractor shall, on direction at any time from the Architect, clear any designated areas or area of materials and debris. On completion of any portion of the work, the Contractor shall remove from the premises all tools and machinery and all debris occasioned by the work, leaving the premises free of all obstructions and hindrances.

1.17 WARRANTY

- A. Unless a longer warranty is hereinafter called for, all work, materials and equipment items shall be warrantied for a period of one year after acceptance by the Owner. All defects in labor and materials occurring during this period, as determined by the Architect/Engineer, shall be repaired and/or replaced to the complete satisfaction of the Architect/Engineer. Guarantee shall be in accordance with Division 01.

1.18 COMPLETION REQUIREMENTS

- A. In accordance with the General Conditions and the General Requirements in Division 01, Project Closeout; before acceptance and final payment, the Contractor shall furnish:
 - 1. Accurate project record drawings, shown in red ink on prints, showing all changes from the original plans made during installation of the work.
 - 2. Contractors One Year Warranty.
 - 3. All Manufacturers' Guarantees.
 - 4. Test and Balance Reports.
 - 5. Operation and Maintenance Manuals.

1.19 INSPECTION OF SITE - REMODEL PROJECTS

- A. The accompanying plans do not indicate completely the existing plumbing and mechanical installations. The bidders for the work under these sections of the specifications shall inspect the existing installations and thoroughly acquaint themselves with conditions to be met and the work to be accomplished in removing and modifying the existing work, and in installing the new work in the present building and underground serving to and from that structure. Failure to comply with this shall not constitute grounds

for any additional payments in connection with removing or modifying any part of the existing installations and/or installing any new work.

1.20 RELOCATION OF EXISTING INSTALLATIONS

- A. There are portions of the existing plumbing, mechanical and electrical systems, which shall remain in use to serve the finished building in conjunction with the indicated new installations. By actual examination at the site, each bidder shall determine those portions of the remaining present installations, which must be relocated to avoid interference with the installations of new work of the Contractors particular trade and that of all other trades. All such existing installations, which interfere with new installations, shall be relocated by the Contractor.

1.21 SALVAGE MATERIALS

- A. The Contractor shall remove existing fixtures, equipment and other items associated with the plumbing systems where no longer required for the project. Where such items are exposed to view or uncovered by any cutting or removal of general construction and has no continuing function (as determined by the Architect/Engineer), they shall be removed.
- B. All items or materials removed from the project shall be made available for the Owner's inspection. The Owner retains the option to claim any item or material. Contractor shall deliver any claimed item or material in good condition to the place designated by the Owner. All items not claimed become the property of the contractor and shall be removed from the site.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. All equipment shall be regularly cataloged items of the manufacturer and shall be supplied as a complete unit in accordance with the manufacturer's standard specifications along with any optional items required for proper installation unless otherwise noted. Maintain manufacturer's identification, model number, etc. on all equipment at all times.
- B. Where more than one of an item is to be provided, all of the items shall be identical manufacture, make, model, color, etc.

2.2 RESTRICTED MATERIALS

- A. No materials containing asbestos in any form shall be allowed.

- B. No solder or flux containing lead shall be used on this project.
- C. Any pipe or plumbing fitting or fixture, any solder, or any flux utilized on this project shall be "lead free" in accordance with the Safe Drinking Water Act, Section 1417. "Lead free" materials utilized in domestic water system shall not contain more than 0.2 percent lead when used with respect to solder and flux; and not more than a weighted average of 0.25 percent lead when used with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures. All materials utilized in domestic water system shall be certified by an ANSI accredited organization to conform to ANSI/NSF Standard 61.
- D. Where materials or equipment provided by this Contractor are found to contain restricted materials, such items shall be removed and replaced with non-restricted materials items. Entire cost of restricted materials removal and disposal and cost of installing new items shall be the responsibility of the Contractor for those restricted materials containing items installed by the Contractor.

2.3 IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

- A. Plastic Nameplates: Laminated plastic with engraved letters.
- B. Plastic Tags: Laminated plastic with engraved letters, minimum 1-1/2 inches diameter.
- C. Plastic Pipe Markers: Factory fabricated, flexible, semi-rigid plastic, preformed to fit around pipe or pipe covering.
- D. Plastic Tape Pipe Markers: Flexible, vinyl film tape with pressure sensitive adhesive backing and printed markings.
- E. Plastic Underground Pipe Markers: Bright colored continuously printed plastic ribbon tape, for direct burial service.

2.4 PIPE HANGERS AND SUPPORTS

- A. Acceptable Manufacturers:
 - 1. Anvil.
 - 2. B-Line Systems, Inc.
 - 3. Erico.
 - 4. PHD Manufacturing, Inc.
 - 5. Tolco.
- B. Plumbing Piping - DWV:
 - 1. Conform to ANSI/MSS SP58.

2. Hangers for Pipe Sizes ½ to 1-½ Inch: Malleable iron or carbon steel, adjustable swivel, split ring.
3. Hangers for Pipe Sizes 2 Inches and Over: Carbon steel, adjustable, clevis.
4. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
5. Vertical Support: Steel riser clamp.

C. Plumbing Piping - Water:

1. Conform to ANSI/MSS SP58.
2. Hangers for Pipe Sizes ½ to 1-½ Inch: Malleable iron or carbon steel, adjustable swivel, split ring.
3. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
4. Design hangers to allow installation without disengagement of supported pipe.
5. Strut Type Pipe Hanging System: Unistrut P-1000 series; framing members shall be No. 12 gage formed steel channels, 1-5/8 inch square, conforming to ASTM A 570 GR33, one side of channel shall have a continuous slot with inturned lips; framing nut with grooves and spring 1/2 inch size, conforming to ASTM 675 GR60; screws conforming to ASTM A 307; fittings conforming to ASTM A 575; all parts enamel painted or electro-galvanized.

D. Shield for Insulated Piping 1-½ Inches and Smaller: 18 gauge galvanized steel shield over insulation in 180° segments, minimum 12 inches long at pipe support.

E. Shield for Insulated Piping 2 Inches and Larger: Hard block, calcium silicate insert, 180° segment, 12 inch minimum length, block thickness same as insulation thickness, flame resistant vapor barrier covering and 18 gauge galvanized shield.

2.5 HANGER RODS

A. Steel Hanger Rods: Mild steel, threaded both ends, threaded one end, or continuous threaded. Minimum Hanger Rod Sizes:

PIPE AND TUBE SIZE (INCHES)	ROD SIZE (INCHES)
¼-4	3/8

2.6 ANCHOR BOLTS

A. Anchor (Expansion) Bolts: Shall be carbon steel to ASTM A 307; nut shall conform to ASTM A194; shall be drilled-in type. Design values for shear and tension shall be not more than 80 percent of the allowable load.

2.7 SLEEVES

- A. Sleeves for Pipes Through Non-fire Rated Beams, Walls, Footings, and Potentially Wet Floors: Form with steel pipe or 22 gauge up to 3" diameter.
- B. Mechanical Sleeve Seals: Modular mechanical type, consisting of interlocking synthetic rubber links shaped to continuously fill annular space between object and sleeve, connected with bolts and pressure plates causing rubber sealing elements to expand when tightened, providing watertight seal and electrical insulation.

PART 3 - EXECUTION

3.1 DRAWINGS

- A. The drawings are partly diagrammatic, not necessarily showing all offsets or exact locations of piping and ducts, unless specifically dimensioned. The contractor shall provide all materials and labor necessary for a complete and operable system. Complete details of the building which affect the mechanical installation may not be shown. For additional details, see Architectural, Structural and Electrical Drawings. Coordinate work under this section with that of all related trades.

3.2 INSTALLATION

- A. All work shall comply with the latest adopted applicable codes and ordinances including, but not limited to, the IMC, UPC, IBC, NEC, NFPA, IECC, IFGC and IFC Standards; all local and state amendments to all codes and standards.
- B. Obtain and pay for all inspection fees, connection charges and permits as a part of the Contract.
- C. Compliance with codes and ordinances shall be at the Contractor's expense.

3.3 MEASUREMENTS

- A. Verify all measurements on the job site.
- B. Locate all equipment and fixtures on the centers of walls, openings, spaces, etc., unless specified otherwise.
- C. Check all piping, equipment, etc. to clear openings.
- D. Rough-in dimensions shall be per manufacturer's recommendations and in compliance with current ADA and ANSI 117.1 standards.

3.4 OPERATING INSTRUCTIONS

- A. Before the facility is turned over to the Owner, instruct the Owner or Owner's personnel in the operation, care and maintenance of all systems and equipment under the jurisdiction of the Plumbing Division. These instructions shall also be included in a written summary in the Operating Maintenance Manuals.
- B. The Operation and Maintenance Manuals shall be utilized for the basis of the instruction. Provide a minimum of four hours of onsite instruction to the owner designated personnel.
- C. When required by individual specification sections provide additional training on plumbing systems and equipment as indicated in the respective specification section.
- D. Provide schedule for training activities for review prior to start of training.

3.5 SYSTEM ADJUSTING

- A. Each part of each system shall be adjusted and readjusted as necessary to ensure proper functioning of all plumbing systems. Test all plumbing equipment, fixtures and piping for proper water distribution, drainage, pressure and flow, adjust systems as required to eliminate splashing, noise and vibration.

3.6 CUTTING, FITTING, REPAIRING, PATCHING AND FINISHING

- A. Arrange and pay for all cutting, fitting, repairing, patching and finishing of work by other trades where it is necessary to disturb such work to permit installation of mechanical work. Perform work only with craftsmen skilled in their respective trades.
- B. Avoid cutting, insofar as possible, by setting sleeves, frames, etc. and by requesting openings in advance. Assist other trades in securing correct location and placement of rough-frames, sleeves, openings, etc. for piping.
- C. Cut all holes neatly and as small as possible to admit work. Include cutting where sleeves or openings have been omitted. Perform cutting in a manner so as not to weaken walls, partitions or floors. Drill holes required to be cut in floors without breaking out around holes.

3.7 PAINTING

- A. Perform all of the following painting in accordance with provisions of Division 09 with colors as selected by the Architect. Provide the following items as a part of plumbing work:
 - 1. Factory applied prime and finish coats on plumbing equipment.

2. Factory applied prime coat on access doors.
 3. Pipe identification where specified.
- B. If factory finish on any equipment furnished is damaged in shipment or during construction, refinish to equal original factory finish.

3.8 IDENTIFICATION

- A. Tag all valves with heat resistant laminated plastic labels or brass tags engraved with readily legible letters. Securely fasten to the valve stem or bonnet with beaded chain. Provide a framed, typewritten directory under glass, and installed where directed. Provide complete record drawings that show all valves with their appropriate label. Seton 250-BL-G, or 2961.20-G, 2" round or equal.
- B. Label all equipment with heat resistant laminated plastic labels having engraved lettering ½" high. If items are not specifically listed on the schedules, consult the Engineer concerning designation to use. Seton engraved Seton-Ply nameplates or equal.
- C. Identify piping to indicate contents and flow direction of each pipe exposed to view by a labeled sleeve in letters readable from floor at least once in each room and at intervals of not more than 20' apart and on each side of partition penetrations. Coloring scheme in accordance with ANSI A13.1-1981, Seton Opti-Code or equal.

3.9 PIPE HANGERS AND SUPPORTS

- A. Support plumbing piping in accordance with the latest adopted edition of the UPC.
- B. Install hangers to provide minimum ½ inch space between finished covering and adjacent work.
- C. Place a hanger within 12 inches of each horizontal elbow.
- D. Use hangers with 1-½ inch minimum vertical adjustment.
- E. Support horizontal cast iron pipe adjacent to each hub, with 5 feet maximum spacing between hangers.
- F. Support vertical piping at every floor. Support vertical cast iron pipe at each floor at hub.
- G. Where several pipes can be installed in parallel and at the same elevation, provide multiple or trapeze hangers.
- H. Support riser piping independently of connected horizontal piping.
- I. Provide transverse seismic support for all piping systems.

3.10 SLEEVES

- A. Size sleeves large enough to allow for movement due to expansion and contraction. Provide for continuous insulation wrapping.
- B. Set sleeves in position in construction. Provide reinforcing around sleeves.
- C. Extend sleeves through floors one inch above finished floor level. Caulk sleeves full depth and provide floor plate.
- D. Where piping penetrates floor, ceiling, or wall, install sleeve, close off space between pipe and adjacent work with fire stopping insulation and caulk seal. Use fire rated caulking where fire rated walls are penetrated. Provide close fitting metal collar or escutcheon covers at both sides of penetration.
- E. Install chrome plated steel escutcheons at finished surfaces.

3.11 SEISMIC RESTRAINT

- A. General:
 - 1. All piping and equipment shall be restrained to resist seismic/wind forces per the applicable building code(s) as a minimum. Restraint attachments shall be made by bolts, welds or a positive fastening method. Friction shall not be considered. All attachments shall be proven capable of accepting the required wind load by calculations. Additional requirements specified herein are included specifically for this project.
 - 2. Install seismic and wind restraint devices per the manufacturer's submittals. Any deviation from the manufacturer's instructions shall be reviewed and approved by the manufacturer.
 - 3. Attachment to structure for suspended pipe and equipment: If specific attachment is not indicated, anchor bracing to structure at flanges of beams, at upper truss chords of bar joists, or at concrete members.
 - 4. Wall penetrations may be used as bracing locations provided the wall can provide adequate resistance without significant damage.
 - 5. Coordinate sizes and locations of cast-in-place inserts for post-tensioned slabs with seismic restraint manufacturer.
 - 6. Provide hanger rod stiffeners where indicated or as required to prevent buckling of rods due to seismic forces.
 - 7. Where rigid restraints are used on equipment or piping, support rods for the equipment or piping at restraint locations must be supported by anchors rated for seismic use. Post-installed concrete anchors must be in accordance with ACI 355.2.
- B. Piping Systems:

1. For projects with a Seismic Design Category of C, provide seismic cable restraints on the following:
 - a. All piping systems assigned a component importance factor, I_p , of 1.5 with a nominal pipe diameter greater than 2" (50 mm) or trapeze-supported piping with combined operating weight over 10 lbs/ft (15 kg/m).
2. For projects with a Seismic Design Category of D, E or F, provide seismic cable restraints on the following:
 - a. All piping greater than 3" (75 mm) nominal diameter.
 - b. All piping systems assigned a component importance factor, I_p , of 1.5 with a nominal pipe diameter greater than 1" (25 mm) or trapeze-supported piping with combined operating weight over 10 lbs/ft (15 kg/m).
3. "12-inch rule", where pipe can be exempted from seismic restraint based on the length of the support rods, is accepted if one of the following conditions are met:
 - a. Hangers are detailed to avoid bending of the hangers and their attachment; and provisions are made for piping to accommodate expected deflections. The maximum stress due to combined loading including bending in the hangers must be less than 21.6 ksi.
 - b. Isolation hangers are added to hanger rod to provide swivel joint and to prevent bending moment in hanger.
4. Restraint spacing:
 - a. For ductile piping, space lateral supports a maximum of 40' (12 m) o.c., and longitudinal supports a maximum of 80' (24 m) o.c.
 - b. For non-ductile piping (e.g., cast iron, PVC) space lateral supports a maximum of 20' (6 m) o.c., and longitudinal supports a maximum of 40' (12 m) o.c.
 - c. For piping with hazardous material inside (e.g., natural gas, medical gas) space lateral supports a maximum of 20' (6 m) o.c., and longitudinal supports a maximum of 40' (12 m) o.c.
 - d. For pipe risers, restrain the piping at floor penetrations using the same spacing requirements as above.
5. Brace a change of direction longer than 12' (3.7 m).
6. Longitudinal restraints for single pipe supports shall be attached directly to the pipe, not to the pipe hanger.
7. For supports with multiple pipes (trapezes), secure pipes to trapeze member with clamps approved for application.
8. Piping on roller supports shall include a second roller support located on top of the pipe at each restraint location to provide vertical restraint.

- C. Install restraint cables so they do not bend across edges of adjacent equipment or building structure.
- D. Install flexible metal hose loops in piping which crosses building seismic joints, sized for the anticipated amount of movement.
- E. Install flexible piping connectors where adjacent sections or branches are supported by different structural elements, and where the connections terminate with connection to equipment that is anchored to a different structural element from the one supporting the connections as they approach equipment.
- F. Coordinate seismic restraints with thermal expansion compensators, guides and anchor points. Thermal expansion anchor points shall be designed to accommodate seismic forces.

3.12 INSTALLATION OF EQUIPMENT

- A. Unless otherwise indicated, mount all equipment and install in accordance with manufacturer's recommendations and approved submittals.
- B. Maintain manufacture recommended minimum clearances for access and maintenance.
- C. Where equipment is to be anchored to structure, furnish and locate necessary anchoring and vibration isolation devices.
- D. Furnish all structural steel, such as angles, channels, beams, etc. required to support all piping, equipment and accessories installed under this Division. Use structural supports suitable for equipment specified or as indicated. In all cases, support design will be based upon data contained in manufacturer's catalog.
- E. Openings: Arrange for necessary openings in buildings to allow for admittance and reasonable maintenance or replacement of all equipment furnished under this Contract.
- F. Access Doors: Provide as necessary for reasonable maintenance of all equipment valves, controls, etc.

END OF SECTION 22 05 00

SECTION 22 05 05

SELECTIVE DEMOLITION FOR PLUMBING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work specified in this Section includes the demolition, removal, and disposition of certain mechanical work.
- B. Drawings, the provisions of the Agreement, and Administrative Specification Sections apply to all work of this Section.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Prior to starting work, carefully inspect installed work of other trades and verify that such work is complete to the point where work of this Section may properly commence. Notify the Architect in writing of conditions detrimental to the proper and timely completion of the work.
- B. Do not begin installation until all unsatisfactory conditions are resolved. Beginning work constitutes acceptance of conditions as satisfactory.

3.2 DEMOLITION, REMOVAL AND DISPOSITION

- A. Saw-cut concrete as shown or required.
- B. Piping and Equipment to Be Removed: Remove all piping and equipment as indicated on the Drawings.
- C. Piping Removed: Drawings do not show all existing piping which is to be removed. Unless indicated otherwise, where existing equipment has been removed, or its use replaced by new equipment, remove connecting piping back to the branch in the main so that there will be no dead ends or unused pipe lines in mechanical spaces at completion.

- D. Piping, Equipment, and Control Wiring to Be Removed: Remove all piping, equipment, and control wiring as indicated. Drawings do not show all existing piping, equipment, and control wiring which is to be removed. Unless indicated otherwise, where existing equipment has been removed, or its use replaced by new equipment, remove connecting piping back to the branch in the main so that there will be no dead ends or unused pipe lines in mechanical spaces at completion.
- E. Materials to Owner: All items or materials removed from the project shall be made available for the Owner's inspection. The Owner retains the option to claim any item or material. The Contractor shall deliver any claimed item or material in good condition to the place designated by the Owner. All items not claimed become the property of the Contractor and shall be removed from the site by the Contractor.
- F. Materials to Owner: As indicated on the Drawings.
- G. Re-use of Materials: Only were indicated on Drawings.
- H. Materials to Contractor: Materials shown or specified to be removed, other than the materials indicated to be turned over to Owner.
- I. Protect any active piping and/or wiring encountered; remove, plug or cap utilities to be abandoned. Notify the Architect of utilities encountered whose service is not known.
- J. Debris Removal: Existing materials removed and not reinstalled or turned over to the Owner shall be immediately removed from the site and disposed of by the Contractor.
- K. Repairs: Any portion of the facility damaged, cut back or made inoperable by this Contractor shall be repaired with similar materials as the existing structure and/or damaged item as instructed by the Architect.

END OF SECTION 22 05 05

SECTION 22 07 00

PLUMBING INSULATION

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Piping Insulation.
- B. Jackets and Accessories.

1.2 RELATED WORK

- A. Division 09 - Painting: Painting Insulation Jacket.
- B. Section 22 05 00 - Common Work Results for Plumbing.
- C. Section 22 05 16 - Expansion Fittings and Loops for Plumbing Piping.
- D. Section 22 05 29 - Hangers and Supports for Plumbing Piping and Equipment.
- E. Section 22 05 53 - Identification for Plumbing Piping and Equipment.
- F. Section 22 10 00 - Plumbing Piping.
- G. Section 22 40 00 - Plumbing Fixtures.
- H. Section 22 45 00 - Emergency Plumbing Fixtures.

1.3 REFERENCES

- A. ASTM B209 - Aluminum and Aluminum-alloy Sheet and Plate.
- B. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
- C. ANSI/ASTM C533 - Calcium Silicate Block and Pipe Thermal Insulation.
- D. ANSI/ASTM C534 - Standard Specification for Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form.

- E. ASTM C450 - Standard Practice for Fabrication of Thermal Insulating Fitting Covers for NPS Piping, and Vessel Lagging.
- F. ANSI/ASTM C547 - Mineral Fiber Preformed Pipe Insulation.
- G. ANSI/ASTM C552 - Cellular Glass Block and Pipe Thermal Insulation.
- H. ANSI/ASTM C553 - Mineral Fiber Blanket and Felt Insulation.
- I. ANSI/ASTM C578 - Preformed, Block Type Cellular Polystyrene Thermal Insulation.
- J. ASTM C585 - Standard Practice for Inner and Outer Diameters of Rigid Thermal Insulation for Nominal Sizes of Pipe and Tubing (NPS System).
- K. ANSI/ASTM C612 - Mineral Fiber Block and Board Thermal Insulation.
- L. ASTM C1136 - Standard Specification for Flexible, Low Permeance Vapor Retarders for Thermal Insulation.
- M. ASTM C1427 - Standard Specification for Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form.
- N. ASTM D635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.
- O. ASTM E84 - Surface Burning Characteristics of Building Materials.
- P. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.
- Q. NFPA 255 - Surface Burning Characteristics of Building Materials.
- R. UL 723 - Surface Burning Characteristics of Building Materials.

1.4 SUBMITTALS

- A. Submit product data under provisions of Division 01.
- B. Include product description, thickness for each service, and locations.
- C. Submit manufacturer's installation instructions.

1.5 QUALITY ASSURANCE

- A. Applicator: Company specializing in piping insulation application with three years minimum experience.

- B. Pipe insulation manufactured in accordance with ASTM C585 for inner and outer diameters.
- C. Materials: Flame spread/smoke developed rating of 25/50 in accordance with UL 723, ASTM E84, or NFPA 255.
- D. Factory fabricated fitting covers manufactured in accordance with ASTM C450.

1.6 DELIVERY STORAGE AND HANDLING

- A. Division 01 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Accept materials on site in original factory packaging, labeled with manufacturer's identification, including product density and thickness.
- C. Shipment of materials from manufacturer to installation location shall be in weather tight transportation.
- D. Protect insulation from weather and construction traffic, dirt, water, chemical, and damage, by storing in original wrapping.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Install insulation only when ambient temperature and humidity conditions are within range recommended by manufacturer.

1.8 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

1.9 WARRANTY

- A. Division 01 - Execution and Closeout Requirements: Product warranties and product bonds.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Armacell.

- B. Certain-Teed.
- C. IMCOA.
- D. Johns Manville.
- E. Knauf.
- F. Owens-Corning.
- G. Manson.
- H. Nomaco.
- I. Pittsburgh - Corning.
- J. K-Flex USA.
- K. Armstrong.
- L. TRUEBRO.
- M. Substitutions: Under provisions of Division 01.

