SECTION 001113

ADVERTISEMENT FOR BIDS

FROM:

1.1 THE OWNER (HEREINAFTER REFERRED TO AS OWNER):

A. City of Dalworthington Gardens

B. Address:
2600 Roosevelt
Dalworthington Gardens, Texas 76016

1.2 AND THE ARCHITECT (HEREINAFTER REFERRED TO AS ARCHITECT):

A. AME Engineering

B. Address:
3825 W. Green Oaks Blvd, Ste 200
Arlington, Texas 76016

1.3 DATE: MONDAY, DECEMBER 2, 2024

1.4 TO: POTENTIAL BIDDERS

A. Your firm is invited to submit an offer under seal to Owner for construction of a facility located at the above address before 2 pm local standard time on the 2ND day of December, 2024, for:

B. Project: Dalworthington Gardens Police Station Renovations

C. Architect's Project Number: Design Professional's Project Number 1699

D. Owner's Project Number: 20384

E. Project Description: DWG DPS Complex renovations as described in Drawings dated 06-19-2023.

F. Bid Documents for a Stipulated Sum may be obtained from the office of the Owner in the amount of $62.00 for one set. One (1) PDF set on flash drive can be provided at no charge.

G. Bidders will be required to provide Bid security in the form of a Bid Bond in the amount of 10% of their bid.

H. Refer to other bidding requirements described in Document 002113 - Instructions to Bidders and Document 003100 - Available Project Information.

I. Submit your offer on the Bid Form provided. Bidders may supplement this form as appropriate.

J. Your offer will be required to be submitted under a condition of irrevocability for a period of 30 days after submission.

K. The Owner reserves the right to accept or reject any or all offers.

1.5 SIGNATURE

A. For: _____ Corporation

B. By: _____ (Officer Name)

1. Signed: _____
(Authorized signing officer)

ENCL.

END OF SECTION

SECTION 002113
INSTRUCTIONS TO BIDDERS

SUMMARY

1.1 SEE AIA A701, INSTRUCTIONS TO BIDDERS.

1.2 THE INSTRUCTIONS IN THIS DOCUMENT AMEND OR SUPPLEMENT THE INSTRUCTIONS TO BIDDERS AND OTHER PROVISIONS OF THE BIDDING AND CONTRACT DOCUMENTS.

1.3 DOCUMENT INCLUDES

A. Invitation
   1. Bid Submission
   2. Intent
   3. Work Identified in Contract Documents
   4. Contract Time

B. Bid Documents and Contract Documents
   1. Definitions
   2. Contract Documents Identification
   3. Availability
   4. Examination
   5. Inquiries/Addenda
   6. Product/Assembly/System Substitutions

C. Site Assessment
   1. Site Examination
   2. Prebid Conference

D. Qualifications
   1. Qualifications
   2. Prequalification
   3. Subcontractors/Suppliers/Others

E. Bid Submission
   1. Bid Depository
   2. Submission Procedure
   3. Bid Ineligibility

F. Bid Enclosures/Requirements
   1. Security Deposit
   2. Consent of Surety
   3. Performance Assurance
   4. Insurance
   5. Bid Form Requirements
   6. Fees for Changes in the Work
   7. Bid Form Signature
   8. Additional Bid Information
   9. Selection and Award of Alternates

G. Offer Acceptance/Rejection
   1. Duration of Offer
   2. Acceptance of Offer

1.4 RELATED DOCUMENTS

A. Document 011000 - Summary.

B. Document 001113 - Advertisement for Bids.

C. Document 003100 - Available Project Information.

D. Document 004100 - Bid Form.

E. Document 004301 - Bid Form Supplements Cover Sheet.

F. Document 004336 - Proposed Subcontractors Form.

G. Document 004322 - Unit Prices Form.

H. Document 004323 - Alternates Form.

I. Document 004325 - Substitution Request Form - During Procurement

J. Document 004327 - Separate Prices Break-Out Form.

K. Document 004373 - Proposed Schedule of Values Form.

L. Document 004334 - Proposed Mechanical Products Form.

M. Document 004335 - Proposed Electrical Products Form.

N. Document 004333 - Proposed Products Form.

O. Document 004328 - Items Eligible For Tax Rebate Form.

P. Document 007300 - Supplementary Conditions:
   1. Contract Time identification.
   2. Tax and duty rebate procedures.
   3. Tax exempt procedures.
   4. Bond types and values.

INVITATION

2.1 BID SUBMISSION

A. Bids signed and under seal, executed, and dated will be received at the office of the Owner at 2600 Roosevelt, Dalworthington Gardens, Texas 76016 before 2:00 p.m. local standard time on December, 2, 2024.

B. Offers submitted after the above time will be returned to the bidder unopened.

C. Submit required Supplements To Bid Forms within 24 hours after closing time for receiving bids.

D. Offers will be opened publicly immediately after the time for receipt of bids.

2.2 INTENT

A. The intent of this Bid request is to obtain an offer to perform work to complete project named Dalworthington Gardens Police Station Renovations for a Stipulated Sum contract, in accordance with Contract Documents.

2.3 WORK IDENTIFIED IN THE CONTRACT DOCUMENTS

A. Work of this proposed Contract comprises building construction, including general construction Work.

B. Project Location:

Project Location: 2600 Roosevelt Drive.
Dalworthington Gardens, Texas 76016

2.4 CONTRACT TIME

A. Identify Contract Time in the Bid Form. The completion date in the Agreement shall be the Contract Time added to the commencement date.

B. The bidder, in submitting an offer, accepts the Contract Time period stated for performing the Work. The completion date in the Agreement shall be the Contract Time added to the commencement date. The bidder may suggest a revision to the Contract Time with a specific adjustment to the Bid Amount.

C. Owner requires that under the work of this contract be completed as quickly as possible and consideration will be given to time of completion when reviewing the submitted bids.

BID DOCUMENTS AND CONTRACT DOCUMENTS

3.1 DEFINITIONS

A. Bid Documents: Contract Documents supplemented with Invitation To Bid, Instructions to Bidders, Information Available to Bidders, Bid Form Supplements To Bid Forms and Appendices identified.

B. Contract Documents: Defined in Agreement including issued Addenda.

C. Bid, Offer, or Bidding: Act of submitting an offer under seal.

D. Bid Amount: Monetary sum identified by the Bidder in the Bid Form.

3.2 CONTRACT DOCUMENTS IDENTIFICATION

A. Contract Documents are identified as Owner's Project Number 20384, as prepared by Architect, and with contents as identified in the Project Manual.

3.3 AVAILABILITY

A. Bid Documents may be obtained at the office of Owner.

B. Bid Documents are made available only for the purpose of obtaining offers for this project. Their use does not grant a license for other purposes.

3.4 EXAMINATION

A. Bid Documents may be viewed at the office of Owner.

B. Upon receipt of Bid Documents verify that documents are complete. Notify Architect should the documents be incomplete.

C. Immediately notify Architect upon finding discrepancies or omissions in the Bid Documents.

3.5 INQUIRIES/ADDENDA

A. Direct questions to Architect.

B. Addenda may be issued during the bidding period. All Addenda become part of Contract Documents. Include resultant costs in the Bid Amount.

C. Verbal answers are not binding on any party.

D. Clarifications requested by bidders must be in writing not less than 7 days before date set for receipt of bids. The reply will be in the form of an Addendum, a copy of which will be forwarded to known recipients.

3.6 PRODUCT/ASSEMBLY/SYSTEM SUBSTITUTIONS

A. General Requirements for Substitution Requests:
   1. Project Manual establishes standards for products, assemblies, and systems.
   2. Submit requests only for elements for which substitution is specifically allowed in the Project Manual.
   3. Provide sufficient information to determine acceptability of proposed substitutions.
   4. Provide complete information on required revisions to other work to accommodate each proposed substitution.

B. Substitution Request Time Restrictions:
   1. Where the Bid Documents stipulate a particular product, substitutions will be considered up to 10 days before receipt of bids.

C. Substitution Request Form:
   1. Submit substitution requests by completing the form attached to this section. See this form for additional information and instructions. Use only this form; other forms of submission are unacceptable.
   2. Submit substitution requests by completing the form in Section 004325; see this section for additional information and instructions. Use only this form; other forms of submission are unacceptable.

3. Submit substitution requests by completing CSI/CSC Form 1.5C - Substitution Request (During the Bidding/Negotiating Stage). See this form for additional information and instructions. Use only this form; other forms of submission are unacceptable.

D. Review and Acceptance of Request:
   1. Architect may approve the proposed substitution and will issue an Addendum to known bidders.
   2. For approved substitutions, include representation of changes in the bid, if any, required in the work and changes to Contract Time and Contract Sum to accommodate such substitutions. A later claim by the bidder for an addition to the Contract Time or Contract Sum because of changes in work necessitated by use of substitutions will not be considered.

E. See Section 012500 - Substitution Procedures for additional requirements.

SITE ASSESSMENT

4.1 SITE EXAMINATION

A. Examine the project site before submitting a bid.

B. The bidder is required to contact Owner at the following address and phone number in order to arrange a date and time to visit the project site: _(817) 275-1234_.

C. The currently occupied premises at the project site are open for examination by bidders only during the following hours:
   1. Monday through Friday: 9 AM to 4 PM.

4.2 PREBID CONFERENCE

A. A bidders conference has been scheduled for 10:00 a.m. on the _18th_ day of _November at the location of _City Hall - 2600 Roosevelt, Dalworthington Gardens, Texas 76016.

B. All general contract bidders and suppliers are invited.

C. Representatives of Architect will be in attendance.

D. Summarized minutes of this meeting will be circulated to attendees. These minutes will not form part of Contract Documents.

E. Information relevant to the Bid Documents will be recorded in an Addendum, issued to Bid Document recipients.

QUALIFICATIONS

5.1 EVIDENCE OF QUALIFICATIONS

A. To demonstrate qualification for performing the Work of this Contract, bidders may be requested to submit written evidence of financial position, license to perform work in the State and County.

B. To demonstrate qualification for performing the Work of this Contract, bidders may be requested to submit AIA A305.

5.2 PREQUALIFICATION – NOT USED

5.3 SUBCONTRACTORS/SUPPLIERS/OTHERS

A. Owner reserves the right to reject a proposed subcontractor for reasonable cause.

B. Refer to General Conditions.

BID SUBMISSION

6.1 BID DEPOSITORY

A. Sealed Bids are due at the office of City Hall - 2600 Roosevelt, Dalworthington Gardens, Texas 76016 _ on _December 2, 2024, at 2 PM Central Time.

B. The rules and regulations of this bid deposit system, in force on the day of bid submission shall apply.

6.2 SUBMISSION PROCEDURE

A. Bidders shall be solely responsible for the delivery of their bids in the manner and time prescribed.

B. Submit one copy of the executed offer on the Bid Forms provided, signed and sealed with the required security in a closed opaque envelope, clearly identified with bidder's name, project name and Owner's name on the outside.

C. Double Envelope: Insert the closed and sealed Bid Form envelope plus requested security deposit, qualification forms, into a large opaque envelope and label this envelope as noted above.

D. Improperly completed information, irregularities in security deposit, may be cause not to open the Bid Form envelope and declare the bid invalid or informal.

E. An abstract summary of submitted bids will be made available to all bidders following bid opening.

6.3 BID INELIGIBILITY

A. Bids that are unsigned, improperly signed or sealed, conditional, illegible, obscure, contain arithmetical errors, erasures, alterations, or irregularities of any kind, may at the discretion of the Owner, be declared unacceptable.

B. Bid Forms, Appendices, and enclosures that are improperly prepared may, at the discretion of Owner, be declared unacceptable.

C. Failure to provide security deposit, bonding or insurance requirements may, at the discretion of Owner, be waived.

D. Bids are by invitation, only from selected bidders. Bids from unsolicited bidders may be returned.

BID ENCLOSURES/REQUIREMENTS

7.1 SECURITY DEPOSIT

A. Bids shall be accompanied by a security deposit as follows:
   1. Certified check in the amount of 10% of the bid amount.

B. Endorse the Bid Bond in the name of the Owner as obligee, signed and sealed by the principal (Contractor) and surety.

C. Endorse the certified check in the name of the Owner.

D. The security deposit will be returned after delivery to the Owner of the required Performance and Payment Bond(s) by the accepted bidder.

E. Include the cost of bid security in the Bid Amount.

F. After a bid has been accepted, all securities will be returned to the respective bidders and other requested enclosures.

G. If no contract is awarded, all security deposits will be returned.

7.2 CONSENT OF SURETY

A. Submit with the Bid: 5% of the amount of the bid.

7.3 PERFORMANCE ASSURANCE

A. Accepted Bidder: Provide a Performance bond as described in 007300 - Supplementary Conditions.

B. Include the cost of performance assurance bonds in the Bid Amount.

7.4 INSURANCE

A. Provide an executed "Undertaking of Insurance" on the form provided stating their intention to provide insurance to the bidder in accordance with the insurance requirements of Contract Documents.

7.5 BID FORM REQUIREMENTS

A. Complete all requested information in the Bid Form and Appendices.

B. Taxes: Refer to Supplementary Conditions for inclusion of taxes, procedures for tax rebate claims, products that are tax exempt.

7.6 FEES FOR CHANGES IN THE WORK

A. Include the fees for overhead and profit on own Work and Work by subcontractors, identified in Supplementary Conditions.

B. Include in the Bid Form, the overhead and profit fees on own Work and Work by subcontractors, applicable for Changes in the Work, whether additions to or deductions from the Work on which the Bid Amount is based.

C. Include in the Bid Form, the fees proposed for subcontract work for changes (both additions and deductions) in the Work. Contractor shall apply fees as noted, to the subcontractor's gross (net plus fee) costs on additional work.

7.7 BID FORM SIGNATURE

A. The Bid Form shall be signed by the bidder, as follows:
   1. Sole Proprietorship: Signature of sole proprietor in the presence of a witness who will also sign. Insert the words "Sole Proprietor" under the signature. Affix seal.
   2. Partnership: Signature of all partners in the presence of a witness who will also sign. Insert the word "Partner" under each signature. Affix seal to each signature.
   3. Corporation: Signature of a duly authorized signing officer(s) in their normal signatures. Insert the officer's capacity in which the signing officer acts, under each signature. Affix the corporate seal. If the bid is signed by officials other than the president and secretary of the company, or the president/secretary/treasurer of the company, a copy of the by-law resolution of their board of directors authorizing them to do so, must also be submitted with the Bid Form in the bid envelope.
   4. Joint Venture: Each party of the joint venture shall execute the Bid Form under their respective seals in a manner appropriate to such party as described above, similar to the requirements of a Partnership.

7.8 ADDITIONAL BID INFORMATION

A. The lowest bidder will be requested to complete the Supplements To Bid Forms within 24 hours after submission of bids.

B. Submit the following Supplements (or equivalent) 24 hours after bid submission:
   1. Document 004336 - Proposed Subcontractors Form: Include the names of all Subcontractors and the portions of the Work they will perform.
   2. Document 004322 - Unit Prices Form: Include a listing of unit prices specifically requested by Contract Documents.
   3. Document 004323 - Alternates Form: Include the cost variation to the Bid Amount applicable to the Work described in Section _____.
   4. Document 004325 - Substitution Request Form - During Procurement.
   5. Document 004327 - Separate Prices Break-Out Form: Include a listing of separate prices as specifically requested in Contract Documents.
   6. Document 004373 - Proposed Schedule of Values Form identifies the Bid Amount segmented into portions as requested.
   7. Document 004334 - Proposed Mechanical Products Form.
   8. Document 004335 - Proposed Electrical Products Form.
   9. Document 004333 - Proposed Products Form.
   10. Document 004328 - Items Eligible For Tax Rebate Form.

7.9 SELECTION AND AWARD OF ALTERNATES

A. Indicate variation of bid price for Alternates listed on the Bid Form. Unless otherwise indicated, indicate Alternates as a difference in bid price by adding to or deducting from the base bid price.

B. Bids will be evaluated on the base bid price. After determination of a successful bidder, consideration will be given to Alternates and bid price adjustments.

C. Bids will be evaluated on the total of the base bid price and all of the Alternates. After determination of the successful bidder, consideration will be given to which Alternates will be included in the Work.

OFFER ACCEPTANCE/REJECTION

8.1 DURATION OF OFFER

A. Bids shall remain open to acceptance and shall be irrevocable for a period of sixty (60) days after the bid closing date.

8.2 ACCEPTANCE OF OFFER

A. Owner reserves the right to accept or reject any or all offers.

B. After acceptance by Owner, Architect on behalf of Owner, will issue to the successful bidder, a written Bid Acceptance.

END OF SECTION

SECTION 004100
BID FORM

THE PROJECT AND THE PARTIES

1.1 TO:

A. Owner
City of Dalworthington Gardens
2600 Roosevelt Drive
Dalworthington Gardens, Texas 76016

1.2 FOR:

A. Project: Dalworthington Gardens Police Station Renovations

B. Owner's Project Number: 20384
1. City of Dalworthington Gardens
2600 Roosevelt Drive
Dalworthington Gardens, Texas 76016

1.3 DATE: _____ (BIDDER TO ENTER DATE)

1.4 SUBMITTED BY: (BIDDER TO ENTER NAME AND ADDRESS)

A. Bidder's Full Name _____
1. Address _____
2. City, State, Zip_____

1.5 OFFER

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

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

C. We have included the required security deposit as required by the Instruction to Bidders.

D. We have included the required performance assurance bonds in the Bid Amount as required by the Instructions to Bidders.
1. The cost of the required performance assurance bonds is _ _____ _dollars ($_____), in lawful money of the United States of America.

E. All applicable federal taxes are included, and State of Texas taxes are included in the Bid Sum.

F. All Cash and Contingency Allowances described in Section 012100 - Allowances are included in the Bid Sum.

1.6 ACCEPTANCE

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

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

C. If this bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required Bond(s), the security deposit shall be forfeited as damages to Owner by reason of our failure, limited in amount to the lesser of the face value of the security deposit or the difference between this bid and the bid upon which a Contract is signed.

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

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

1.7 CONTRACT TIME

A. If this Bid is accepted, we will:

B. Complete the Work in _____ calendar weeks from Notice to Proceed. (Bidder to enter number of weeks.)

1.8 UNIT PRICES

A. The following are Unit Prices for specific portions of the Work as listed. The following is the list of Unit Prices:

B. ITEM DESCRIPTION - UNIT QUANTITY - UNIT PRICE - ITEM VALUE

C. _____ - _____ - _____ - $ .....

D. _____ - _____ - _____ - $ .....

E. _____ - _____ - _____ - $ .....

F. _____ - _____ - _____ - $ .....

1.9 CHANGES TO THE WORK

A. When Architect establishes that the method of valuation for Changes in the Work will be net cost plus a percentage fee in accordance with General Conditions, our percentage fee will be:
   1. _____ percent overhead and profit on the net cost of our own Work.
   2. _____ percent on the cost of work done by any Subcontractor.

B. On work deleted from the Contract, our credit to Owner shall be Architect-approved net cost plus _____ of the overhead and profit percentage noted above.

1.10 ADDENDA

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

1.11 BID FORM SUPPLEMENTS

A. The following information is included with Bid submission:
   1. Subcontractors: _____, _____, _____.
   2. Unit Prices: _____, _____, _____.
   3. Alternates: _____, _____, _____.

B. We agree to submit the following Supplements to Bid Forms within 24 hours after submission of this bid for additional bid information:
   1. Document 004322 - Unit Prices Form: Include a listing of unit prices specifically requested by Contract Documents.
   2. Document 004323 - Alternates Form: Include the cost variations to the Bid Price applicable to the Work as described in Section _____.
   3. Document 004325 - Substitution Request Form - During Procurement.
   4. Document 004327 - Separate Prices Break-Out Form: Include a listing of separate prices as specifically requested in Contract Documents.
   5. Document 004328 - Items Eligible For Tax Rebate Form.
   6. Document 004333 - Proposed Products Form.
   7. Document 004334 - Proposed Mechanical Products Form.
   8. Document 004335 - Proposed Electrical Products Form.
   9. Document 004336: Include the names of all Subcontractors and the portions of the Work they will perform.
   10. Document 004373 - Proposed Schedule of Values Form identifies the Bid Price/Sum segmented into portions as requested.

1.12 BID FORM SIGNATURE(S)

A. The Corporate Seal of

B. _____

C. (Bidder - print the full name of your firm)

D. was hereunto affixed in the presence of:

E. _____

F. (Authorized signing officer, Title)

G. (Seal)

H. _____

I. (Authorized signing officer, Title)

1.13 IF THE BID IS A JOINT VENTURE OR PARTNERSHIP, ADD ADDITIONAL FORMS OF EXECUTION FOR EACH MEMBER OF THE JOINT VENTURE IN THE APPROPRIATE FORM OR FORMS AS ABOVE.

END OF SECTION

DWG POLICE & FIRE

2600 ROOSEVELT DRIVE
DALWORTHINGTON GARDENS, TEXAS 76016

FULL REMODEL SET

MAIN CONTACT

CHIEF GREG PETTY
2600 ROOSEVELT DRIVE
DALWORTHINGTON GARDENS, TEXAS 76013
817-275-1234

ENGINEER

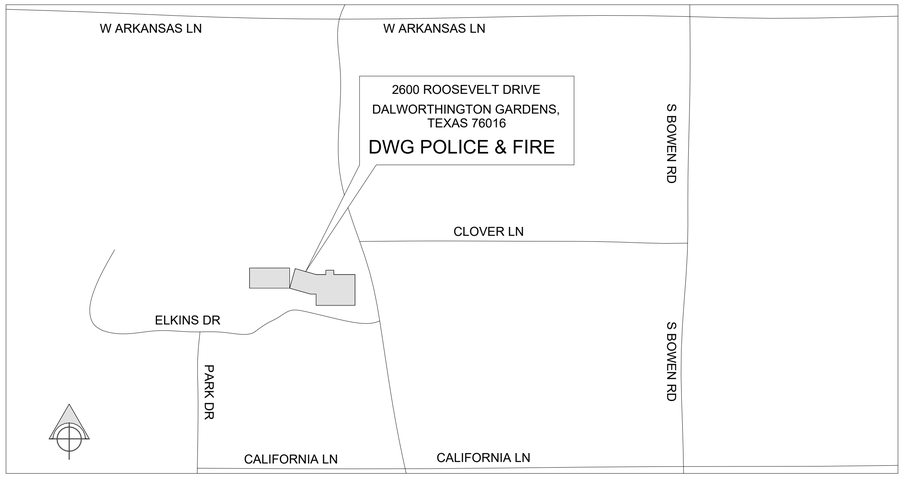
AME Engineering, Inc.

3825 W GREEN OAKS BLVD STE 200
ARLINGTON, TX 76016

TEXAS FIRM F-16469

JESSICA KILGORE, P.E.
TEXAS LICENSE 106106
817-653-4122
mail@ameengineer.com

AME PROJECT NUMBER 1699



SITE MAP

N.T.S.

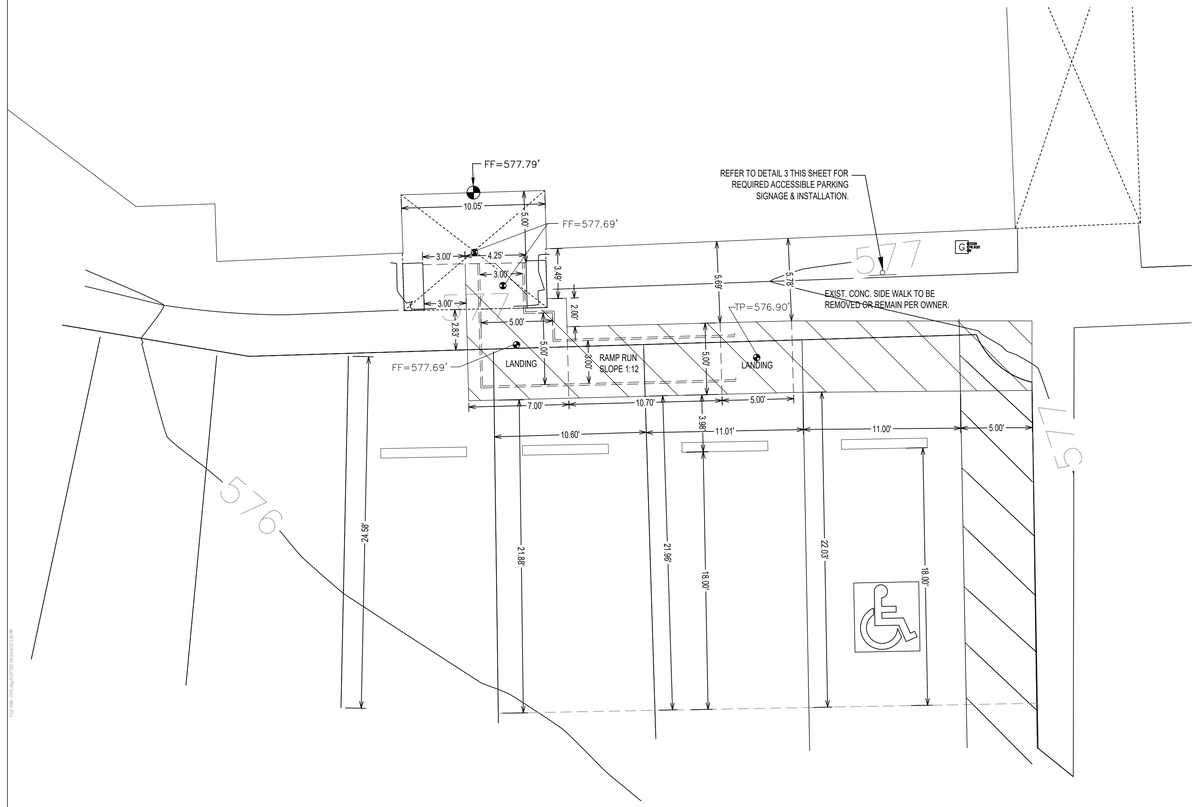
STATE OF TEXAS
JESSICA J. KILGORE
106106
LICENSED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY JESSICA J. KILGORE, P.E. 106106 ON JUNE 19, 2023

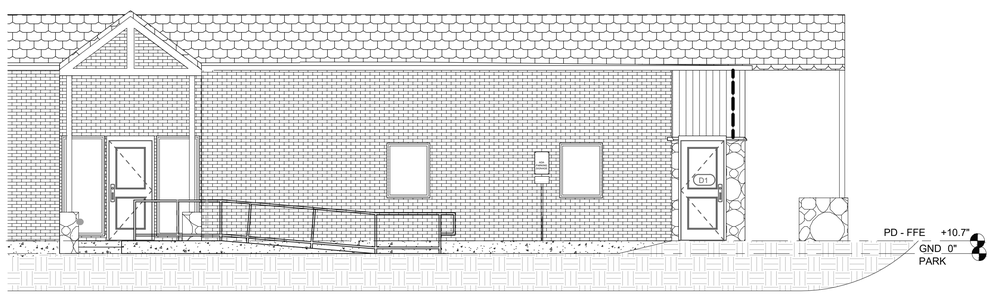
CODE DESIGN

CITY OF DALWORTHINGTON GARDENS		
CODE	YEAR	NOTE
IBC	2015	PLUS LOCAL AMENDMENTS AND ORDINANCES
IFC	2015	
IMC	2015	
IPC	2015	
IFGC	2015	
NEC	2017	
IECC	2015	

SHEET INDEX

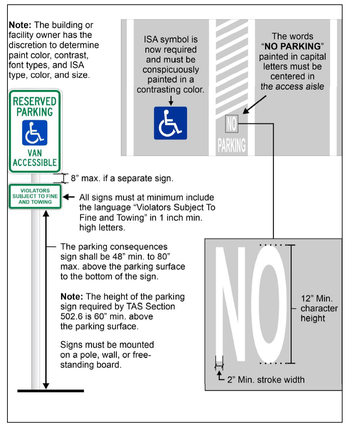


1 PROPOSED POLICE DEPT. RAMP SITE LAYOUT
SCALE: 1" = 5'-0"



RAMP PLACEMENT & INSTALLATION BASED ON BEST AVAILABLE INSPECTION, INFORMATION & PROVIDED SURVEY DATA. CONTRACTOR TO CONFIRM ALL FFE'S ARE AS SHOWN ON THE REMODEL PLANS SHOWN HEREIN.

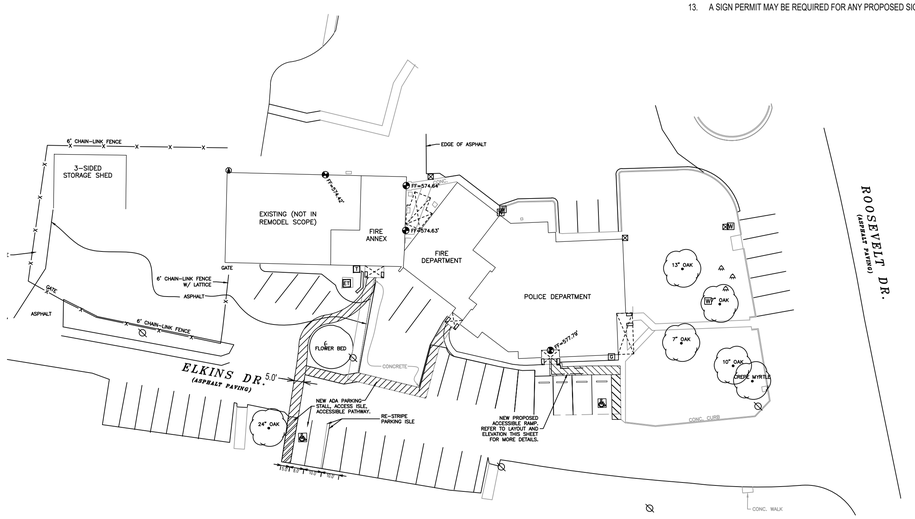
2 POLICE DEPARTMENT FRONT ENTRY RAMP ELEVATION
SCALE: 1" = 5'-0"



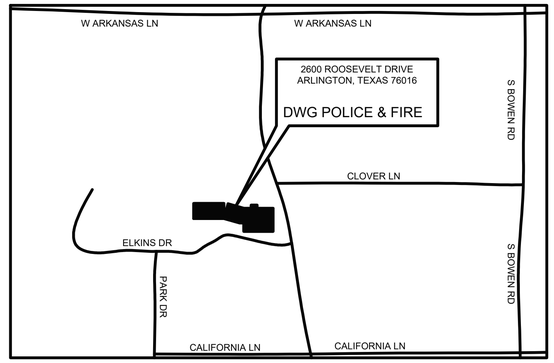
3 ACCESSIBLE PARKING SIGNAGE DETAIL
SCALE: N.T.S.

NOTES TO CONTRACTOR:

1. REFER TO AS-BUILT AND PARTIAL TOPOGRAPHIC SURVEYS PROVIDED BY TEAGUE NALL & PERKINS IN APRIL, 2023. REFERENCE DWG-23154.
2. CONTRACTOR TO REFER TO REQUIRED ACCESSIBLE AREA MAXIMUM VERTICAL AND HORIZONTAL SLOPES FOR SITE ACCESSIBLE PATHWAYS ON SHEETS ADA-1 - ADA-3 TO VERIFY EXISTING ASPHALT AND CONCRETE PAVEMENTS MEET REQUIREMENTS. CONTACT UNDERSIGNED ENGINEER WITH SLOPE ISSUES FOUND IN THE FIELD DURING CONSTRUCTION FOR COORDINATION.



4 OVERALL SITE ACCESSIBLE WAY LAYOUT
SCALE: 1" = 40'-0"



VICINITY MAP
NOT TO SCALE

GENERAL DEVELOPMENT NOTES

1. THE CITY IS TO BE NOTIFIED 24 HOURS PRIOR TO ANY CONSTRUCTION.
2. WORK WILL NOT BE ACCEPTED WITHOUT A PERMIT AND INSPECTION OF WORK BY THE CITY (OR ITS DESIGNATED ENGINEERING REPRESENTATIVE).
3. NO PERSON SHALL OPEN, TURN OFF, INTERFERE WITH, ATTACH ANY HOSE TO, OR TAP ANY WATER MAIN BELONGING TO THE CITY OR WATER COOPERATIVE UNLESS DULY AUTHORIZED TO DO SO.
4. ARRANGEMENTS FOR CONSTRUCTION OF WATER LINES SHALL BE MADE THROUGH THE CITY OR APPLICABLE WATER COOPERATIVE.
5. ROUGH GRADING IS TO BE DONE PRIOR TO CONSTRUCTION OF UTILITIES.
6. ALL BORES UNDER EXISTING STREETS OR ALLEYS SHALL BE LINED WITH SMOOTH STEEL CARRIER PIPES UNLESS OPEN CUTTING OF THE STREET IS PERMITTED. ENDS OF STEEL CARRIER PIPE TO BE SEALED WITH GROUT OR APPROVED RUBBER BOOT.
7. THERE WILL BE NO EXTRA PAY ITEMS FOR PLUGGING EXISTING AND PROPOSED RCPs AND SEWER LINES THAT HAVE BEEN LOCATED AND SHOWN ON THESE PLANS.
8. THE CONTRACTOR SHALL ADJUST THE TOPS OF MANHOLES, VALVES, METER BOXES, FIRE HYDRANTS, AND OTHER UTILITY APPURTENANCES FOUND DURING CONSTRUCTION TO FIT THE FINISHED PAVING AND SHOULDERS. THERE WILL BE NO SEPARATE PAY ITEM FOR THIS WORK. THE COST SHALL NOT BE INCLUDED IN THE BID PRICE FOR OTHER ITEMS.
9. THE CONTRACTOR SHALL PROTECT ALL EXISTING WATER, SEWER, GAS, TELEPHONE, ETC. UTILITIES. DAMAGED UTILITIES SHALL BE REPLACED OR PAID FOR BY THE CONTRACTOR AT NO EXTRA COST TO THE OWNER.
10. THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE UNLESS SPECIFICALLY NOTED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND VERIFY ON-SITE ANY UTILITIES THAT MAY CONFLICT WITH THE CONSTRUCTION. AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION IN THE VICINITY OF EXISTING UNDERGROUND UTILITIES, THE CONTRACTOR SHALL NOTIFY THE APPLICABLE UTILITY OWNER.
11. OUTDOOR STORAGE AND REFUSE DISPOSAL SHALL BE LANDSCAPED AND SCREENED FROM VIEW
12. MECHANICAL AND ELECTRICAL EQUIPMENT, INCLUDING AIR CONDITIONING UNITS, SHALL BE DESIGNED, INSTALLED AND OPERATED TO MINIMIZE NOISE AND VISUAL IMPACT ON SURROUNDING PROPERTY. ALL SUCH EQUIPMENT SHALL BE SCREENED FROM PUBLIC VIEW.
13. A SIGN PERMIT MAY BE REQUIRED FOR ANY PROPOSED SIGNS. CONTACT AHJ FOR MORE INFORMATION.

CONTRACTOR RESPONSIBILITIES

CONTRACTOR SHALL REPORT ANY DISCREPANCIES, OMISSIONS OR INCONSISTENCIES ON THE DRAWINGS TO ENGINEER FOR VERIFICATION BEFORE STARTING CONSTRUCTION. OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR ANY ERRORS IN CONSTRUCTION WHERE SUCH DISCREPANCIES, OMISSIONS OR INCONSISTENCIES HAVE NOT BEEN PROPERLY REPORTED IN A TIMELY MANNER.

NOTE TO BIDDER

THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.

5 0 5 10
GRAPHIC SCALE IN FEET

CONTRACTOR TO CONTACT UNDERGROUND UTILITY COMPANIES PRIOR TO ANY EXCAVATION WORK.

CALL 811 BEFORE YOU DIG.

EXERCISE CAUTION WHEN WORKING IN AREA NEAR OVERHEAD ELECTRIC LINES.

ESTABLISH AND MAINTAIN
** A TEMPORARY BENCHMARK **
DURING CONSTRUCTION

TEXAS FIRM F-16469
AME Engineering, Inc.
mail@ameengineer.com | ofc 817-653-4122 | fax 817-754-6615
3825 W Green Oaks Blvd Suite 200, Arlington TX 76016-2700

STATE OF TEXAS
JESSICA J. KILGORE
106106
LICENSED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by
Jessica J. Kilgore, P.E.
106106
on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL

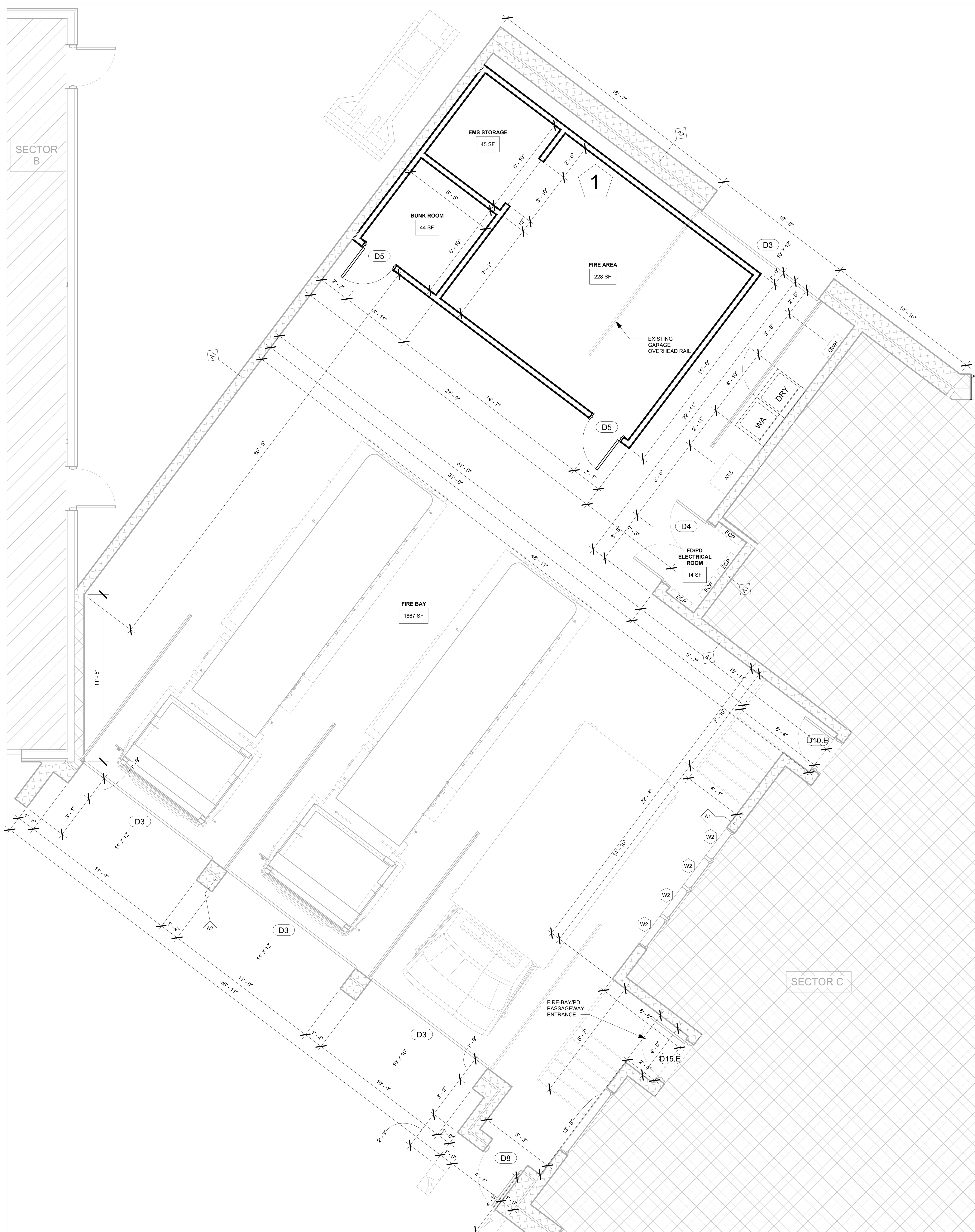
2600 ROOSEVELT DRIVE
DALWORTHINGTON GARDENS, TEXAS 76016

CONTACT NAME	CHIEF GREG PETTY
CONTACT COMPANY	DWG POLICE & FIRE
CONTACT PHONE	817-275-1234
ISSUES	
CLIENT REVIEW SET 05/17/2023	
FINAL COUNCIL REVIEW 06/19/23	
ADA REVISION SET 08/04/23	
SHEET REVISIONS	
DESIGNED	JL
CHECKED	JJK
IBC	2015
IECC	2015
NEC	2017
SCALE	AS SHOWN

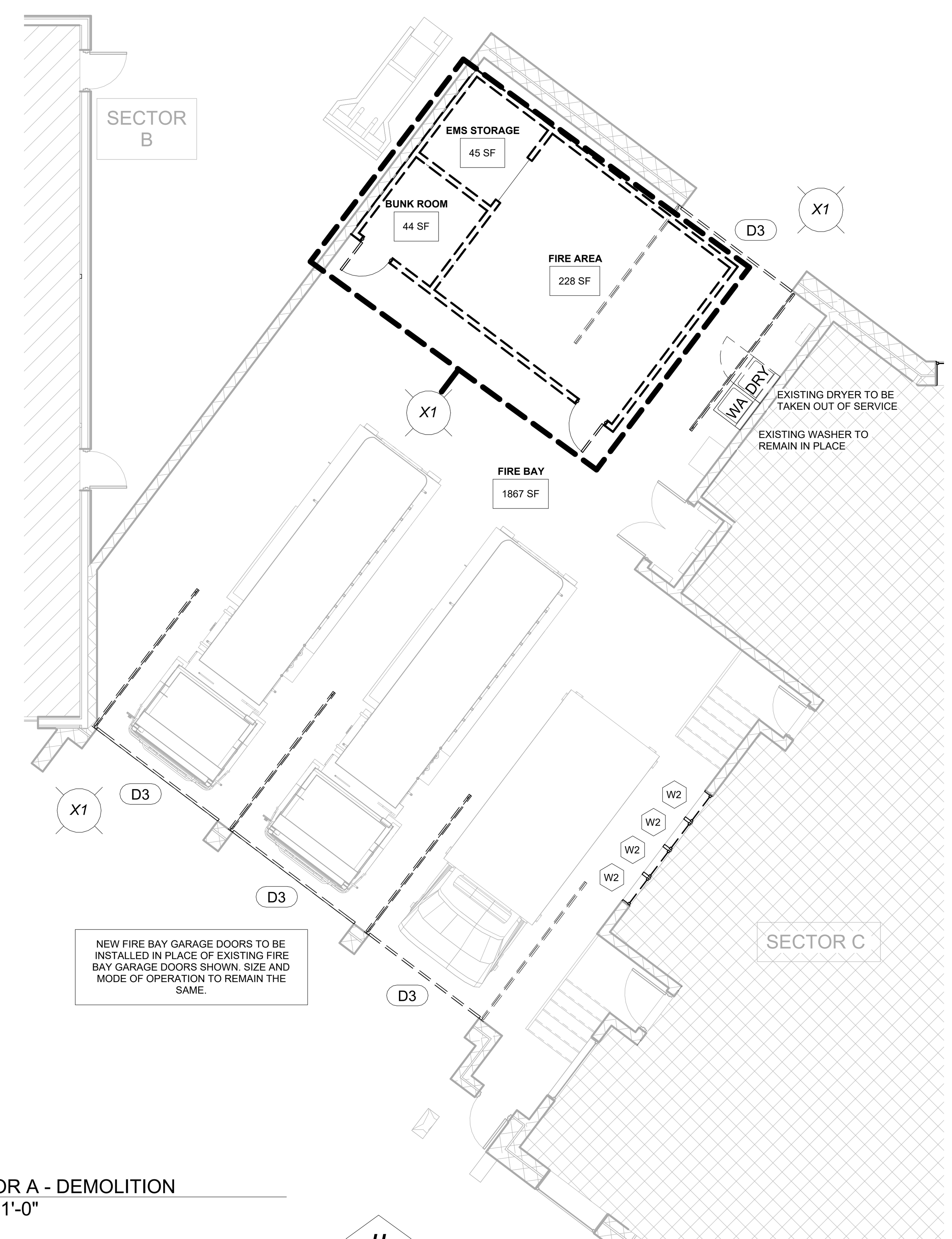
PARTIAL SITE PLAN & ADA RAMP/ISLE DETAILS

A0.1-C

PROJECT	1699



1 SECTOR A - EXISTING
1/4" = 1'-0"



2 SECTOR A - DEMOLITION
1/8" = 1'-0"

REMODEL NOTE BY SYMBOL

1. EXISTING MEP EQUIPMENT, DEVICES, AND COMPONENTS TO BE REMOVED UNLESS CAPABLE OF BEING REUTILIZED IN FOLLOWING THE SPECIFIED REMODEL PLANS @ EACH SECTOR (SEE MEP PLANS FOR REQUIRED EQUIPMENT SIZING & SPECIFICATIONS)
2. SPECIFIED STRUCTURAL FRAMING TO REMAIN IN PLACE AND TO BE UNHINDERED OR MODIFIED IN ANY WAY. STRUCTURAL SYSTEMS SHOWN ON PLAN ARE ESTIMATES BASED ON FIELD INVESTIGATIONS, CONTRACTOR TO VERIFY EXISTING STRUCTURAL PLACEMENT.
3. CONTRACTOR TO VERIFY WITH OWNER THE FINAL DESIGN INTENT REGARDING HVAC EQUIPMENT & DIFFUSERS. CURRENT DESIGN DOES NOT INCLUDE CONDITIONING WITHIN THE REMOLDED AREA (STORAGE AREA)
4. EXTERIOR DESIGN & ENTRANCE TO BE CONFIRMED BY OWNER. CURRENT ENTRYWAY AND STRUCTURAL FRAMING RESTRICT THE PLACEMENT OF PRIMARY ENTRANCE AS SHOWN ON PLANS.
5. AIR FILLING STATION CLEARANCES PROVIDED PER MANUFACTURER & OWNER INSTALLATION. EXISTING CONFIGURATION SHOWN HAS BEEN INSTALLED, AND TO BE CONSIDERED AN EXISTING COMPONENT OF FINAL REMODEL DESIGN.
6. ALL CEILING HEIGHTS PROVIDED ON PLANS ARE EXISTING CEILING HEIGHTS OR NEW HEIGHTS BASED ON EXISTING STRUCTURAL FRAMING.
7. ALL NEW FIRE BAY LIGHTING TO BE INSTALLED WITH AUTOMATED LIGHT SYSTEM PER MEP PLANS.
8. REMODELED ROOMS W/ NEW WALL FINISHES & CONFIGURATIONS TO BE CONSIDERED AS AN ELEMENT OF THE FINAL REMODEL DESIGN. (AS SHOWN IN **BOLD** ON THE PLANS & LEGEND FOR ALL PROPOSED FINISHES). ALL FINISHES, OR RE-FINISHED ELEMENTS, TO MATCH DESIGN SPECIFICATIONS AS SCHEDULED & LABELED THROUGHOUT EACH APPLICABLE PLAN.

WALL SCHEDULE

APPEARANCE	NAME & DESCRIPTION	FUNCTION	WIDTH	MARK
	EXISTING: 8" CMU BRICK WALL - PAINTED FINISH ON CMU	INTERIOR & EXTERIOR	8"	A1
	EXISTING: 8" & 12" DOUBLE CMU BRICK WALL WITH INNER MORTAR & SOLDER APPLICATION - PAINTED FINISH ON CMU	EXTERIOR	1' - 9"	A2
	EXISTING: 3 1/2" WOODEN STUD & 1/2" GYPSUM WALL BOARD ON INTERIOR SIDE W/ PAINT & FINISH. 1/2" BACKER BOARD WITH 5" STONE & NATURAL SOLDER VENEER ON EXTERIOR SIDE. TOP WALL SWEEP UTILIZING AN EXISTING METAL WALL PANEL FINISH.	EXTERIOR	10"	A3
	REUTILIZED OLD EXTERIOR BRICK WALL AND INTERIOR 3 1/2" WOODEN STUD WALL, 1/2" GYPSUM WALL BOARD, AND EXISTING PAINT/FINISH. UTILIZED AS AN INTERIOR WALL ON THE BORDER OF OLD CITY HALL DEPARTMENT AND POLICE DEPARTMENT AS APPLICABLE. EXTERIOR SIDE, UTILIZED AS INTERIOR FINISH WITH A 3 5/8" BRICK VENEER AS APPLICABLE, 1" AIR GAP, 1/2" BACKER BOARD.	INTERIOR	10"	A4
	EXISTING EXTERIOR WALL AND INTERIOR 3 1/2" WOODEN STUD WALL, 1/2" GYPSUM WALL BOARD, W/ EXISTING PAINT/FINISH. EXTERIOR SIDE UTILIZING A 3 5/8" BRICK VENEER AS APPLICABLE, 1" AIR GAP, 1/2" BACKER BOARD.	EXTERIOR	10"	A5
	EXISTING INTERIOR PARTION WALL UTILIZING 3 1/2" WOODEN STUD, 1/2" GYPSUM WALL BOARD ON EITHER SIDE AND 1/4" INTERIOR PAINT & FINISH	INTERIOR	5"	A6
	EXISTING RESTROOM PARTITION WALL WITH 5 1/2" WOODEN STUD FRAME, 1/2" GYPSUM WALL ON EITHER SIDE AND 1/4" INTERIOR PAINT & FINISH W/ TILE AND MILDEW PROHIBITOR APPLICATION.	INTERIOR	6 1/2"	A7
	EXISTING PARTITION WALL WITH 3 1/2" WOODEN STUD FRAME, 1/2" GYPSUM WALL ON EITHER SIDE AND 1/4" INTERIOR PAINT & FINISH W/ TILE AND MILDEW PROHIBITOR APPLICATION WHAN APPLICABLE.	INTERIOR	4 1/2"	A8
	EXISTING 1" THICK GLASS CURTAIN PANEL WALL WITH DARK TINT & GLAZING. MOUNTED TO BASE OF 10" EXTERIOR WALL OR 21" CMU W/ 4" FRAMING PAINTED ALUMINUM SYSTEM.	EXTERIOR	1"	A9
	EXISTING METAL PANEL WALL, W/ EXPOSED INTERIOR SIDE, BATT. INSULATION, AND EXTERIOR METAL PANELING. 1 1/4" METAL SIDE PANELING, 1 1/2" WOODEN BACKER BOARD FOR APPLICATION AND BATT. INSULATION, AND 5 3/8" METAL STUD.	EXTERIOR	10"	A10
	EXISTING METAL PANEL WALL W/ EXPOSED INTERIOR, SIDE, BATT. INSULATION, AND EXTERIOR METAL PANELING. 1 1/4" METAL SIDE PANELING, 1/2" WOODEN BACKER BOARD FOR APPLICATION AND BATT. INSULATION, AND 5 3/8" METAL STUDS.	EXTERIOR	8"	A11
	EXISTING METAL STUD WALL W/ FINISHED INTERIOR, SIDE, BATT. INSULATION. 1 1/2" WOODEN BACKER BOARD FOR APPLICATION AND BATT. INSULATION, AND 5 3/8" METAL STUDS.	INTERIOR	7"	A12
	NEW METAL STUD PLUMBING WALL, AND EXTERIOR BOUNDARY WALL FOR FIRE DEPARTMENT ADDITION IN LIVING AREA. TO UTILIZE 3 5/8" METAL STUD @ 24 O.C., 1/2" PLYWOOD SHEATHING FOR MOUNTING. AND 5/8" GYPSUM & FINISH WHERE APPLICABLE.	INTERIOR	6 5/8"	A13

FLOOR PLAN LEGEND

	EMERGENCY BACKUP GENERATOR (DIESEL). BARE GENERATOR SHOWN FOR PLAN CLARIFICATION & VISIBILITY
ATS	AUTOMATIC TRANSFER SWITCH (ATS)
ECP	ELECTRICAL CONTROL PANEL
GWH	ON-DEMAND GAS WATER HEATER
	DUMB WAITER FOR RECORD STORAGE 2ND FLOOR
	WORKSTATION/DESK FROM POLICE OFFICER AREA
	RECTANGULAR COLUMN, STONE VENEER FINISH W/ METAL SQUARE 5" COLUMN TO VAULTED ROOF.
WC, LAV, SHW, DWF, WCD, WCV, URI	***PLUMBING:*** • UR: URINAL @ 1'- 6" A.F.F. (VALVE) • WC: WATER CLOSET (TANK - TYPICAL) • WCJ: WATERCLOSET W/ DETENTION SINK • WCV: WATERCLOSET W/ VALVE • LAV: LAVATORY • SHW: SHOWER • EWC: DRINKING WATER FOUNTAIN
WA DRY	COMMMERCIAL WASHER DRYER
DX	DOOR TAG
DX.E	DOOR TAG - EXISTING TO REMAIN (.E)
PLU	PLUMBING FIXTURE TAG
AX	WALL TAG
WX	WINDOW TAG
X#	DEMOLITION TAG - POINT OF REFERENCE REGARDING SCHEDULE ANNOTATIONS & DEMOLITION ZONES. PER ROOM, DOOR, AND WINDOW SCHEDULES ON EXISTING & DEMOLITION PLANS.
#	REMODEL NOTE BY SYMBOL. ANNOTATIONS WILL PERTAIN TO ANY REFERENCED ARCHITECTURAL, MEP, AND/OR STRUCTURAL CHANGES IMPLIED BY FINAL DESIGN SHOWN ON PLANS.
X#	CEILING COMPONENT IN FINAL REMODEL DESIGN PLAN. REFER TO MEP PLANS FOR FINALIZED SPECIFICATIONS & DESIGNATIONS FOR MEP CONSOLIDATION. WILL PERTAIN TO LIGHTING FIXTURES & DIFFUSER LOCATIONS ON ARCH PLANS ONLY (REFER TO CEILING SCHEDULES ON REMODEL PLANS)
	EXISTING WALL TO BE DEMOLISHED, PER SPECIFIED DEMOLITION PLANS.
	EXISTING WALL TO REMAIN, AS SHOWN THROUGH EACH APPLICABLE CONSTUCTION PHASE. ALL WALLS SHOWN ON THE FINAL REMODEL DESIGN TO BE FINISHED AS SPECIFIED ON THE PLANS HEREIN.

SECTOR A NEW WINDOW SCHEDULE

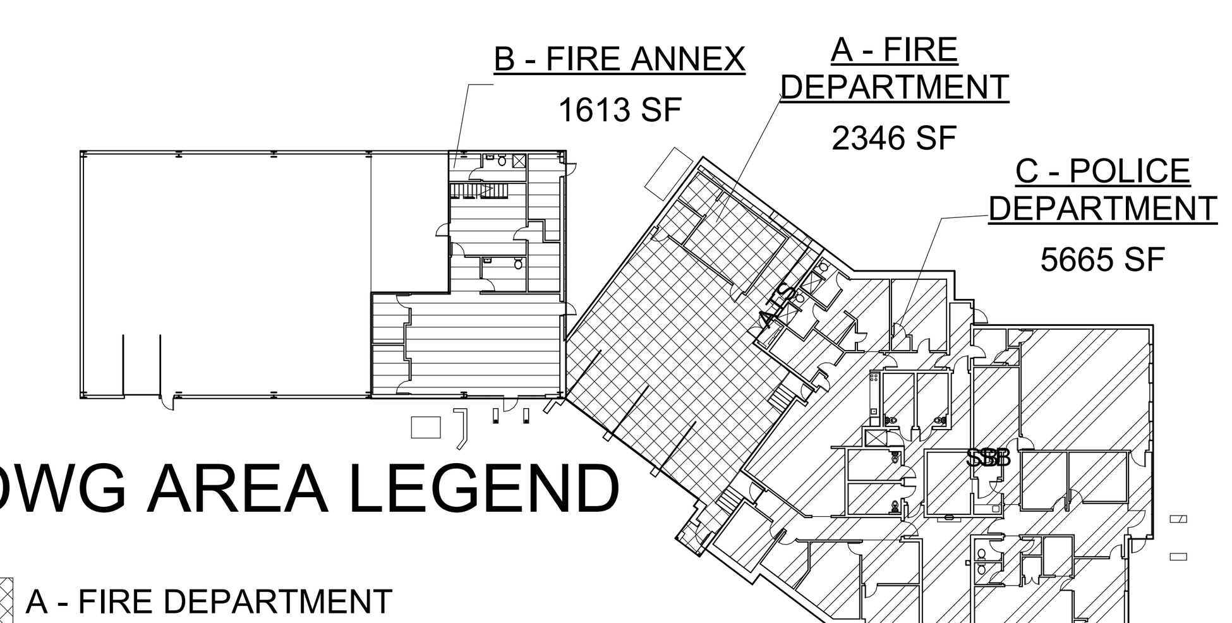
MARK	TYPE	WIDTH	HEIGHT	SGHC	LIGHT TRANS.	QTY
W2	30" X 45"	2' - 6"	3' - 9"	0.78	0.9	4

SECTOR A ROOM SCHEDULE - (EXIST/DEMO) X#

NAME	DEPARTMENT	WALL FINISH	CLG FINISH	FLR FINISH	AREA	OCC CLASS.	OCC FACTOR	OCC LOAD
EXISTING: TO REMAIN								
FIRE BAY	FIRE DEPT.	EXPOSED CMU, CMU BRICK WALL W/ PAINT & FINISH	OPEN TO ROOF DECK & TRUSS	EXPOSED CONCRETE FINISH	1867 SF	B	100	19
FD/PD ELECTRICAL ROOM	FIRE DEPT.	EXPOSED CMU	OPEN TO ATTIC	EXPOSED CONCRETE FINISH	14 SF	B	500	1
X1: TO DEMOLISH								
BUNK ROOM	FIRE DEPT.	GYP PAINT & FINISH	GYP CLNG	EXPOSED CONCRETE FINISH	44 SF	R-2	200	1
EMS STORAGE	FIRE DEPT.	GYP PAINT & FINISH HARDIE BOARD	GYP CLNG	EXPOSED CONCRETE FINISH	45 SF	B	500	1
FIRE AREA	FIRE DEPT.	GYP PAINT & FINISH HARDIE BOARD	GYP CLNG	EXPOSED CONCRETE FINISH	228 SF	B	100	3
Grand total: 5					2198 SF			25

SECTOR A EXISTING DOOR SCHEDULE

TYPE MARK	TYPE	FRAME MATERIAL	FRAME TYPE	FUNCTION	COUNT	HEIGHT	WIDTH
EXISTING: TO REMAIN							
D10.E	30" x 80" - EXISTING	STEEL	PAINTED STEEL, IRON REINFORCED	Interior	1	6'-8"	2'-6"
D8	32" X 80"	STEEL	STEEL, ALUMINUM	Exterior	1	6'-8"	2'-8"
D15.E	36" x 80" - EXISTING	ALUMINUM	STEEL, ALUMINUM	Interior	1	6'-8"	3'-0"
D4	60" X 80"	ALUMINUM	PAINTED STEEL, IRON REINFORCED	Interior	1	6'-8"	5'-0"
X1							
D5	30" x 80"	WOOD	PAINTED WOODEN FINISH	Interior	2	6'-8"	2'-8"
D3	GARAGE OVERHEAD BAY	STEEL	STEEL, ALUMINUM	Exterior	1	10'-0"	10'-0"
D3	GARAGE OVERHEAD BAY	STEEL	STEEL, ALUMINUM	Exterior	1	12'-0"	10'-0"
D3	GARAGE OVERHEAD BAY	STEEL	STEEL, ALUMINUM	Exterior	2	12'-0"	11'-0"
Grand total: 10							



DWG AREA LEGEND

- A - FIRE DEPARTMENT
- B - FIRE ANNEX
- C - POLICE DEPARTMENT

TEXAS FIRM F-16469
AME Engineering Inc.
mail@ameengineer.com | ofc 817-653-4122 | fax 817-754-6615
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STATE OF TEXAS
JESSICA J. KILGORE
106106
LICENSED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL

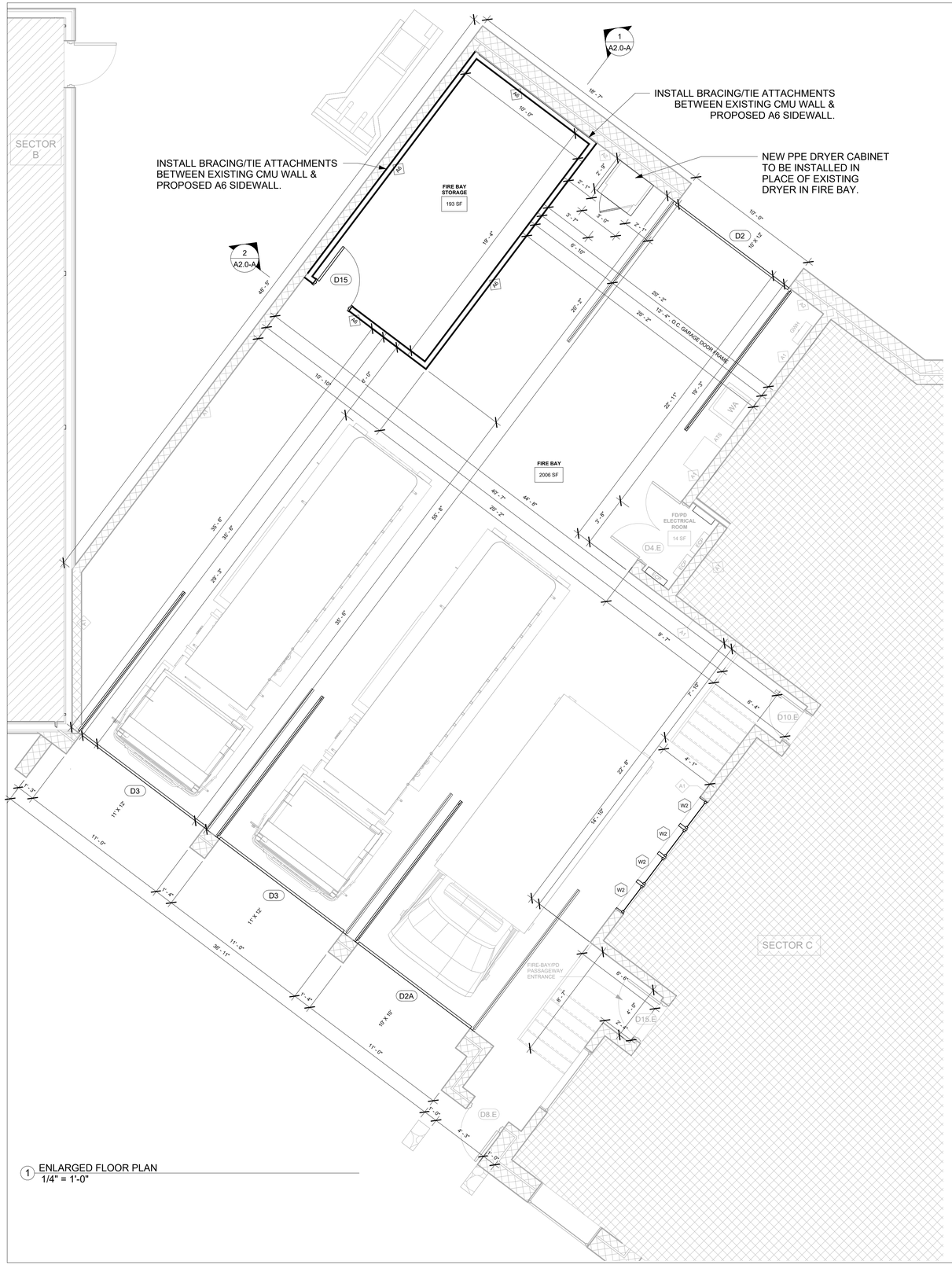
2600 ROOSEVELT DRIVE
DALWORTHINGTON GARDENS, TEXAS 76016

CONTACT NAME	CHIEF GREG PETTY
CONTACT COMPANY	DWG POLICE & FIRE
CONTACT PHONE	817-275-1234
ISSUES	
FULL CLIENT REVIEW SET 12/07/22	
FINAL COUNCIL REVIEW 06/19/23	
FINAL PERMIT SET 06/26/23	
ADA REVISION SET 08/04/23	
PRINTED	8/4/2023 1:43:44 PM
DESIGNED	JL
CHECKED	JJK
IBC	2015
IECC	2015
NEC	2017
SCALE	As indicated

SECTOR A EXISTING & DEMOLITION PLAN

A1.0-A

PROJECT	1699

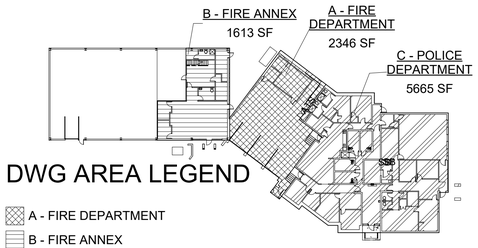


1 ENLARGED FLOOR PLAN
1/4" = 1'-0"

FLOOR PLAN LEGEND

	EMERGENCY BACKUP GENERATOR (DIESEL). BARE GENERATOR SHOWN FOR PLAN CLARIFICATION & VISIBILITY
ATS	AUTOMATIC TRANSFER SWITCH (ATS)
ECP	ELECTRICAL CONTROL PANEL
GWH	ON-DEMAND GAS WATER HEATER
	DUMB WAITER FOR RECORD STORAGE 2ND FLOOR
	WORKSTATION/DESK FROM POLICE OFFICER AREA
	RECTANGULAR COLUMN. STONE VENEER FINISH W/ METAL SQUARE 5" COLUMN TO VAULTED ROOF.
WC LAV A/C WCD DWF WCV URI SHW	**PLUMBING:** • UR: URINAL @ 1'- 6" A.F.F. (VALVE) • WC: WATER CLOSET (TANK - TYPICAL) • WC.I: WATERCLOSET W/ DETENTION SINK • WCV: WATERCLOSET W/ VALVE • LAV: LAVATORY • SHW: SHOWER • EWC: DRINKING WATER FOUNTAIN
WA DRY	COMMMERCIAL WASHER DRYER
DX	DOOR TAG
DX.E	DOOR TAG - EXISTING TO REMAIN (.E)
PLU	PLUMBING FIXTURE TAG
AX	WALL TAG
WX	WINDOW TAG
X#	DEMOLITION TAG - POINT OF REFERENCE REGARDING SCHEDULE ANNOTATIONS & DEMOLITION ZONES. PER ROOM, DOOR, AND WINDOW SCHEDULES ON EXISTING & DEMOLITION PLANS
#	REMODEL NOTE BY SYMBOL. ANNOTATIONS WILL PERTAIN TO ANY REFERENCED ARCHITECTURAL, MEP, AND/OR STRUCTURAL CHANGES IMPLIED BY FINAL DESIGN SHOWN ON PLANS.
X#	CEILING COMPONENT IN FINAL REMODEL DESIGN PLAN. REFER TO MEP PLANS FOR FINALIZED SPECIFICATIONS & DESIGNATIONS FOR MEP CONSOLIDATION. WILL PERTAIN TO LIGHTING FIXTURES & DIFFUSER LOCATIONS ON ARCH PLANS ONLY (REFER TO CEILING SCHEDULES ON REMODEL PLANS)
	EXISTING WALL TO BE DEMOLISHED, PER SPECIFIED DEMOLITION PLANS.
	EXISTING WALL TO REMAIN, AS SHOWN THROUGH EACH APPLICABLE CONSTUCTION PHASE. ALL WALLS SHOWN ON THE FINAL REMODEL DESIGN TO BE FINISHED AS SPECIFIED ON THE PLANS HEREIN.