2.2 INSULATION - PIPING

- A. Type A: Glass fiber, rigid, molded, non-combustible insulation; ANSI/ASTM C547; 'k' value of 0.23 at 75° F, rated from 0° F to 850° F, vapor retarder jacket of Kraft paper bonded to aluminum foil, self-sealing lap and butt strips; Johns Manville "Micro-Lok" or approved equal.
- B. Type C: Expanded polystyrene; ANSI/ASTM C578; rigid closed cell; maximum water vapor transmission rating of 0.1 perms; 'k' value of 0.23 at 75° F.
- C. Type D: Flexible unicellular polyolefin; ASTM C1427; 'k' value of 0.25 at 75° F ASTM C518; moisture vapor transmission of zero perm-inch ASTM E96; rated to 210° F; IMCOA "Imcolock" or approved equal.
- D. Type E: Elastomeric foam; EPDM-based closed-cell flexible foam, ASTM C534; flexible cellular elastomeric in sheet or pre-formed tube, 'k' value of 0.26 at 75° F, max. service temp - 300° F, ASTM C534; max. flame spread = 50, max. smoke developed = 50, ASTM E84; UV-resistant coating/jacketing if exposed to sunlight; K-FLEX USA "Insul-Tube", "Insul-Sheet", or approved equal.

2.3 FIELD APPLIED JACKET

- A. Vapor Barrier Jackets: Kraft reinforced foil vapor barrier with self-sealing adhesive joints.
- B. Re-Wettable Canvas Jacketing: Fiberglass cloth made from texturized yarns, impregnated throughout with an inorganic fire retardant asbestos free adhesive; 20x14 thread count, 14.5 oz./sq.yd, 0.04 inch thickness, 1,000° F upper temperature limit; GLT Products “Style 1989” or approved equal.

2.4 INSULATION ACCESSORIES

- A. Adhesives: Waterproof and fire-retardant type.
- B. Canvas Lagging Adhesive: Fire resistive to NFPA 255.
- C. Impale Anchors: Galvanized steel, 12 gauge, self-adhesive pad.
- D. Joint Tape: Glass fiber cloth, open mesh.
- E. FSK Joint Tape; ASTM C1136 Foil-Scrim-Kraft (FSK) lamination coated with solvent acrylic pressure sensitive adhesive; capable of adhering to fibrous and sheet metal surfaces; tri-directionally reinforced 2x3 squares per inch fiberglass scrim; 9.5 mils thick, -40 to 240° F service temperatures; Venture Tape “1525CW” or approved equal.
- F. Tie Wire: Annealed steel, 16 gauge.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Install materials after piping and equipment has been tested and approved.
- B. Clean surfaces for adhesives.
- C. Prepare surfaces in accordance with manufacturer's recommendations.

3.2 INSTALLATION - PIPING

- A. Install materials in accordance with manufacturer's recommendations, building codes and industry standards.
- B. Continue insulation vapor barrier through penetrations except where prohibited by code.

- C. Locate insulation and cover seams in least visible locations.
- D. Neatly finish insulation at supports, protrusions, and interruptions.
- E. Provide insulated cold pipes conveying fluids below ambient temperature with vapor retardant jackets with self-sealing laps. Insulate complete system, including under fitting jackets.
- F. For insulated pipes conveying fluids above ambient temperature, secure jackets with self-sealing lap or outward clinched, expanded staples. Bevel and seal ends of insulation at equipment, flanges, and unions. Insulate complete system, including under fitting jackets.
- G. Provide insulated piping supports on piping 1-½" inches diameter to 3". Insulated piping supports shall not be less than the following lengths:

1-½" to 2-½" pipe size	10" long
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- H. Fully insulate all piping including all spaces under jacketing.
- I. Jackets:
 - 1. Indoor, Concealed Applications: Insulated pipes shall have vapor barrier jackets, factory-applied. Vapor barrier PVC fittings may also be used provided joints are sealed with solvent welding adhesive approved by the jacket manufacturer.

3.3 SCHEDULE – PIPING

PIPING	TYPE	PIPE SIZE Inch	MINIMUM INSULATION THICKNESS Inch
Domestic Cold Water	A, C, D , E	All Sizes	½"
Domestic Hot Water Supply – Branch Lines	A, C, D, E	All Sizes	½"

END OF SECTION 22 07 00

SECTION 22 10 00

PLUMBING PIPING

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Sanitary Sewer Piping.
- B. Water Piping.
- C. Valves.
- D. Water Hammer Arrestors.
- E. Dielectric Connections.
- F. Cleanouts.
- G. Trap Primer Valves.
- H. Thermostatic Mixing Valves.

1.2 RELATED WORK

- A. Division 02 - Excavating, Backfilling, Trenching.
- B. Section 22 05 00 - Common Work Results for Plumbing.
- C. Section 22 05 16 - Expansion Fittings and Loops for Plumbing Piping.
- D. Section 22 05 19 - Meters and Gages for Plumbing Piping.
- E. Section 22 05 29 - Hangers and Supports for Plumbing Piping and Equipment.
- F. Section 22 05 53 - Identification for Plumbing Piping and Equipment.
- G. Section 22 07 00 - Plumbing Insulation.
- H. Section 22 15 00 - General Service Compressed Air.
- I. Section 22 30 00 - Plumbing Equipment.

- J. Section 22 40 00 - Plumbing Fixtures.
- K. Section 22 45 00 - Emergency Plumbing Fixtures.

1.3 QUALITY ASSURANCE

- A. Valves: Manufacturer's name and pressure rating marked on valve body.
- B. Any pipe or plumbing fitting or fixture, any solder, or any flux utilized on this project shall be "lead free" in accordance with the Safe Drinking Water Act, Section 1417. "Lead free" materials utilized in domestic water system shall not contain more than 0.2 percent lead when used with respect to solder and flux; and not more than a weighted average of 0.25 percent lead when used with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures. All materials utilized in domestic water system shall be certified by an ANSI accredited organization to conform to ANSI/NSF Standard 61.

1.4 SUBMITTALS

- A. Submit product data under provisions of Division 01.
- B. Include data on pipe materials, pipe fittings, valves and accessories.

1.5 WARRANTY

- A. Polypropylene pipe and fittings shall be covered by a factory warranty for 30 years to be free of defects in materials or manufacturing.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site under provisions of Division 01.
- B. Store and protect products under provisions of Division 01.
- C. Deliver and store valves in shipping containers with labeling in place.

PART 2 - PRODUCTS

2.1 SANITARY SEWER PIPING, BURIED WITHIN 5 FEET OF BUILDING

- A. Cast Iron Pipe: ASTM A74 service weight. Fittings: Cast iron. Joints: Hub-and-spigot, CISPI HSN compression type with ASTM C564 neoprene gaskets.

- B. Cast Iron Pipe: CISPI 301, hubless, service weight. Fittings: Cast iron. Joints: Neoprene gaskets and stainless steel clamp-and-shield assemblies, Husky Series 4000 or approved equal.
- C. Copper Tubing: ASTM B306, DWV. Fittings: ASME B16.3, cast bronze, or ASME B16.29, wrought copper. Joints: ASTM B32, solder, Grade 95TA; Flux: ASTM B813.

2.2 SANITARY SEWER PIPING, ABOVE GRADE

- A. Cast Iron Pipe: CISPI 301, hubless, service weight. Fittings: Cast iron. Joints: Neoprene gaskets and stainless steel clamp-and-shield assemblies, Husky Series 4000 or approved equal.
- B. Copper Pipe: ASTM B306, DWV. Fittings: ASME B16.3, cast bronze, or ASME B16.29, wrought copper. Joints: ASTM B32, solder, Grade 95TA; Flux: ASTM B813.
- C. ABS Schedule 40 Cellular Core (Foam Core) Pipe: Pipe and fittings shall be manufactured from ABS compound with a cell class of 42222 for pipe and 32222 for fittings as per ASTM D 3965 and conform with National Sanitation Foundation (NSF) standard 14. ASTM D 2661 Fittings. Joints: ASTM D 2235 solvent welded. Installation of ABS piping in return air plenums is prohibited.

2.3 DOMESTIC WATER PIPING, ABOVE GRADE

- A. Polypropylene Pipe:
 - 1. Polypropylene (PP-RCT) piping in SDR 11 in accordance ASTM F2389. Pipe shall be shall have NSF 14 and 61 listings for potable water use.
 - 2. Pipe and fittings shall be manufactured from a beta crystalline PP-RCT resin meeting the short-term properties and long-term strength requirements of ASTM F 2389 and CSA B137.11. The piping shall be extruded with a middle layer that has glass fiber content to restrict thermal expansion.
 - 3. Fittings shall be manufactured from a PP-RCT resin meeting the short-term properties and long-term strength requirements of ASTM F 2389. All fittings shall comply with NSF 14, ASTM F 2389 and CSA B137.11. Fittings may be either socket fusion through nominal 5 inch, electrofusion through 8 inch or butt fusion in nominal 2 inch through 24 inch sizes. Electrofusion may also be performed in nominal sizes 10 inch through 24 inch by means of the use of electrofusion couplings as applied on butt fusion fittings and pipe.
 - 4. Installation of Polypropylene piping in return air plenums is prohibited. Where piping is installed in a return air plenum, the pipe shall be insulated, no exposed piping is allowed in the return air plenum. The pipe insulation shall meet the requirements of ASTM E84. The system shall have a Flame Spread Classification of less than 25 and Smoke Development rating of less than 50.
 - 5. Acceptable Manufacturers: Aquatherm, Nupi.

- B. PEX Tubing: Tubing shall be cross-linked high-density polyethylene. Tubing shall be produced using silane method of cross-linking and shall meet the dimension and performance specifications of ASTM F876/F877 and CSA B137.5. Tubing shall also comply with ANSI/NSF 61 as suitable for use with potable water. Temperature and pressure ratings shall be 160 psi at 73 degrees F, 100 psi at 180 degrees F, and 80 psi at 200 degrees F.

2.4 FLANGES, UNIONS, AND COUPLINGS

- A. Pipe Size 2 Inches and Under: 150 psig malleable iron unions for threaded ferrous piping; bronze unions for copper pipe, soldered joints.
- B. Pipe Size Over 2 Inches: 150 psig forged steel slip-on flanges for ferrous piping; bronze flanges for copper piping; 1/16 inch thick preformed neoprene bonded to fiber.
- C. Grooved and Shouldered Pipe End Couplings: Malleable iron housing clamps to engage and lock, designed to permit some angular deflection, contraction, and expansion; "C" shape composition sealing gasket; steel bolts, nuts, and washers; galvanized couplings for galvanized pipe.

2.5 ACCEPTABLE MANUFACTURERS - DIELECTRIC CONNECTIONS

- A. Elster Perfection - Clearflow.
- B. Substitutions: Under provisions of Division 01.

2.6 DIELECTRIC CONNECTIONS

- A. Dielectric Connections: Dielectric waterway fitting shall have zinc electroplated steel casing with polypropylene inner lining to provide a dielectric waterway. The fitting shall be designed to meet requirements of ASTM F1545 for continuous use at temperatures up to 225°F and for pressures up to 300 psi. IAPMO, UPC and NSF-61 listed for use with potable water.

2.7 ACCEPTABLE MANUFACTURERS - ALL VALVE TYPES

- A. Apollo.
- B. FNW.
- C. Hammond.
- D. Milwaukee.

- E. NIBCO.
- F. Red-White Valve Corp.
- G. Substitutions: Under provisions of Division 01.

2.8 GATE VALVES

- A. Not permitted. Use ball or butterfly valves for isolation service.

2.9 GLOBE VALVES

- A. Not permitted. Use ball or butterfly valves for throttling service.

2.10 BALL VALVES

- A. Up to 2 Inches: 600 PSI CWP Lead free bronze two piece body, full port, forged lead free brass ball, Teflon seats and adjustable packing, lever handle, solder, threaded or press-fit ends.

2.11 ACCEPTABLE MANUFACTURERS - WATER HAMMER ARRESTORS

- A. J.R. Smith.
- B. Zurn.
- C. Mifab.
- D. Substitutions: Under provisions of Division 01.

2.12 WATER HAMMER ARRESTORS

- A. ANSI A112.26.1; sized in accordance with PDI WH-201, pre-charged suitable for operation in temperature range -100°F to 300°F and maximum 250 psig working pressure; Series 5000 manufactured by J.R. Smith or approved equal.

2.13 ACCEPTABLE MANUFACTURERS - CLEANOUTS

- A. J.R. Smith.
- B. Zurn.

- C. Mifab.
- D. Substitutions: Under provisions of Division 01.

2.14 CLEANOUTS

- A. Interior Finished Wall Areas: Line type with lacquered cast iron body and round epoxy coated gasketed cover, bronze plug, and round stainless steel access cover secured with machine screw. J.R. Smith Model 4022 or approved equal.

2.15 ACCEPTABLE MANUFACTURERS – TRAP PRIMER VALVES

- A. Precision Plumbing Products, Inc.
- B. Mifab.
- C. Zurn.
- D. Substitutions: Under provisions of Division 01.

2.16 MANUAL TRAP PRIMER VALVE

- A. Valve: Machined of brass, containing no springs or diaphragms. “O” rings acceptable for –40°F to +450°F operation. Distribution Unit: Brass fitting with copper water reservoir. Clear plastic cover. Tappings for up to four drain taps. Precision Plumbing Model Prime-Rite or approved equal.

2.17 ACCEPTABLE MANUFACTURERS - MIXING VALVES

- A. Cash Acme.
- B. Powers.
- C. Watts Regulator.
- D. Lawler Manufacturing Company.
- E. Symmons Industries Inc.
- F. Webstone.
- G. Substitutions: Under provisions of Division 01.

2.18 LAVATORY TEMPERING VALVE

- A. Lead free brass construction and chrome finish, adjustable temperature selection with threaded cap and adjustment tool, thermal actuator, corrosion resistant internal components, integral checks. Mounting bracket for secure installation. Provide with tee fitting for cold and hot water faucet connections.
- B. Construction
 - 1. Body: DZR Brass.
 - 2. Springs: Stainless Steel.
 - 3. Internal Cap: Brass.
 - 4. Piston: Engineered Polymer.
 - 5. Inlet Strainer Screens: Stainless Steel.
- C. Performance:
 - 1. Factory set to 105°F.
 - 2. Maximum Operating Pressure: 230 psi.
 - 3. Hot Water Inlet Temperature Range: 120°F – 180°F.
 - 4. Cold Water Inlet Temperature Range: 40°F – 80°F.
 - 5. Temperature Adjustment Range: 100°F – 120°F.
 - 6. Minimum Flow: 0.25 GPM.
 - 7. Listing: ASSE 1070, CSA, IAPMO.
 - 8. Approval: ASSE 1070, CSA B125.7, NSF 61 Certified.
- D. CASH ACME Heatguard 135 Series, Webstone Figure# H-77211W or approved equal.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.
- B. Remove scale and dirt, on inside and outside, before assembly.
- C. Prepare piping connections to equipment with flanges or unions.

3.2 INSTALLATION

- A. Provide non-conducting dielectric connections wherever joining dissimilar metals.
- B. Route piping in orderly manner and maintain gradient.

- C. Install piping to conserve building space and not interfere with use of space.
- D. Group piping whenever practical at common elevations.
- E. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
- F. Provide clearance for installation of insulation and access to valves and fittings.
- G. Provide access where valves and fittings are not exposed. Coordinate size and location of access doors.
- H. Establish elevations of buried piping outside the building to ensure not less than 10 ft. of cover.
- I. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welding.
- J. Prepare pipe, fittings, supports, and accessories not prefinished, ready for finish painting. Refer to Division 09.
- K. Establish invert elevations, slopes for drainage to 1/4" per foot, 1/8" per foot if 4" or over, minimum. Maintain gradients.
- L. Install valves with stems upright or horizontal, not inverted.
- M. Extend cleanouts to finished floor or wall surface. Lubricate threaded cleanout plugs with Teflon™ based thread lubricate. Ensure clearance at cleanout for rodding of drainage system.
- N. Install water hammer arrestors complete with accessible isolation valve.
- O. Support all piping in accordance with Uniform Plumbing Code and Manufacturer installation instructions. Where there is a conflict between requirements of the Uniform Plumbing Code and Manufacturer installation instructions, the more restrictive requirement shall apply.
- P. Polypropylene piping shall not be installed in any locations used as a return air plenums. Transition to copper or steel piping prior to routing piping through a return air plenum.
- Q. Fusion Welding of Joints for Polypropylene Piping:
 - 1. Install fittings and joints using socket-fusion, electrofusion, or butt-fusion as applicable for the fitting or joint type. All fusion-weld joints shall be made in accordance with the pipe and fitting manufacturer's specifications and product standards.

2. Fusion-weld tooling, welding machines, and electrofusion devices shall be as specified by the pipe and fittings manufacturer.
3. Prior to joining, the pipe and fittings shall be prepared in accordance with ASTM F 2389 and the manufacturer's specifications.
4. Joint preparation, setting and alignment, fusion process, cooling times and working pressure shall be in accordance with the pipe and fitting manufacturer's specifications.

3.3 APPLICATION

- A. Install unions downstream of valves and at equipment connections.
- B. Install ball or butterfly valves for shut-off and to isolate equipment, part of systems, or vertical risers.

3.4 TESTING

- A. Test all water piping in accordance with Section 609 of the UPC. Submit a signed statement to the Engineer stating testing dates, procedure and initials of tester. The test pressure for a hydrostatic test shall be 1.5 times the design pressure or 150 psi, whichever is greater, and for an air test shall be 1.1 times the design pressure or 150 psi, whichever is greater.
- B. Test all sanitary sewer and vent piping in accordance with Section 712 of the UPC. Submit a signed statement to the Engineer stating testing dates, procedure and initials of tester.

3.5 DISINFECTION OF DOMESTIC WATER PIPING SYSTEM

- A. Flush, clean and disinfect the new portions of the potable water system in accordance with Section 609 of the UPC. Submit a signed statement to the Engineer stating disinfection dates, procedure and initials of tester.

END OF SECTION 22 10 00

SECTION 22 40 00

PLUMBING FIXTURES

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Water Closets.
- B. Urinals.
- C. Showers
- D. Lavatories.
- E. Sinks.

1.2 RELATED WORK

- A. Section 22 05 00 - Common Work Results for Plumbing.
- B. Section 22 05 29 - Hangers and Supports for Plumbing Piping and Equipment.
- C. Section 22 08 00 - Commissioning of Plumbing.
- D. Section 22 10 00 - Plumbing Piping.
- E. Section 22 30 00 - Plumbing Equipment.

1.3 REFERENCES

- A. ANSI/ASSE 1012 - Backflow Preventers with Immediate Atmospheric Vent.
- B. ANSI/ASSE 1011 - Hose Connection Vacuum Breakers.
- C. ANSI/ASSE 1019 - Wall Hydrants, Frost Proof Automatic Draining Anti-Backflow Types.
- D. ANSI A112.21.1 - Floor Drains.
- E. ANSI A112.21.2 - Roof Drains.

1.4 QUALITY ASSURANCE

- A. Manufacturer: For each product specified, provide components by same manufacturer throughout.
- B. Trim: By same manufacturer for each product specified throughout.

1.5 SUBMITTALS

- A. Submit product data under provisions of Division 01.
- B. Include sizes, rough-in requirements, service sizes, and finishes.

1.6 OPERATION AND MAINTENANCE DATA

- A. Submit operation and maintenance data under provisions of Division 01.
- B. Include fixture trim exploded view and replacement parts lists.
- C. Provide Manufacturer's parts list and maintenance information on specialties.

1.7 WARRANTY

- A. Provide manufacturer's warranty under provisions of Division 01.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS –FIXTURES

- A. Kohler.
- B. American Standard.
- C. Bradley.
- D. Just.
- E. Elkay.
- F. Fiat.
- G. Substitutions: Under provisions of Division 01.

2.2 ACCEPTABLE MANUFACTURERS - FLUSH VALVES

- A. Sloan.
- B. Zurn.
- C. Delaney.
- D. Substitutions: Under provisions of Division 01.

2.3 FLUSH VALVES

- A. Exposed Infrared Flush Valve-Water Closet: ASSE 1037; exposed chrome plated, diaphragm type with battery powered infrared sensor, override button, metal cover with replaceable lens window, wall escutcheon, seat bumper, integral screwdriver stop and vacuum breaker, 1.6 gallon flush.
- B. Exposed Infrared Flush Valve-Urinal: ASSE 1037; exposed chrome plated, diaphragm type with battery powered infrared sensor, override button, metal cover with replaceable lens window, wall escutcheon, seat bumper, integral screwdriver stop and vacuum breaker, 1.0 gallon flush.

2.4 ACCEPTABLE MANUFACTURERS - WATER CLOSET SEATS

- A. Kohler.
- B. American Standard.
- C. Bemis.
- D. Substitutions: Under provisions of Division 01.

2.5 ACCEPTABLE MANUFACTURERS - FIXTURE CARRIERS

- A. J.R. Smith.
- B. Zurn.
- C. Mifab.
- D. Substitutions: Under provisions of Division 01.

2.6 ACCEPTABLE MANUFACTURERS -FIXTURE TRIM

- A. Delta.
- B. Moen.
- C. Chicago.
- D. Just.
- E. Fiat.
- F. Bradley.
- G. Substitutions: Under provisions of Division 01.

2.7 WATER CLOSET

- A. The elongated bowl shall be made of vitreous china. Bowl shall be 18-1/2" in length, 14" in width, and 13-1/8" in height. The bowl shall be wall-mount with a 1-1/2" top spud. Bowl shall have siphon jet. Bowl shall feature.
- B. Flush Valve: ANSI A112.18.1; exposed chrome plated, diaphragm type with battery powered infrared sensor, override button, metal cover with replaceable lens window, wall escutcheon, seat bumper, integral screwdriver stop and vacuum breaker.
- C. Seat: Solid white plastic, elongated open front, extended back, check hinge, brass bolts, without cover.
- D. Wall Mounted Carrier: ANSI A112.6.1; adjustable cast iron frame, integral drain hub and vent, adjustable spud. lugs for floor and wall attachment, threaded fixture studs with nuts and washers; manufactured by J.R. Smith or approved equal.

2.8 URINAL

- A. Urinal: ANSI A112.19.2M; vitreous china, wall hung siphon jet urinal, integral trap, 3/4 inch top spud.
- B. Flush Valve: ANSI A112.18.1; exposed chrome plated, diaphragm type with battery powered infrared sensor, override button, metal cover with replaceable lens window, wall escutcheon, seat bumper, integral screwdriver stop and vacuum breaker.
- C. Wall Mounted Carrier: ANSI A112.6.1; cast iron and steel frame with tubular legs, lugs for floor and wall attachment, threaded fixture studs for fixture hanger, bearing studs; manufactured by J.R. Smith.

2.9 SHOWER

- A. Shower: IAPMO Z124-2011; center drain, sanitary grade acrylic, one-piece. Two (2) molded soap corners, 6" threshold.
- B. Shower Trim: ASME 112.18.1. Polished chrome finish, pressure balanced lever handle to meet ASSE 1016. Showerhead arm and flange as indicated in schedule.

2.10 LAVATORY

- A. Lavatory: ANSI A117.1; combination counter and lavatory, one or two bowls as indicated on schedule. Terreon Solid Surface Material, depth, width and length to match schedule.
- B. Trim: ANSI A112.18.1M; battery powered, sensor-activated lavatory faucet with infrared Position Sensitive Detection (PSD) system. Faucet features temperature limit stop to adjust outlet temperature, 0.5 GPM low profile, vandal-resistant aerator. 11 second factory-set cycle time with automatic shut-off feature, power pack, in-line check/strainers, Metal grid strainer.

2.11 P-TRAP

- A. P-trap shall be chrome plated cast brass body, with 17 gauge seamless tubular wall bend, cast brass slip nuts. Reducing washers shall be used with reducing cast brass nut, chrome plated brass escutcheons.

2.12 ANGLE STOPS AND SUPPLY RISERS

- A. Quarter-turn lead free brass ball valve with convertible loose key handle, chrome plated copper, or braided stainless supply risers and chrome plated brass escutcheons.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Coordinate cutting of floor construction to receive drains to required invert elevations.

3.2 INSPECTION

- A. Review millwork shop drawings. Confirm location and size of fixtures and openings before rough-in and installation.
- B. Verify adjacent construction is ready to receive rough-in work of this Section.

3.3 INSTALLATION

- A. Install each fixture with removable p-trap for servicing and cleaning.
- B. Provide angle stop and supply risers at each fixture. Provide chrome plated escutcheons for both hot and cold water supplies and waste piping.
- C. Install components level and plumb
- D. Install and secure fixtures in place with wall or floor carriers, supports as per the manufacturers instructions.
- E. Solidly attach floor mounted water closets to toilet flange with non-corroding t-bolts, washers and acorn nuts.
- F. Seal fixtures to wall and floor surfaces with silicone sealant, color to match fixture.
- G. Mount fixtures above finished floor in accordance with Architectural.
- H. Install specialties in accordance with manufacturer's instructions to permit intended performance.
- I. Extend cleanouts to finished floor or wall surface. Lubricate threaded cleanout plugs with mixture of graphite and linseed oil. Ensure clearance at cleanout for rodding of drainage system.
- J. Encase exterior cleanouts in concrete flush with grade.
- K. Install water hammer arrestors complete with accessible isolation valve.

3.4 ADJUSTING AND CLEANING

- A. Adjust stops, valves or flow control valves for intended water flow rate to fixtures without splashing, noise, or overflow.
- B. Remove and clean all aerators and filters from faucets and other plumbing fixtures after the domestic water system has been tested, flushed and disinfected as per Section 22 10 00.

- C. At completion remove all visible stickers and tags not intended to be left in place, thoroughly clean all surfaces of plumbing fixtures.

END OF SECTION 22 40 00

SECTION 23 05 00

COMMON WORK RESULTS FOR HVAC

PART 1 - GENERAL

1.1 SCOPE

- A. All provisions of the Contract including the General and Supplementary Conditions and the General Requirements apply to this work.

1.2 WORK INCLUDED

- A. The work to be included in these and all other mechanical subsections shall consist of providing, installing, adjusting and setting into proper operation complete and workable systems for all items shown on the drawings, described in the specifications or reasonably implied. This shall include the planning and supervision to coordinate the work with other crafts and to maintain a proper time schedule for delivery of materials and installation of the work.
- B. Division 01 of the specifications is to be specifically included as well as all related drawings.

1.3 RELATED WORK

- A. Related Work Specified Elsewhere:
 - 1. Fire Suppression Specifications: Division 21.
 - 2. Plumbing Specifications: Division 22.
 - 3. Electrical Specifications: Division 26.
 - 4. Motors and Connections: Division 26.
 - 5. Starters and Disconnects: Division 26.
- B. Unless otherwise indicated on the electrical drawings or the electrical schedules, provide all mechanical equipment motors, motor starters, thermal overload switches, control relays, time clocks, thermostats, motor operated valves, float controls, damper motors, electric switches, electrical components, wiring and any other miscellaneous Division 23 controls. Disconnect switches are included in the electrical work, unless specifically called out on mechanical plans.
- C. Carefully coordinate all work with the electrical work shown and specified elsewhere.

1.4 REFERENCED CODES - LATEST ADOPTED EDITION

- A. NFPA 13 Installation of Sprinkler Systems.
- B. NFPA 70 National Electrical Code (NEC).
- C. IMC International Mechanical Code.
- D. UPC Uniform Plumbing Code.
- E. IECC International Energy Conservation Code.
- F. IFC International Fire Code.
- G. IFGC International Fuel Gas Code.
- H. IBC International Building Code.

1.5 PROJECT RECORD DRAWINGS

- A. In addition to other requirements of Division 01, mark up a clean set of drawings as the work progresses to show the dimensioned location and routing of all mechanical work which will become permanently concealed. Show routing of work in concealed blind spaces within the building. Show exact dimensions of buried piping off of columns or exterior walls.
- B. Maintain record documents at job site in a clean, dry and legible condition. Keep record documents available for inspection by the Project Manager.
- C. Show the location of all valves and their appropriate tag identification.
- D. At completion of project, deliver these drawings to the Owner and Architect and obtain a written receipt.

1.6 SUBMITTALS

- A. See General Conditions and the General Requirements in Division 01 regarding submittals.
- B. Submit by specification section complete and all at one time; partial submittals will not be considered. Submittals shall be provided in electronic PDF Format. The data in the electronic file shall be arranged and indexed under basic categories in order of the Specification Sections. An index shall be included with bookmarks and identifying tabs between sections and references to sections of specifications.

- C. Catalog sheets shall be complete and the item or model to be used shall be clearly marked, and identified as to which item in the specifications or on the drawings is being submitted and with drawing fixture number where applicable.
- D. Only submit on items specifically required by each specification section. If a submittal has not been requested, it will not be reviewed.
- E. Submit product data for:
 - 1. Hangers and Supports for HVAC Piping and Equipment.
 - 2. Vibration and Seismic controls for HVAC Piping, Ductwork and Equipment.
 - 3. Identification for HVAC Piping, Ductwork and Equipment.
- F. Provide shop drawings with calculations for selection of seismic/wind restraints in accordance with IBC and ASCE 7, certified by a qualified professional engineer, licensed in the State of Alaska. All components shall utilize an IP of 1.0 for seismic calculations.

1.7 OPERATING AND MAINTENANCE MANUALS

- A. See General Conditions and the General Requirements in Division 01 regarding Operating and Maintenance Manuals.
- B. Submit maintenance manuals to the Engineer covering all equipment, devices, etc. installed by the Contractor.
- C. The operation and maintenance manuals shall be submitted by specification section complete and all at one time; partial operations and maintenance manual submittals will not be considered. The Operation and maintenance manuals shall be provided in electronic PDF Format. The data in the electronic file shall be arranged and indexed under basic categories. An index shall be included with bookmarks and identifying tabs between sections and references to sections of specifications. The manual shall contain, but not limited to, the following types of information:
 - 1. Cover sheet with name, address, telephone number of Contractor, General Contractor and major equipment suppliers.
 - 2. Catalog cuts of all equipment, etc. installed (Marked to identify the specific items used).
 - 3. Manufacturer's maintenance and overhaul instruction booklets including exploded views.
 - 4. Identification numbers of all parts and nearest sources for obtaining parts and services.
 - 5. Reduced scale drawings of the control system and a verbal description of how these controls operate.
 - 6. A copy of the final test and balance report.
 - 7. A copy of valve schedule and reduced scale drawings showing valve locations.

8. Written summary of instructions to Owner.
9. All manufacturers' warranties and guarantees.
10. Contractors Warranty Letter.

- D. A periodic maintenance form that includes all of the equipment shall be provided with the maintenance manual. The form shall list each piece of equipment and how often maintenance is required (daily, weekly, monthly, annually). Opposite each task shall be squares for check-off for a full year (initials) to verify that the tasks are being done.

1.8 HANDLING

- A. See General Conditions and the General Requirements in Division 01 regarding material handling.
- B. Deliver packaged materials to job site in unbroken packages with manufacturer's label, and store to facilitate inspection and installation sequence. All items must be labeled and identified as to make, size and quality.

1.9 SUBSTITUTIONS

- A. See General Conditions and the General Requirements in Division 01 for substitution request procedures.
- B. In accordance with the General Conditions and the General Requirements in Division 01, Substitution and Product Options, all substitute items must fit in the available space, and be of equal or better quality including efficiency performance, size, and weight, and must be compatible with existing equipment. The Architect/Engineer shall be the final authority regarding acceptability of substitutes.

1.10 DIMENSIONS

- A. Before ordering any material or doing any work, the Contractor shall verify all dimensions, including elevations, and shall be responsible for the correctness of the same. No extra charge or compensation will be allowed on account of differences between actual dimensions and measurements indicated on the drawings.
- B. Any differences, which may be found, shall be submitted to the Architect/Engineer for consideration before proceeding with the work.

1.11 MANUFACTURER'S DIRECTIONS

- A. All manufactured articles shall be applied, installed and handled as recommended by the manufacturer, unless specifically called out otherwise. Advise the Architect/Engineer of any such conflicts before installation.

1.12 PERMITS, FEES, ETC.

- A. The Contractor under each Division of these specifications shall arrange for a permit from the local authority. The Contractor shall pay for any inspection fees or other fees and charges required by ordinance, law, codes and these specifications.

1.13 TESTING

- A. The Contractor under each section shall perform the various tests as specified and required by the Architect, Engineer and as required by applicable code, the State and local authorities. The Contractor shall furnish all labor, fuel and materials necessary for making tests.

1.14 TERMINOLOGY

- A. Whenever the words "furnish", "provide", "furnish and install", "provide and install", and/or similar phrases occur, it is the intent that the materials and equipment described be furnished, installed and connected under this Division of the Specifications, complete for operation unless specifically noted to the contrary.
- B. Where a material is described in detail, listed by catalogue number or otherwise called for, it shall be the Contractor's responsibility to furnish and install the material.
- C. The use of the word "shall" conveys a mandatory condition to the contract.
- D. "This section" refers to the section in which the statement occurs.
- E. "The project" includes all work in progress during the construction period.
- F. In describing the various items of equipment, in general, each item will be described singularly, even though there may be a multiplicity of identical or similar items.

1.15 SCHEDULE OF WORK

- A. The work under the various sections must be expedited and close coordination will be required in executing the work. The various trades shall perform their portion of the work at such times as directed so as to meeting scheduled completion dates, and to

avoid delaying any other trade. The Architect will set up completion dates. Each contractor shall cooperate in establishing these times and locations and shall process work so as to ensure the proper execution of it.

1.16 COOPERATION AND CLEANING UP

- A. The Contractor for the work under each section of the specifications shall coordinate the Contractors work with the work described in all other sections of the specifications to the end that, as a whole, the job shall be a finished one of its kind, and shall carry on the work in such a manner that none of the work under any section of these specifications shall be handicapped, hindered or delayed at any time.
- B. At all times during the progress of the work, the Contractor shall keep the premises clean and free of unnecessary materials and debris. The Contractor shall, on direction at any time from the Architect, clear any designated areas or area of materials and debris. On completion of any portion of the work, the Contractor shall remove from the premises all tools and machinery and all debris occasioned by the work, leaving the premises free of all obstructions and hindrances.

1.17 WARRANTY

- A. Unless a longer warranty is hereinafter called for, all work, materials and equipment items shall be warrantied for a period of one year after acceptance by the Owner. All defects in labor and materials occurring during this period, as determined by the Architect/Engineer, shall be repaired and/or replaced to the complete satisfaction of the Architect/Engineer. Guarantee shall be in accordance with Division 01.

1.18 COMPLETION REQUIREMENTS

- A. In accordance with the General Conditions and the General Requirements in Division 01, Project Closeout; before acceptance and final payment, the Contractor shall furnish:
 - 1. Accurate project record drawings, shown in red ink on prints, showing all changes from the original plans made during installation of the work.
 - 2. Contractors One Year Warranty.
 - 3. All Manufacturers' Guarantees.
 - 4. Test and Balance Reports.
 - 5. Operation and Maintenance Manuals.

1.19 INSPECTION OF SITE - REMODEL PROJECTS

- A. The accompanying plans do not indicate completely the existing plumbing and mechanical installations. The bidders for the work under these sections of the specifications shall inspect the existing installations and thoroughly acquaint themselves with conditions to be met and the work to be accomplished in removing and modifying the existing work, and in installing the new work in the present building and underground serving to and from that structure. Failure to comply with this shall not constitute grounds for any additional payments in connection with removing or modifying any part of the existing installations and/or installing any new work.

1.20 RELOCATION OF EXISTING INSTALLATIONS

- A. There are portions of the existing plumbing, mechanical and electrical systems, which shall remain in use to serve the finished building in conjunction with the indicated new installations. By actual examination at the site, each bidder shall determine those portions of the remaining present installations, which must be relocated to avoid interference with the installations of new work of the Contractors particular trade and that of all other trades. All such existing installations, which interfere with new installations, shall be relocated by the Contractor.

1.21 SALVAGE MATERIALS

- A. The Contractor shall remove existing equipment, duct, grilles and other items associated with the mechanical systems where no longer required for the project. Where such items are exposed to view or uncovered by any cutting or removal of general construction and has no continuing function (as determined by the Architect/Engineer), they shall be removed.
- B. All items or materials removed from the project shall be made available for the Owner's inspection. The Owner retains the option to claim any item or material. Contractor shall deliver any claimed item or material in good condition to the place designated by the Owner. All items not claimed become the property of the contractor and shall be removed from the site.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. All equipment shall be regularly cataloged items of the manufacturer and shall be supplied as a complete unit in accordance with the manufacturer's standard specifications along with any optional items required for proper installation unless

otherwise noted. Maintain manufacturer's identification, model number, etc. on all equipment at all times.

- B. Where more than one of an item is to be provided, all of the items shall be identical manufacture, make, model, color, etc.

2.2 RESTRICTED MATERIALS

- A. No materials containing asbestos in any form shall be allowed.
- B. No solder or flux containing lead shall be used on this project.
- C. Where materials or equipment provided by this Contractor are found to contain restricted materials, such items shall be removed and replaced with non-restricted materials items. Entire cost of restricted materials removal and disposal and cost of installing new items shall be the responsibility of the Contractor for those restricted materials containing items installed by the Contractor.

2.3 ELECTRICAL MOTORS

- A. Motors: Furnish electric motors designed for the specific application and duty applied, and to deliver rated horsepower without exceeding temperature ratings when operated on power systems with a combined variation in voltage and frequency not more than + 10% of rated voltage. Motors for pumps and fans shall be selected to be non-overloading.
- B. Verify from the drawings and specifications the available electrical supply characteristics and furnish equipment that will perform satisfactorily under the conditions shown and specified.
- C. Size motors for 1.15 service factor and not to exceed 40° C temperature rise above ambient.
- D. Fractional horsepower motors to have self-resetting thermal overload switch.

2.4 IDENTIFICATION FOR HVAC EQUIPMENT

- A. Plastic Nameplates: Laminated plastic with engraved letters.
- B. Plastic Tags: Laminated plastic with engraved letters, minimum 1-1/2 inches diameter.

2.5 ANCHOR BOLTS

- A. Anchor (Expansion) Bolts: Shall be carbon steel to ASTM A 307; nut shall conform to ASTM A194; shall be drilled-in type. Design values for shear and tension shall be not more than 80 percent of the allowable load.

2.6 FORMED STEEL CHANNEL

- A. Manufacturers:
 - 1. Allied Tube & Conduit Corp.
 - 2. B-Line Systems.
 - 3. Midland Ross Corporation, Electrical Products Division
 - 4. Unistrut Corp.
 - 5. Substitutions under provisions of Division 01.
- B. Product Description: Galvanized 12 gauge (2.8 mm) thick steel. With holes 1-1/2 inches (38 mm) on center.

2.7 ACCEPTABLE MANUFACTURERS: VIBRATION ISOLATORS AND SEISMIC RESTRAINT

- A. Vibration isolators and Seismic Restraint shall be manufactured by:
 - 1. Amber/Booth.
 - 2. Cooper Industries.
 - 3. International Seismic Application Technology.
 - 4. Kinetics Noise Control.
 - 5. Mason Industries.
 - 6. Vibro-Acoustics
 - 7. Substitutions: Items of same function and performance are acceptable in conformance with Division 01.

2.8 FAN ISOLATION

- A. Provide spring type isolators for fans and heating and ventilation units.
- B. Spring isolators shall be free standing and laterally stable without any housing and complete with a molded neoprene cup or ¼ inch neoprene acoustical friction pad between the baseplate and the support. All mountings shall have leveling bolts that must be rigidly bolted to the equipment. Spring diameters shall be not less than 0.8 of the compressed height of the spring at rated load. Springs shall have a minimum additional travel to solid equal to 50% of the rated deflection.

- C. Seismically restrained spring isolators shall be as described above, built into a ductile iron or steel housing to provide all directional seismic snubbing. The snubber shall be adjustable vertically and allow a maximum of ¼ inch travel in all directions before contacting the resilient snubbing collars. Mountings shall be SSLFH as manufactured by Mason Industries.
- D. Cabinet unit heaters, panel fans, and other ventilation units mounted to solid ductwork or structure shall be internally factory isolated.

2.9 VENTILATING SYSTEMS FLEXIBLE CONNECTIONS

- A. Fabricate of neoprene coated flameproof fabric a minimum of 2" wide tightly crimped into metal edging strip and attach to ducting and equipment by screws or bolts at 6" intervals. DuroDyne Dynalon treated duct material, or equal. Durolon or equal for outdoor or high pressure applications.

2.10 LIMITS OF VIBRATION

- A. The factory is to statically and dynamically balance all rotating machinery, fans and pumps, etc. Do dynamic balancing at the operating speed of the motor.
- B. Select isolated equipment in accordance with the weight distribution, to produce uniform deflection on the vibration mounts. Deflection of vibration mounts shall be required to produce 95% vibration isolation efficiency, based on the equipment HP, rpm, location in regard to critical spaces and stiffness of the building supporting structural members, supporting the equipment.
- C. For fan-motor units in which the impeller is supported by the motor shaft, the motor and impeller shall be dynamically balanced as an integral unit.

2.10 SEISMIC BRACING AND SUPPORT OF SYSTEMS AND COMPONENTS

- A. General:
 - 1. Seismic restraint designer shall coordinate all attachments with the structural engineer of record.
 - 2. Design analysis shall include calculated dead loads, static seismic loads, and capacity of materials utilized for the connection of the equipment or system to the structure.
 - 3. Analysis shall detail anchoring methods, bolt diameter, and embedment depth.
 - 4. All seismic restraint devices shall be designed to accept without failure the forces calculated per the applicable building code and as summarized in installation requirements.

5. The total height of the structure (h) and the height of the system to be restrained within the structure (z) shall be determined in coordination with architectural plans and the General Contractor.

- B. Friction from gravity loads shall not be considered resistance to seismic forces.

2.11 SEISMIC BRACING COMPONENTS

- A. Steel strut shall be 1-5/8 wide in varying heights and mig-welded combinations as required to meet load capacities and designs indicated. A material heat code, part number, and manufacturer's name shall be stamped on all strut and fittings to maintain traceability to material test reports.
 1. Material for epoxy painted strut: ASTM A1011, SS, Grade 33.
 2. Material for pre-galvanized strut: ASTM A653, SS, Gr. 33.
 3. Material for Hot-Dip Galvanized strut: ASTM A1011, SS, Grade 33 and hot-dip galvanized after fabrication in accordance with ASTM A123.
 4. Material for fittings and accessories: ASTM A907 Gr. 33, Structural Quality or ASTM A1011, SS, Gr.33.
 5. Fittings and accessories: Products shall be of the same manufacturer as strut and designed for use with that product.

PART 3 - EXECUTION

3.1 DRAWINGS

- A. The drawings are partly diagrammatic, not necessarily showing all offsets or exact locations of piping and ducts, unless specifically dimensioned. The contractor shall provide all materials and labor necessary for a complete and operable system. Complete details of the building which affect the mechanical installation may not be shown. For additional details, see Architectural, Structural, and Electrical Drawings. Coordinate work under this section with that of all related trades.

3.2 INSTALLATION

- A. All work shall comply with the latest adopted applicable codes and ordinances including, but not limited to, the IMC, UPC, IBC, NEC, NFPA, IECC, IFGC and IFC Standards; all local and state amendments to all codes and standards.
- B. Obtain and pay for all inspection fees, connection charges and permits as a part of the Contract.
- C. Compliance with codes and ordinances shall be at the Contractor's expense.

- D. Install in accordance with manufacturer's instructions.

3.3 MEASUREMENTS

- A. Verify all measurements on the job site.
- B. Locate all equipment on the centers of walls, openings, spaces, etc., unless specified otherwise.
- C. Check all piping, ducts, etc. to clear openings.
- D. Rough-in dimensions shall be per manufacturer's recommendations and in compliance with current ADA and ANSI 117.1 standards.

3.4 OPERATING INSTRUCTIONS

- A. Before the facility is turned over to the Owner, instruct the Owner or Owner's personnel in the operation, care and maintenance of all systems and equipment under the jurisdiction of the Mechanical Division. These instructions shall also be included in a written summary in the Operating Maintenance Manuals.
- B. The Operation and Maintenance Manuals shall be utilized for the basis of the instruction. Provide a minimum of four hours of on site instruction to the owner designated personnel.
- C. When required by individual specification sections provide additional training on HVAC systems and equipment as indicated in the respective specification section.
- D. Provide schedule for training activities for review prior to start of training.

3.5 SYSTEM ADJUSTING

- A. Each part of each system shall be adjusted and readjusted as necessary to ensure proper functioning of all controls, proper air distribution, elimination of drafts, noise and vibration.
- B. Balance air and water systems for volume quantities shown and as required to ensure even temperature and the elimination of drafts. Balancing shall be done by a qualified firm acceptable to the Engineer. Provide balancing log to the Engineer before substantial completion.

3.6 CUTTING, FITTING, REPAIRING, PATCHING AND FINISHING

- A. Arrange and pay for all cutting, fitting, repairing, patching and finishing of work by other trades where it is necessary to disturb such work to permit installation of mechanical work. Perform work only with craftsmen skilled in their respective trades.
- B. Avoid cutting, insofar as possible, by setting sleeves, frames, etc. and by requesting openings in advance. Assist other trades in securing correct location and placement of rough-frames, sleeves, openings, etc. for ducts and piping.
- C. Cut all holes neatly and as small as possible to admit work. Include cutting where sleeves or openings have been omitted. Perform cutting in a manner so as not to weaken walls, partitions or floors. Drill holes required to be cut in floors without breaking out around holes.

3.7 PAINTING

- A. Perform all of the following painting in accordance with provisions of Division 09 with colors as selected by the Architect. Provide the following items as a part of mechanical work:
 - 1. Factory applied prime and finish coats on mechanical equipment.
 - 2. Factory applied prime and finish coat on all air registers, grilles and diffusers, unless otherwise specified.
 - 3. Factory applied prime coat on access doors.
- B. If factory finish on any equipment furnished is damaged in shipment or during construction, refinish to equal original factory finish.

3.8 IDENTIFICATION

- A. Label all equipment with heat resistant laminated plastic labels having engraved lettering ½" high. If items are not specifically listed on the schedules, consult the Engineer concerning designation to use. Seton engraved Seton-Ply nameplates or equal.

3.9 SCOPE OF VIBRATION ISOLATION WORK

- A. All vibrating equipment and the interconnecting pipe shall be isolated to eliminate the transmission of objectionable noise and vibration from the structure.
- B. HVAC equipment shall be carefully checked upon delivery for proper mechanical performance, which shall include proper noise and vibration operation.

- C. All installed rotating equipment with excessive noise and/or vibration, which cannot be corrected in place, shall be replaced at no cost to Owner.

3.10 GENERAL PROCEDURES – VIBRATION ISOLATION

- A. Select isolators in accordance with the manufacturer's recommendations and the equipment weight distribution to allow for proper static deflection of the isolators in relation to the span of the building structure supporting the equipment, considering the allowable deflection and weight of the structure.
- B. Install isolators so they can be easily removed for replacement.
- C. Mount all equipment absolutely level.
- D. Install all isolators per manufacturer's instructions.
- E. Install vibration isolators for mechanical motor driven equipment.
- F. Set steel bases for 1" clearance between housekeeping pad and base.
- G. All vibration isolated equipment shall be fitted with earthquake bracing and snubbers suitable for seismic control in accordance with the IBC.
- H. Piping vibration isolation flexible connections shall be installed at a 90° angle to equipment deflection direction unless otherwise noted.