OWNER TO SELECT NEW FIRE BAY DOOR MAKE & MODELS, ALL PARAMETERS TO REMAIN AS SHOWN PER THE FINAL REMODEL DESIGN.



DWG AREA LEGEND

- A - FIRE DEPARTMENT
- B - FIRE ANNEX
- C - POLICE DEPARTMENT

GENERAL REMODEL NOTE (WINDOWS):

ALL WINDOWS TO BE REPLACED W/ NEW MODELS W/ COMPARABLE PARAMETERS AS SHOWN ON REMODEL PLANS TO MAINTAIN COMPLAINCE W/ IECC 2015. WINDOW REPLACEMENTS FOR SECTOR A ARE ALSO SHOWN ON SECTOR C REMODEL PLANS FOR UNIFORMITY THROUGHOUT THE SHARED REMODELED WALL.

SECTOR A NEW WINDOW SCHEDULE

MARK	TYPE	WIDTH	HEIGHT	SGHC	LIGHT TRANS.	QTY
W2	30° X 45°	2' - 6"	3' - 9"	0.78	0.9	4

SECTOR A REMODEL DOOR SCHEDULE

TYPE MARK	TYPE	FRAME MATERIAL	FRAME TYPE	FUNCTION	WIDTH	HEIGHT	#
EXISTING: TO REMAIN							
D4.E	60" X 80" - EXISTING	ALUMINUM	PAINTED STEEL, IRON REINFORCED	Interior	5'-0"	6'-8"	1
D8.E	32" X 80" - EXTERIOR - EXISTING	STEEL	STEEL, ALUMINUM	Exterior	2'-8"	6'-8"	1
D10.E	30" x 80" - EXISTING	STEEL	PAINTED STEEL, IRON REINFORCED	Interior	2'-6"	6'-8"	1
D15.E	36" x 80" - EXISTING	ALUMINUM	STEEL, ALUMINUM	Interior	3'-0"	6'-8"	1
NEW							
D2	GARAGE OVERHEAD BAY - FD REAR	STEEL	STEEL, ALUMINUM	Exterior	10'-0"	12'-0"	1
D2A	GARAGE OVERHEAD BAY - AMBULANCE	STEEL	STEEL, ALUMINUM	Exterior	10'-0"	10'-0"	1
D3	GARAGE OVERHEAD BAY	STEEL	STEEL, ALUMINUM	Exterior	11'-0"	12'-0"	2
D15	36" x 80"	STEEL	PAINTED ALUMINUM	Interior	3'-0"	6'-8"	1
Grand total: 9							

SECTOR A REMODEL ROOM SCHEDULE

NAME	DEPARTMENT	WALL FINISH	CLG FINISH	FLR FINISH	AREA	OCC CLASS.	OCC FACTOR	OCC LOAD
FIRE BAY STORAGE	FIRE DEPT.	GYP PAINT & FINISH, W NEW METAL WALL & INTERIOR FINISH	GYP CLNG	NEW FINISH, NON-SLIP EPOXY OVERLAY	193 SF	S-1	300	1
FIRE BAY	FIRE DEPT.	EXPOSED CMU, CMU BRICK WALL W/ PAINT & FINISH	OPEN TO ROOF DECK & TRUSS	NEW FINISH, NON-SLIP EPOXY OVERLAY	2006 SF	B	150	14
Grand total: 2					2199 SF			15

REMODEL NOTE BY SYMBOL

1. EXISTING MEP EQUIPMENT, DEVICES, AND COMPONENTS TO BE REMOVED UNLESS CAPABLE OF BEING REUTILIZED IN FOLLOWING THE SPECIFIED REMODEL PLANS @ EACH SECTOR (SEE MEP PLANS FOR REQUIRED EQUIPMENT SIZING & SPECIFICATIONS)
2. SPECIFIED STRUCTURAL FRAMING TO REMAIN IN PLACE AND TO BE UNHINDERED OR MODIFIED IN ANY WAY. STRUCTURAL SYSTEMS SHOWN ON PLAN ARE ESTIMATES BASED ON FIELD INVESTIGATIONS. CONTRACTOR TO VERIFY EXISTING STRUCTURAL PLACEMENT.
3. CONTRACTOR TO VERIFY WITH OWNER THE FINAL DESIGN INTENT REGARDING HVAC EQUIPMENT & DIFFUSERS. CURRENT DESIGN DOES NOT INCLUDE CONDITIONING WITHIN THE REMOLDED AREA (STORAGE AREA)
4. EXTERIOR DESIGN & ENTRANCE TO BE CONFIRMED BY OWNER. CURRENT ENTRYWAY AND STRUCTURAL FRAMING RESTRICT THE PLACEMENT OF PRIMARY ENTRANCE AS SHOWN ON PLANS.
5. AIR FILLING STATION CLEARANCES PROVIDED PER MANUFACTURER & OWNER INSTALLATION. EXISTING CONFIGURATION SHOWN HAS BEEN INSTALLED, AND TO BE CONSIDERED AN EXISTING COMPONENT OF FINAL REMODEL DESIGN.
6. ALL CEILING HEIGHTS PROVIDED ON PLANS ARE EXISTING CEILING HEIGHTS OR NEW HEIGHTS BASED ON EXISTING STRUCTURAL FRAMING.
7. ALL NEW FIRE BAY LIGHTING TO BE INSTALLED WITH AUTOMATED LIGHT SYSTEM PER MEP PLANS. REMODELED ROOMS W/ NEW WALL FINISHES & CONFIGURATIONS TO BE CONSIDERED AS AN ELEMENT OF THE FINAL REMODEL DESIGN. (AS SHOWN IN **BOLD** ON THE PLANS & LEGEND FOR ALL PROPOSED FINISHES). ALL FINISHES, OR RE-FINISHED ELEMENTS, TO MATCH DESIGN SPECIFICATIONS AS SCHEDULED & LABELED THROUGHOUT EACH APPLICABLE PLAN.

WALL SCHEDULE

APPEARANCE	NAME & DESCRIPTION	FUNCTION	WIDTH	MARK
	EXISTING: 8" CMU BRICK WALL - PAINTED FINISH ON CMU	INTERIOR & EXTERIOR	8"	A1
	EXISTING: 8" & 12" DOUBLE CMU BRICK WALL WITH INNER MORTAR & SOLDIER APPLICATION - PAINTED FINISH ON CMU	EXTERIOR	1' - 9"	A2
	EXISTING: 3 1/2" WOODEN STUD & 1/2" GYPSUM WALL BOARD ON INTERIOR SIDE W/ PAINT & FINISH. 1/2" BACKER BOARD WITH 5" STONE & NATURAL SOLDER VENEER ON EXTERIOR SIDE. TOP WALL SWEEP UTILIZING AN EXISTING METAL WALL PANEL FINISH.	EXTERIOR	10"	A3
	REUTILIZED OLD EXTERIOR BRICK WALL AND INTERIOR 3 1/2" WOODEN STUD WALL, 1/2" GYPSUM WALL BOARD, AND EXISTING PAINT/FINISH. UTILIZED AS AN INTERIOR WALL ON THE BORDER OF OLD CITY HALL DEPARTMENT AND POLICE DEPARTMENT AS APPLICABLE. EXTERIOR SIDE, UTILIZED AS INTERIOR FINISH WITH A 3 5/8" BRICK VENEER AS APPLICABLE, 1" AIR GAP, 1/2" BACKER BOARD.	INTERIOR	10"	A4
	EXISTING EXTERIOR WALL AND INTERIOR 3 1/2" WOODEN STUD WALL, 1/2" GYPSUM WALL BOARD, W/ EXISTING PAINT/FINISH. EXTERIOR SIDE UTILIZING A 3 5/8" BRICK VENEER AS APPLICABLE, 1" AIR GAP, 1/2" BACKER BOARD.	EXTERIOR	10"	A5
	EXISTING INTERIOR PARTION WALL UTILIZING 3 1/2" WOODEN STUD, 1/2" GYPSUM WALL BOARD ON EITHER SIDE AND 1/4" INTERIOR PAINT & FINISH	INTERIOR	5"	A6
	EXISTING RESTROOM PARTITION WALL WITH 5 1/2" WOODEN STUD FRAME, 1/2" GYPSUM WALL ON EITHER SIDE AND 1/4" INTERIOR PAINT & FINISH W/ TILE AND MILDEW PROHIBITOR APPLICATION.	INTERIOR	6 1/2"	A7
	EXISTING PARTITION WALL WITH 3 1/2" WOODEN STUD FRAME, 1/2" GYPSUM WALL ON EITHER SIDE AND 1/4" INTERIOR PAINT & FINISH W/ TILE AND MILDEW PROHIBITOR APPLICATION WHAN APPLICABLE.	INTERIOR	4 1/2"	A8
	EXISTING 1" THICK GLASS CURTAIN PANEL WALL WITH DARK TINT & GLAZING MOUNTED TO BASE OF 10" EXTERIOR WALL OR 21" CMU W/ 4" FRAMING PAINTED ALUMINUM SYSTEM.	EXTERIOR	1"	A9
	EXISTING METAL PANEL WALL W/ EXPOSED INTERIOR SIDE, BATT. INSULATION, AND EXTERIOR METAL PANELING. 1 1/4" METAL SIDE PANELING, 1 1/2" WOODEN BACKER BOARD FOR APPLICATION AND BATT. INSULATION, AND 5 3/8" METAL STUD.	EXTERIOR	10"	A10
	EXISTING METAL PANEL WALL W/ EXPOSED INTERIOR, SIDE, BATT. INSULATION, AND EXTERIOR METAL PANELING. 1 1/4" METAL SIDE PANELING, 1 1/2" WOODEN BACKER BOARD FOR APPLICATION AND BATT. INSULATION, AND 5 3/8" METAL STUDS.	EXTERIOR	8"	A11
	EXISTING METAL STUD WALL W/ FINISHED INTERIOR, SIDE, BATT INSULATION. 1 1/2" WOODEN BACKER BOARD FOR APPLICATION AND BATT. INSULATION, AND 5 3/8" METAL STUDS.	INTERIOR	7"	A12
	NEW METAL STUD PLUMBING WALL, AND EXTERIOR BOUNDARY WALL FOR FIRE DEPARTMENT ADDITION IN LIVING AREA. TO UTILIZE 3 5/8" METAL STUD @ 24 O.C., 1/2" PLYWOOD SHEATHING FOR MOUNTING. AND 5/8" GYPSUM & FINISH WHERE APPLICABLE.	INTERIOR	6 5/8"	A13

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STATE OF TEXAS
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LICENSED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL

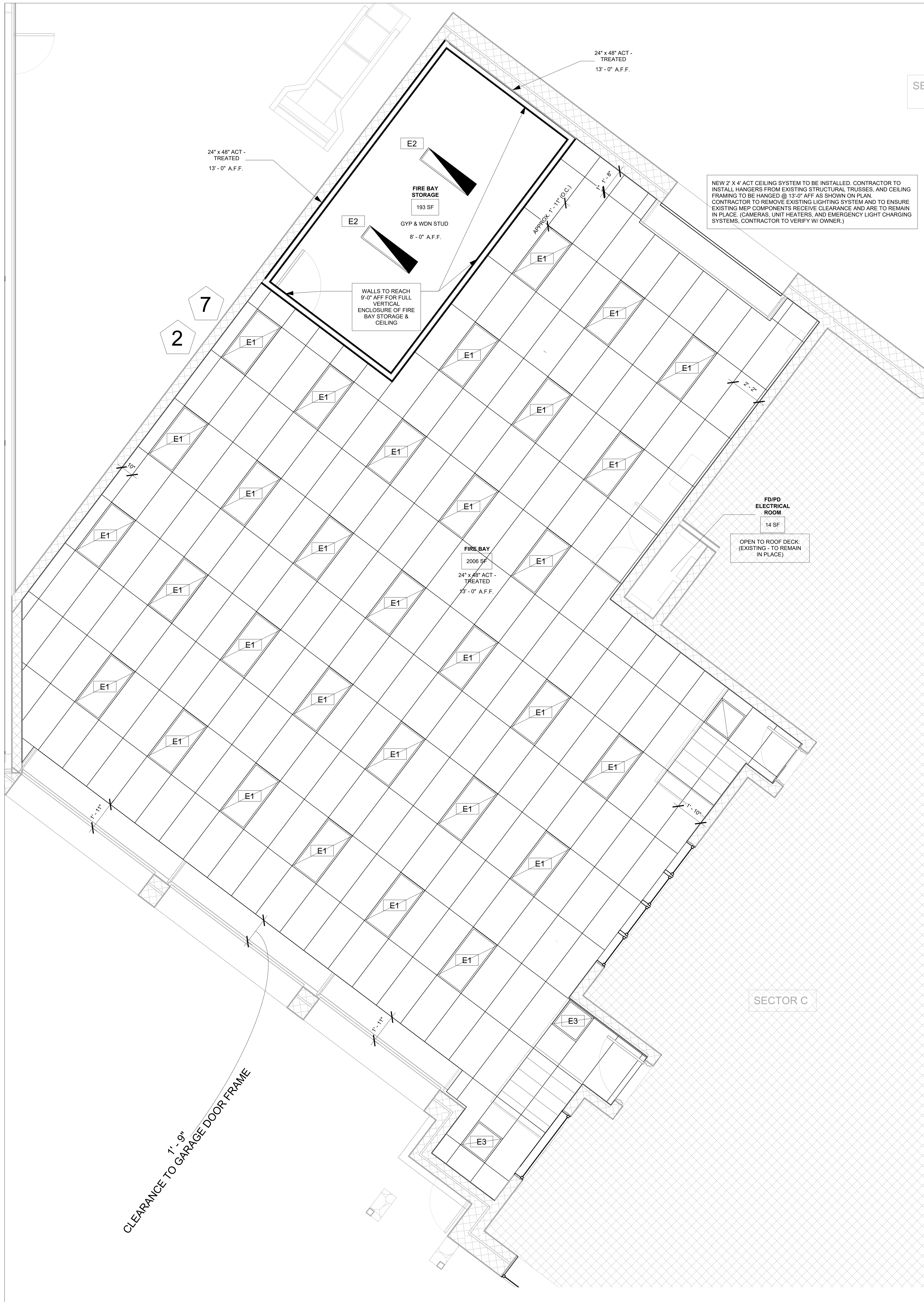
2600 ROOSEVELT DRIVE
DALWORTHINGTON GARDENS, TEXAS 76016

CONTACT NAME	CHIEF GREG PETTY
CONTACT COMPANY	DWG POLICE & FIRE
CONTACT PHONE	817-275-1234
ISSUES	
FULL CLIENT REVIEW SET 12/07/22	
FINAL COUNCIL REVIEW 06/19/23	
FINAL PERMIT SET 06/26/23	
ADA REVISION SET 08/04/23	
PRINTED	8/4/2023 1:43:46 PM
DESIGNED	JL
CHECKED	JJK
IBC	2015
IECC	2015
NEC	2017
SCALE	As indicated

SECTOR A REMODEL FLOOR PLAN

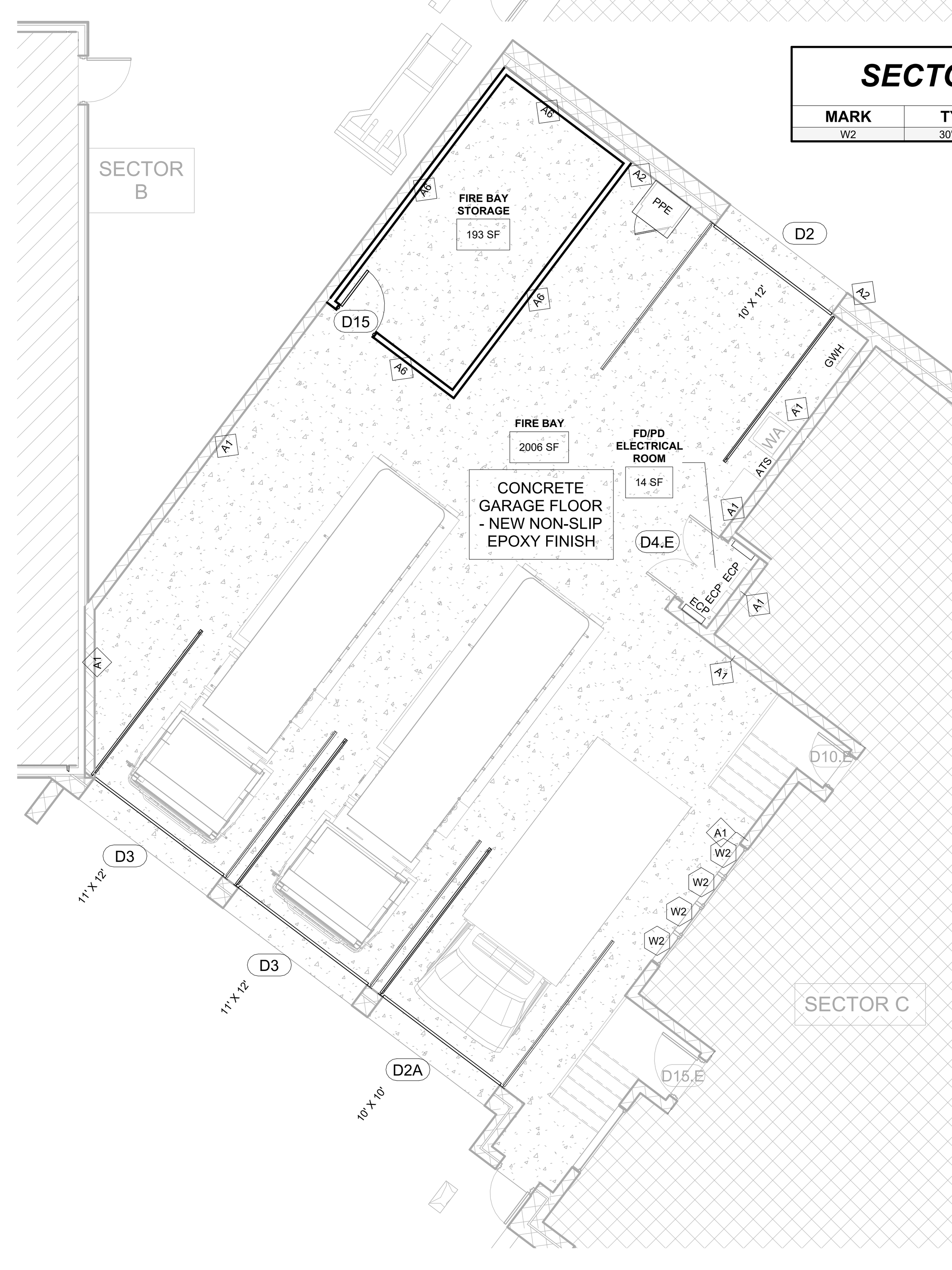
A1.1-A

PROJECT 1699

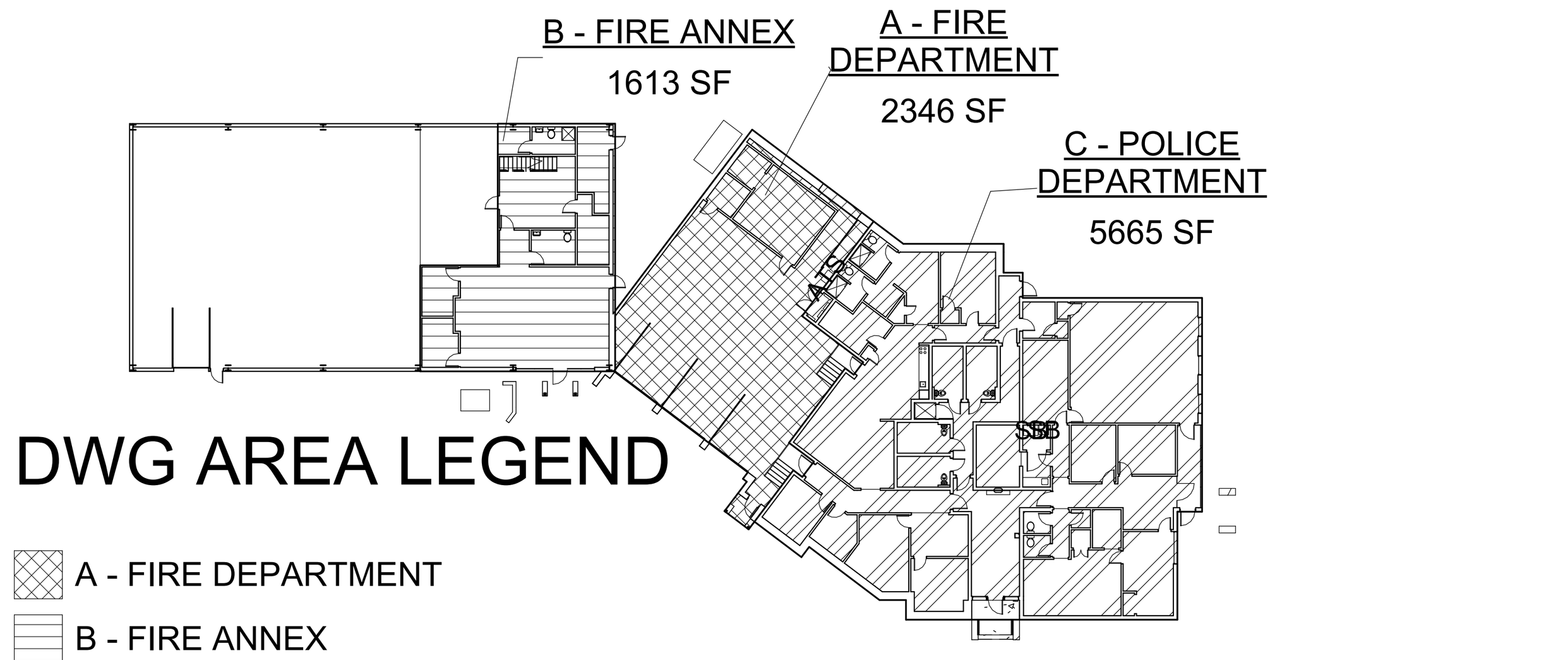


1 REFLECTED CEILING PLAN - REMODEL
1/4" = 1'-0"

2 EXISTING STRUCTURAL LAYOUT
1/8" = 1'-0"



3 FLOOR FINISH PLAN - REMODEL
1/8" = 1'-0"



DWG AREA LEGEND

- A - FIRE DEPARTMENT
- B - FIRE ANNEX
- C - POLICE DEPARTMENT

A - REMODEL CEILING SCHEDULE

MARK	COMPONENT & TYPE	QTY
FIRE BAY 2006 SF 2X4' ACT, TREATED: 13' AFF		
E1	CPX 2x4 LED PANEL: 2GTL 2 37L LP835	31
E3	CPX 2x2: 2GTL 2 37L LP835	3
FIRE BAY STORAGE 193 SF GYP CLNG, 8' AFF		
E2	CPX 1x4 LED PANEL: 2GTL 2 37L LP835	2
Grand total: 36		

FLOOR PLAN LEGEND

	EMERGENCY BACKUP GENERATOR (DIESEL). BARE GENERATOR SHOWN FOR PLAN CLARIFICATION & VISIBILITY
ATS	AUTOMATIC TRANSFER SWITCH (ATS)
ECP	ELECTRICAL CONTROL PANEL
GWH	ON-DEMAND GAS WATER HEATER
	DUMB WAITER FOR RECORD STORAGE 2ND FLOOR
	WORKSTATION/DESK FROM POLICE OFFICER AREA
	RECTANGULAR COLUMN, STONE VENEER FINISH W/ METAL SQUARE 5" COLUMN TO VAULTED ROOF.
WC, LAV, SHW, DWF, WCD, WCV, URI	**PLUMBING:** • UR: URINAL @ 1'- 6" A.F.F. (VALVE) • WC: WATER CLOSET (TANK - TYPICAL) • WCJ: WATERCLOSET W/ DETENTION SINK • WCV: WATERCLOSET W/ VALVE • LAV: LAVATORY • SHW: SHOWER • EWC: DRINKING WATER FOUNTAIN
WA, DRY	COMMMERCIAL WASHER DRYER
DX	DOOR TAG
DX.E	DOOR TAG - EXISTING TO REMAIN (.E)
PLU	PLUMBING FIXTURE TAG
AX	WALL TAG
WX	WINDOW TAG
X#	DEMOLITION TAG - POINT OF REFERENCE REGARDING SCHEDULE ANNOTATIONS & DEMOLITION ZONES. PER ROOM, DOOR, AND WINDOW SCHEDULES ON EXISTING & DEMOLITION PLANS.
#	REMODEL NOTE BY SYMBOL. ANNOTATIONS WILL PERTAIN TO ANY REFERENCED ARCHITECTURAL, MEP, AND/OR STRUCTURAL CHANGES IMPLIED BY FINAL DESIGN SHOWN ON PLANS.
X#	CEILING COMPONENT IN FINAL REMODEL DESIGN PLAN. REFER TO MEP PLANS FOR FINALIZED SPECIFICATIONS & DESIGNATIONS FOR MEP CONSOLIDATION. WILL PERTAIN TO LIGHTING FIXTURES & DIFFUSER LOCATIONS ON ARCH PLANS ONLY (REFER TO CEILING SCHEDULES ON REMODEL PLANS)
	EXISTING WALL TO BE DEMOLISHED, PER SPECIFIED DEMOLITION PLANS.
	EXISTING WALL TO REMAIN, AS SHOWN THROUGH EACH APPLICABLE CONSTUCTION PHASE. ALL WALLS SHOWN ON THE FINAL REMODEL DESIGN TO BE FINISHED AS SPECIFIED ON THE PLANS HEREIN.

SECTOR A NEW WINDOW SCHEDULE

MARK	TYPE	WIDTH	HEIGHT	SGHC	LIGHT TRANS.	QTY
W2	30" X 45"	2'-6"	3'-9"	0.78	0.9	4

SECTOR A REMODEL DOOR SCHEDULE

TYPE MARK	TYPE	FRAME MATERIAL	FRAME TYPE	FUNCTION	WIDTH	HEIGHT	#
EXISTING: TO REMAIN							
D4.E	60" X 80" - EXISTING	ALUMINUM	PAINTED STEEL, IRON REINFORCED	Interior	5'-0"	6'-8"	1
D8.E	32" X 80" - EXTERIOR - EXISTING	STEEL	STEEL, ALUMINUM	Exterior	2'-8"	6'-8"	1
D10.E	30" x 80" - EXISTING	STEEL	PAINTED STEEL, IRON REINFORCED	Interior	2'-6"	6'-8"	1
D15.E	36" x 80" - EXISTING	ALUMINUM	STEEL, ALUMINUM	Interior	3'-0"	6'-8"	1
NEW							
D2	GARAGE OVERHEAD BAY - FD REAR	STEEL	STEEL, ALUMINUM	Exterior	10'-0"	12'-0"	1
D2A	GARAGE OVERHEAD BAY - AMBULANCE	STEEL	STEEL, ALUMINUM	Exterior	10'-0"	10'-0"	1
D3	GARAGE OVERHEAD BAY	STEEL	STEEL, ALUMINUM	Exterior	11'-0"	12'-0"	2
D15	36" x 80"	STEEL	PAINTED ALUMINUM	Interior	3'-0"	6'-8"	1
Grand total: 9							

REMODEL NOTE BY SYMBOL

1. EXISTING MEP EQUIPMENT, DEVICES, AND COMPONENTS TO BE REMOVED UNLESS CAPABLE OF BEING REUTILIZED IN FOLLOWING THE SPECIFIED REMODEL PLANS @ EACH SECTOR (SEE MEP PLANS FOR REQUIRED EQUIPMENT SIZING & SPECIFICATIONS)
2. SPECIFIED STRUCTURAL FRAMING TO REMAIN IN PLACE AND TO BE UNHINDERED OR MODIFIED IN ANY WAY. STRUCTURAL SYSTEMS SHOWN ON PLAN ARE ESTIMATES BASED ON FIELD INVESTIGATIONS, CONTRACTOR TO VERIFY EXISTING STRUCTURAL PLACEMENT.
3. CONTRACTOR TO VERIFY WITH OWNER THE FINAL DESIGN INTENT REGARDING HVAC EQUIPMENT & DIFFUSERS. CURRENT DESIGN DOES NOT INCLUDE CONDITIONING WITHIN THE REMOLDED AREA (STORAGE AREA)
4. EXTERIOR DESIGN & ENTRANCE TO BE CONFIRMED BY OWNER. CURRENT ENTRYWAY AND STRUCTURAL FRAMING RESTRICT THE PLACEMENT OF PRIMARY ENTRANCE AS SHOWN ON PLANS.
5. AIR FILLING STATION CLEARANCES PROVIDED PER MANUFACTURER & OWNER INSTALLATION. EXISTING CONFIGURATION SHOWN HAS BEEN INSTALLED, AND TO BE CONSIDERED AN EXISTING COMPONENT OF FINAL REMODEL DESIGN.
6. ALL CEILING HEIGHTS PROVIDED ON PLANS ARE EXISTING CEILING HEIGHTS OR NEW HEIGHTS BASED ON EXISTING STRUCTURAL FRAMING.
7. ALL NEW FIRE BAY LIGHTING TO BE INSTALLED WITH AUTOMATED LIGHT SYSTEM PER MEP PLANS.
8. REMODELED ROOMS W/ NEW WALL FINISHES & CONFIGURATIONS TO BE CONSIDERED AS AN ELEMENT OF THE FINAL REMODEL DESIGN. (AS SHOWN IN **BOLD** ON THE PLANS & LEGEND FOR ALL PROPOSED FINISHES). ALL FINISHES, OR RE-FINISHED ELEMENTS, TO MATCH DESIGN SPECIFICATIONS AS SCHEDULED & LABELED THROUGHOUT EACH APPLICABLE PLAN.

WALL SCHEDULE

APPEARANCE	NAME & DESCRIPTION	FUNCTION	WIDTH	MARK
	EXISTING: 8" CMU BRICK WALL - PAINTED FINISH ON CMU	INTERIOR & EXTERIOR	8"	A1
	EXISTING: 8" & 12" DOUBLE CMU BRICK WALL WITH INNER MORTAR & SOLDER APPLICATION - PAINTED FINISH ON CMU	EXTERIOR	1' - 9"	A2
	EXISTING: 3 1/2" WOODEN STUD & 1/2" GYPSUM WALL BOARD ON INTERIOR SIDE W/ PAINT & FINISH. 1/2" BACKER BOARD WITH 5" STONE & NATURAL SOLDER VENEER ON EXTERIOR SIDE. TOP WALL SWEEP UTILIZING AN EXISTING METAL WALL PANEL FINISH.	EXTERIOR	10"	A3
	REUTILIZED OLD EXTERIOR BRICK WALL AND INTERIOR 3 1/2" WOODEN STUD WALL, 1/2" GYPSUM WALL BOARD, AND EXISTING PAINT/FINISH. UTILIZED AS AN INTERIOR WALL ON THE BORDER OF OLD CITY HALL DEPARTMENT AND POLICE DEPARTMENT AS APPLICABLE. EXTERIOR SIDE, UTILIZED AS INTERIOR FINISH WITH A 3 5/8" BRICK VENEER AS APPLICABLE, 1" AIR GAP, 1/2" BACKER BOARD.	INTERIOR	10"	A4
	EXISTING EXTERIOR WALL AND INTERIOR 3 1/2" WOODEN STUD WALL, 1/2" GYPSUM WALL BOARD, W/ EXISTING PAINT/FINISH. EXTERIOR SIDE UTILIZING A 3 5/8" BRICK VENEER AS APPLICABLE, 1" AIR GAP, 1/2" BACKER BOARD.	EXTERIOR	10"	A5
	EXISTING INTERIOR PARTION WALL UTILIZING 3 1/2" WOODEN STUD, 1/2" GYPSUM WALL BOARD ON EITHER SIDE AND 1/4" INTERIOR PAINT & FINISH	INTERIOR	5"	A6
	EXISTING RESTROOM PARTITION WALL WITH 5 1/2" WOODEN STUD FRAME, 1/2" GYPSUM WALL ON EITHER SIDE AND 1/4" INTERIOR PAINT & FINISH W/ TILE AND MILDEW PROHIBITOR APPLICATION.	INTERIOR	6 1/2"	A7
	EXISTING PARTITION WALL WITH 3 1/2" WOODEN STUD FRAME, 1/2" GYPSUM WALL ON EITHER SIDE AND 1/4" INTERIOR PAINT & FINISH W/ TILE AND MILDEW PROHIBITOR APPLICATION WHAN APPLICABLE.	INTERIOR	4 1/2"	A8
	EXISTING 1" THICK GLASS CURTAIN PANEL WALL WITH DARK TINT & GLAZING. MOUNTED TO BASE OF 10" EXTERIOR WALL OR 21" CMU W/ 4" FRAMING PAINTED ALUMINUM SYSTEM.	EXTERIOR	1"	A9
	EXISTING METAL PANEL WALL, W/ EXPOSED INTERIOR SIDE, BATT. INSULATION, AND EXTERIOR METAL PANELING. 1 1/4" METAL SIDE PANELING, 1 1/2" WOODEN BACKER BOARD FOR APPLICATION AND BATT. INSULATION, AND 5 3/8" METAL STUD.	EXTERIOR	10"	A10
	EXISTING METAL PANEL WALL W/ EXPOSED INTERIOR, SIDE, BATT. INSULATION, AND EXTERIOR METAL PANELING. 1 1/4" METAL SIDE PANELING, 1 1/2" WOODEN BACKER BOARD FOR APPLICATION AND BATT. INSULATION, AND 5 3/8" METAL STUDS.	EXTERIOR	8"	A11
	EXISTING METAL STUD WALL W/ FINISHED INTERIOR, SIDE, BATT. INSULATION. 1 1/2" WOODEN BACKER BOARD FOR APPLICATION AND BATT. INSULATION, AND 5 3/8" METAL STUDS.	INTERIOR	7"	A12
	NEW METAL STUD PLUMBING WALL, AND EXTERIOR BOUNDARY WALL FOR FIRE DEPARTMENT ADDITION IN LIVING AREA. TO UTILIZE 3 5/8" METAL STUD @ 24 O.C., 1/2" PLYWOOD SHEATHING FOR MOUNTING. AND 5/8" GYPSUM & FINISH WHERE APPLICABLE.	INTERIOR	6 5/8"	A13

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STATE OF TEXAS
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LICENSED PROFESSIONAL ENGINEER

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DWG POLICE & FIRE - REMODEL

2600 ROOSEVELT DRIVE
DALWORTHINGTON GARDENS, TEXAS 76016

CONTACT NAME	CHIEF GREG PETTY
CONTACT COMPANY	DWG POLICE & FIRE
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IBC	2015
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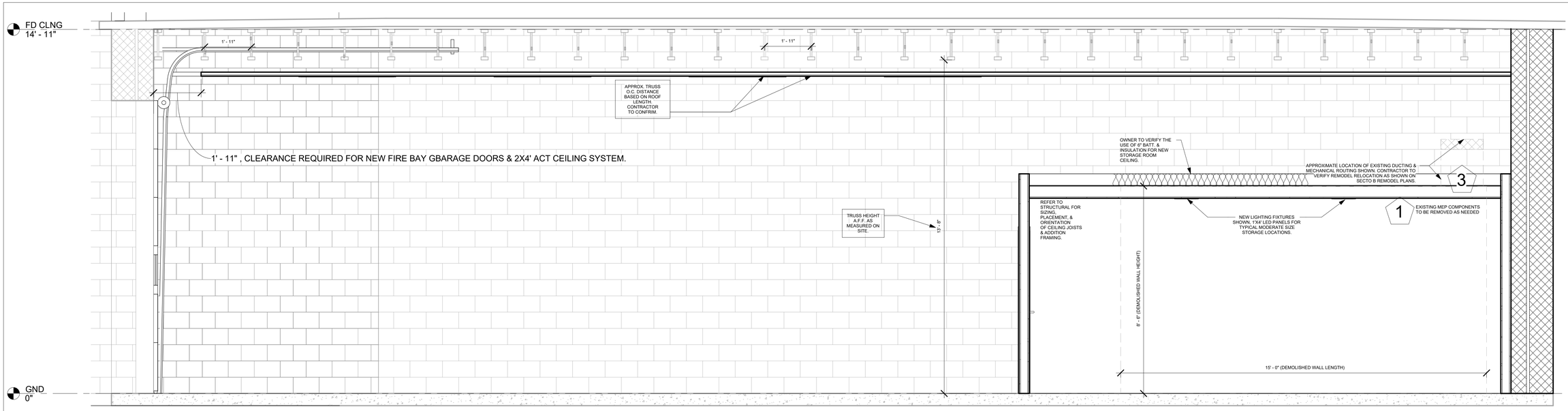
NEC	2017
SCALE	As indicated

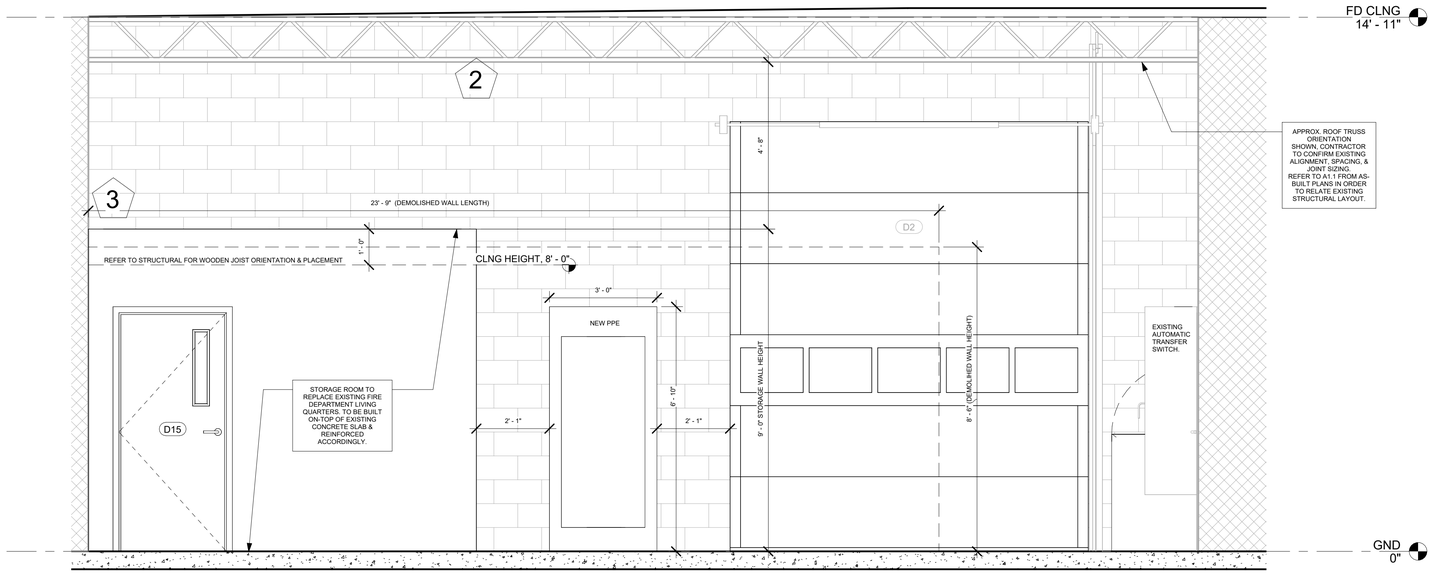
SECTOR A REMODEL FINISH PLAN

A1.2-A

PROJECT 1699



1 FIRE BAY REMODEL SECTION - (WEST)
1/2" = 1'-0"



2 FIRE BAY REMODEL SECTION - (NORTH)
1/2" = 1'-0"

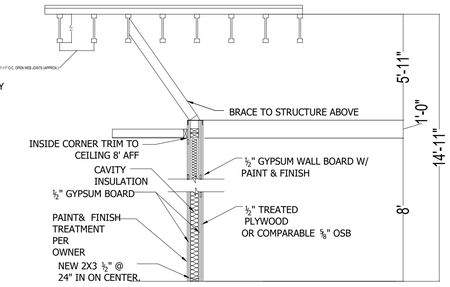
REMODEL NOTE BY SYMBOL

1. EXISTING MEP EQUIPMENT, DEVICES, AND COMPONENTS TO BE REMOVED UNLESS CAPABLE OF BEING REUTILIZED IN FOLLOWING THE SPECIFIED REMODEL PLANS @ EACH SECTOR (SEE MEP PLANS FOR REQUIRED EQUIPMENT SIZING & SPECIFICATIONS).
2. SPECIFIED STRUCTURAL FRAMING TO REMAIN IN PLACE AND TO BE UNHINDERED OR MODIFIED IN ANY WAY. STRUCTURAL SYSTEMS SHOWN ON PLAN ARE ESTIMATES BASED ON FIELD INVESTIGATIONS, CONTRACTOR TO VERIFY EXISTING STRUCTURAL PLACEMENT.
3. CONTRACTOR TO VERIFY WITH OWNER THE FINAL DESIGN INTENT REGARDING HVAC EQUIPMENT & DIFFUSERS. CURRENT DESIGN DOES NOT INCLUDE CONDITIONING WITHIN THE REMOLDED AREA (STORAGE AREA)
4. EXTERIOR DESIGN & ENTRANCE TO BE CONFIRMED BY OWNER. CURRENT ENTRYWAY AND STRUCTURAL FRAMING RESTRICT THE PLACEMENT OF PRIMARY ENTRANCE AS SHOWN ON PLANS.
5. AIR FILLING STATION CLEARANCES PROVIDED PER MANUFACTURER & OWNER INSTALLATION. EXISTING CONFIGURATION SHOWN HAS BEEN INSTALLED, AND TO BE CONSIDERED AN EXISTING COMPONENT OF FINAL REMODEL DESIGN.
6. ALL CEILING HEIGHTS PROVIDED ON PLANS ARE EXISTING CEILING HEIGHTS OR NEW HEIGHTS BASED ON EXISTING STRUCTURAL FRAMING.
7. ALL NEW FIRE BAY LIGHTING TO BE INSTALLED WITH AUTOMATED LIGHT SYSTEM PER MEP PLANS.
8. REMODELED ROOMS W/ NEW WALL FINISHES & CONFIGURATIONS TO BE CONSIDERED AS AN ELEMENT OF THE FINAL REMODEL DESIGN. (AS SHOWN IN **BOLD** ON THE PLANS & LEGEND FOR ALL PROPOSED FINISHES). ALL FINISHES, OR RE-FINISHED ELEMENTS, TO MATCH DESIGN SPECIFICATIONS AS SCHEDULED & LABELED THROUGHOUT EACH APPLICABLE PLAN.

PARTITION NOTES

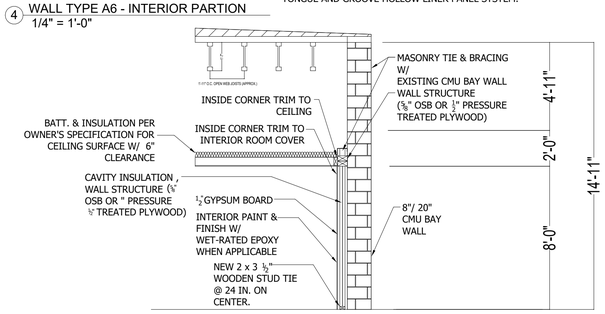
1. ALL PARTITIONS ARE TYPE "A" U.N.O. ON PLAN.
2. AT PARTITIONS THAT TERMINATE @ CEILING & ABOVE CEILING, PROVIDE ADEQUATE BRACING ABOVE PARTITION TO PROVIDE PROPER LATERAL BRACING. PARTITION STUDS EXTENDING TO STRUCTURE SHALL BE BRACED ABOVE CEILING.
3. PROVIDE BRACING AND BLOCKING IN PARTITIONS AS REQUIRED FOR CASEWORK, EQUIPMENT, ETC. (COORDINATE WITH OWNER)
4. PROVIDE VERTICAL CONTROL JOINTS THROUGH GYPSUM BOARD AT EACH JAMB OF EVERY DOOR AND WINDOW (ABOVE DOORS; ABOVE AND BELOW WINDOWS), TYP.
5. ALL GYPSUM WALLBOARD SHALL BE MOISTURE RESISTANT IN ALL RESTROOM AREAS UNLESS WALL TILES ARE SCHEDULED. ALL WALL TILES TO BE INSTALLED OVER FULL DURAROCK OR WONDERBOARD SUBSTRATE.

NOTE: USE 2 COAT OF EPOXY PAINT IF UNABLE TO VERIFY EXISTING WALL MATERIAL HAS INTEGRAL WATER REPELLANT AND MILDEW INHIBITORS. VERIFY PRODUCT WARRANTY TO SCHEDULE MAINTENANCE.



NOTE: ALL TRIM PROFILE TO BE COMPATIBLE WITH ½" TONGUE AND GROOVE HOLLOW LINER PANEL SYSTEM.

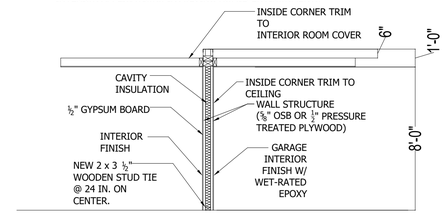
4 WALL TYPE A6 - INTERIOR PARTION
1/4" = 1'-0"



NOTE: ALL TRIM PROFILE TO BE COMPATIBLE WITH ½" TONGUE AND GROOVE HOLLOW LINER PANEL SYSTEM.

5 WALL TYPE A6 - EXTERIOR BRACING
1/4" = 1'-0"

USE 2 COAT OF EPOXY PAINT ON GARAGE FINISH IF UNABLE TO VERIFY WET-RATED EPOXY. CONFIRM THE USE OF MILDEW INHIBITORS FOR INTERIOR APPLICATIONS INVOLVING HUMID ENVIRONMENTS



NOTE: ALL TRIM PROFILE TO BE COMPATIBLE WITH ½" TONGUE AND GROOVE HOLLOW LINER PANEL SYSTEM.

6 WALL TYPE A6 - TYPICAL INTERIOR PARTITION
1/4" = 1'-0"

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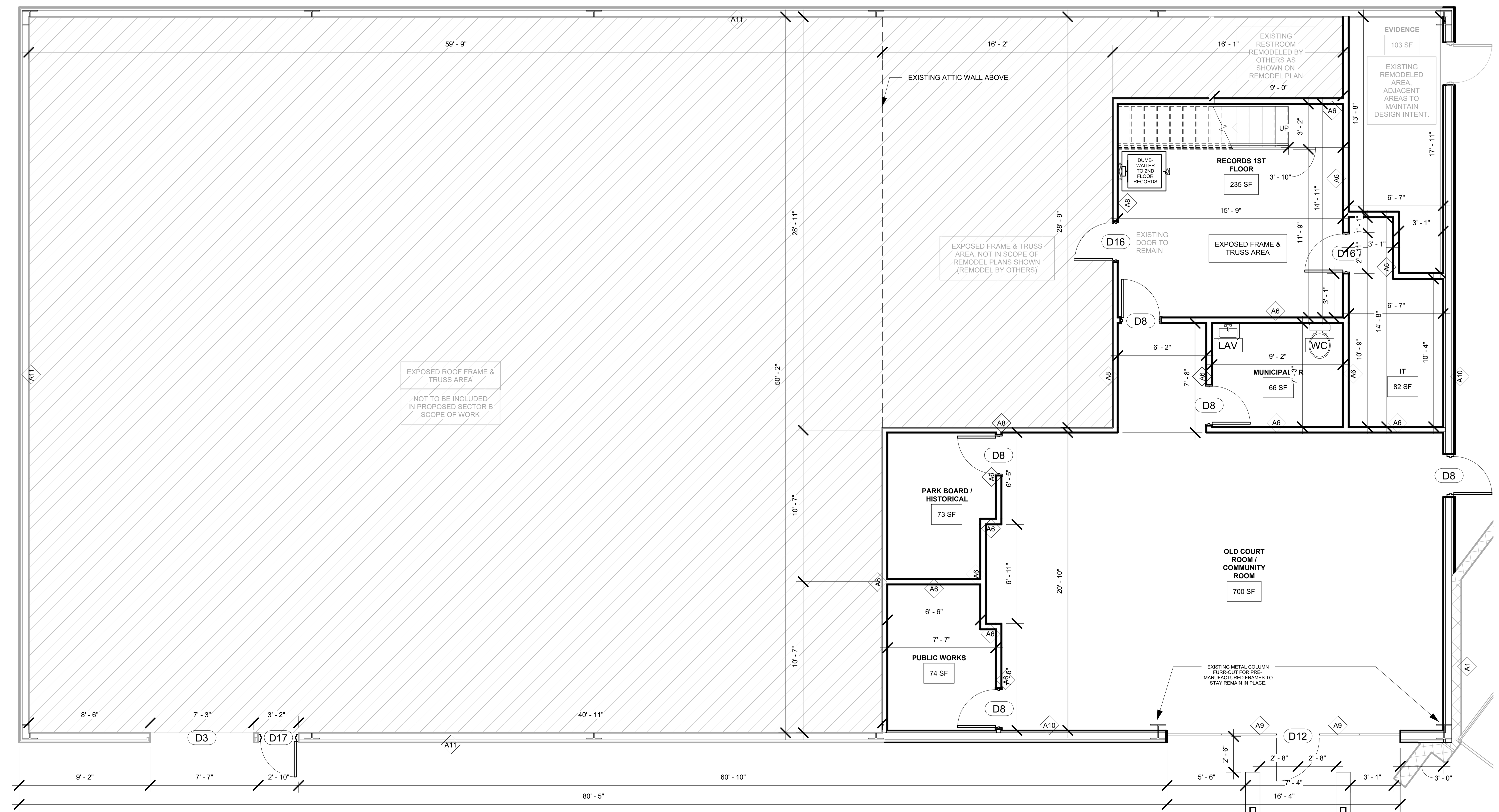
DESIGNED	JL
CHECKED	JJK
IBC	2015
IECC	2015
NEC	2017
SCALE	As indicated

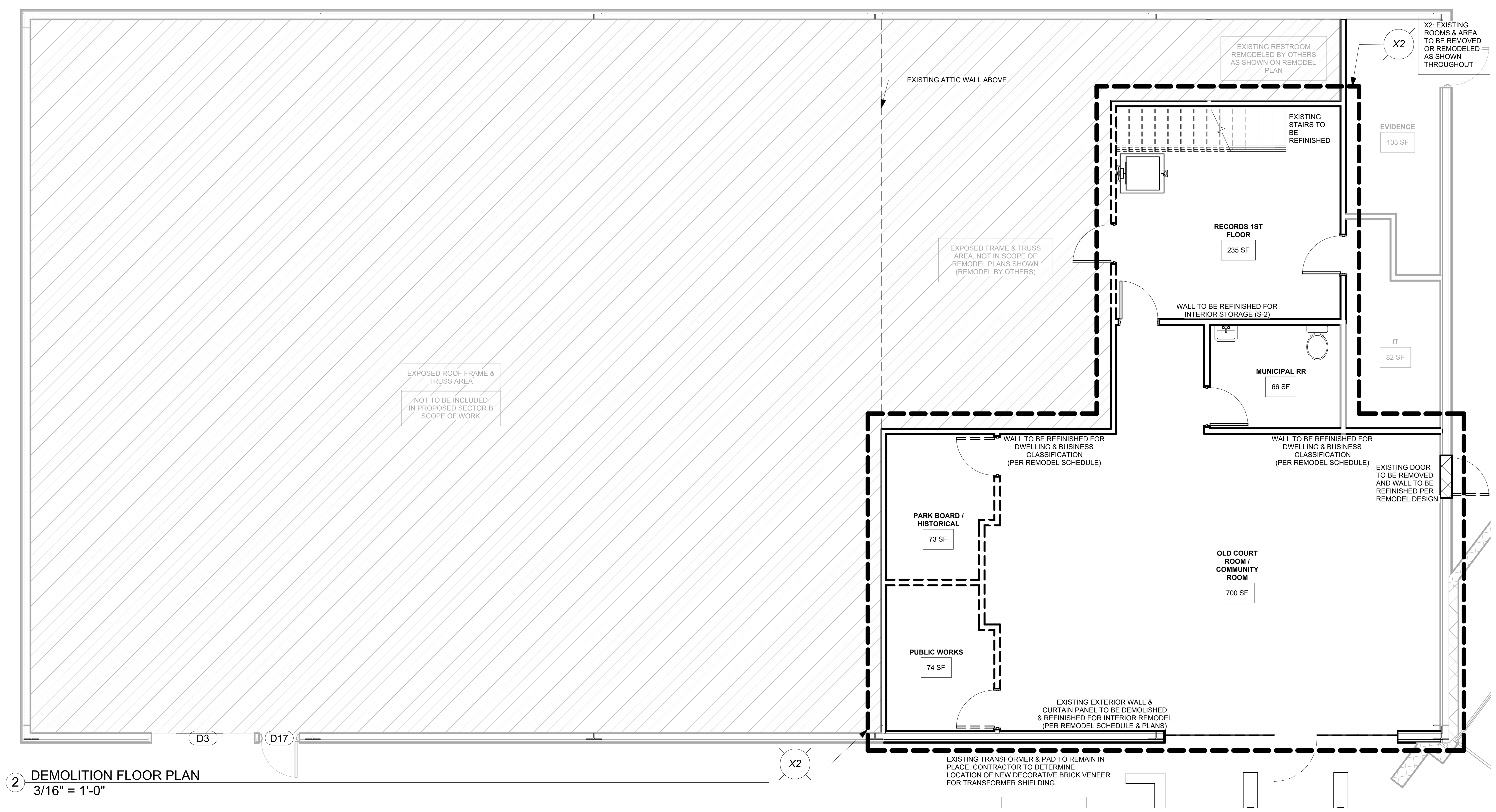
SECTOR A - REMODEL SECTIONS & DETAILS

A2.0-A

PROJECT 1699



1 EXISTING FLOOR PLAN
3/16" = 1'-0"

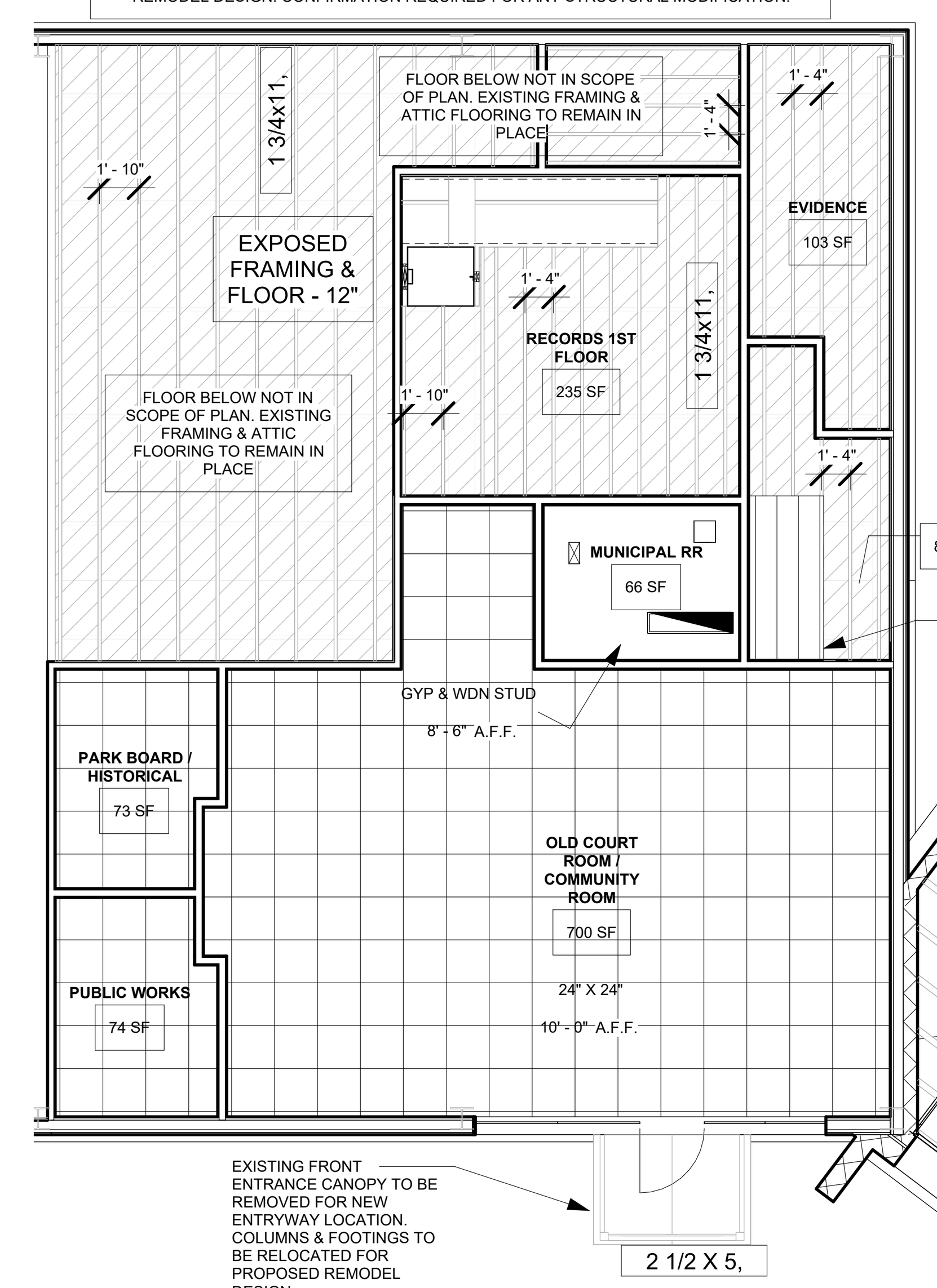


2 DEMOLITION FLOOR PLAN
3/16" = 1'-0"

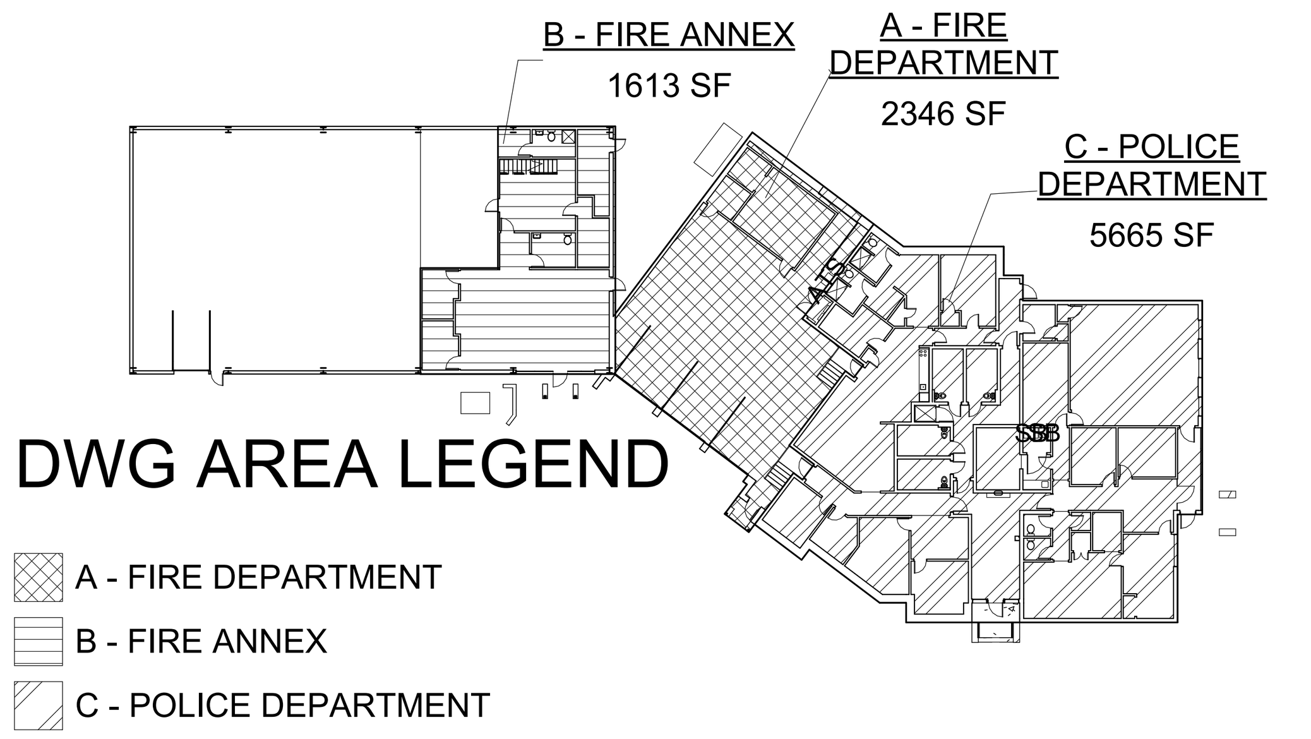
FLOOR PLAN LEGEND

(symbol)	EMERGENCY BACKUP GENERATOR (DIESEL). BARE GENERATOR SHOWN FOR PLAN CLARIFICATION & VISIBILITY
ATS	AUTOMATIC TRANSFER SWITCH (ATS)
ECP	ELECTRICAL CONTROL PANEL
GWH	ON-DEMAND GAS WATER HEATER
(symbol)	DUMB WAITER FOR RECORD STORAGE 2ND FLOOR
(symbol)	WORKSTATION/DESK FROM POLICE OFFICER AREA
(symbol)	RECTANGULAR COLUMN, STONE VENEER FINISH W/ METAL SQUARE 5" COLUMN TO VAULTED ROOF.
WC, LAV, SHW, DWF, WCD, WCV, URI	**PLUMBING:** • UR: URINAL @ 1'- 6" A.F.F. (VALVE) • WC: WATER CLOSET (TANK - TYPICAL) • WCJ: WATERCLOSET W/ DETENTION SINK • WCV: WATERCLOSET W/ VALVE • LAV: LAVATORY • SHW: SHOWER • EWC: DRINKING WATER FOUNTAIN
WA, DRY	COMMMERCIAL WASHER DRYER
DX	DOOR TAG
DX.E	DOOR TAG - EXISTING TO REMAIN (.E)
PLU	PLUMBING FIXTURE TAG
AX	WALL TAG
WX	WINDOW TAG
X#	DEMOLITION TAG - POINT OF REFERENCE REGARDING SCHEDULE ANNOTATIONS & DEMOLITION ZONES. PER ROOM, DOOR, AND WINDOW SCHEDULES ON EXISTING & DEMOLITION PLANS.
#	REMODEL NOTE BY SYMBOL. ANNOTATIONS WILL PERTAIN TO ANY REFERENCED ARCHITECTURAL, MEP, AND/OR STRUCTURAL CHANGES IMPLIED BY FINAL DESIGN SHOWN ON PLANS.
X#	CEILING COMPONENT IN FINAL REMODEL DESIGN PLAN. REFER TO MEP PLANS FOR FINALIZED SPECIFICATIONS & DESIGNATIONS FOR MEP CONSOLIDATION. WILL PERTAIN TO LIGHTING FIXTURES & DIFFUSER LOCATIONS ON ARCH PLANS ONLY (REFER TO CEILING SCHEDULES ON REMODEL PLANS)
(symbol)	EXISTING WALL TO BE DEMOLISHED, PER SPECIFIED DEMOLITION PLANS.
(symbol)	EXISTING WALL TO REMAIN, AS SHOWN THROUGH EACH APPLICABLE CONSTUCTION PHASE. ALL WALLS SHOWN ON THE FINAL REMODEL DESIGN TO BE FINISHED AS SPECIFIED ON THE PLANS HEREIN.

APPROXIMATE SPACING AND BEAM DEPTH AS MEASURED ON FIELD. EXISTING STRUCTURAL CONFIGURATION TO BE CONFIRMED BY CONTRACTOR, AND TO REMAIN IN-PLACE FOR FINAL REMODEL DESIGN. CONFIRMATION REQUIRED FOR ANY STRUCTURAL MODIFICATION.



4 SECTOR B - EXISTING CEILING PLAN
1/8" = 1'-0"



DWG AREA LEGEND

- A - FIRE DEPARTMENT
- B - FIRE ANNEX
- C - POLICE DEPARTMENT

WALL SCHEDULE

APPEARANCE	NAME & DESCRIPTION	FUNCTION	WIDTH	MARK
	EXISTING: 8" CMU BRICK WALL - PAINTED FINISH ON CMU	INTERIOR & EXTERIOR	8"	A1
	EXISTING: 8" & 12" DOUBLE CMU BRICK WALL WITH INNER MORTAR & SOLDER APPLICATION - PAINTED FINISH ON CMU	EXTERIOR	1' - 9"	A2
	EXISTING: 3 1/2" WOODEN STUD & 1/2" GYPSUM WALL BOARD ON INTERIOR SIDE W/ PAINT & FINISH. 1/2" BACKER BOARD WITH 5" STONE & NATURAL SOLDER VENEER ON EXTERIOR SIDE. TOP WALL SWEEP UTILIZING AN EXISTING METAL WALL PANEL FINISH.	EXTERIOR	10"	A3
	REUTILIZED OLD EXTERIOR BRICK WALL AND INTERIOR 3 1/2" WOODEN STUD WALL, 1/2" GYPSUM WALL BOARD, AND EXISTING PAINT/FINISH. UTILIZED AS AN INTERIOR WALL ON THE BORDER OF OLD CITY HALL DEPARTMENT AND POLICE DEPARTMENT AS APPLICABLE. EXTERIOR SIDE, UTILIZED AS INTERIOR FINISH WITH A 3 5/8" BRICK VENEER AS APPLICABLE, 1" AIR GAP, 1/2" BACKER BOARD.	INTERIOR	10"	A4
	EXISTING EXTERIOR WALL AND INTERIOR 3 1/2" WOODEN STUD WALL, 1/2" GYPSUM WALL BOARD, W/ EXISTING PAINT/FINISH. EXTERIOR SIDE UTILIZING A 3 5/8" BRICK VENEER AS APPLICABLE, 1" AIR GAP, 1/2" BACKER BOARD.	EXTERIOR	10"	A5
	EXISTING INTERIOR PARTION WALL UTILIZING 3 1/2" WOODEN STUD, 1/2" GYPSUM WALL BOARD ON EITHER SIDE AND 1/4" INTERIOR PAINT & FINISH	INTERIOR	5"	A6
	EXISTING RESTROOM PARTITION WALL WITH 5 1/2" WOODEN STUD FRAME, 1/2" GYPSUM WALL ON EITHER SIDE AND 1/4" INTERIOR PAINT & FINISH W/ TILE AND MILDEW PROHIBITOR APPLICATION.	INTERIOR	6 1/2"	A7
	EXISTING PARTITION WALL WITH 3 1/2" WOODEN STUD FRAME, 1/2" GYPSUM WALL ON EITHER SIDE AND 1/4" INTERIOR PAINT & FINISH W/ TILE AND MILDEW PROHIBITOR APPLICATION WHAN APPLICABLE.	INTERIOR	4 1/2"	A8
	EXISTING 1" THICK GLASS CURTAIN PANEL WALL WITH DARK TINT & GLAZING. MOUNTED TO BASE OF 10" EXTERIOR WALL OR 21" CMU W/ 4" FRAMING PAINTED ALUMINUM SYSTEM.	EXTERIOR	1"	A9
	EXISTING METAL PANEL WALL, W/ EXPOSED INTERIOR SIDE, BATT. INSULATION, AND EXTERIOR METAL PANELING. 1 1/4" METAL SIDE PANELING, 1 1/2" WOODEN BACKER BOARD FOR APPLICATION AND BATT. INSULATION, AND 5 3/8" METAL STUD.	EXTERIOR	10"	A10
	EXISTING METAL PANEL WALL W/ EXPOSED INTERIOR, SIDE, BATT. INSULATION, AND EXTERIOR METAL PANELING. 1 1/4" METAL SIDE PANELING, 1/2" WOODEN BACKER BOARD FOR APPLICATION AND BATT. INSULATION, AND 5 3/8" METAL STUDS.	EXTERIOR	8"	A11
	EXISTING METAL STUD WALL W/ FINISHED INTERIOR, SIDE, BATT. INSULATION. 1 1/2" WOODEN BACKER BOARD FOR APPLICATION AND BATT. INSULATION, AND 5 3/8" METAL STUDS.	INTERIOR	7"	A12
	NEW METAL STUD PLUMBING WALL, AND EXTERIOR BOUNDARY WALL FOR FIRE DEPARTMENT ADDITION IN LIVING AREA. TO UTILIZE 3 5/8" METAL STUD @ 24 O.C., 1/2" PLYWOOD SHEATHING FOR MOUNTING. AND 5/8" GYPSUM & FINISH WHERE APPLICABLE.	INTERIOR	6 5/8"	A13

B-EXISTING DOOR SCHEDULE

TYPE MARK	WIDTH	HEIGHT	TYPE	FRAME MATERIAL	FRAME TYPE	FUNCTION	COUNT
EXISTING: TO REMAIN							
D3	0"	0"	GARAGE OVERHEAD BAY	STEEL	STEEL, ALUMINUM	Exterior	1
D8	2' - 8"	6' - 8"	32" X 80"	STEEL	STEEL, ALUMINUM	Exterior	3
D16	2' - 8"	6' - 8"	32" X 80" INTERIOR	STEEL	STEEL, ALUMINUM	Interior	1
D17	2' - 6"	6' - 8"	30" x 80" - METAL EXTERIOR	STEEL	STEEL, ALUMINUM	Exterior	1
6							
X2							
D8	2' - 8"	6' - 8"	32" X 80"	STEEL	STEEL, ALUMINUM	Exterior	3
D10	2' - 6"	6' - 8"	30" x 80"	WOOD	PAINTED WOODEN FINISH	Interior	1
D12	3' - 0"	7' - 11"	Door-Curtain-Wall-Single-Glass	STEEL	STEEL, ALUMINUM	Exterior	1
5							
Grand total: 11							

B - ROOM SCHEDULE (EXIST/DEMO) X#

NAME	DEPARTMENT	WALL FINISH	CLG FINISH	FLR FINISH	AREA	OCC CLASS.	OCC FACTOR	OCC LOAD
EXISTING: TO REMAIN								
MUNICIPAL RR	MUNICIPAL	GYP PAINT & FINISH, TILE	2X4' ACT	TILE, EXISTING CONCRETE SLAB	66 SF	B	100	1
IT	MUNICIPAL	INSULATED METAL PANEL WALL	INSULATED PANELBOARD	EXPOSED CONCRETE FINISH	82 SF	B	100	1
RECORDS STORAGE / ATTIC	MUNICIPAL	EXPOSED FRAME & STUDS, INSULATED METAL WALL	EXPOSED JOIST & FRAMING, STEEL TRUSS	EXPOSED PANEL & JOISTS	991 SF	B	100	10
X2								
WAREHOUSE RR	MUNICIPAL	EXPOSED FRAME & STUDS, INSULATED METAL WALL	EXPOSED JOIST & FRAMING	TILE, EXISTING CONCRETE SLAB	51 SF	B	100	1
PARK BOARD / HISTORICAL	MUNICIPAL	GYP PAINT & FINISH, TILE	2X4' ACT	TILE, EXISTING CONCRETE SLAB	73 SF	B	100	1
PUBLIC WORKS	MUNICIPAL	GYP PAINT & FINISH, TILE	2X4' ACT	TILE, EXISTING CONCRETE SLAB	74 SF	B	100	1
RECORDS 1ST FLOOR	MUNICIPAL	EXPOSED FRAME & STUDS, INSULATED METAL WALL	EXPOSED JOIST & FRAMING	EXISTING CONCRETE SLAB	235 SF	S-2	300	1
ADDITIONAL STORAGE AREA	MUNICIPAL	EXPOSED FRAME & STUDS, INSULATED METAL WALL	EXPOSED JOIST & FRAMING	EXPOSED CONCRETE FINISH	502 SF	S-2	300	2
OLD COURT ROOM / COMMUNITY ROOM	MUNICIPAL	GYP PAINT & FINISH, METAL WALL, & CURTAIN PANEL	2X4' ACT	TILE, EXISTING CONCRETE SLAB	700 SF	B	100	8
Grand total: 9					2775 SF			26

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STATE OF TEXAS
JESSICA J. KILGORE
106106
LICENSED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL

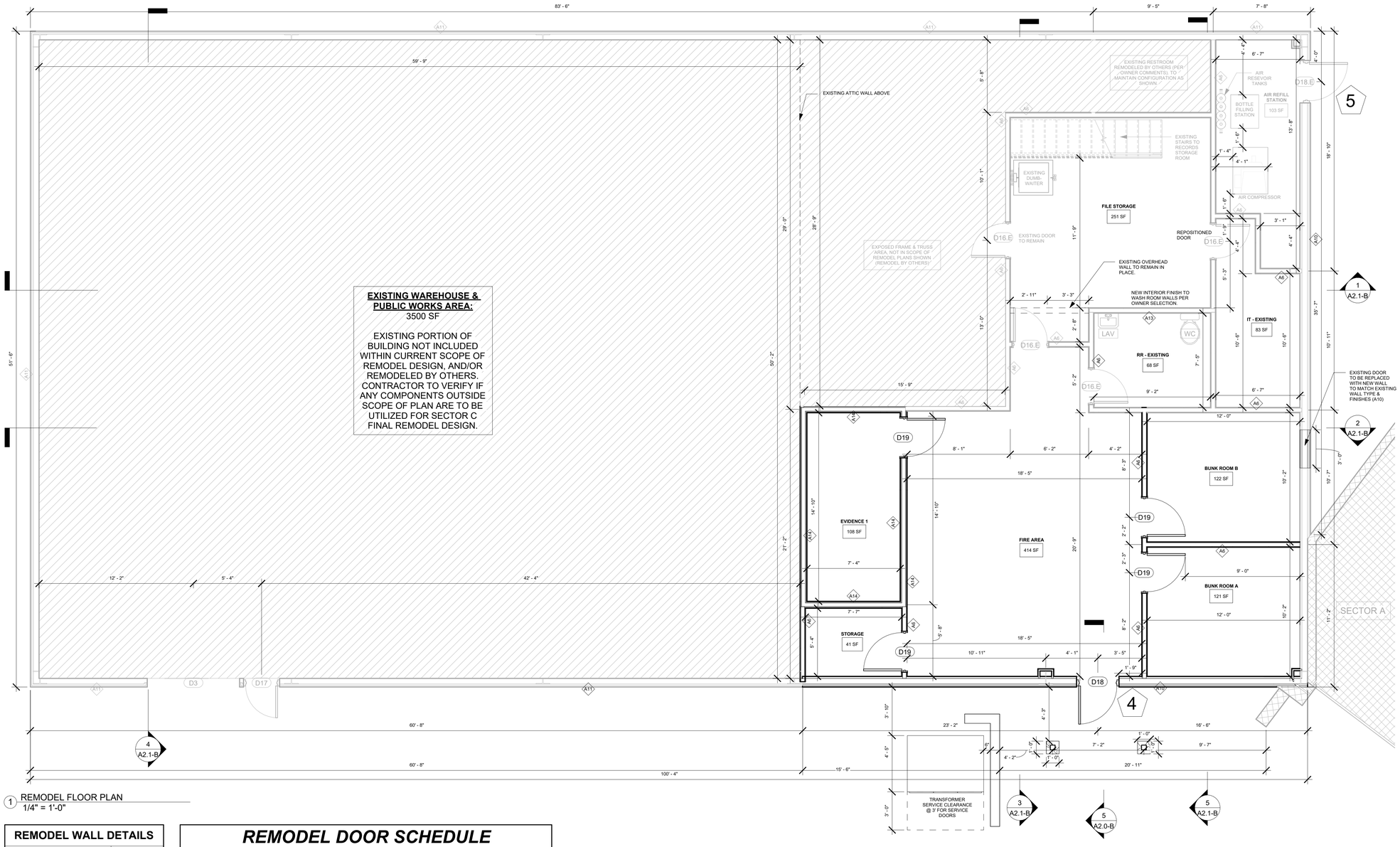
2600 ROOSEVELT DRIVE
DALWORTHINGTON GARDENS, TEXAS 76016

CONTACT NAME	CHIEF GREG PETTY
CONTACT COMPANY	DWG POLICE & FIRE
CONTACT PHONE	817-275-1234
ISSUES	
FULL CLIENT REVIEW SET 12/07/22	
FINAL COUNCIL REVIEW 06/19/23	
FINAL PERMIT SET 06/26/23	
ADA REVISION SET 08/04/23	
PRINTED	8/4/2023 1:43:50 PM
DESIGNED	JL
CHECKED	JJK
IBC	2015
IECC	2015
NEC	2017
SCALE	As indicated

SECTOR B EXISTING & DEMOLITION PLAN

A1.0-B

PROJECT 1699



1 REMODEL FLOOR PLAN
1/4" = 1'-0"

FLOOR PLAN LEGEND

	EMERGENCY BACKUP GENERATOR (DIESEL). BARE GENERATOR SHOWN FOR PLAN CLARIFICATION & VISIBILITY
ATS	AUTOMATIC TRANSFER SWITCH (ATS)
ECP	ELECTRICAL CONTROL PANEL
GWH	ON-DEMAND GAS WATER HEATER
	DUMB WAITER FOR RECORD STORAGE 2ND FLOOR
	WORKSTATION/DESK FROM POLICE OFFICER AREA
	RECTANGULAR COLUMN, STONE VENEER FINISH W/ METAL SQUARE 5" COLUMN TO VAULTED ROOF.
WC, LAV, SHW, WCD, DWF, URI, WCV	***PLUMBING:*** UR: URINAL @ 1'- 6" A.F.F. (VALVE) WC: WATER CLOSET (TANK - TYPICAL) WCI: WATERCLOSET W/ DETENTION SINK WCV: WATERCLOSET W/ VALVE LAV: LAVATORY SHW: SHOWER EWC: DRINKING WATER FOUNTAIN
WA, DRY	COMMERCIAL WASHER DRYER
DX	DOOR TAG
DX.E	DOOR TAG - EXISTING TO REMAIN (.E)
PLU	PLUMBING FIXTURE TAG
AX	WALL TAG
WX	WINDOW TAG
X#	DEMOLITION TAG - POINT OF REFERENCE REGARDING SCHEDULE ANNOTATIONS & DEMOLITION ZONES. PER ROOM, DOOR, AND WINDOW SCHEDULES ON EXISTING & DEMOLITION PLANS.
#	REMODEL NOTE BY SYMBOL. ANNOTATIONS WILL PERTAIN TO ANY REFERENCED ARCHITECTURAL, MEP, AND/OR STRUCTURAL CHANGES IMPLIED BY FINAL DESIGN SHOWN ON PLANS.
X#	CEILING COMPONENT IN FINAL REMODEL DESIGN PLAN. REFER TO MEP PLANS FOR FINALIZED SPECIFICATIONS & DESIGNATIONS FOR MEP CONSOLIDATION. WILL PERTAIN TO LIGHTING FIXTURES & DIFFUSER LOCATIONS ON ARCH PLANS ONLY (REFER TO CEILING SCHEDULES ON REMODEL PLANS)
	EXISTING WALL TO BE DEMOLISHED, PER SPECIFIED DEMOLITION PLANS.
	EXISTING WALL TO REMAIN, AS SHOWN THROUGH EACH APPLICABLE CONSTUCTION PHASE. ALL WALLS SHOWN ON THE FINAL REMODEL DESIGN TO BE FINISHED AS SPECIFIED ON THE PLANS HEREIN.

REMODEL NOTE BY SYMBOL

1. EXISTING MEP EQUIPMENT, DEVICES, AND COMPONENTS TO BE REMOVED UNLESS CAPABLE OF BEING REUTILIZED IN FOLLOWING THE SPECIFIED REMODEL PLANS @ EACH SECTOR (SEE MEP PLANS FOR REQUIRED EQUIPMENT SIZING & SPECIFICATIONS).
2. SPECIFIED STRUCTURAL FRAMING TO REMAIN IN PLACE AND TO BE UNHINDERED OR MODIFIED IN ANY WAY. STRUCTURAL SYSTEMS SHOWN ON PLAN ARE ESTIMATES BASED ON FIELD INVESTIGATIONS. CONTRACTOR TO VERIFY EXISTING STRUCTURAL PLACEMENT.
3. CONTRACTOR TO VERIFY WITH OWNER THE FINAL DESIGN INTENT REGARDING HVAC EQUIPMENT & DIFFUSERS. CURRENT DESIGN DOES NOT INCLUDE CONDITIONING WITHIN THE REMODELED AREA (STORAGE AREA)
4. EXTERIOR DESIGN & ENTRANCE TO BE CONFIRMED BY OWNER. CURRENT ENTRYWAY AND STRUCTURAL FRAMING RESTRICT THE PLACEMENT OF PRIMARY ENTRANCE AS SHOWN ON PLANS.
5. AIR FILLING STATION CLEARANCES PROVIDED PER MANUFACTURER & OWNER INSTALLATION. EXISTING CONFIGURATION SHOWN HAS BEEN INSTALLED, AND TO BE CONSIDERED AN EXISTING COMPONENT OF FINAL REMODEL DESIGN.
6. ALL CEILING HEIGHTS PROVIDED ON PLANS ARE EXISTING CEILING HEIGHTS OR NEW HEIGHTS BASED ON EXISTING STRUCTURAL FRAMING.
7. ALL NEW FIRE BAY LIGHTING TO BE INSTALLED WITH AUTOMATED LIGHT SYSTEM PER MEP PLANS.
8. REMODELED ROOMS W/ NEW WALL FINISHES & CONFIGURATIONS TO BE CONSIDERED AS AN ELEMENT OF THE FINAL REMODEL DESIGN. (AS SHOWN IN **BOLD** ON THE PLANS & LEGEND FOR ALL PROPOSED FINISHES). ALL FINISHES, OR RE-FINISHED ELEMENTS, TO MATCH DESIGN.

GENERAL CONTRACTOR NOTE:

- **ALL EXISTING STEEL WAREHOUSE COMPONENTS TO REMAIN IN PLACE AND TO BE FINISHED, TO MATCH FINAL INTERIOR REMODEL DESIGN & FINISH.F INTERIOR WALL APPLICATIONS TO NOT INTERFERE WITH STEEL COLUMN INTEGRITY & FRAMING.**

REMODEL WALL DETAILS

MATERIAL	WIDTH
A6 INTERIOR 5" PARTITION WDN STUD 5"	
Gypsum Wall Board	3/4"
Wood Sheathing, Chipboard	3 1/2"
A8 INTERIOR - 4 1/2" PARTITION - HALF EXPOSED 4"	
Gypsum Wall Board	3/4"
Wood Sheathing, Chipboard	3 1/2"
A10 EXTERIOR METAL WALL PANELS 10"	
Gypsum Wall Board	3/8"
Metal Stud Layer	5 3/8"
Metal, Paint Finish, White, Matte	1 1/4"
Plywood, Sheathing	1 1/2"
Ultralam X LVL	1 1/2"
A11 METAL WALL PANELING - WAREHOUSE 8"	
Metal Stud Layer	5 3/8"
Standing Seam - Metal Paneling	1 1/4"
Ultralam X LVL	1 1/2"
A12 INTERIOR METAL WALL W/ FINISH 7"	
Gypsum Wall Board	3/8"
Metal Stud Layer	5 3/8"
Plywood, Sheathing	1 1/2"
A13 INTERIOR - 5" PARTITION METAL STUD 5"	
Gypsum Wall Board	3/4"
Metal Stud Layer	3 1/2"
A14 INTERIOR - REINFORCED - 7" 7"	
Gypsum Wall Board	3/4"
Metal Stud Layer	3 1/2"
Plywood, Sheathing	3/4"

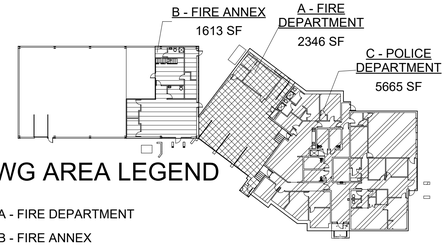
REMODEL DOOR SCHEDULE

TYPE MARK	WIDTH	HEIGHT	TYPE	FRAME MATERIAL	FRAME TYPE	FUNCTION	COUNT
D18	3' - 0"	6' - 8"	36" x 80" - STEEL EXTERIOR	STEEL	STEEL ALUMINUM	Exterior	1
D19	3' - 0"	6' - 8"	36" x 80" - STEEL INTERIOR	STEEL	PAINTED ALUMINUM	Interior	4

B - FIRE ANNEX REMODEL ROOM SCHEDULE

NAME	WALL FINISH	CLG FINISH	FLR FINISH	AREA	OCC CLASS.	OCC FACTOR	OCC LOAD
EXISTING: TO REMAIN							
RR - EXISTING	GYP PAINT & FINISH, TILE, W/ MILDEW TREATMENT	2X4' ACT	TILE, EXISTING CONCRETE SLAB	68 SF	B	100	1
AIR REFILL STATION	GYP PAINT & FINISH	2X4' ACT	TILE, EXISTING CONCRETE SLAB	103 SF	S-1	300	1
IT - EXISTING	INSULATED METAL PANEL WALL & INSULATED GYP FINISH & PAINT	2X4' ACT	EXPOSED CONCRETE FINISH	83 SF	B	100	1
EXISTING ATTIC SPACE	EXPOSED FRAME & STUDS, INSULATED METAL WALL, PLYWOOD SHEATING & INSULATION ON INTERIOR WALLS	EXPOSED JOIST & FRAMING, STEEL TRUSS, OPEN TO ROOF DECK	EXPOSED PANEL & JOISTS	992 SF	S-1	300	4
EXISTING: TO REMAIN: 4				1245 SF			7
NEW							
STORAGE	GYP PAINT & FINISH, REINFORCED PLYWOOD FINISH & SHIELDING	2X4' ACT	NEW VINYL FLOORING, EXISTING CONCRETE SLAB	41 SF	H-1	200	1
EVIDENCE 1	GYP PAINT & FINISH	REINFORCED PLYWOOD & GYP WALL BOARD FINISH	NEW VINYL FLOORING, EXISTING CONCRETE SLAB	108 SF	S-1	300	1
BUNK ROOM A	GYP PAINT & FINISH	2X4' ACT	NEW CARPET, PLYWOODSHEATING, EXISTING CONCRETE SLAB	121 SF	R-3	200	1
BUNK ROOM B	GYP PAINT & FINISH	2X4' ACT	NEW CARPET, PLYWOODSHEATING, EXISTING CONCRETE SLAB	122 SF	R-3	200	1
FILE STORAGE	GYP PAINT & FINISH, TILE, W/ MILDEW TREATMENT	EXPOSED JOIST & FRAMING	TILE, EXISTING CONCRETE SLAB	251 SF	S-2	300	1
NEW: 5				643 SF			5
Grand total: 9				1889 SF			12

PUBLIC WORKS ROOM REMODELS SHOWN AS EXISTING, COMPLETED BY OTHERS (PER OWNER). ROOMS ARE SHOWN ON PLAN TO ACCOUNT FOR TOTAL AREA AVAILABLE FOR THE FINAL REMODEL DESIGN, AND TO ACCOUNT FOR THE FINAL OCCUPANCY LOAD AND EGRESS-RELATED VALUES THROUGHOUT THE BUILDING.



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STATE OF TEXAS
JESSICA J. KILGORE
106106
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL

2600 ROOSEVELT DRIVE
DALWORTHINGTON GARDENS, TEXAS 76016

CONTACT NAME	CHIEF GREG PETTY
CONTACT COMPANY	DWG POLICE & FIRE
CONTACT PHONE	817-275-1234
ISSUES	
FULL CLIENT REVIEW SET 12/07/22	
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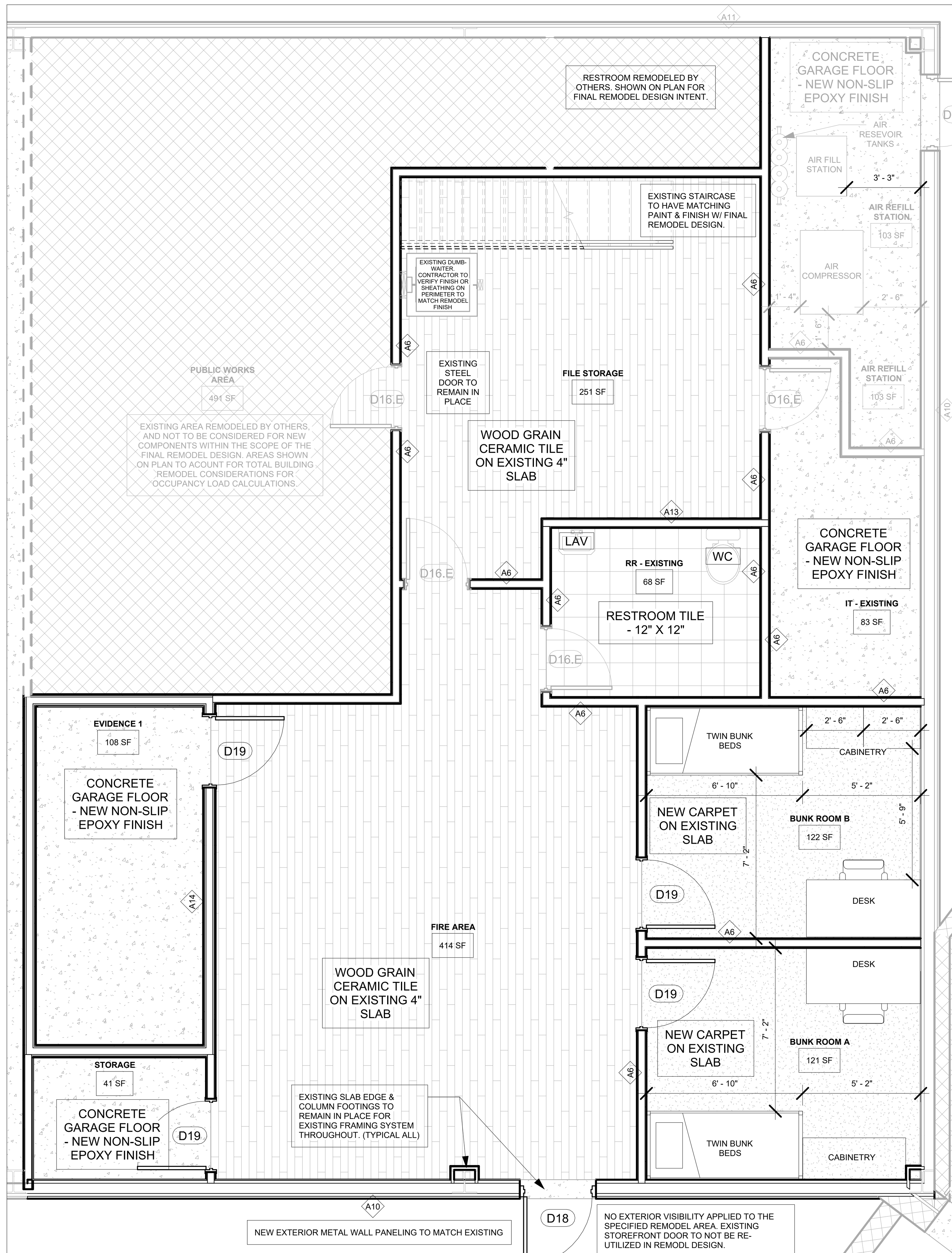
SCALE	As indicated

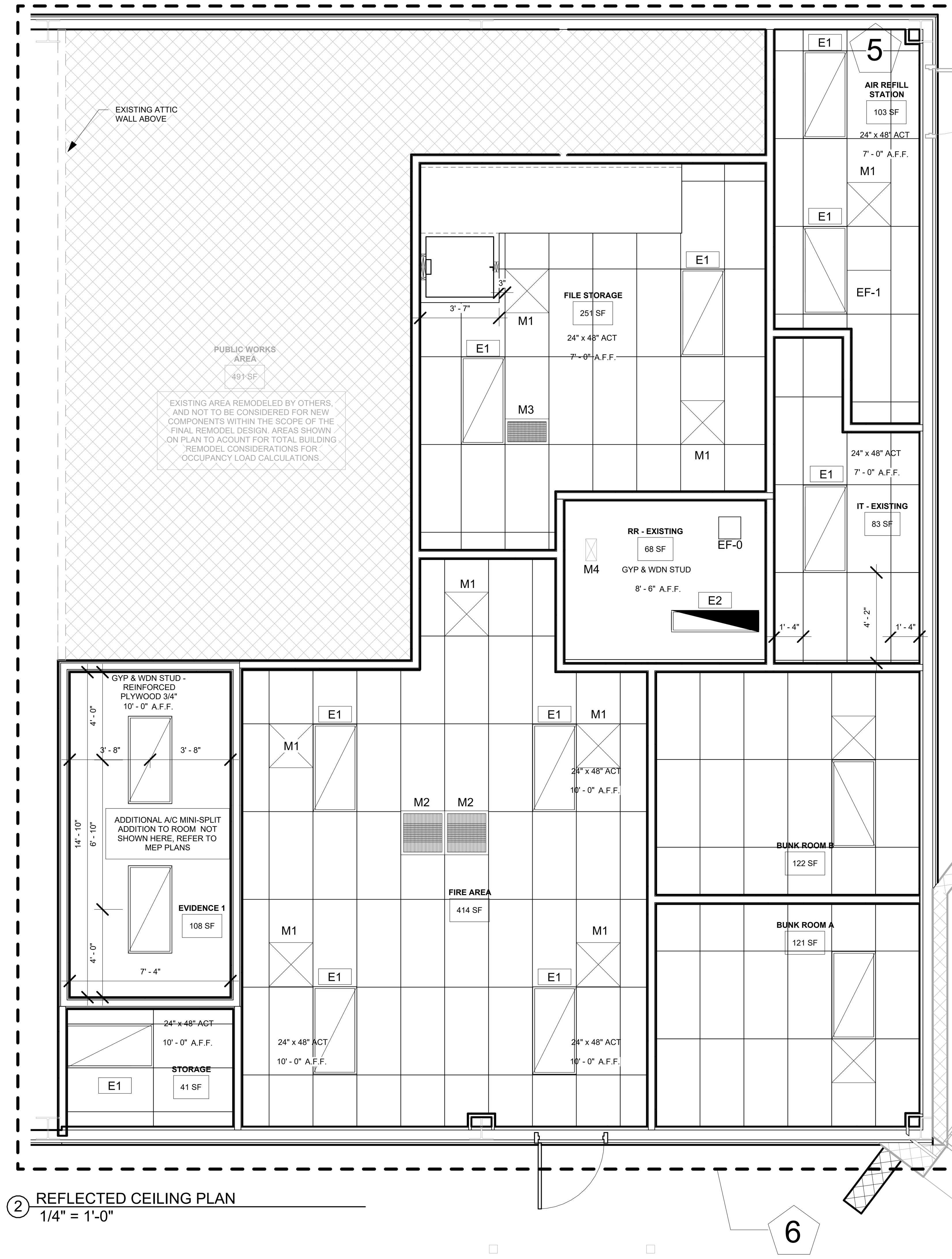
SECTOR B REMODEL FLOOR PLAN

A1.1-B

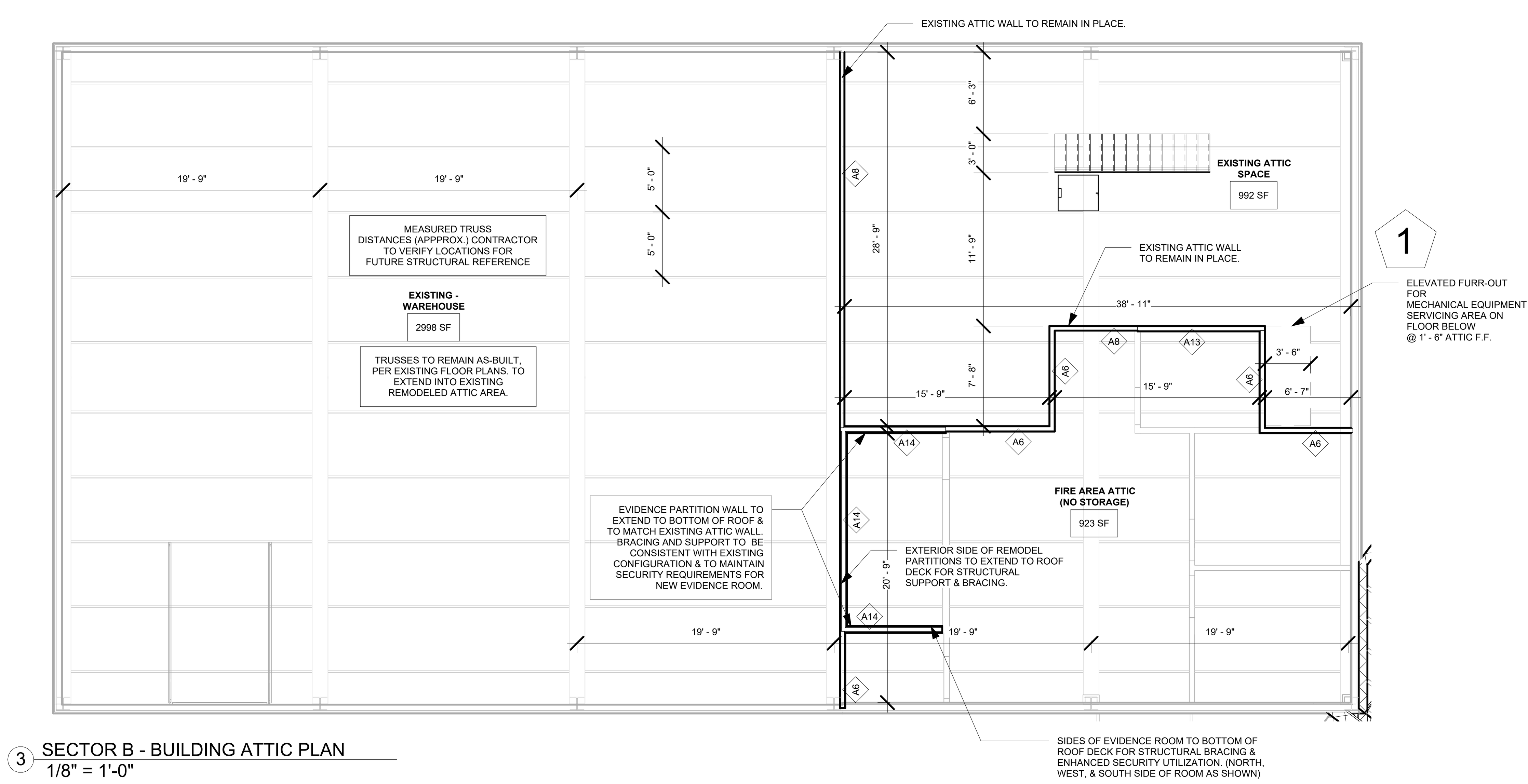
PROJECT 1699



1 ENLARGED PARTIAL FLOOR PLAN
1/4" = 1'-0"



2 REFLECTED CEILING PLAN
1/4" = 1'-0"



3 SECTOR B - BUILDING ATTIC PLAN
1/8" = 1'-0"

SECTOR B REMODEL CEILING SCHEDULE

MARK	COMPONENT & TYPE	QTY
	Compound Ceiling: GYP & WDN STUD - REINFORCED PLYWOOD 3/4"	1
AIR REFILL STATION 103 SF 2X4' ACT		
E1	CPX 2x4 LED PANEL: 2GTL 2 37L LP835	2
M1	SUPPLY DIFFUSER: LOUVERED SQUARE - 2' X 2'	1
BUNK ROOM A 121 SF 2X4' ACT		
E1	CPX 2x4 LED PANEL: 2GTL 2 37L LP835	1
M1	SUPPLY DIFFUSER: LOUVERED SQUARE - 2' X 2'	1
BUNK ROOM B 122 SF 2X4' ACT		
E1	CPX 2x4 LED PANEL: 2GTL 2 37L LP835	1
M1	SUPPLY DIFFUSER: LOUVERED SQUARE - 2' X 2'	1
EVIDENCE 1 108 SF REINFORCED PLYWOOD & GYP WALL BOARD FINISH		
E1	CPX 2x4 LED PANEL: 2GTL 2 37L LP835	2
FILE STORAGE 251 SF EXPOSED JOIST & FRAMING		
E1	CPX 2x4 LED PANEL: 2GTL 2 37L LP835	2
M1	SUPPLY DIFFUSER: LOUVERED SQUARE - 2' X 2'	2
M3	RETURN GRILLE & TRIM: PERFORATED GRILLE - 2'X1' RECT	1
FIRE AREA 414 SF 2X4' ACT		
E1	CPX 2x4 LED PANEL: 2GTL 2 37L LP835	4
M1	SUPPLY DIFFUSER: LOUVERED SQUARE - 2' X 2'	5
M2	RETURN GRILLE & TRIM: PERFORATED GRILLE - 2' SQUARE	2
IT - EXISTING 83 SF 2X4' ACT		
E1	CPX 2x4 LED PANEL: 2GTL 2 37L LP835	1
RR - EXISTING 68 SF 2X4' ACT		
E2	CPX 1x4 LED PANEL: 2GTL 2 37L LP835	1
EF-0	Exhauster with Cabinet - Round Connection - Ceiling Mounted: 50 cfm	1
M4	SUPPLY DIFFUSER - LOUVERED: 12X6	1
STORAGE 41 SF 2X4' ACT		
E1	CPX 2x4 LED PANEL: 2GTL 2 37L LP835	1
Grand total: 31		

FLOOR PLAN LEGEND

	EMERGENCY BACKUP GENERATOR (DIESEL). BARE GENERATOR SHOWN FOR PLAN CLARIFICATION & VISIBILITY
ATS	AUTOMATIC TRANSFER SWITCH (ATS)
ECP	ELECTRICAL CONTROL PANEL
GWH	ON-DEMAND GAS WATER HEATER
	DUMB WAITER FOR RECORD STORAGE 2ND FLOOR
	WORKSTATION/DESK FROM POLICE OFFICER AREA
	RECTANGULAR COLUMN, STONE VENEER FINISH W/ METAL SQUARE 5" COLUMN TO VAULTED ROOF.
WC, LAV, SHW, DWF, WCD, WCV, URI	***PLUMBING:*** • UR: URINAL @ 1'- 6" A.F.F. (VALVE) • WC: WATER CLOSET (TANK - TYPICAL) • WCJ: WATERCLOSET W/ DETENTION SINK • WCV: WATERCLOSET W/ VALVE • LAV: LAVATORY • SHW: SHOWER • EWC: DRINKING WATER FOUNTAIN
WA, DRY	COMMMERCIAL WASHER DRYER
DX	DOOR TAG
DX.E	DOOR TAG - EXISTING TO REMAIN (.E)
PLU	PLUMBING FIXTURE TAG
AX	WALL TAG
WX	WINDOW TAG
X#	DEMOLITION TAG - POINT OF REFERENCE REGARDING SCHEDULE ANNOTATIONS & DEMOLITION ZONES. PER ROOM, DOOR, AND WINDOW SCHEDULES ON EXISTING & DEMOLITION PLANS.
#	REMODEL NOTE BY SYMBOL. ANNOTATIONS WILL PERTAIN TO ANY REFERENCED ARCHITECTURAL, MEP, AND/OR STRUCTURAL CHANGES IMPLIED BY FINAL DESIGN SHOWN ON PLANS.
X#	CEILING COMPONENT IN FINAL REMODEL DESIGN PLAN. REFER TO MEP PLANS FOR FINALIZED SPECIFICATIONS & DESIGNATIONS FOR MEP CONSOLIDATION. WILL PERTAIN TO LIGHTING FIXTURES & DIFFUSER LOCATIONS ON ARCH PLANS ONLY (REFER TO CEILING SCHEDULES ON REMODEL PLANS)
	EXISTING WALL TO BE DEMOLISHED, PER SPECIFIED DEMOLITION PLANS.
	EXISTING WALL TO REMAIN, AS SHOWN THROUGH EACH APPLICABLE CONSTUCTION PHASE. ALL WALLS SHOWN ON THE FINAL REMODEL DESIGN TO BE FINISHED AS SPECIFIED ON THE PLANS HEREIN.

8

REMODEL WALL DETAILS

MATERIAL	WIDTH
A6 INTERIOR 5" PARTITION WDN STUD 5"	
Gypsum Wall Board	3/4"
Wood Sheathing, Chipboard	3 1/2"
A8 INTERIOR - 4 1/2" PARTITION - HALF EXPOSED 4"	
Gypsum Wall Board	3/4"
Wood Sheathing, Chipboard	3 1/2"
A10 EXTERIOR METAL WALL PANELS 10"	
Gypsum Wall Board	3/8"
Metal Stud Layer	5 3/8"
Metal, Paint Finish, White, Matte	1 1/4"
Plywood, Sheathing	1 1/2"
Ultralam X LVL	1 1/2"
A11 METAL WALL PANELING - WAREHOUSE 8"	
Metal Stud Layer	5 3/8"
Standing Seam - Metal Paneling	1 1/4"
Ultralam X LVL	1 1/2"
A12 INTERIOR METAL WALL W/ FINISH 7"	
Gypsum Wall Board	3/8"
Metal Stud Layer	5 3/8"
Plywood, Sheathing	1 1/2"
A13 INTERIOR - 5" PARTITION METAL STUD 5"	
Gypsum Wall Board	3/4"
Metal Stud Layer	3 1/2"
A14 INTERIOR - REINFORCED - 7" 7"	
Gypsum Wall Board	3/4"
Metal Stud Layer	3 1/2"
Plywood, Sheathing	3/4"

REMODEL NOTE BY SYMBOL

1. EXISTING MEP EQUIPMENT, DEVICES, AND COMPONENTS TO BE REMOVED UNLESS CAPABLE OF BEING REUTILIZED IN FOLLOWING THE SPECIFIED REMODEL PLANS @ EACH SECTOR (SEE MEP PLANS FOR REQUIRED EQUIPMENT SIZING & SPECIFICATIONS)
2. SPECIFIED STRUCTURAL FRAMING TO REMAIN IN PLACE AND TO BE UNHINDERED OR MODIFIED IN ANY WAY. STRUCTURAL SYSTEMS SHOWN ON PLAN ARE ESTIMATES BASED ON FIELD INVESTIGATIONS, CONTRACTOR TO VERIFY EXISTING STRUCTURAL PLACEMENT.
3. CONTRACTOR TO VERIFY WITH OWNER THE FINAL DESIGN INTENT REGARDING HVAC EQUIPMENT & DIFFUSERS. CURRENT DESIGN DOES NOT INCLUDE CONDITIONING WITHIN THE REMOLDED AREA (STORAGE AREA)
4. EXTERIOR DESIGN & ENTRANCE TO BE CONFIRMED BY OWNER. CURRENT ENTRYWAY AND STRUCTURAL FRAMING RESTRICT THE PLACEMENT OF PRIMARY ENTRANCE AS SHOWN ON PLANS.
5. AIR FILLING STATION CLEARANCES PROVIDED PER MANUFACTURER & OWNER INSTALLATION. EXISTING CONFIGURATION SHOWN HAS BEEN INSTALLED, AND TO BE CONSIDERED AN EXISTING COMPONENT OF FINAL REMODEL DESIGN.
6. ALL CEILING HEIGHTS PROVIDED ON PLANS ARE EXISTING CEILING HEIGHTS OR NEW HEIGHTS BASED ON EXISTING STRUCTURAL FRAMING.
7. ALL NEW FIRE BAY LIGHTING TO BE INSTALLED WITH AUTOMATED LIGHT SYSTEM PER MEP PLANS.
8. REMODELED ROOMS W/ NEW WALL FINISHES & CONFIGURATIONS TO BE CONSIDERED AS AN ELEMENT OF THE FINAL REMODEL DESIGN. (AS SHOWN IN **BOLD** ON THE PLANS & LEGEND FOR ALL PROPOSED FINISHES). ALL FINISHES, OR RE-FINISHED ELEMENTS, TO MATCH DESIGN SPECIFICATIONS AS SCHEDULED & LABELED THROUGHOUT EACH APPLICABLE PLAN.

REMODEL DOOR SCHEDULE

TYPE MARK	WIDTH	HEIGHT	TYPE	FRAME MATERIAL	FRAME TYPE	FUNCTION	COUNT
D18	3' - 0"	6' - 8"	36" x 80" - STEEL EXTERIOR	STEEL	STEEL, ALUMINUM	Exterior	1
D19	3' - 0"	6' - 8"	36" x 80" - STEEL INTERIOR	STEEL	PAINTED ALUMINUM	Interior	4

B - FIRE ANNEX REMODEL ROOM SCHEDULE

NAME	WALL FINISH	CLG FINISH	FLR FINISH	AREA	OCC CLASS.	OCC FACTOR	OCC LOAD
EXISTING: TO REMAIN							
RR - EXISTING	GYP PAINT & FINISH, TILE, W/ MILDEW TREATMENT	2X4' ACT	TILE, EXISTING CONCRETE SLAB	68 SF	B	100	1
AIR REFILL STATION	GYP PAINT & FINISH	2X4' ACT	TILE, EXISTING CONCRETE SLAB	103 SF	S-1	300	1
IT - EXISTING	INSULATED METAL PANEL WALL & INSULATED GYP FINISH & PAINT	2X4' ACT	EXPOSED CONCRETE FINISH	83 SF	B	100	1
EXISTING ATTIC SPACE	EXPOSED FRAME & STUDS, INSULATED METAL WALL, PLYWOOD SHEATING & INSULATION ON INTERIOR WALLS	EXPOSED JOIST & FRAMING, STEEL TRUSS, OPEN TO ROOF DECK	EXPOSED PANEL & JOISTS	992 SF	S-1	300	4
EXISTING: TO REMAIN: 4				1245 SF			7
NEW							
STORAGE	GYP PAINT & FINISH, REINFORCED PLYWOOD FINISH & SHIELDING	2X4' ACT	NEW VINYL FLOORING, EXISTING CONCRETE SLAB	41 SF	H-1	200	1
EVIDENCE 1	GYP PAINT & FINISH	REINFORCED PLYWOOD & GYP WALL BOARD FINISH	NEW VINYL FLOORING, EXISTING CONCRETE SLAB	108 SF	S-1	300	1
BUNK ROOM A	GYP PAINT & FINISH	2X4' ACT	NEW CARPET, PLYWOODSHEATING, EXISTING CONCRETE SLAB	121 SF	R-3	200	1
BUNK ROOM B	GYP PAINT & FINISH	2X4' ACT	NEW CARPET, PLYWOODSHEATING, EXISTING CONCRETE SLAB	122 SF	R-3	200	1
FILE STORAGE	GYP PAINT & FINISH, TILE, W/ MILDEW TREATMENT	EXPOSED JOIST & FRAMING	TILE, EXISTING CONCRETE SLAB	251 SF	S-2	300	1
NEW: 5				643 SF			5
Grand total: 9				1889 SF			12

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106106
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PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL

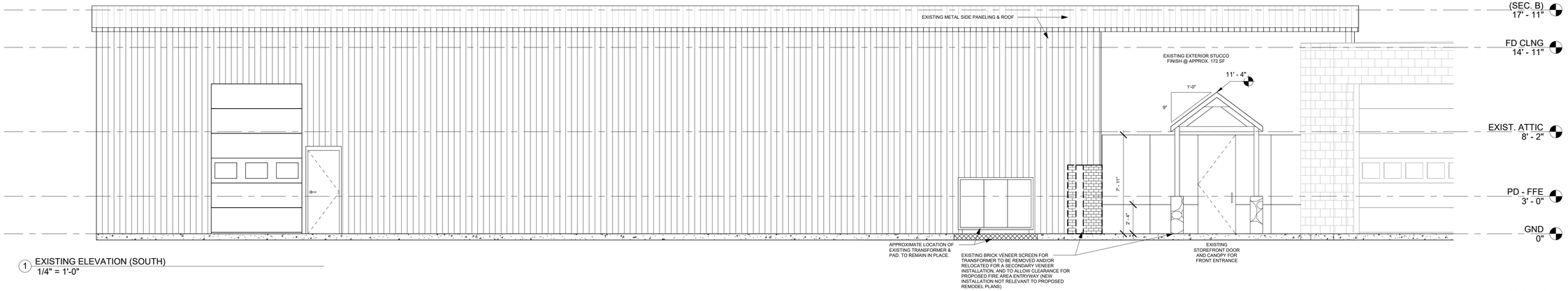
2600 ROOSEVELT DRIVE
DALWORTHINGTON GARDENS, TEXAS 76016

CONTACT NAME	CHIEF GREG PETTY
CONTACT COMPANY	DWG POLICE & FIRE
CONTACT PHONE	817-275-1234
ISSUES	
FULL CLIENT REVIEW SET 12/07/22	
FINAL COUNCIL REVIEW 06/19/23	
FINAL PERMIT SET 06/26/23	
ADA REVISION SET 08/04/23	
PRINTED	8/4/2023 1:43:53 PM
DESIGNED	JL
CHECKED	JJK
IBC	2015
IECC	2015
NEC	2017
SCALE	As indicated

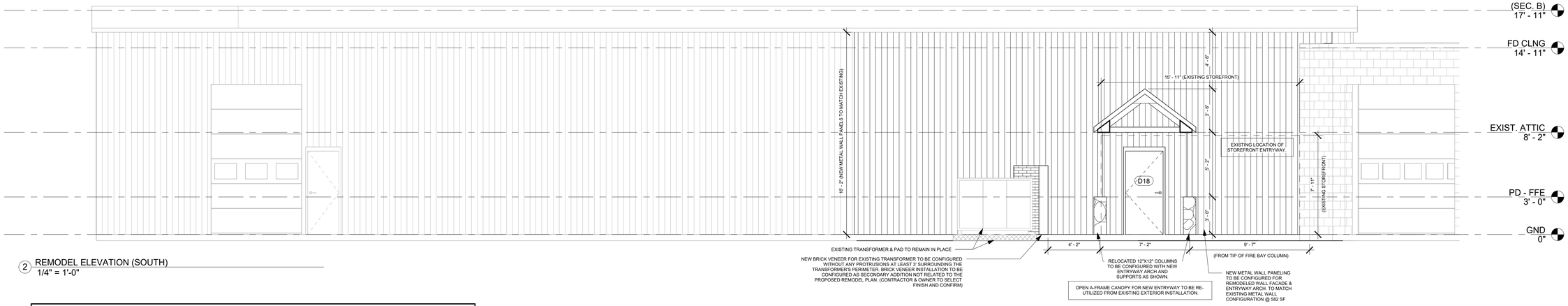
SECTOR B REMODEL FINISH PLAN

A1.2-B

PROJECT 1699



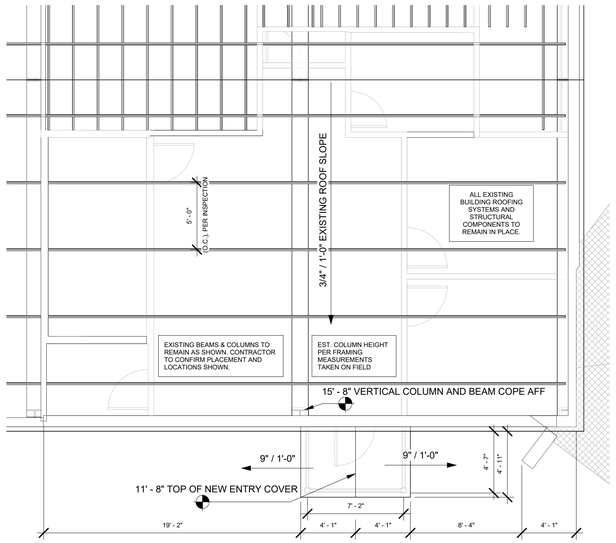
1 EXISTING ELEVATION (SOUTH)
1/4" = 1'-0"



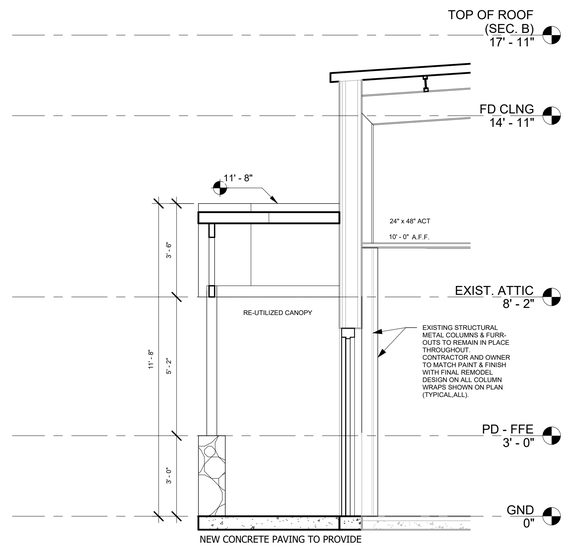
2 REMODEL ELEVATION (SOUTH)
1/4" = 1'-0"

ELEVATION MATERIALS

	NEW CONCRETE PAVING TO BE INSTALLED PER REMODEL PLANS
	EXISTING CONCRETE TO REMAIN IN PLACE
	NEW METAL SIDE PANEL SYSTEM TO BE CONFIGURED AS SHOWN, FINISH TO MATCH EXISTING.
	EXISTING METAL SIDE PANEL SYSTEM TO REMAIN IN PLACE
	EXISTING CMU BRICK WALL & FINISH TO REMAIN IN PLACE
	NEW STONE VENEER FINISH TO BE INSTALLED ON COLUMNS AS SHOWN.
	EXISTING LOCATION OF TRANSFORMER PAD. TRANSFORMER & PAD TO REMAIN IN PLACE.
	EXISTING BRICK WALL SHIELDING TO BE RELOCATED AS SHOWN ON REMODEL PLANS, CONTRACTOR TO CONFIRM.



4 ROOF REMODEL PLAN (PARTIAL)
3/16" = 1'-0"



5 REMODEL ENTRANCE SECTION
3/8" = 1'-0"

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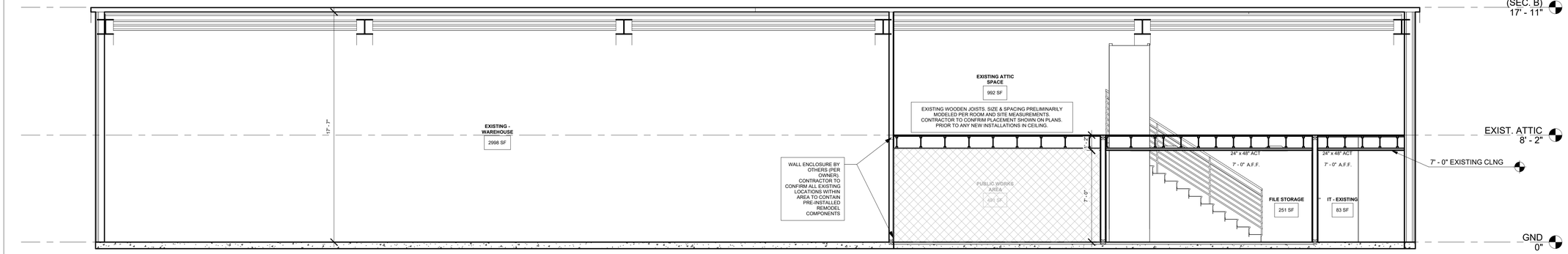
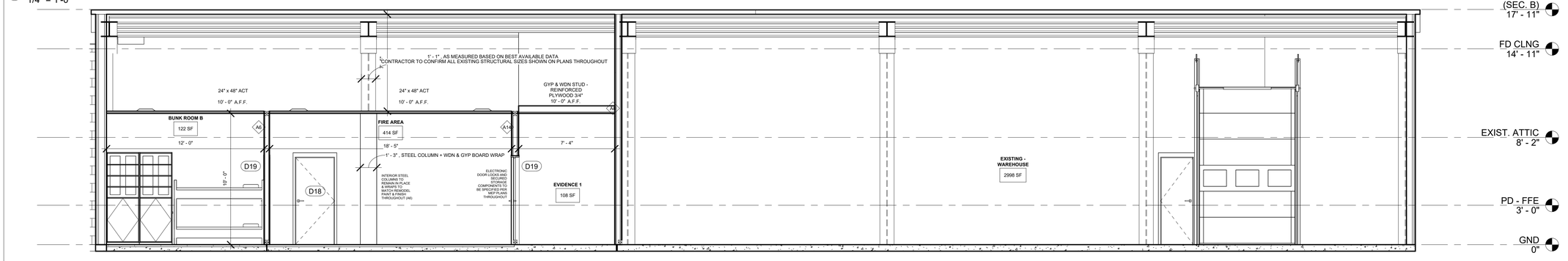
SECTOR B- ELEVATIONS & ROOF PLAN

A2.0-B

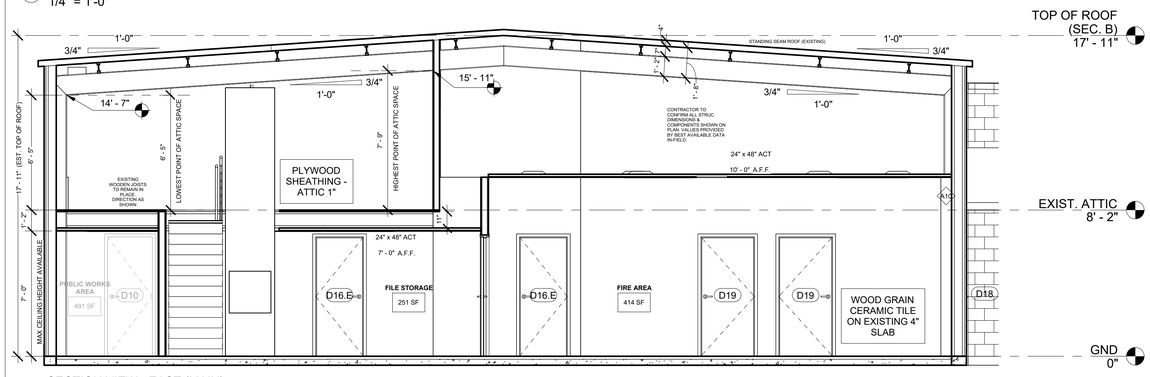
PROJECT 1699



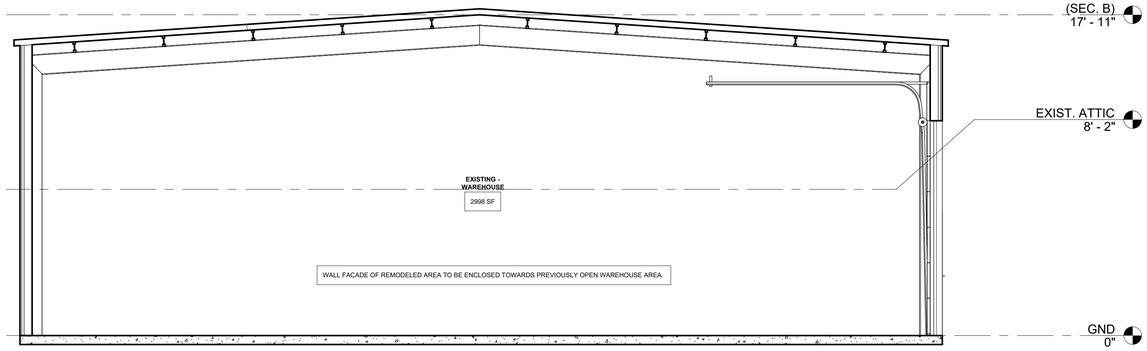
1 SECTION VIEW - NORTH
1/4" = 1'-0"



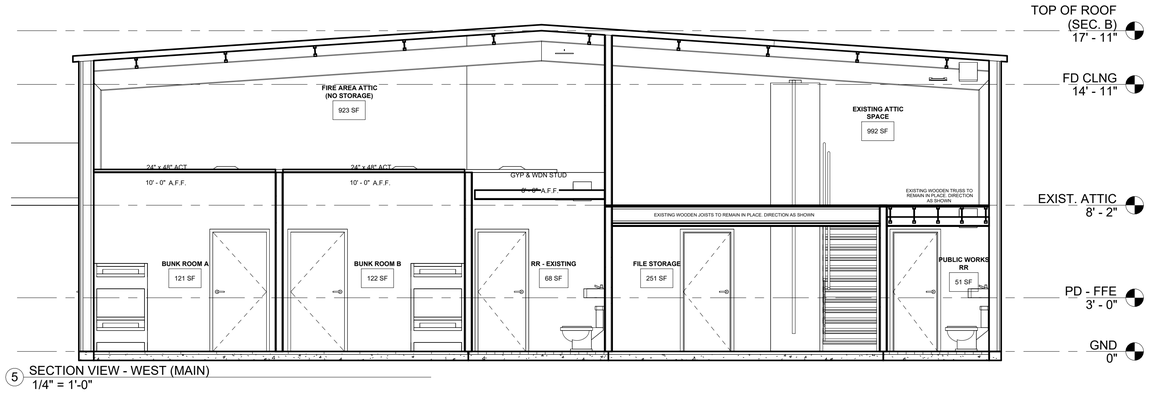
2 SECTION VIEW - SOUTH
1/4" = 1'-0"



3 SECTION VIEW - EAST (MAIN)
1/4" = 1'-0"



4 SECTION VIEW EAST (WAREHOUSE)
1/4" = 1'-0"



5 SECTION VIEW - WEST (MAIN)
1/4" = 1'-0"

SECTOR B MATERIALS LEGEND

	24" X 48" ACT COMPOUND CEILING SYSTEM W/ HANGAR SYSTEM.
	GYPSUM CEILING BOARD AND 5 1/2" WOODEN STUD.
	EXISTING ATTIC FRAMING AS MEASURED ON FIELD. 1-3/4" x 11"
	EXISTING 6" CONCRETE SLAB & FLOORING
	EXISTING 1/2" PLYWOOD AND 1/2" WOODEN BRACE FOR ATTIC FLOOR
	EXISTING CERAMIC TILE 12" X 12" FLOORING @ 6" THICK
	EXISTING POLYVINYL FLOORING W/ EXPOXY COAT @ 6" THICK
	LIGHTING FIXTURE TO BE REPLACED OR REINSTALLED PER MEP
	LIGHTING FIXTURE TO BE REPLACED OR REINSTALLED PER MEP
	SUPPLY DIFFUSER TO BE INSTALLED AND/OR RELOCATED PER MEP
	METAL FRAME AND INTERIOR WALL FINISH TO BE INSTALLED FOR BUILDING SECTOR/DEPARTMENT PARTITIONS.
	EXISTING WOODEN FRAMED WALL W/ INTERIOR WALL FINISH & EXPOSED STUD LAYOUT PER EXISTING FLOOR PLANS
	EXISTING METAL PANEL WALL ON EXTERIOR BUILDING FACADE AND INTERIOR FINISH TO BE APPLIED WHERE APPLICABLE PER REMODEL PLANS.
	ADDITIONAL INTERIOR PARTION WALL, TO MATCH FINISH AND STRUCTURE OF EXISTING INTERIOR WALLS IN PLACE.
	EXHAUST FAN W/ CABINET CLEARNACE REQUIRED. TYPICAL PER RESTROOM APPLLICATION.