3.11 INSTALLATION OF EQUIPMENT

- A. Unless otherwise indicated, mount all equipment and install in accordance with manufacturer's recommendations and approved submittals.
- B. Maintain manufacture recommended minimum clearances for access and maintenance.
- C. Where equipment is to be anchored to structure, furnish and locate necessary anchoring and vibration isolation devices.
- D. Furnish all structural steel, such as angles, channels, beams, etc. required to support all piping, ductwork, equipment and accessories installed under this Division. Use structural supports suitable for equipment specified or as indicated. In all cases, support design will be based upon data contained in manufacturer's catalog.
- E. Openings: Arrange for necessary openings in buildings to allow for admittance and reasonable maintenance or replacement of all equipment furnished under this Contract.

- F. Access Doors: Provide as necessary for reasonable maintenance of all equipment valves, controls, etc.

END OF SECTION 23 05 00

SECTION 23 05 05

SELECTIVE DEMOLITION FOR HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work specified in this Section includes the demolition, removal, and disposition of certain mechanical work.
- B. Drawings, the provisions of the Agreement, and Administrative Specification Sections apply to all work of this Section.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Prior to starting work, carefully inspect installed work of other trades and verify that such work is complete to the point where work of this Section may properly commence. Notify the Architect in writing of conditions detrimental to the proper and timely completion of the work.
- B. Do not begin installation until all unsatisfactory conditions are resolved. Beginning work constitutes acceptance of conditions as satisfactory.

3.2 DEMOLITION, REMOVAL AND DISPOSITION

- A. Saw-cut concrete as shown or required.
- B. Piping, Ductwork, And Equipment To Be Removed: Remove all piping, ductwork, and equipment as indicated on the Drawings.
- C. Piping Removed: Drawings do not show all existing piping which is to be removed. Unless indicated otherwise, where existing equipment has been removed, or its use replaced by new equipment, remove connecting piping back to the branch in the main so that there will be no dead ends or unused pipe lines in mechanical spaces at completion.

- D. Materials To Owner: All items or materials removed from the project shall be made available for the Owner's inspection. The Owner retains the option to claim any item or material. The Contractor shall deliver any claimed item or material in good condition to the place designated by the Owner. All items not claimed become the property of the Contractor and shall be removed from the site by the Contractor.
- E. Materials To Owner: As indicated on the Drawings.
- F. Re-use Of Materials: Only were indicated on Drawings.
- G. Materials To Contractor: Materials shown or specified to be removed, other than the materials indicated to be turned over to Owner.
- H. Protect any active piping and/or wiring encountered; remove, plug or cap utilities to be abandoned. Notify the Architect of utilities encountered whose service is not known.
- I. Debris Removal: Existing materials removed and not reinstalled or turned over to the Owner shall be immediately removed from the site and disposed of by the Contractor.
- J. Repairs: Any portion of the facility damaged, cut back or made inoperable by this Contractor shall be repaired with similar materials as the existing structure and/or damaged item as instructed by the Architect.

END OF SECTION 23 05 05

SECTION 23 05 93

TESTING, ADJUSTING, AND BALANCING FOR HVAC

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Air Systems:
 - 1. Constant Volume Air Systems.
 - 2. Existing HVAC Systems.

1.2 SCOPE

- A. Furnish the professional services of a qualified and approved balancing and testing firm to perform the work of this specification section.
- B. The work of this section includes but is not necessarily limited to:
 - 1. Testing and balancing fans and air handling systems.
 - 2. Working directly with the control subcontractor to obtain proper system adjustments.
 - 3. Domestic water distribution system adjustment.
- C. The work of this section does not include:
 - 1. Adjusting burners for proper combustion operation.
 - 2. Liquid waste transfer system adjustment.
 - 3. Fire protection systems.

1.3 APPLICABLE CODES AND STANDARDS

- A. SMACNA Manual for the Balancing and Adjustment of Air Distribution Systems.
- B. AMCA Publication 203, Field Performance Measurements.
- C. American Air Balancing Council (AABC) Recommended Procedures
- D. National Environmental Balancing Bureau (NEBB) Recommended Procedures

1.4 QUALIFICATION OF THE BALANCING FIRM OR COMPANY

- A. Subcontractor minimum qualifications include:
 - 1. NEBB Certified in Testing, Adjusting and Balancing of Air and Hydronic Systems and demonstration of satisfactory completion of five projects of similar scope in the State of Alaska during the past five years. Provide references if requested.

1.5 TIMING OF WORK

- A. Do not begin balancing and testing until the systems, including controls, are completed and in full working order.
- B. Schedule the testing and balancing work in cooperation with other trades.
- C. Complete the testing and balancing at least one week before the date of substantial completion and before any occupancy occurs

1.6 CONTRACTOR RESPONSIBILITY TO BALANCING AGENCY

- A. Award the test and balance contract to an approved firm or company upon receipt of contract to allow the Balance and Testing Agency to schedule this work in cooperation with other trades involved and comply with completion date.
- B. Put all heating, ventilating and air conditioning systems, equipment and controls into full operation for the Balancing Agency and continue the operation of same during each working day of testing balancing.
- C. Provide scaffolding, ladders and access to each system for proper testing balancing.
- D. Ensure that the building enclosure is complete, including but not limited to, structural components, windows and doors installed, door hardware complete, ceilings complete, stair, elevator and mechanical shafts complete, roof systems complete, all plenums sealed, etc.
- E. Make any changes in pulleys, belts and dampers, or add any dampers as required for correct balance as recommended by the Balance and Testing Agency at no additional cost to the Owner.
- F. Complete installation, programming (including design parameters and graphics), calibration, and startup of all building control systems.

- G. Require that the building control system firm provide access to hardware and software, or onsite technical support required to assist the TAB effort. The hardware and software or the onsite technical support shall be provided at no cost to the TAB firm.

1.7 REPORT

- A. Certified Reports shall be included in project O & M manuals. Reports shall include: testing, adjusting, and balancing reports bearing the signature of the Test and Balance Agency Representative. The reports shall be certified proof that the systems have been tested, adjusted, and balanced in accordance with the referenced standards; are an accurate representation of how the systems have been installed; are a true representation of how the systems are operating at the completion of the testing, adjusting and balancing procedures; and are an accurate record of all final quantities measured, to establish normal operating values of the system. Follow the procedures and format specified below:
 - 1. Draft Reports: Upon completion of testing, adjusting and balancing procedures, prepare draft reports on the approved forms. Draft reports may be hand written, but must be complete, factual, accurate, and legible. Organize and format draft reports in the same manner specified for the final reports.
 - 2. Final Reports: Upon verification and approval of the draft report; prepare final reports, typewritten, organized and formatted as specified below.
 - 3. Report Format: Report forms shall be those standard forms prepared by the referenced standard for each respective item and system to be tested, adjusted and balanced. Report shall be provided in electronic PDF Format. The data in the electronic file shall be arranged and indexed. Divide the contents into the below listed sections, with bookmarks for each section:
 - a. General Information and Summary.
 - b. Air Systems.
 - c. Temperature Control Systems.
 - d. Special Systems.
 - e. System Deficiency Reports and Corrective Actions.
 - 4. Report Contents: Provide the following minimum information, forms and data:
 - a. General Information and Summary: Inside cover sheet to identify testing, adjusting, and balancing agency; contractor; owner, architect, engineer and project. Include addresses, contact names and telephone numbers. Also, include a certification sheet containing the name, address, telephone

number and signature of the Certified Test and Balance Personnel. Include in this division a listing of the instrumentation used for the procedures along with the proof of calibration.

- b. The remainder of the report shall contain the appropriate forms containing as a minimum, the information indicated on the standard report forms prepared by the AABC for each respective item and system. Prepare a schematic diagram for each item of equipment and system to accompany each respective report form.
- c. Calibration Reports: Submit proof that all required instrumentation has been calibrated to tolerances specified in the referenced standards, within a period of six months prior to starting the project.

1.8 SUBMITTALS

- A. Submit in accordance with Division 01.
- B. Submit balancing agency qualifications and sample balancing forms.
- C. Provide list of equipment to be used and date of last calibration.
- D. Submit preliminary balance report a minimum of one week prior to substantial completion inspection.

PART 2 - PRODUCTS

2.1 INSTRUMENTS

- A. Maintain all instruments accurately calibrated and in good working order. Use instruments with the following minimum performance characteristics.
 - 1. Air Velocity Instruments: Direct reading in feet per minute, 2% accuracy.
 - 2. Static Pressure Instruments: Direct reading in inches' water gauge, 2% accuracy.
 - 3. RPM Instruments: Direct reading in revolutions per minute, .5% accuracy; or revolution counter accurate within 2 counts per 1,000.
 - 4. Pressure Readout: Direct reading in feet of water or PSI, .5% accuracy.
 - 5. Temperature Instruments - Direct reading in degrees F, +.5% accuracy.
 - 6. Sound Measuring Instrument: Octave Band Analyzer which essentially complies to AASA Standards SI.6 1960 with a range of 24DB to 150 DB sound pressure level ref. .0002 microbar. Calibrate sound test instrument before use

to a closed coupler and a driving loudspeaker that produces a know-sound pressure level at the microphone of the analyzer.

PART 3 - EXECUTION

3.1 GENERAL PROCEDURES FOR ALL SYSTEMS

- A. Start with new, clean filters.
- B. In cooperation with the control manufacturer's representative, coordinate adjustments of automatically operated dampers and valves to operate as specified, indicated and/or noted.
- C. Use manufacturer's ratings on all equipment to make required calculations.
- D. Make final adjustments for each space per heating or cooling comfort requirement. State reason for variance from design CFM, i.e., "too noisy", "drafty", etc.
- E. Mark equipment and balancing device settings (including damper-control positions, valve position indicators, fan-speed-controls, and similar controls and devices) with paint or other suitable permanent identification material to show final settings.

3.2 REQUIREMENTS FOR ALL AIR HANDLING SYSTEMS

- A. Identify each diffuser, grille and register as to location and area.
- B. Identify and list size, type and manufacturer of diffusers, grilles, registers and all testing equipment.
- C. In readings and tests of diffusers, grilles and registers, include required FPM velocity and required CFM and test CFM after adjustments. If test apparatus is designed to read CFM directly, velocity reading may be omitted. Identify test apparatus used. Identify wide open (W.O.) runs.
- D. Check and record the following items:
 - 1. Operating suction and discharge pressure.
 - 2. Full nameplate data of all equipment.
 - 3. Rated and actual running amperage and voltage of all motors.
 - 4. Drive data including sheaves and belts and adjustments.

5. Electrical overloads/heaters sizes and ranges of motors.

3.3 BALANCING LOW VELOCITY CONSTANT VOLUME DUCTWORK

- A. Analyze system and identify major branches. Tabulate design CFM for each branch.
- B. Select the branch which appears to be the longest run from the fan or to have the highest static pressure requirements.
- C. Adjust other branch dampers or the fan to establish 110% design air flow through the selected branch.
- D. Adjust the air flow through each air inlet (exhaust systems) on the selected branch to within +5% of the requirements so that at least one branch damper serving an inlet is wide open.
- E. Proceed to another branch and set up 110% design airflow. Balance each inlet or outlet to within +5% of requirements, again leaving at least one wide open run. Repeat this process until all branches are balanced 110% airflow.
- F. Once each branch has been balanced at 110% flow with one wide open run on each branch, balance with branches together, leaving at least one branch damper wide open. At this point, adjust the fan delivery so that each branch is at about 110% design airflow. Adjust the branch dampers so that each inlet in the system is within 10% of the required airflow.
- G. Adjust the fan for design airflow.
- H. Read and record the airflow at each inlet and outlet.
- I. Secure each branch damper and mark the balanced position of the damper quadrant.

END OF SECTION 23 05 93

SECTION 23 07 00

HVAC INSULATION

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Ductwork Insulation.

1.2 RELATED WORK

- A. Division 09 - Painting.
- B. Section 23 05 00 - Common Work Results for HVAC Systems.
- C. Section 23 05 16 - Expansion Fittings and Loops for HVAC Piping.
- D. Section 23 05 19 - Meters and Gages for HVAC Piping.
- E. Section 23 21 13 - Hydronic Piping.
- F. Section 23 21 16 - Hydronic Specialties.
- G. Section 23 22 13 - Steam and Condensate Heating Piping.
- H. Section 23 22 16 - Steam and Condensate Heating Piping Specialties.
- I. Section 23 23 00 - Refrigeration Piping.
- J. Section 23 31 00 - HVAC Ducts and Casings.
- K. Section 23 33 00 - Air Duct Accessories.
- L. Section 23 57 00 - Heat Exchangers for HVAC.
- M. Section 23 82 00 - Convection Heating and Cooling Units.
- N. Section 23 82 16 - Air Coils.
- O. Section 23 83 00 - Radiant Heating Units.

1.3 REFERENCES

- A. ASTM B209 - Aluminum and Aluminum-alloy Sheet and Plate.
- B. ASTM C195 - Mineral Fiber Thermal Insulating Cement.
- C. ASTM C450 - Standard Practice for Fabrication of Thermal Insulating Fitting Covers for NPS Piping, and Vessel Lagging.
- D. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
- E. ANSI/ASTM C533 - Calcium Silicate Block and Pipe Thermal Insulation.
- F. ANSI/ASTM C534 - Standard Specification for Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form.
- G. ANSI/ASTM C547 - Mineral Fiber Pipe Insulation (Preformed).
- H. ANSI/ASTM C552 - Cellular Glass Thermal Insulation.
- I. ANSI/ASTM C553 - Mineral Fiber Blanket Insulation.
- J. ANSI/ASTM C578 - Preformed, Block Type Cellular Polystyrene Thermal Insulation.
- K. ASTM C585 - Standard Practice for Inner and Outer Diameters of Rigid Thermal Insulation for Nominal Sizes of Pipe and Tubing (NPS System).
- L. ASTM C612 - Mineral Fiber Block and Board Thermal Insulation.
- M. ASTM C449 - Mineral Fiber Hydraulic-setting Thermal Insulating and Finishing Cement.
- N. ASTM C610 - Expanded Perlite Block and Pipe Thermal Insulation.
- O. ASTM C1071 - Standard Specification for Fibrous Glass Duct Lining Insulation (Thermal and Sound Absorbing Material).
- P. ASTM C1136 - Standard Specification for Flexible, Low Permeance Vapor Retarders for Thermal Insulation.
- Q. ASTM C1427 - Standard Specification for Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form.
- R. ASTM D774 - Standard Test Method for Bursting Strength of Paper.

- S. ASTM D1000 - Standard Test Methods for Pressure-Sensitive Adhesive-Coated Tapes Used for Electrical and Electronic Applications.
- T. ASTM E84 - Surface Burning Characteristics of Building Materials.
- U. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.
- V. UL 723 - Surface Burning Characteristics of Building Materials.

1.4 SUBMITTALS

- A. Submit product data under provisions of Division 01.
- B. Include product description, thickness for each service, and locations.
- C. Submit manufacturer's installation instructions.

1.5 QUALITY ASSURANCE

- A. Applicator: Company specializing in piping insulation application with three years minimum experience.
- B. Pipe insulation manufactured in accordance with ASTM C585 for inner and outer diameters.
- C. Materials: Flame spread/smoke developed rating of 25/50 in accordance with UL 723, ASTM E84, or NFPA 255.
- D. Factory fabricated fitting covers manufactured in accordance with ASTM C450.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Division 01 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Accept materials on site in original factory packaging, labeled with manufacturer's identification, including product density and thickness.
- C. Shipment of materials from manufacturer to installation location shall be in weather tight transportation.
- D. Protect from weather and construction traffic, dirt, water, chemical, and damage, by storing in original packaging.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Maintain ambient temperatures and conditions required by manufacturers of adhesive, mastics, and insulation cements.

1.8 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

1.9 WARRANTY

- A. Division 01 - Execution and Closeout Requirements: Product warranties and product bonds.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Johns Manville.
- B. Knauf.
- C. Owens-Corning.
- D. Manson.
- E. Nomaco.
- F. Pittsburgh - Corning.
- G. K-Flex USA.
- H. Armstrong.
- I. Substitutions: Under provisions of Division 01.

2.2 INSULATION - DUCTWORK

- A. Type M: Duct Liner: Rigid Fiber Board; ASTM C1071; 'k' value of 0.23 at 75° F; coated air side for maximum 6,000 ft./min. air velocity, UL listed adhesive galvanized steel pins. Johns Manville "Permacote Linacoustic R-300" or approved equal.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Install materials after piping, equipment and ductwork has been tested and approved.
- B. Clean surfaces for adhesives.
- C. Prepare surfaces in accordance with manufacturer's recommendations.

3.2 INSTALLATION – DUCTWORK INSULATION

- A. Install materials in accordance with manufacturer's instructions.
- B. Provide insulation with vapor barrier when air conveyed may be below ambient temperature. Continue insulation with vapor barrier through penetration.
- C. Ductwork sizes shown on plans include the internal acoustical lining thickness. Do not increase duct size to make up for thickness of lining.

3.3 SCHEDULE - DUCTWORK

DUCTWORK	TYPE	INSULATION THICKNESS
Internal Acoustic Lining	M	1"

END OF SECTION 23 07 00

SECTION 23 31 00

HVAC DUCTS AND CASINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Duct Materials.
 - 2. Ductwork Fabrication.

1.2 RELATED SECTIONS

- A. Division 03 - Cast-In-Place Concrete: Product requirements for concrete for placement by this section.
- B. Division 09 - Painting and Coating: Execution requirements for Weld priming, weather resistant, paint or coating specified by this section.
- C. Division 11 - Foodservice Equipment: Product requirements for kitchen range hoods for placement by this section.
- D. Section 23 05 00 - Hangers and Supports for HVAC Piping and Equipment: Product requirements for hangers, supports and sleeves for placement by this section.
- E. Section 23 33 00 - Air Duct Accessories: Product requirements for duct accessories for placement by this section.

1.3 REFERENCES

- A. ASTM International:
 - 1. ASTM A36/A36M - Standard Specification for Carbon Structural Steel.
 - 2. ASTM A90/A90M - Standard Test Method for Weight Mass of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings.
 - 3. ASTM A167 - Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
 - 4. ASTM A568/A568M - Standard Specification for Steel, Sheet, Carbon, and High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, General Requirements for.
 - 5. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

6. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
7. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
8. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
9. ASTM C14 - Standard Specification for Concrete Sewer, Storm Drain, and Culvert Pipe.
10. ASTM C443 - Standard Specification for Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets.
11. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

B. National Fire Protection Association:

1. NFPA 90A - Standard for the Installation of Air Conditioning and Ventilating Systems.
2. NFPA 90B - Standard for the Installation of Warm Air Heating and Air Conditioning Systems.
3. NFPA 96 - Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations.

C. Sheet Metal and Air Conditioning Contractors:

1. SMACNA - Fibrous Glass Duct Construction Standards.
2. SMACNA - HVAC Air Duct Leakage Test Manual.
3. SMACNA - HVAC Duct Construction Standard - Metal and Flexible.

D. Underwriters Laboratories Inc.:

1. UL 181 - Factory-Made Air Ducts and Connectors.

1.4 DEFINITIONS

- A. Duct Sizes: Inside clear dimensions. For lined ducts, lining has been taken into account – do not increase duct size..
- B. Low Pressure: Three pressure classifications: ½ inch WG positive or negative static pressure and velocities less than 2,000 fpm; 1 inch WG positive or negative static pressure and velocities less than 2,500 fpm and 2 inch WG positive or negative static pressure and velocities less than 2,500 fpm.

1.5 PERFORMANCE REQUIREMENTS

- A. Variation of duct configuration or sizes other than those of equivalent or lower loss coefficient is not permitted except by written permission. Size round ducts installed in place of rectangular ducts in accordance with ASHRAE table of equivalent rectangular and round ducts.

1.6 SUBMITTALS

- A. See General Conditions and the General Requirements in Division 01 regarding submittals.
- B. Product Data: Submit data for duct materials.
- C. Test Reports: Indicate pressure tests performed. Include date, section tested, test pressure, and leakage rate, following SMACNA HVAC Air Duct Leakage Test Manual.
- D. Manufacturer's Installation Instructions: Submit special procedures for glass fiber ducts.
- E. Manufacturer's Certificate: Certify installation of glass fiber ductwork meet or exceed specified requirements.

1.7 CLOSEOUT SUBMITTALS

- A. Division 01 - Execution and Closeout Requirements: Closeout procedures.
- B. Project Record Documents: Record actual locations of ducts and duct fittings. Record changes in fitting location and type. Show additional fittings used.

1.8 QUALITY ASSURANCE

- A. Perform Work in accordance with SMACNA - HVAC Duct Construction Standards - Metal and flexible.
- B. Construct ductwork to NFPA 90A standards.
- C. Maintain one copy of each document on site.

1.9 QUALIFICATIONS

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

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

1.10 ENVIRONMENTAL REQUIREMENTS

- A. Division 01 - Product Requirements.
- B. Do not install duct sealant when temperatures are less than those recommended by sealant manufacturers.
- C. Maintain temperatures during and after installation of duct sealant.

1.11 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

1.12 WARRANTY

- A. Division 01 - Execution and Closeout Requirements: Product warranties and product bonds.

PART 2 - PRODUCTS

2.1 DUCT MATERIALS

- A. Galvanized Steel Ducts: ASTM A653/A653M galvanized steel sheet, lock-forming quality, having G90 zinc coating of in conformance with ASTM A90/A90M.
- B. Fasteners: Rivets, bolts, or sheet metal screws.
- C. Hanger Rod: ASTM A36/A36M; steel, galvanized; threaded both ends, threaded one end, or continuously threaded.

2.2 LOW PRESSURE DUCTWORK FABRICATION

- A. Fabricate and support rectangular ducts in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible and ASHRAE handbooks, except as indicated. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.

- B. Size round ducts installed in place of rectangular ducts in accordance with ASHRAE table of equivalent rectangular and round ducts. No variation of duct configuration or sizes permitted except by written permission.
- C. Construct T's, bends, and elbows with minimum radius 1-1/2 times centerline duct width. Where not possible and where rectangular elbows are used, provide airfoil turning vanes. Where acoustical lining is indicated, furnish turning vanes of perforated metal with glass fiber insulation.
- D. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible; maximum 30° divergence upstream of equipment and 45° convergence downstream.
- E. Fabricate continuously welded round and oval duct fittings two gages heavier than duct gages indicated in SMACNA Standard. Minimum 4 inch cemented slip joint, brazed or electric welded. Prime coat welded joints.
- F. Provide standard 45-degree lateral wye takeoffs. When space does not allow 45-degree lateral wye takeoff, use 90-degree conical tee connections.
- G. Provide easements where low pressure ductwork conflicts with piping and structure. Where easements exceed 10 percent duct area, split into two ducts maintaining original duct area.
- H. Connect flexible ducts to metal ducts with draw bands.
- I. Use crimp joints with or without bead for joining round duct sizes 12" and smaller with crimp in direction of airflow.
- J. Use double nuts and lock washers on threaded rod supports.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Division 01 - Administrative Requirements: Coordination and project conditions.
- B. Verify sizes of equipment connections before fabricating transitions.

3.2 INSTALLATION

- A. Install and seal ducts in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible.

- B. During construction, install temporary closures of metal or taped polyethylene on open ductwork to prevent construction dust from entering ductwork system.
- C. Use crimp joints with or without bead or beaded sleeve couplings for joining round duct sizes 12" and smaller.
- D. Install duct hangers and supports in accordance with Section 23 05 00.
- E. Use double nuts and lock washers on threaded rod supports.

3.3 INTERFACE WITH OTHER PRODUCTS

- A. Connect air outlets and inlets to supply ducts directly.

3.4 SCHEDULES

- A. Ductwork Material Schedule:

Air System	Material
General Exhaust	Steel
Supply	Steel
Return	Steel

END OF SECTION 23 31 00

SECTION 23 33 00

AIR DUCT ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Duct Access Doors.