ELEVATION MATERIALS

	NEW CONCRETE PAVING TO BE INSTALLED PER REMODEL PLANS
	EXISTING CONCRETE TO REMAIN IN PLACE
	NEW METAL SIDE PANEL SYSTEM TO BE CONFIGURED AS SHOWN, FINISH TO MATCH EXISTING.
	EXISTING METAL SIDE PANEL SYSTEM TO REMAIN IN PLACE
	EXISTING CMU BRICK WALL & FINISH TO REMAIN IN PLACE
	NEW STONE VENEER FINISH TO BE INSTALLED ON COLUMNS AS SHOWN.
	EXISTING LOCATION OF TRANSFORMER PAD. TRANSFORMER & PAD TO REMAIN IN PLACE.
	EXISTING BRICK WALL SHIELDING TO BE RELOCATED AS SHOWN ON REMODEL PLANS, CONTRACTOR TO CONFIRM.

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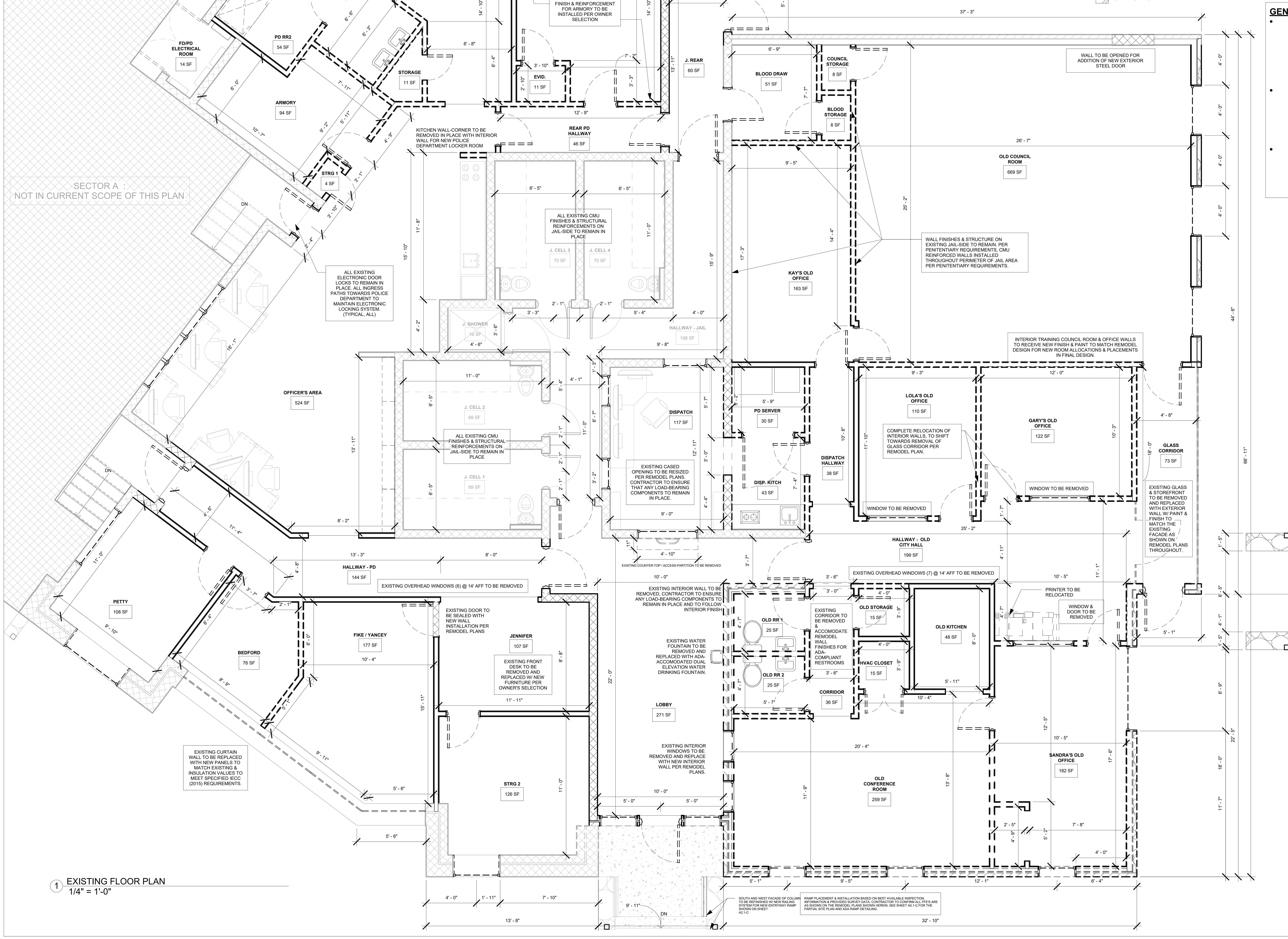
SECTOR B - REMODEL SECTION VIEWS

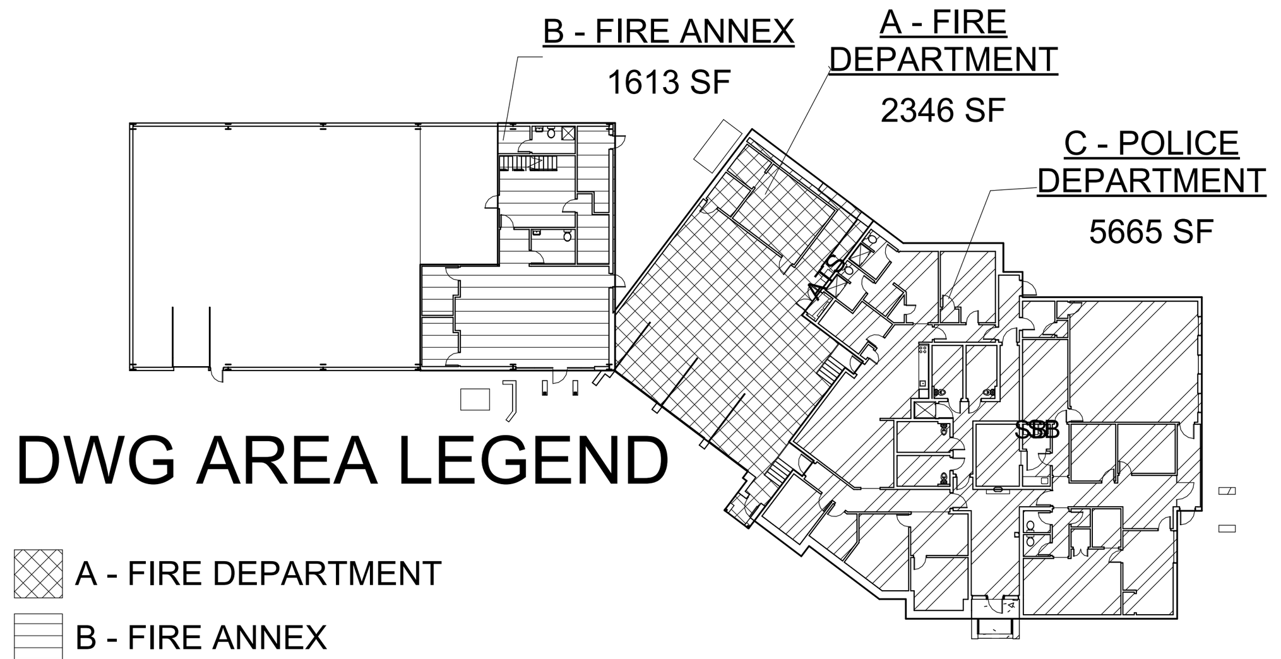
A2.1-B

PROJECT 1699



1 EXISTING FLOOR PLAN
1/4" = 1'-0"

DWG AREA LEGEND



- A - FIRE DEPARTMENT
- B - FIRE ANNEX
- C - POLICE DEPARTMENT

GENERAL CONTRACTOR NOTES:

- ALL EXISTING WINDOWS TO BE REMOVED AND REPLACED WITH NEW MODELS MATCHING THE EXISTING SIZE & TO MATCH REMODELED INSULATION VALUES. (PER IECC 2015).
- ALL EXISTING SECTOR C DOORS, EXCEPT JAIL DOORS, TO BE REPLACED WITH NEW STEEL DOORS TO BE MATCHING IN SIZE AS SHOWN (PER IECC 2015).
- DOOR LOCKS TO BE REPLACED AND/OR NEWLY PLACED AS SPECIFIED THROUGHOUT, REFER TO MEP.

FLOOR PLAN LEGEND

Symbol	Description
	EMERGENCY BACKUP GENERATOR (DIESEL). BARE GENERATOR SHOWN FOR PLAN CLARIFICATION & VISIBILITY
ATS	AUTOMATIC TRANSFER SWITCH (ATS)
ECP	ELECTRICAL CONTROL PANEL
GWH	ON-DEMAND GAS WATER HEATER
	DUMB WAITER FOR RECORD STORAGE 2ND FLOOR
	WORKSTATION/DESK FROM POLICE OFFICER AREA
	RECTANGULAR COLUMN, STONE VENEER FINISH W/ METAL SQUARE 5" COLUMN TO VAULTED ROOF.
WC, LAV, SHW, DWF, WCD, WCV, URI	**PLUMBING:** • UR: URINAL @ 1'- 6" A.F.F. (VALVE) • WC: WATER CLOSET (TANK - TYPICAL) • WCJ: WATERCLOSET W/ DETENTION SINK • WCV: WATERCLOSET W/ VALVE • LAV: LAVATORY • SHW: SHOWER • EWC: DRINKING WATER FOUNTAIN
WA, DRY	COMMMERCIAL WASHER DRYER
DX	DOOR TAG
DX.E	DOOR TAG - EXISTING TO REMAIN (.E)
PLU	PLUMBING FIXTURE TAG
AX	WALL TAG
WX	WINDOW TAG
X#	DEMOLITION TAG - POINT OF REFERENCE REGARDING SCHEDULE ANNOTATIONS & DEMOLITION ZONES. PER ROOM, DOOR, AND WINDOW SCHEDULES ON EXISTING & DEMOLITION PLANS.
#	REMODEL NOTE BY SYMBOL. ANNOTATIONS WILL PERTAIN TO ANY REFERENCED ARCHITECTURAL, MEP, AND/OR STRUCTURAL CHANGES IMPLIED BY FINAL DESIGN SHOWN ON PLANS.
X#	CEILING COMPONENT IN FINAL REMODEL DESIGN PLAN. REFER TO MEP PLANS FOR FINALIZED SPECIFICATIONS & DESIGNATIONS FOR MEP CONSOLIDATION. WILL PERTAIN TO LIGHTING FIXTURES & DIFFUSER LOCATIONS ON ARCH PLANS ONLY (REFER TO CEILING SCHEDULES ON REMODEL PLANS)
	EXISTING WALL TO BE DEMOLISHED, PER SPECIFIED DEMOLITION PLANS.
	EXISTING WALL TO REMAIN, AS SHOWN THROUGH EACH APPLICABLE CONSTUCTION PHASE. ALL WALLS SHOWN ON THE FINAL REMODEL DESIGN TO BE FINISHED AS SPECIFIED ON THE PLANS HEREIN.

C - EXISTING ROOM SCHEDULE

NAME	WALL FINISH	CLG FINISH	FLR FINISH	AREA	OCC CLASS.	OCC FACTOR	OCC LOAD
C							
ARMORY	GYP PAINT & FINISH	2X4' ACT	TILE, EXISTING CONCRETE SLAB	94 SF	S-1	500	1
BEDFORD	GYP PAINT & FINISH	2X4' ACT	TILE, EXISTING CONCRETE SLAB	76 SF	B	100	1
BLOOD DRAW	GYP PAINT & FINISH	2X4' ACT	TILE, EXISTING CONCRETE SLAB	51 SF	S-1	500	1
BLOOD STORAGE	GYP PAINT & FINISH	2X4' ACT	TILE, EXISTING CONCRETE SLAB	8 SF	S-1	500	1
CORRIDOR	GYP PAINT & FINISH	2X4' ACT	CARPET, EXISTING CONCRETE SLAB	36 SF	B	100	1
COUNCIL STORAGE	GYP PAINT & FINISH	2X4' ACT	CARPET, EXISTING CONCRETE SLAB	8 SF	S-1	500	1
DISP. KITCH	GYP PAINT & FINISH	2X4' ACT	TILE, EXISTING CONCRETE SLAB	43 SF	B	100	1
DISPATCH	GYP PAINT & FINISH	2X4' ACT	TILE, EXISTING CONCRETE SLAB	117 SF	B	100	2
DISPATCH HALLWAY	GYP PAINT & FINISH	2X4' ACT	TILE, EXISTING CONCRETE SLAB	38 SF	B	100	1
EVID.	GYP PAINT & FINISH	2X4' ACT	TILE, EXISTING CONCRETE SLAB	11 SF	S-1	500	1
EVIDENCE	GYP PAINT & FINISH	2X4' ACT	TILE, EXISTING CONCRETE SLAB	103 SF	S-1	500	1
FIKE / YANCEY	GYP PAINT & FINISH	2X4' ACT	TILE, EXISTING CONCRETE SLAB	177 SF	B	100	2
GARY'S OLD OFFICE	GYP PAINT & FINISH	2X4' ACT	CARPET, EXISTING CONCRETE SLAB	122 SF	B	100	2
GLASS CORRIDOR	STOREFRONT	2X4' ACT	CARPET, EXISTING CONCRETE SLAB	73 SF	B	100	1
HALLWAY - OLD CITY HALL	GYP PAINT & FINISH	2X4' ACT	CARPET, EXISTING CONCRETE SLAB	199 SF	B	100	2
HALLWAY - PD	GYP PAINT & FINISH	2X4' ACT	TILE, EXISTING CONCRETE SLAB	144 SF	B	100	2
HVAC CLOSET	GYP PAINT & FINISH	OPEN TO ATTIC	ELEVATED CONRETE PLATFORM @ 8" AFF	15 SF	S-1	500	1
JENNIFER	GYP PAINT & FINISH	2X4' ACT	TILE, EXISTING CONCRETE SLAB	107 SF	B	100	2
KAY'S OLD OFFICE	GYP PAINT & FINISH	2X4' ACT	CARPET, EXISTING CONCRETE SLAB	163 SF	B	100	2
LOBBY	GYP PAINT & FINISH	GYP PAINT & FINISH, OPEN TO CLNG	TILE, EXISTING CONCRETE SLAB	271 SF	B	100	3
LOLA'S OLD OFFICE	GYP PAINT & FINISH	2X4' ACT	CARPET, EXISTING CONCRETE SLAB	110 SF	B	100	2
OFFICER LOCKER ROOM	GYP PAINT & FINISH	2X4' ACT	TILE, EXISTING CONCRETE SLAB	161 SF	S-1	500	1
OFFICER'S AREA	GYP PAINT & FINISH, EXPOSED CMU	2X4' ACT	TILE, EXISTING CONCRETE SLAB	524 SF	B	100	6
OLD CONFERENCE ROOM	GYP PAINT & FINISH	2X4' ACT	CARPET, EXISTING CONCRETE SLAB	259 SF	B	100	3
OLD COUNCIL ROOM	GYP PAINT & FINISH	2X4' ACT	CARPET, EXISTING CONCRETE SLAB	669 SF	B	100	7
OLD KITCHEN	GYP PAINT & FINISH, TILE	2X4' ACT	TILE, EXISTING CONCRETE SLAB	48 SF	B	100	1
OLD RR 1	GYP PAINT & FINISH, TILE	2X4' ACT	TILE, EXISTING CONCRETE SLAB	25 SF	B	100	1
OLD RR 2	GYP PAINT & FINISH, TILE	2X4' ACT	TILE, EXISTING CONCRETE SLAB	25 SF	B	100	1
OLD STORAGE	GYP PAINT & FINISH	2X4' ACT	TILE, EXISTING CONCRETE SLAB	15 SF	B	100	1
PD RR1	GYP PAINT & FINISH, TILE	2X4' ACT	TILE, EXISTING CONCRETE SLAB	54 SF	B	100	1
PD RR2	GYP PAINT & FINISH, TILE	2X4' ACT	TILE, EXISTING CONCRETE SLAB	54 SF	B	100	1
PD SERVER	GYP PAINT & FINISH	2X4' ACT	TILE, EXISTING CONCRETE SLAB	30 SF	S-1	500	1
PETTY	GYP PAINT & FINISH	2X4' ACT	TILE, EXISTING CONCRETE SLAB	108 SF	B	100	2
REAR PD HALLWAY	GYP PAINT & FINISH, EXPOSED CMU	2X4' ACT	TILE, EXISTING CONCRETE SLAB	46 SF	B	100	1
ROBERT/WOLF	GYP PAINT & FINISH	2X4' ACT	TILE, EXISTING CONCRETE SLAB	156 SF	B	100	2
SANDRA'S OLD OFFICE	GYP PAINT & FINISH	2X4' ACT	CARPET, EXISTING CONCRETE SLAB	182 SF	B	100	2
STORAGE	GYP PAINT & FINISH	2X4' ACT	TILE, EXISTING CONCRETE SLAB	11 SF	S-1	500	1
STRG 1	GYP PAINT & FINISH	2X4' ACT	TILE, EXISTING CONCRETE SLAB	4 SF	S-1	500	1
STRG 2	GYP PAINT & FINISH	2X4' ACT	TILE, EXISTING CONCRETE SLAB	126 SF	S-1	500	1
39				4466 SF			65
JAIL							
HALLWAY - JAIL	CMU, REINFORCED PAINT & FINISH	REINFORCED PLYWOOD & GYP WALL BOARD FINISH	EXPOSED CONCRETE FINISH	158 SF	I	240	1
J. CELL 1	CMU, REINFORCED PAINT & FINISH	REINFORCED PLYWOOD & GYP WALL BOARD FINISH	EXPOSED CONCRETE FINISH	69 SF	I	240	1
J. CELL 2	CMU, REINFORCED PAINT & FINISH	REINFORCED PLYWOOD & GYP WALL BOARD FINISH	EXPOSED CONCRETE FINISH	69 SF	I	240	1
J. CELL 3	CMU, REINFORCED PAINT & FINISH	REINFORCED PLYWOOD & GYP WALL BOARD FINISH	EXPOSED CONCRETE FINISH	70 SF	I	240	1
J. CELL 4	CMU, REINFORCED PAINT & FINISH	REINFORCED PLYWOOD & GYP WALL BOARD FINISH	EXPOSED CONCRETE FINISH	70 SF	I	240	1
J. REAR	GYP PAINT & FINISH HARDIE BOARD	REINFORCED PLYWOOD & GYP WALL BOARD FINISH	EXPOSED CONCRETE FINISH	60 SF	I	240	1
J. SHOWER	CMU, REINFORCED PAINT & FINISH	REINFORCED PLYWOOD & GYP WALL BOARD FINISH	EXPOSED CONCRETE FINISH	16 SF	I	240	1
7				512 SF			7
Grand total: 46				4977 SF			72

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NOT FOR CONSTRUCTION
PRELIMINARY
DESIGN CONCEPT ONLY

DWG POLICE & FIRE - REMODEL

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IBC	2015
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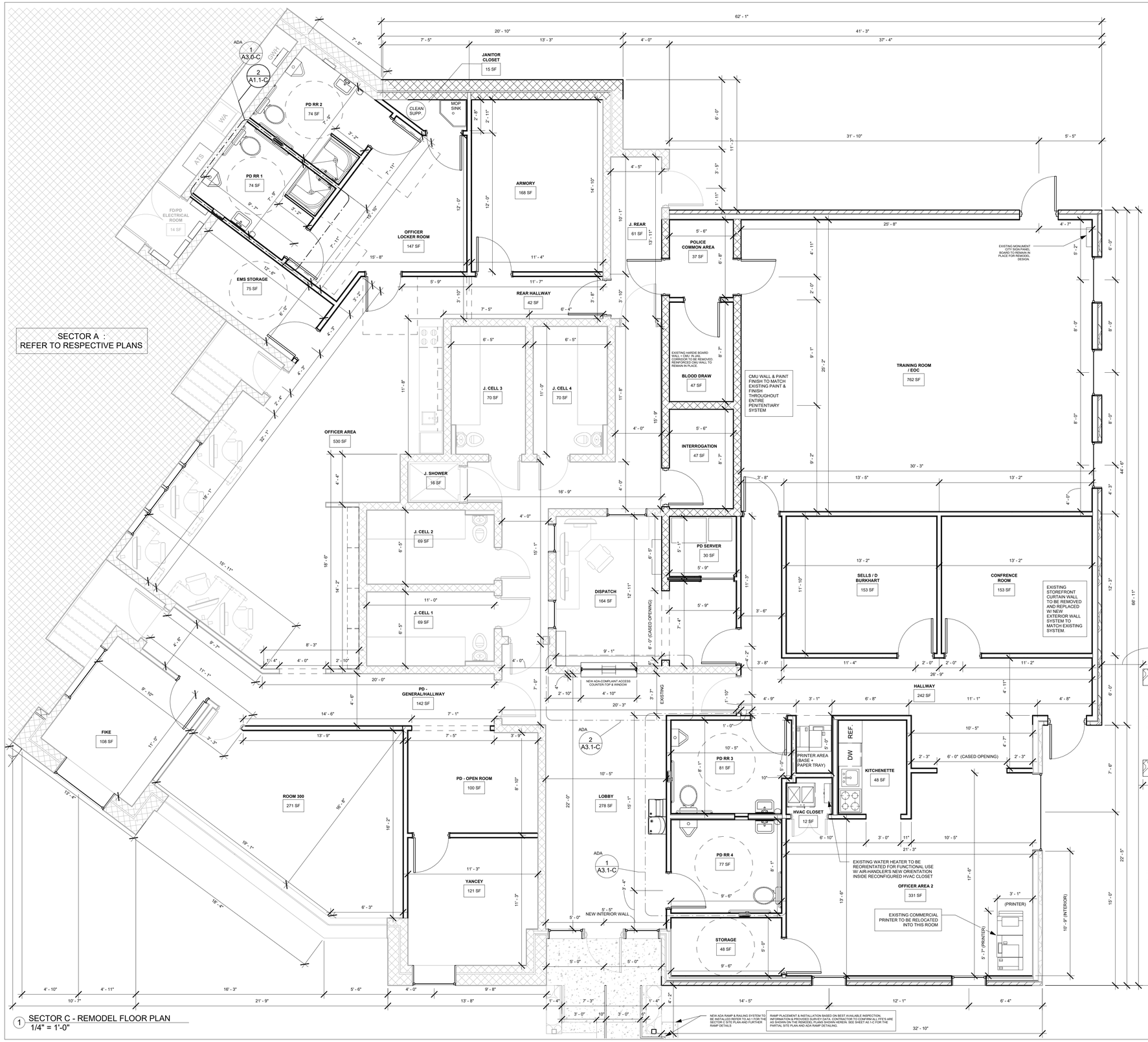
SCALE	As indicated

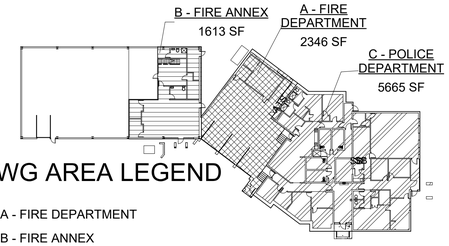
SECTOR C EXISTING / DEMOLITION FLOOR PLAN

A1.0-C

PROJECT	1699



1 SECTOR C - REMODEL FLOOR PLAN
1/4" = 1'-0"

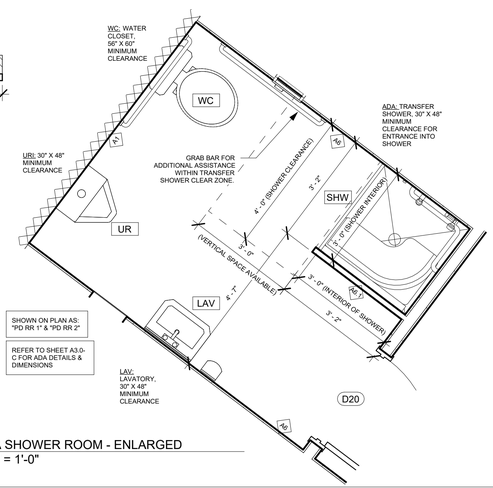


DWG AREA LEGEND

- A - FIRE DEPARTMENT
- B - FIRE ANNEX
- C - POLICE DEPARTMENT

C - REMODEL ROOM SCHEDULE

NAME	WALL FINISH	CLG FINISH	FLR FINISH	AREA	OCC CLASS.	OCC FACTOR	OCC
FIRE BAY							
FIRE BAY	EXPOSED CMU, CMU BRICK WALL W/ PAINT & FINISH	2X4' ACT, TREATED 13' AFF	EXPOSED CONCRETE FINISH	2006 SF	B	150	14
1				2006 SF			14
JAIL							
HALLWAY - JAIL	CMU, REINFORCED PAINT & FINISH	REINFORCED PLYWOOD & GYP WALL BOARD FINISH	EXPOSED CONCRETE FINISH	157 SF	I	240	1
J. CELL 1	CMU, REINFORCED PAINT & FINISH	REINFORCED PLYWOOD & GYP WALL BOARD FINISH	EXPOSED CONCRETE FINISH	69 SF	I	240	1
J. CELL 2	CMU, REINFORCED PAINT & FINISH	REINFORCED PLYWOOD & GYP WALL BOARD FINISH	EXPOSED CONCRETE FINISH	69 SF	I	240	1
J. CELL 3	CMU, REINFORCED PAINT & FINISH	REINFORCED PLYWOOD & GYP WALL BOARD FINISH	EXPOSED CONCRETE FINISH	70 SF	I	240	1
J. CELL 4	CMU, REINFORCED PAINT & FINISH	REINFORCED PLYWOOD & GYP WALL BOARD FINISH	EXPOSED CONCRETE FINISH	70 SF	I	240	1
J. SHOWER	CMU, REINFORCED PAINT & FINISH	REINFORCED PLYWOOD & GYP WALL BOARD FINISH	EXPOSED CONCRETE FINISH	16 SF	I	240	1
6				450 SF			6
POLICE DEPARTMENT							
ARMORY	GYP PAINT & FINISH	GYP PAINT & FINISH	EXISTING CONCRETE SLAB	168 SF	S-1	500	1
BLOOD DRAW	CMU, REINFORCED PAINT & FINISH	REINFORCED PLYWOOD & GYP WALL BOARD FINISH	EXPOSED CONCRETE FINISH	47 SF	I	100	1
CONFRENCE ROOM	GYP PAINT & FINISH	2X4' ACT	CARPET, EXISTING CONCRETE SLAB	153 SF	B	100	2
DISPATCH	GYP PAINT & FINISH	2X4' ACT	TILE, EXISTING CONCRETE SLAB	164 SF	B	100	2
EMS STORAGE	GYP PAINT & FINISH	2X4' ACT	EXPOSED CONCRETE FINISH	75 SF	S-1	500	1
FIKE	GYP PAINT & FINISH	2X4' ACT	TILE, EXISTING CONCRETE SLAB	108 SF	B	100	2
HALLWAY	GYP PAINT & FINISH	2X4' ACT	CARPET, EXISTING CONCRETE SLAB	242 SF	B	100	3
HVAC CLOSET	GYP PAINT & FINISH	OPEN TO ATTIC	ELEVATED CONRETE PLATFORM @ 8" AFF	12 SF	S-1	500	1
INTERROGATION	CMU, REINFORCED PAINT & FINISH	REINFORCED PLYWOOD & GYP WALL BOARD FINISH	EXPOSED CONCRETE FINISH	47 SF	I	100	1
J. REAR	CMU, REINFORCED PAINT & FINISH	REINFORCED PLYWOOD & GYP WALL BOARD FINISH	EXPOSED CONCRETE FINISH	61 SF	I	100	1
JANITOR CLOSET	GYP PAINT & FINISH, TILE, W/ MILDEW TREATMENT	GYP PAINT & FINISH	EXISTING CONCRETE SLAB	15 SF	S-1	100	1
KITCHENETTE	GYP PAINT & FINISH, TILE	2X4' ACT	TILE, EXISTING CONCRETE SLAB	48 SF	B	100	1
LOBBY	GYP PAINT & FINISH	GYP PAINT & FINISH OPEN TO CLNG	EXISTING VINYL FLOOR EXISTING SLAB	278 SF	B	100	3
OFFICER AREA	GYP PAINT & FINISH	2X4' ACT	EXISTING VINYL FLOOR EXISTING SLAB	530 SF	B	100	6
OFFICER AREA 2	GYP PAINT & FINISH	2X4' ACT	CARPET, EXISTING CONCRETE SLAB	331 SF	B	100	4
OFFICER LOCKER ROOM	GYP PAINT & FINISH, TILE W/ MILDEW TREATMENT	2'X2' ACT	NEW VINYL FLOORING, EXISTING CONCRETE SLAB	147 SF	B	100	2
PD - GENERAL/HALLWAY	GYP PAINT & FINISH	GYP PAINT & FINISH OPEN TO CLNG	EXISTING VINYL FLOOR EXISTING SLAB	142 SF	B	100	2
PD - OPEN ROOM	GYP PAINT & FINISH	2X4' ACT	EXISTING VINYL FLOOR EXISTING SLAB	100 SF	B	100	1
PD RR 1	GYP PAINT & FINISH, TILE, W/ MILDEW TREATMENT	2X4' ACT, TREATED	TILE, EXISTING CONCRETE SLAB	74 SF	B	100	1
PD RR 2	GYP PAINT & FINISH, TILE, W/ MILDEW TREATMENT	2X4' ACT, TREATED	TILE, EXISTING CONCRETE SLAB	74 SF	B	100	1
PD RR 3	GYP PAINT & FINISH, TILE, W/ MILDEW TREATMENT	2X4' ACT, TREATED	TILE, EXISTING CONCRETE SLAB	81 SF	B	100	1
PD RR 4	GYP PAINT & FINISH, TILE, W/ MILDEW TREATMENT	2X4' ACT, TREATED	TILE, EXISTING CONCRETE SLAB	77 SF	B	100	1
PD SERVER	GYP PAINT & FINISH	2X4' ACT	EXISTING VINYL FLOOR EXISTING SLAB	30 SF	S-1	500	1
POLICE COMMON AREA	EXPOSED CMU, CMU BRICK WALL W/ PAINT & FINISH	REINFORCED PLYWOOD & GYP WALL BOARD FINISH	EXPOSED CONCRETE FINISH	37 SF	I	100	1
REAR HALLWAY	GYP PAINT & FINISH	2X4' ACT	EXISTING VINYL FLOOR EXISTING SLAB	42 SF	B	100	1
ROOM 300	GYP PAINT & FINISH	2X4' ACT	EXISTING CARPET & SLAB	271 SF	B	100	3
SELLS / D BURKHART	GYP PAINT & FINISH	2X4' ACT	EXISTING VINYL FLOOR EXISTING SLAB	153 SF	B	100	2
STORAGE	GYP PAINT & FINISH	2X4' ACT	EXISTING CARPET & SLAB	48 SF	S-1	500	1
TRAINING ROOM / EOC	GYP PAINT & FINISH	2X4' ACT	EXISTING CARPET & SLAB	762 SF	E	20	39
YANCEY	GYP PAINT & FINISH	2X4' ACT	EXISTING CARPET & SLAB	121 SF	B	100	2
30				4437 SF			89
Grand total: 37				6893 SF			109



2 ADA SHOWER ROOM - ENLARGED
1/2" = 1'-0"

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STATE OF TEXAS
JESSICA J. KILGORE
106106
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL

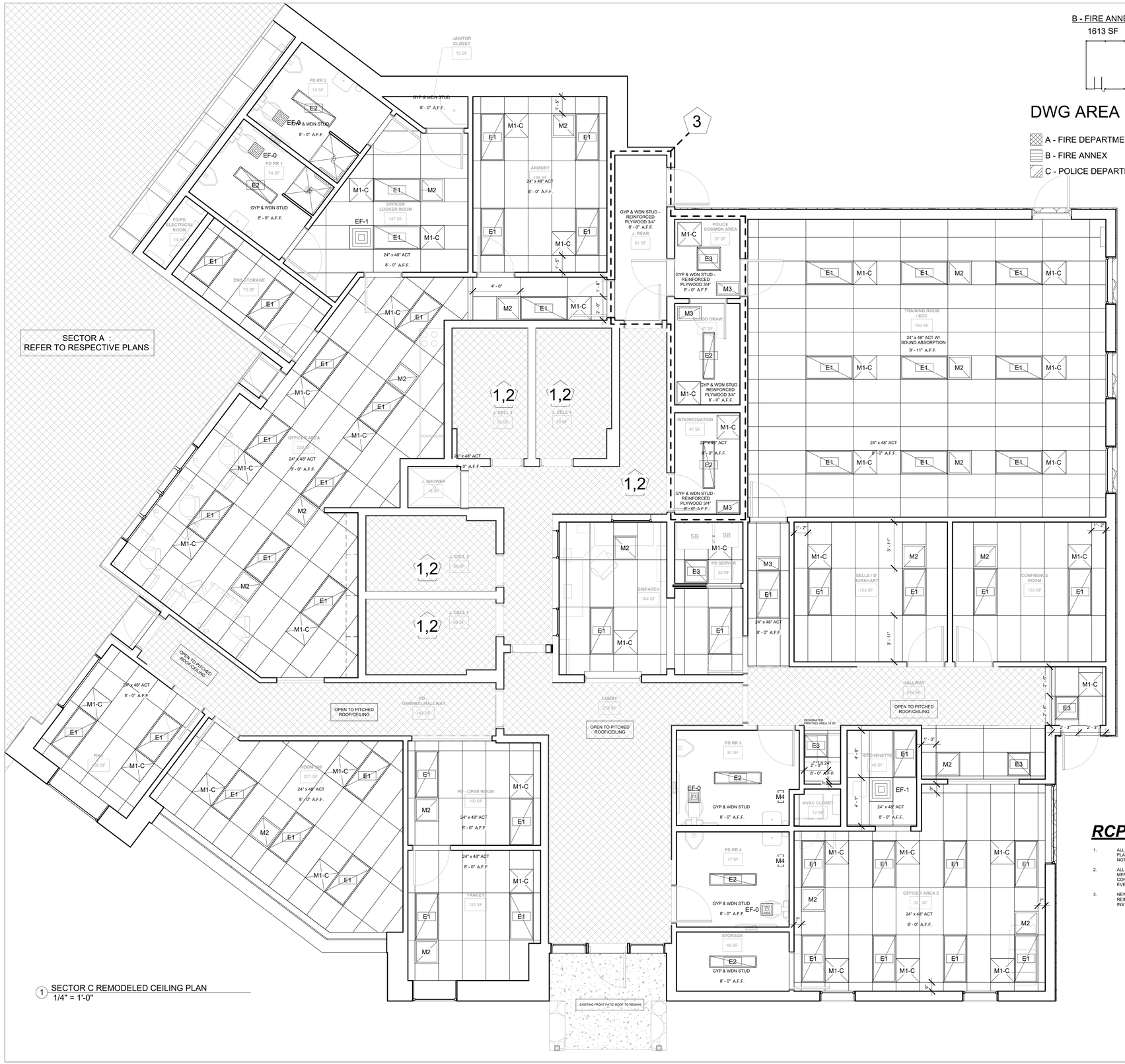
2600 ROOSEVELT DRIVE
DALWORTHINGTON GARDENS, TEXAS 76016

CONTACT NAME	CHIEF GREG PETTY
CONTACT COMPANY	DWG POLICE & FIRE
CONTACT PHONE	817-275-1234
ISSUES	
FULL CLIENT REVIEW SET 12/07/22	
FINAL COUNCIL REVIEW 06/19/23	
FINAL PERMIT SET 06/26/23	
ADA REVISION SET 08/04/23	
PRINTED	8/4/2023 1:43:59 PM
DESIGNED	JL
CHECKED	JJK
IBC	2015
IECC	2015
NEC	2017
SCALE	As indicated

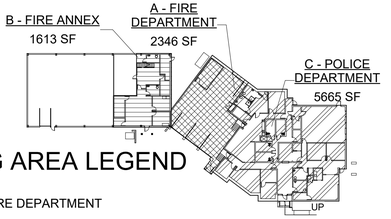
SECTOR C REMODEL FLOOR PLAN

A1.1-C

PROJECT 1699



1 SECTOR C REMODELED CEILING PLAN
1/4" = 1'-0"



DWG AREA LEGEND

- A - FIRE DEPARTMENT
- B - FIRE ANNEX
- C - POLICE DEPARTMENT

FLOOR PLAN LEGEND

	EMERGENCY BACKUP GENERATOR (DIESEL). BARE GENERATOR SHOWN FOR PLAN CLARIFICATION & VISIBILITY
ATS	AUTOMATIC TRANSFER SWITCH (ATS)
ECP	ELECTRICAL CONTROL PANEL
GWH	ON-DEMAND GAS WATER HEATER
	DUMB WAITER FOR RECORD STORAGE 2ND FLOOR
	WORKSTATION/DESK FROM POLICE OFFICER AREA
	RECTANGULAR COLUMN. STONE VENEER FINISH W/ METAL SQUARE 5" COLUMN TO VAULTED ROOF.
WC LAV SHW DWF WCD DRI WCV	***PLUMBING:*** LR: URINAL @ 1'- 6" A.F.F. (VALVE) WC: WATER CLOSET (TANK - TYPICAL) WCJ: WATERCLOSET W/ DETENTION SINK WCV: WATERCLOSET W/ VALVE LAV: LAVATORY SHW: SHOWER EWC: DRINKING WATER FOUNTAIN
WA DRY	COMMERCIAL WASHER DRYER
DX	DOOR TAG
DX.E	DOOR TAG - EXISTING TO REMAIN (.E)
PLU	PLUMBING FIXTURE TAG
AX	WALL TAG
WX	WINDOW TAG
X#	DEMOLITION TAG - POINT OF REFERENCE REGARDING SCHEDULE ANNOTATIONS & DEMOLITION ZONES. PER ROOM, DOOR, AND WINDOW SCHEDULES ON EXISTING & DEMOLITION PLANS.
#	REMODEL NOTE BY SYMBOL. ANNOTATIONS WILL PERTAIN TO ANY REFERENCED ARCHITECTURAL, MEP, AND/OR STRUCTURAL CHANGES IMPLIED BY FINAL DESIGN SHOWN ON PLANS.
X#	CEILING COMPONENT IN FINAL REMODEL DESIGN PLAN. REFER TO MEP PLANS FOR FINALIZED SPECIFICATIONS & DESIGNATIONS FOR MEP CONSOLIDATION. WILL PERTAIN TO LIGHTING FIXTURES & DIFFUSER LOCATIONS ON ARCH PLANS ONLY (REFER TO CEILING SCHEDULES ON REMODEL PLANS)
	EXISTING WALL TO BE DEMOLISHED, PER SPECIFIED DEMOLITION PLANS.
	EXISTING WALL TO REMAIN, AS SHOWN THROUGH EACH APPLICABLE CONSTUCTION PHASE. ALL WALLS SHOWN ON THE FINAL REMODEL DESIGN TO BE FINISHED AS SPECIFIED ON THE PLANS HEREIN.

RCP-NOTE BY SYMBOL

1. ALL EXISTING JAIL/DETENTION CEILING COMPONENTS TO REMAIN IN PLACE (JAIL CELLS, SHOWER, JAIL HALLWAY, & ANY OTHER ROOM NOTED ON PLAN).
2. ALL EXISTING JAIL/DETENTION STRUCTURAL, ARCHITECTURAL, & MEP COMPONENTS TO REMAIN IN PLACE. CONTRACTOR TO CONFIRM CMU REQUIREMENT FOR WALLS ON THE PERIMETER OF EVERY AREA CAPABLE OF HOLDING A DETAINEE.
3. NEW CEILING COMPONENTS TO MATCH EXISTING REINFORCEMENCTS TO PROHIBIT ANY VANDALIZED BUILDING INSTALLATIONS.

C - CEILING REMODEL SCHEDULE

MARK	COMPONENT & TYPE	QTY
ARMORY		
168 SF		
GYP PAINT & FINISH		
E1	CPX 2x4 LED PANEL; 2GTL 2 37L LP835	4
M1-C	SUPPLY DIFFUSER - LOUVERED: 24X24	2
BLOOD DRAW		
47 SF		
REINFORCED PLYWOOD & GYP WALL BOARD FINISH		
E2	CPX 1x4 LED PANEL; 2GTL 2 37L LP835	1
M1-C	SUPPLY DIFFUSER - LOUVERED: 24X24	1
M3	RETURN GRILLE & TRIM: PERFORATED GRILLE - 2'X1' RECT	1
CONFRENCE ROOM		
153 SF		
2X4' ACT		
E1	CPX 2x4 LED PANEL; 2GTL 2 37L LP835	2
M1-C	SUPPLY DIFFUSER - LOUVERED: 24X24	1
M2	RETURN GRILLE & TRIM: PERFORATED GRILLE - 2' SQUARE	1
DISPATCH		
164 SF		
2X4' ACT		
E1	CPX 2x4 LED PANEL; 2GTL 2 37L LP835	2
M1-C	SUPPLY DIFFUSER - LOUVERED: 24X24	1
M2	RETURN GRILLE & TRIM: PERFORATED GRILLE - 2' SQUARE	1
EMS STORAGE		
75 SF		
2X4' ACT		
E1	CPX 2x4 LED PANEL; 2GTL 2 37L LP835	2
FIKE		
108 SF		
2X4' ACT		
E1	CPX 2x4 LED PANEL; 2GTL 2 37L LP835	2
M1-C	SUPPLY DIFFUSER - LOUVERED: 24X24	2
HALLWAY		
242 SF		
2X4' ACT		
E1	CPX 2x4 LED PANEL; 2GTL 2 37L LP835	1
E3	CPX 2x2; 2GTL 2 37L LP835	2
M1-C	SUPPLY DIFFUSER - LOUVERED: 24X24	1
M2	RETURN GRILLE & TRIM: PERFORATED GRILLE - 2' SQUARE	1
INTERROGATION		
47 SF		
REINFORCED PLYWOOD & GYP WALL BOARD FINISH		
E2	CPX 1x4 LED PANEL; 2GTL 2 37L LP835	1
M1-C	SUPPLY DIFFUSER - LOUVERED: 24X24	1
M3	RETURN GRILLE & TRIM: PERFORATED GRILLE - 2'X1' RECT	1
KITCHENETTE		
48 SF		
2X4' ACT		
E1	CPX 2x4 LED PANEL; 2GTL 2 37L LP835	1
OFFICER AREA		
530 SF		
2X4' ACT		
E1	CPX 2x4 LED PANEL; 2GTL 2 37L LP835	6
M2	RETURN GRILLE & TRIM: PERFORATED GRILLE - 2' SQUARE	2
OFFICER AREA 2		
331 SF		
2X4' ACT		
E1	CPX 2x4 LED PANEL; 2GTL 2 37L LP835	8
M1-C	SUPPLY DIFFUSER - LOUVERED: 24X24	6
M2	RETURN GRILLE & TRIM: PERFORATED GRILLE - 2' SQUARE	2
OFFICER LOCKER ROOM		
147 SF		
2'X2' ACT		
E1	CPX 2x4 LED PANEL; 2GTL 2 37L LP835	2
M1-C	SUPPLY DIFFUSER - LOUVERED: 24X24	2
M2	RETURN GRILLE & TRIM: PERFORATED GRILLE - 2' SQUARE	1
PD - OPEN ROOM		
100 SF		
2X4' ACT		
E1	CPX 2x4 LED PANEL; 2GTL 2 37L LP835	2
M1-C	SUPPLY DIFFUSER - LOUVERED: 24X24	1
M2	RETURN GRILLE & TRIM: PERFORATED GRILLE - 2' SQUARE	1
PD RR 1		
74 SF		
2X4' ACT, TREATED		
E2	CPX 1x4 LED PANEL; 2GTL 2 37L LP835	1
EF-0	Exhauster with Cabinet - Round Connection - Ceiling Mounted: 50 cfm	1
PD RR 2		
74 SF		
2X4' ACT, TREATED		
E2	CPX 1x4 LED PANEL; 2GTL 2 37L LP835	1
EF-0	Exhauster with Cabinet - Round Connection - Ceiling Mounted: 50 cfm	1
PD RR 3		
81 SF		
2X4' ACT, TREATED		
E2	CPX 1x4 LED PANEL; 2GTL 2 37L LP835	1
EF-0	Exhauster with Cabinet - Round Connection - Ceiling Mounted: 50 cfm	1
M4	SUPPLY DIFFUSER - LOUVERED: 12X6	1
PD RR 4		
77 SF		
2X4' ACT, TREATED		
E2	CPX 1x4 LED PANEL; 2GTL 2 37L LP835	1
EF-0	Exhauster with Cabinet - Round Connection - Ceiling Mounted: 50 cfm	1
M4	SUPPLY DIFFUSER - LOUVERED: 12X6	1
PD SERVER		
30 SF		
2X4' ACT		
E3	CPX 2x2; 2GTL 2 37L LP835	1
M1-C	SUPPLY DIFFUSER - LOUVERED: 24X24	1
POLICE COMMON AREA		
37 SF		
REINFORCED PLYWOOD & GYP WALL BOARD FINISH		
E3	CPX 2x2; 2GTL 2 37L LP835	1
M1-C	SUPPLY DIFFUSER - LOUVERED: 24X24	1
M3	RETURN GRILLE & TRIM: PERFORATED GRILLE - 2'X1' RECT	1
PRINTING AREA		
15 SF		
E3	CPX 2x2; 2GTL 2 37L LP835	1
REAR HALLWAY		
42 SF		
2X4' ACT		
E1	CPX 2x4 LED PANEL; 2GTL 2 37L LP835	1
ROOM 300		
271 SF		
2X4' ACT		
E1	CPX 2x4 LED PANEL; 2GTL 2 37L LP835	4
M1-C	SUPPLY DIFFUSER - LOUVERED: 24X24	3
M2	RETURN GRILLE & TRIM: PERFORATED GRILLE - 2' SQUARE	1
SELLS / D BURKHART		
153 SF		
2X4' ACT		
E1	CPX 2x4 LED PANEL; 2GTL 2 37L LP835	2
M1-C	SUPPLY DIFFUSER - LOUVERED: 24X24	1
M2	RETURN GRILLE & TRIM: PERFORATED GRILLE - 2' SQUARE	1
STORAGE		
48 SF		
2X4' ACT		
E2	CPX 1x4 LED PANEL; 2GTL 2 37L LP835	1
TRAINING ROOM / EOC		
762 SF		
2X4' ACT		
E1	CPX 2x4 LED PANEL; 2GTL 2 37L LP835	9
M1-C	SUPPLY DIFFUSER - LOUVERED: 24X24	6
M2	RETURN GRILLE & TRIM: PERFORATED GRILLE - 2' SQUARE	3
YANCEY		
121 SF		
2X4' ACT		
E1	CPX 2x4 LED PANEL; 2GTL 2 37L LP835	2
M1-C	SUPPLY DIFFUSER - LOUVERED: 24X24	1
M2	RETURN GRILLE & TRIM: PERFORATED GRILLE - 2' SQUARE	1
Grand total: 117		

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STATE OF TEXAS
JESSICA J. KILGORE
106106
LICENSED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL

2600 ROOSEVELT DRIVE
DALWORTHINGTON GARDENS, TEXAS 76016

CONTACT NAME	CHIEF GREG PETTY
CONTACT COMPANY	DWG POLICE & FIRE
CONTACT PHONE	817-275-1234

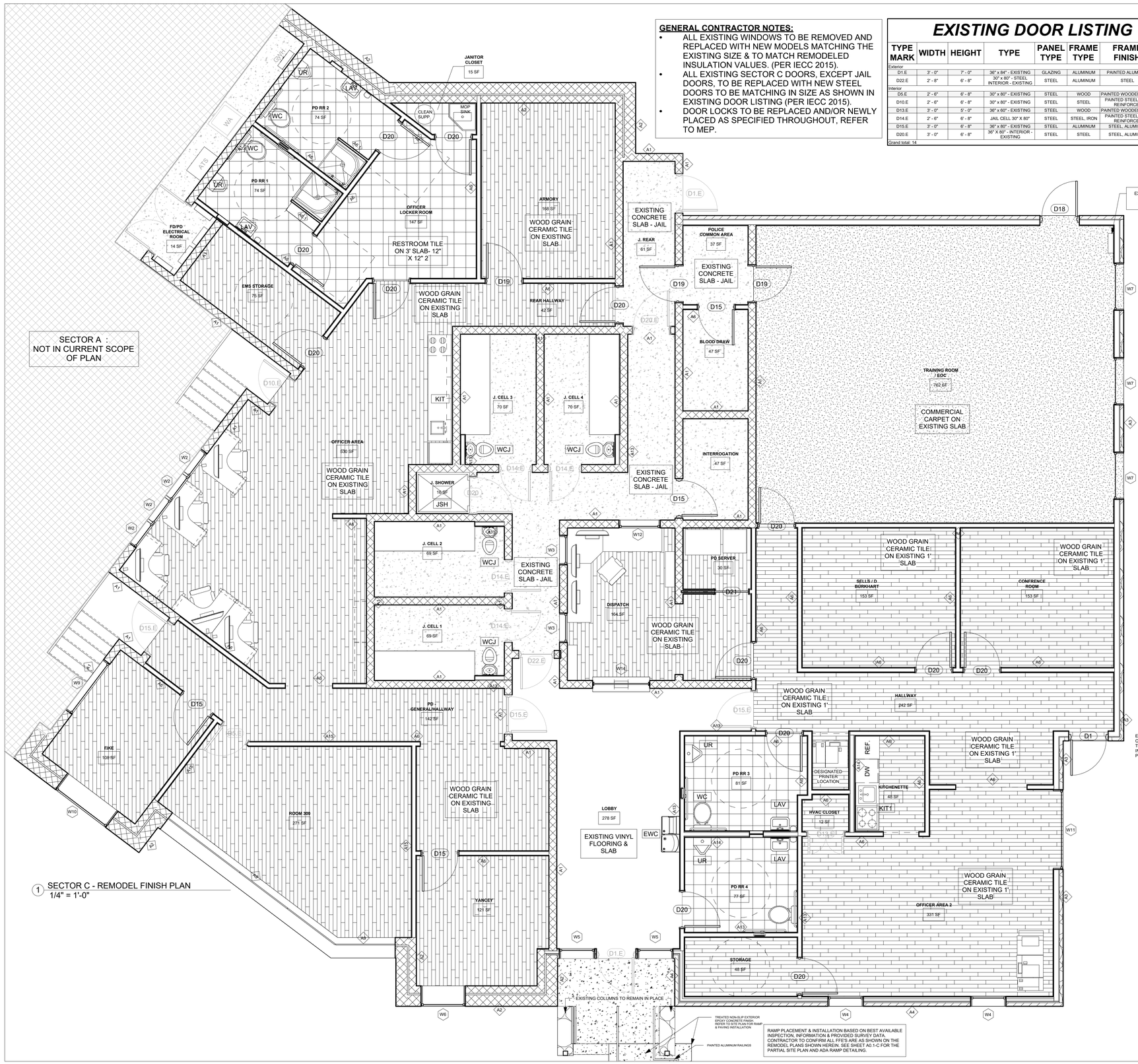
ISSUES
FULL CLIENT REVIEW SET 12/07/22
FINAL COUNCIL REVIEW 06/19/23
FINAL PERMIT SET 06/26/23
ADA REVISION SET 08/04/23

PRINTED	8/4/2023 1:44:01 PM
DESIGNED	JL
CHECKED	JJK
IBC	2015
IECC	2015
NEC	2017
SCALE	As indicated

SECTOR C REMODEL - REFLECTED CEILING PLAN

A1.2-C

PROJECT 1699



SECTOR A :
NOT IN CURRENT SCOPE OF PLAN

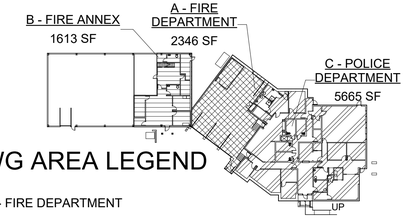
1 SECTOR C - REMODEL FINISH PLAN
1/4" = 1'-0"

GENERAL CONTRACTOR NOTES:

- ALL EXISTING WINDOWS TO BE REMOVED AND REPLACED WITH NEW MODELS MATCHING THE EXISTING SIZE & TO MATCH REMODELED INSULATION VALUES. (PER IECC 2015).
- ALL EXISTING SECTOR C DOORS, EXCEPT JAIL DOORS, TO BE REPLACED WITH NEW STEEL DOORS TO BE MATCHING IN SIZE AS SHOWN IN EXISTING DOOR LISTING (PER IECC 2015).
- DOOR LOCKS TO BE REPLACED AND/OR NEWLY PLACED AS SPECIFIED THROUGHOUT, REFER TO MEP.

EXISTING DOOR LISTING

TYPE MARK	WIDTH	HEIGHT	TYPE	PANEL TYPE	FRAME TYPE	FRAME FINISH	QTY
Exterior							
D1.E	3' - 0"	7' - 0"	36" x 84" - EXISTING	GLAZING	ALUMINUM	PAINTED ALUMINUM	2
D22.E	2' - 8"	6' - 8"	30" x 80" - STEEL INTERIOR - EXISTING	STEEL	ALUMINUM	STEEL	1
Interior							
D5.E	2' - 6"	6' - 8"	30" x 80" - EXISTING	STEEL	WOOD	PAINTED WOODEN FINISH	1
D10.E	2' - 6"	6' - 8"	30" x 80" - EXISTING	STEEL	STEEL	PAINTED STEEL, IRON REINFORCED	1
D13.E	3' - 0"	5' - 0"	36" x 60" - EXISTING	STEEL	WOOD	PAINTED WOODEN FINISH	1
D14.E	2' - 6"	6' - 8"	JAIL CELL 30" X 80"	STEEL	STEEL, IRON	PAINTED STEEL, IRON REINFORCED	4
D15.E	3' - 0"	6' - 8"	36" x 80" - EXISTING	STEEL	ALUMINUM	STEEL, ALUMINUM	3
D20.E	3' - 0"	6' - 8"	36" X 80" - INTERIOR - EXISTING	STEEL	STEEL	STEEL, ALUMINUM	1
Grand total: 14							14



DWG AREA LEGEND

- A - FIRE DEPARTMENT
- B - FIRE ANNEX
- C - POLICE DEPARTMENT

FLOOR PLAN LEGEND

	EMERGENCY BACKUP GENERATOR (DIESEL). BARE GENERATOR SHOWN FOR PLAN CLARIFICATION & VISIBILITY
ATS	AUTOMATIC TRANSFER SWITCH (ATS)
ECP	ELECTRICAL CONTROL PANEL
GWH	ON-DEMAND GAS WATER HEATER
	DUMB WAITER FOR RECORD STORAGE 2ND FLOOR
	WORKSTATION/DESK FROM POLICE OFFICER AREA
	RECTANGULAR COLUMN, STONE VENEER FINISH W/ METAL SQUARE 5" COLUMN TO VAULTED ROOF.
WC LAV WCD SHW DWF WCV URI	PLUMBING: UR: URINAL @ 1'- 6" A.F.F. (VALVE) WC: WATER CLOSET (TANK - TYPICAL) WCJ: WATERCLOSET W/ DETENTION SINK WCV: WATERCLOSET W/ VALVE LAV: LAVATORY SHW: SHOWER EWC: DRINKING WATER FOUNTAIN
WA DRY	COMMMERCIAL WASHER DRYER
DX	DOOR TAG
DX.E	DOOR TAG - EXISTING TO REMAIN (E)
PLU	PLUMBING FIXTURE TAG
AX	WALL TAG
WX	WINDOW TAG
X#	DEMOLITION TAG - POINT OF REFERENCE REGARDING SCHEDULE ANNOTATIONS & DEMOLITION ZONES. PER ROOM, DOOR, AND WINDOW SCHEDULES ON EXISTING & DEMOLITION PLANS.
#	REMODEL NOTE BY SYMBOL. ANNOTATIONS WILL PERTAIN TO ANY REFERENCED ARCHITECTURAL, MEP, AND/OR STRUCTURAL CHANGES IMPLIED BY FINAL DESIGN SHOWN ON PLANS.
X#	CEILING COMPONENT IN FINAL REMODEL DESIGN PLAN. REFER TO MEP PLANS FOR FINALIZED SPECIFICATIONS & DESIGNATIONS FOR MEP CONSOLIDATION. WILL PERTAIN TO LIGHTING FIXTURES & DIFFUSER LOCATIONS ON ARCH PLANS ONLY (REFER TO CEILING SCHEDULES ON REMODEL PLANS)
	EXISTING WALL TO BE DEMOLISHED, PER SPECIFIED DEMOLITION PLANS.
	EXISTING WALL TO REMAIN, AS SHOWN THROUGH EACH APPLICABLE CONSTUCTION PHASE. ALL WALLS SHOWN ON THE FINAL REMODEL DESIGN TO BE FINISHED AS SPECIFIED ON THE PLANS HEREIN.

REMODEL WALL DETAILS -C

MATERIAL	WIDTH
A1 CMU - INTERIOR 8"	
Concrete Masonry Units	8"
A2 CMU BAY WALL 1' - 9"	
Concrete Masonry Units	9 5/8"
Semi-rigid insulation	1 1/2"
A3 Exterior - Brick and CMU on MTL. Stud 10"	
Air Infiltration Barrier	0"
Gypsum Wall Board	3/4"
Metal Stud Layer	4 7/8"
Plywood, Sheathing	3/4"
Standing Seam - Metal Paneling	3 3/4"
Stone, Natural Soldier	3 3/4"
Vapor Retarder	0"
A4 INTERIOR OLD BRICK - 10" 10"	
Air	1"
Brick, Common	3 5/8"
Gluiam 28c	2 1/2"
Gypsum Wall Board	3/4"
MDF, Medium Density Fiberboard	5/8"
Plywood, Sheathing	1 1/2"
A5 Exterior - Brick and CMU on MTL. Stud 2 10"	
Air Infiltration Barrier	0"
Brick, Common	3 3/4"
Gypsum Wall Board	3/4"
Metal Stud Layer	4 7/8"
Plywood, Sheathing	3/4"
Vapor Retarder	0"
A6 INTERIOR 5" PARTITION WDN STUD 5"	
Gypsum Wall Board	3/4"
Wood Sheathing, Chipboard	3 1/2"
A6.1 INTERIOR 2" SHOWER PARTITION 2"	
Gypsum Wall Board	1/4"
Tile, Mosaic, Gray	1/4"
Wood Sheathing, Chipboard	1 1/2"
A8 INTERIOR - 4 1/2" PARTITION - HALF EXPOSED 4"	
Gypsum Wall Board	3/4"
Wood Sheathing, Chipboard	3 1/2"
A10 EXTERIOR METAL WALL PANELS 10"	
Gypsum Wall Board	3/8"
Metal Stud Layer	5 3/8"
Metal, Paint Finish, White, Matte	1 1/4"
Plywood, Sheathing	1 1/2"
Ultralam X LVL	1 1/2"
A11 METAL WALL PANELING - WAREHOUSE 8"	
Metal Stud Layer	5 3/8"
Standing Seam - Metal Paneling	1 1/4"
Ultralam X LVL	1 1/2"
A12 INTERIOR METAL WALL W/ FINISH 7"	
Gypsum Wall Board	3/8"
Metal Stud Layer	5 1/4"
Plywood, Sheathing	1 1/2"
A13 INTERIOR - 5" PARTITION METAL STUD 5"	
Gypsum Wall Board	3/4"
Metal Stud Layer	3 1/2"
A14 INTERIOR - REINFORCED - 7" 7"	
Gypsum Wall Board	3/4"
Metal Stud Layer	3 1/2"
Plywood, Sheathing	3/4"
A15 INTERIOR WDN STUD PARTITION W/ SOUND-PROOFING - 5" 5"	
Gypsum Wall Board	3/4"
SOUND-PROOF BATTING	0"
Wood Sheathing, Chipboard	3 1/2"

C - REMODEL WINDOW SCHEDULE

TYPE MARK	TYPE	SIZE	WIDTH	HEIGHT	SILL AFF	FRAME MATERIAL	QTY
FIRE BAY 1.5394 (h-ft²-F)/BTU 0.78							
W2	Fixed	30" X 45"	2' - 6"	3' - 9"	3' - 3"	ALUMINUM, PAINT TO MATCH EXISTING	4
W9	Fixed	64" X 44"	5' - 4"	3' - 8"	3' - 0"	ALUMINUM, PAINT TO MATCH EXISTING	1
JAIL 1.5394 (h-ft²-F)/BTU 0.78							
W3	Fixed	30" x 48"	2' - 6"	4' - 0"	2' - 6"	ALUMINUM, PAINT TO MATCH EXISTING	2
W12	Fixed	42" X 48"	3' - 6"	4' - 0"	2' - 6"	ALUMINUM, PAINT TO MATCH EXISTING	1
POLICE DEPARTMENT							
W14	PROTECTED	58" X 48"	4' - 10"	4' - 0"	3' - 4"	Aluminum	1
1.5394 (h-ft²-F)/BTU 0.78							
W5	Fixed	36" X 68"	3' - 0"	7' - 0"	4"	ALUMINUM, PAINT TO MATCH EXISTING	1
W7	Fixed	48" X 84"	4' - 0"	7' - 0"	0"	ALUMINUM, PAINT TO MATCH EXISTING	1
W11	Fixed	77" X 84"	6' - 9"	7' - 0"	0"	ALUMINUM, PAINT TO MATCH EXISTING	1
Grand total: 12							

C - REMODEL DOOR SCHEDULE

TYPE MARK	WIDTH	HEIGHT	TYPE	PANEL TYPE	FRAME TYPE	FRAME FINISH	QTY	COMMENTS
Exterior								
D1	3' - 0"	7' - 0"	36" x 84"	GLAZING	ALUMINUM	PAINTED ALUMINUM	1	EAST-STOREFRONT
D18	3' - 0"	6' - 8"	36" x 80" - STEEL EXTERIOR	STEEL	ALUMINUM	STEEL, ALUMINUM	1	-
Interior								
D15	3' - 0"	6' - 8"	36" x 80"	STEEL	ALUMINUM	STEEL, ALUMINUM	4	WINDOW SLOT
D19	3' - 0"	6' - 8"	36" x 80" - STEEL INTERIOR	STEEL	STEEL	STEEL, ALUMINUM	3	REINFORCED
D20	3' - 0"	6' - 8"	36" X 80" - INTERIOR	STEEL	STEEL	STEEL, ALUMINUM	14	-
D21	2' - 10"	6' - 8"	34" X 80"	STEEL	ALUMINUM	PAINTED ALUMINUM	1	MAINTENANCE
Grand total: 24							24	

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DWG POLICE & FIRE - REMODEL

2600 ROOSEVELT DRIVE
DALWORTHINGTON GARDENS, TEXAS 76016

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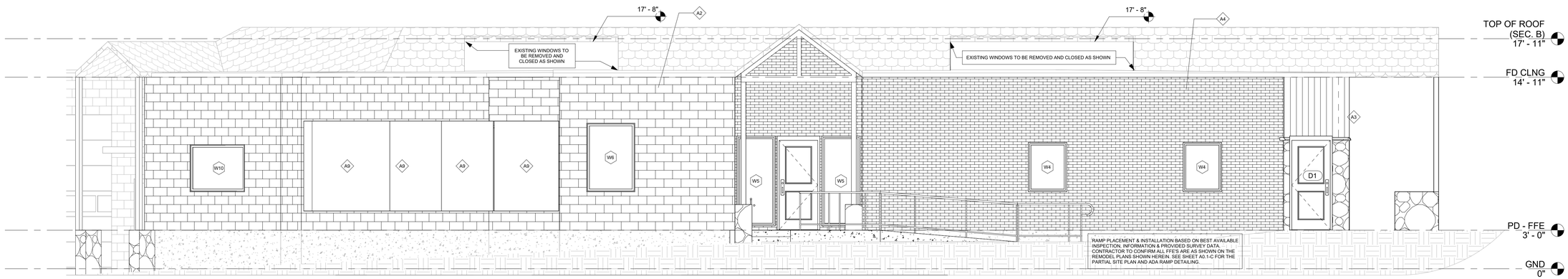
ISSUES	
FULL CLIENT REVIEW SET 12/07/22	
FINAL COUNCIL REVIEW 06/19/23	
FINAL PERMIT SET 06/26/23	
ADA REVISION SET 08/04/23	
PRINTED	8/4/2023 1:44:03 PM
DESIGNED	JL
CHECKED	JJK
IBC	2015
IECC	2015
NEC	2017
SCALE	As indicated

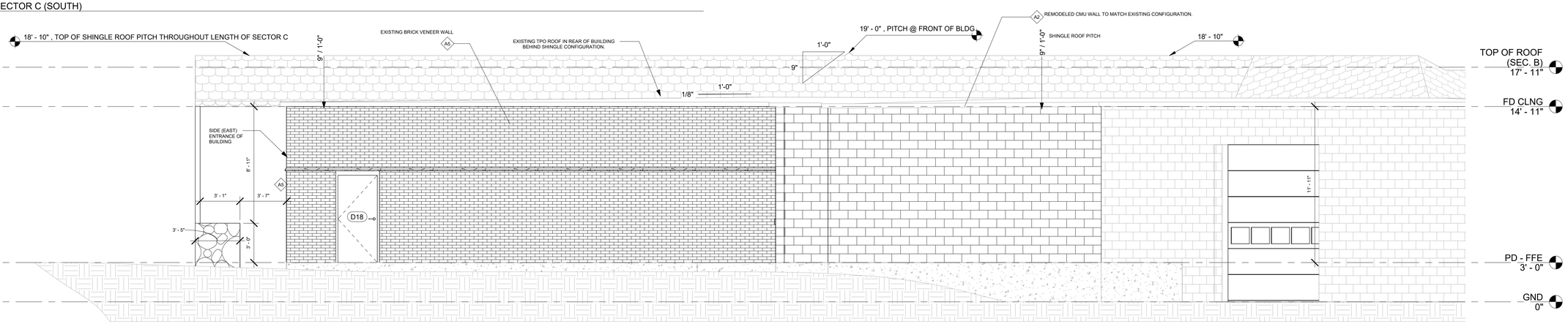
SECTOR C - REMODEL FINISH PLAN

A1.3-C

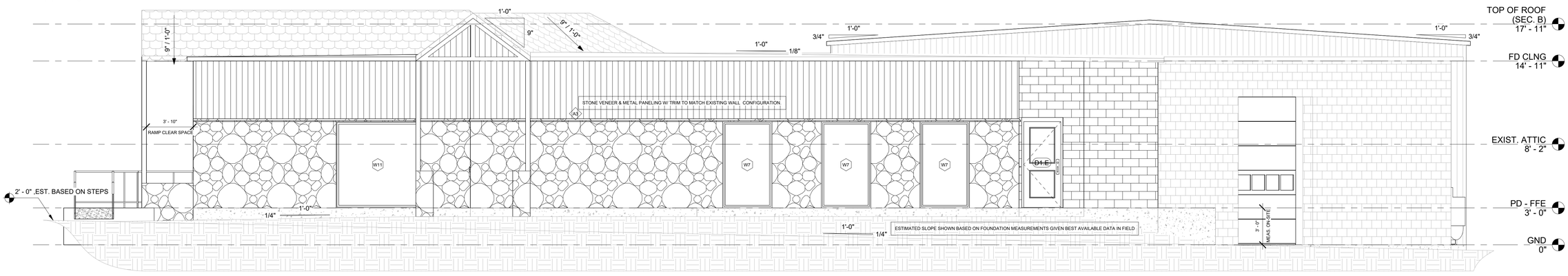
PROJECT 1699



1 FRONT OF SECTOR C (SOUTH)
1/4" = 1'-0"



3 REAR OF SECTOR C (NORTH)
1/4" = 1'-0"



2 SIDE OF SECTOR C (EAST)
1/4" = 1'-0"

ELEVATION MATERIALS

	NEW CONCRETE PAVING TO BE INSTALLED PER REMODEL PLANS
	NON-SLIP EXTERIOR EPOXY FINISH FOR RAMP
	METAL SIDE PANEL W/ EXTERIOR FINISH
	CMU BRICK WALL
	NEW STONE VENEER FINISH TO BE INSTALLED ON COLUMNS AS SHOWN.
	APPROXIMATE DIRECTION & SLOPE OF GROUND @ SITE. VALUES SHOWN ARE DEFERRED BY MEASUREMENTS TAKEN ON SITE & W/ BEST AVAILABLE DATA.
	BRICK VENEER

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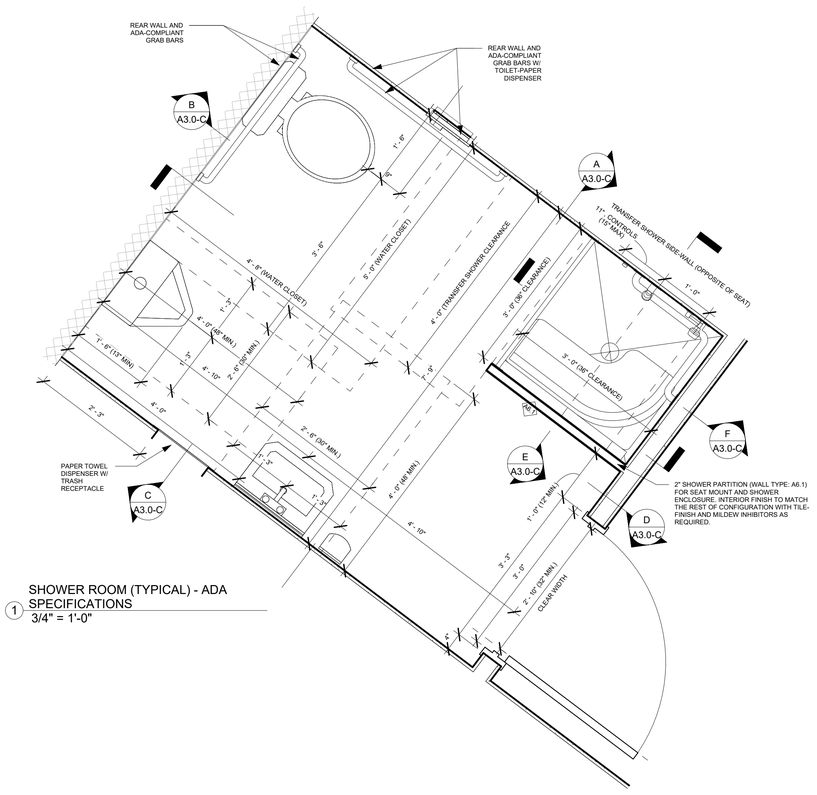
SCALE	1/4" = 1'-0"

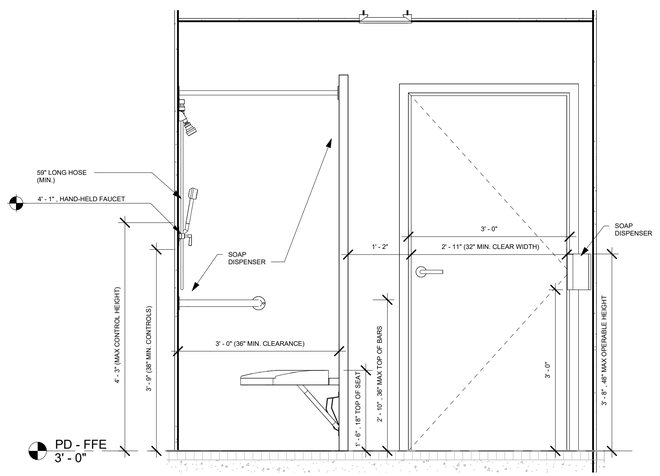
SECTOR C - REMODEL ELEVATIONS

A2.0-C

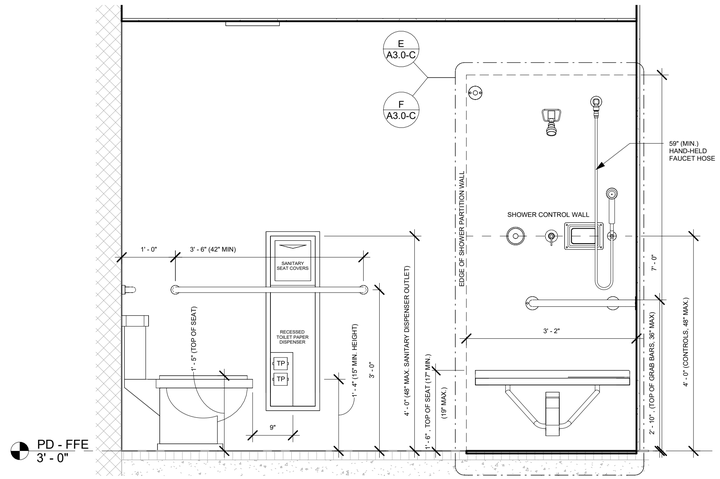
PROJECT 1699



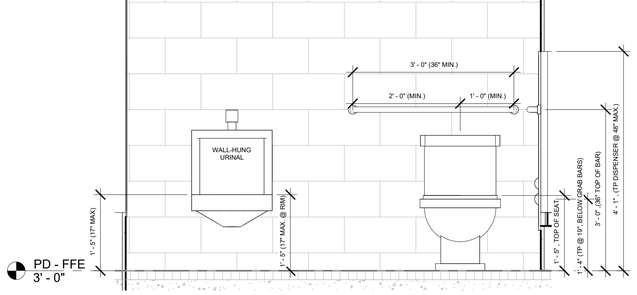
1 SHOWER ROOM (TYPICAL) - ADA SPECIFICATIONS
3/4" = 1'-0"



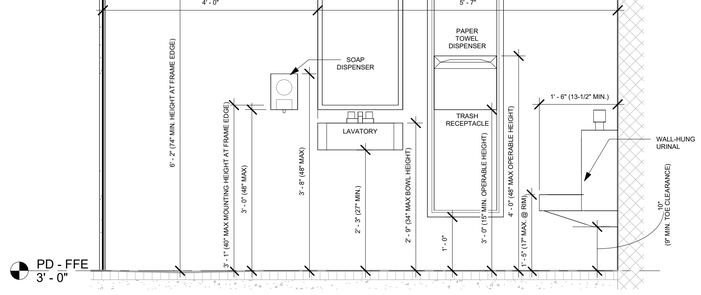
A ADA SHOWER ROOM - SHOWER WALL
3/4" = 1'-0"



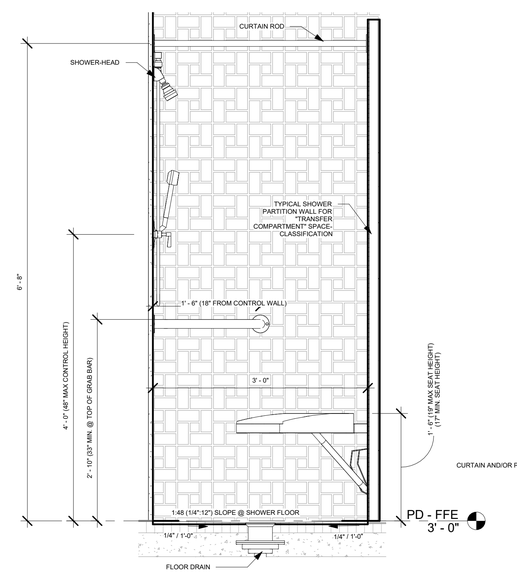
B ADA SHOWER ROOM - SIDE WALL
3/4" = 1'-0"



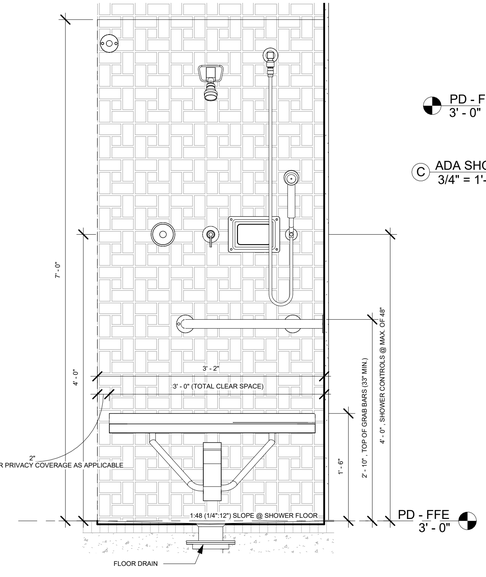
C ADA SHOWER ROOM - REAR WALL
3/4" = 1'-0"



D ADA SHOWER ROOM - SIDE WALL (DOOR SIDE)
3/4" = 1'-0"



E ADA SHOWER - SIDE WALL DETAIL
1" = 1'-0"



F ADA SHOWER - CONTROL WALL DETAIL
1" = 1'-0"

SHOWER ROOM LEGEND

	EXISTING CMU WALL
	PROPOSED SHOWER TILE FOR ENCLOSURE AND FINISH PARITIONS AS NOTED
	PROPOSED GYPSUM WALL BOARD & FINISH. MATERIALS TO BE ENCLOSED WITH MILDEW INHIBITORS & WET-PROOF RATED EPOXY & PAINT WHERE APPLICABLE.
	2" INTERIOR SHOWER PARTITION & FINISH FOR SEAT MOUNTING AND TRANSFER SHOWER ENCLOSURE. FINISH & MATERIALS AS SHOWN ON THE PLANS HEREIN.
	SHOWER FLOOR W/ DRAIN & 1:48 SLOPE WHERE SHOWN.
	STAINLESS STELL HARDWARE FOR ALL SHOWER & TYPICAL RESTROOM ELEMENTS SHOWN ON THE PLANS HEREIN. FINISH & POLISH TO MATCH THROUGHOUT (NON-SLIP).

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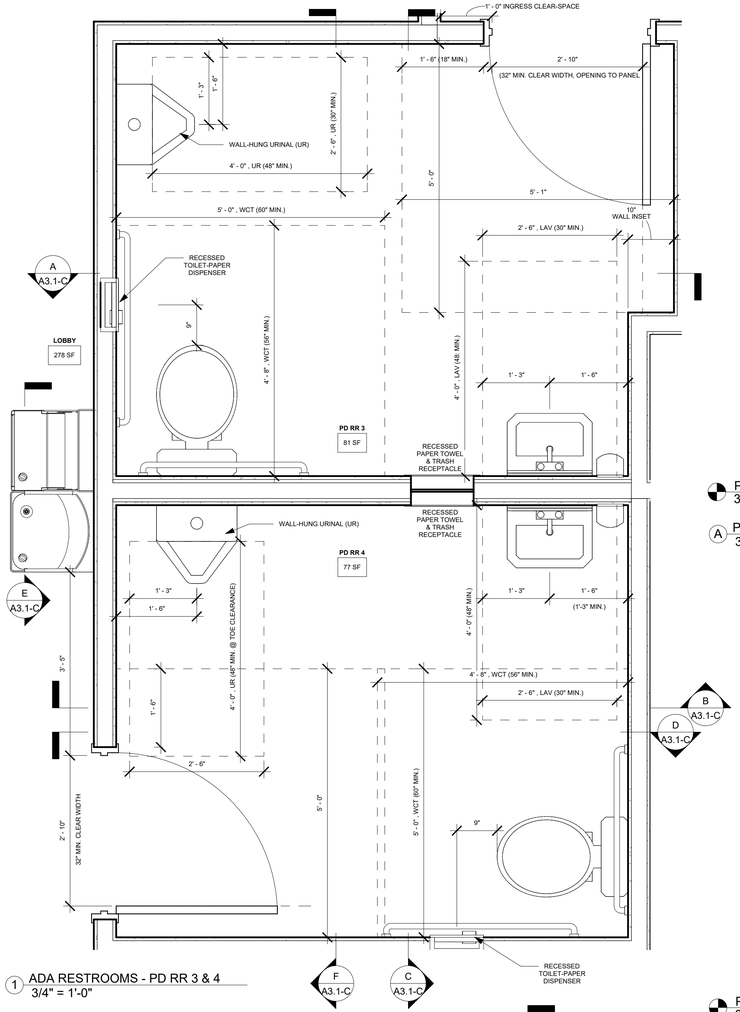
IECC	2015
NEC	2017
SCALE	As indicated

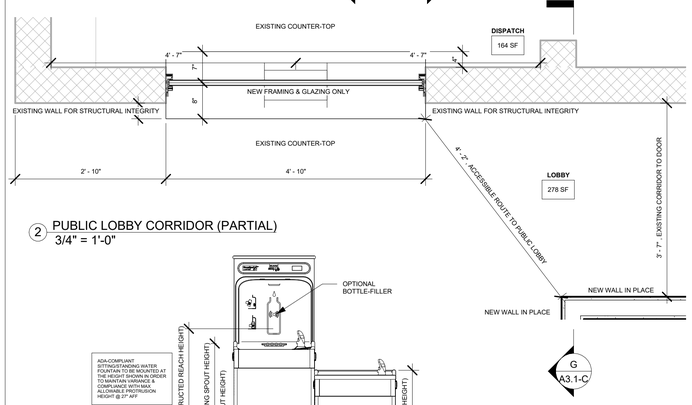
SECTOR C - ADA DETAILS - SHOWER ROOM

A3.0-C

PROJECT 1699



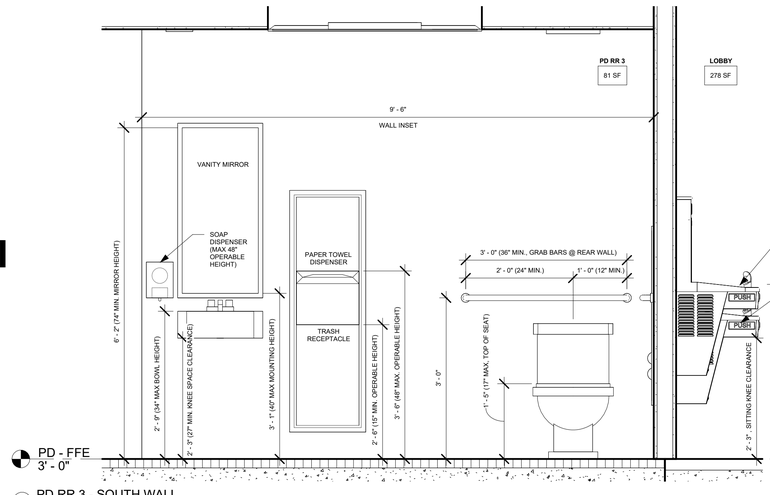
1 ADA RESTROOMS - PD RR 3 & 4
3/4" = 1'-0"



2 PUBLIC LOBBY CORRIDOR (PARTIAL)
3/4" = 1'-0"

PD - FFE
3' - 0"

E STAND/SIT DRINKING FOUNTAIN
3/4" = 1'-0"

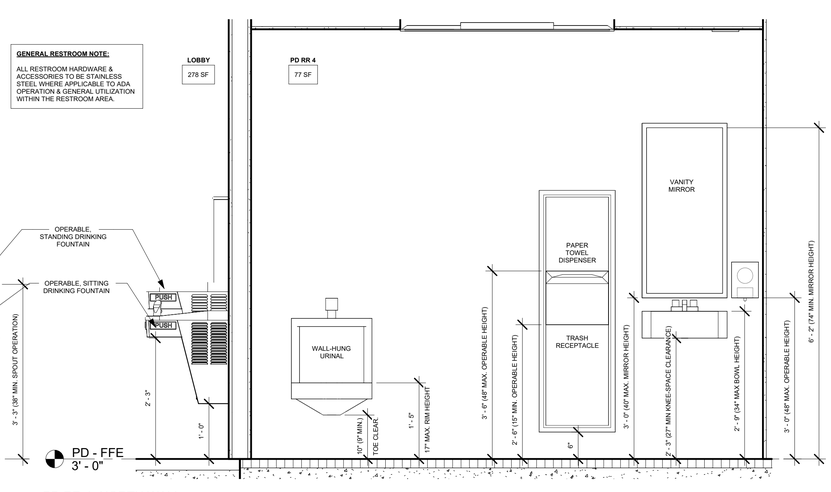


PD - FFE
3' - 0"

A PD RR 3 - SOUTH WALL
3/4" = 1'-0"

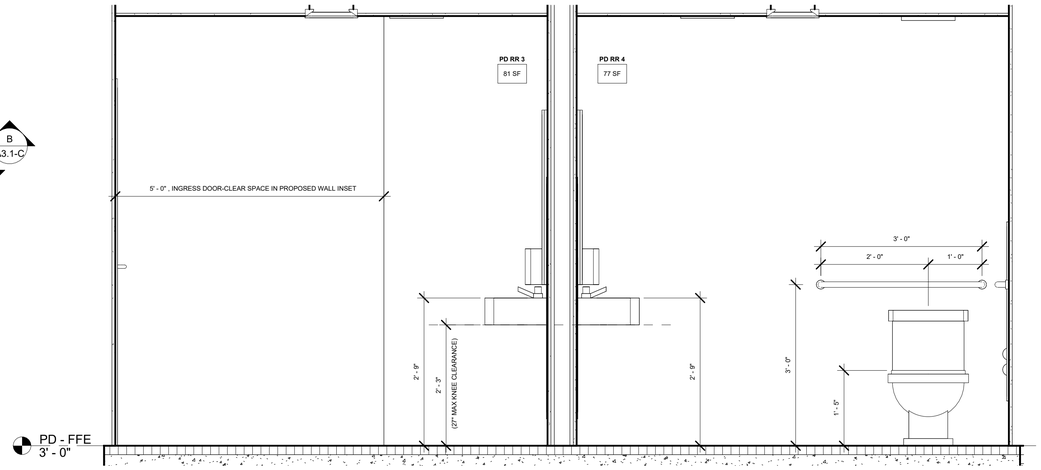
GENERAL RESTROOM NOTE:

ALL RESTROOM HARDWARE & ACCESSORIES TO BE STAINLESS STEEL WHERE APPLICABLE TO ADA OPERATION & GENERAL UTILIZATION WITHIN THE RESTROOM AREA.



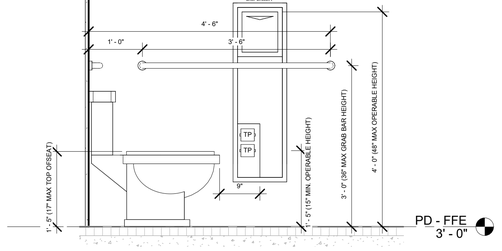
PD - FFE
3' - 0"

B PD RR 4 -NORTH WALL
3/4" = 1'-0"



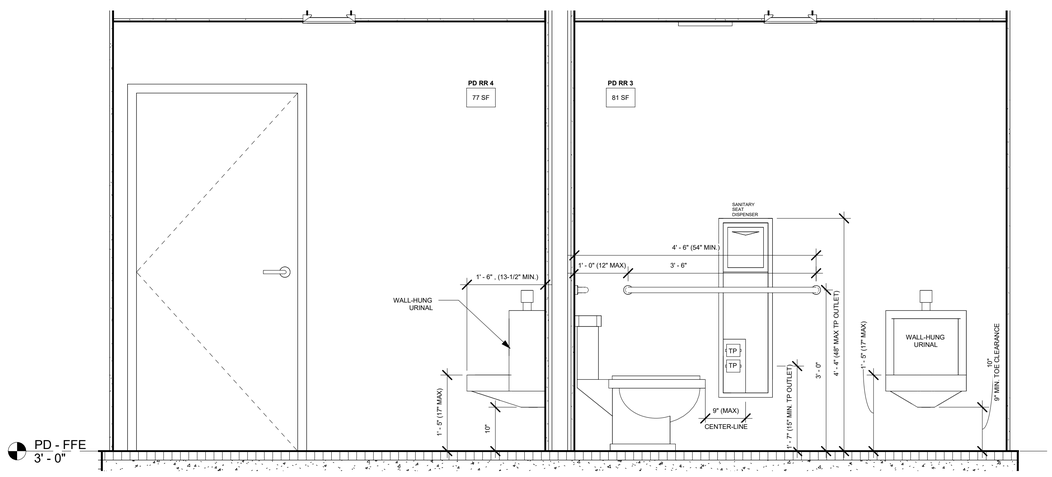
PD - FFE
3' - 0"

C PD RR 3 & 4 - EAST WALL
3/4" = 1'-0"



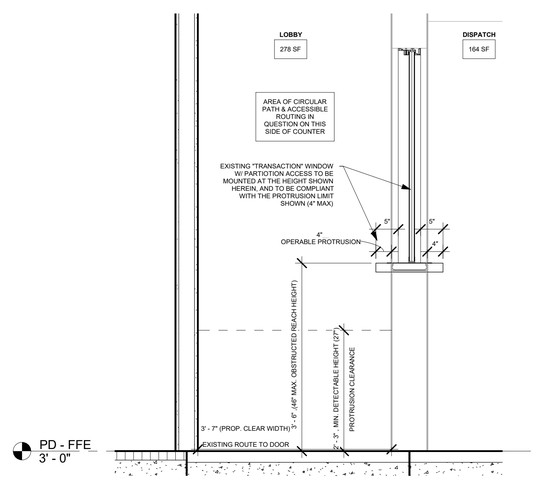
PD - FFE
3' - 0"

D PD RR 4 - SOUTH WALL
3/4" = 1'-0"



PD - FFE
3' - 0"

F PD RR 3 & 4 - WEST WALL
3/4" = 1'-0"



PD - FFE
3' - 0"

G EXISTING COUNTER-TOP
3/4" = 1'-0"

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SCALE	3/4" = 1'-0"

SECTOR C - ADA DETAILS - RR & LOBBY

A3.1-C

PROJECT 1699

2010 ADA Standards for Accessible Design for Public Accommodations and Commercial Facilities: Title III

CHAPTER 3: BUILDING BLOCKS

301 General
301.1 Scope. The provisions of Chapter 3 shall apply where required by Chapter 2 or where referenced by a requirement in this document.

302 Floor or Ground Surfaces
302.1 General. Floor and ground surfaces shall be stable, firm, and slip resistant and shall comply with 302.
EXCEPTIONS:
1. Within animal containment areas, floor and ground surfaces shall not be required to be stable, firm, and slip resistant.
2. Areas of sport activity shall not be required to comply with 302.

302.2 Carpet. Carpet or carpet tile shall be securely attached and shall have a firm cushion, pad, or backing or no cushion or pad. Carpet or carpet tile shall have a level loop, textured loop, level cut pile, or level cut/uncut pile texture. Pile height shall be 1/2 inch (13 mm) maximum. Exposed edges of carpet shall be fastened to floor surfaces and shall have trim on the entire length of the exposed edge. Carpet edge trim shall comply with 303.

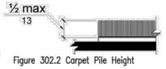

Figure 302.2 Carpet Pile Height

302.3 Openings. Openings in floor or ground surfaces shall not allow passage of a sphere more than 1/2 inch (13 mm) diameter except as allowed in 407.4.3, 409.4.3, 410.4, 810.5.3 and 810.10. Elongated openings shall be placed so that the long dimension is perpendicular to the dominant direction of travel.

303 Changes in Level
303.1 General. Where changes in level are permitted in floor or ground surfaces, they shall comply with 303.
EXCEPTIONS:
1. Animal containment areas shall not be required to comply with 303.
2. Areas of sport activity shall not be required to comply with 303.

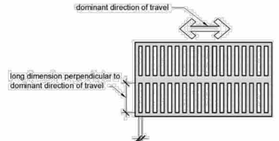

Figure 302.3 Elongated Openings in Floor or Ground Surfaces

303.2 Vertical. Changes in level of 1/4 inch (6.4 mm) high maximum shall be permitted to be vertical.

303.3 Beveled. Changes in level between 1/4 inch (6.4 mm) high minimum and 1/2 inch (13 mm) high maximum shall be beveled with a slope not steeper than 1:2.

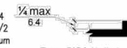

Figure 303.2 Vertical Change in Level

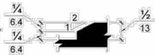

Figure 303.3 Beveled Change in Level

303.4 Ramps. Changes in level greater than 1/2 inch (13 mm) high shall be ramped, and shall comply with 405 or 406.

304 Turning Space
304.1 General. Turning space shall comply with 304.

304.2 Floor or Ground Surfaces. Floor or ground surfaces of a turning space shall comply with 302. Changes in level are not permitted.
EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

304.3 Size. Turning space shall comply with 304.3.1 or 304.3.2.

304.3.1 Circular Space. The turning space shall be a space of 60 inches (1525 mm) diameter minimum. The space shall be permitted to include knee and toe clearance complying with 306.

304.3.2 T-Shaped Space. The turning space shall be a T-shaped space within a 60 inch (1525 mm) square minimum with arms and base 36 inches (915 mm) wide minimum. Each arm of the T shall be clear of obstructions 12 inches (305 mm) minimum in each direction and the base shall be clear of obstructions 24 inches (610 mm) minimum. The space shall be permitted to include knee and toe clearance complying with 306 only at the end of either the base or one arm.

304.4 Door Swing. Doors shall be permitted to swing into turning spaces.

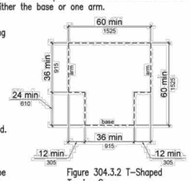

Figure 304.3.2 T-Shaped Turning Space

305 Clear Floor or Ground Space
305.1 General. Clear floor or ground space shall comply with 305.

305.2 Floor or Ground Surfaces. Floor or ground surfaces of a clear floor or ground space shall comply with 302. Changes in level are not permitted.
EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

305.3 Size. The clear floor or ground space shall be 30 inches (760 mm) minimum by 48 inches (1220 mm) minimum.

Figure 305.3 Clear Floor or Ground Space

305.4 Knee and Toe Clearance. Unless otherwise specified, clear floor or ground space shall be permitted to include knee and toe clearance complying with 306.

305.5 Position. Unless otherwise specified, clear floor or ground space shall be positioned for either forward or parallel approach to an element.

305.6 Approach. One full unobstructed side of the clear floor or ground space shall adjoin an accessible route or adjoin another clear floor or ground space.

305.7 Maneuvering Clearance. Where a clear floor or ground space is located in an alcove or otherwise confined on all or part of three sides, additional maneuvering clearance shall be provided in accordance with 305.7.1 and 305.7.2.

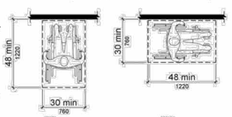

Figure 305.5 Position of Clear Floor or Ground Space

305.7.1 Forward Approach. Alcoves shall be 36 inches (915 mm)wide minimum where the depth exceeds 24 inches (610 mm).

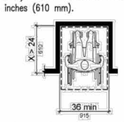

Figure 305.7.1 Maneuvering Clearance in an Alcove, Forward Approach

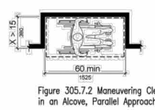

Figure 305.7.2 Maneuvering Clearance in an Alcove, Parallel Approach

305.7.2 Parallel Approach. Alcoves shall be 60 inches (1525 mm) wide minimum where the depth exceeds 15 inches (380 mm).

306 Knee and Toe Clearance
306.1 General. Where space beneath an element is included as part of clear floor or ground space or turning space, the space shall comply with 306. Additional space shall not be prohibited beneath an element but shall not be considered as part of the clear floor or ground space or turning space.

306.2 Toe Clearance.
306.2.1 General. Space under an element between the finish floor or ground and 9 inches (230 mm) above the finish floor or ground shall be considered toe clearance and shall comply with 306.2.

306.2.2 Maximum Depth. Toe clearance shall extend 25 inches (635 mm) maximum under an element.

306.2.3 Minimum Required Depth. Where toe clearance is required at an element as part of a clear floor space, the toe clearance shall extend 17 inches (430 mm) minimum under the element.

306.2.4 Additional Clearance. Space extending greater than 6 inches (150 mm) beyond the available knee clearance at 9 inches (230 mm) above the finish floor or ground shall not be considered toe clearance.

306.2.5 Width. Toe clearance shall be 30 inches (760 mm) wide minimum.

306.3 Knee Clearance.
306.3.1 General. Space under an element between 9 inches (230 mm) and 27 inches (685 mm) above the finish floor or ground shall be considered knee clearance and shall comply with 306.3.

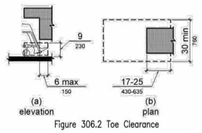

Figure 306.2 Toe Clearance

306.3.2 Maximum Depth. Knee clearance shall extend 25 inches (635 mm) maximum under an element at 9 inches (230 mm) above the finish floor or ground.

306.3.3 Minimum Required Depth. Where knee clearance is required under an element as part of a clear floor space, the knee clearance shall be 11 inches (280 mm) deep minimum at 9 inches (230 mm) above the finish floor or ground, and 8 inches (205 mm) deep minimum at 27 inches (685 mm) above the finish floor or ground.

306.3.4 Clearance Reduction. Between 9 inches (230 mm) and 27 inches (685 mm) above the finish floor or ground, the knee clearance shall be permitted to reduce at a rate of 1 inch (25 mm) in depth for each 6 inches (150 mm) in height.

306.3.5 Width. Knee clearance shall be 30 inches (760 mm) wide minimum.

307 Protruding Objects
307.1 General. Protruding objects shall comply with 307.

307.2 Protrusion Limits. Objects with leading edges more than 27 inches (685 mm) and not more than 80 inches (2030 mm) above the finish floor or ground shall protrude 4 inches (100 mm) maximum horizontally into the circulation path.
EXCEPTION: Handrails shall be permitted to protrude 4 1/2 inches (115 mm) maximum.

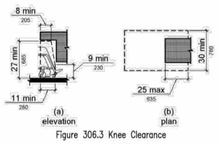

Figure 306.3 Knee Clearance

307.3 Post-Mounted Objects. Free-standing objects mounted on posts or pylons shall overhang circulation paths 12 inches (305 mm) maximum when located 27 inches (685 mm) minimum and 80 inches (2030 mm) maximum above the finish floor or ground. Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches (305 mm), the lowest edge of such sign or obstruction shall be 27 inches (685 mm) maximum or 80 inches (2030 mm) minimum above the finish floor or ground.
EXCEPTION: The sloping portions of handrails serving stairs and ramps shall not be required to comply with 307.3.

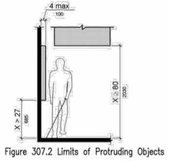

Figure 307.2 Limits of Protruding Objects

307.4 Vertical Clearance. Vertical clearance shall be 80 inches (2030 mm) high minimum. Guardrails or other barriers shall be provided where the vertical clearance is less than 80 inches (2030 mm) high. The leading edge of such guardrail or barrier shall be located 27 inches (685 mm) maximum above the finish floor or ground.
EXCEPTION: Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the finish floor or ground.

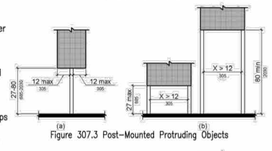

Figure 307.3 Post-Mounted Protruding Objects

307.5 Required Clear Width. Protruding objects shall not reduce the clear width required for accessible routes.

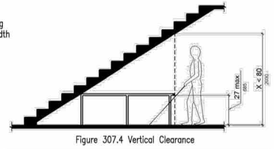

Figure 307.4 Vertical Clearance

308 Reach Ranges
308.1 General. Reach ranges shall comply with 308.

308.2 Forward Reach.

308.2.1 Unobstructed. Where a forward reach is unobstructed, the high forward reach shall be 48 inches (1220 mm) maximum and the low forward reach shall be 15 inches (380 mm) minimum above the finish floor or ground.

Children's Reach Ranges		
Forward or Side Reach	High (maximum)	Low (minimum)
Ages 3 and 4	36 in (915 mm)	20 in (510 mm)
Ages 5 through 8	40 in (1015 mm)	18 in (455 mm)
Ages 9 through 12	44 in (1120 mm)	16 in (405 mm)

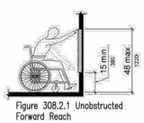

Figure 308.2.1 Unobstructed Forward Reach

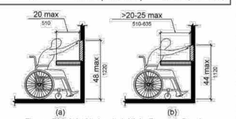

Figure 308.2.2 Obstructed High Forward Reach

308.2.2 Obstructed High Reach. Where a high forward reach is over an obstruction, the clear floor space shall extend beneath the element for a distance not less than the required reach depth over the obstruction. The high forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the high forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.3 Side Reach.
308.3.1 Unobstructed. Where a clear floor or ground space allows a parallel approach to an element and the side reach is unobstructed, the high side reach shall be 48 inches (1220 mm) maximum and the low side reach shall be 15 inches (380 mm) minimum above the finish floor or ground.
EXCEPTIONS:
1. An obstruction shall be permitted between the clear floor or ground space and the element where the depth of the obstruction is 10 inches (255 mm) maximum.
2. Operable parts of fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum measured from the surface of the vehicular way where fuel dispensers are installed on existing curbs.

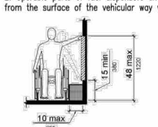

Figure 308.3.1 Unobstructed Side Reach

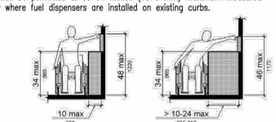

Figure 308.3.2 Obstructed High Side Reach

308.3.2 Obstructed High Reach. Where a clear floor or ground space allows a parallel approach to an element and the high side reach is over an obstruction, the height of the obstruction shall be 34 inches (865 mm) maximum and the depth of the obstruction shall be 24 inches (610 mm) maximum. The high side reach shall be 48 inches (1220 mm) maximum for a reach depth of 10 inches (255 mm) maximum. Where the reach depth exceeds 10 inches (255 mm), the high side reach shall be 46 inches (1170 mm) maximum for a reach depth of 24 inches (610 mm) maximum.

308.3.2 EXCEPTIONS:
1. The top of washing machines and clothes dryers shall be permitted to be 36 inches (915 mm) maximum above the finish floor.
2. Operable parts of fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum measured from the surface of the vehicular way where fuel dispensers are installed on existing curbs.

309 Operable Parts
309.1 General. Operable parts shall comply with 309.

309.2 Clear Floor Space. A clear floor or ground space complying with 305 shall be provided.

309.3 Height. Operable parts shall be placed within one or more of the reach ranges specified in 308.

309.4 Operation. Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5 pounds (22.2 N) maximum.
EXCEPTION: Gas pump nozzles shall not be required to provide operable parts that have an activating force of 5 pounds (22.2 N) maximum.

CHAPTER 4: ACCESSIBLE ROUTES

401 General
401.1 Scope. The provisions of Chapter 4 shall apply where required by Chapter 2 or where referenced by a requirement in this document.

402 Accessible Routes
402.1 General. Accessible routes shall comply with 402.

402.2 Components. Accessible routes shall consist of one or more of the following components: walking surfaces with a running slope not steeper than 1:20, doorways, ramps, curb ramps excluding the flared sides, elevators, and platform lifts. All components of an accessible route shall comply with the applicable requirements of Chapter 4.

403 Walking Surfaces
403.1 General. Walking surfaces that are a part of an accessible route shall comply with 403.

403.2 Floor or Ground Surface. Floor or ground surfaces shall comply with 302.
403.3 Slope. The running slope of walking surfaces shall not be steeper than 1:20. The cross slope of walking surfaces shall not be steeper than 1:48.
403.4 Changes in Level. Changes in level shall comply with 303.

403.5 Clearances. Walking surfaces shall provide clearances complying with 403.5.
EXCEPTION: Within employee work areas, clearances on common use circulation paths shall be permitted to be decreased by work area equipment provided that the decrease is essential to the function of the work being performed.

403.5.1 Clear Width. Except as provided in 403.5.2 and 403.5.3, the clear width of walking surfaces shall be 36 inches (915 mm) minimum.
EXCEPTION: The clear width shall be permitted to be reduced to 32 inches (815 mm) minimum for a length of 24 inches (610 mm) maximum provided that reduced width segments are separated by segments that are 48 inches (1220 mm) long minimum and 36 inches (915 mm) wide minimum.

403.5.2 Clear Width at Turn. Where the accessible route makes a 180 degree turn around an element which is less than 48 inches (1220 mm) wide, clear width shall be 42 inches (1065 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn and 42 inches (1065 mm) minimum leaving the turn.
EXCEPTION: Where the clear width at the turn is 60 inches (1525 mm) minimum compliance with 403.5.2 shall not be required.

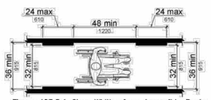

Figure 403.5.1 Clear Width of an Accessible Route

403.5.3 Passing Spaces. An accessible route with a clear width less than 60 inches (1525 mm) shall provide passing spaces at intervals of 200 feet (61 m) maximum. Passing spaces shall be either: a space 60 inches (1525 mm) minimum by 60 inches (1525 mm) minimum; or, an intersection of two walking surfaces providing a T-shaped space complying with 304.3.2 where the base and arms of the T-shaped space extend 48 inches (1220 mm) minimum beyond the intersection.

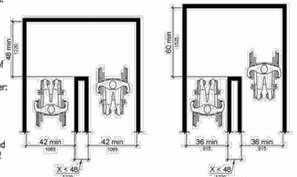

Figure 403.5.2 Clear Width at Turn

403.6 Handrails. Where handrails are provided along walking surfaces with running slopes not steeper than 1:20 they shall comply with 505.

404 Doors, Doorways, and Gates
404.1 General. Doors, doorways, and gates that are part of an accessible route shall comply with 404.
EXCEPTION: Doors, doorways, and gates designed to be operated only by security personnel shall not be required to comply with 404.2.7, 404.2.8, 404.2.9, 404.3.2 and 404.3.4 through 404.3.7.
404.2 Manual Doors, Doorways, and Manual Gates. Manual doors and doorways and manual gates intended for user passage shall comply with 404.2.

404.2.1 Revolving Doors, Gates, and Turnstiles. Revolving doors, revolving gates, and turnstiles shall not be part of an accessible route.

404.2.2 Double-Leaf Doors and Gates. At least one of the active leaves of doorways with two leaves shall comply with 404.2.3 and 404.2.4.

404.2.3 Clear Width. Door openings shall provide a clear width of 32 inches (815 mm) minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) deep shall provide a clear opening of 36 inches (915 mm) minimum. There shall be no projections into the required clear opening width lower than 34 inches (865 mm) above the finish floor or ground. Projections into the clear opening width between 34 inches (865 mm) and 80 inches (2030 mm) above the finish floor or ground shall not exceed 4 inches (100 mm).
EXCEPTIONS: 1. In alterations, a projection of 5/8 inch (16 mm) maximum into the required clear width shall be permitted for the latch side stop.
2. Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the finish floor or ground.
404.2.4 Maneuvering Clearances. Minimum maneuvering clearances at doors and gates shall comply with 404.2.4. Maneuvering clearances shall extend the full width of the doorway and the required latch side or hinge side clearance.
EXCEPTION: Entry doors to hospital patient rooms shall not be required to provide the clearance beyond the latch side of the door.
404.2.4.1 Swinging Doors and Gates. Swinging doors and gates shall have maneuvering clearances complying with Table 404.2.4.1. (as illustrated on Figures 404.2.4.1)

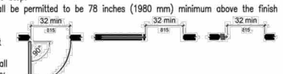

Figure 404.2.3 Clear Width of Doorways

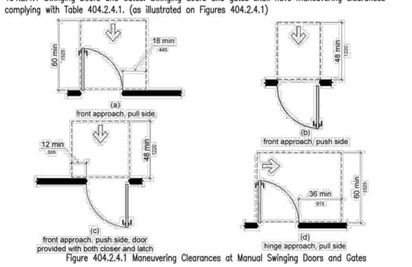

Figure 404.2.4.1 Maneuvering Clearances at Manual Swinging Doors and Gates

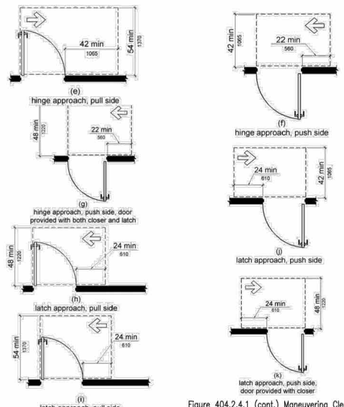

Figure 404.2.4.1 (cont.) Maneuvering Clearances at Manual Swinging Doors and Gates

404.2.4.2 Doorways without Doors or Gates, Sliding Doors, and Folding Doors. Doorways less than 36 inches (915 mm) wide without doors or gates, sliding doors, or folding doors shall have maneuvering clearances complying with Table 404.2.4.2. (as illustrated on Figure 404.2.4.2)

404.2.4.3 Recessed Doors and Gates. Maneuvering clearances for forward approach shall be provided when any obstruction within 18 inches (455 mm) of the latch side of a doorway projects more than 8 inches (205 mm) beyond the face of the door, measured perpendicular to the face of the door or gate.

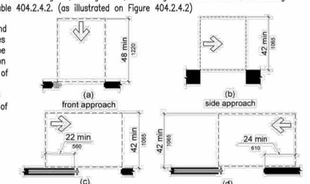

Figure 404.2.4.2 Maneuvering Clearances at Doorways without Doors, Sliding Doors, Gates, and Folding Doors

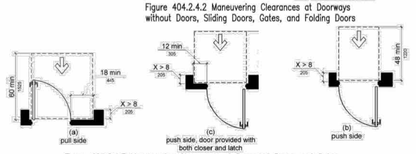

Figure 404.2.4.3 Maneuvering Clearances at Recessed Doors and Gates

404.2.4.4 Floor or Ground Surface. Floor or ground surface within required maneuvering clearances shall comply with 302. Changes in level are not permitted.
EXCEPTIONS:
1. Slopes not steeper than 1:48 shall be permitted.
2. Changes in level at thresholds complying with 404.2.5 shall be permitted.

404.2.5 Thresholds. Thresholds, if provided at doorways, shall be 1/2 inch (13 mm) high maximum. Raised thresholds and changes in level at doorways shall comply with 302 and 303.
EXCEPTION: Existing or altered thresholds 3/4 inch (19 mm) high maximum that have a beveled edge on each side with a slope not steeper than 1:2 shall not be required to comply with 404.2.5.

404.2.6 Doors in Series and Gates in Series. The distance between two hinged or pivoted doors in series and gates in series shall be 48 inches (1220 mm) minimum plus the width of doors or gates swinging into the space.

404.2.7 Door and Gate Hardware. Handles, pulls, latches, locks, and other operable parts on doors and gates shall comply with 309.4. Operable parts of such hardware shall be 34 inches (865 mm) minimum and 48 inches (1220 mm) maximum above the finish floor or ground. Where sliding doors are in the fully open position, operating hardware shall be exposed and usable from both sides.

Figure 404.2.6 Doors in Series and Gates in Series

EXCEPTIONS:
1. Existing locks shall be permitted in any location at existing glazed doors without stiles, existing overhead rolling doors or grilles, and similar existing doors or grilles that are designed with locks that are activated only at the top or bottom rail.
2. Access gates in barrier walls and fences protecting pools, spas, and hot tubs shall be permitted to have operable parts of the release of latch on self-latching devices at 54 inches (1370 mm) maximum above the finish floor or ground provided the self-latching devices are not also self-locking devices and operated by means of a key, electronic opener, or integral combination lock.

404.2.8 Closing Speed. Door and gate closing speed shall comply with 404.2.8.

404.2.8.1 Door Closers and Gate Closers. Door closers and gate closers shall be adjusted so that from an open position of 90 degrees, the time required to move the door to a position of 12 degrees from the latch is 5 seconds minimum.

404.2.8.2 Spring Hinges. Door and gate spring hinges shall be adjusted so that from the open position of 70 degrees, the door or gate shall move to the closed position in 1.5 seconds minimum.

404.2.9 Door and Gate Opening Force. Fire doors shall have a minimum opening force allowable by the appropriate administrative authority. The force for pushing or pulling open a door or gate other than fire doors shall be as follows:
1. Interior hinged doors and gates: 5 pounds (22.2 N) maximum.
2. Sliding or folding doors: 5 pounds (22.2 N) maximum.
These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door or gate in a closed position.

404.2.10 Door and Gate Surfaces. Swinging door and gate surfaces within 10 inches (255 mm) of the finish floor or ground measured vertically shall have a smooth surface on the push side extending the full width of the door or gate. Parts creating horizontal or vertical joints in these surfaces shall be within 1/16 inch (1.6 mm) of the same plane as the other. Cavities created by added kick plates shall be capped.
EXCEPTIONS:
1. Sliding doors shall not be required to comply with 404.2.10.
2. Tempered glass doors without stiles and having a bottom rail or shoe with the top leading edge tapered at 60 degrees minimum from the horizontal shall not be required to meet the 10 inch (255 mm) bottom smooth surface height requirement.

3. Doors and gates that do not extend to within 10 inches (255 mm) of the finish floor or ground shall not be required to comply with 404.2.10.
4. Existing doors and gates without smooth surfaces within 10 inches (255 mm) of the finish floor or ground shall not be required to provide smooth surfaces complying with 404.2.10 provided that if added kick plates are installed, cavities created by such kick plates are capped

404.2.11 Vision Lights. Doors, gates, and side lights adjacent to doors or gates, containing one or more glazing panels that permit viewing through the panels shall have the bottom of at least one glazed panel located 43 inches (1090 mm) maximum above the finish floor.
EXCEPTION: Vision lights with the lowest part more than 66 inches (1675 mm) from the finish floor or ground shall not be required to comply with 404.2.11.

404.3 Automatic and Power-Assisted Doors and Gates. Automatic doors and automatic gates shall comply with 404.3. Full-powered automatic doors shall comply with ANSI/BHMA A156.10 (incorporated by reference, see "Referenced Standards" in Chapter 1). Low-energy and power-assisted doors shall comply with ANSI/BHMA A156.19 (1997 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1).

404.3.1 Clear Width. Doorways shall provide a clear opening of 32 inches (815 mm) minimum in power-on and power-off mode. The minimum clear width for automatic door systems in a doorway shall be based on the clear opening provided by all leaves in the open position.

404.3.2 Maneuvering Clearance. Clearances at power-assisted doors and gates shall comply with 404.2.4. Clearances at automatic doors and gates without standby power and serving an accessible means of egress shall comply with 404.2.4.

EXCEPTION: Where automatic doors and gates remain open in the power-off condition, compliance with 404.2.4 shall not be required.

404.3.3 Thresholds. Thresholds and changes in level at doorways shall comply with 404.2.5.

404.3.4 Doors in Series and Gates in Series. Doors in series and gates in series shall comply with 404.2.6.

404.3.5 Controls. Manually operated controls shall comply with 309. The clear floor space adjacent to the control shall be located beyond the arc of the door swing.

404.3.6 Break Out Opening. Where doors and gates without standby power are a part of a means of egress, the clear break out opening at swinging or sliding doors and gates shall be 32 inches (815 mm) minimum when operated in emergency mode.
EXCEPTION: Where manual swinging doors and gates comply with 404.2 and serve the same means of egress compliance with 404.3.6 shall not be required.

404.3.7 Revolving Doors, Revolving Gates, and Turnstiles. Revolving doors, revolving gates, and turnstiles shall not be part of an accessible route.

405 Ramps
405.1 General. Ramps on accessible routes shall comply with 405.
EXCEPTION: In assembly areas, aisle ramps adjacent to seating and not serving elements required to be on an accessible route shall not be required to comply with 405.

405.2 Slope. Ramp runs shall have a running slope not steeper than 1:12.
EXCEPTION: In existing sites, buildings, and facilities, ramps shall be permitted to have running slopes steeper than 1:12 complying with Table 405.2 where such slopes are necessary due to space limitations.

Table 405.2 Maximum Ramp Slope and Rise for Existing Sites, Buildings, and Facilities	
Slope (A slope steeper than 1:8 is prohibited.)	Maximum Rise
Steeper than 1:10 but not steeper than 1:8	3 inches (75 mm)
Steeper than 1:12 but not steeper than 1:10	6 inches (150 mm)

405.3 Cross Slope. Cross slope of ramp runs shall not be steeper than 1:48.

405.4 Floor or Ground Surfaces. Floor or ground surfaces of ramp runs shall comply with 302. Changes in level other than the running slope and cross slope are not permitted on ramp runs.

405.5 Clear Width. The clear width of a ramp run and, where handrails are provided, the clear width between handrails shall be 36 inches (915 mm) minimum.
EXCEPTION: Within employee work areas, the required clear width of ramps that are a part of common use circulation paths shall be permitted to be decreased by work area equipment provided that the decrease is essential to the function of the work being performed.

405.6 Rise. The rise for any ramp run shall be 30 inches (760 mm) maximum.

405.7 Landings. Ramps shall have landings at the top and the bottom of each ramp run. Landings shall comply with 405.7.

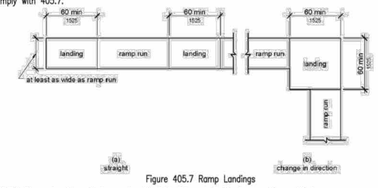

Figure 405.7 Ramp Landings

405.7.1 Slope. Landings shall comply with 302. Changes in level are not permitted.
EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

405.7.2 Width. The landing clear width shall be at least as wide as the widest ramp run leading to the landing.

405.7.3 Length. The landing clear length shall be 60 inches (1525 mm) long minimum.

405.7.4 Change in Direction. Ramps that change directi
on between runs at landings shall have a clear landing 60 inches (1525 mm) minimum by 60 inches (1525 mm) minimum.

405.7.5 Doorways. Where doorways are located adjacent to a ramp landing, maneuvering clearances required by 404.2.4 and 404.3.2 shall be permitted to overlap the required landing area.

405.8 Handrails. Ramp runs with a rise greater than 6 inches (150 mm) shall have handrails complying with 505.
EXCEPTION: Within employee work areas, handrails shall not be required where ramps that are part of common use circulation paths are designed to permit the installation of handrails complying with 505. Ramps not subject to the exception to 405.5 shall be designed to maintain a 36 inch (915 mm) minimum clear width when handrails are installed.

405.9 Edge Protection. Edge protection complying with 405.9.1 or 405.9.2 shall be provided on each side of ramp runs and at each side of ramp landings.
EXCEPTIO1. Edge protection shall not be required on ramps that are not required to have handrails and have sides complying with 406.3.
2. Edge protection shall not be required on the sides of ramp landings serving an adjoining ramp run or stairway.
3. Edge protection shall not be required on the sides of ramp landings having a vertical drop-off of 1/2 inch (13 mm) maximum within 10 inches (255 mm) horizontally of the minimum landing area specified in 405.7.

405.9.1 Extended Floor or Ground Surface. The floor or ground surface of the ramp run or landing shall extend 12 inches (305 mm) minimum beyond the inside face of a handrail complying with 505.

405.9.2 Curb or Barrier. A curb or barrier shall be provided that prevents the passage of a 4 inch (100 mm) diameter sphere, where any portion of the sphere is within 4 inches (100 mm) of the finish floor or ground surface.

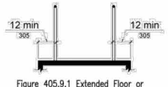

Figure 405.9.1 Extended Floor or Ground Surface Edge Protection

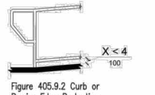

Figure 405.9.2 Curb or Barrier Edge Protection

TEXAS FIRM F-16469
AME Engineering, Inc.
mail@ameengineer.com | ofc 817-653-4122 | fax 817-754-6615
3825 W Green Oaks Blvd Suite 200, Arlington TX 76016-2700

STATE OF TEXAS
JESSICA J. KILGORE
106106
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL

2600 ROOSEVELT DRIVE
DALWORTHINGTON GARDENS, TEXAS 76016

CONTACT NAME	CHIEF GREG PETTY
CONTACT COMPANY	DWG POLICE & FIRE
CONTACT PHONE	817-275-1234
ISSUES	
FULL CLIENT REVIEW SET 12/07/22	
FINAL COUNCIL REVIEW 06/19/23	
FINAL PERMIT SET 06/26/23	
ADA REVISION SET 08/04/23	
PRINTED	8/4/2023 1:44:09 PM
DESIGNED	JL
CHECKED	JJK
IBC	2015
IECC	2015
NEC	2017
SCALE	

ADA NOTES & DETAILS

ADA-1

PROJECT 1699

2010 ADA Standards for Accessible Design for Public Accommodations and Commercial Facilities: Title III

CHAPTER 4: ACCESSIBLE ROUTES (cont.)

405.10 Wet Conditions. Landings subject to wet conditions shall be designed to prevent the accumulation of water.

406 Curb Ramps
406.1 General. Curb ramps on accessible routes shall comply with 406, 405.2 through 405.5, and 405.10.

406.2 Counter Slope. Counter slopes of adjoining gutters and road surfaces immediately adjacent to the curb ramp shall not be steeper than 1:20. The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level.

406.3 Sides of Curb Ramps. Where provided, curb ramp flares shall not be steeper than 1:10.

Figure 406.2 Counter Slope of Surfaces Adjacent to Curb Ramps

406.4 Landings. Landings shall be provided at the tops of curb ramps. The landing clear length shall be 36 inches (915 mm) minimum. The landing clear width shall be at least as wide as the curb ramp, excluding flared sides, leading to the landing.
EXCEPTION: In alterations, where there is no landing at the top of curb ramps, curb ramp flares shall be provided and shall not be steeper than 1:12.

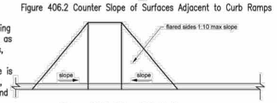

Figure 406.3 Sides of Curb Ramps

406.5 Location. Curb ramps and the flared sides of curb ramps shall be located so that they do not project into vehicular traffic lanes, parking spaces, or parking access aisles. Curb ramps at marked crossings shall be wholly contained within the markings, excluding any flared sides.

406.6 Diagonal Curb Ramps. Diagonal or corner type curb ramps with returned curbs or other well-defined edges shall have the edges parallel to the direction of pedestrian flow. The bottom of diagonal curb ramps shall have a clear space 48 inches (1220 mm) minimum outside active traffic lanes of the roadway. Diagonal curb ramps provided at marked crossings shall provide the 48 inches (1220 mm) minimum clear space within the markings. Diagonal curb ramps with flared sides shall have a segment of curb 24 inches (610 mm) long minimum located on each side of the curb ramp and within the marked crossing.

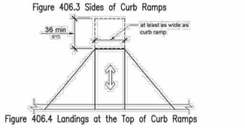

Figure 406.4 Landings at the Top of Curb Ramps

406.7 Islands. Raised islands in crossings shall be cut through level with the street or have curb ramps at both sides. Each curb ramp shall have a level area 48 inches (1220 mm) long minimum by 36 inches (915 mm) wide minimum at the top of the curb ramp in the part of the island intersected by the crossings. Each 48 inch (1220 mm) minimum by 36 inch (915 mm) minimum area shall be oriented so that the 48 inch (1220 mm) minimum length is in the direction of the running slope of the curb ramp it serves. The 48 inch (1220 mm) minimum by 36 inch (915 mm) minimum areas and the accessible route shall be permitted to overlap.

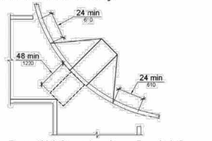

Figure 406.6 Diagonal or Corner Type Curb Ramps

407 Elevators
407.1 General. Elevators shall comply with 407 and with ASME A17.1 (incorporated by reference, see "Referenced Standards" in Chapter 1). They shall be passenger elevators as classified by ASME A17.1. Elevator operation shall be automatic.

407.2 Elevator Landing Requirements. Elevator landings shall comply with 407.2.

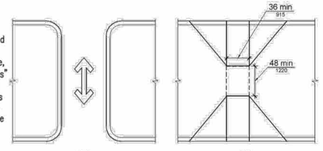

Figure 406.7 Islands in Crossings

407.2.1 Call Controls. Where elevator call buttons or keypads are provided, they shall comply with 407.2.1 and 309.4. Call buttons shall be raised or flush.
EXCEPTION: Existing elevators shall be permitted to have recessed call buttons.

407.2.1.1 Height. Call buttons and keypads shall be located within one of the reach ranges specified in 308, measured to the centerline of the highest operable part.
EXCEPTION: Existing call buttons and existing keypads shall be permitted to be located at 54 inches (1370 mm) maximum above the finish floor, measured to the centerline of the highest operable part.

407.2.1.2 Size. Call buttons shall be 3/4 inch (19 mm) minimum in the smallest dimension.
EXCEPTION: Existing elevator call buttons shall not be required to comply with 407.2.1.2.

407.2.1.3 Clear Floor or Ground Space. A clear floor or ground space complying with 305 shall be provided at call controls.

407.2.1.4 Location. The call button that designates the up direction shall be located c
that designates the down direction.
EXCEPTION: Destination-oriented elevators shall not be required to comply with 407.2.1

407.2.1.5 Signals. Call buttons shall have visible signals to indicate when each call is registered and when each call is answered.
EXCEPTIONS:
1. Destination-oriented elevators shall not be required to comply with 407.2.1.5 provided that visible and audible signals complying with 407.2.2 indicating which elevator car to enter are provided.
2. Existing elevators shall not be required to comply with 407.2.1.5.

407.2.1.6 Keypads. Where keypads are provided, keypads shall be in a standard telephone keypad arrangement and shall comply with 407.4.7.2.

407.2.2 Hall Signals. Hall signals, including in-car signals, shall comply with 407.2.2.

407.2.2.1 Visible and Audible Signals. A visible and audible signal shall be provided at each hoistway entrance to indicate which car is answering a call and the car's direction of travel. Where in-car signals are provided, they shall be visible from the floor area adjacent to the hall call buttons.
EXCEPTIONS:
1. Visible and audible signals shall not be required at each destination-oriented elevator where a visible and audible signal complying with 407.2.2 is provided indicating the elevator car designation information.
2. In existing elevators, a signal indicating the direction of car travel shall not be required.

407.2.2.2 Visible Signals. Visible signal fixtures shall be centered at 72 inches (1830 mm) minimum above the finish floor or ground. The visible signal elements shall be 2 1/2 inches (64 mm) minimum measured along the vertical centerline of the element. Signals shall be visible from the floor area adjacent to the hall call button.
EXCEPTIONS:
1. Destination-oriented elevators shall be permitted to have signals visible from the floor area adjacent to the hoistway entrance.
2. Existing elevators shall not be required to comply with 407.2.2.2.

407.2.2.3 Audible Signals. Audible signals shall sound once for the up direction and twice for the down direction, or shall have verbal annunciators that indicate the direction of elevator car travel. Audible signals shall have a frequency of 1500 Hz maximum. Verbal annunciators shall have a frequency of 300 Hz minimum and 3000 Hz maximum. The audible signal and verbal annunciator shall be 10 dB minimum above ambient, but shall not exceed 80 dB, measured at the hall call button.
EXCEPTIONS:
1. Destination-oriented elevators shall not be required to comply with 407.2.2.3 provided that the audible tone and verbal announcement is the same as those given at the call button or call button keypad.
2. Existing elevators shall not be required to comply with the requirements for frequency and dB range of audible signals.

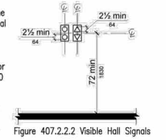

Figure 407.2.2.2 Visible Hall Signals

407.2.2.4 Differentiation. Each destination-oriented elevator in a bank of elevators shall have audible and visible means for differentiation.

407.2.3 Hoistway Signs. Signs at elevator hoistways shall comply with 407.2.3.

407.2.3.1 Floor Designation. Floor designations complying with 703.2 and 703.4.1 shall be provided on both jambs of elevator hoistway entrances. Floor designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum. A tactile star shall be provided on both jambs at the main entry level.

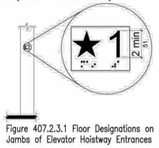

Figure 407.2.3.1 Floor Designations on Jambs of Elevator Hoistway Entrances

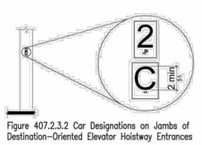

Figure 407.2.3.2 Car Designations on Jambs of Destination-Oriented Elevator Hoistway Entrances

407.2.3.2 Car Designations. Destination-oriented elevators shall provide tactile car identification complying with 703.2 on both jambs of the hoistway immediately below the floor designation. Car designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum.

407.3 Elevator Door Requirements. Hoistway and car doors shall comply with 407.3.

407.3.1 Type. Elevator doors shall be the horizontal sliding type. Car gates shall be prohibited.

407.3.2 Operation. Elevator hoistway and car doors shall open and close automatically.
EXCEPTION: Existing manually operated hoistway swing doors shall be permitted provided that they comply with 404.2.3 and 404.2.9. Car door closing shall not be initiated until the hoistway door is closed.

407.3.3 Reopening Device. Elevator doors shall be provided with a reopening device complying with 407.3.3 that shall stop and reopen a car door and hoistway door automatically if the door becomes obstructed by an object or person.
EXCEPTION: Existing elevators with manually operated doors shall not be required to comply with 407.3.3.

407.3.3.1 Height. The device shall be activated by sensing an obstruction passing through the opening at 5 inches (125 mm) nominal and 29 inches (735 mm) nominal above the finish floor.

407.3.3.2 Contact. The device shall not require physical contact to be activated, although contact is permitted to occur before the door reverses.