1.2 RELATED SECTIONS

- A. Section 23 09 23 - Direct-Digital Control System for HVAC: Execution and Product requirements for connection and control of Combination Smoke and Fire Dampers for placement by this section.
- C. Section 23 09 53 - Pneumatic and Electric Control System for HVAC: Execution and Product requirements for connection and control of Combination Smoke and Fire Dampers for placement by this section.
- D. Section 23 31 00 - HVAC Ducts and Casings: Requirements for duct construction and pressure classifications.
- E. Division 26 - Equipment Wiring Connections: Execution requirements for connection of electrical Combination Smoke and Fire Dampers specified by this section.

1.3 REFERENCES

- A. Air Movement and Control Association International, Inc.:
1. AMCA 500 - Test Methods for Louvers, Dampers, and Shutters.
- B. ASTM International:
1. ASTM E1 - Standard Specification for ASTM Thermometers.
- C. National Fire Protection Association:
1. NFPA 90A - Standard for the Installation of Air Conditioning and Ventilating Systems.
 2. NFPA 92A - Recommended Practice for Smoke-Control Systems.

- D. Sheet Metal and Air Conditioning Contractors:
 - 1. SMACNA - HVAC Duct Construction Standard - Metal and Flexible.
- E. Underwriters Laboratories Inc.:
 - 1. UL 555 - Standard for Safety for Fire Dampers.
 - 2. UL 555C - Standard for Safety for Ceiling Dampers.
 - 3. UL 555S - Standard for Safety for Smoke Dampers.

1.4 SUBMITTALS

- A. Division 01 - Submittal Procedures: Submittal procedures.
- B. Shop Drawings: Indicate for shop fabricated assemblies including volume control dampers and duct access doors.
- C. Product Data: Submit data for shop fabricated assemblies and hardware used.
- D. Product Data: Submit for the following. Include where applicable electrical characteristics and connection requirements.
 - 1. Volume control dampers.
 - 2. Duct access doors.
- E. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.5 CLOSEOUT SUBMITTALS

- A. Division 01 - Execution and Closeout Requirements: Closeout procedures.
- B. Project Record Documents: Record actual locations of access doors and test holes
- C. Operation and Maintenance Data: Submit for Combination Smoke and Fire Dampers.

1.6 QUALITY ASSURANCE

- A. Dampers tested, rated and labeled in accordance with the latest UL requirements.
- B. Damper pressure drop ratings based on tests and procedures performed in accordance with AMCA 500.
- C. Maintain one copy of each document on site.

1.7 QUALIFICATIONS

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

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Division 01 - Product Requirements: Product storage and handling requirements.
- B. Protect dampers from damage to blades.
- C. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly indicating manufacturer and material.
- D. Storage: Store materials in a dry area indoor, protected from damage.
- E. Handling: Handle and lift dampers in accordance with manufacturer's instructions. Protect materials and finishes during handling and installation to prevent damage.

1.9 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

1.10 COORDINATION

- A. Division 01 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate Work where appropriate with building control Work.

1.11 WARRANTY

- A. Division 01 - Execution and Closeout Requirements: Product warranties and product bonds.

1.12 EXTRA MATERIALS

- A. Division 01 - Execution and Closeout Requirements: Spare parts and maintenance products.

1.13 COMPLETION REQUIREMENTS

- A. In accordance with the General Conditions and the General Requirements in Division 01, Project Closeout; before acceptance and final payment, the Contractor shall furnish:
 - 1. Accurate project record drawings, shown in red ink on prints, showing all changes from the original plans made during installation of the work.
 - 2. Contractors One Year Warranty.
 - 3. All Manufacturers' Guarantees.
 - 4. Operation and Maintenance Manuals.

PART 2 - PRODUCTS

2.1 DUCT ACCESS DOORS

- A. Manufacturers:
 - 1. Duro-Dyne.
 - 2. Ruskin.
 - 3. Nailor.
 - 4. Substitutions: General Conditions of the Contract - Product Requirements.
- B. Fabricate in accordance with SMACNA HVAC Duct Construction Standards and as indicated.
- C. Review locations prior to fabrication.
- D. Fabricate rigid and close-fitting doors of galvanized steel with sealing gaskets and quick fastening locking devices. For insulated ductwork, install minimum one inch thick insulation with sheet metal cover.
- E. Access doors smaller than 12 inches square may be secured with sash locks.
- F. Provide two hinges and two sash locks for sizes up to 18 inches square, three hinges and two compression latches with outside and inside handles for sizes up to 24 x 48 inches. Provide an additional hinge for larger sizes.
- G. Access doors with sheet metal screw fasteners are not acceptable.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Division 01 - Administrative Requirements: Coordination and project conditions.
- B. Verify rated walls are ready for fire damper installation.
- C. Verify ducts and equipment installations are ready for accessories.
- D. Check location of air outlets and inlets and make necessary adjustments in position to conform to architectural features, symmetry, and lighting arrangement.

3.2 INSTALLATION

- A. Install in accordance with NFPA 90A, and follow SMACNA HVAC Duct Construction Standards - Metal and Flexible. Refer to Section 23 31 00 for duct construction and pressure class.
- B. Access Doors: Install access doors at the following locations and as indicated:
 - 1. Spaced every 50 feet of straight duct.
 - 2. Upstream of each elbow.
 - 3. Before and after each duct mounted fan.
- C. Access Door Sizes: Install minimum 8 x 8 inch size for hand access, 18 x 18 inch size for shoulder access, and as indicated. Install 4 x 4 inch for balancing dampers only. Review locations prior to fabrication.
- D. Install temporary duct test holes as required for testing and balancing purposes. Cut or drill in ducts. Cap with neat patches, neoprene plugs, threaded plugs, or threaded or twist-on metal caps.

3.3 FIELD QUALITY CONTROL

- A. Tests and Inspections:
 - 1. Operate dampers to verify full range of movement.
 - 2. Inspect locations of access doors and verify that purpose of access door can be performed.
 - 3. Operate fire, smoke, and combination fire and smoke dampers to verify full range of movement and verify that proper heat-response device is installed.
 - 4. Inspect turning vanes for proper and secure installation.

3.4 DEMONSTRATION

- A. Division 01 - Execution and Closeout Requirements: Requirements for demonstration and training.

END OF SECTION 23 33 00

SECTION 26 01 26

MAINTENANCE TESTING OF ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Receptacle Branch Circuit Testing.
- B. Ground Fault Circuit Interrupter Testing.
- C. Additional Testing and Maintenance Requirements in Individual Equipment and System Sections.

1.2 REFERENCES

- A. ANSI/IEEE Std 81-1983 Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System.

1.3 SUBMITTALS

- A. Submit data under provisions of Division 01 and Section 26 05 00.
- B. Product Data: Submit technical information for each test instrument to include manufacturer, model number, serial number, ratings, accuracy, and National Institute of Standards and Technology (NIST) Traceable calibration certification.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: Submit Test Reports per Section 26 05 00.

1.5 COORDINATION

- A. Provide written 72 hours advance notice of all tests to be performed to allow Owner's Representative to witness testing.

1.6 REQUIRED TEST INSTRUMENTS

- A. BRANCH CIRCUIT ANALYZER

1. Product Description: Branch circuit analyzer capable of receptacle testing of voltage drop under load, hot-neutral-ground conductor impedances, common mode (N-G) Voltage, and G.F.C.I. trip point.
2. Manufacturer: Ideal SureTest. Model: 61-164 Circuit Analyzer or approved equal.
3. Equipment Accuracy:
 - a. AC Voltage and Frequency accuracy: 1% full scale \pm 1 digit True RMS.
 - b. Impedance 0.00 – 1.99 Ohms: 5.0% accuracy.
 - c. Ground-Neutral Voltage 0.0 – 24.0V: 2.0% accuracy.
 - d. % Voltage Drop 12A, 15A, 20A load tests: 5.0% accuracy.
 - e. GFCI Test Current/Time 6.0 – 9.0mA/0.00 – 6500mS: 2% accuracy.

B. MULTIMETER

1. Product Description: Digital True RMS Multimeter.
2. Equipment Accuracy:
 - a. AC Voltage Range: 0.75% \pm 3 last single digits at 60 Hz.
 - b. AC Current Range: 0.90% \pm 3 last single digits at 60 Hz.
 - c. DC Voltage Range: 0.25% \pm 1 last single digit.
 - d. DC Current Range: 0.75% \pm 1 last single digit.
 - e. Resistance Ranges: 0.50% \pm 1 last single digit.
 - f. Frequency Range: 0.10% \pm 1 last single digit @ 60 Hz.

1.7 TEST INSTRUMENT CALIBRATION

- A. All test equipment shall be in good mechanical and electrical condition.
- B. Provide calibration for each test instrument directly traceable to the National Institute of Standards and Technology (NIST) of higher accuracy than that of the instrument tested.
- C. Provide calibration labels visible on all test equipment. Records, which show date and results of instruments calibrated or tested, shall be kept up-to-date.
- D. Calibrate instruments in accordance with the following frequency schedule:
 1. Field instruments: 12 months maximum.
 2. Up-to-date instrument calibration instructions and procedures shall be maintained for each test instrument with the equipment.

1.8 MINIMUM REPORT INFORMATION

- A. Report Criteria: After each test, promptly submit one copy of report to the Owner's Representative. Provide form with the minimum following information:

1. Date issued.
2. Project title and number.
3. Name and Model of Tester and witnesses.
4. Date and time of sampling or inspection.
5. Identification of product and specifications section.
6. Type of inspection or test.
7. Date of test.
8. Results of tests.
9. Indicate compliance or non-compliance with Contract Documents.
10. Final adjustment setting values where applicable.

- B. Submit copy of all tests performed in the O&M manual.

1.9 GENERAL REQUIREMENTS

- A. Include a copy of each test result in the O&M manual.
- B. Provide qualified personnel at site to perform all testing.
- C. Perform specified testing of products in accordance with specified standards or as denoted in this specification whichever is more stringent.
- D. Promptly notify Owner's Representative of irregularities or non-conformance of Work or products.
- E. Perform additional tests when test is performed incorrectly, deemed inaccurate, or incorrectly documented.
- F. The Contractor shall provide all forms, instrumentation and test equipment, loads, and other consumables required to demonstrate the systems to Owner's Representative satisfaction.
- G. Perform and submit all testing prior to substantial completion and system acceptance.
- H. Retest all material, cables etc. that are disturbed after testing.
- I. Replace and retest all material installed which does not meet or exceed the minimum acceptable limits set forth in this specification in accordance with the contract original requirements at no additional charge to Contract Sum/Price.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.1 RECEPTACLE GROUND FAULT CIRCUIT INTERRUPTER TEST

A. Test Criteria:

1. Use Branch Circuit Analyzer to perform test of each GFCI protected receptacle.
2. Record trip level in ma for each outlet.
3. Submit test results to Owner's Representative.

B. Test Values:

1. Trip Range: Between 6-9 mA.

END OF SECTION 26 01 26

SECTION 26 05 00

COMMON WORK RESULTS FOR ELECTRICAL

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. General Requirements specifically applicable to Division 26, in addition to Division 01 provisions.
- B. The electrical system equipment and installation shall comply with all provisions and requirements of this specification, as well as any and all applicable national, state and local codes and standards.

1.2 WORK SEQUENCE

- A. Construct Work in sequence under provisions of Division 01.

1.3 COORDINATION

- A. Coordinate the Work specified in this Division under provisions of Division 01.
- B. Prepare drawings showing proposed rearrangement of Work to meet job conditions, including changes to Work specified under other Sections. Obtain permission of Architect prior to proceeding.

1.4 REFERENCES

- A. ANSI/NFPA 70 - National Electrical Code, latest adopted edition including all state and local amendments.
- B. NECA - Standard of Installation.
- C. Electrical Reference Symbols: The Electrical "Legend" on drawings is standardized version for this project. All symbols shown may not be used on drawings. Use legend as reference for symbols used on plans.
- D. Electrical Drawings: Drawings are diagrammatic; complimentary to the Architectural drawings; not intended to show all features of work. Install material not dimensioned on drawings in a manner to provide a symmetrical appearance. Do not scale drawings for exact equipment locations. Review Architectural, Civil, Structural, and Mechanical

Drawings and adjust work to conform to conditions shown thereon. Field verification of dimensions, locations and levels is directed.

1.5 REGULATORY REQUIREMENTS

- A. Conform to ANSI/NFPA 70.
- B. Conform to the latest adopted edition of the International Building Code and the International Fire Code including all state and local amendments thereto.
- C. Obtain electrical permits, plan review, and inspections from authority having jurisdiction.

1.6 SUBMITTALS

- A. Submittal review is for general design and arrangement only and does not relieve the Contractor from any requirements of Contract Documents. Submittal not checked for quantity, dimension, fit or proper operation. Where deviations of substitute product or system performance have not been specifically noted in the submittal by the Contractor, provisions of a complete and satisfactory working installation are the sole responsibility of the Contractor.
- B. In addition to requirements referenced in Division 01, the following is required for work provided under this division of the specification.
 - 1. Provide material and equipment submittals containing complete listings of material and equipment shown on Electrical Drawings and specified herein. Separate from work furnished under other divisions.
 - 2. Submittals shall be provided in PDF format with each section indexed in the PDF document. Submittals for Division 26 shall be complete and submitted at one time. Unless given prior approval, partial submittals will be returned unreviewed.
 - 3. Clearly identify all material and equipment by item, name or designation used on drawings and in specifications.
 - 4. Submit only pages which are pertinent; mark catalog sheets to identify pertinent products, referenced to Specification Section and Article number. Show reference standards, performance characteristics, and capacities; wiring diagrams and controls; component parts; finishes; dimensions; and required clearances.
 - 5. Modify manufacturer's standard schematic drawings and diagrams to supplement standard information and to provide information specifically applicable to the work. Delete information not applicable.
 - 6. Review submittals prior to transmittal; determine and verify field measurements, field construction criteria, manufacturer's catalog numbers, and conformance of submittal with requirements of Contract Documents.
 - 7. Coordinate submittals with requirements of work and of Contract Documents.
 - 8. Certify in writing that the submitted shop drawings and product data are in compliance with requirements of Contract Documents. Notify Architect/Engineer

in writing at time of submittal, of any deviations from requirements of Contract Documents.

9. Do not fabricate products or begin work which requires submittals until return of submittal with Architect/Engineer acceptance.
10. Equipment scheduled by manufacturer's name and catalog designations, manufacturer's published data and/or specification for that item, in effect on bid date, are considered part of this specification. Approval of other manufacturer's item proposed is contingent upon compliance therewith.

1.7 SUBSTITUTIONS

- A. In accordance with the General Conditions and the General Requirements, Substitution and Product Options, all substitute items must fit in the available space, and be of equal or better quality including efficiency performance, size, and weight, and must be compatible with existing equipment.

1.8 PROJECT RECORD DRAWINGS

- A. Maintain project record drawings in accordance with Division 01.
- B. In addition to the other requirements, mark up a clean set of drawings as the work progresses to show the dimensioned location and routing of all electrical work which will become permanently concealed. Show routing of work in permanently concealed blind spaces within the building. Show complete routing and sizing of any significant revisions to the systems shown.
- C. Record drawing field mark-ups shall be maintained on-site and shall be available for examination of the Owner's Representative at all times.

1.9 OPERATION AND MAINTENANCE MANUALS

- A. Provide operation and maintenance manuals for training of Owner's Representative in operation and maintenance of systems and related equipment. In addition to requirements referenced in Division 01, the following is required for work provided under this section of the specifications.
- B. Manuals shall be separate from work furnished under other divisions. Prepare a separate chapter for instruction of each class of equipment or system. Index and clearly identify each chapter and provide a table of contents.
- C. Unless otherwise noted in Division 01, provide one copy of all material for approval.
- D. The following is the suggested outline for operation and maintenance manuals and is presented to indicate the extent of items required in manuals.

1. List chapters of information comprising the text. The following is a typical Table of Contents:
 - a. Lighting.
 - b. Other chapters as necessary.
2. Provide the following items in sequence for each chapter shown in Table of Contents:
 - a. Describe the procedures necessary for personnel to operate the system including start-up, operation, emergency operation and shutdown.
 - 1) Give complete instructions for energizing equipment and making initial settings and adjustments whenever applicable.
 - 2) Give step-by-step instructions for shutdown procedure if a particular sequence is required.
 - 3) Include test results of all tests required by this and other sections of the specifications.
 - b. Maintenance Instructions:
 - 1) Provide instructions and a schedule of preventive maintenance, in tabular form, for all routine cleaning and inspection with recommended lubricants if required for the following:
 - a) Lighting fixtures.
 - 2) Provide instructions for minor repair or adjustments required for preventive maintenance routines, limited to repairs and adjustments which may be performed without special tools or test equipment and which requires no special training or skills.
 - 3) Provide manufacturers' descriptive literature including approved shop drawings covering devices used in system, together with illustrations, exploded views, etc. Also include special devices provided by the Contractor.
 - 4) Provide any information of a maintenance nature covering warranty items, etc., which have not been discussed elsewhere.
 - 5) Include list of all equipment furnished for project, where purchased, technical representative if applicable and a local parts source with a tabulation of descriptive data of all electrical-electronic spare parts and all mechanical spare parts proposed for each type of equipment or system. Properly identify each component by part number and manufacturer.
 - c. Inspection Certificate: Include copy of certificate of final inspection and acceptance from the Authority Having Jurisdiction.

1.10 DEMONSTRATION OF ELECTRICAL SYSTEMS

- A. During substantial completion inspection:
 - 1. Conduct operating test for approval under provisions of Division 01.
 - 2. Demonstrate installation to operate satisfactorily in accordance with requirements of Contract Documents.
 - 3. Should any portion of installation fail to meet requirements of Contract Documents, repair or replace items failing to meet requirements until items can be demonstrated to comply.
 - 4. Have instruments available for measuring light intensities, voltage and current values, and for demonstration of continuity, grounds, or open circuit conditions.
 - 5. Provide personnel to assist in taking measurements and making tests.

1.11 WARRANTY

- A. In addition to the requirements of Division 01, or as specified in other sections. Warrant all materials, installation and workmanship for one (1) year from date of acceptance.
- B. Copies of manufacturer product warranties for all equipment shall be included in the operation and installation manuals.

1.12 INSTRUCTION OF OPERATING PERSONNEL

- A. In accordance with the requirements of Division 01 and this section provide services of qualified representative of supplier of each item or system listed below to instruct designated personnel of Owner in operation and maintenance of item or system.
- B. Make instruction when system is complete, of number of hours indicated, and performed at time mutually agreeable.

System or Equipment	Hours of Instruction
Lighting system	1

- C. Certify that an Anchorage based authorized service organization regularly carries complete stock of repair parts for listed equipment or systems, that organization is available and will furnish service within 48 hours after request. Include name, address and telephone number of service organization.
- D. Have approved operation and maintenance manuals and parts lists for all equipment on hand at time of instruction.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT

- A. All Materials and Equipment shall be new.
- B. All Materials and Equipment shall be listed by Underwriter's Laboratories or equivalent third party listing agency for the use intended.
- C. Materials and Equipment shall be acceptable to the authority having jurisdiction as suitable for the use intended when installed per listing and labeling instructions.
- D. No materials or equipment containing asbestos in any form shall be used. Where materials or equipment provided by this Contractor are found to contain asbestos such items shall be removed and replaced with non-asbestos containing materials and equipment at no cost to the Owner.
- E. In describing the various items of equipment, in general, each item will be described singularly, even though there may be numerous similar items.

PART 3 - EXECUTION

3.1 WORKMANSHIP

- A. Install Work using procedures defined in NECA Standard of Installation and/or the manufacturer's installation instructions.

3.2 TESTS

- A. Perform tests in accordance with Section 26 01 26 – Maintenance Testing of Electrical Systems.
- B. Notify the Owner's representative at least 72 hours prior to conducting any tests.
- C. Following completion of installation, test system ground in accordance with the requirements of NETA ATS 7.13. and all feeders in accordance with NETA ATS 7.3. Submit logs of values obtained, and nameplate data of instruments used prior to final inspection. Include a copy of all data in the power distribution section of the Operation and Maintenance Manuals.
- D. Perform additional tests required under other sections of these specifications.
- E. Perform all tests in the presence of the Owner's representative.

END OF SECTION 26 05 00

SECTION 26 05 05

SELECTIVE DEMOLITION FOR ELECTRICAL

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Electrical Demolition.

1.2 RELATED SECTIONS

- A. Division 01 - Alteration Project Procedures.
- B. Division 02 - Minor Demolition for Remodeling.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT

- A. Materials and equipment for patching and extending work: As specified in individual Sections.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify field measurements and circuiting arrangements are as shown on Drawings.
- B. Verify that abandoned wiring and equipment serve only abandoned facilities.
- C. Demolition Drawings are based on a non-destructive walkthrough. Report discrepancies to Owner and Architect/Engineer before disturbing existing installation.
- D. Beginning of demolition means installer accepts existing conditions.

3.2 PREPARATION

- A. Disconnect electrical systems in walls, floors, and ceilings scheduled for removal.

- B. Provide temporary wiring and connections to maintain existing systems in service during construction. When work must be performed on energized equipment or circuits, use personnel experienced in such operations.

3.3 DEMOLITION AND EXTENSION OF EXISTING ELECTRICAL WORK

- A. Demolish and extend existing electrical work under provisions of Division 01, Division 02, and this Division.
- B. Remove, relocate, and extend existing installations to accommodate new construction.
- C. Remove abandoned wiring to source of supply.
- D. Remove exposed abandoned conduit, including abandoned conduit above accessible ceiling finishes. Cut conduit flush with walls and floors, and patch surfaces.
- E. Where abandoned conduit is installed below existing slab not scheduled for demolition, remove the conductors, cut conduit flush with floor, and patch surface.
- F. Disconnect abandoned outlets and remove devices. Remove abandoned outlets if conduit servicing them is abandoned and removed. Provide blank cover for abandoned outlets which are not removed.
- G. Disconnect and remove electrical devices and equipment serving utilization equipment that has been removed.
- H. Disconnect and remove abandoned luminaires. Remove brackets, stems, hangers, and other accessories.
- I. Repair adjacent construction and finishes damaged during demolition and extension work. T-bar ceiling tiles damaged under normal construction conditions or having voids where junction boxes were removed shall be replaced by the Contractor.
- J. Maintain access to existing electrical installations which remain active.
- K. Extend existing installations using materials and methods as specified.
- L. Where materials or equipment are to be turned over to Owner or reused and installed by the Contractor, it shall be the Contractor's responsibility to maintain condition of materials and equipment equal to the existing condition of the equipment before the work began. Repair or replace damaged materials or equipment at no additional cost to the Owner.

3.4 EXISTING PANELBOARDS

- A. Ring out circuits in existing panel affected by the Work. Where additional circuits are needed, reuse circuits available for reuse.
- B. Tag unused circuits as spare.
- C. Where existing circuits are indicated to be reused, use sensing measuring devices to verify circuits feeding Project area or are not in use.
- D. Remove existing wire no longer in use from panel to equipment.
- E. Provide new updated directories where more than three circuits have been modified or rewired.

3.5 CLEANING AND REPAIR

- A. Clean and repair existing materials and equipment which remain or are to be reused.
- B. Panelboards: Clean exposed surfaces and check tightness of electrical connections. Replace damaged circuit breakers and provide closure plates for vacant positions.

3.6 INSTALLATION

- A. Install relocated materials and equipment under the provisions of Division 01.

3.7 DISPOSAL

- A. Dispose of all hazardous waste in accordance with all local, State and Federal requirements under the provisions of Division 02.

END OF SECTION 26 05 05

SECTION 26 05 19

LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Building Wire.
- B. Cable.