407.3.3.3 Duration. Door reopening devices shall remain effective for 20 seconds minimum.

407.3.4 Door and Signal Timing. The minimum acceptable time from notification that a car is answering a call or notification of the car assigned at the means for the entry of destination information until the doors of that car start to close shall be calculated from the following equation:

$T = D/(1.5\ ft/s)$ or $T = D/(455\ mm/s) + 5$ seconds minimum where T equals the total time in seconds and D equals the distance (in feet or millimeters) from the point in the lobby or corridor 60 inches (1525 mm) directly in front of the farthest call button controlling that car to the centerline of its hoistway door.
EXCEPTIONS:
1. For cars with in-car lanterns, T shall be permitted to begin when the signal is visible from the point 60 inches (1525 mm) directly in front of the farthest hall call button and the audible signal is sounded.
2. Destination-oriented elevators shall not be required to comply with 407.3.4.

407.3.5 Door Delay. Elevator doors shall remain fully open in response to a car call for 3 seconds minimum.

407.3.6 Width. The width of elevator doors shall comply with Table 407.4.1.
EXCEPTION: In existing elevators, a power-operated car door complying with 404.2.3 shall be permitted.

407.4 Elevator Car Requirements. Elevator cars shall comply with 407.4.

407.4.1 Car Dimensions. Inside dimensions of elevator cars and clear width of elevator doors shall comply with Figure 407.4.1 (Table 407.4.1.).
EXCEPTION: Existing elevator car configurations that provide a clear floor area of 16 square feet (1.5 m2) minimum and also provide an inside clear depth 54 inches (1370 mm) minimum and a clear width 36 inches (915 mm) minimum shall be permitted.

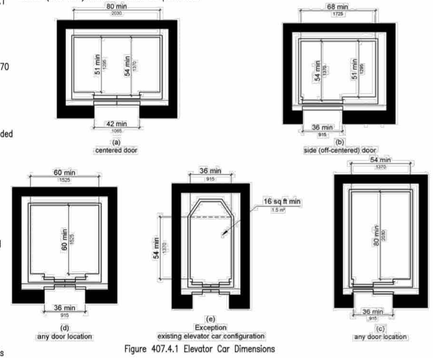

Figure 407.4.1 Elevator Car Dimensions

407.4.2 Floor Surfaces. Floor surfaces in elevator cars shall comply with 302 and 303.

407.4.3 Platform to Hoistway Clearance. The clearance between the car platform sill and the edge of any hoistway landing shall be 1 1/4 inch (32 mm) maximum.

407.4.4 Leveling. Each car shall be equipped with a self-leveling feature that will automatically bring and maintain the car at floor landings within a tolerance of 1/2 inch (13 mm) under rated loading to zero loading conditions.

407.4.5 Illumination. The level of illumination at the car controls, platform, car threshold and car landing sill shall be 5 foot candles (54 lux) minimum.

407.4.6 Elevator Car Controls. Where provided, elevator car controls shall comply with 407.4.6 and 309.4.
EXCEPTION: In existing elevators, where a new car operating panel complying with 407.4.6 is provided, existing car operating panels shall not be required to comply with 407.4.6.

407.4.6.1 Location. Controls shall be located within one of the reach ranges specified in 308.
EXCEPTIONS:
1. Where the elevator panel serves more than 16 openings and a parallel approach is provided, buttons with floor designations shall be permitted to be 54 inches (1370 mm) maximum above the finish floor.
2. In existing elevators, car control buttons with floor designations shall be permitted to be located 54 inches (1370 mm) maximum above the finish floor where a parallel approach is provided.

407.4.6.2 Buttons. Car control buttons with floor designations shall comply with 407.4.6.2 and shall be raised or flush.
EXCEPTION: In existing elevators, buttons shall be permitted to be recessed.

407.4.6.2.1 Size. Buttons shall be 3/4 inch (19 mm) minimum in their smallest dimension.
407.4.6.2.2 Arrangement. Buttons shall be arranged with numbers in ascending order. When two or more columns of buttons are provided they shall read from left to right.

407.4.6.3 Keypads. Car control keypads shall be in a standard telephone keypad arrangement and shall comply with 407.4.7.2.

407.4.6.4 Emergency Controls. Emergency controls shall comply with 407.4.6.4.

407.4.6.4.1 Height. Emergency control buttons shall have their centerlines 35 inches (890 mm) minimum above the finish floor.

407.4.6.4.2 Location. Emergency controls, including the emergency alarm, shall be grouped at the bottom of the panel.
407.4.7 Designations and Indicators of Car Controls. Designations and indicators of car controls shall comply with 407.4.7.
EXCEPTION: In existing elevators, where a new car operating panel complying with 407.4.7 is provided, existing car operating panels shall not be required to comply with 407.4.7.

407.4.7.1 Buttons. Car control buttons shall comply with 407.4.7.1.

407.4.7.1.1 Type. Control buttons shall be identified by tactile characters complying with 703.2.

407.4.7.1.2 Location. Raised character and braille designations shall be placed immediately to the left of the control button to which the designations apply.
EXCEPTION: Where space on an existing car operating panel precludes tactile markings to the left of the controls, markings shall be placed as near to the control as possible.

407.4.7.1.3 Symbols. The control button for the emergency stop, alarm, door open, door close, main entry floor, and phone, shall be identified with tactile symbols as shown in Table 407.4.7.1.3 (refer to 2010 ADA for table).

407.4.7.1.4 Visible Indicators. Buttons with floor designations shall be provided with visible indicators to show that a call has been registered. The visible indication shall extinguish when the car arrives at the designated floor.
407.4.7.2 Keypads. Keypads shall be identified by characters complying with 703.5 and shall be centered on the corresponding keypad button. The number five key shall have a single raised dot. The dot shall be 0.118 inch (3 mm) to 0.120 inch (3.05 mm) base diameter and in other aspects comply with Table 703.3.1.

407.4.8 Car Position Indicators. Audible and visible car position indicators shall be provided in elevator cars.

407.4.8.1 Visible Indicators. Visible indicators shall comply with 407.4.8.1.

407.4.8.1.1 Size. Characters shall be 1/2 inch (13 mm) high minimum.

407.4.8.1.2 Location. Indicators shall be located above the car control panel or above the door.

407.4.8.1.3 Floor Arrival. As the car passes a floor and when a car stops at a floor served by the elevator, the corresponding character shall illuminate.
EXCEPTION: Destination-oriented elevators shall not be required to comply with 407.4.8.1.3 provided that the visible indicators extinguish when the call has been answered.
407.4.8.1.4 Destination Indicator. In destination-oriented elevators, a display shall be provided in the car with visible indicators to show car destinations.

407.4.8.2 Audible Indicators. Audible indicators shall comply with 407.4.8.2.

407.4.8.2.1 Signal Type. The signal shall be an automatic verbal annunciator which announces the floor at which the car is about to stop.
EXCEPTION: For elevators other than destination-oriented elevators that have a rated speed of 200 feet per minute (1 m/s) or less, a non-verbal audible signal with a frequency of 1500 Hz maximum which sounds as the car passes or is about to stop at a floor served by the elevator shall be permitted.
407.4.8.2.2 Signal Level. The verbal annunciator shall be 10 dB minimum above ambient, but shall not exceed 80 dB, measured at the annunciator.

407.4.8.2.3 Frequency. The verbal annunciator shall have a frequency of 300 Hz minimum to 3000 Hz maximum.

407.4.9 Emergency Communication. Emergency two-way communication systems shall comply with 308. Tactile symbols and characters shall be provided adjacent to the device and shall comply with 703.2.

408 Limited-Use/Limited-Application Elevators

408.1 General. Limited-use/limited-application elevators shall comply with 408 and with ASME A17.1 (incorporated by reference, see "Referenced Standards" in Chapter 1). They shall be passenger elevators as classified by ASME A17.1. Elevator operation shall be automatic.

408.2 Elevator Landings. Landings serving limited-use/limited-application elevators shall comply with 408.2.

408.2.1 Call Buttons. Elevator call buttons and keypads shall comply with 407.2.1.

408.2.2 Hall Signals. Hall signals shall comply with 407.2.2.

408.2.3 Hoistway Signs. Signs at elevator hoistways shall comply with 407.2.3.1.

408.3 Elevator Doors. Elevator hoistway doors shall comply with 408.3.

408.3.1 Sliding Doors. Sliding hoistway and car doors shall comply with 407.3.1 through 407.3.3 and 408.4.1.

408.3.2 Swinging Doors. Swinging hoistway doors shall open and close automatically and shall comply with 404, 407.3.2 and 408.3.2.

408.3.2.1 Power Operation. Swinging doors shall be power-operated and shall comply with ANSI/BHMA A156.19 (1997 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1).

408.3.2.2 Duration. Power-operated swinging doors shall remain open for 20 seconds minimum when activated.

408.4 Elevator Cars. Elevator cars shall comply with 408.4.
408.4.1 Car Dimensions and Doors. Elevator cars shall provide a clear width 42 inches (1065 mm) minimum and a clear depth 54 inches (1370 mm) minimum. Car doors shall be positioned at the narrow ends of cars and shall provide 32 inches (815 mm) minimum clear width.
EXCEPTIONS:
1. Cars that provide a clear width 51 inches (1295 mm) minimum shall be permitted to provide a clear depth 51 inches (1295 mm) minimum provided that car doors provide a clear opening 36 inches (915 mm) wide minimum.
2. Existing elevator cars shall be permitted to provide a clear width 36 inches (915 mm) minimum, clear depth 54 inches (1370 mm) minimum, and a net clear platform area 15 square feet (1.4 m2) minimum.

408.4.2 Floor Surfaces. Floor surfaces in elevator cars shall comply with 302 and 303.

408.4.3 Platform to Hoistway Clearance. The platform to hoistway clearance shall comply with 407.4.3.

408.4.4 Leveling. Elevator car leveling shall comply with 407.4.4.

408.4.5 Illumination. Elevator car illumination shall comply with 407.4.5.

408.4.6 Car Controls. Elevator car controls shall comply with 407.4.6. Control panels shall be centered on a side wall.

408.4.7 Designations and Indicators of Car Controls. Designations and indicators of car controls shall comply with 407.4.7.

408.4.8 Emergency Communications. Car emergency signaling devices complying with 407.4.9 shall be provided.

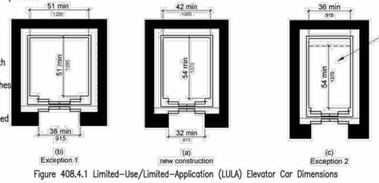

Figure 408.4.1 Limited-Use/Limited-Application (LULA) Elevator Car Dimensions

410 Platform Lifts
410.1 General. Platform lifts shall comply with ASME A18.1 (1999 edition or 2003 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1). Platform lifts shall not be attendant-operated and shall provide unassisted entry and exit from the lift.

410.2 Floor Surfaces. Floor surfaces in platform lifts shall comply with 302 and 303.

410.3 Clear Floor Space. Clear floor space in platform lifts shall comply with 305.

410.4 Platform to Runway Clearance. The clearance between the platform sill and the edge of any runway landing shall be 1 inch (32 mm) maximum.

410.5 Operable Parts. Controls for platform lifts shall comply with 309.

410.6 Doors and Gates. Platform lifts shall have low-energy power-operated doors or gates complying with 404.3. Doors shall remain open for 20 seconds minimum. End doors and gates shall provide a clear width 32 inches (815 mm) minimum. Side doors and gates shall provide a clear width 42 inches (1065 mm) minimum.
EXCEPTION: Platform lifts serving two landings maximum and having doors or gates on opposite sides shall be permitted to have self-closing manual doors or gates.

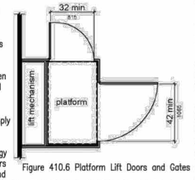

Figure 410.6 Platform Lift Doors and Gates

CHAPTER 5: GENERAL SITE AND BUILDING ELEMENTS

501 General
501.1 Scope. The provisions of Chapter 5 shall apply where required by Chapter 2 or where referenced by a requirement in this document.

502 Parking Spaces

502.1 General. Car and van parking spaces shall comply with 502. Where parking spaces are marked with lines, width measurements of parking spaces and access aisles shall be made from the centerline of the markings.
EXCEPTION: Where parking spaces or access aisles are not adjacent to another parking space or access aisle, measurements shall be permitted to include the full width of the line defining the parking space or access aisle.

502.2 Vehicle Spaces. Car parking spaces shall be 96 inches (2440 mm) wide minimum and van parking spaces shall be 132 inches (3350 mm) wide minimum, shall be marked to define the width, and shall have an adjacent access aisle complying with 502.3.
EXCEPTION: Van parking spaces shall be permitted to be 96 inches (2440 mm) wide minimum where the access aisle is 96 inches (2440 mm) wide minimum.

502.3 Access Aisle. Access aisles serving parking spaces shall comply with 502.3. Access aisles shall adjoin an accessible route. Two parking spaces shall be permitted to share a common access aisle.

502.3.1 Width. Access aisles serving car and van parking spaces shall be 60 inches (1525 mm) wide minimum.

502.3.2 Length. Access aisles shall extend the full length of the parking spaces they serve.

502.3.3 Marking. Access aisles shall be marked so as to discourage parking in them.

502.3.4 Location. Access aisles shall not overlap the vehicular way. Access aisles shall be permitted to be placed on either side of the parking space except for angled van parking spaces which shall have access aisles located on the passenger side of the parking spaces.

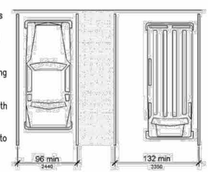

Figure 502.2 Vehicle Parking Spaces

502.4 Floor or Ground Surfaces. Parking spaces and access aisles serving them shall comply with 302. Access aisles shall be at the same level as the parking spaces they serve. Changes in level are not permitted.
EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

502.5 Vertical Clearance. Parking spaces for vans and access aisles and vehicular routes serving them shall provide a vertical clearance of 98 inches (2490 mm) minimum.

502.6 Identification. Parking space identification signs shall include the International Symbol of Accessibility complying with 703.7.2.1. Signs identifying van parking spaces shall contain the designation "van accessible." Signs shall be 60 inches (1525 mm) minimum above the finish floor or ground surface measured to the bottom of the sign.

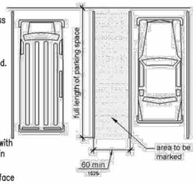

Figure 502.3 Parking Space Access Aisle

502.7 Relationship to Accessible Routes. Parking spaces and access aisles shall be designed so that cars and vans, when parked, cannot obstruct the required clear width of adjacent accessible routes.

503 Passenger Loading Zones
503.1 General. Passenger loading zones shall comply with 503.

503.2 Vehicle Pull-Up Space. Passenger loading zones shall provide a vehicular pull-up space 96 inches (2440 mm) wide minimum and 20 feet (6100 mm) long minimum.

503.3 Access Aisle. Passenger loading zones shall provide access aisles complying with 503 adjacent to the vehicle pull-up space. Access aisles shall adjoin an accessible route and shall not overlap the vehicular way.
503.3.1 Width. Access aisles serving vehicle pull-up spaces shall be 60 inches (1525 mm) wide minimum.

503.3.2 Length. Access aisles shall extend the full length of the vehicle pull-up spaces they serve.

503.3.3 Marking. Access aisles shall be marked so as to discourage parking in them.

503.4 Floor and Ground Surfaces. Vehicle pull-up spaces and access aisles serving them shall comply with 302. Access aisles shall be at the same level as the vehicle pull-up space they serve. Changes in level are not permitted.
EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

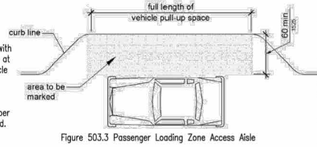

Figure 503.3 Passenger Loading Zone Access Aisle

503.5 Vertical Clearance. Vehicle pull-up spaces, access aisles serving them, and a vehicular route from an entrance to the passenger loading zone, and from the passenger loading zone to a vehicular exit shall provide a vertical clearance of 114 inches (2895 mm) minimum.

504 Stairways
504.1 General. Stairs shall comply with 504.

504.2 Treads and Risers. All steps on a flight of stairs shall have uniform riser heights and uniform tread depths. Risers shall be 4 inches (100 mm) high minimum and 7 inches (180 mm) high maximum. Treads shall be 11 inches (280 mm) deep minimum.

504.3 Open Risers. Open risers are not permitted.

504.4 Tread Surface. Stair treads shall comply with 302. Changes in level are not permitted.
EXCEPTION: Treads shall be permitted to have a slope not steeper than 1:48.

504.5 Nosings. The radius of curvature at the leading edge of the tread shall be 1/2 inch (13 mm) maximum. Nosings that project beyond risers shall have the underside of the leading edge curved or beveled. Risers shall be permitted to slope under the tread at an angle of 30 degrees maximum from vertical. The permitted projection of the nosing shall extend 1 1/2 inches (38 mm) maximum over the tread below.

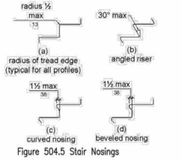

Figure 504.5 Stair Nosings

504.6 Handrails. Stairs shall have handrails complying with 505.

504.7 Wet Conditions. Stair treads and landings subject to wet conditions shall be designed to prevent the accumulation of water.

505 Handrails
505.1 General. Handrails provided along walking surfaces complying with 403, required at ramps complying with 405, and required at stairs complying with 504 shall comply with 505.

505.2 Where Required. Handrails shall be provided on both sides of stairs and ramps.
EXCEPTION: In assembly areas, handrails shall not be required on both sides of aisle ramps where a handrail is provided at either side or within the aisle width.

505.3 Continuity. Handrails shall be continuous within the full length of each stair flight or ramp run. Inside handrails on switchback or dogleg stairs and ramps shall be continuous between flights or runs.
EXCEPTION: In assembly areas, handrails on ramps shall not be required to be continuous in aisles serving seating.

505.4 Height. Top of gripping surfaces of handrails shall be 34 inches (865 mm) minimum and 38 inches (965 mm) maximum vertically above walking surfaces, stair nosings, and ramp surfaces. Handrails shall be at a consistent height above walking surfaces, stair nosings, and ramp surfaces.

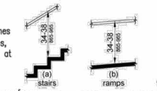

Figure 505.4 Handrail Height

505.5 Clearance. Clearance between handrail gripping surfaces and adjacent surfaces shall be 1 1/2 inches (38 mm) minimum.

505.6 Gripping Surface. Handrail gripping surfaces shall be continuous along their length and shall not be obstructed along their tops or sides. The bottoms of handrail gripping surfaces shall not be obstructed for more than 20 percent of their length. Where provided, horizontal projections shall occur 1 1/2 inches (38 mm) minimum below the bottom of the handrail gripping surface.
EXCEPTIONS:
1. Where handrails are provided along walking surfaces with slopes not steeper than 1:20, the bottoms of handrail gripping surfaces shall be permitted to be obstructed along their entire length where they are integral to crash rails or bumper guards.

Figure 505.5 Handrail Clearance

Figure 505.6 Horizontal Projections Below Gripping Surface

2. The distance between horizontal projections and the bottom of the gripping surface shall be permitted to be reduced by 1/8 inch (3.2 mm) for each 1/2 inch (13 mm) of additional handrail perimeter dimension that exceeds 4 inches (100 mm).

505.7 Cross Section. Handrail gripping surfaces shall have a cross section complying with 505.7.1 or 505.7.2.
505.7.1 Circular Cross Section. Handrail gripping surfaces with a circular cross section shall have an outside diameter of 1 1/4 inches (32 mm) minimum and 2 inches (51 mm) maximum.

505.7.2 Non-Circular Cross Sections. Handrail gripping surfaces with a non-circular cross section shall have a perimeter dimension of 4 inches (100 mm) minimum and 6 1/4 inches (160 mm) maximum, and a cross-section dimension of 2 1/4 inches (57 mm) maximum.

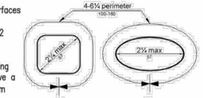

Figure 505.7.2 Handrail Non-Circular Cross Section

505.8 Surfaces. Handrail gripping surfaces and any surfaces adjacent to them shall be free of sharp or abrasive elements and shall have rounded edges.

505.9 Fittings. Handrails shall not rotate within their fittings.

505.10 Handrail Extensions. Handrail gripping surfaces shall extend beyond and in the same direction of stair flights and ramp runs in accordance with 505.10.
EXCEPTIONS:
1. Extensions shall not be required for continuous handrails at the inside turn of switchback or dogleg stairs and ramps.
2. In assembly areas, extensions shall not be required for ramp handrails in aisles serving seating where the handrails are discontinuous to provide access to seating and to permit crossovers within aisles.
3. In alterations, full extensions of handrails shall not be required where such extensions would be hazardous due to plan configuration.

505.10.1 Top and Bottom Extension at Ramps. Ramp handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beyond the top and bottom of ramp runs. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent ramp run.

505.10.2 Top Extension at Stairs. At the top of a stair flight, handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beginning directly above the first riser nosing. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight.

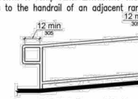

Figure 505.10.1 Top and Bottom Handrail Extension at Ramps

505.10.3 Bottom Extension at Stairs. At the bottom of a stair flight, handrails shall extend at the slope of the stair flight for a horizontal distance at least equal to one tread depth beyond the last riser nosing. Extension shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight.

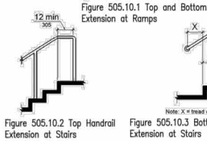

Figure 505.10.2 Top Handrail Extension at Stairs
Figure 505.10.3 Bottom Handrail Extension at Stairs

CHAPTER 6: PLUMBING ELEMENTS & FACILITIES

601 General
601.1 Scope. The provisions of Chapter 6 shall apply where required by Chapter 2 or where referenced by a requirement in this document.

602 Drinking Fountains
602.1 General. Drinking fountains shall comply with 307 and 602.

602.2 Clear Floor Space. Units shall have a clear floor or ground space complying with 305 positioned for a forward approach and centered on the unit. Knee and toe clearance complying with 306 shall be provided.
EXCEPTION: A parallel approach complying with 305 shall be permitted at units for children's use where the spout is 30 inches (760 mm) maximum above the finish floor or ground and is 3 1/2 inches (90 mm) maximum from the front edge of the unit, including bumpers.

602.3 Operable Parts. Operable parts shall comply with 309.

602.4 Spout Height. Spout outlets shall be 36 inches (915 mm) maximum above the finish floor or ground.

602.5 Spout Location. The spout shall be located 15 inches (380 mm) minimum from the vertical support and 5 inches (125 mm) maximum from the front edge of the unit, including bumpers.

602.6 Water Flow. The spout shall provide a flow of water 4 inches (100 mm) high minimum and shall be located 5 inches (125 mm) maximum from the front of the unit. The angle of the water stream shall be measured horizontally relative to the front face of the unit. Where spouts are located less than 3 inches (75 mm) of the front of the unit, the angle of the water stream shall be 30 degrees maximum. Where spouts are located between 3 inches (75 mm) and 5 inches (125 mm) maximum from the front of the unit, the angle of the water stream shall be 15 degrees maximum

Figure 602.5 Drinking Fountain Spout Location

602.7 Drinking Fountains for Standing Persons. Spout outlets of drinking fountains for standing persons shall be 38 inches (965 mm) minimum and 43 inches (1090 mm) maximum above the finish floor or ground.

603 Toilet and Bathing Rooms
603.1 General. Toilet and bathing rooms shall comply with 603.

603.2 Clearances. Clearances shall comply with 603.2.

603.2.1 Turning Space. Turning space complying with 304 shall be provided within the room.

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The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL
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CONTACT COMPANY	DWG POLICE & FIRE
CONTACT PHONE	817-275-1234
ISSUES	
FULL CLIENT REVIEW SET 12/07/22	
FINAL COUNCIL REVIEW 06/19/23	
FINAL PERMIT SET 06/26/23	
ADA REVISION SET 08/04/23	
PRINTED	8/4/2023 1:44:09 PM
DESIGNED	JL
CHECKED	JJK
IBC	2015
IECC	2015
NEC	2017
SCALE	

ADA NOTES & DETAILS

ADA-2

PROJECT 1699

2010 ADA Standards for Accessible Design for Public Accommodations and Commercial Facilities: Title III

CHAPTER 6: PLUMBING ELEMENTS & FACILITIES (CONT.)

603.2.2 Overlap. Required clear floor spaces, clearance at fixtures, and turning space shall be permitted to overlap.

603.2.3 Door Swing. Doors shall not swing into the clear floor space or clearance required for any fixture. Doors shall be permitted to swing into the required turning space.
EXCEPTIONS:
1. Doors to a toilet room or bathing room for a single occupant accessed only through a private office and not for common use or public use shall be permitted to swing into the clear floor space or clearance provided the swing of the door can be reversed to comply with 603.2.3.
2. Where the toilet room or bathing room is for individual use and a clear floor space complying with 305.3 is provided within the room beyond the arc of the door swing, doors shall be permitted to swing into the clear floor space or clearance required for any fixture.

603.3 Mirrors. Mirrors located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 40 inches (1015 mm) maximum above the finish floor or ground. Mirrors not located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 35 inches (890 mm) maximum above the finish floor or ground.

603.4 Coat Hooks and Shelves. Coat hooks shall be located within one of the reach ranges specified in 308. Shelves shall be located 40 inches (1015 mm) minimum and 48 inches (1220 mm) maximum above the finish floor.

604 Water Closets and Toilet Compartments

604.1 General. Water closets and toilet compartments shall comply with 604.2 through 604.8.
EXCEPTION: Water closets and toilet compartments for children's use shall be permitted to comply with 604.9.

604.2 Location. The water closet shall be positioned with a wall or partition to the rear and to one side. The centerline of the water closet shall be 16 inches (405 mm) minimum to 18 inches (455 mm) maximum from the side wall or partition, except that the water closet shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum from the side wall or partition in the ambulatory accessible toilet compartment specified in 604.8.2. Water closets shall be arranged for a left-hand or right-hand approach.

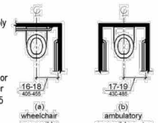

Figure 604.2 Water Closet Location

604.3 Clearance. Clearances around water closets and in toilet compartments shall comply with 604.3.

604.3.1 Size. Clearance around a water closet shall be 60 inches (1525 mm) minimum measured perpendicular from the side wall and 56 inches (1420 mm) minimum measured perpendicular from the rear wall.

604.3.2 Overlap. The required clearance around the water closet shall be permitted to overlap the water closet, associated grab bars, dispensers, sanitary napkin disposal units, coat hooks, shelves, accessible routes, clear floor space and clearances required at other fixtures, and the turning space. No other fixtures or obstructions shall be located within the required water closet clearance.

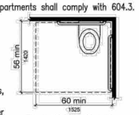

Figure 604.3.1 Size of Clearance at Water Closets

604.4 Seats. The seat height of a water closet above the finish floor shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum measured to the top of the seat. Seats shall not be sprung to return to a lifted position.
EXCEPTIONS:
1. A water closet in a toilet room for a single occupant accessed only through a private office and not for common use or public use shall not be required to comply with 604.4.

604.5 Grab Bars. Grab bars for water closets shall comply with 609. Grab bars shall be provided on the side wall closest to the water closet and on the rear wall.
EXCEPTIONS:
1. Grab bars shall not be required to be installed in a toilet room for a single occupant accessed only through a private office and not for common use or public use provided that reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with 604.5.

3. In detention or correction facilities, grab bars shall not be required to be installed in housing or holding cells that are specially designed without protrusions for purposes of suicide prevention.

604.5.1 Side Wall. The side wall grab bar shall be 42 inches (1065 mm) long minimum, located 12 inches (305 mm) maximum from the rear wall and extending 54 inches (1370 mm) minimum from the rear wall.

604.5.2 Rear Wall. The rear wall grab bar shall be 36 inches (915 mm) long minimum and extend from the centerline of the water closet 12 inches (305 mm) minimum on one side and 24 inches (610 mm) minimum on the other side.
EXCEPTIONS:
1. The rear grab bar shall be permitted to be 24 inches (610 mm) long minimum, centered on the water closet, where wall space does not permit a length of 36 inches (915 mm) minimum due to the location of a recessed fixture adjacent to the water closet.
2. Where an administrative authority requires flush controls for flush valves to be located in a position that conflicts with the location of the rear grab bar, then the rear grab bar shall be permitted to be split or shifted to the open side of the toilet area.

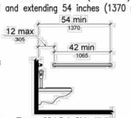

Figure 604.5.1 Side Wall Grab Bar at Water Closets

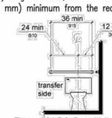

Figure 604.5.2 Rear Wall Grab Bar at Water Closets

604.6 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309. Flush controls shall be located on the open side of the water closet except in ambulatory accessible compartments complying with 604.8.2.

604.7 Dispensers. Toilet paper dispensers shall comply with 309.4 and shall be 7 inches (180 mm) minimum and 9 inches (230 mm) maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be 15 inches (380 mm) minimum and 48 inches (1220 mm) maximum above the finish floor and shall not be located behind grab bars. Dispensers shall not be of a type that controls delivery or that does not allow continuous paper flow.

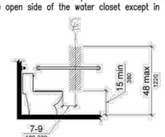

Figure 604.7 Dispenser Outlet Location

604.8 Toilet Compartments. Wheelchair accessible toilet compartments shall meet the requirements of 604.8.1 and 604.8.3. Compartments containing more than one plumbing fixture shall comply with 603. Ambulatory accessible compartments shall comply with 604.8.2 and 604.8.3.

604.8.1 Wheelchair Accessible Compartments. Wheelchair accessible compartments shall comply with 604.8.1.

604.8.1.1 Size. Wheelchair accessible compartments shall be 60 inches (1525 mm) wide minimum measured perpendicular to the side wall, and 56 inches (1420 mm) deep minimum for wall hung water closets and 59 inches (1500 mm) deep minimum for floor mounted water closets measured perpendicular to the rear wall. Wheelchair accessible compartments for children's use shall be 60 inches (1525 mm) wide minimum measured perpendicular to the side wall, and 59 inches (1500 mm) deep minimum for wall hung and floor mounted water closets measured perpendicular to the rear wall.

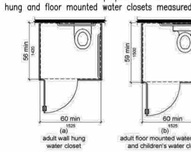

Figure 604.8.1.1 Size of Wheelchair Accessible Toilet Compartment

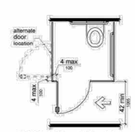

Figure 604.8.1.1 Size of Wheelchair Accessible Toilet Compartment

604.8.1.2 Doors. Toilet compartment doors, including door hardware, shall comply with 404 except that if the approach is to the latch side of the compartment door, clearance between the door side of the compartment and any obstruction shall be 42 inches (1065 mm) minimum. Doors shall be located in the front partition or in the side wall or partition farthest from the water closet. Where located in the front partition, the door opening shall be 4 inches (100 mm) maximum from the side wall or partition farthest from the water closet. Where located in the side wall or partition, the door opening shall be 4 inches (100 mm) maximum from the front partition. The door shall be self-closing. A door pull complying with 404.2.7 shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the minimum required compartment area.

604.8.1.3 Approach. Compartments shall be arranged for left-hand or right-hand approach to the water closet.

604.8.1.4 Toe Clearance. The front partition and at least one side partition shall provide a toe clearance of 9 inches (230 mm) minimum above the finish floor and 6 inches (150 mm) deep minimum beyond the compartment-side face of the partition, exclusive of partition support members. Compartments for children's use shall provide a toe clearance of 12 inches (305 mm) minimum above the finish floor.
EXCEPTION: Toe clearance at the front partition is not required in a compartment greater than 62 inches (1575 mm) deep with a wall-hung water closet or 65 inches (1650 mm) deep with a floor-mounted water closet. Toe clearance at the side partition is not required in a compartment greater than 66 inches (1675 mm) wide. Toe clearance at the front partition is not required in a compartment for children's use that is greater than 65 inches (1650 mm) deep.

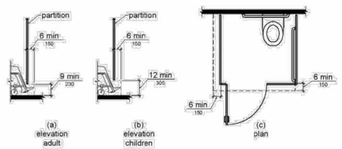

Figure 604.8.1.4 Wheelchair Accessible Toilet Compartment Toe Clearance

604.8.1.5 Grab Bars. Grab bars shall comply with 609. A side-wall grab bar complying with 604.5.1 shall be provided and shall be located on the wall closest to the water closet. In addition, a rear-wall grab bar complying with 604.5.2 shall be provided.

604.8.2 Ambulatory Accessible Compartments. Ambulatory accessible compartments shall comply with 604.8.2.

604.8.2.1 Size. Ambulatory accessible compartments shall have a depth of 60 inches (1525 mm) minimum and a width of 35 inches (890 mm) minimum and 37 inches (940 mm) maximum.

604.8.2.2 Doors. Toilet compartment doors, including door hardware, shall comply with 404, except that if the approach is to the latch side of the compartment door, clearance between the door side of the compartment and any obstruction shall be 42 inches (1065 mm) minimum. The door shall be self-closing. A door pull complying with 404.2.7 shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the minimum required compartment area.

604.8.2.3 Grab Bars. Grab bars shall comply with 609. A side-wall grab bar complying with 604.5.1 shall be provided on both sides of the compartment.

604.8.3 Coat Hooks and Shelves. Coat hooks shall be located within one of the reach ranges specified in 308. Shelves shall be located 40 inches (1015 mm) minimum and 48 inches (1220 mm) maximum above the finish floor.

604.9 Water Closets and Toilet Compartments for Children's Use. Water closets and toilet compartments for children's use shall comply with 604.9

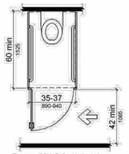

Figure 604.8.2 Ambulatory Accessible Toilet Compartment

Advisory Specifications for Water Closets Serving Children Ages 3 through 12			
	Ages 3 and 4	Ages 5 through 8	Ages 9 through 12
Water Closet Centerline	12 inches	12 to 15 inches	15 to 18 inches
Toilet Seat Height	11 to 12 inches	12 to 15 inches	15 to 17 inches
Grab Bar Height	18 to 20 inches	20 to 25 inches	25 to 27 inches
Dispenser Height	14 inches	14 to 17 inches	17 to 19 inches

604.9.1 Location. The water closet shall be located with a wall or partition to the rear and to one side. The centerline of the water closet shall be 12 inches (305 mm) minimum and 18 inches (455 mm) maximum from the side wall or partition, except that the water closet shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum from the side wall or partition in the ambulatory accessible toilet compartment specified in 604.8.2. Compartments shall be arranged for left-hand or right-hand approach to the water closet.

604.9.2 Clearance. Clearance around a water closet shall comply with 604.3.

604.9.3 Height. The height of water closets shall be 11 inches (280 mm) minimum and 17 inches (430 mm) maximum measured to the top of the seat. Seats shall not be sprung to return to a lifted position.

604.9.4 Grab Bars. Grab bars for water closets shall comply with 604.5.

604.9.5 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309.2 and 309.4 and shall be installed 36 inches (915 mm) maximum above the finish floor. Flush controls shall be located on the open side of the water closet except in ambulatory accessible compartments complying with 604.8.2.

604.9.6 Dispensers. Toilet paper dispensers shall comply with 309.4 and shall be 7 inches (180 mm) minimum and 9 inches (230 mm) maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be 14 inches (355 mm) minimum and 19 inches (485 mm) maximum above the finish floor. There shall be a clearance of 1 1/2 inches (38 mm) minimum below the grab bar. Dispensers shall not be of a type that controls delivery or that does not allow continuous paper flow.

604.9.7 Toilet Compartments. Toilet compartments shall comply with 604.8.

605 Urinals

605.1 General. Urinals shall comply with 605.

605.2 Height and Depth. Urinals shall be the stall-type or the wall-hung type with the rim 17 inches (430 mm) maximum above the finish floor or ground. Urinals shall be 13 1/2 inches (345 mm) deep minimum measured from the outer face of the urinal rim to the back of the fixture.

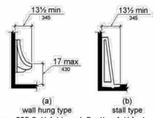

Figure 605.2 Height and Depth of Urinals

605.3 Clear Floor Space. A clear floor or ground space complying with 305 positioned for forward approach shall be provided.

605.4 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309.

606 Lavatories and Sinks
606.1 General. Lavatories and sinks shall comply with 606.

606.2 Clear Floor Space. A clear floor space complying with 305, positioned for a forward approach, and knee and toe clearance complying with 306 shall be provided.
EXCEPTIONS:
1. A parallel approach complying with 305 shall be permitted to a kitchen sink in a space where a cook top or conventional range is not provided and to wet bars.
2. A lavatory in a toilet room or bathing facility for a single occupant accessed only through a private office and not for common use or public use shall not be required to provide knee and toe clearance complying with 306.
3. Residential requirements not included.
4. A knee clearance of 24 inches (610 mm) minimum above the finish floor or ground shall be permitted at lavatories and sinks used primarily by children 6 through 12 years where the rim or counter surface is 31 inches (785 mm) maximum above the finish floor or ground.
5. A parallel approach complying with 305 shall be permitted to lavatories and sinks used primarily by children 5 years and younger.
6. The dip of the overflow shall not be considered in determining knee and toe clearances.
7. No more than one bowl of a multi-bowl sink shall be required to provide knee and toe clearance complying with 306.

606.3 Height. Lavatories and sinks shall be installed with the front of the higher of the rim or counter surface 34 inches (865 mm) maximum above the finish floor or ground.
EXCEPTIONS:
1. A lavatory in a toilet or bathing facility for a single occupant accessed only through a private office and not for common use or public use shall not be required to comply with 606.3.

606.4 Faucets. Controls for faucets shall comply with 309. Hand-operated metering faucets shall remain open for 10 seconds minimum.

606.5 Exposed Pipes and Surfaces. Water supply and drain pipes under lavatories and sinks shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories and sinks.

607 Bathtubs

607.1 General. Bathtubs shall comply with 607.

607.2 Clearance. Clearance in front of bathtubs shall extend the length of the bathtub and shall be 30 inches (760 mm) wide minimum. A lavatory complying with 606 shall be permitted at the control end of the clearance. Where a permanent seat is provided at the head end of the bathtub, the clearance shall extend 12 inches (305 mm) minimum beyond the wall at the head end of the bathtub.

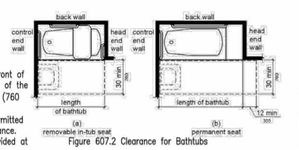

Figure 607.2 Clearance for Bathtubs

607.3 Seat. A permanent seat at the head end of the bathtub or a removable in-tub seat shall be provided. Seats shall comply with 610.

607.4 Grab Bars. Grab bars for bathtubs shall comply with 609 and shall be provided in accordance with 607.4.1 or 607.4.2.
EXCEPTIONS:
1. Grab bars shall not be required to be installed in a bathtub located in a bathing facility for a single occupant accessed only through a private office and not for common use or public use provided that reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with 607.4.

607.4.1 Bathtubs With Permanent Seats. For bathtubs with permanent seats, grab bars shall be provided in accordance with 607.4.1.

607.4.1.1 Back Wall. Two grab bars shall be installed on the back wall, one located in accordance with 609.4 and the other located 8 inches (205 mm) minimum and 10 inches (255 mm) maximum above the rim of the bathtub. Each grab bar shall be installed 15 inches (380 mm) maximum from the head end wall and 12 inches (305 mm) maximum from the control end wall.

607.4.1.2 Control End Wall. A grab bar 24 inches (610 mm) long minimum shall be installed on the control end wall at the front edge of the bathtub.

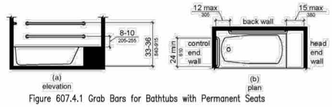

Figure 607.4.1 Grab Bars for Bathtubs with Permanent Seats

607.4.2 Bathtubs Without Permanent Seats. For bathtubs without permanent seats, grab bars shall comply with 607.4.2.

607.4.2.1 Back Wall. Two grab bars shall be installed on the back wall, one located in accordance with 609.4 and other located 8 inches (205 mm) minimum and 10 inches (255 mm) maximum above the rim of the bathtub. Each grab bar shall be 24 inches (610 mm) long minimum and shall be installed 24 inches (610 mm) maximum from the head end wall and 12 inches (305 mm) maximum from the control end wall.

607.4.2.2 Control End Wall. A grab bar 24 inches (610 mm) long minimum shall be installed on the control end wall at the front edge of the bathtub.

607.4.2.3 Head End Wall. A grab bar 12 inches (305 mm) long minimum shall be installed on the head end wall at the front edge of the bathtub.

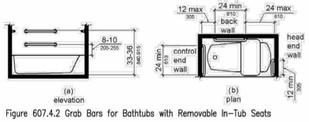

Figure 607.4.2 Grab Bars for Bathtubs with Removable In-Tub Seats

607.5 Controls. Controls, other than drain stoppers, shall be located on an end wall. Controls shall be between the bathtub rim and grab bar, and between the open side of the bathtub and the centerline of the width of the bathtub. Controls shall comply with 309.4.

607.6 Shower Spray Unit and Water. A shower spray unit with a hose 59 inches (1500 mm) long minimum that can be used both as a fixed-position shower head and as a hand-held shower shall be provided. The shower spray unit shall have an on/off control with a non-positive shut-off. If an adjustable-height shower head on a vertical bar is used, the bar shall be installed so as not to obstruct the use of grab bars. Bathtub shower spray units shall deliver water that is 120°F (49°C) maximum.

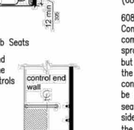

Figure 607.5 Bathtub Control Location

607.7 Bathtub Enclosures. Enclosures for bathtubs shall not obstruct controls, faucets, shower and spray units or obstruct transfer from wheelchairs onto bathtub seats or into bathtubs. Enclosures on bathtubs shall not have tracks installed on the rim of the open face of the bathtub.

608 Shower Compartments

608.1 General. Shower compartments shall comply with 608.

608.2 Size and Clearances for Shower Compartments. Shower compartments shall have sizes and clearances complying with 608.2.

608.2.1 Transfer Type Shower Compartments. Transfer type shower compartments shall be 36 inches (915 mm) by 36 inches (915 mm) clear inside dimensions measured at the center points of opposing sides and shall have a 36 inch (915 mm) wide minimum entry on the face of the shower compartment. Clearance of 36 inches (915 mm) wide minimum by 48 inches (1220 mm) long minimum measured from the control wall shall be provided.

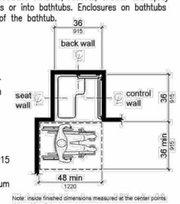

Figure 608.2.1 Transfer Type Shower Compartment Size and Clearance

608.2.2 Standard Roll-In Type Shower Compartments. Standard roll-in type shower compartments shall be 30 inches (760 mm) wide minimum by 60 inches (1525 mm) deep minimum clear inside dimensions measured at center points of opposing sides and shall have a 60 inches (1525 mm) wide minimum entry on the face of the shower compartment.

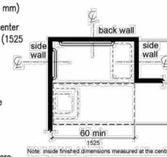

Figure 608.2.2 Standard Roll-In Type Shower Compartment Size and Clearance

608.2.2.1 Clearance. A 30 inch (760 mm) wide minimum by 60 inch (1525 mm) long minimum clearance shall be provided adjacent to the open face of the shower compartment.
EXCEPTION: A lavatory complying with 606 shall be permitted on one 30 inch (760 mm) wide minimum side of the clearance provided that it is not on the side of the clearance adjacent to the controls or, where provided, not on the side of the clearance adjacent to the shower seat.

608.2.3 Alternate Roll-In Type Shower Compartments. Alternate roll-in type shower compartments shall be 36 inches (915 mm) wide and 60 inches (1525 mm) deep minimum clear inside dimensions measured at center points of opposing sides. A 36 inch (915 mm) wide minimum entry shall be provided at one end of the long side of the compartment.

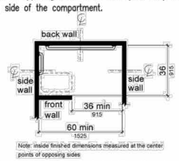

Figure 608.2.3 Alternate Roll-In Type Shower Compartment Size and Clearance

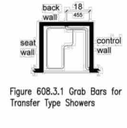

Figure 608.3.1 Grab Bars for Transfer Type Showers

608.3 Grab Bars. Grab bars shall comply with 609 and shall be provided in accordance with 608.3. Where multiple grab bars are used, required horizontal grab bars shall be installed at the same height above the finish floor.
EXCEPTIONS:
1. Grab bars shall not be required to be installed in a shower located in a bathing facility for a single occupant accessed only through a private office, and not for common use or public use provided that reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with 608.3.

608.3.1 Transfer Type Shower Compartments. In transfer type compartments, grab bars shall be provided across the control wall and back wall to a point 18 inches (455 mm) from the control wall.

608.3.2 Standard Roll-In Type Shower Compartments. Where a seat is provided in standard roll-in type shower compartments, grab bars shall be provided on the back wall and the side wall opposite the seat. Grab bars shall not be provided above the seat. Where a seat is not provided in standard roll-in type shower compartments, grab bars shall be provided on three walls. Grab bars shall be installed 6 inches (150 mm) maximum from adjacent walls.

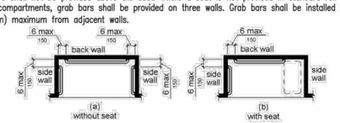

Figure 608.3.2 Grab Bars for Standard Roll-In Type Showers

608.3.3 Alternate Roll-In Type Shower Compartments. In alternate roll-in type shower compartments, grab bars shall be provided on the back wall and the side wall farthest from the compartment entry. Grab bars shall not be provided above the seat. Grab bars shall be installed 6 inches (150 mm) maximum from adjacent walls.

608.4 Seats. A folding or non-folding seat shall be provided in transfer type shower compartments. A folding seat shall be provided in roll-in type showers required in transient lodging guest rooms with mobility features complying with 806.2. Seats shall comply with 610.

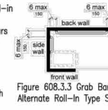

Figure 608.3.3 Grab Bars for Alternate Roll-In Type Showers

608.5 Controls. Controls, faucets, and shower spray units shall comply with 309.4.

608.5.1 Transfer Type Shower Compartments. In transfer type shower compartments, the controls, faucets, and shower spray unit shall be installed on the side wall opposite the seat 38 inches (965 mm) minimum and 48 inches (1220 mm) maximum above the shower floor and shall be located on the control wall 15 inches (380 mm) maximum from the centerline of the seat toward the shower opening.

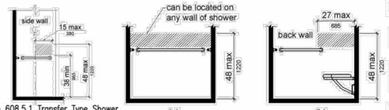

Figure 608.5.1 Transfer Type Shower Compartment Control Location

Figure 608.5.2 Standard Roll-In Type Shower Compartment Control Location

608.5.2 Standard Roll-In Type Shower Compartments. In standard roll-in type shower compartments, the controls, faucets, and shower spray unit shall be located above the grab bar, but no higher than 48 inches (1220 mm) above the shower floor. Where a seat is provided, the controls, faucets, and shower spray unit shall be installed on the back wall adjacent to the seat wall and shall be located 27 inches (685 mm) maximum from the seat wall.

608.5.3 Alternate Roll-In Type Shower Compartments. In alternate roll-in type shower compartments, the controls, faucets, and shower spray unit shall be located above the grab bar, but no higher than 48 inches (1220 mm) above the shower floor. Where a seat is provided, the controls, faucets, and shower spray unit shall be located on the side wall adjacent to the seat 27 inches (685 mm) maximum from the side wall behind the seat or shall be located on the back wall opposite the seat 15 inches (380 mm) maximum, left or right, of the centerline of the seat. Where a seat is not provided, the controls, faucets, and shower spray unit shall be installed on the side wall farthest from the compartment entry.

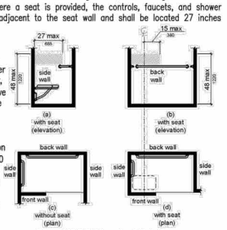

Figure 608.5.3 Alternate Roll-In Type Shower Compartment Control Location

608.6 Shower Spray Unit and Water. A shower spray unit with a hose 59 inches (1500 mm) long minimum that can be used both as a fixed-position shower head and as a hand-held shower shall be provided. The shower spray unit shall have an on/off control with a non-positive shut-off. If an adjustable-height shower head on a vertical bar is used, the bar shall be installed so as not to obstruct the use of grab bars. Shower spray units shall deliver water that is 120°F (49°C) maximum.
EXCEPTION: A fixed shower head located at 48 inches (1220 mm) maximum above the shower finish floor shall be permitted instead of a hand-held spray unit in facilities that are not medical care facilities, long-term care facilities, transient lodging guest rooms, or residential dwelling units.

608.7 Thresholds. Thresholds in roll-in type shower compartments shall be 1/2 inch (13 mm) high maximum in accordance with 303. In transfer type shower compartments, thresholds 1/2 inch (13 mm) high maximum shall be beveled, rounded, or vertical.
EXCEPTION: A threshold 2 inches (51 mm) high maximum shall be permitted in transfer type shower compartments in existing facilities where provision of a 1/2 inch (13 mm) high threshold would disturb the structural reinforcement of the floor slab.

608.8 Shower Enclosures. Enclosures for shower compartments shall not obstruct controls, faucets, and shower spray units or obstruct transfer from wheelchairs onto shower seats.

609 Grab Bars
609.1 General. Grab bars in toilet facilities and bathing facilities shall comply with 609.

609.2 Cross Section. Grab bars shall have a cross section complying with 609.2.1 or 609.2.2.

609.2.1 Circular Cross Section. Grab bars with circular cross sections shall have an outside diameter of 1 1/4 inches (32 mm) minimum and 2 inches (51 mm) maximum.

609.2.2 Non-Circular Cross Section. Grab bars with non-circular cross sections shall have a cross-section dimension of 2 inches (51 mm) maximum and a perimeter dimension of 4 inches (100 mm) minimum and 4.8 inches (120 mm) maximum.

609.3 Spacing. The space between the wall and the grab bar shall be 1 1/2 inches (38 mm). The space between the grab bar and projecting objects below and at the ends shall be 1 1/2 inches (38 mm) minimum. The space between the grab bar and projecting objects above shall be 12 inches (305 mm) minimum.

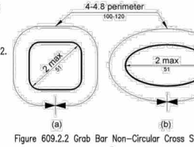

Figure 609.2.2 Grab Bar Non-Circular Cross Section

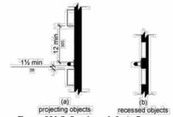

Figure 609.3 Spacing of Grab Bars

EXCEPTION: The space between the grab bars and shower controls, shower fittings, and other grab bars above shall be permitted to be 1 1/2 inches (38 mm) minimum.

609.4 Position of Grab Bars. Grab bars shall be installed in a horizontal position, 33 inches (840 mm) minimum and 36 inches (915 mm) maximum above the finish floor measured to the top of the gripping surface, except that at water closets for children's use complying with 604.9, grab bars shall be installed in a horizontal position 18 inches (455 mm) minimum and 27 inches (685 mm) maximum above the finish floor measured to the top of the gripping surface. The height of the lower grab bar on the back wall of a bathtub shall comply with 607.4.1.1 or 607.4.2.1.

609.5 Surface Hazards. Grab bars and any wall or other surfaces adjacent to grab bars shall be free of sharp or abrasive elements and shall have rounded edges.
609.6 Fittings. Grab bars shall not rotate within their fittings.
609.7 Installation. Grab bars shall be installed in any manner that provides a gripping surface at the specified locations and that does not obstruct the required clear floor space.

609.8 Structural Strength. Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 pounds (1112 N) is applied at any point on the grab bar, fastener, mounting device, or supporting structure.

610 Seats

610.1 General. Seats in bathtubs and shower compartments shall comply with 610.
610.2 Bathtub Seats. The top of bathtub seats shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the bathroom finish floor. The depth of a removable in-tub seat shall be 15 inches (380 mm) minimum and 16 inches (405 mm) maximum. The seat shall be capable of secure placement. Permanent seats at the head end of the bathtub shall be 15 inches (380 mm) deep minimum and shall extend from the back wall to or beyond the outer edge of the bathtub.

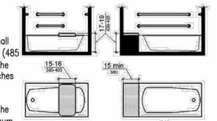

Figure 610.2 Bathtub Seats

610.3 Shower Compartment Seats. Where a seat is provided in a standard roll-in shower compartment, it shall be a folding type, shall be installed on the side wall adjacent to the controls, and shall extend from the back wall to a point within 3 inches (75 mm) of the compartment entry. Where a seat is provided in an alternate roll-in type shower compartment, it shall be a folding type, shall be installed on the front wall opposite the back wall, and shall extend from the adjacent side wall to a point within 3 inches (75 mm) of the compartment entry. In transfer-type showers, the seat shall extend from the back wall to a point within 3 inches (75 mm) of the compartment entry. The top of the seat shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the bathroom finish floor. Seats shall comply with 610.3.1 or 610.3.2.

610.3.1 Rectangular Seats. The rear edge of a rectangular seat shall be 2 1/2 inches (64 mm) maximum and the front edge 15 inches (380 mm) minimum and 16 inches (405 mm) maximum from the seat wall. The side edge of the seat shall be 1 1/2 inches (38 mm) maximum from the adjacent wall.

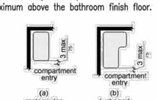

Figure 610.3 Extent of Seat

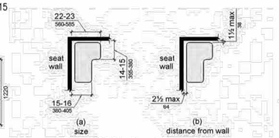

Figure 610.3.1 Rectangular Shower Seat

Figure 610.3.2 L-Shaped Shower Seat

610.3.2 L-Shaped Seats. The rear edge of an L-shaped seat shall be 2 1/2 inches (64 mm) maximum and the front edge 15 inches (380 mm) minimum and 16 inches (405 mm) maximum from the seat wall. The rear edge of the "L" portion of the seat shall be 1 1/2 inches (38 mm) maximum from the wall and the front edge shall be 14 inches (355 mm) minimum and 15 inches (380 mm) maximum from the wall. The end of the "L" shall be 22 inches (560 mm) minimum and 23 inches maximum (585 mm) from the main seat wall.

610.4 Structural Strength. Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 pounds (1112 N) is applied at any point on the seat, fastener, mounting device, or supporting structure.

611 Washing Machines and Clothes Dryers

611.1 General. Washing machines and clothes dryers shall comply with 611.

611.2 Clear Floor Space. A clear floor or ground space complying with 305 positioned for parallel approach shall be provided. The clear floor or ground space shall be centered on the appliance.

611.3 Operable Parts. Operable parts, including doors, lint screens, and detergent and bleach compartments shall comply with 309.

611.4 Height. Top loading machines shall have the door to the laundry compartment located 36 inches (915 mm) maximum above the finish floor. Front loading machines shall have the bottom of the opening to the laundry compartment located 15 inches (380 mm) minimum and 36 inches (915 mm) maximum above the finish floor.

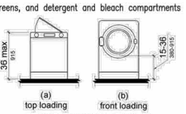

Figure 611.4 Height of Laundry Compartment Opening

612 Saunas and Steam Rooms

612.1 General. Saunas and steam rooms shall comply with 612.

612.2 Bench. Where seating is provided in saunas and steam rooms, at least one bench shall comply with 903. Doors shall not swing into the clear floor space required by 903.2.
EXCEPTION: A readily removable bench shall be permitted to obstruct the turning space required by 612.3 and the clear floor or ground space required by 903.2.

612.3 Turning Space. A turning space complying with 304 shall be provided within saunas and steam rooms.

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PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL

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DALWORTHINGTON GARDENS, TEXAS 76016

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CONTACT COMPANY	DWG POLICE & FIRE
CONTACT PHONE	817-275-1234
ISSUES	
FULL CLIENT REVIEW SET 12/07/22	
FINAL COUNCIL REVIEW 06/19/23	
FINAL PERMIT SET 06/26/23	
ADA REVISION SET 08/04/23	
PRINTED	8/4/2023 1:44:10 PM
DESIGNED	JL
CHECKED	JJK
IBC	2015
IECC	2015
NEC	2017
SCALE	

ADA NOTES & DETAILS

ADA-3

PROJECT 1699

NOTES TO MECHANICAL CONTRACTOR

I. HVAC GENERAL REQUIREMENTS

A. GENERAL CONDITIONS
ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CONDITIONS OF THE BID PROPOSAL AND THE AMERICAN INSTITUTE OF ARCHITECTS.

B. CODES
ALL WORK SHALL BE IN ACCORDANCE WITH THE RULES AND REGULATIONS OF LOCAL CODES AND ORDINANCES AND OTHER AUTHORITIES HAVING JURISDICTION (AHJ). ALL REQUIRED PERMITS AND CERTIFICATES OF INSPECTION SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR AND PERTINENT CERTIFICATES SHALL BE DELIVERED TO THE OWNER'S REPRESENTATIVE BEFORE FINAL ACCEPTANCE.

C. INSPECTION OF SITE
THE CONTRACTOR SHALL VISIT THE PREMISES OF HIS PROPOSED WORK AND SHALL CAREFULLY EXAMINE THE EXISTING CONDITIONS AND LIMITATIONS THEREOF. VERIFICATION SHALL BE MADE AS TO THE ACTUAL LOCATIONS WHERE NEW DUCT RUNS AND PIPE RUNS WILL TIE IN TO STRUCTURAL MEMBERS. THE DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL DUCTWORK AND EQUIPMENT AND INDICATE REQUIRED SIZE AND POINTS OF TERMINATION OF DUCTS AND PIPES AND SUGGEST ROUTES OF DUCTS AND PIPES. HOWEVER, IT IS NOT THE INTENTION OF THE DRAWINGS TO SHOW ALL NECESSARY OFFSETS, OBSTRUCTIONS OR STRUCTURAL CONDITIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL HIS WORK IN SUCH A MANNER THAT IT WILL CONFORM TO THE STRUCTURE, AVOID OBSTRUCTION, PRESERVE HEADROOM AND KEEP OPENING AND PASSAGEWAYS CLEAR WITHOUT FURTHER INSTRUCTIONS OR COST.

D. SHOP DRAWINGS AND SAMPLE SUBMITTALS
SUBMIT "SHOP DRAWINGS" AND "SAMPLES" FOR APPROVAL. SHOP DRAWINGS SUBMITTAL SHALL INCLUDE DIMENSIONS, THICKNESS, PROFILES, TYPE OF MATERIAL, METHOD OF FASTENING, RELATION TO ADJACENT WORK AND ALL OTHER NECESSARY DETAILS TO FULLY DESCRIBE THE ITEM SUBMITTED. SHEET METAL SHOP DRAWINGS SHALL BE DRAWN TO 3/8" SCALE. ALL SHOP DRAWINGS AND CUTS WILL BE REVIEWED FOR ALL DESIGN APPEARANCE ONLY. THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR ERRORS ON THEIR DRAWINGS. IF THE CONTRACTOR PROPOSES TO SUBSTITUTE WORK HE MUST ADHERE TO THE INTENT THAT MATERIALS TO BE SUBSTITUTED MUST BE OF GREATER QUALITY AND THAT THE ENGINEER APPROVES THE SUBSTITUTIONS. CHANGES IN MECHANICAL EQUIPMENT, DUCTWORK OR ELECTRICAL EQUIPMENT TO SUIT THE SUBSTITUTION SHALL BE MADE WITH NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL SUBMIT THREE (3) COPIES EACH OF SHOP DRAWINGS FOR ALL EQUIPMENT AND MATERIAL INDICATED ON THE DRAWING. SHOP DRAWINGS SHALL BE SUBMITTED WITH COMPLETE BROCHURES GIVING NAMES OF MANUFACTURERS AND CATALOG FIGURE NUMBERS, TRADE NAMES, TECHNICAL DATE, PERFORMANCE DATA AND REQUESTED INFORMATION OF EACH ITEM TO BE FURNISHED. SUBMITTAL DATA SHALL BE REFERRED TO THE SECTION AND PARAGRAPH NUMBERS OF THE SPECIFICATIONS AND TO FIXTURE AND EQUIPMENT NUMBERS LISTED OR SHOWN ON THE DRAWINGS.

E. SYSTEM BALANCING
HVAC SYSTEM TO BE BALANCED BY TDLR CERTIFIED MECHANICAL CONTRACTOR.

F. OPERATING INSTRUCTIONS
THREE SETS OF OPERATING INSTRUCTIONS AND RECOMMENDED MAINTENANCE PROCEDURES FOR THE HVAC SYSTEMS SHALL BE DELIVERED TO THE OWNER BEFORE FINAL COMPLETION OF HIS WORK. AT THE COMPLETION OF THE JOB, THE CONTRACTOR SHALL DELIVER TO THE DESIGNER A COMPLETE SET OF DRAWINGS AS TO EXACT LOCATION AND SIZES OF ALL EQUIPMENT AND DUCTWORK INSTALLED.

G. AS-BUILT DRAWINGS
THE HVAC CONTRACTOR SHALL PROVIDE AT HIS COST A SET OF "AS-BUILT" DRAWINGS. ALL CHANGES SHALL BE CORRECTED ON THE "AS-BUILT DRAWINGS". IF NO CHANGES WERE MADE IN THE INSTALLATION, THE DRAWINGS SHALL BE STAMPED "AS BUILT DRAWINGS" WITH THE DATE AND THE CONTRACTOR'S SIGNATURE. TWO PRINTS AND TWO SEPIAS SHALL BE DELIVERED TO THE OWNER.

H. CLEANING
UPON COMPLETION OF HIS WORK AND PERIODICALLY DURING CONSTRUCTION THE CONTRACTOR SHALL REMOVE ALL RUBBISH AND EXCESS MATERIAL ACCUMULATED AS A RESULT OF HIS OPERATION; ALL EQUIPMENT INSTALLED UNDER THIS CONTRACT SHALL BE THOROUGHLY CLEAN OF DUST AND DEBRIS BEFORE FINAL ACCEPTANCE BY THE OWNER.

I. ACCESS
LEAVE WORK READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR. PROVIDE ACCESS DOORS IN DUCTWORK AS REQUIRED.

J. CUTTING AND PATCHING
ALL CUTTING THROUGH THE WALLS REQUIRED FOR OR IN CONNECTION WITH THE HVAC SYSTEMS SHALL BE BY THIS CONTRACTOR. PATCHING SHALL BE BY THE GENERAL CONTRACTOR.

K. SUPERVISION
MAINTAIN A FIELD REPRESENTATIVE ON THE PREMISES AT ALL TIMES DURING THE COURSE OF THE CONSTRUCTION WORK.

L. VIBRATION CONTROL
FREEDOM FROM VIBRATION AND NOISE IS ESSENTIAL. TAKE PARTICULAR CARE IN INSTALLING VIBRATION ISOLATION MOUNTS AND HANGERS IN ACCORDANCE WITH VIBRATION MANUFACTURERS' REQUIREMENTS SO THAT VIBRATION FROM OPERATING EQUIPMENT IS NOT TRANSMITTED TO THE STRUCTURE OR OTHER WORK.

M. SMOKE DETECTORS
PROVIDE SMOKE DETECTORS IN THE DISCHARGE DUCT FROM A.C. UNITS 2000 CFM AND GREATER. SMOKE DETECTORS SHALL SHUT DOWN FANS. WIRING OF SMOKE DETECTORS SHALL BE BY FIRE ALARM INSTALLER.

N. GUARANTEES
ALL WORK DONE AND EQUIPMENT FURNISHED UNDER THE HVAC CONTRACT SHALL BE GUARANTEED FREE FROM MECHANICAL OR ELECTRICAL DEFECTS FOR A PERIOD OF A MINIMUM OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE OF THE WORK. THE GUARANTEE SHALL BE IN WRITING.

2. SCOPE OF WORK

PROVIDE MATERIALS, LABOR, EQUIPMENT AND SERVICES FOR THE PROPER INSTALLATION AND OPERATION OF THE FOLLOWING, BUT NOT LIMITED TO:

A. ALL ROOF TOP PACKAGE UNITS, SPLIT SYSTEMS AND UNIT HEATER SYSTEMS.

B. DUCTWORK AND ALL ACCESSORIES

C. VIBRATION CONTROL DEVICES AS NECESSARY.

D. DUCT INSULATION ON ALL DUCTWORK AS SPECIFIED BELOW OR WHERE SHOWN ON DRAWINGS.

E. FANS AND CONTROLS, (ALL POWER WIRING TO BE INSTALLED BY ELECTRICAL CONTRACTOR)

F. AUTOMATIC CONTROLS (TO BE WIRED BY ELECTRICAL CONTRACTOR).

G. IDENTIFICATION TAGS ON ALL ROOFTOP EQUIPMENT.

3. DUCTWORK

A. METAL DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED STEEL PER ASHRAE GUIDE (LATEST EDITION). DUCT JOINTS SHALL BE SEALED AIRTIGHT WITH APPROVED TYPE CAULKING SEALANT. INSTALL DUCTWORK PER LOCAL CODE. SUBMIT SHOP FABRICATION DETAILS FOR APPROVAL.

B. SEE THIS SHEET FOR SPECIFICATIONS ON FLEXIBLE DUCTING. REFER TO HVAC PLAN FOR DESIGN SPECIFICATIONS.

C. DUCT SIZES ARE NET INSIDE DIMENSIONS OF SHEET METAL AND/OR ACOUSTIC LINING. ACOUSTICAL LINED DUCTS TO BE 2" LARGER IN EACH DIMENSION.

D. PROVIDE A FLEXIBLE COLLAR CONNECTION AT THE INLET AND OUTLET CONNECTION OF EACH AIR HANDLING UNIT CONNECTED TO DUCTWORK.

E. PROVIDE BALANCING DAMPER ON EACH AIR OUTLET AT TAP AS NECESSARY

4. ACOUSTIC LINING

A. WHERE INSTALLED, ACOUSTIC LINING SHALL BE ½", 1½" LB. DENSITIES, FIBROUS GLASS DUCT LINING MEETING THE REQUIREMENTS OF NFPA 90A. LINER SHALL BE ADHERED TO ALL INTERIOR SIDES OF DUCT WITH MINIMUM 100% COVERAGE OF FIRE-RETARDING ADHESIVE SIMILAR TO BENJAMIN FOSTER AND WITH WELD PINS AND WASHERS OR EQUIVALENT MECHANICAL FASTENING ON NOT MORE THAN 16" CENTERS AT TOP SECTION AND ON SIDES (WHEN HEIGHT EXCEEDS 12"), NEOPRENE COATED SURFACE SHALL BE TOWARD AIR STREAM. BEFORE INSTALLING LINER, CAULK ALL BUTTING EDGES. FINAL EDGES OF LINING SHALL BE INSTALLED WITH SHEET METAL NOSINGS.

B. LINE DUCTWORK FOR A MINIMUM DISTANCE OF 15 FEET FOR EACH AIR HANDLING UNIT. SEE DRAWING FOR ADDITIONAL LINING REQUIREMENTS.

5. DUCT INSULATION

A. ALL DUCTS LOCATED IN CONDITIONED OR UNCONDITIONED PLENUM SPACES SHALL REQUIRE INSULATION COVERING PER ADOPTED IMC EXCEPT WHERE NOTED ON DRAWINGS.

6. SHOP DRAWINGS

A. FURNISH THREE (3) OF EACH, BUT NOT LIMITED TO: ALL MATERIALS AND EQUIPMENT LISTED UNDER SCOPE OF WORK INCLUDING ELECTRIC DIAGRAMS.

7. AIR CONDITIONING SYSTEMS

A. HVAC ROOFTOP OR SPLIT SYSTEMS SHALL BE MANUFACTURED BY LENNOX OR OTHER APPROVED MANUFACTURER. AS APPLIICABLE.

B. REFER TO EQUIPMENT SCHEDULES FOR EQUIPMENT REQUIREMENT AND OPTIONAL EQUIPMENT.

8. ELECTRICAL

A. ALL POWER AND CONTROL WIRING SHALL BE INSTALLED BY THE ELECTRICAL CONTRACTOR UNDER HIS CONTRACT. THE ELECTRICAL CONTRACTOR SHALL INSTALL ALL CONTROLS, TRANSFORMERS, STARTERS AND DISCONNECT SWITCHES.

B. WHERE THE MECHANICAL CONTROLS REQUIRE OTHER THAN 120 VOLTS, THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL REQUIRED CONTROL POWER TRANSFORMERS. (PROVIDED BY MECHANICAL CONTRACTOR)

9. FUEL AND ELECTRIC POWER SHUTOFF FOR COOKING HOODS - USE OF SHUNT TRIP BREAKERS

A. NFPA 96 10.4.1 UPON ACTIVATION OF ANY FIRE-EXTINGUISHING SYSTEM FOR A COOKING OPERATION, ALL SOURCES OF FUEL AND ELECTRICAL POWER THAT PRODUCE HEAT TO ALL EQUIPMENT REQUIRING PROTECTION BY THAT SYSTEM SHALL AUTOMATICALLY SHUT OFF. (INSTALLATION OF SHUNT TRIP BREAKERS IS A STANDARD SOLUTION)

B. NFPA 96 10.4.3 ANY GAS APPLIANCE NOT REQUIRING PROTECTION BUT LOCATED UNDER VENTILATING EQUIPMENT WHERE PROTECTED APPLIANCES ARE LOCATED SHALL BE AUTOMATICALLY SHUT OFF UPON ACTIVATION OF THE EXTINGUISHING SYSTEM. (INSTALLATION OF SHUNT TRIP BREAKERS IS A STANDARD SOLUTION)

C. NFPA 96 10.4.4 SHUTOFF DEVICES SHALL REQUIRE A MANUAL RESET.

10. EQUIPMENT IDENTIFICATION

PROVIDE EQUIPMENT IDENTIFICATION LABELS ON ALL MECHANICAL EQUIPMENT. LABELING MUST LEGIBLY DISPLAY ALL REQUIRED MECHANICAL DEVICE INFORMATION PER IMC 301.9.

11. FLEXIBLE DUCT

A. FLEXIBLE DUCT SHALL BE A FACTORY FABRICATED ASSEMBLY CONSISTING OF AN INNER SLEEVE, INSULATION AND AN OUTER MOISTURE BARRIER. THE INNER SLEEVE SHALL PROVIDE AN AIR SEAL AND SHALL BE CONSTRUCTED OF AN ELASTOMERIC COMPOUND REINFORCED WITH WOVEN FIBERGLASS BONDED PERMANTLY TO A VINYL COATED SPRING STEEL WIRE SUPPORTING HELIX. A THICK INSULATING BLANKET OF FIBERGLASS, PROVIDING A THERMAL CONDUCTANCE (C FACTOR) OF 0.23 BTU/HR./SQ. FT./ DEGREES F. AT 75 DEGREES FAHRENHEIT SHALL ENCASE THE INNER SLEEVE AND BE SHEATHED WITH AN OUTER MOISTURE BARRIER OF A REINFORCED METALIZED MYLAR/NEOPRENE LAMINATED OF LOW PERMEABILITY WITH INTEGRAL ATTACHING DEVICES (GROMMETS) FOR A SUSPENSION SYSTEM AS LISTED BY UNDERWRITERS' LABORATORIES, INC. UNDER THEIR UL-181 STANDARDS AS A CLASS 1 AIR DUCT AND SHALL COMPLY WITH NFPA STANDARD 90A. THE FLEXIBLE DUCT SHALL BE EQUAL TO THERMAFLEX M-KE.
B. FLEXIBLE DUCT CONNECTIONS TO BRANCH OF PLENUM DUCTS AIR TERMINAL DEVICES SHALL BE FACTORY FABRICATED BELL-MOUTH CONNECTOR WITH A MINIMUN ½" BELL-MOUTH RADIUS. THE CONNECTOR SHALL BE EQUAL TO THERMALAIR TYPE T TWIST-IN WITH VOLUME DAMPER AT PLENUM LOCATION. ALL DUCTWORK MUST MEET SMACNA LOW VELOCITY DUCT STANDARDS.

FLEX DUCT INSTALLATION BEST PRACTICE REQUIREMENTS

- PULL TAUGHT AND FULLY EXTEND FLEX DUCT PRIOR TO INSTALLATION
- DO NOT INSTALL IN COMPRESSED STATE
- USE MINIMUM LENGTH OF FLEX DUCT TO MAKE CONNECTIONS
- EXCESS LENGTH SHALL NOT BE INSTALLED TO ALLOW FOR POSSIBLE FUTURE RELOCATIONS OF AIR TERMINAL DEVICES. CUT OFF EXCESS LENGTHS OF FLEX DUCT PRIOR TO MAKING CONNECTION.
- PREVENT SAG (LESS THAN 2" OF SAG PER 48") BY SUPPORTING DUCT DIRECTLY ON BUILDING STRUCTURE OR WITH WOVEN VINYL SUPPORT STRAPS EVERY 48" MAX.
- DUCT TO EXTEND STRAIGHT FOR AT LEAST 1 DUCT DIAMETER BEFORE MAKING A BEND.
- THE BEND RADIUS AT THE CENTER LINE OF DUCTS SHALL BE EQUAL TO OR GREATER THAN ONE DUCT DIAMETER (e.g. - 18"Ø DUCT REQUIRES MINIMUM 18" RADIUS ON TURNS)
- NEVER BEND FLEX DUCT BACK OVER ITSELF IN A U-TURN SHAPE
- PREVENT KINKS AND MINIMIZE "SNAKING" AND TURNS. DUCTS SHALL NOT BE CRIMPED AGAINST JOIST OR TRUSS MEMBERS, PIPES, WIRES, ETC.
- AVOID INCIDENTAL CONTACT WITH METAL FIXTURES, WATER LINES, PIPES, OR CONDUITS.
- REPAIR TORN OR DAMAGED VAPOR BARRIER/JACKET WITH UL 181B DUCT TAPE. IF INTERNAL CORE IS PENETRATED, REPLACE FLEXIBLE DUCT OR TREAT AS A CONNECTION.
- ALL MASTICS, TAPES AND NONMETALLIC CLAMPS USED SHALL BE PRINTED WITH THE UL-LISTED MARK 181B.
- INSULATION IN UNCONDITIONED SPACE MINIMUM R-6
- AIR TERMINAL DEVICES ARE TO BE SUPPORTED INDEPENDENTLY OF FLEX DUCT

FLEX DUCT SEALING INSTRUCTIONS
- SEAL TO SMACNA CLASS A
- SHEET METAL FITTING TO HAVE BEADS OR LANCES
1. APPLY UL 181B MASTIC OVER SHEET METAL FITTING AND BEADS/LANCES.
2. PULL BACK FLEX DUCT JACKET AND INSULATION.
3. STRETCH INNER LINING OVER FITTING'S MASTIC WITH 1½" OVERLAP
4. SECURE INNER LINING WITH DRAW BAND
5. COVER DRAW BAND WITH ADDITIONAL MASTIC
6. PULL JACKET AND INSULATION TO COMPLETELY COVER INNER LINING AND FITTING BY 1½"
7. FASTEN DRAW BAND AROUND JACKET. DRAW BAND TO BE LOCATED ON THE SHEET METAL SIDE OF THE DRAW BAND FROM STEP 4

NOTE: BID INTENT

THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.

NOTES TO ELECTRICAL CONTRACTOR

1. THESE PLANS ARE SCHEMATIC. VERIFY EQUIPMENT LOCATION, CONDUIT ROUTING, ETC. PRIOR TO BID.
2. ALL ELECTRICAL WORK IS REQUIRED TO BE PERFORMED BY A CERTIFIED ELECTRICAL CONTRACTOR. ALL WIRING, EQUIPMENT, DEVICES AND INSTALLATIONS SHALL CONFORM TO ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES.
3. PROVIDE ALL WIRING, CONDUIT, LABOR AND MATERIALS NOT SHOWN ON PLAN, BUT NECESSARY FOR COMPLETE AND PROPER OPERATION OF THE ELECTRICAL SYSTEM.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES AND PERMITS AS NECESSARY TO COMPLETE THIS JOB THROUGH CITY OCCUPANCY APPROVAL. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO ENSURE A COMPLETE WORKING AND CODE COMPLIANT SYSTEM.
5. ALL ELECTRICAL WORK MUST COMPLY WITH THE REQUIREMENTS OF NFPA 70 (NATIONAL ELECTRICAL CODE), NFPA 70B, NFPA 70E, IECC, OSHA IN ADDITION TO OTHER REFERENCES REQUIRED BY CONTRACT.
6. INSTALLATION OF SWITCHES, OUTLETS, AND CONTROL DEVICES SHALL COMPLY WITH LOCAL CODES AND STATE ADA REQUIREMENTS.
7. COORDINATE FINAL LOCATIONS OF ALL NON-GENERAL OUTLETS AND LIGHT FIXTURES WITH OWNER OR ARCHITECT.
8. REFER TO MECHANICAL AND PLUMBING SHEETS FOR EXACT LOCATION OF ALL MECHANICAL AND PLUMBING EQUIPMENT. PROVIDE ALL LABOR AND MATERIALS REQUIRED TO CONNECT ELECTRICAL POWER TO ALL MECHANICAL AND PLUMBING EQUIPMENT.
9. ALL ELECTRICAL EQUIPMENT, DEVICES, AND CIRCUITS SHALL CONTAIN A GROUNDING CONDUCTOR. CONDUIT SYSTEM SHALL NOT BE USED AS GROUNDING NETWORK. ALL GROUNDING SHALL BE IN STRICT COMPLIANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
10. COORDINATE LOCATION AND VERIFY REQUIREMENTS OF ALL EXTERIOR EQUIPMENT AND METER BASE WITH OWNER AND UTILITY COMPANY.
11. ALL PANELBOARDS, DISCONNECT SWITCHES, AND OTHER ELECTRICAL DEVICES AND EQUIPMENT SHALL HAVE ENGRAVED NAMEPLATES INDICATING EQUIPMENT IDENTIFICATION TAG AND VOLTAGE, AS WELL AS WHERE DEVICE IS FED FROM. ALL SWITCHBOARDS AND PANELBOARDS SHALL HAVE TYPED DIRECTORIES INDICATING DISTRIBUTION AND BRANCH CIRCUIT FEEDERS.
12. CONTRACTOR IS RESPONSIBLE FOR NATIONAL ELECTRICAL CODE REQUIRED CLEARANCES AROUND AND ABOVE ALL ELECTRICAL EQUIPMENT AND DEVICES.
13. SHORT CIRCUIT AMPERE INTERRUPTING CAPACITY (A.I.C) RATING OF ALL ELECTRICAL PRODUCTS SHALL BE GREATER THAN THE MAXIMUM AVAILABLE SHORT CIRCUIT CURRENT.
14. DO NOT RUN RACEWAYS ON BUILDING EXTERIOR WALLS.
15. WIRE AND CONDUIT SIZES SHALL BE INSTALLED AND SIZED TO COMPENSATE FOR VOLTAGE DROP PER THE NATIONAL ELECTRICAL CODE.
16. FLEXIBLE CONDUIT MAY BE USED ONLY FOR FINAL CONNECTION TO EQUIPMENT (MAXIMUM LENGTH 6'-0").
17. ALL CONDUCTORS TO BE THWN, THHN.
18. ALL CONDUCTORS SHALL BE 98% COPPER UNLESS NOTED OTHERWISE. ALUMINUM CONDUCTORS ALLOWED ONLY WITH UNDERSIGNED ENGINEER'S AND AHJ ACCEPTANCE.
19. ALL ELECTRICAL WIRING, VOICE/COMMUNICATION WIRING, AND COAXIAL CABLES SHALL BE INSTALLED IN CONDUIT, WIRE WAY OR OTHER PROTECTIVE COVER AS REQUIRED TO COMPLY WITH GOVERNING CODE.
20. WALL RECEPTACLE CONDUIT SHALL RUN VERTICALLY TO JUNCTION BOX ABOVE CEILING AND NOT HORIZONTALLY THROUGH STUD WALLS, IN ORDER TO FACILITATE FUTURE ACCESS.
21. CONDUCTORS IN UNINSULATED CEILING SPACE AND OUTDOORS SHALL BE DERATED USING A 122 DEGREE (FAHRENHEIT) TEMPERATURE. CONTRACTOR IS RESPONSIBLE FOR REVISING CONDUCTOR SIZES BASED ON CONDUIT RATING.
22. ALL OUTDOOR EQUIPMENT SHALL BE WEATHER PROTECTED, NEMA 3R UNLESS OTHERWISE NOTED.
23. CONTRACTOR SHALL PROVIDE FIRE PROOFING FOR ANY PIPES OR CONDUITS THAT PENETRATE THROUGH ANY FIRE/SMOKE RATED FLOORS, WALLS, CEILINGS, ROOFS, OR RUNS INSIDE OF CHASES. FIRE PROOFING METHODS AND MATERIALS SHALL BE AS REQUIRED TO MAINTAIN FIRE/SMOKE RATING OF PARTITION.
24. IF A PROTECTIVE DEVICE RATING IS MARKED ON AN APPLIANCE OR EQUIPMENT, THE BRANCH-CIRCUIT OVERCURRENT DEVICE RATING SHALL NOT EXCEED THE PROTECTIVE DEVICE RATING MARKED ON THE APPLIANCE OR EQUIPMENT.
25. ALL NIGHT LIGHTS AND EXIT LIGHTS ARE UNSWITCHED.
26. ALL SWITCHES SHALL BE 3" AWAY FROM DOOR TRIM. ALL OCCUPANCY SENSORS SHALL BE PASSIVE INFRARED AND ULTRASONIC TECHNOLOGY TO SENSE OCCUPANCY.
27. CONTRACTOR TO COMPLY WITH INTERNATIONAL BUILDING CODE AND INTERNATIONAL ENERGY CONSERVATION CODE REQUIREMENTS FOR ALL ELECTRICAL POWER & LIGHTING SYSTEMS PER IECC SECTION 405. CONTRACTOR TO PROVIDE AND INSTALL ADDITIONAL LIGHT SWITCHES TO THE SWITCHES SHOWN ON THE DRAWINGS IF REQUIRED BY CODE.
28. PROVIDE 3/4" CONDUIT WITH 200LB TEST NYLON PULL WIRE FROM DATA/TELEPHONE OUTLET BOXES TO 6" ABOVE ACCESSIBLE CEILING.
29. ALL MECHANICAL EQUIPMENT CONTROLS SHALL BE POWERED FROM UNIT.
30. CONTRACTOR SHALL PROVIDE APPROPRIATE RECEPTACLE TYPE OR DISCONNECTING MEANS FOR UNDER COUNTER TANKLESS WATER HEATERS. COORDINATE WITH EQUIPMENT INSTALLER FOR REQUIREMENTS.

MAKE SURE YOU LEGIBLY MARK ALL CIRCUITS, AND CIRCUIT MODIFICATIONS, AS TO THEIR CLEAR, EVIDENT, AND SPECIFIC PURPOSE [NEC 408.4]. THAT INCLUDES SPARE POSITIONS THAT CONTAIN UNUSED OVERCURRENT DEVICES. IDENTIFICATION MUST INCLUDE SUFFICIENT DETAIL TO ALLOW EACH CIRCUIT TO BE DISTINGUISHED FROM ALL OTHERS. THE IDENTIFICATION MUST BE ON A CIRCUIT DIRECTORY ON THE FACE OR INSIDE OF THE DOOR OF THE PANELBOARD AND MUST NOT BE BASED ON TRANSIENT CONDITIONS OF OCCUPANCY.

NEC 110.12 MECHANICAL EXECUTION OF WORK:
ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN A NEAT AND WORKMAN-LIKE MANNER

ELECTRICAL CONTRACTOR'S RESPONSIBILITY
IT IS *THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY* TO ENSURE ALL REQUIREMENTS FOR GROUNDING AND BONDING OF ELECTRICAL INSTALLATIONS WHOLLY COMPLY WITH ARTICLE 250 FROM THE NATIONAL ELECTRICAL CODE (NEC) ADOPTED BY THE AUTHORITY HAVING JURISDICTION (AHJ), INCLUDING AMMENDMENTS.

CONTRACTOR RESPONSIBILITIES

CONTRACTOR SHALL REPORT ANY DISCREPANCIES, OMISSIONS OR INCONSISTENCIES ON THE DRAWINGS TO ENGINEER FOR VERIFICATION BEFORE STARTING CONSTRUCTION. OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR ANY ERRORS IN CONSTRUCTION WHERE SUCH DISCREPANCIES, OMISSIONS OR INCONSISTENCIES HAVE NOT BEEN PROPERLY REPORTED IN A TIMELY MANNER.

NOTES TO PLUMBING CONTRACTOR

1. GENERAL
1.1 THE GENERAL PROVISIONS OF THE CONTRACT, INCLUDING THE CONDITIONS OF THE CONTRACT (GENERAL, SUPPLEMENTARY, AND OTHER CONDITIONS) AND DIVISION 1 - GENERAL REQUIREMENTS AS APPROPRIATE, APPLY TO THE WORK SPECIFIED IN THIS SECTION.

2. SCOPE OF WORK
2.1 THE WORK INCLUDED UNDER THIS SECTION CONSISTS OF FURNISHING ALL MATERIALS, EQUIPMENT, LABOR, AND THE PERFORMING OF ALL FUNCTIONS EXCEPT AS OTHERWISE SPECIFIED HEREIN OR SHOWN ON THE DRAWINGS TO BE PERFORMED BY OTHERS FOR THE INSTALLATION AND PLACING INTO OPERATION A COMPLETE PLUMBING AND PIPING SYSTEM AS SPECIFIED AND SHOWN ON THE DRAWINGS.

3. GENERAL DESCRIPTION
3.1 THE WORK IN GENERAL SHALL CONSIST OF, BUT IS NOT NECESSARILY LIMITED TO THE FOLLOWING:
3.2 COMPLETE SANITARY PLUMBING SYSTEM FROM HE PLUMBING FIXTURES OR EQUIPMENT AS INDICATED ON THE DRAWINGS TO PUBLIC SANITARY SEWER OR PRIVATE DISPOSAL SYSTEM, INCLUDING TAP, AND MANHOLES IF NECESSARY.
3.3 INSTALLATION OF ALL WATER AND GAS PIPING AND EQUIPMENT CONNECTIONS INCLUDING WATER SERVICE LINES AND METER IF REQUIRED.
3.4 FURNISH AND INSTALL ALL PLUMBING FIXTURES AS SHOWN ON THE DRAWINGS.
3.5 BEFORE STARTING WORK, EACH SUBCONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE EQUIPMENT LISTED TO THE ARCHITECT FOR APPROVAL. FIVE COMPLETE SETS OF SHOP DRAWINGS SHALL BE SUBMITTED. IN CHECKING SHOP DRAWINGS, THE ARCHITECT AND ENGINEER WILL MAKE EVERY EFFORT TO DETECT ERRORS AND OMISSIONS, BUT NEITHER THE FAILURE OF THE ARCHITECT OR ENGINEER TO DETECT ERRORS OR OMISSIONS NOR THE APPROVAL OF SHOP DRAWINGS SHALL RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO COMPLY WITH THE PLANS AND SPECIFICATIONS.
3.6 WORK EXCLUDED: NOTED ON DRAWINGS.

4. REGULATIONS AND CODES
4.1 THE CONTRACTOR MUST COMPLY WITH ALL STATE, MUNICIPAL, AND FEDERAL SAFETY LAWS, CONSTRUCTION CODES, ORDINANCES AND REGULATIONS RELATING TO BUILDING AND PUBLIC HEALTH SAFETY.

5. GENERAL REQUIREMENTS
5.1 THE CONTRACTOR SHALL EXAMINE THE PREMISES PRIOR TO THE COMMENCEMENT OF ANY WORK AND SATISFY HIMSELF OF EXISTING CONDITIONS UNDER WHICH HE WILL BE OBLIGATED TO OPERATE IN PERFORMING HIS PART OF THE WORK OR THAT WILL IN ANY MANNER AFFECT THE WORK UNDER THE CONTRACT. THE CONTRACTOR SHALL COOPERATE WITH THE OTHER TRADES SO THAT THE INSTALLATION OF ALL EQUIPMENT MAY BE PROPERLY COORDINATED.
5.2 ALL EQUIPMENT FURNISHED SHALL FIT THE SPACE AVAILABLE, WITH CONNECTION, ETC., IN THE REQUIRED LOCATIONS AND WITH ADEQUATE SPACE FOR OPERATING AND SERVICING. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATE THE MANNER AND METHOD OF THE INSTALLATION, WHILE THE SPECIFICATIONS AND FIXTURE LIST DENOTE THE TYPE AND QUALITY OF MATERIAL AND WORKMANSHIP TO BE USED. WHERE A CONFLICT EXISTS BETWEEN THE DRAWINGS AND THE SPECIFICATIONS, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ARCHITECT WHOSE DECISION SHALL BE FINAL. NO ALLOWANCE WILL BE MADE SUBSEQUENTLY IN THIS CONNECTION IN BEHALF OF THE CONTRACTOR AFTER AWARD OF THE CONTRACT.

6. EQUIPMENT AND MATERIAL
6.1 SUBSTITUTION OF EQUIPMENT BRANDS, OTHER THAN AS NOTED ON THE DRAWINGS, IS TO BE ON AN APPROVED EQUAL BASIS.
6.2 THE PLUMBING CONTRACTOR SHALL PROVIDE ALL NECESSARY TAILPIECES, P-TRAPS, TRAP ARMS, WALL HANGERS, CARRIERS, SHUTOFF VALVES, ANGLE VALVES, ETC., REQUIRED FOR THE INSTALLATION OF A CODE APPROVED PLUMBING SYSTEM.

7. PIPING
7.1 BUILDING DRAIN
7.1.1 NO-HUB CAST IRON CONFORMING TO CISPI NO. 301.
7.1.2 GALVANIZED STEEL PIPE CONFORMING TO ASTM A-120
7.1.3 SCH. 40 PVC.

7.2 BUILDING SEWER
7.2.1 SCH. 40 PVC.

7.3 FITTINGS
7.3.1 NO-HUB CAST IRON DRAINAGE PATTERN FITTINGS CONFORMING TO CISPI NO. 301
7.3.2 THREAD CAST IRON FITTINGS SHALL CONFORM TO ANSI-B16.4.
7.3.3 THREADED MALLEABLE IRON FITTINGS CONFORMING TO ANSI- B16.3.
7.3.4 SOLVENT WELD SCH. 40 PVC FITTINGS.
7.3.6 NO-HUB COUPLINGS:
7.3.6.1 (DOUBLE BAND STAINLESS STEEL COUPLINGS WITH NEOPRENE LINER CONFORMING TO CISPI NO. 301 SPECIFICATIONS. FOR ABOVE GROUND USE ONLY.) (TYPE 304 STAINLESS STEEL COUPLING EQUAL TO "HUSKEY" OR "CLAMP-ALL" FOR BELOW GRADE.)
7.3.7 PITCH 3" AND SMALLER PIPE AT 1/4" PER FOOT, 4" AND LARGER @ 1/8" PER 1 FT. WHERE APPROVED BY LOCAL JURISDICTION.
7.3.8 TEMPORARILY CLOSE ENDS OF PIPE WITH WOOD BLOCKS AT END OF EACH WORKING DAY.

7.4 DOMESTIC WATER
7.4.1 WATER DISTRIBUTION PIPING SHALL CONFORM TO NSF 61 AND ONE OF THE STANDARDS LISTED IN TABLE 605.4 OF THE INTERNATIONAL PLUMBING CODE (AS ADOPTED BY THE A.H.J)

7.5 FITTINGS
7.5.1 PROVIDE WROUGHT COPPER TYPE FITTINGS CONFORMING TO ANSI B16.22 FOR ALL CONNECTIONS TO COPPER PIPING.
7.5.2 PROVIDE PVC FITTINGS CONFORMING TO ASTM D2466 WITH SOLVENT CEMENT CONFORMING TO ASTM D2564 AND PRIMER CONFORMING TO ASTM F656.

7.6 SOLDER
7.6.1 PIPES 1/2" THROUGH 2": USE LEAD FREE SOLDER WITH SUITABLE FLUX. 7.6.2 PIPES 2 1/2" AND LARGER: USE AIRCOSIL 45, OR EQUAL SILVER BRAZING ALLOY OF MELTING POINT AND PHYSICAL PROPERTIES. USE AIRCOSIL FLUX OR EQUAL, SUITABLE TO BRAZING ALLOY.

7.7 INSTALLATION
7.7.1 PITCH PIPING TO DRAIN AND PROVIDE ALL NECESSARY DRAIN VALVES. BURY A MINIMUM OF 24" BELOW GRADE OR NATURAL FROST LINE. PROVIDE DI-ELECTRIC UNIONS AT ALL MATERIAL CHANGES IN SYSTEM.
7.7.2 COPPER PIPE INSTALLED BELOW CONCRETE FLOORS SHALL BE WITHOUT JOINTS AND WRAPPED WITH 20 MILS OF POLYETHYLENE TAPE WITH A MINIMUM OF 50% OVERLAP.

7.8 PIPE HANGERS AND SUPPORTS
7.8.1 ADEQUATELY SUPPORT PIPING AGAINST SAGGING, POCKETING, SWAYING, AND DISPLACEMENT. ALL PIPING AND EQUIPMENT SHALL BE SUPPORTED BY STRUCTURAL MEMBERS ADEQUATELY ABLE TO BEAR THEIR WEIGHT. PROPERLY SPACE AND APPLY HANGERS IN ACCORDANCE WITH THE FOLLOWING:
7.8.2 SPACING
7.8.2.1 STEEL PIPE:

3/4" AND SMALLER	5' ON CENTER
1" AND 1 1/4"	6' ON CENTER
1 1/2" TO 2 1/2"	10' ON CENTER
3" AND LARGER	12' ON CENTER

7.8.2.2 COPPER PIPE:

3/4" AND SMALLER	5' ON CENTER
1" TO 1 1/2"	6' ON CENTER
2" AND LARGER	10' ON CENTER

7.8.2.3 CAST IRON:
5' ON CENTER AND ALL BRANCHES IN EXCESS OF 30" LONG.
7.8.3 ALL PIPING SHALL BE INSTALLED WITH ADEQUATE PROVISION FOR EXPANSION AND CONTRACTING USING SWING JOINTS, PIPE CLAMPS, ANCHORS, AND EXPANSION JOINTS. FITTINGS SHALL BE SO SPACED THAT THEY WILL NOT INTERFERE WITH SLIDING OF PIPE ON SUPPORTS.

7.9 PROVIDE SHOCK ARREATORS FOR EACH GROUP OF FIXTURES PER MFG. REQ. MINIMUM 1 PT SIZE.

8. CONDENSATE PIPING
8.1 REFER TO PLANS FOR LAYOUT AND ROUTING. OFFSET PIPING AS REQUIRED TO AVOID CONFLICT WITH DUCTWORK, OTHER PIPING SYSTEMS, OR STRUCTURE. USE CODE APPROVED TYPE "M" COPPER. PROVIDE TRAP AND VENT AT MECHANICAL EQUIPMENT, SLOPE TO LOCATION SHOWN ON PLANS.
8.2 CONDENSATE PIPING SHALL BE INSULATED WHEN RUNNING INSIDE AN UNCONDITIONED SPACE. INSULATION SHALL BE EQUAL TO 1/2" ARMAFLEX.
8.3 CONDENSATE FROM DRAIN PAN OUTLET TO BE ROUTED TO AN AHJ APPROVED LOCATION. CONDENSATE SHALL NOT DISCHARGE TO AREAS THAT MAY CAUSE A NUISANCE.

9. CLEANOUTS
9.1 CLEANOUTS SHALL BE SAME SIZE AS PIPE UNLESS OTHERWISE INDICATED ON THE DRAWINGS. CLEANOUTS SHALL BE INSTALLED IN SOIL AND WASTE LINES AT EVERY CHANGE OF DIRECTION AND AT EVERY 100 FEET OF RUN WHETHER SHOWN ON THE DRAWINGS OR NOT. CLEANOUTS SHALL BE ACCESSIBLE IN ALL CASES. WHEN LOCATED IN A FINISHED WALL OR FLOOR, SET CLEANOUT FLUSH WITH SURROUNDING SURFACE.

10. VENTS
10.1 VENTS SHALL EXTEND NOT LESS THAN 10 INCHES THROUGH THE ROOF. THEY SHALL BE GATHERED TOGETHER WHERE POSSIBLE INTO ONE VENT OF EQUIPMENT AREA. VENTS SHALL BE OF SAME MATERIAL AS BUILDING DRAIN. ALL VENTS THROUGH ROOF SHALL BE LOCATED A MINIMUM OF 10 FEET FROM ANY OUTSIDE AIR INTAKE. VENTS SHALL BE FLASHED AS INDICATED BELOW.

11. MISCELLANEOUS
11.1 SUPPLY FLASHINGS FOR ALL PIPES WHICH PASS THROUGH THE ROOF. FLASHINGS SHALL BE INSTALLED WITH ROOFING. VENTS SHALL BE FLASHED WITH THE CORRECT SIZE STANDARD GALVANIZED SHEET METAL OR LEAD ROOF FLASHING. SLEEVES SHALL BE 24 GAUGE GALVANIZED STEEL WHERE PIPES PASS THROUGH MASONRY AND FOOTINGS. WHEREVER PIPES PASS THROUGH WALLS, FLOORS, OR CEILINGS, ESCUTCHEON PLATES EQUAL TO CADWELL NO. 3A, CAST BRASS SPLIT RINGS WITH SET SCREWS SHALL BE USED. USE POLISHED CHROME IN FINISHED ROOMS, POLISHED BRASS IN ALL OTHERS. ALL CLEANOUTS IN FINISHED WALLS ARE TO HAVE CHROME COVERS.

GLOBE VALVES EQUAL TO	MILWAUKEE 502 OR 554
GATE VALVES EQUAL TO	MILWAUKEE 1140 OR 1145
BALANCING VALVES EQUAL TO	MILWAUKEE BB-1
CHECK VALVE VERTICAL EQUAL TO	MILWAUKEE 558
CHECK VALVE HORIZONTAL EQUAL TO	MILWAUKEE 553
TEMP RELIEF VALVE EQUAL TO	CRANE NHLX5
ANGLE STOPS EQUAL TO	CRANE 96107W
SUPPLY TUBING EQUAL TO	CRANE

11.2 CONTRACTOR SHALL LAYOUT AND INSTALL HIS WORK IN ADVANCE OF POURING CONCRETE FLOORS OR WALLS. PROVIDE SLEEVES FOR ALL PLUMBING PIPES PASSING THROUGH CONCRETE FLOOR SLABS, MASONRY, TILES, AND GYPSUM WALLS. SLEEVES SHALL NOT SUPPORT PIPE AND SHALL BE CONSTRUCTED OF 24 GAUGE GALVANIZED STEEL.

11.3 ALL SMITH, ZURN, JOSAM, AND WADE SHALL BE ON AN EQUAL BASIS AND EQUAL TO THE SERIES SPECIFIED ON THE DRAWINGS.

11.4 REFER TO PLUMBING DRAWINGS FOR FIXTURE SPECIFICATIONS.

12. APPROVED MANUFACTURES LIST
12.1.1 FIXTURES: AM. STD., ELJER, KOHLER, CRANE, ELKAY, HALSEY TAYLOR
12.1.2 SUPPLIES (NON BRASS): DELTA, ELKAY, CRANE
12.1.3 SUPPLIES (BRASS): CHICAGO, T&S, ROYAL BRASS, AM. STD., ELJER
12.2 EQUIPMENT:
12.2.1 WATER HEATERS RESIDENTIAL: RINNAI, A.O. SMITH, RHEEM, LOCHINVAR, RUUD

13. CONNECTIONS TO EQUIPMENT
13.1 CONTRACTOR SHALL MAKE ALL PLUMBING AND PIPING CONNECTIONS TO EQUIPMENT SPECIFIED TO BE FURNISHED BY OWNER OR UNDER OTHER SECTIONS OF THESE SPECIFICATIONS. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL CONNECTIONS TO AIR CONDITIONING AND HEATING EQUIPMENT. PROVIDE SUFFICIENT APPROVED AIR CHAMBERS OR EXPANSION LOOPS TO PREVENT WATER HAMMER. AFTER COMPLETION OF WORK, ALL EXPOSED FIXTURES, EQUIPMENT, AND PIPING SHALL BE THOROUGHLY CLEANED.

14. ACCESSIBILITY
14.1 UNIONS, VALVES, TRAPS, CONTROLS, ETC., WHICH ARE LOCATED IN NON ACCESSIBLE LOCATIONS SHALL BE PROVIDED WITH APPROVED ACCESS DOORS (FITTED IN A FRAMED HOLE).

15. EXCAVATION AND BACKFILL
15.1 THE CONTRACTOR SHALL DO ALL EXCAVATION AND BACKFILLING NECESSARY FOR INSTALLATION OF WATER AND SOIL PIPE. BACKFILL TO ORIGINAL GRADE TO 95% OF ASTM-D-698 MAX. DENSITY. REMOVE EXCESS DIRT AS DIRECTED. NO WORK SHALL BE COVERED UNTIL PROPERLY TESTED.

16. TESTS
16.1 WATER PIPING: HYDROSTATIC TEST AT 160 PSI; MAXIMUM ALLOWABLE PRESSURE DROP OF 1.5 PSI IN FOUR HOURS AT CONSTANT TEMPERATURE.
16.2 BUILDING SEWER AND DRAIN: 10 FEET STATIC HEAD OR HIGHEST VENT, (WHICHEVER IS GREATER). HEAD MUST BE MAINTAINED AT A CONSTANT LEVEL FOR TWO HOURS AT CONSTANT TEMPERATURE.
16.3 NATURAL GAS PIPING: EACH SEGMENT OF A SERVICE LINE (OTHER THAN PLASTIC) INTENDED TO BE OPERATED AT A PRESSURE OF 5" W.C. SHALL BE GIVEN A LEAKAGE TEST AT A PRESSURE OF NOT LESS THAN 50 P.S.I.G. FOR A PERIOD OF NOT LESS THAN 8 HOURS.
16.4 FAILURE OF TESTS: ANY PIPING SYSTEM WHICH HAS FAILED ITS REQUIRED TEST SHALL HAVE ALL LEAKS REPAIRED AND/OR PIPES REPLACED UNTIL SAID PIPING SYSTEM PASSES ITS REQUIRED TEST. NO PIPING SYSTEM SHALL BE PUT INTO OPERATION UNTIL IT HAS PASSED ALL TESTING PROCEDURES.

17. POTABLE WATER SYSTEM STERILIZATION
17.1 STERILIZE THE ENTIRE WATER DISTRIBUTION SYSTEM THOROUGHLY WITH A SOLUTION CONTAINING NOT LESS THAN 50 PARTS PER MILLION OF AVAILABLE CHLORINE. FOR THE CHLORINATING MATERIAL USE SODIUM HYDROCHLORIDE SOLUTION CONFORMING TO FEDERAL SPECIFICATION 0-8-441, GRADE D. ALLOW THE STERILIZATION SOLUTION TO REMAIN IN THE SYSTEM FOR A PERIOD OF 8 HOURS, DURING WHICH TIME ALL VALVES AND FAUCETS SHALL BE OPENED AND CLOSED SEVERAL TIMES. AFTER STERILIZATION, FLUSH THE SOLUTION FROM THE SYSTEM WITH CLEAN WATER UNTIL THE RESIDUAL CHLORINE CONTENT IS NOT GREATER THAN 0.2 PARTS PER MILLION. PROVIDE ARCHITECT WITH CERTIFICATION OF TEST

18. GUARANTEE
18.1 THE CONTRACTOR SHALL GUARANTEE ALL MATERIAL AND EQUIPMENT TO BE FREE FROM DEFECT OF MATERIAL AND WORKMANSHIP AND SHALL REPLACE OR REPAIR, WITHOUT COST TO THE OWNER, ALL DEFECTIVE MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE.

GENERAL NOTES:
ALL WORK SHALL BE DONE IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS, AND LATEST INDUSTRY ACCEPTED PRACTICES.

PLUMBING CONTRACTOR SHALL FURNISH ALL EQUIPMENT, MATERIAL, LABOR, ETC., WHETHER SHOWN ON THESE PLANS OR NOT, NECESSARY TO PROVIDE A COMPLETE, WORKABLE, CODE-APPROVED PLUMBING SYSTEM.

ALL LAVATORIES AND SINKS SHALL COME COMPLETE WITH NECESSARY TRIM, 'P' TRAPS, TAILPIECE CONNECTIONS, SHUTOFF VALVES, AND REQUIRED CARRIERS. PROVIDE NECESSARY CARRIERS FOR ALL WATER CLOSETS, URINALS, AND ALL OTHER PLUMBING EQUIPMENT WHICH REQUIRES THEM.

ALL HOT WATER LINES SHALL BE INSULATED WITH 1/2" ARMAFLEX OR EQUAL.

PLUMBING CONTRACTOR TO COORDINATE ALL LINES AND VENTS WITH RELIEF VENTS AND MECHANICAL EQUIPMENT.

BUILDING SEWER CLEANOUTS SHALL BE INSTALLED AT INTERVALS NOT TO EXCEED ONE HUNDRED FEET (100') IN STRAIGHT RUNS.

PLUMBING CONTRACTOR SHALL VERIFY, PRIOR TO TRENCHING, THAT THE DESIGNED SLOPE OF THE SEWER SHALL WORK UNDER ACTUAL FIELD CONDITIONS. IF THE DESIGNED SLOPE WILL NOT WORK, THE PLUMBING CONTRACTOR SHALL CONTACT UNDERSIGNED ENGINEER.

PROVIDE ACCESS PANELS FOR ALL WATER HAMMER ARRESTORS AND/OR TRAP PRIMERS.

PLUMBING CONTRACTOR TO CAP ALL UNUSED HOLES IN LAVATORIES AND SINKS.

FLASH ALL PIPE PENETRATIONS THROUGH THE ROOF IN A WATER TIGHT MANNER.

THE CONTRACTOR SHALL VERIFY ALL UTILITIES LOCATION, SIZES AND CONNECTION REQUIREMENTS PRIOR TO BID AND COMMENCEMENT OF ANY WORK.

CONDENSATE PIPING: REFER TO PLANS FOR LAYOUT AND ROUTING. OFFSET PIPING AS REQUIRED TO AVOID CONFLICT WITH DUCTWORK, OTHER PIPING SYSTEMS, OR STRUCTURE. USE CODE APPROVED TYPE "M" COPPER.

PROVIDE TRAP AND VENT AT MECHANICAL EQUIPMENT, SLOPE TO LOCATION SHOWN ON PLANS.

CONDENSATE PIPING SHALL BE INSULATED WHEN RUNNING INSIDE AN UNCONDITIONED SPACE. INSULATION SHALL BE EQUAL TO 1/2" ARMAFLEX.

MEP GENERAL NOTES

1. ALL CONSTRUCTION TO CONFORM TO INTERNATIONAL, STATE AND LOCAL CODES AND ORDINANCES CURRENTLY ADOPTED BY THE AUTHORITY HAVING JURISDICTION (AHJ).
2. CONTRACTORS TO CONFIRM ALL SPECIFICATIONS HEREIN WITH ACTUAL EQUIPMENT IN FIELD PRIOR TO PURCHASE AND INSTALLATION.
3. REVIEW PLAN SHEET "MEP0 - MEP NOTES" PRIOR TO BIDDING, PERMITTING, AND CONSTRUCTION.
4. THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.
5. SEE CIVIL AND ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ALL FIXTURES AND STRUCTURES.
6. SEE ARCHITECTURAL FINISH OUT SCHEDULES FOR SPECIFIC MODELS, COLORS AND DESIGN NOT DEFINED HEREIN.
7. WITH OWNER APPROVAL, CONTRACTOR MAY CHANGE SPECIFIED EQUIPMENT BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
8. CONTRACTOR TO CONTACT AME ENGINEERING, INC. AT 817-653-4122 PRIOR TO ANY SIGNIFICANT DESIGN REVISIONS.
9. DETAILS LABELED "TYPICAL" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE OR ARE SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE DRAWINGS CAN BE DETERMINED BY THE TITLE OF DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.

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STATE OF TEXAS
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LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL
2600 ROOSEVELT DRIVE
DALWORTHINGTON GARDENS, TEXAS 76016

CONTACT NAME	CHIEF GREG PETTY
CONTACT COMPANY	DWG POLICE & FIRE
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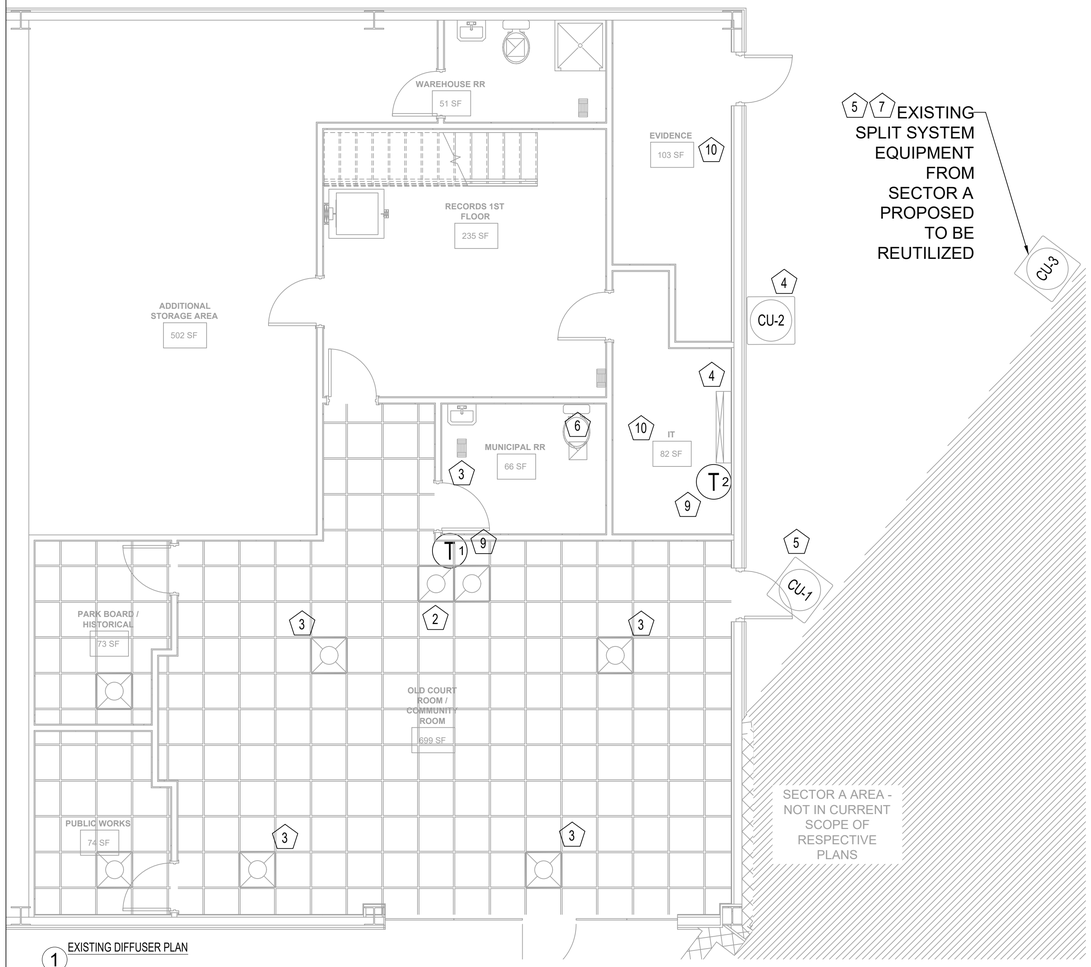
ISSUE:	
SECTOR A PERMIT SET 08/31/22	
CLIENT REVIEW SET 02/15/23	
FINAL COUNCIL REVIEW 06/19/23	
FINAL PERMIT SET 06/26/23	
ADA REVISION SET 08/04/23	
PRINTED	8/4/2023 3:53 PM
DESIGNED	JL
CHECKED	JJK
IBC	2015
IECC/ASHRAE	2015
NEC	2017
SCALE	

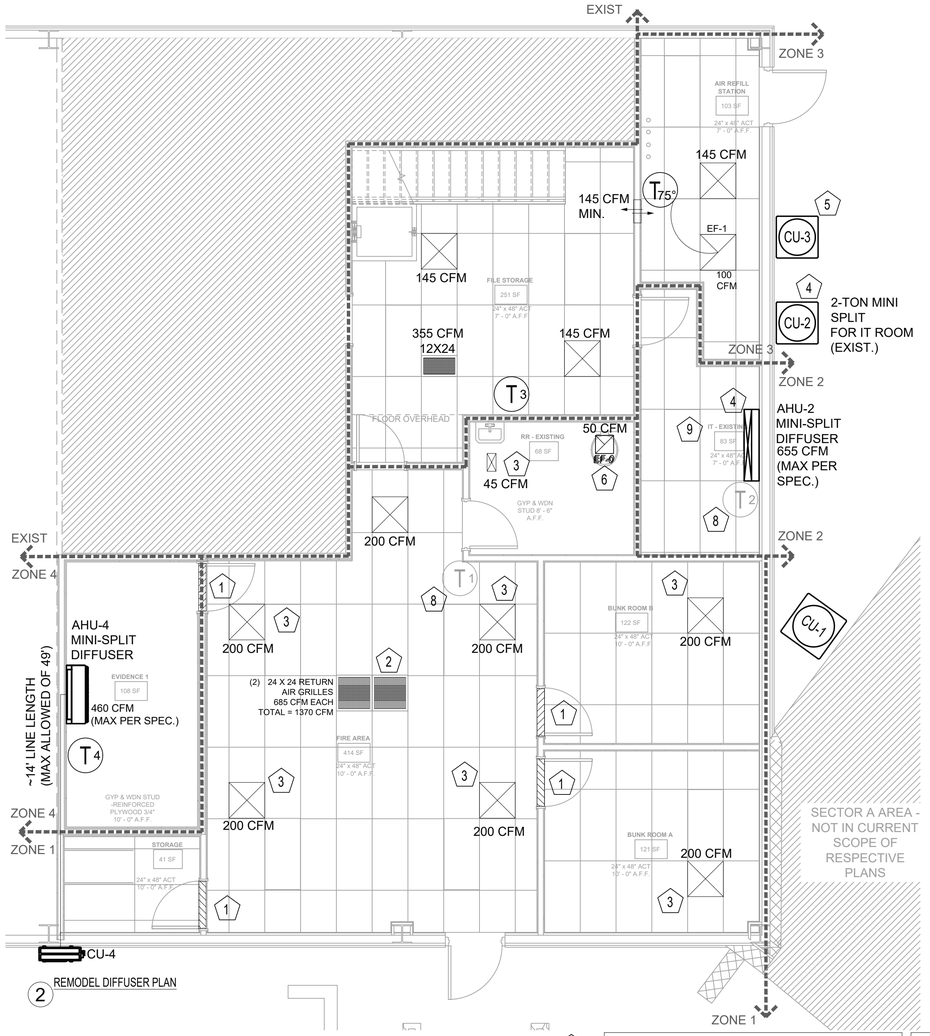
MEP NOTES

MEP0

PROJECT	1699



1 EXISTING DIFFUSER PLAN



2 REMODEL DIFFUSER PLAN

EXHAUST FAN SCHEDULE

UNIT	QTY.	MANUFACTURER AND MODEL NUMBER	CFM	SONES	ELECT.	AMPS	WATTS
EF-0	2	BROAN XB50	50	.3	120V/1P	.3	4.9
EF-1	1	COOK GEMINI GCVF-100	100	1.7	120V/1P	0.05	6

ALL BROAN XB SERIES FANS 1) USE 4"Ø DUCT AT 0.1 STATIC PRESSURE; 2) HAVE FACEPLATE SIZE OF 13"x14"; 3) ARE 120V/1PH WITH 20A/1P BREAKERS.
COOK GEMINI GCVF-100 TO BE EQUIPPED WITH THERMOSTAT-BASED CONTROL MODULE, ALUMINUM FACEPLATE AND TO BE INSTALLED WITHIN CEILING PANELS AS SHOWN.

REMODEL HVAC EQUIPMENT SCHEDULE : SPLIT SYSTEM

	UNITS[10]	PHASE	NOM TON	SERVES AREA	CONDENSER UNIT (CU)[2,3,4]									GAS FURNACE (AH)[2,3,4]						AIR HANDLER (AH)[2,3,4]								
					MANUFACTURER	SYSTEM TYPE	MODEL[9]	CAPACITY BTUH (KBTU/HR)	VOLTS/ PHASE	MCA	MOCP	LOAD WATTS	SEER	DIM	MODEL (LENNOX)	MAX INPUT MBH	MAX OUTPUT MBH	AFUE[7]	IPS CONN.[8]	LBS	COIL[5]	ESP	HP	CFM[6]	VOLTS/ PHASE	FLA	MCA	MOCP	LOAD WATTS	LBS	QTY
	CU1 / AH1	EXISTING	5.0	ZONE 1	CARRIER	A/C SPLIT	EXISTING	60 (NOM.)	208V/1ϕ/ 2P	37.4	60	15,558	10.5	39"x32"	ML195UH060XP60C	88	85	95	¾"	154	CH35-51C-2F	0.80	2	2000	208V/1ϕ/ 2P	12.8	26.6	40	11066	154	1
	CU2 / AH2	EXISTING	2.0	ZONE 2	DAIKIN	MINI-SPLIT	RKB24J1XVJU	21.2	208V/1ϕ/ 2P	13.2	20	5,491	11	29 ⅛" x 31 ⅜" x 12 ⅝"	ELECTRIC SYSTEM, COOLING ONLY						FTXB24AXVJU	-	½	800	208V/1ϕ/ 2P	.50	13.2	20	5491	31	1
7	CU3 / AH3	EXISTING*	1.5	ZONE 3	GOODMAN	A/C SPLIT	CLJ18-1C	18.0	208V/1ϕ/ 2P	12.1	20	5,034	11.2	23" x 23" x 25"	ML195UH045XP24B	44	41	95	¾"	95	CH35-24B-2F	0.50	½	600	208V/1ϕ/ 2P	5.7	8	15	3328	119	1
	CU4 / AH4	NEW	1.5	ZONE 4	LG	MINI-SPLIT	LSU120HEV2	13.8	208V/1ϕ/ 2P	10	15	4,160	19	21" X 21" X 32"	ELECTRIC SYSTEM, COOLING & HEATING ARE EQUIVALENT						LSN120HEV2	-	½	460	208V/1ϕ/ 2P	7.5	13.4	20	5574	129	1

NOTES:

* = EXISTING EQUIPMENT TO BE UTILIZED FOR FINAL REMODEL DESIGN

EXISTING FULL SPLIT-SYSTEM AIR HANDLER AND FURNACE MODELS TO BE CONFIRMED BY CONTRACTOR. CURRENT SCHEDULE DOES NOT SHOW MODEL #, BUT A COMPARABLE MODEL IN THE EVENT THAT THE EXISTING MODELS WILL NEED TO BE REPLACED.

1. CONDENSER UNIT TO BE SUPPLIED WITH:
- FREEZESTAT
- HAIL GUARD
- THEFT PROTECTION CAGE
- MOUNTING PAD
- DISCONNECT, HACR TYPE CIRCUIT BREAKER

2. FURNACE/ AIR HANDLER TO BE SUPPLIED WITH:
- RETURN AIR SMOKE DETECTOR FOR 5.0 TON UNIT
- ECONOMIZER IF REQUIRED BY AUTHORITY HAVING JURISDICTION. * CHANGEOVER SETPOINT TO BE 68°F.
- HORIZONTAL SUSPENSION KIT WITH VIBRATION ISOLATORS AND RETURN AIR END SUPPORT RAILS.
- NATURAL GAS APPLIANCE REGULATOR
- 4" MERV 8 (MINIMUM) PLEATED FILTERS (REC'OMMENDED FLANDERS CORP PRE-PLEAT 40 LPD HIGH CAPACITY) TO BE INSTALLED IN DUCT AS SHOWN ON PLANS OR IN READILY ACCESSIBLE FILTER CABINET AT UNIT RETURN OPENING.
- COMMERCIAL PROGRAMMABLE THERMOSTAT (RECOMMENDED LENNOX CS7A1T02AE1L)

3. OWNER, TENANT OR CONTRACTOR MAY CHANGE EQUIPMENT MANUFACTURER BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS AS SHOWN.

4. CONTACT BRIAN JILEK WITH LENNOX COMMERCIAL FOR CUSTOM PRICING ON UNITS SPECIFIED: 817-304-8263.

5. SEE "OUTSIDE AIR" TABLE FOR FRESH AIR CFM REQUIREMENTS

6A. SUMMER OUTDOOR AIR TEMPERATURE ENTERING OUTDOOR COIL AT 115°F, AND INDOOR ENTERING AIR 85°F DB / 71°F WB.
6B. 2009/ 2012 IECC MINIMUM:
13.0 SEER <= 65 MBH(5ton) > 11.2 EER <= 135 MBH (11ton) > 11.0 EER <= 240 MBH (20ton) > 9.9 MBU
2015 IECC MINIMUM:
14.0 SEER <= 65 MBH (5ton) > 11.2 IEER <= 135 MBH (11ton) > 10.6 EER <= 240 MBH (20ton) > 9.5 EER, 9.2 IPLV

7. 2009/ 2012/2015 IECC MINIMUM 80% THERMAL EFFICIENCY (E_t)

8. RECOMMENDED NATURAL GAS SUPPLY PRESSURE 3.5 IN. W.C. PROVIDE APPLIANCE REGULATOR AS REQUIRED.

9. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. THE REFRIGERANT PIPING LAYOUT, PIPE SIZE, FITTINGS AND NUMBER OF ELBOWS MUST BE COORDINATED WITH THE MANUFACTURER TO INSURE NOT EXCEEDING THE ALLOWED VERTICAL RISE AND TOTAL EQUIVALENT LENGTH BETWEEN THE INDOOR AND OUTDOOR UNITS.

10. ¾" PRIMARY CONDENSATE DRAIN LINE TO BE RUN FROM EQUIPMENT TO NEAREST LAVATORY FIXTURE P-TRAP IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE SECONDARY DRAIN PAN WITH SECONDARY DRAIN LINE OR FLOAT SWITCH AND PROPER SLOPING ON SECONDARY DRAIN PAN TO DE-ENERGIZE UNIT IF PRIMARY DRAIN IS CLOGGED. (TYPICAL ALL)

11. HP-HEAT PUMP, FC-FAN COIL UNIT, AC-AIR CONDITIONER, AH-AIR HANDLER, CU-CONDENSER UNIT

12. OUTSIDE AIR DUCT TO UNITS ARE NOT TO EXCEED AN EQUIVALENT LENGTH OF 20'. OTHERWISE, IN-LINE BOOSTER FANS ADDITIONAL TO THE DESIGN MAY BE REQUIRED. CONTRACTOR TO VERIFY PROSPECTIVE DUCT LENGTHS PRIOR TO UNIT INSTALLATION IN FIELD AND CONTACT UNDERSIGNED ENGINEER FOR ADDITIONAL DESIGN CONSULTATION IF PROPOSED OUTSIDE AIR DUCT LENGTHS ARE FOUND TO BE IN EXCESS OF MAXIMUM.

13. EQUIPMENT CONDENSATE DRAIN LINES TO OUTLET TO THE NEAREST AHU APPROVED LOCATION.

REMODEL MECHANICAL NOTES BY SYMBOL

1. UNDERCUT DOOR A MINIMUM OF 2 INCHES OR INSTALL A LOUVERED DOOR TO ALLOW FOR RETURN AIR VENTILATION.
2. EXISTING RETURN GRILLES TO BE RE-UTILIZED AND RELOCATED AT THE SPECIFIED SIZE, AIRFLOW, AND LOCATION FOR THE REMODEL AIR BALANCE SHOWN.
3. EXISTING SUPPLY DIFFUSERS TO BE RE-UTILIZED @ THE SPECIFIED LOCATIONS SHOWN.
4. EXISTING IT ROOM MINI-SPLIT SYSTEM (AHU-2 & CU-2) TO REMAIN IN PLACE W/ MANUAL CLIMATE CONTROL MODULE & THERMOSTAT TO REMAIN IN PLACE. COMPARABLE MODEL TO BE UTILIZED FOR "EVIDENCE 1" ROOM AS SHOWN.
5. EXISTING SPLIT-SYSTEM COMPONENTS TO BE RE-UTILIZED AS SHOWN FOR REMODEL HVAC PLAN. CONDENSING UNITS TO STAY IN-PLACE UNLESS REFRIGERANT PIPING REACHES MAXIMUM SPECIFIED LENGTH PER MANUFACTURER CONSTRAINTS, IF SUCH, THEN RELOCATE CONDENSING UNITS AS SHOWN. CONTRACTOR TO CONFIRM AVAILABILITY OF EXISTING AIR HANDLERS FROM SECTOR A IN ORDER TO RE-UTILIZE AIR HANDLER FOR CURRENT SECTOR B REMODEL DESIGN AS SHOWN ON THIS SHEET & M1.1-B.
6. EXISTING EXHAUST FANS TO REMAIN IN PLACE FOR FINAL REMODEL DESIGN IF MINIMUM CFM REQUIREMENT IS MET SPECIFIED HEREIN.
7. REUTILIZE EXISTING AIR HANDLER FOUND IN SECTOR A UTILIZED WITH CONDENSING UNIT 3. CONTRACTOR TO VERIFY MECHANICAL SIZE REQUIREMENTS OF 1.5 TONS (18,000 NET BTU/HR) AND OTHER COMPARABLE DATA SHOWN ON SCHEDULE.
8. EXISTING THERMOSTAT TO REMAIN
9. EXISTING ROOM NOT AVAILABLE FOR ENTRY AT TIME OF INSPECTION. FOR BOTH ELECTRICAL AND MECHANICAL DATA, COMPONENTS SHOWN TO BE REUSED ARE ASSUMED TO BE AVAILABLE FOR FINAL REMODEL DESIGN. CONTRACTOR TO VERIFY COMPONENTS AVAILABILITY & TO NOTIFY OF ANY SIGNIFICANT MEP COMPONENTS FOR INSPECTION.

REMODEL HVAC LEGEND

SYM	DESCRIPTION
P 10"Ø	SUPPLY AIR ROUND DUCT - INSIDE DIAMETER LISTED
P 16"Ø	RETURN AIR ROUND DUCT - INSIDE DIAMETER LISTED
	SUPPLY AIR FLEX DUCT FOR RUNS LESS THAN 5'
	6X12 RESTROOM SUPPLY DIFFUSER TO REMAIN IN PLACE AND SIZED FOR 45 CFM MAXIMUM.
	(NEW/RELOCATED) 24x24 SUPPLY DIFFUSER. SIZE PER MANUF RECOMMENDATION FOR CFM REQUIREMENTS.
	(NEW/RELOCATED) 24x24 RETURN GRILLE. SIZE PER MANUF RECOMMENDATION FOR CFM REQUIREMENTS.
	(NEW/RELOCATED) 12x24 RETURN GRILLE. SIZE PER MANUF RECOMMENDATION FOR CFM REQUIREMENTS.
	(NEW) HVAC ATTIC AIR HANDLER
	(NEW) HVAC HP CONDENSER UNIT
	(EXIST.) 24x24 SUPPLY DIFFUSER. SIZE PER MANUF RECOMMENDATION FOR CFM REQUIREMENTS.
	(EXIST.) 24x24 RETURN GRILLE. SIZE PER MANUF RECOMMENDATION FOR CFM REQUIREMENTS.
	(EXIST.) HVAC ATTIC AIR HANDLER
	(EXIST.) HVAC HP CONDENSER UNIT
T#	THERMOSTAT # = WITH OPTIONAL ZONE LABEL SHOWN 75° = EXHAUST FAN CONTROL, ACTUATION @ 75°F
T	EXISTING THERMOSTAT - TO REMAIN IN PLACE FOR THE SPECIFIED ZONE AS SHOWN
	EXHAUST FAN - CLG MOUNTED. SEE SCHEDULE THIS SHEET.
	LOUVERED DOOR OR DOOR UNDERCUT A MINIMUM 2" TO ALLOW FOR RETURN AIR FLOW
	MANUAL VOLUME DAMPER
ZONE #	ZONE DEMARCATION LINE & MARKERS TO BE UTILIZED FOR HVAC REMODEL DESIGN.
	OUTSIDE AIR INTAKE VENT-THROUGH-ROOF W/ FAN. TO BE UTILIZED WITH CODE-COMPLIANT ROOF INSTALLATIONS W/ SCREENING AND PROTECTION AS APPLICABLE.
	TRANSFER AIR WALL DUCT FOR RETURN AIRFLOW BALANCE BETWEEN ROOMS, SIZED FOR THE MINIMUM CFM SPECIFIED HEREIN.

*NOT ALL SYMBOLS MAY BE USED.

CONTACT BRIAN JILEK WITH TEXAS AIR SYSTEMS IN FORT WORTH AT 214-364-8264 OR THE MAIN OFFICE AT 817-838-7400 WITH PRODUCT QUESTIONS.

REMODEL AIR BALANCE SUMMARY

TAG	SUPPLY	RETURN	OUTSIDE AIR	EXHAUST AIR	+/− CFM
ZONE 1	1445	1370	75	0	0
ZONE 3	435	355	80	0	0
EF−0	0	0	0	50	−50
EF−1	0	0	0	100	−100
TOTALS	1880	1725	155	150	−150

NOTES:
1. PROVIDE ALL UNITS COMPLETE WITH FILTERS, PIPING AND WIRING REQUIRED. VENT FLUE THRU ROOF OR WALL CAP AS REQUIRED.
2. CONTRACTOR TO REFER TO UNIT HEATER SPECIFICATION DOCUMENTS PRIOR TO INSTALLATION.
3. MOUNTING HEIGHT IS BOTTOM OF UNIT HEATER TO FINISHED FLOOR.
4. MODINES TO BE SINGLE STAGE, NATURAL GAS, DIRECT SPARK IGNITION.
5. PROVIDE DRAIN PAN AND EXTEND CONDENSATE LINE TO AHU APPROVED LOCATION.
6. ROOFTOP UNITS TO BE INSTALLED WITH BAROMETRIC RELIEF DAMPERS.