1.2 RELATED SECTIONS

- A. Section 26 01 26 – Maintenance Testing of Electrical Systems.
- B. Section 26 05 53 – Identification for Electrical Systems.

1.3 REFERENCES

- A. UL 1424 – Standard for Cables for Power-Limited Fire Alarm.
- B. UL 1569 – Standard for Metal Clad Cable.
- C. UL 1581 – Reference Standard for Electrical Wires, Cables and Flexible Cords.

1.4 SUBMITTALS

- A. Submittals are not requested for this section.

1.5 QUALITY ASSURANCE

- A. Provide wiring materials located in plenums with peak optical density not greater than 0.5, average optical density not greater than 0.15, and flame spread not greater than 5 feet (1.5m) when tested in accordance with NFPA 262.

PART 2 - PRODUCTS

2.1 BUILDING WIRE

- A. Thermoplastic-insulated Building Wire: NEMA WC 70.
- B. Branch Circuits 6 AWG and Smaller: Copper conductor, 600 volt insulation, THHN/THWN or XHHW-2. 6 and 8 AWG, stranded conductor; smaller than 8 AWG, solid or stranded conductor.
- C. Branch Circuit Wire Color Code:
 - 1. Color code wires by line or phase as follows:
 - a. Black, red, blue, and white for 120/208V systems.
 - b. Brown, orange, yellow, and gray for 277/480V systems.
 - 2. For conductors 6 AWG and smaller, insulation shall be colored.
 - 3. Grounding conductors 6 AWG and smaller shall have green colored insulation. For 4 AWG and larger, use green tape at both ends and at all other visible points in between, including pull and junction boxes.
- D. Control Circuits: Copper, stranded conductor 600 volt insulation, THHN/THNN or XHHW-2.
- E. Fire Alarm Notification Appliance Circuits: Copper, solid or stranded conductor 600 volt insulation, THHN/THNN or XHHW-2.

2.2 METAL CLAD CABLE

- A. UL 83, 1063, 1479, 1569, and 1581 listed, meets Federal Specification A-A-59544 (formerly J-C-30B). UL rated for installation in cable trays and environmental air handling spaces. Fire wall rated for 1, 2, and 3-hour through penetrations.
- B. Type MC Cable, Size 12 Through 10 AWG: Solid copper conductor, 600 volt thermoplastic insulation, rated 90° C dry, 75° wet, insulated green grounding conductor, and galvanized steel or aluminum armor over mylar.
- C. Fire Alarm/Control Type MC Cable, Size 18 through 12 AWG: Complying with UL 66, 83, 1424, 1479, 1569, 1581, and NFPA 262 (formerly UL 910), solid copper conductor, 300 volt thermoplastic insulation, rated 90°C, insulated green grounding conductor, and red-striped galvanized steel armor over mylar. Conductor insulation shall be color-coded in accordance with Section 28 31 00.

- D. 0-10V Dimming/Power MC Cable (Type MC-PCS), Size 12 Through 10 AWG With 16-2 Control Cables: Solid copper conductor, 600 volt thermoplastic insulation, rated 90° C dry, 75° wet, insulated green grounding conductor, and galvanized steel or aluminum armor over mylar
- E. All metal clad cable shall be provided with color-coded insulation on all ungrounded conductors in accordance with NEC 210.5(C) and Part 3 of this section.

2.3 REMOTE CONTROL AND SIGNAL CABLE

- A. Control Cable for Class 1 Remote Control and Signal Circuits: Copper conductor, 600 volt insulation, rated 90° C, individual conductors twisted together, shielded, and covered with an overall PVC jacket; UL listed.
- B. Control Cable for Class 2 or Class 3 Remote Control and Signal Circuits: Copper conductor, 300 volt insulation, rated 90° C, individual conductors twisted together, shielded or unshielded (as required), and covered with a PVC jacket; UL listed.
- C. Plenum Cable for Class 2 or Class 3 Remote Control and Signal Circuits: Copper conductor, 300 volt insulation, rated 90° C, individual conductors twisted together, shielded or unshielded (as required), and covered with a nonmetallic jacket; UL listed for use in air handling ducts, hollow spaces used as ducts, and plenums.
- D. For conductors 6 AWG and larger:
 - 1. Bus lugs and bolted connections: 600 V, 90 degrees C., two hole long barrel irreversible compression copper tin plated. Thomas & Betts or approved equal.
 - 2. Motor connection: 600 V, 90 degrees C., copper tin plated compression motor pigtail connector, quick connect/disconnect, slip on insulator. Thomas & Betts or approved equal.
 - 3. Two way connector for splices or taps: 600 V, 90 degrees C., compression long barrel, copper tin plated. Thomas & Betts or approved equal. Insulate with Scotch 23 rubber insulating base covering and Scotch 33+ outer wrap.

PART 3 - EXECUTION

3.1 GENERAL WIRING METHODS

- A. Use no wire smaller than 12 AWG for power and lighting circuits, and no smaller than 18 AWG for control wiring.
- B. Use 10 AWG conductor for 20 ampere, 120 volt branch circuit home runs longer than 75 feet, and for 20 ampere, 277 volt branch circuit home runs longer than 200 feet.

- C. Splice only in junction or outlet boxes.
- D. Neatly train and lace wiring inside boxes, equipment, and panelboards.
- E. Make Conductor lengths for parallel circuits equal.
- F. Wiring in lighting fixture channels shall be rated for 90° C minimum.
- G. Do not share neutral conductors. Provide a dedicated neutral conductor for each branch circuit that requires a neutral.

3.2 WIRING INSTALLATION IN RACEWAYS

- A. Pull all conductors into a raceway at the same time. Verify that raceway is complete and properly supported prior to pulling conductors. Use UL listed wire pulling lubricant for pulling 4 AWG and larger wires.
- B. Install wire in raceway after interior of building has been physically protected from the weather and all mechanical work likely to injure conductors has been completed.
- C. Do not install XHHW-2 conductors when ambient temperatures are below 23F and THHN/THWN conductors when ambient temperatures are below 32F.
- D. Conductors shall be carefully inspected for insulation defects and protected from damage as they are installed in the raceway. Where the insulation is defective or damaged, the cable section shall be repaired or replaced at the discretion of the Owner and at no additional cost to the Owner.
- E. Place an equal number of conductors for each phase of a circuit in same raceway or cable.
- F. Route conductors from each system in independent raceway system and not intermix in the same raceway, enclosure, junction box, wireway, or gutter as another system unless otherwise shown on the plans.
- G. No more than six current carrying conductors shall be installed in any homerun unless otherwise indicated on the drawings or without prior approval from the Engineer.
- H. Completely and thoroughly swab raceway system before installing conductors.
- I. When two or more neutrals are installed in one conduit, identify each with the proper circuit number in accordance with Section 26 05 53.

3.3 CABLE INSTALLATION

- A. Provide protection for exposed cables where subject to damage.
- B. Support cables above accessible ceilings; do not rest on ceiling tiles. Use spring metal clips or cable ties to support cables from structure. Do not support cables from ceiling suspension system. Include bridle rings or drive rings.
- C. Use suitable cable fittings and connectors.

3.4 WIRING CONNECTIONS AND TERMINATIONS

- A. Stranded wire shall not be wrapped around screw terminals.
- B. Splice only in accessible junction boxes.
- C. Thoroughly clean wires before installing lugs and connectors.
- D. Make splices, taps and terminations to carry full ampacity of conductors without perceptible temperature rise.
- E. Terminate spare conductors with twist on connectors or heat shrink insulation to proper voltage rating.
- F. Control systems wiring in conjunction with mechanical, electrical or miscellaneous equipment to be identified in accordance with wiring diagrams furnished with equipment.
- G. Code sound and signal systems wiring and any special equipment in accordance with manufacturer's diagrams or recommendations.
- H. Do not exceed manufacturer's recommended pull tensions.

3.5 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Division 01 and Section 26 01 26.
- B. Inspect wire and cable for physical damage and proper connection.
- C. Torque conductor connections and terminations to manufacturer's recommended values.

3.6 WIRE AND CABLE INSTALLATION SCHEDULE

- A. All Locations: Building wire and/or remote control and signal cable in raceways.
- B. At the Contractor's option, Metal Clad cable may be used for branch circuit wiring in dry locations other than homeruns. Homeruns shall be building wire in raceway. Metal Clad cable used for branch circuit wiring from a light switch to the light fixture shall include a neutral conductor.
- C. At the Contractor's option, portions of the fire alarm wiring in dry, concealed locations may be installed in Fire Alarm Metal Clad cable.

END OF SECTION 26 05 19

SECTION 26 05 29

HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Section included hangers and supports for Power Systems, Communication Systems and Electronic Safety and Security Systems.
- B. Conduit Supports.
- C. Spring Steel Clips.

1.2 RELATED SECTIONS

- A. The Work under this section is subject to requirements of the Contract Documents including the General Conditions, Supplementary Conditions, and sections under Division 01 General Requirements, and Section 26 05 00 – Common Work Results for Electrical, Division 27 and Division 28.

1.3 REFERENCES

- A. International Building Code (IBC), Chapter 16 – Structural Design.

1.4 SUBMITTALS

- A. Submittals are not required for this section.

1.5 QUALITY ASSURANCE

- A. Support systems shall be adequate for weight of equipment and conduit, including wiring, which they carry.
- B. Perform Work in accordance with City of Valdez Standard Specifications.

PART 2 - PRODUCTS

2.1 CONDUIT SUPPORTS

- A. Manufacturers:
 - 1. Allied Tube & Conduit Corp.
 - 2. Minerallac Fastening Systems.
 - 3. O-Z Gedney Co.
 - 4. Substitutions: per Division 01
- B. Hanger Rods: Threaded high tensile strength galvanized carbon steel with free running threads.
- C. Beam Clamps: Malleable Iron, with tapered hole in base and back to accept either bolt or hanger rod. Set screw: hardened steel.
- D. Conduit clamps for trapeze hangers: Galvanized steel, notched to fit trapeze with single bolt to tighten.
- E. Conduit clamps - general purpose: One-hole malleable iron for surface mounted conduits.
- F. Cable Ties: High strength nylon temperature rated to 185 degrees F. self-locking.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Division 01: Verification of existing conditions before starting work.

3.2 PREPARATION

- A. Obtain permission from Owner's Representative before using powder-actuated anchors.
- B. Obtain permission from Owner's Representative before drilling or cutting structural members.

3.3 INSTALLATION - GENERAL

- A. Fasten hanger rods, conduit clamps, and outlet and junction boxes to building structure using precast insert system, expansion anchors, preset inserts, beam clamps, or spring steel clips.
- B. Use toggle bolts or hollow wall fasteners in hollow masonry partitions and walls; expansion anchors or preset inserts in solid masonry walls; self-drilling anchors or expansion anchor on concrete surfaces; sheet metal screws in sheet metal studs; and wood screws in wood construction.
- C. Do not support raceways, low voltage pathways, cables, telecommunication pathways or boxes from ceiling suspension wires or suspended ceiling systems. Provide support from building structure independently to allow ceiling removal and replacement without removal of electrical system. If dedicated support wires are used, wires and wire clips must be painted or color-coded.
- D. Do not fasten supports to piping, ductwork, mechanical equipment, conduit, or ceiling suspension system.
- E. Fabricate supports from structural steel or steel channel, rigidly welded or bolted to present a neat appearance. Use hexagon head bolts with spring lock washers under all nuts.
- F. Bridge studs top and bottom with channels to support flush-mounted cabinets and panelboards in stud walls.
- G. Securely fasten fixtures and equipment to building structure in accordance with manufacturer's recommendations and to provide necessary earthquake anchorage.
- H. Earthquake City of Valdez:
 - 1. Equipment weighing more than 50 pounds shall be adequately anchored to the building structure to resist lateral earthquake forces.
 - 2. Total lateral (earthquake) forces shall be 1.5 times the equipment weight acting laterally in any direction through the equipment center of gravity. Provide adequate backing at structural attachment points to accept the forces involved.
- I. Provide one seismic support wire for all fixtures weighing less than 10lbs. two minimum color-coded dedicated seismic support wires for each ceiling mounted light fixture weighing less than 50 pounds. Attach support wires to building structure independent from ceiling system and on opposing corners of the light fixtures to not allow fixture to drop more than 6 inches upon ceiling failure. Secure each end with three tight wraps within 1 inch at each end of the wire. Provide four supports on fixtures >50 lbs.
- J. Attach the supporting cables for all pendant fixtures to both the building structure and to the ceiling grid which they pass through.

END OF SECTION 26 05 29

SECTION 26 05 33

RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Metal Conduit.
- B. Flexible Metal Conduit.
- C. Liquidtight Metal Conduit.
- D. Electrical Metallic Tubing.
- E. Nonmetallic Conduit.
- F. Surface Mounted Raceway.
- G. Fittings and Conduit Bodies.
- H. Wall and Ceiling Outlet Boxes.
- I. Pull and Junction Boxes.

1.2 RELATED SECTIONS

- A. The Work under this section is subject to requirements of the Contract Documents including the General Conditions, Supplementary Conditions, and sections under Division 01 - General Requirements and Section 26 05 00 – Common Work Results for Electrical.
- B. Division 08 - Openings: Access Doors and Frames.
- C. Section 26 05 19 – Low-Voltage Electrical Power Conductors and Cables.
- D. Section 26 05 29 – Hangers and Supports for Electrical Systems.
- E. Section 26 05 53 – Identification for Electrical Systems.
- F. Section 26 27 26 – Wiring Devices.

1.3 REFERENCES

- A. American National Standards Institute (ANSI):
 - 1. ANSI C80.1 - Rigid Steel Conduit, Zinc Coated.
 - 2. ANSI C80.3 - Electrical Metallic Tubing, Zinc Coated.
 - 3. ANSI C80.5 - Rigid Aluminum Conduit.

- B. American Society for Testing and Materials (ASTM):
 - 1. ASTM A 123 – Specification for Zinc Coatings on Products Fabricated from Rolled, Pressed, and Forged Steel Shapes, Plates, Bars and Strip.

- C. National Electrical Manufacturers Association (NEMA):
 - 1. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies.
 - 2. NEMA OS 1 - Sheet-Steel Outlet Boxes, Device Boxes, Covers, and Box Supports.
 - 3. NEMA OS 2 - Nonmetallic Outlet Boxes, Device Boxes, Covers and Box Supports.
 - 4. NEMA RN 1 - Polyvinyl Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit.
 - 5. NEMA TC 2 - Electrical Plastic Tubing (EPT) and Conduit (EPC-40 and EPC-80).
 - 6. NEMA TC 3 - PVC Fittings for Use with Rigid PVC Conduit and Tubing.
 - 7. NEMA TC 7 - Smooth-Wall Coilable Polyethylene Electrical Plastic Conduit.
 - 8. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).

- D. Underwriters Laboratory (UL):
 - 1. UL 6 - Rigid Steel Conduit, Zinc Coated.
 - 2. UL6A - Rigid Aluminum Conduit.
 - 3. UL 514B – Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies.
 - 4. UL651B – Continuous Length HDPE Conduit.

- E. National Fire Protection Association (NFPA):
 - 1. NFPA 70 - National Electrical Code.

- F. Building Industry Consulting Service International (BICSI):
 - 1. BICSI Telecommunication Design Methods Manual.

- G. International Building Code (IBC):
 - 1. IBC chapters 16 and 17 seismic requirements.

1.4 RACEWAY AND BOX INSTALLATION SCHEDULE

- A. Concealed Dry Locations:
 - 1. Raceway: Provide electric metallic tubing (EMT).
 - 2. Boxes and Enclosures: Provide sheet-metal boxes. Provide vapor barrier boxes in exterior walls.
 - 3. Fittings: Provide galvanized malleable iron and steel.

- B. Exposed Dry Locations:
 - 1. Raceway: Provide rigid steel conduit or intermediate metal conduit. EMT conduit may be used where exposed conduit is allowed and where it is not subject to physical damage or where installed on the ceiling or a minimum of ten feet above the floor.
 - 2. Boxes and Enclosures: Provide sheet-metal boxes with raised steel covers.
 - 3. Fittings: Provide galvanized malleable iron and steel.
 - 4. Surface Raceway and Boxes. Where specifically noted on the Drawings, provide surface raceway and boxes.

- C. Equipment Connections: Provide short extensions (three feet maximum) of flexible metal conduit for connections to light fixtures or equipment that requires removal for maintenance or replacement. Use Liquidtight flexible conduit and fittings for equipment in damp or wet locations or subject to spilling of liquids as at kitchen equipment.

1.5 DESIGN REQUIREMENTS

- A. Raceway Minimum Size:
 - 1. Below Grade: Provide 1 inch minimum, unless otherwise noted.
 - 2. Above Grade or Slab on Grade: Provide 1/2 inch minimum, unless otherwise noted. Raceway may be reduced to 1/2 inch for final connection of raceway up to 6 feet for connection to fixture or device where maximum conduit entry size is 1/2 inch.
 - 3. Line Voltage Circuits: Raceway is sized on the drawings for copper conductors with 600-Volt type XHHW insulation, unless otherwise noted. Where a raceway size is not shown on the drawings, it shall be calculated to not exceed the percentage fill specified in the NEC Table 1, Chapter 9 using the conduit dimensions of the NEC Table 4, Chapter 9 and conductor properties of the NEC Table 5, Chapter 9.
 - 4. Fire Alarm, Telecom, Intercom and other Low-Voltage Circuits: Where installed in raceways, the raceway size shall be calculated to not exceed the percentage fill specified in the NEC Table 1, Chapter 9, using the conduit dimensions of the NEC Table 4, Chapter 9, and cable diameter provided by the manufacturer.

- B. Box Minimum Size: Provide all boxes sized and configured per NEC Article 370 and as specified in this section.
- C. Seismic Support: Provide support in accordance with section 26 05 29 – Hangers and Supports for Electrical Systems
- D. Telecommunication Pathways Layout and Configuration: BICSI Telecommunication Design Methods Manual and ANSI/TIA/EIA 568-B Commercial Building Telecommunications Cabling Standard.

1.6 SUBMITTALS

- A. Submit product data for surface raceway (plugmold) including all accessories and components.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect conduit from corrosion and entrance of debris by storing above grade. Provide appropriate covering.

PART 2 - PRODUCTS

2.1 RIGID METAL CONDUIT (RMC)

- A. Rigid Steel Conduit: ANSI C80.1, UL 6.
- B. Fittings and Conduit Bodies: NEMA FB 1, UL 514B; Galvanized malleable iron with threaded hubs for all conduit entries. Provide threaded connections and couplings only. Set Screw and running thread fittings are not permitted.
- C. Provide insulated throat bushings at all conduit terminations.

2.2 INTERMEDIATE METAL CONDUIT (IMC)

- A. Product Description: ANSI C80.6, UL 1242; Galvanized Steel Conduit.
- B. Fittings and Conduit Bodies: NEMA FB 1, UL 514B; use fittings and conduit bodies specified above for rigid steel conduit.
- C. Provide insulated throat bushings at all conduit terminations.

2.3 FLEXIBLE METAL CONDUIT (FMC)

- A. Product Description: UL 1, FS WW-C-566; galvanized or zinc-coated flexible steel, full or reduced-wall thickness.
- B. Fittings and Conduit Bodies: ANSI/NEMA FB 1; steel or malleable iron with insulated throat bushings. Die cast zinc or threaded inside throat fittings are not acceptable.

2.4 ELECTRICAL METALLIC TUBING (EMT)

- A. Product Description: ANSI C80.3, UL 797; galvanized steel tubing.
- B. Fire Alarm EMT: Provide EMT with factory-applied red topcoating.
- C. Fittings and Conduit Bodies: ANSI/NEMA FB 1; steel or malleable iron, compression or set screw type with insulated throat bushings. Zinc die cast, set screw, or indentor fittings are not acceptable.
- D. Maximum size shall be 2". Provide factory elbows on sizes 1-½" and larger.

2.5 SURFACE METAL RACEWAY

- A. Single-Channel:
 - 1. Manufacturers:
 - a. Wiremold, V2000 series.
 - b. Mono Systems, SnapMark SMS2100 series.
 - c. Hubbell, HBL2000 series.
 - d. Substitutions: Under the provisions of Division 01.
 - 2. Description: Single-channel surface metallic raceway with fitted cover. Cover to be non-scored.
 - 3. Size: 1-1/4 inches wide x 3/4 or 7/8 inches deep single compartment.
 - 4. Receptacles: Provide single receptacles spaced on 12" centers, all fed from a single circuit. Provide accessories to accept receptacles as specified in Section 26 27 26.
 - 5. Device Locations: As indicated on drawings.
 - 6. Channel Finish: Stainless Steel.
 - 7. Fittings: Furnish manufacturer's standard couplings, entrance fittings, elbows, device brackets, end caps, seam covers, wire clips, device faceplates and connectors as required for a complete system.
 - 8. Cuts: Perform all cuts with raceway base and cover shear specifically designed for installed raceway system.

2.6 OUTLET BOXES

- A. Sheet Metal Outlet Boxes: ANSI/NEMA OS 1, UL514A galvanized steel, with plaster ring where applicable.
 - 1. Minimum Size: 4 inches square or octagonal, 1-1/2 inches deep, unless otherwise noted.
 - 2. Luminaire and Equipment Supporting Boxes: Rated for weight of equipment supported; furnish 1/2 inch male fixture studs where required. Minimum Size: 4 inches square or octagonal, 2-1/8 inches deep.
- B. Nonmetallic Outlet Boxes: ANSI/NEMA OS 2, thermoset, phenolic with 150°C fire rating. Provide plaster ring where applicable.
 - 1. Wall Outlets: Minimum size 3-1/2" x 2-1/4" x 2-7/8" deep.
 - 2. Ceiling Outlets: Minimum size 4" diameter 2-9/16" deep.
- C. Cast Boxes: NEMA FB 1, Type FD, galvanized malleable iron. Furnish gasketed cover by box manufacturer. Furnish threaded hubs. "Bell" boxes are not acceptable.
- D. Wall Plates: As specified in Section 26 27 26.

2.7 PULL AND JUNCTION BOXES

- A. Sheet Metal Pull and Junction Boxes: ANSI/NEMA OS 1, UL514A galvanized steel.
 - 1. Minimum Size: 4 inches square or octagonal, 1-1/2 inches deep, unless otherwise noted.

2.8 BUSHINGS

- A. Non-grounding: Threaded impact resistant plastic.
- B. Grounding: Insulated galvanized malleable iron/steel with hardened screw bond to raceway and conductor lug.

2.9 LOCKNUTS

- A. Threaded Electro Zinc Plated Steel designed to cut through protective coatings for ground continuity.

2.10 WIREWAY

- A. Product Description: General purpose type wireway. Size per NEC minimum fill capacity required.
- B. Knockouts: Field-installed, no factory knockouts acceptable.
- C. Cover: Screw cover.
- D. Fittings and Accessories: Include factory couplings, offsets, elbows, adapters and support straps required for a complete system. Provide internal ground bonding jumper bonded to each section.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Provide seismic support and fasten raceway and box supports to structure and finishes in accordance with Section 26 05 29.
- B. Identify raceway and boxes with origin and destination in accordance with Section 26 05 53.
- C. Unless otherwise noted, do not inter-mix conductors from separate panelboards or any other system in the same raceway system or junction boxes.

3.2 INSTALLATION - GENERAL RACEWAY

- A. Install raceway for all systems, unless otherwise noted.
- B. Install an equipment grounding conductor inside of all raceways containing line voltage conductors.
- C. Provide raceways concealed in construction unless specifically noted otherwise, or where installed at surface cabinets, motor and equipment connections and in Mechanical and Electrical Equipment rooms. Do not route conduits on roofs, outside of exterior walls, or along the surface of interior finished walls unless specifically noted on the plans.
- D. Raceway routing and boxes are shown in approximate locations unless dimensioned. Where raceway routing is not denoted, field-coordinate to provide complete wiring system.
- E. Do not route raceways on floor. Arrange raceway and boxes to maintain a minimum of 6 feet 6 inches of headroom and present a neat appearance. Install raceways level and

square to a tolerance of 1/8" per 10 feet. Route exposed raceways and raceways above accessible ceilings parallel and perpendicular to walls, ceiling, and adjacent piping.

- F. Maintain minimum 6-inch clearance between raceway and mechanical and piping and ductwork. Maintain 12-inch clearance between raceway and heat sources such as flues, steam pipes, heating pipes, heating appliances, and other surfaces with temperatures exceeding 104 degrees F.
- G. Do not install raceway imbedded in spray applied fire proofing. Seal raceway penetrations of fire-rated walls, ceilings, floors in accordance with the requirements of Section 26 05 00 and Division 07.
- H. Arrange raceway supports to prevent misalignment during wiring installation. Support raceway using coated steel or malleable iron straps, lay-in adjustable hangers, clevis hangers, and split hangers.
- I. Do not attach raceway to ceiling support wires or other piping systems and do not fasten raceway with wire or perforated pipe straps. Remove all wire used for temporary raceway support during construction, before conductors are pulled. Raceway shall be installed to permit ready removal of equipment, piping, ductwork, or ceiling tiles.
- J. Group raceway in parallel runs where practical and use conduit rack constructed of steel channel with conduit straps or clamps, as specified in Section 26 05 29. Provide space on each rack for 25 percent additional raceway.
- K. Cut conduit square; de-burr cut ends. Bring conduit to the shoulder of fittings and couplings and fasten securely. Where locknuts are used, install with one inside box and one outside with dished part against box.
- L. Install no more than the equivalent of three 90-degree bends between boxes.
- M. Install conduit bodies to make sharp changes in direction, such as around beams. "Goosenecks" in conduits are not acceptable.
- N. Use hydraulic one-shot conduit bender or factory elbows for bends in conduit larger than 2 inch size.
- O. Provide protective plastic bushings or insulated throat bushings at each raceway termination not installed to an enclosure. Bushings shall be threaded to the raceway end or connector.
- P. Avoid moisture traps; install junction box with drain fitting at low points in raceway system.
- Q. Install fittings and flexible metal conduit to accommodate 3-axis movements where raceway crosses seismic joints.

- R. Install fittings designed and listed to accommodate expansion and contraction where raceway crosses control and expansion joints.
- S. Stub a minimum of 2 inches above floor all raceways terminated beneath free standing service equipment, pad mounted equipment, etc.
- T. Use cable sealing fittings forming a watertight non-slip connection to pass cords and cables into conduit. Size cable sealing fitting for the conductor outside diameter. Use Appleton CG series or equal cable sealing fittings.
- U. Use suitable caps to protect installed raceway against entrance of dirt and moisture.
- V. Provide nylon "jet-line" or approved equal pull string in empty raceway, except sleeves and nipples.
- W. Paint all exposed conduit to match surface to which it is attached or crosses. Clean greasy or dirty conduit prior to painting in accordance with paint manufacturer's instructions. Where raceway penetrates non-rated ceilings, floors or walls, provide patching, paint and trim to retain architectural aesthetics similar to surroundings.

3.3 INSTALLATION – GENERAL BOXES

- A. Provide electrical boxes as shown on Drawings, and as required for splices, taps, wire pulling, equipment connections, and code compliance. All electrical box locations shown on Drawings are approximate unless dimensioned.
- B. Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only. Where installation is inaccessible, install outlet and junction boxes no more than 6 inches from ceiling access panel or from removable recessed luminaries. Coordinate locations and sizes of required access doors with Division 08.
- C. Coordinate layout and installation of boxes to provide adequate headroom and working clearance. Coordinate mounting heights and locations of outlets mounted above counters, benches, and backsplashes.
- D. Align wall-mounted outlet boxes for switches, thermostats, and similar devices.
- E. Use multiple-gang boxes where more than one device are mounted together; do not use sectional boxes. Provide barriers to separate wiring of different voltage systems and where normal and emergency power circuits occur in the same box.
- F. Adjust box location up to 6 feet prior to rough-in to accommodate intended purpose.
- G. Orient boxes to accommodate wiring devices oriented as specified in Section 26 27 26.

- H. Unless otherwise specifically noted, locate outlet boxes for light switches within 6 inches of the door jamb on the latch side of the door.
- I. Position outlets to locate luminaires as shown on reflected ceiling plans.
- J. Locate and install boxes to maintain headroom and to present a neat appearance.
- K. Locate flush-mounted box in masonry wall to require cutting of masonry unit corner only. Coordinate masonry cutting to achieve neat opening.
- L. Provide knockout closures for unused openings.
- M. Install boxes in walls without damaging wall insulation or reducing its effectiveness.
- N. Provide recessed outlet boxes in finished areas; secure boxes to interior wall and partition studs, accurately positioning to allow for surface finish thickness. For outlet boxes in walls with combustible finished surfaces such as wood paneling or fabric wall coverings, position box to be flush with finished surface per NEC requirements.
- O. Use stamped steel stud bridges for flush outlets in hollow stud wall, and adjustable steel channel fasteners for flush ceiling outlet boxes. Accurately position bridges to allow for surface finish thickness.
- P. Do not fasten boxes to ceiling support wires or other piping systems.
- Q. Support boxes independently of conduit.
- R. Clean interior of boxes to remove dust, debris, and other material and clean exposed surfaces and restore finish.
- S. Provide blank covers or plates for all boxes that do not contain devices.

3.4 INSTALLATION – SURFACE RACEWAY

- A. Install flat-head screws, clips, and straps to fasten raceway channel to surfaces; mount plumb and level. Install insulating bushings and inserts at connections to outlets and corner fittings. Provide divider to keep power and data pathways separate at all times. Bond each section together to provide electrically continuous system.
- B. Close ends and unused openings in wireway and surface raceway.
- C. Install Surface Raceway cover with no gaps, scratches, or deformities. Covers not acceptable to Owner shall be replaced by the Contractor.

END OF SECTION 26 05 33

SECTION 26 05 53

IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Nameplates
- B. Tape Labels.
- C. Wire and Cable Markers.
- D. Fire Alarm Conduit and Box Identification.

1.2 RELATED SECTIONS

- A. The Work under this section is subject to requirements of the Contract Documents including the General Conditions, Supplementary Conditions, and sections under Division 01 General Requirements, and Section 26 05 00 – Common Work Results for Electrical.
- B. Section 26 05 19 – Low-Voltage Electrical Power Conductors and Cables.
- C. Section 26 05 33 – Raceway and Boxes for Electrical Systems.
- D. Section 26 24 16 – Panelboards.
- E. Section 26 27 26 – Wiring Devices.
- F. Section 28 46 00 – Fire Detection and Alarm.

1.3 SUBMITTALS

- A. Submittals not required for this section.

1.4 ENVIRONMENTAL REQUIREMENTS

- A. Install labels and nameplates only when ambient temperature and humidity conditions for adhesive are within range recommended by manufacturer.

PART 2 - PRODUCTS

2.1 NAMEPLATES

- A. Product Description: Laminated three-layer plastic with engraved white letters on black background.
- B. Letter Size:
 - 1. 1/4-inch high letters for identifying individual panel or equipment.
 - 2. 1/8-inch high letters for remaining lines with 1/8 inch spacing between lines.
- C. Minimum nameplate size: 1/8 inch thick with a consistent length and height for each type of nameplate wherever installed on the project.

2.2 TAPE LABELS

- A. Product Description: Adhesive tape labels, with 3/16 inch Bold Black letters on clear background made using Dymo Rhino series label printer or approved equal.
- B. Embossed adhesive tape will not be permitted for any application.

2.3 WIRE AND CABLE MARKERS

- A. Power and Lighting Description: Machine printed heat-shrink tubing, cloth or wrap-on type, for all neutrals and Phase conductors.
- B. Low Voltage System Description: Self-adhesive machine printed label with unique wire number that is shown on shop drawing for system.
- C. Telecommunications Cable Markers: Self-laminating vinyl with translucent band and minimum 1"W x .5"H printable area with matte white finish. Brady #B-427 series or approved equal.

2.4 FIRE ALARM CONDUIT AND BOX IDENTIFICATION

- A. Product Description: Red spray paint for fire alarm boxes.

PART 3 - EXECUTION

3.1 GENERAL INSTALLATION

- A. Degrease and clean surfaces to receive nameplates and tape labels.
- B. Install nameplates and tape labels parallel to equipment lines.

3.2 NAMEPLATE INSTALLATION

- A. Secure nameplates to equipment fronts using machine screws tapped and threaded into panelboard, or using rivets. The use of adhesives is not acceptable. Machine screws to not protrude more than 1/16 inch on back side.
- B. Contactors:
 - 1. Provide nameplate for each device with the following information:
 - a. Line 1: Load served.
 - b. Line 2: Panelboard and circuit number from which the device is fed.
 - c. Line 3: Fuse or Circuit amperage and poles. Where fused disconnect is installed, denote the maximum fuse size to be installed.

3.3 LABEL INSTALLATION

- A. Conduit Feeder Labels - Provide conduit labels on all feeder raceways as follows:
 - 1. Panelboards – “PANEL xxxx FED FROM MDP xxx”.
- B. Spare Raceways: Provide raceway label on each individual raceway denoting the source and termination point at each end.
- C. Fire Alarm Device Labels: Provide label on raceway/mc cable denoting NAC or SLC circuit identifier.

3.4 WIRE IDENTIFICATION

- A. Provide wire markers on each conductor in panelboard gutters, pull boxes, outlet and junction boxes, and at load connection. Identification shall be as follows:
 - 1. Markers shall be located within one inch of each cable end, except at panelboards, where markers for branch circuit conductors shall be visible without removing panel deadfront.

2. Each wire and cable shall carry the same labeled designation over its entire run, regardless of intermediate terminations.
3. Color code phases, neutral, and ground per NEC requirements and Section 26 05 19.
4. Color-code all low-voltage system wires and cables in accordance with the individual sections in which they are specified.
5. For power and lighting circuits, identify with branch circuit or feeder number.
6. Fire Alarm Circuits: Provide cable markers showing NAC or SLC loop identification number at all fire alarm junction boxes and pullboxes.

3.5 JUNCTION BOX IDENTIFICATION

- A. Fire Alarm: In accessible ceiling spaces, exposed ceiling spaces, mechanical/electrical rooms, and other non-public spaces, paint fire alarm junction boxes and pullboxes with red spray paint. In all finished spaces where fire alarm boxes are visible, they shall be painted to match the surrounding finish. If there are any questions as to whether fire alarm boxes shall be painted red in a specific area, the Contractor shall get clarification from the Owner prior to painting.
- B. Label each lighting and power junction box with the panelboard name and circuit number.
- C. For junction boxes above ceilings, mark the box cover with the circuit or system designation using permanent black marker. For junction boxes in finished areas, mark the inside of the cover with the circuit or system designation using permanent black marker.

3.6 DEVICE PLATE IDENTIFICATION

- A. Label each receptacle device plate or point of connection denoting the panelboard name and circuit number.
- B. Install adhesive label on the top of each plate.

3.7 PANELBOARD IDENTIFICATION

- A. Provide panelboard circuit directories in accordance with Section 26 24 16.

3.8 LOW-VOLTAGE SYSTEM IDENTIFICATION

- A. Install all labeling in accordance with the requirements of this section and of each section where the individual systems are specified.

END OF SECTION 26 05 53

SECTION 26 09 19

ENCLOSED CONTACTORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Enclosed Contactors.

1.3 RELATED SECTIONS

- A. The Work under this section is subject to requirements of the Contract Documents including the General Conditions, Supplementary Conditions, and sections under Division 01 General Requirements and Section 26 05 00 – Common Work Results for Electrical.
- B. Section 26 05 26 – Grounding and Bonding for Electrical Systems.
- C. Section 26 05 53 – Identification for Electrical Systems.
- D. Section 26 05 80 – Heating Cables.

1.4 REFERENCES STANDARDS

- A. ANSI/NEMA ICS 6 - Enclosures for Industrial Controls and Systems.
- B. NEMA ICS 2 - Industrial Control Devices, Controllers, and Assemblies.

1.5 SUBMITTALS

- A. Product Data: Submit product data for all components provided, showing electrical characteristics and connection requirements. Each catalog sheet should be clearly marked exact part number provided.

1.6 QUALITY ASSURANCE

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience and ISO 9000 certified.

PART 2 - PRODUCTS

2.1 MANUFACTURERS – ENCLOSED CONTACTORS

- A. Square D.
- B. Cutler Hammer.
- C. ASCO.
- D. Substitutions: Under provisions of Division 01.

2.2 ENCLOSED CONTACTORS

- A. Contactors: NEMA ICS 2; mechanically held, 2 wire control.
- B. Coil Operating Voltage: 120 volts, 60 Hertz.
- C. Multipole Lighting Contactor: NEMA ICS 2; 30A, number of poles as indicated on Drawings with coil clearing contacts, lockable Hand-Off-Auto switch and red pilot light.
- D. Enclosure: ANSI/NEMA ICS 6; Type 1 unless otherwise indicated on Drawings.
- E. Provide solderless pressure wire terminals.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Require marking of terminals and wires landing on terminals.
- C. Locate electrically held contactors where the eventual vibration and noise they will produce will not be objectionable to building occupants.

3.2 FIELD QUALITY CONTROL

- A. Verify wiring connections are tight.
- B. Verify movable contact assemblies are not binding and are free to move.
- C. Verify coil voltage is correct.
- D. With load connected energize and observe load current for each circuit installed.

END OF SECTION 26 09 19

SECTION 26 09 23

LIGHTING CONTROL DEVICES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. This Section includes stand-alone (non-networked) automatic lighting control devices.
 - 1. Occupancy sensors.
 - 2. Power Packs and Supplies

1.2 RELATED SECTIONS

- A. Section 26 05 00 - Common Work Results for Electrical.
- B. Section 26 05 19 – Low-Voltage Electrical Power Conductors and Cables.
- C. Section 26 05 33 - Raceway and Boxes for Electrical Systems.
- D. Section 26 27 26 – Wiring Devices: Manual Light Switches.
- E. Section 26 50 00 –Lighting.

1.3 SUBMITTALS

- A. Product Data: Submit product data for all components provided that are specified in this section showing configurations, finishes, and dimensions. Each catalog sheet should be clearly marked to indicate exact part number provided, including all options and accessories.
- B. Fixture Compatibility: Submitted occupancy sensors shall have wattage ratings to match the circuits on which they are connected and shall be compatible with submitted lamps and ballasts/drivers in the fixtures which they will control.
- C. Operation and Maintenance Data: For each type of product to include in emergency, operation, and maintenance manuals. Include manufacturer's installation and troubleshooting instructions.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Manuals: Submit manufacturer's instructions for occupancy sensor maintenance and adjustment.

1.5 COORDINATION

- A. Coordinate layout and installation of ceiling-mounted devices with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, smoke detectors, fire-suppression system, and partition assemblies.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS – OCCUPANCY SENSORS

- A. Wattstopper.
- B. Sensor Switch.
- C. Hubbell.
- D. Leviton.
- E. Substitutions: Under provisions of Division 01.

2.2 OCCUPANCY SENSORS

- A. Ceiling-Mounted Dual-Tech Occupancy Sensor: Dual-technology PIR and ultrasonic or microphonic sensor with white housing, self-adjusting settings, automatic dual-mode operation, built-in circadian calendar for testing, red/green LEDs for indication of PIR/ultrasonic or microphonic activity, and non-volatile memory to retain automatic and manual settings during power outages. Provide specific coverage area and either 180° or 360° coverage patterns, as required in the space to prevent unintentional tripping in adjacent spaces. Sensor shall have selectable timer settings. Sensor shall retain all manually adjusted or “learned” settings in event of a power outage.
- B. Ceiling-Mounted Ultrasonic or Microphonic Occupancy Sensor: Ultrasonic or microphonic sensor with white housing, self-adjusting settings, built-in circadian calendar for testing, green LED for indication of ultrasonic or microphonic activity, and non-volatile memory to retain automatic and manual settings during power outages. Provide specific coverage area as required in the space to prevent unintentional tripping in adjacent spaces. Sensor shall have four selectable timer settings. Sensor shall retain all manually

adjusted or “learned” settings in event of a power outage. Device color shall match wall switches.

- C. Sensor Masking: Infrared and dual-technology sensors shall include masking segments for adjusting the coverage of the infrared sensor to avoid false-tripping. If masking is not included with sensor, it shall be provided by Contractor at no additional cost to the Owner.

2.3 POWER (RELAY) PACKS AND SUPPLIES

- A. Sensor Power Packs: Provide sensor power packs as recommended by the sensor manufacturer and as required for all connected devices and the specified sequence of operation. Note that control of fixtures with multi-level switching may require additional power packs. Power Packs shall be UL listed, plenum rated, and accept 120 or 277 VAC.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install occupancy sensors in accordance with manufacturer instructions.
- B. Locate power packs and similar devices in concealed, accessible areas.

3.2 SENSOR TESTING AND CALIBRATION

- A. Occupancy Sensors:
 1. Activate test setting on sensor. Walk past the room entrance and confirm that the sensor is not picking up unwanted motion from adjacent spaces such as hallways. Provide masking on infrared lens to restrict field of view if necessary and re-test.
 2. Walk into room and confirm that the sensor immediately picks up the motion and turns the lights ON.
 3. Walk around the room and confirm that the sensor is picking up small motion. Relocate sensor or add additional sensors as required to provide complete coverage throughout the space.
 4. Adjust the PIR and ultrasonic or microphonic sensitivity settings as required to avoid false tripping due to air movement.
 5. Adjust range on sensor to match room size, as a percentage of total sensor coverage. Example: For a 10' x 10' room, the maximum sensing distance in front of the sensor (40') is adjusted down to the minimum setting of 36% coverage.
 6. Confirm that the sensor is performing the lighting control sequence of operation as noted on the Plans. Make adjustments as required until the sequence is met.
 7. Put sensor back into normal mode.

3.3 FIELD QUALITY CONTROL

- A. Perform the following field tests and inspections and prepare test reports:
 - 1. After installing time switches and sensors, and after electrical circuitry has been energized, adjust and test for compliance with requirements.
 - 2. Operational Test: Verify operation of each lighting control device and adjust time delays.
- B. Lighting control devices that fail tests and inspections are defective work.

3.4 DEMONSTRATION

- A. Train Owner's maintenance personnel to adjust, operate, and maintain lighting control devices. Refer to Division 01 Section "Demonstration and Training."

END OF SECTION 26 09 23

SECTION 26 27 26

WIRING DEVICES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Wall Switches.
- B. Wall Dimmers.
- C. Receptacles.
- D. Device Plates and Box Covers.

1.2 RELATED SECTIONS

- A. The Work under this section is subject to requirements of the Contract Documents including the General Conditions, Supplementary Conditions, and sections under Division 01 - General Requirements and Section 26 05 00 – Common Work Results for Electrical.
- B. Section 26 05 33 – Raceway and Boxes for Electrical Systems.
- C. Section 26 05 53 – Identification for Electrical Systems.

1.3 REFERENCE STANDARDS

- A. FS W-C-596 – Federal Specification for Electrical Power Connector, Plug, Receptacle, and Cable Outlet.
- B. FS W-S-896 – Federal Specification for Switches, Toggle (Toggle and Lock), Flush Mounted.
- C. NEMA WD 1 - General Color Requirements for Wiring Devices.
- D. ANSI/NEMA WD 6 – Wiring Devices – Dimensional Requirement.
- E. UL 20 – General-Use Snap Switches.
- F. UL 498 - Attachment Plugs and Receptacles.

- G. UL 943 – Ground-Fault-Circuit-Interrupters.

1.4 SUBMITTALS

- A. Product Data: Submit product data for all components provided that are specified in this section showing configurations, finishes, and dimensions. Each catalog sheet should be clearly marked to indicate exact part number provided, including all options and accessories.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS - WALL SWITCHES

- A. Hubbell.
- B. Leviton.
- C. Pass & Seymour.
- D. Arrow Hart
- E. Substitutions: Under provisions of Division 01.

2.2 WALL SWITCHES

- A. Wall Switches for Lighting Circuits: UL 20; ANSI/NEMA WD-6; and Federal Specification FS W-S-896 AC industrial grade snap switch with toggle handle, rated 20 amperes and 120-277 volts AC. Handle: White nylon. Provide single-pole, 3-way, or 4-way switches as indicated on Plans.

2.3 ACCEPTABLE MANUFACTURERS - WALL DIMMERS

- A. Lutron.
- B. Leviton.
- C. Substitutions: Under provisions of Division 01.

2.4 WALL DIMMERS

- A. Wall Dimmers for 0-10V Loads: UL 1472; ANSI/NEMA WD-6; Decora-style, commercial grade preset wall dimmer switch, 0-10V control for LED drivers (8 A, 120-277 V); adjustable high-end and low-end trim. Color: White. Handle: Paddle switch for on/off operation with small, discrete, captive linear slide for dimmer adjustment. Provide single pole unless otherwise indicated on Plans. Provide power pack as required to accommodate loads larger than 8 A. Dimmer shall be fully compatible with all loads connected for smooth, flicker-free dimming operation.

2.5 ACCEPTABLE MANUFACTURERS - RECEPTACLES

- A. Hubbell.
- B. Leviton.
- C. Pass & Seymour.
- D. Arrow Hart
- E. Substitutions: Under provisions of Division 01.

2.6 RECEPTACLES

- A. Convenience and Straight-blade Receptacles: UL 498, ANSI/NEMA WD-6 and Federal Specification FS W-C-596 industrial grade receptacle.
- B. Locking-Blade Receptacles: NEMA WD 5.
- C. Convenience Receptacle Configuration: ANSI/NEMA WD-6; Type 5-20R, white nylon face.
- D. Specific-use Receptacle Configuration: NEMA WD 5; type as indicated on Drawings, black phenolic face.
- E. GFCI Receptacles: ANSI/NEMA WD-6; 20A, duplex convenience receptacle with integral class 'A' ground fault current interrupter, LED indicator lamp and integral lockout.

2.7 DEVICE PLATES

- A. Decorative Cover Plate: White with metal, counter sunk screws to match device plate.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install wall switches 48 inches above floor, OFF position down.
- B. Unless otherwise noted install wall switches within 6 inches of the door jamb on the strike side.
- C. Install wall dimmers 48 inches above floor; derate ganged dimmers as instructed by manufacturer; do not use common neutral.
- D. Install convenience receptacles 18 inches above floor, 4 inches above counters or backsplash, grounding pole on bottom.
- E. Install specific-use receptacles at heights shown on Contract Drawings.
- F. Unless otherwise noted, mounting heights are for finished floor to center line of outlet.
- G. Drill opening for poke-through fitting installation in accordance with manufacturer's instructions.
- H. Install decorative plates on switch, receptacle, and blank outlets in finished areas. Use midsize or jumbo plates for outlets installed in masonry walls, where required to cover up imperfections in the wall opening.
- I. Install galvanized steel plates on outlet boxes and junction boxes in unfinished areas, above accessible ceilings, and on surface-mounted outlets.
- J. Install devices and wall plates flush and level.
- K. Ground receptacles to boxes with a grounding wire. Grounding through the yoke or screw contact is not an acceptable alternate to the ground wire.
- L. Install circuit label on each receptacle and light switch in accordance with Section 26 05 53.

END OF SECTION 26 27 26

SECTION 26 50 00

LIGHTING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Interior Luminaires and Accessories.
- B. Lamp Modules.
- C. Drivers.

1.2 RELATED SECTIONS

- A. The Work under this section is subject to requirements of the Contract Documents including the General Conditions, Supplementary Conditions, and sections under General Conditions of the Contract General Requirements, and Section 26 05 00 – Common Work Results for Electrical.
- B. Division 09 – Finishes: Painting and Ceilings.
- C. Section 26 05 19 – Low Voltage Electrical Power Conductors and Cables.
- D. Section 26 05 29 - Hangers and Supports for Electrical Systems.
- E. Section 26 05 33 – Raceway and Boxes for Electrical Systems.
- F. Section 26 05 53 – Identification for Electrical Systems.
- G. Section 26 09 23 – Lighting Control Devices.
- H. Section 26 27 26 – Wiring Devices.

1.3 DEFINITIONS

- A. CCT: Correlated Color Temperature.
- B. CRI: Color Rendering Index.
- C. Driver: LED Power Supply.

- D. Fixture: See "Luminaire."
- E. IES: Illuminating Engineering Society of North America
- F. IP: International Protection or Ingress Protection Rating.
- G. Lamp Module: Replaceable LED board array/light engine including a plug-in connector.
- H. LED: Light-emitting diode.
- I. Lumen: Measured output of lamp and luminaire, or both.
- J. Luminaire: Complete lighting unit, including lamp or lamp module, driver, reflector, and housing.
- K. THD: Total Harmonic Distortion.

1.4 REFERENCE STANDARDS

- A. NECA/IESNA 500 – Recommended Practice for Installation Indoor Commercial Lighting System.
- B. IES TM-21-11 Projecting Long Term Lumen Maintenance of LED Light Sources.
- C. IES LM-80 IES Approved Method: Measuring Luminous Flux and Color Maintenance of LED Packages, Arrays and Modules.
- D. UL 924 - Emergency Lighting and Power Equipment.

1.5 SUBMITTALS

- A. Product Data: Submit the following:
 - 1. Luminaires: Include manufacturer's product data sheets and/or shop drawings including outline drawings showing support points, weights, and accessory information for each luminaire type. Clearly indicate all options being provided. Arrange data for luminaires in the order of fixture designation.
 - 2. Prior to preparing submittals, coordinate with the reflected ceiling plan for ceiling finishes and provide all necessary kits, brackets, stems, trim, etc. to install the specified fixtures in the ceilings provided. Clearly note these configurations on the product data sheets.
- B. Shop Drawings: Provide detailed shop drawings for specialty luminaires as required by the manufacturer.

- C. Warranty: Provide copies of manufacturer’s warranty information for each luminaire. If warranty information is the same for a group of manufacturer’s luminaires, provide a letter or schedule clearly indicating what warranty applies to each fixture.

- D. LED Luminaire Substitutions: Due to the constantly evolving technology, it is difficult to evaluate a true “equal” LED luminaire since the wattage, LED life, lumen output, etc. vary significantly from fixture to fixture, even for luminaires that have a similar shape and style. The luminaires shown on the Plans in the Fixture Schedule are not intended to be sole sourced but are considered a Basis of Design. If a substitution is proposed by the contractor, it will be evaluated based on the following criteria:
 - 1. Does it have the same basic shape/style and characteristics? Note that there may be space constraints above the ceiling.
 - 2. Does the luminaire have the same (or superior) light output and distribution? If not, would it still produce enough light to illuminate the space per minimum IES recommendations or other project specific lighting levels? Note that the Engineer may request .ies files or lighting calculations be provided by the Contractor to evaluate substitution requests.
 - 3. Does it use the same (or less) wattage than the specified fixture? If it uses slightly more power, does it provide enough value to the Owner by adding additional light to offset the additional power used? Is that appropriate for the project compliance requirements. (LEED, ASHRAE 90.1, etc.)
 - 4. Does it have the same nominal color temperature and CRI values? Note that for certain luminaires this may be more important where [medical procedures are being performed or where] artwork or merchandise is illuminated.
 - 5. Does it have an equal or better lamp life as calculated in accordance with IES TM-21 and LM-80?
 - 6. Does the manufacturer offer an equal or better warranty than the specified fixture?
 - 7. Are the LED lamps modules and LED boards field changeable? What guarantees does the manufacturer have that replacement parts will be available in the future?

1.6 CLOSEOUT SUBMITTALS

- A. Project Record Drawings: Indicate actual locations and mounting heights of all lighting fixtures and accessories on the project record drawings. Update part numbers and description on the Lighting Fixture Schedule to match the actual luminaires installed. Submit under Section 26 05 00.

- B. Operation and Maintenance Manuals:
 - 1. Provide recommended luminaire cleaning and re-lamping schedule. If any luminaire lenses require special lubricants for cleaning, include this in the schedule.
 - 2. Provide detailed bill of materials for all items purchased in this section including distributor’s contact name, phone number and pertinent information.
 - 3. Provide luminaire manufacturer’s installation instructions.

4. Provide manufacturer's step-by-step installation instructions showing how to replace the LED lamp modules and drivers for each luminaire.
5. Include any specific warranty information provided by the manufacturer for luminaires, LED boards and drivers.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site, store and protect in a clean, dry environment under provisions of General Conditions of the Contract.

1.8 EXTRA MATERIALS

- A. Provide spare parts under provisions of Division 01.
- B. Lenses: One of each size and type.
- C. Drivers: One of each size and type installed.
- D. LED Lamp Modules: Provide a minimum of 1 of each unique type of lamp module used on the project. Ship LED lamp modules (i.e. LED board) in protective packaging and label each lamp module to indicate the fixture type that it may be installed in. (i.e. Type A or Type D1).
- E. LED Luminaire: Where the specified or substitute luminaire does not have a replaceable lamp or lamp module, provide one spare luminaire per size and type installed.

PART 2 - PRODUCTS

2.1 INTERIOR LUMINAIRES AND ACCESSORIES

- A. Luminaires: Provide UL listed luminaires as scheduled on the drawings or as approved equal.
- B. Listing: Luminaires shall be listed for use in the environment in which they are installed. For example, luminaires installed in return air plenums, direct contact with insulation, or in hazardous, wet, damp, or corrosive locations shall be UL listed for such application.
- C. Accessories: Provide all mounting kits, supports, interconnecting wiring, power supplies, trim kits, gaskets, etc. for a complete installation.

D. Housing:

1. Metal parts shall be free of burrs and sharp corners and edges. Form and support to prevent warping and sagging.
2. Doors, Frames and Other Internal Access: Smooth operating, free of light leakage under operating conditions. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position.
3. Luminaires shall be factory painted and free of discoloration. Color as scheduled.

2.2 LAMP MODULES – LED

- A. All LED's shall be nominal 4000 degrees Kelvin (nominal) within a 3-step MacAdam Ellipse unless special circumstances require a different color temperature application, see Luminaire Schedule on Plans.
- B. Color Rendering: Minimum CRI as scheduled on the Plans for each fixture. Under no circumstances shall the CRI be less than 70.
- C. Lamp Life: Minimum lamp life shall be calculated in accordance with IES LM-80. Lamp life for each luminaire shall be equal or greater than scheduled on the Plans. Under no circumstances shall an interior luminaire have a minimum rated life (L70) less than 50,000 hours at 75 degrees F average indoor ambient temperature.
- D. Replaceable: Unless otherwise scheduled, all LED modules shall be field replaceable with quick disconnect connections.

2.3 DRIVERS - LED

- A. LED Driver: Provide UL listed power supply as recommended by the LED fixture manufacturer for operation of the specified LED lamps. Power supply shall be integral to the luminaire unless otherwise noted on the Plans. Power supply shall be dual voltage (120/277V) where available or operate at the supply voltage indicated on the Plans.
- B. LED Dimming Driver: UL listed 0-10V dimming driver as recommended by the LED fixture manufacturer for operation of the specified LED lamps, fully compatible with the dimming system or dimming switch controlling the fixture. Driver shall be integral to the fixture and capable of dimming the luminaire down to 1% output unless otherwise scheduled on the Plans. Power supply shall be dual voltage (120/277V) where available and operate at the supply voltage indicated on the Plans.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Coordinate layout and installation of ceiling-mounted devices with other construction items that penetrate ceilings or are supported by them, including luminaires, occupancy sensors, HVAC equipment, smoke detectors, fire-suppression system, IP video cameras, and partition assemblies. Adjust locations as required.
- B. Unless otherwise noted on Plans, provide drivers integral to luminaires, pre-wired and installed at the factory, suitable for use with the selected LED lamps.
- C. Support surface-mounted luminaires directly from building structure. Install level and parallel/perpendicular with ceiling or wall surfaces.
- D. Install recessed luminaires to permit removal from below. Use plaster frames in hard ceilings.
- E. Support luminaires in suspended ceilings from structure above in accordance with Section 26 05 29.
- F. Rigidly align continuous rows of lighting fixtures for true in-line appearance.
- G. Provide luminaire disconnecting means in the wiring compartment of each luminaire. Where the luminaire is fed from a multi-wire branch circuit, provide multi-pole disconnect to simultaneously break all supply conductors to the ballast, including the grounded conductor.
- H. LED Power Supplies: Install power supplies to be readily accessible. Where power supplies are installed in plenum areas, provide plenum rated listing. Where remote power supplies are used, install in concealed, accessible locations or in utility room that provides adequate sound dampening. Locate driver to allow free air movement in accordance with manufacturer's installation instructions and securely mount to structure.
- I. Tandem wiring: Provide factory harness for all tandem mounted light fixtures.

3.2 RELAMPING

- A. Re-lamp or replace luminaires that have failed lamps at completion of work.

3.3 ADJUSTING AND CLEANING

- A. Align luminaires and clean lenses and diffusers at completion of work. Clean paint splatters, dirt, and debris from installed luminaires.

- B. Touch up luminaire finish at completion of work.

3.4 DEMONSTRATION

- A. Walk owner's representative through the lighting system. Note how to maintain, test and troubleshoot all units.

END OF SECTION 26 50 00

SECTION 27 10 00

STRUCTURED CABLING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Requirements for the installation of an extension to the existing telecommunications cabling system including communications cable, telecommunications jacks, raceways, and other equipment or components as required to achieve the specified function.

1.2 RELATED SECTIONS

- A. Section 26 05 33 – Raceway and Boxes for Electrical Systems.
- B. Section 26 05 29 – Hangers and Supports for Electrical Systems.
- C. Section 26 05 53 – Identification for Electrical Systems.

1.3 PROJECT RECORD DOCUMENTS

- A. Submit documents under the provisions of Division 01.
- B. Accurately record location of jacks, pull boxes and equipment racks, routing of all telecommunications raceways and cables, numbering scheme and identification number of all cables and jacks.
- C. Submit test results for all cables prior to Substantial Completion.

1.4 LISTINGS AND STANDARDS

- A. Furnish products listed and classified by Underwriters Laboratories, Inc. and suitable for purpose specified and indicated.
- B. Where a UL Standard is in effect equipment shall meet that standard and shall bear the UL label.

1.5 REFERENCE CODES AND STANDARDS

- A. The publications listed below form a part of the specification to the extent referenced. The publications are referred to in the text by basic designation only. The reference codes and standards are minimum requirements:
1. ANSI/NFPA 70 National Electrical Code, latest adopted version.
 2. BICSI Telecommunications Distributions Methods Manual, current version.
 3. TIA/EIA 568-C Commercial Building Telecommunications Cable Standard, current version.
 4. TIA/EIA 569-C Commercial Building Standard for Telecommunications Pathways and Spaces, current version.
 5. TIA/EIA 606-A Administration Standards for the Telecommunications Infrastructure of Commercial Buildings, current version.
 6. J-STD-607-A Commercial Building Grounding and Bonding Requirements for Telecommunications, current version.

1.6 QUALITY ASSURANCE

- A. Install all work in accordance with the above reference standards and codes. The Owner reserves the right to reject all or a portion of the work performed either on technical or aesthetic grounds.
- B. All workmen employed for installation of equipment and cabling specified under this section shall be specifically trained and certified in the installation of the specified Category 6 UTP cabling systems, and shall have at least three years' experience installing, terminating, and testing Category 6 UTP on this size and complexity of project.
- C. The intended function of the telecommunications cable system is to transmit voice and data signals from a central location to individual telecommunications outlet locations. Upon completion of the work, the UTP cable system shall be capable of transmitting a data signal that meets and exceeds the following requirements:
1. Category 6: Supports data rates up to and including 1 Gb/s.

1.7 SUBMITTALS

- A. Submit product data under provisions of Division 01. Provide factory test results for cables and connectors. Provide product data for the following products:
1. UTP Telecommunications Cable.
 2. UTP Telecommunications Jacks and Faceplates.
 3. UTP Telecommunications Cable Tester.
 4. UTP Sample Test Report (with all required testing parameters shown).

- B. Submit qualifications and certifications to install the specified cabling system.

1.8 LABELING SYSTEM

- A. Labeling shall conform to ANSI/TIA/EIA-606 standards, Section 26 05 53, and this Section.
- B. Telecommunications Outlets:
 - 1. Labels on all outlets shall have minimum 1/8-in. high characters and shall be installed behind recessed clear plastic covers on faceplate.
 - 2. Label room outlets with two labels on the faceplate as follows:
 - a. Top Label: Shows the telecommunication room the cable is run to (TR1, TR2, etc), followed by rack number (1, 2, etc.) followed by patch panel identification expressed as a letter (A), followed by port in patch panel the outlet is located (xx). Example: TR1-2B:38 (where TR1 indicates closet, 2 is the second rack, B is the second patch panel in the rack, 38 is the port in patch panel).
 - b. Bottom Label: Shows the room number (room 103), followed by the jack/outlet number (J2) from the left when entering the room, followed by the quantity of ports within the outlet faceplate (1-6). Example: 103 J2:1 (where 103 is the room number, J2 is the 2nd jack/outlet from the left in the room, and 1 is the single port in the faceplate). Where the faceplate has multiple ports, the last part of the ID shall indicate the quantity. Example: 103 J2:1-4 (where 103 is the room number, J2 is the 2nd jack/outlet from the left in the room, and 1-4 represents the four ports in the faceplate).
- C. Copper Horizontal Cable:
 - 1. Label the end of each cable with the same designation used on the equipment where the cable is terminated (i.e. the patch panel or telecommunications outlet). Labels shall be installed within one inch of the end of the cable insulation, after the insulation has been cut back to allow for termination.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS – STRUCTURED CABLING SYSTEM

- A. Throughout this specification, specific manufacturers and manufacturer's catalog numbers are cited. These citations are for the purpose of establishing quality and performance criteria and are not intended to be proprietary. All products in the structured cabling system shall be provided from one of the approved manufacturing partnerships listed below, or an alternate system shall be substituted under the provisions of Division

01. All decisions regarding approval of non-specified manufacturers and products will be at the discretion of the Owner.

1. Belden.
2. Ortronics/Superior Essex.
3. CommScope Uniprise.
4. Hubbell/Mohawk.
5. Leviton/Berk-Tek.
6. TE Connectivity (formerly ADC/Krone/Amp).
7. Substitutions: Under provisions of Division 01.

B. Structured Category 6 cabling systems shall include, but not be limited to, UTP telecommunications cable, UTP jacks, faceplates, modular patch panels, and UTP patch cables.

2.2 UTP TELECOMMUNICATIONS CABLE

A. All UTP telecommunications cables that stay within the building envelope shall be UL listed, plenum-rated CL2P, Category 6, 4 pair, 23-24 AWG, solid copper conductor.

1. Superior Essex “DataGAIN” CMP or approved equal.

2.3 UTP TELECOMMUNICATIONS JACKS

A. All UTP telecommunications jacks shall be Category 6, T568A/B, 8P8C, single, white finish, telecommunications jack with flush exit. Unless otherwise noted on the drawings, install each telecommunications jack in a single gang faceplate at each telecommunications outlet. The quantity of faceplate openings shall match the quantity of jacks at each location. The Contractor shall verify the actual wiring configuration (T568A or 568B) with the Owner prior to submittal.

B. UTP Jacks:

1. Ortronics “TracJack Clarity 6” #OR-TJ600 or approved equal.

2.4 TELECOMMUNICATIONS OUTLET FACEPLATES

A. Unless otherwise noted, all faceplates shall be single-gang plastic faceplates with white finish. The number of openings in each faceplate shall match the jack count of each outlet shown on the Drawings. (x in part numbers = designation for number of openings in faceplate).

1. Ortronics “TracJack” #OR-4030054x or approved equal.

2.5 CABLE SUPPORT

- A. All cables not installed in conduit shall be supported using J-hooks, Caddy CableCat series or approved equal, with a minimum J-hook size equivalent to Caddy #Cat32 or approved equal. Size all J-hooks to support the quantity of cables installed, plus a minimum of 25% spare capacity.
- B. Cables shall be bundled using Velcro “One-Wrap” or approved equal reusable straps with a minimum $\frac{3}{4}$ inch width. Plastic tie-wraps or cinch-straps are not allowed.

PART 3 - EXECUTION

3.1 EXAMINATION

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

3.2 GENERAL INSTALLATION

- A. Follow cable manufacturer’s specification regarding handling methods, retaining/support methods, bending radius and maximum pulling tension limitations. Where manufacturer does not provide bending radius information, minimum bending radius shall be 10 times the diameter of the cable. Use a tension-monitoring device to ensure that the maximum pulling tension that may be applied to the cable to be pulled into a conduit section is not exceeded. Provide replacement cable if cable manufacturer’s maximum pulling tension is exceeded at any time during a pull.
- B. Cable shall be carefully inspected for sheath defects or other irregularities as it is paid out from the reel. When defects are detected, pulling shall stop immediately and the cable section shall be repaired or replaced at the discretion of the Contracting Agency. A system of communications shall be maintained between pulling and feed locations so that pulling can be stopped instantly, when required.
- C. Adequate care shall be exercised when handling and storing reels of cable to prevent damage to the cable. Cable with dents, flat spots, or other sheath distortions shall not be installed.
- D. Store a maximum of one foot of slack UTP cable for each UTP jack at each telecommunications outlet.
- E. In the telecommunications closet, ten feet of slack UTP cable shall be provided at the racks. Route the service loop around the cable runway above the racks. No cables shall encroach or interfere with rack equipment space. All cables shall be protected from physical damage and should not be routed on the floor. Coiling the slack cable adjacent

to the rack is not acceptable. The intent of this installation method is to provide slack cable for future work without causing increased inductance by coiling the cables.

- F. All cabling shall be run continuous with no splices from each telecommunications jack to the cable connector at the patch panels. Telecommunications cables shall be terminated at each end on their respective jack. No cable run shall exceed 90 meters (295 feet) in length from the jack on the peripheral end to the patch panel.
- G. All cable shall be routed in such a way as to minimize EMI and RFI interference. Cables shall be routed to maintain the following minimum distances from noise producing devices:
 - 1. Open or Nonmetallic Communications Pathways:
 - a. 12 inches from electrical equipment and power lines of 3 kVA or less.
 - b. 18 inches from fluorescent and HID ballasts.
 - c. 36 from electrical equipment and power lines greater than 5 kVA.
 - d. 48 inches from transformers and motors.
 - 2. Grounded Metal Conduit Communications Pathways:
 - a. 3 inches from electrical equipment and power lines of 2 kVA or less.
 - b. 6 inches from electrical equipment and power lines of 2 kVA to 5 kVA.
 - c. 12 inches from 5 kVA or greater power lines.

3.3 TERMINATIONS

- A. The jacket of UTP cables shall be maintained to a point within one inch of the telecommunications jack. The twists on the individual pairs shall be maintained as close as possible to the contacts of the termination points but shall in no case exceed 1/2 inch.
- B. Pairs from each cable shall be terminated sequentially from left to right, top to bottom starting with the lowest assigned number at the upper left-hand corner of the panel.

3.4 PATHWAYS AND RACEWAYS

- A. Unless otherwise noted, all cables shall be installed in conduit from the telecommunications jack to the space above the accessible ceiling, within 18" of the J-hook or cable tray pathway. Portions of cables not installed in conduit shall be supported in accordance with TIA/EIA standards at intervals not exceeding four (4) feet in length using J-hooks. The cable shall not be supported from ducts, pipes, conduits, ceiling grid hangar wires, etc. At any point where the cable changes direction, slack shall be provided to prevent rubbing or binding on the corner supports. Extreme care shall be taken to ensure that the cable is not compressed, kinked or otherwise deformed during

installation. Any cable that is stretched, compressed, kinked or otherwise deformed shall be replaced at no cost to the Owner.

- B. Cables to be installed in raceway, cable tray, continuous cable support system or J-hooks (as specified above) for the entire length of each cable. Provide raceway through areas that will not be accessible for future cable replacement or additions.
- C. Provide pathway capacity throughout entire system for each telecommunication outlet served, sized to accommodate a minimum of four 4-pair cables from each outlet location to the designated telecommunication room, as shown on the plans.
- D. Telecommunication cables shall not be installed in the same raceway or pathway as power cables.
- E. Install polyethylene pulling string in each empty conduit containing a bend or over 10 feet in length.
- F. Install all telecommunications outlets in outlet boxes under the provisions of Section 26 05 33. Unless otherwise noted on the Drawings or in the Specifications, outlets shall be mounted at 18 inches above floor, 4 inches above counters or backsplash, with the jacks oriented in the standard “pins down” position.
- G. Support raceways, outlet boxes, and junction boxes under the provisions of Section 26 05 29 and 26 05 48.

3.5 LABELING

- A. Label equipment racks as noted here-in and under the provisions of Section 26 05 53.
- B. Furnish and install labels and documentation to identify all cables, jacks, and connections in accordance with TIA/EIA standards, as shown on the Drawings, and under the provisions of Section 26 05 53. As a minimum each jack in each faceplate shall have a unique identifier that matches the identifier at the patch panel. Identifiers shall be installed on the front of the telecommunications faceplate, on the cable behind the faceplate, and on the front of the patch panel at the associated jack.

3.6 CABLE ACCEPTANCE TESTING

- A. Each UTP cable shall be tested for compliance with TIA/EIA 568C Category 6 standards after installation using a Fluke #DTX or approved equal tester that has been calibrated within the last 30 days. At a minimum, the Contractor shall perform the following tests with the maximum frequency of the tester set at 350MHz:
 - 1. Signal Attenuation / Insertion Loss.
 - 2. Near End Cross Talk (NEXT).

3. Power Sum Near End Cross Talk (PS-NEXT).
 4. Attenuation to Crosstalk Ratio – Near End (ACR-N)
 5. Attenuation to Crosstalk Ratio – Far End (ACR-F).
 6. Power Sum Attenuation to Crosstalk Ratio – Near End (PSACR-N).
 7. Power Sum Attenuation to Crosstalk Ratio – Far End (PSACR-F).
 8. Propagation Delay.
 9. Delay Skew.
 10. Return Loss.
 11. Wiremap.
 12. Overall Cable Length.
- B. Test, analyze, and record compliance for the following network protocols:
1. 10 Base-T.
 2. 100 Base-T.
 3. 1000 Base-T (1 Gb/s).
- C. The Contractor shall provide 100% testing for each “permanent link” (i.e. from the work area outlet to the patch panel). Provide test results for all tests noted above in the form of printouts from the test equipment and provide an electronic copy of the test data for each cable on CD. If proprietary software is used, the submitted CD shall include any necessary software required to view test results. If the results are delivered in a standard format such as Excel or Access, the viewing software need not be provided. At the front of the test report, the Contractor shall provide an index showing the pass/fail results of each cable, along with the cable length and a corresponding cable label.
- D. Where any portion of the system does not meet the Specifications, the Contractor shall correct the deviation and repeat any applicable testing at no additional cost to the Owner.
- E. Provide three working days advance notice of tests. The Owner’s Representative shall reserve the right to be present during the testing of any or all cables in the system. Submit a copy of the test report for each cable prior to substantial completion of the project.
- F. Acceptance of the telecommunications system shall be based on the results of the above tests, functionality, and the receipt of documentation.

END OF SECTION 27 10 00