OWNER, TENANT OR ARCHITECT MAY CHANGE EQUIPMENT MANUFACTURER, BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
CONTACT BRIAN JILEK WITH TEXAS AIR SYSTEMS FOR CUSTOM PRICING ON UNITS SPECIFIED: 817--838--7400.

REMODEL OUTSIDE AIR CALCS

ZONE 1 - EXISTING 5 TON SPLIT SYSTEM
OUTDOOR AIR AND EXHAUST AIR CALCULATIONS PER IMC TABLE 403.3

SPACE TYPE	BREATHABLE AREA PER IMC (SQ.FT)	TOTAL OUTSIDE AIR REQUIRED (CFM)	Exhaust per X	TOTAL EXHAUST REQUIRED (CFM)
Office Main Entry Lobby	414	46	0	0
Public Restroom Normally Use Exhaust per WC/UR	67	0	1	50
Hotel,Motel,Dorm Bedroom/Living Room	245	27	0	0
TOTAL	726	72		50

Provide 75 cfm to HVAC unit.

ZONE 3 - EXIST. 1.5 TON SPLIT SYSTEM
OUTDOOR AIR AND EXHAUST AIR CALCULATIONS PER IMC TABLE 403.3

SPACE TYPE	BREATHABLE AREA PER IMC (SQ.FT)	TOTAL OUTSIDE AIR REQUIRED (CFM)	Exhaust per X	TOTAL EXHAUST REQUIRED (CFM)
Office Conference Room	253	78	0	0
Storage Enclosed Repair or Parking Garage Exhaust	101	0	0	77
TOTAL	354	78		77

Provide 78 cfm to HVAC unit.

NOTES:
1. INTAKE OPENINGS SHALL BE LOCATED A MINIMUM OF 10 FEET FROM ANY HAZARDOUS OR NOXIOUS CONTAMINANT SUCH AS VENTS, CHIMNEYS, PLUMBING VENTS, STREETS, ALLEYS, PARKING LOTS, AND LOADING DOCKS.
2. AIR INTAKE OPENINGS THAT TERMINATE OUTDOORS SHALL BE PROTECTED WITH CORROSION-RESISTANT SCREENS, LOUVERS OR GRILLES WITH OPENINGS GREATER THAN 1/4-INCH AND NOT GREATER THAN 1-INCH.
3. DUCTED OUTSIDE AIR TO UNIT SHALL NOT EXCEED 20 LINEAR FEET IF A LONGER LENGTH IS NEEDED IN THE FIELD, CONTRACTOR TO INCREASE TO THE NEXT DUCT SIZE OR CONTACT UNDERSIGNED ENGINEER FOR FURTHER DESIGN OPTIONS.
4. CONTACT BRIAN JILEK WITH LENNOX COMMERCIAL FOR CUSTOM PRICING ON UNITS SPECIFIED: 817-304-8263.

NOTE TO BIDDERS

THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.

CONTRACTOR RESPONSIBILITIES

CONTRACTOR SHALL REPORT ANY DISCREPANCIES, OMISSIONS OR INCONSISTENCIES ON THE DRAWINGS TO ENGINEER FOR VERIFICATION BEFORE STARTING CONSTRUCTION. OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR ANY ERRORS IN CONSTRUCTION WHERE SUCH DISCREPANCIES, OMISSIONS OR INCONSISTENCIES HAVE NOT BEEN PROPERLY REPORTED IN A TIMELY MANNER.

MEP GENERAL NOTES

1. ALL CONSTRUCTION TO CONFORM TO INTERNATIONAL, STATE AND LOCAL CODES AND ORDINANCES CURRENTLY ADOPTED BY THE AUTHORITY HAVING JURISDICTION (AHJ).
2. CONTRACTORS TO CONFIRM ALL SPECIFICATIONS HEREIN WITH ACTUAL EQUIPMENT IN FIELD PRIOR TO PURCHASE AND INSTALLATION.
3. REVIEW PLAN SHEET "MEPG - MEP NOTES" PRIOR TO BIDDING, PERMITTING, AND CONSTRUCTION.
4. THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.
5. SEE CIVIL AND ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ALL FIXTURES AND STRUCTURES.
6. SEE ARCHITECTURAL FINISH OUT SCHEDULES FOR SPECIFIC MODELS, COLORS AND DESIGN NOT DEFINED HEREIN.
7. WITH OWNER APPROVAL, CONTRACTOR MAY CHANGE SPECIFIED EQUIPMENT BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
8. CONTRACTOR TO CONTACT AME ENGINEERING, INC. AT 817-653-4122 PRIOR TO ANY SIGNIFICANT DESIGN REVISIONS.
9. DETAILS LABELED "TYPICAL" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE OR ARE SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE DRAWINGS CAN BE DETERMINED BY THE TITLE OF DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.

TEXAS FIRM F-16469
AME Engineering, Inc.
mail@ameengineer.com | ofc 817-653-4122 | fax 817-754-6615
3825 W Green Oaks Blvd Suite 200, Arlington TX 76016-2700

STATE OF TEXAS
JESSICA J. KILGORE
106106
LICENSED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL
2600 ROOSEVELT DRIVE
DALWORTHINGTON GARDENS, TEXAS 76016

CONTACT NAME	CHIEF GREG PETTY
CONTACT COMPANY	DWG POLICE & FIRE
CONTACT PHONE	817-275-1234

ISSUE:

CLIENT REVIEW SET 2/15/23
FINAL COUNCIL REVIEW 06/19/23
FINAL PERMIT SET 06/26/23
ADA REVISION SET 08/04/23

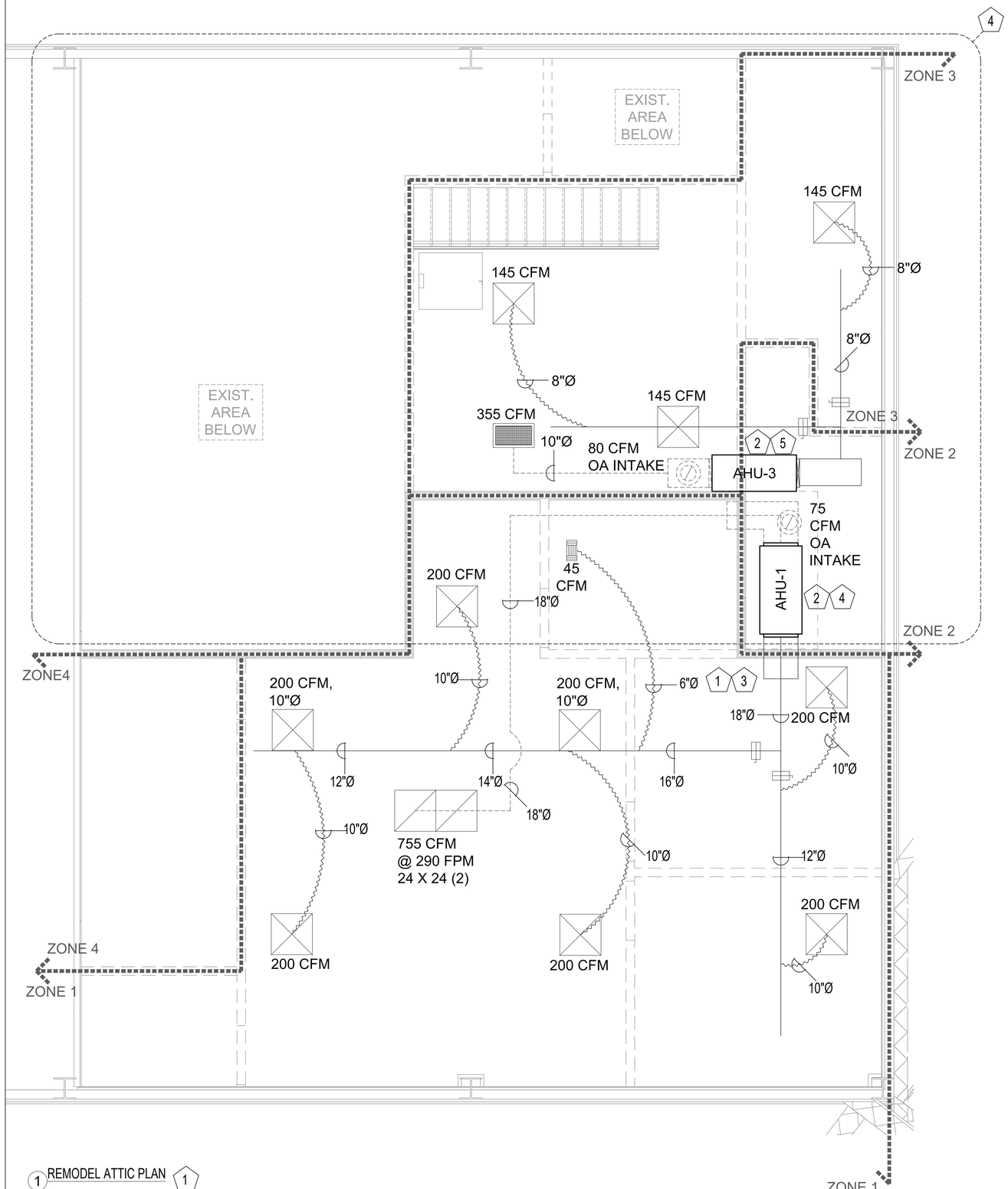
SHEET REVISIONS

PRINTED	8/4/2023 3:54 PM
DESIGNED	JL
CHECKED	JJK
IBC	2015
IECC/ASHRAE	2015
NEC	2017
SCALE	1/4" = 1'-0" (100')

SECTOR B - REMODEL HVAC PLANS

M1.0-B

PROJECT 1699



REMODEL HVAC LEGEND

SYM	DESCRIPTION
10"Ø	SUPPLY AIR ROUND DUCT - INSIDE DIAMETER LISTED
16"Ø	RETURN AIR ROUND DUCT - INSIDE DIAMETER LISTED
	SUPPLY AIR FLEX DUCT FOR RUNS LESS THAN 5'
	6X12 RESTROOM SUPPLY DIFFUSER TO REMAIN IN PLACE AND SIZED FOR 45 CFM MAXIMUM.
	(NEW/RELOCATED) 24x24 SUPPLY DIFFUSER. SIZE PER MANUF RECOMMENDATION FOR CFM REQUIREMENTS.
	(NEW/RELOCATED) 24x24 RETURN GRILLE. SIZE PER MANUF RECOMMENDATION FOR CFM REQUIREMENTS.
	(NEW/RELOCATED) 12x24 RETURN GRILLE. SIZE PER MANUF RECOMMENDATION FOR CFM REQUIREMENTS.
	(NEW) HVAC ATTIC AIR HANDLER
	(NEW) HVAC HP CONDENSER UNIT
	(EXIST.) 24x24 SUPPLY DIFFUSER. SIZE PER MANUF RECOMMENDATION FOR CFM REQUIREMENTS.
	(EXIST.) 24x24 RETURN GRILLE. SIZE PER MANUF RECOMMENDATION FOR CFM REQUIREMENTS.
	(EXIST.) HVAC ATTIC AIR HANDLER
	(EXIST.) HVAC HP CONDENSER UNIT
T#	THERMOSTAT # = WITH OPTIONAL ZONE LABEL SHOWN 75° = EXHAUST FAN CONTROL, ACTUATION @ 75°F
T	EXISTING THERMOSTAT - TO REMAIN IN PLACE FOR THE SPECIFIED ZONE AS SHOWN
	EXHAUST FAN - CLG MOUNTED. SEE SCHEDULE THIS SHEET.
	LOUVERED DOOR OR DOOR UNDERCUT A MINIMUM 2" TO ALLOW FOR RETURN AIR FLOW
	MANUAL VOLUME DAMPER
ZONE # ZONE #	ZONE DEMARCATION LINE & MARKERS TO BE UTILIZED FOR HVAC REMODEL DESIGN.
	OUTSIDE AIR INTAKE VENT-THROUGH-ROOF W/ FAN. TO BE UTILIZED WITH CODE-COMPLIANT ROOF INSTALLATIONS W/ SCREENING AND PROTECTION AS APPLICABLE.
	TRANSFER AIR WALL DUCT FOR RETURN AIRFLOW BALANCE BETWEEN ROOMS, SIZED FOR THE MINIMUM CFM SPECIFIED HEREIN.

*NOT ALL SYMBOLS MAY BE USED.

CONTACT BRIAN JILEK WITH TEXAS AIR SYSTEMS IN FORT WORTH AT 214-364-8264 OR THE MAIN OFFICE AT 817-838-7400 WITH PRODUCT QUESTIONS. 5

DUCT SIZING TABLE

MAXIMUM CFM	FLEX / ROUND	RECT	MAXIMUM CFM	FLEX / ROUND	RECT
50	FLEX 5" Ø		1000	FLEX 16" Ø	20x10
75	FLEX 6" Ø		1200	ROUND 16" Ø	22x10
85	ROUND 6" Ø	8x4	1300	FLEX 18" Ø	24x10
110		6x6	1400		22x12
160	FLEX 8" Ø	8x6	1500	ROUND 18" Ø	28X10
180	ROUND 8" Ø		1600		24x12
215		10x6	1750		26x12
270		12x6	1800		32x10
300	FLEX 10" Ø	10x8	1950		28x12
325	ROUND 10" Ø		2000	ROUND 20" Ø	
430		10x10	2150		30x12
480	FLEX 12" Ø		2200		38x10
525	ROUND 12" Ø	12x10	2300		32x12
670		14x10	2350		40x10
700	FLEX 14" Ø		2450		34x12
750	ROUND 14" Ø		2600		36x12
800		16x10	2750		38x12
930		18x10	2900		40x12
			3050		42x12

TABLE NOTES:
1. INSIDE DIMENSIONS SHOWN. ADD 2" IN DIAMETER FOR INSULATION.
2. METAL DUCT CALCULATOR SETTING: FLEX .1", ROUND .1", RECTANGLE .1" WC.
3. DEFLECTO BRAND RECTANGULAR DUCT SIZES SHOWN UP TO 26x12. DUCT FOR CFMs GREATER THAN 1950 MAY REQUIRE FIELD FABRICATION.

GENERAL DUCTING NOTES:
4. MAIN SUPPLY TRUNKS DESIGNED WITH METAL ROUND DUCT UNLESS NOTED OTHERWISE. SIZE AS SHOWN OR WITH EQUIVALENT RECTANGULAR DUCT. SIZE UNMARKED BRANCH DUCTS PER MANUFACTURER ACCORDING TO CFM SHOWN AT DIFFUSER.
5. IF DUCT RUN EXCEEDS 24', OR HAS EXCESSIVE TRANSITIONS, INCREASE TO NEXT DUCT SIZE.
6. USE ROUND METAL OR EQUIVALENT RECTANGULAR DUCTING FOR PRIMARY AND SECONDARY SUPPLY TRUNKS. FLEX DUCT MAY BE USED FOR RETURN DUCT.
7. USE WIDE RADIUS TURNS, TURNING VANES, AND 45 DEGREE ANGLES WHENEVER POSSIBLE.
8. ROUTE AS REQUIRED TO MAINTAIN MINIMUM CFM PER DIFFUSER AS LABELED.
9. PROVIDE DAMPER IN TAKEOFF COLLAR AS REQUIRED TO BALANCE CFM.
10. ALL DUCT PENETRATIONS THROUGH CEILINGS AND ANY PROPOSED FIRE RATED WALLS TO BE INSTALLED WITH COMPARABLE RATED FIRE/ SMOKE DAMPER.
11. PROVIDE SMOKE DETECTORS IN RETURN DUCTS FOR UNITS 2,000 CFM AND GREATER. SMOKE DETECTORS SHALL SHUT DOWN FANS. WIRING OF SMOKE DETECTORS SHALL BE BY FIRE ALARM INSTALLER.

FLEX DUCTING NOTES:
12. FLEX DUCT FOR SUPPLY ONLY FOR DIRECT ATTACHMENT OF DIFFUSER TO METAL DUCT.
13. INSTALL FLEX DUCTS ONLY IN STRAIGHT, NON-BENDING VERTICAL RUNS AS MUCH AS POSSIBLE.
14. EXTEND FLEX DUCT TO ITS FULLEST LENGTH (MAXIMUM 14') WITHOUT COMPRESSION
15. SPECIFIC NOTES ON PLANS SUPERCEDE THESE NOTES.

MECHANICAL NOTES BY SYMBOL

1. EXISTING MECHANICAL DUCTWORK TO BE RE-UTILIZED IF APPLICABLE PER SIZING REQUIREMENTS SHOWN ON REMODEL PLAN. (TYPICAL, ALL SYSTEMS SHOWN)
2. NEW & EXISTING EQUIPMENT PLACED IN ATTIC IN ORDER TO REFLECT REMODEL ZONE LOCATIONS AND TO MAINTAIN THE EXISTING "ATTIC" UTILIZATION AS A STORAGE ROOM.
3. AHU-1 PLENUMS SHOWN ARE EXISTING AND TO REMAIN IN PLACE FOR FINAL REMODEL DESIGN. EXISTING SUPPLY PLENUM WALL PENETRATION TO REMAIN IN PLACE FOR ZONE 1'S FINAL REMODEL DESIGN.
4. EXISTING SUPPLY DIFFUSERS IN ATTIC SPACE (NOT SHOWN ON PLANS) TO REMAIN IN PLACE AND TO REFLECT A TOTAL SUPPLY LOAD OF 745 CFM. UTILIZE ZONE 1'S SYSTEM COMPONENTS (AHU-1 & CU-1). EXISTING OUTSIDE AIR INTAKE TO REMAIN IN PLACE AND TO BE CONFIRMED TO UTILIZE A MINIMUM OF 145 CFM FOR THE FINAL REMODEL DESIGN. OUT-OF-SERVICE EQUIPMENT TO BE REMOVED AND SPACE TO BE RE-FINISHED WHERE APPLICABLE.
5. CONTRACTOR TO CONFIRM FEASIBILITY OF REUSING EXISTING SECTOR A EQUIPMENT (AHU-3 & CU-3, 1.5 TON) FOR CURRENT SECTOR B (ZONE 3) REMODEL DESIGN. OTHERWISE, SELECT A COMPARABLE (NEW) 1.5 TON ELEC/GAS SPLIT SYSTEM FOR AN EQUIVALENT INSTALLATION. CONTRACTOR TO CONFIRM DESIGNED LOCATION/CONFIGURATION FOR ALL MECHANICAL REMODEL COMPONENTS (DUCTS, DIFFUSERS, EQUIPMENT, ETC.). CONSULT BRIAN JILEK (214-364-8264) WITH TEXAS AIR SYSTEMS FOR A COMPARABLE 1.5 TON GAS/ELEC SPLIT SYSTEM MODEL (AHU & CU).

CONTRACTOR RESPONSIBILITIES

CONTRACTOR SHALL REPORT ANY DISCREPANCIES, OMISSIONS OR INCONSISTENCIES ON THE DRAWINGS TO ENGINEER FOR VERIFICATION BEFORE STARTING CONSTRUCTION. OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR ANY ERRORS IN CONSTRUCTION WHERE SUCH DISCREPANCIES, OMISSIONS OR INCONSISTENCIES HAVE NOT BEEN PROPERLY REPORTED IN A TIMELY MANNER.

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3. REVIEW PLAN SHEET "MEP0 - MEP NOTES" PRIOR TO BIDDING, PERMITTING, AND CONSTRUCTION.
4. THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.
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3825 W Green Oaks Blvd Suite 200, Arlington TX 76016-2700

STATE OF TEXAS
JESSICA J. KILGORE
106106
LICENSED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL

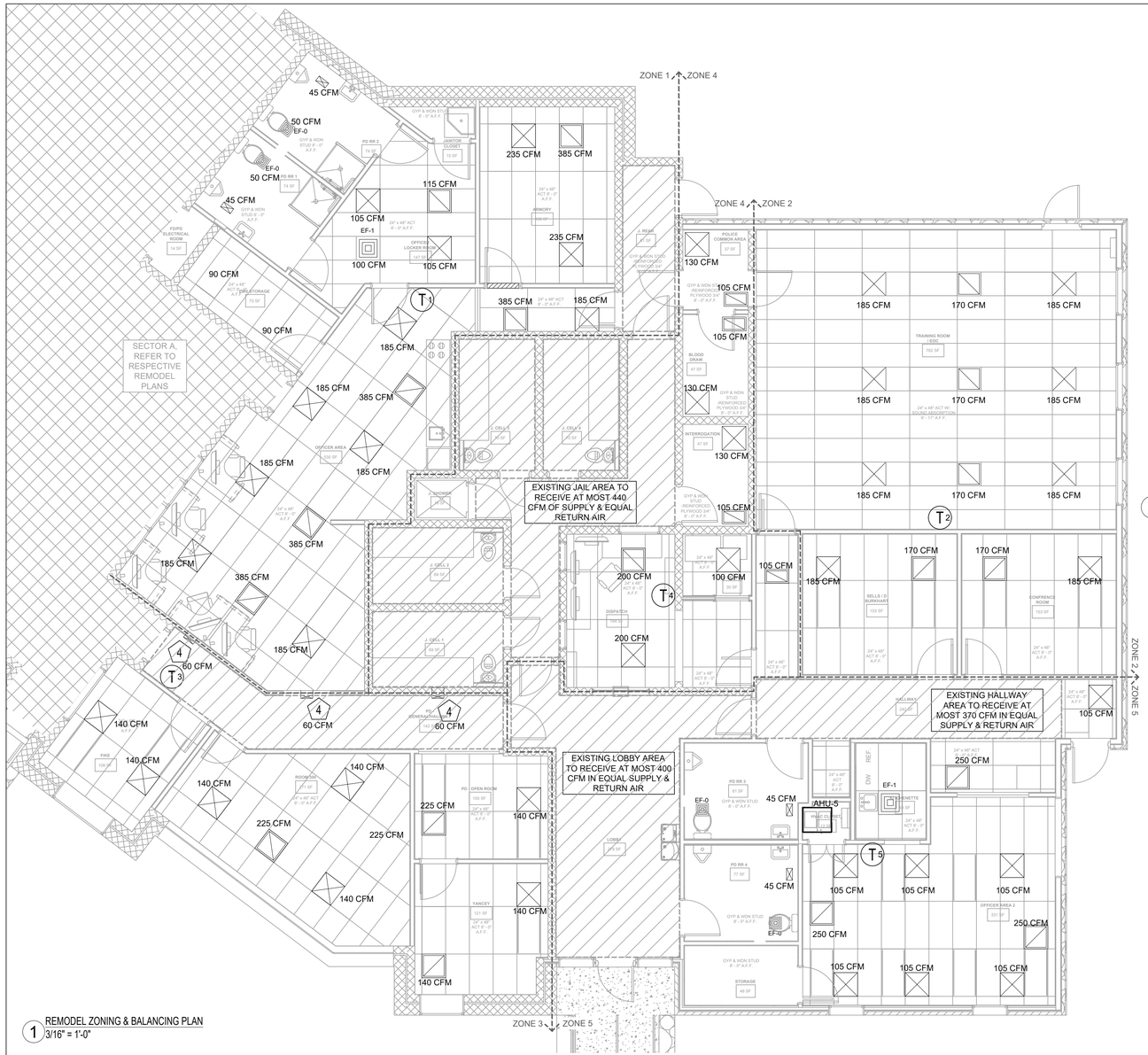
2600 ROOSEVELT DRIVE
DALWORTHINGTON GARDENS, TEXAS 76016

CONTACT NAME	CHIEF GREG PETTY
CONTACT COMPANY	DWG POLICE & FIRE
CONTACT PHONE	817-275-1234
ISSUE:	
CLIENT REVIEW SET 2/15/23	
FINAL COUNCIL REVIEW 06/19/23	
FINAL PERMIT SET 06/26/23	
ADA REVISION SET 08/04/23	
SHEET REVISIONS	
PRINTED	8/4/2023 3:54 PM
DESIGNED	JL
CHECKED	JJK
IBC	2015
IECC/ASHRAE	2015
NEC	2017
SCALE	3/8" = 1'-0"

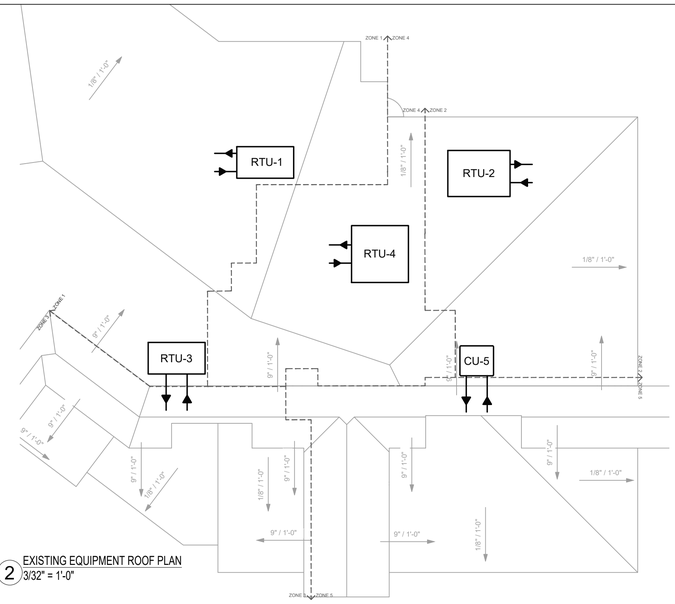
SECTOR B - REMODEL HVAC ATTIC PLAN

M1.1-B

PROJECT 1699



1 REMODEL ZONING & BALANCING PLAN
3/16" = 1'-0"



2 EXISTING EQUIPMENT ROOF PLAN
3/32" = 1'-0"

REMODEL OUTSIDE AIR CALCS

ZONE 1 - SINGLE ZONE, CONSTANT : RTU 1

OUTDOOR AIR AND EXHAUST AIR CALCULATIONS PER IMC TABLE 403.3

SPACE TYPE	BREATHABLE AREA PER IMC (SQ FT)	TOTAL OUTSIDE AIR REQUIRED (CFM)	Exhaust per X	TOTAL EXHAUST REQUIRED (CFM)
Workroom Computer Room (no printing)	570	46	0	0
Workroom Bank Vault/Safe Deposit	304	26	0	0
Education Locker Room Exhaust	147	0	0	74
Private Dwelling Bathroom Intermittent Exhaust per Room	148	0	2	100
TOTAL	1,170	70		175

Provide 70 cfm to HVAC unit.

ZONE 2 -SINGLE ZONE, CONSTANT : RTU 2

OUTDOOR AIR AND EXHAUST AIR CALCULATIONS PER IMC TABLE 403.3

SPACE TYPE	BREATHABLE AREA PER IMC (SQ FT)	TOTAL OUTSIDE AIR REQUIRED (CFM)	Exhaust per X	TOTAL EXHAUST REQUIRED (CFM)
Education Multiuse Assembly	758	614	0	0
Office Space	306	26	0	0
TOTAL	1,064	640		0

Provide 640 cfm to HVAC unit.

ZONE 3 -SINGLE ZONE, CONSTANT : RTU 3

OUTDOOR AIR AND EXHAUST AIR CALCULATIONS PER IMC TABLE 403.3

SPACE TYPE	BREATHABLE AREA PER IMC (SQ FT)	TOTAL OUTSIDE AIR REQUIRED (CFM)	Exhaust per X	TOTAL EXHAUST REQUIRED (CFM)
Office Space	740	63	0	0
TOTAL	740	63		0

Provide 63 cfm to HVAC unit.

ZONE 4 -SINGLE ZONE, CONSTANT : RTU 4

OUTDOOR AIR AND EXHAUST AIR CALCULATIONS PER IMC TABLE 403.3

SPACE TYPE	BREATHABLE AREA PER IMC (SQ FT)	TOTAL OUTSIDE AIR REQUIRED (CFM)	Exhaust per X	TOTAL EXHAUST REQUIRED (CFM)
Workroom Bank Vault/Safe Deposit	584	50	0	0
Office Space	230	20	0	0
TOTAL	814	70		0

Provide 70 cfm to HVAC unit.

ZONE 5 -SINGLE ZONE, CONSTANT : AHU / CU - 5

OUTDOOR AIR AND EXHAUST AIR CALCULATIONS PER IMC TABLE 403.3

SPACE TYPE	BREATHABLE AREA PER IMC (SQ FT)	TOTAL OUTSIDE AIR REQUIRED (CFM)	Exhaust per X	TOTAL EXHAUST REQUIRED (CFM)
Office Space	871	74	0	0
Private Dwelling Bathroom Intermittent Exhaust	153	0	2	100
TOTAL	1,024	75		100

Provide 75 cfm to HVAC unit.

NOTES:
1. INTAKE OPENINGS SHALL BE LOCATED A MINIMUM OF 10 FEET FROM ANY HAZARDOUS OR NOXIOUS CONTAMINANT SUCH AS VENTS, CHIMNEYS, PLUMBING VENTS, STREETS, ALLEYS, PARKING LOTS, AND LOADING DOCKS.
2. AIR INTAKE OPENINGS THAT TERMINATE OUTDOORS SHALL BE PROTECTED WITH CORROSION-RESISTANT SCREENS, LOUVERS OR GRILLES WITH OPENINGS GREATER THAN 1/4 INCH AND NOT GREATER THAN 1/2 INCH.
3. DUCTED OUTSIDE AIR TO UNIT SHALL NOT EXCEED 20 LINEAR FEET. IF A LONGER LENGTH IS NEEDED IN THE FIELD, CONTRACTOR TO INCREASE TO THE NEXT DUCT SIZE OR CONTACT UNDERSIGNED ENGINEER FOR FURTHER DESIGN OPTIONS.
4. CONTACT BRIAN JILEK WITH LENNOX COMMERCIAL FOR CUSTOM PRICING ON UNITS SPECIFIED: 817-304-8263.

GENERAL MECH. REMODEL NOTE:
HATCHED AREAS SHOWN ON FLOOR PLAN ARE NOT TO BE CONSIDERED WITHIN THE SCOPE OF CURRENT REMODEL PLANS WHERE SHOWN. SURROUNDING MEP INFORMATION ANNOTATED WHEN APPLICABLE:

REMODEL HVAC LEGEND

SYM	DESCRIPTION
10"Ø	SUPPLY AIR ROUND DUCT - INSIDE DIAMETER LISTED
16"Ø	RETURN AIR ROUND DUCT - INSIDE DIAMETER LISTED
	SUPPLY AIR FLEX DUCT FOR RUNS LESS THAN 5'
	6X12 RESTROOM SUPPLY DIFFUSER TO REMAIN IN PLACE AND SIZED FOR 45 CFM MAXIMUM.
	(NEW/RELOCATED) 24x24 SUPPLY DIFFUSER. SIZE PER MANUF RECOMMENDATION FOR CFM REQUIREMENTS.
	(NEW/RELOCATED) 24x24 RETURN GRILLE. SIZE PER MANUF RECOMMENDATION FOR CFM REQUIREMENTS.
	(NEW/RELOCATED) 12x24 RETURN GRILLE. SIZE PER MANUF RECOMMENDATION FOR CFM REQUIREMENTS.
	(NEW) HVAC ATTIC AIR HANDLER
	(NEW) HVAC HP CONDENSER UNIT
	(EXIST.) 24x24 SUPPLY DIFFUSER. SIZE PER MANUF RECOMMENDATION FOR CFM REQUIREMENTS.
	(EXIST.) 24x24 RETURN GRILLE. SIZE PER MANUF RECOMMENDATION FOR CFM REQUIREMENTS.
	(EXIST.) HVAC ATTIC AIR HANDLER
	(EXIST.) HVAC HP CONDENSER UNIT
T#	THERMOSTAT # = WITH OPTIONAL ZONE LABEL SHOWN 75° = EXHAUST FAN CONTROL, ACTUATION @ 75°F
T	EXISTING THERMOSTAT - TO REMAIN IN PLACE FOR THE SPECIFIED ZONE AS SHOWN
	EXHAUST FAN - CLG MOUNTED. SEE SCHEDULE THIS SHEET.
	LOUVERED DOOR OR DOOR UNDERCUT A MINIMUM 2" TO ALLOW FOR RETURN AIR FLOW
	MANUAL VOLUME DAMPER
ZONE #	ZONE DEMARCATION LINE & MARKERS TO BE UTILIZED FOR HVAC REMODEL DESIGN.
	OUTSIDE AIR INTAKE VENT-THROUGH-ROOF W/ FAN. TO BE UTILIZED WITH CODE-COMPLIANT ROOF INSTALLATIONS W/ SCREENING AND PROTECTION AS APPLICABLE.
	TRANSFER AIR WALL DUCT FOR RETURN AIRFLOW BALANCE BETWEEN ROOMS, SIZED FOR THE MINIMUM CFM SPECIFIED HEREIN.

*NOT ALL SYMBOLS MAY BE USED.

CONTACT BRIAN JILEK WITH TEXAS AIR SYSTEMS IN FORT WORTH AT 214-364-8264 OR THE MAIN OFFICE AT 817-838-7400 WITH PRODUCT QUESTIONS.

REMODEL MECHANICAL NOTES BY SYMBOL

1. EXISTING EXHAUST FANS TO REMAIN IN PLACE FOR FINAL REMODEL DESIGN IF MINIMUM CFM REQUIREMENT IS MET SPECIFIED HEREIN.
2. NEW 2.5T HEAT PUMP SPLIT SYSTEM TO BE INSTALLED FOR PUBLIC WORKS REMODEL AREA. PER SCHEDULES & PLAN DESIGN. SEE SHEET M1.1-B FOR MECHANICAL EQUIPMENT LOCATIONS.
3. REUTILIZE EXISTING AIR HANDLER FOUND IN SECTOR A UTILIZED WITH CONDENSING UNIT 3. CONTRACTOR TO VERIFY MECHANICAL SIZE REQUIREMENTS OF 1.5 TONS (18,000 NET BTU/HR) AND OTHER COMPARABLE DATA SHOWN ON SCHEDULE.
4. EXISTING THERMOSTAT TO REMAIN
5. EXISTING ROOM NOT AVAILABLE FOR ENTRY AT TIME OF INSPECTION. FOR BOTH ELECTRICAL AND MECHANICAL DATA, COMPONENTS SHOWN TO BE REUSED ARE ASSUMED TO BE AVAILABLE FOR FINAL REMODEL DESIGN. CONTRACTOR TO VERIFY COMPONENTS AVAILABILITY & TO NOTIFY OF ANY SIGNIFICANT MEP COMPONENTS FOR INSPECTION.

AMPS TO MECHANICAL TONNAGE: ESTIMATED CALCULATIONS

(MECHANICAL EQUIPMENT SIZING GIVEN EXISTING ELECTRICAL INSTALLATIONS THROUGHOUT)

TAG	MOCP	73% OF MOCP ≈ MCA	KW = MCA*208V(3ϕ)	BTUH = KW*3412 (BTUH/KW)	TONNAGE= BTUH/12,000 (BTU/TON)
RTU-1	90	65.7	23.7	80760.4	6.7
RTU-2	50	36.5	13.1	44866.9	3.7
RTU-3	40	29.2	10.5	35893.5	3.0
RTU-4	40	29.2	10.5	35893.5	3.0
*AHU-5/CU-5	40	29.2	10.5	48000	4

NOTES:
1. PROVIDE ALL UNITS COMPLETE WITH FILTERS, PIPING AND WIRING REQUIRED. VENT FLUE THRU ROOF OR WALL CAP AS REQUIRED.
2. CONTRACTOR TO REFER TO UNIT HEATER SPECIFICATION DOCUMENTS PRIOR TO INSTALLATION.
3. MOUNTING HEIGHT IS BOTTOM OF UNIT HEATER TO FINISHED FLOOR.
4. MODINES TO BE SINGLE STAGE, NATURAL GAS, DIRECT SPARK IGNITION.
5. PROVIDE DRAIN PAN AND EXTEND CONDENSATE LINE TO AHU APPROVED LOCATION.
6. ROOFTOP UNITS TO BE INSTALLED WITH BAROMETRIC RELIEF DAMPERS.

BTU REQUIRED FOR ELECTRIC DUCT HEATER W/ RTU-1 BASED ON:
MOCP OF 90A / 1.2 = 75A
KW = 75A*208V(3ϕ)

OWNER, TENANT OR ARCHITECT MAY CHANGE EQUIPMENT MANUFACTURER, BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
CONTACT BRIAN JILEK WITH LENNOX COMMERCIAL FOR CUSTOM PRICING ON UNITS SPECIFIED:
817-304-8263.

*AHU-5 / CU-5 MODEL FOUND ON-SITE:
LENNOX
CX34-50/60C-6F
½ TONS @ 48 KBTUH
4-TONS @ 1600 CFM
GAS-FURNACE W/
ELEC. HEAT PUMP

THEREFORE, BTUH REQUIRED FOR ELECTRIC DUCT HEATER:

REMODEL AIR BALANCE SUMMARY

NOMINAL SUPPLY CFM PER KBTUH	A/C AREA @ EACH ZONE	SUPPLY REQUIRED	DESIGN SUPPLY	RETURN	OUTSIDE AIR	SUPPLEMENTAL EXHAUST	+/− CFM
2692.000000	1170.00	2106	2110	2040	70	100	-100
1495.600000	1064.00	1490	1480	840	640	0	0
1196.400000	722.00	1011	1020	955	65	0	0
1196.400000	806.00	1128	1130	1060	70	0	0
1600	1024.00	1434	1600	1525	75	100	-100
6582.000000	4786.0	7168	7340	6420	920	200	-200

27.0

92,189.5

OVERALL AIR BALANCE PRESSURE FOR SECTOR C:

NEGATIVE

EXHAUST FAN SCHEDULE

UNIT	QTY.	MANUFACTURER AND MODEL NUMBER	CFM	SONES	ELECT.	AMPS	WATTS
EF-0	4	BROAN XB50	50	.3	120V/1P	.3	4.9
EF-1	2	COOK GEMINI GCVF-100	100	1.7	120V/1P	0.05	6

ALL BROAN XB SERIES FANS 1) USE 4"Ø DUCT AT 0.1 STATIC PRESSURE; 2) HAVE FACEPLATE SIZE OF 13"x14"; 3) ARE 120V/1PH WITH 20A/1P BREAKERS.
COOK GEMINI GCVF-100 TO BE EQUIPPED WITH THERMOSTAT-BASED CONTROL MODULE, ALUMINUM FACEPLATE AND TO BE INSTALLED WITHIN CEILING PANELS AS SHOWN.

CONTRACTOR RESPONSIBILITIES	NOTE TO BIDDERS
CONTRACTOR SHALL REPORT ANY DISCREPANCIES, OMISSIONS OR INCONSISTENCIES ON THE DRAWINGS TO ENGINEER FOR VERIFICATION BEFORE STARTING CONSTRUCTION. OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR ANY ERRORS IN CONSTRUCTION WHERE SUCH DISCREPANCIES, OMISSIONS OR INCONSISTENCIES HAVE NOT BEEN PROPERLY REPORTED IN A TIMELY MANNER.	THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.

MEP GENERAL NOTES

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2. CONTRACTORS TO CONFIRM ALL SPECIFICATIONS HEREIN WITH ACTUAL EQUIPMENT IN FIELD PRIOR TO PURCHASE AND INSTALLATION.
3. REVIEW PLAN SHEET "MEP0 - MEP NOTES" PRIOR TO BIDDING, PERMITTING, AND CONSTRUCTION.
4. THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.
5. SEE CIVIL AND ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ALL FIXTURES AND STRUCTURES.
6. SEE ARCHITECTURAL FINISH OUT SCHEDULES FOR SPECIFIC MODELS, COLORS AND DESIGN NOT DEFINED HEREIN.
7. WITH OWNER APPROVAL, CONTRACTOR MAY CHANGE SPECIFIED EQUIPMENT BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
8. CONTRACTOR TO CONTACT AME ENGINEERING, INC. AT 817-653-4122 PRIOR TO ANY SIGNIFICANT DESIGN REVISIONS.
9. DETAILS LABELED "TYPICAL" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE OR ARE SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE DRAWINGS CAN BE DETERMINED BY THE TITLE OF DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.

TEXAS FIRM F-16469
AME Engineering, Inc.
mail@ameengineer.com | ofc 817-653-4122 | fax 817-754-6615
3825 W Green Oaks Blvd Suite 200, Arlington TX 76016-2700

STATE OF TEXAS
JESSICA J. KILGORE
106106
LICENSED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL

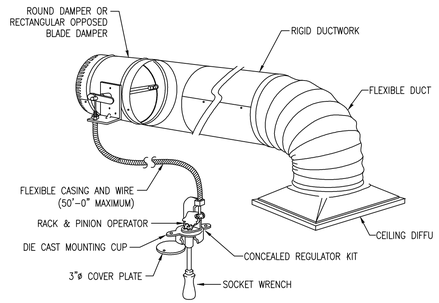
2600 ROOSEVELT DRIVE
DALWORTHINGTON GARDENS, TEXAS 76016

CONTACT NAME	CHIEF GREG PETTY
CONTACT COMPANY	DWG POLICE & FIRE
CONTACT PHONE	817-275-1234
ISSUE:	
CLIENT REVIEW SET 2/15/23	
FINAL COUNCIL REVIEW 06/19/23	
FINAL PERMIT SET 06/26/23	
ADA REVISION SET 08/04/23	
SHEET REVISIONS	
PRINTED	8/4/2023 3:54 PM
DESIGNED	JL
CHECKED	JJK
IBC	2015
IECC/ASHRAE	2015
NEC	2017
SCALE	3/32" = 1'-0"

SECTOR C - REMODEL HVAC PLANS

M1.0-C

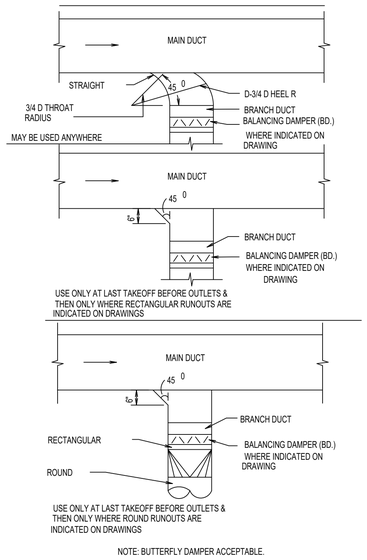
PROJECT 1699



NOTES:

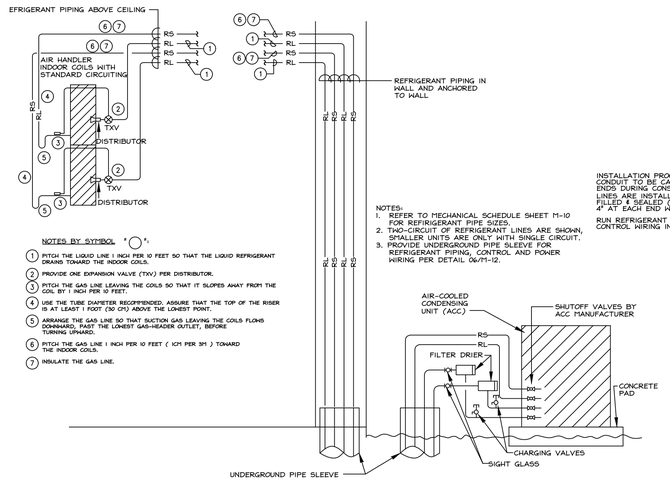
1. COORDINATE EXACT LOCATION OF CEILING MOUNTED CONCEALED REGULATOR WITH A PRIOR TO INSTALLATION.
2. THE CABLE CONTROL SYSTEM IS DESIGNED TO BE IMBEDDED IN THE CEILING FLUSH-FINISHED SURFACE.
3. CONTROL WIRE SHALL BE STAINLESS STEEL AND ENCAPSULATED IN 1/16" FLEXIBLE GALVANIZED SPIRAL WIRE SHEATH.
4. LOCKING RACK AND PINION GEAR DRIVE SHALL BE CONSTRUCTED OF 13 GAUGE ST SHALL BE USED TO CONVERT ROTARY MOTION INTO PUSH-PULL MOTION.

1 CONCEALED DAMPER REGULATOR DETAIL
NO SCALE



NOTE: BUTTERFLY DAMPER ACCEPTABLE.

2 TYPICAL BRANCH DUCT CONNECTION
NO SCALE



NOTES BY SYMBOL * ○ *:

1. PITCH THE LIQUID LINE 1 INCH PER 10 FEET SO THAT THE LIQUID REFRIGERANT DRAINS TOWARD THE INDOOR COILS.
2. PROVIDE ONE EXPANSION VALVE (TXV) PER DISTRIBUTOR.
3. PITCH THE GAS LINE LEAVING THE COILS SO THAT IT SLOPES AWAY FROM THE COIL BY 1 INCH PER 10 FEET.
4. USE THE TUBE DIAMETER RECOMMENDED. ASSURE THAT THE TOP OF THE RISER IS AT LEAST 1 FOOT (30 CM) ABOVE THE LOWEST POINT.
5. ARRANGE THE GAS LINE SO THAT SUCTION GAS LEAVING THE COILS FLOWS DOWNWARD, PAST THE LOWEST GAS-HEADER OUTLET, BEFORE TURNING UPWARD.
6. PITCH THE GAS LINE 1 INCH PER 10 FEET (1CM PER 3M) TOWARD THE INDOOR COILS.
7. INSULATE THE GAS LINE.

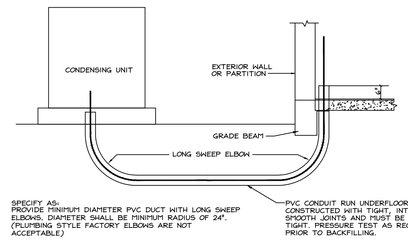
NOTES:

1. REFER TO MECHANICAL SCHEDULE SHEET M1-10 FOR REFRIGERANT PIPE SIZES.
2. TWO-CIRCUIT OF REFRIGERANT LINES ARE SHOWN, SMALLER UNITS ARE ONLY WITH SINGLE CIRCUIT.
3. PROVIDE UNDERGROUND PIPE SLEEVE FOR REFRIGERANT PIPING, CONTROL AND POWER WIRING PER DETAIL 06/M1-12.

3a TYPICAL AHU / CU REFRIGERANT PIPING DIAGRAM
NO SCALE

INSTALLATION PROCEDURE:
CONDUIT TO BE CAPPED AND SEALED AT BOTH ENDS DURING CONSTRUCTION. AFTER LINES ARE INSTALLED, THE OPEN ENDS ARE TO BE FILLED & SEALED (WATERTIGHT) APPROXIMATELY 4" AT EACH END WITH BITUMASTIC SEALANT.

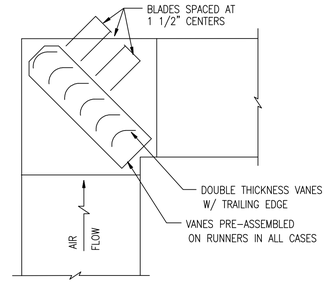
RUN REFRIGERANT PIPING, ELECTRICAL POWER & CONTROL WIRING INSIDE PVC SLEEVE.



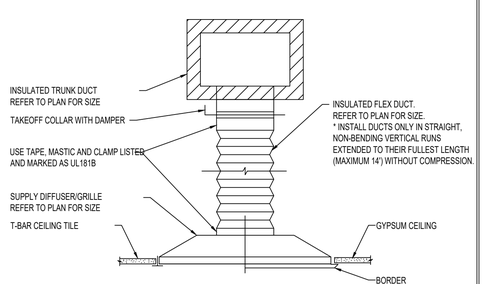
SPECIFY AS:
PROVIDE MINIMUM DIAMETER PVC DUCT WITH LONG SWEEP ELBOWS. DIAMETER SHALL BE MINIMUM RADIUS OF 24". (PLUMBING STYLE FACTORY ELBOWS ARE NOT ACCEPTABLE)

PVC CONDUIT RUN UNDERFLOOR MUST BE CONSTRUCTED WITH TIGHT, INTERNALLY SMOOTH JOINTS AND MUST BE AIR LEAK TIGHT. PRESSURE TEST AS REQUIRED PRIOR TO BACKFILLING.

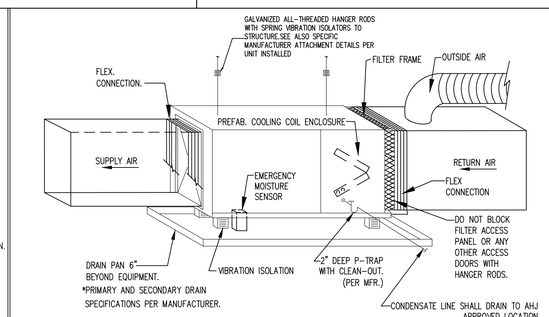
3b TYPICAL PVC SLEEVE DETAIL
NO SCALE



4 TYPICAL RECTANGULAR DUCT ELBOW DETAIL
NO SCALE



5 TYPICAL CEILING DIFFUSER CONNECTION
NO SCALE

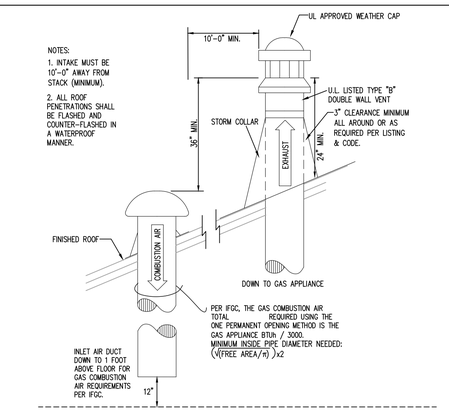


NOTE: GALVANIZED DRAIN PAN WITH MICRO-FLOAT SWITCH. INTERLOCK FLOAT SWITCH WITH AIR HANDLER SHUT-DOWN. INSTALL FLOAT SWITCH IN ONE CORNER OF PAN AND TILT PAN TO THAT CORNER.

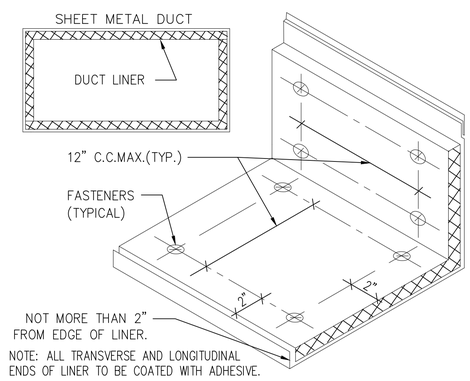
6 TYPICAL HORIZONTAL AIR HANDLER DETAIL
NO SCALE

NOTES:

1. INTAKE MUST BE 10'-0" AWAY FROM STACK (MINIMUM).
2. ALL ROOF PENETRATIONS SHALL BE FLASHED AND COUNTER-FLASHED IN A WATERPROOF MANNER.

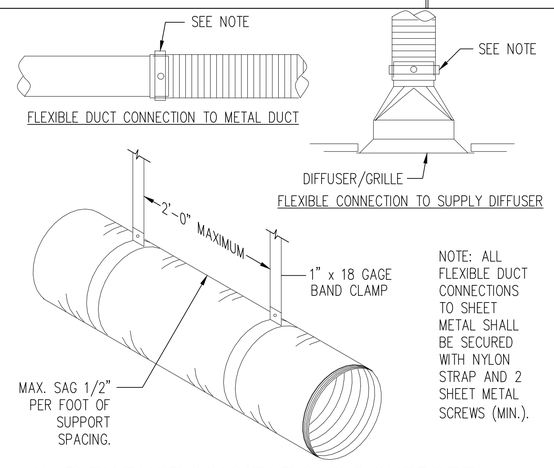


7 TYPE "B" FLUE AND GAS COMBUSTION AIR DETAIL
NO SCALE



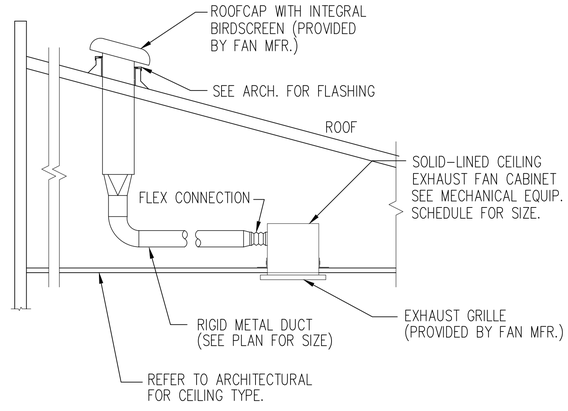
NOTE: ALL TRANSVERSE AND LONGITUDINAL ENDS OF LINER TO BE COATED WITH ADHESIVE.

8 DUCT LINER DETAIL
NO SCALE



NOTE: ALL FLEXIBLE DUCT CONNECTIONS TO SHEET METAL SHALL BE SECURED WITH NYLON STRAP AND 2 SHEET METAL SCREWS (MIN.).

9 FLEX DUCT CONNECTIONS & SUPPORT
NO SCALE



10 TYPICAL EXHAUST FAN DETAIL
NO SCALE

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AME Engineering, Inc.
mail@ameengineer.com | ofc 817-653-4122 | fax 817-754-6615
3825 W Green Oaks Blvd Suite 200, Arlington TX 76016-2700

STATE OF TEXAS
JESSICA J. KILGORE
106106
LICENSED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL

2600 ROOSEVELT DRIVE
DALWORTHINGTON GARDENS, TEXAS 76016

CONTACT NAME	CHIEF GREG PETTY
CONTACT COMPANY	DWG POLICE & FIRE
CONTACT PHONE	817-275-1234

ISSUE:

- CLIENT REVIEW SET 2/15/23
- FINAL COUNCIL REVIEW 06/19/23
- FINAL PERMIT SET 06/26/23
- ADA REVISION SET 08/04/23

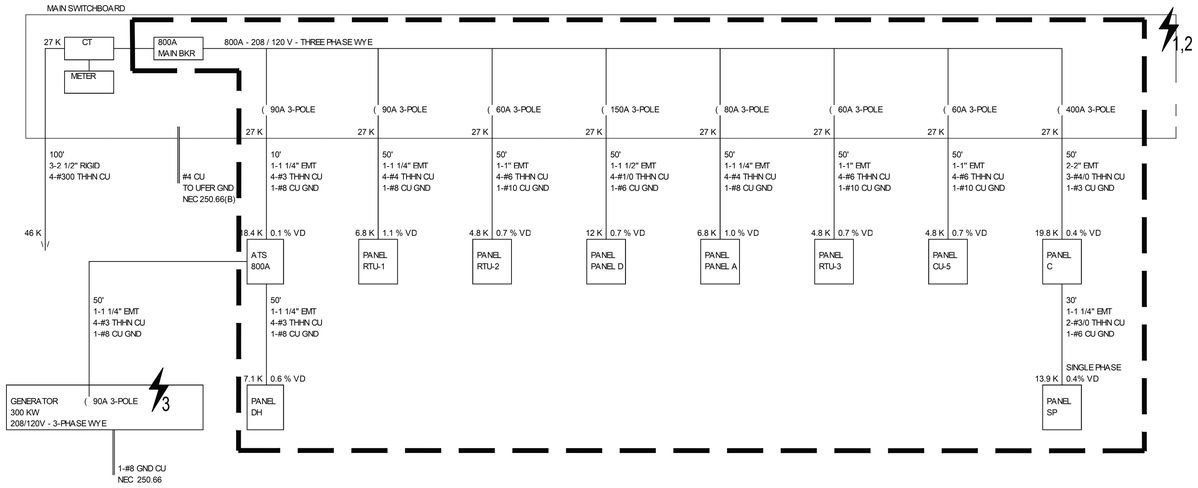
SHEET REVISIONS

PRINTED	8/4/2023 3:54 PM
DESIGNED	JL
CHECKED	JJK
IBC	2015
IECC/ASHRAE	2015
NEC	2017
SCALE	AS SHOWN

HVAC DETAILS

M2.0

PROJECT 1699



MAIN BREAKER PANEL 1,2

#	BREAKER	CIRCUIT	VA	POLE	VA	CIRCUIT	BREAKER	#
1	90A/3P	DUCT HEATER	9006	L1	9006	RTU-1	90A/3P	2
3	90A/3P	-	9006	L2	9006	-	90A/3P	4
5	90A/3P	-	9006	L3	9006	-	90A/3P	6
7	40A/3P	RTU-2	3506	L1	3506	RTU-3	40A/3P	8
9	40A/3P	-	3506	L2	3506	-	40A/3P	10
11	40A/3P	-	3506	L3	3506	-	40A/3P	12
13	150A/3P	PANEL D	14410	L1	4383	AHU-5 / CU-5	50A/3P	14
15	150A/3P	-	14410	L2	4383	-	50A/3P	16
17	150A/3P	-	14410	L3	4383	-	50A/3P	18
19	XXX	SPARE	-	L1	7685	PANEL B	80A/3P	20
21	XXX	-	-	L2	7685	-	80A/3P	22
23	XXX	-	-	L3	7685	-	80A/3P	24
25	400A/3P	PANEL C	38427	L1	9606	PANEL A	100A/3P	26
27	400A/3P	-	38427	L2	9606	-	100A/3P	28
29	400A/3P	-	38427	L3	9606	-	100A/3P	30
31	800A/3P	800 A TRANSFER SWITCH	-	L1	-	800 A TRANSFER SWITCH	800A/3P	32
33	800A/3P	-	-	L2	-	-	800A/3P	34
35	800A/3P	-	-	L3	-	-	800A/3P	36
TOTAL APPARENT POWER DRAW			196047	VA	102558	TOTAL APPARENT POWER DRAW		
TOTAL APPARENT POWER DRAW FOR 80% DEMAND PER NEC						373256.25		VA
TOTAL CURRENT DRAW @ RATED DEMAND LOAD PER NEC (120/208V, 3ϕ, EXISTING SERVICE)						777		A

REMODEL BREAKER SIZING SCHEDULE (@120V/240V, 1ϕ, PANEL C) 1

NAME	PC–#	MINIMUM POWER (W)	MCA (A)	CIRCUIT @ RATED DEMAND PER (NEC 220)	MAX CURRENT LOAD (A)	MOCP (A/P)
LIGHT(OPT.)	1	1800	15.0	2160.0	18.0	20A/1P
EMERG. LIGHTS/FACP	2	1500	12.5	1800.0	15.0	20A/1P
EXIST EXT. LIGHTS	3	1200	10.0	1440.0	12.0	15A/1P
C# / L#	4	165	1.4	198.0	1.7	15A/1P
SERVICE QUAD	5	1200	10.0	1440.0	12.0	15A/1P
EVI / FIRE REC.	6	1080	9.0	1296.0	10.8	15A/1P
BUNK REC	7	1440	12.0	1728.0	14.4	15A/1P
RR–GFCI	8	500	4.2	600.0	5.0	15A/1P
RR–GFCI	9	500	4.2	600.0	5.0	15A/1P
IT ROOM	10	1800	15.0	2160.0	18.0	25A/1P
WASH/AIR REC	11	840	7.0	1008.0	8.4	15A/1P
PW REC	12	960	8.0	1152.0	9.6	15A/1P
WENCH	13	960	8.0	1152.0	9.6	15A/1P
CITY PANEL	14	900	7.5	1080.0	9.0	15A/1P
SPARE	15	1800	15.0	2160.0	18.0	20A/1P
AHU–1	16,18	5532	26.6	6915.0	33.2	40A/2P
CU–1	17,19	8736	42.0	10920.0	52.5	60A/2P
AHU/CU–2	20,22	5491	26.4	6863.8	33.0	20A/2P
AHU–3	21,23	1664	8.0	2080.0	10.0	15A/2P
CU–3	24,26	2516	12.1	3145.0	15.1	25A/2P
EXIST AHU	25,27	2787	13.4	3483.8	16.7	25A/2P
EXIST CU	28,30	3536	17.0	4420.0	21.3	25A/2P
AHU/CU–4	29,31	2080	10.0	2600.0	12.5	15A/2P
EWH	32,34	12000	50.0	14400.0	69.2	70A/2P
LIGHTING LOADS (CONTINUOUS = 1ST 3KVA, REMAINDER @ 35%)						7782.8
RECEPTACLE LOADS (DIVERSIFIED = 1ST 10KVA, REMAINDER @ 50%)						10990.0
MOTOR (430.24) = SUM OF MOTORS + 25% OF LARGEST						34526.0
TOTAL POWER DEMAND PER–PHASE @ 70% TOTAL DEMAND, 220.61(B)(2)						37309.1
QTY	33	TOTAL SERVICE LOAD				155.0

REMODEL BREAKER SIZING SCHEDULE (@120V/208V, 3ϕ, PANEL D) 1

NAME	MINIMUM LOAD & CIRCUIT DESIGNATION			LOAD CALCULATIONS PER NEC (C,D,G,M)		MOCP (A/P)
	PC–#	MINIMUM POWER (W)	MCA (A)	CIRCUIT @ RATED DEMAND PER (NEC 220)	MAX. CURRENT LOAD (A)	
NEW LIGHTS	1	1800	15.0	2160.0	18.0	20A/1P
NEW LIGHTS	2	1800	15.0	2160.0	18.0	20A/1P
NEW+EXI.	3	1800	15.0	2160.0	18.0	20A/1P
EXI. LIGHTS	4	1800	15.0	2160.0	18.0	20A/1P
C# / L#	5	545	4.5	654.0	5.5	15A/1P
YANCEY/300	6	1080	9.0	1350.0	11.3	15A/1P
300/FIKE	7	1080	9.0	1350.0	11.3	15A/1P
OFF. AREA	8	1800	15.0	2250.0	18.8	15A/1P
REF 1	9	800	6.7	1000.0	8.3	15A/1P
REF 2	10	800	6.7	1000.0	8.3	15A/1P
GFCI–POL KIT	11	1200	10.0	1440.0	12.0	15A/1P
MICRO	12	1200	10.0	1440.0	12.0	15A/1P
GFCI–POL KIT	13	1200	10.0	1440.0	12.0	15A/1P
STO/LOCK/ARM	14	1920	16.0	2400.0	20.0	20A/1P
DIS/SELL/CONF	15	1920	16.0	2400.0	20.0	20A/1P
SERVER QUAD	16	1920	16.0	2400.0	20.0	20A/1P
TRA/POL/INT/B	17	1920	16.0	2400.0	20.0	20A/1P
REF 3	18	800	6.7	1000.0	8.3	15A/1P
DW	19	800	6.7	960.0	8.0	20A/1P
KITCH GFCI	20	1440	12.0	1800.0	15.0	20A/1P
KITCH DISP	21	800	6.7	1000.0	8.3	15A/1P
OFF. AREA 2	22	1920	16.0	2400.0	20.0	20A/1P
RR1 GFCI	23	1440	12.0	1800.0	15.0	15A/1P
RR2 GFCI	24	1440	12.0	1800.0	15.0	15A/1P
RR3 GFCI	25	1440	12.0	1800.0	15.0	15A/1P
RR4 GFCI	26	1440	12.0	1800.0	15.0	15A/1P
EWC	27	800	6.7	1000.0	8.3	15A/1P
RANGE	28,30	2400	11.5	2880.0	24.0	15A/2P
RANGE	29,31	2400	11.5	2880.0	24.0	15A/2P
LIGHTING LOADS (CONTINUOUS = 1ST 3KVA, REMAINDER @ 35%)						4660.8
RECEPTACLE LOADS (DIVERSIFIED = 1ST 10KVA, REMAINDER @ 50%)						19580.0
APPLIANCE LOADS @ < 3½ KW = 75% DEMAND (TABLE 220.55)						3600.0
TOTAL POWER DEMAND FOR SERVICE FEEDER & NEUTRAL LOAD, 220.61						27840.8
QTY	31	TOTAL SERVICE LOAD (A)				77.0

LOAD CALCULATIONS FOR - MAIN SWITCHBOARD
BASED ON THE 2020 NEC 2

	L1	L2	L3	NEC 220.61(A) NEUTRAL
CALCULATED LOAD (NEC 215.5)	91,215 VA	91,215 VA	104,241 VA	104,241 VA
CALCULATED LOAD WITH DEMAND FACTORS (NEC 215.5)				
GENERAL LOAD	39,687 VA	48,543 VA	26,718 VA	48,543 VA
RECEPTACLE LOAD (NEC TABLE 220.44)				
1ST 10,000W	1,011 VA	0 VA	8,989 VA	0 VA
REMAINDER @ 50%	1,656 VA	0 VA	14,718 VA	0 VA
CONTINUOUS LOAD (NEC 215.2)	14,860 VA	10,327 VA	15,610 VA	10,327 VA
PLUS 25%	3,715 VA	2,582 VA	3,903 VA	2,582 VA
				2,582 VA
MOTOR LOAD (NEC 430.24)	32,345 VA	32,345 VA	23,489 VA	32,345 VA
PLUS 25% OF LARGEST MOTOR	1,107 VA	1,107 VA	1,081 VA	1,107 VA
KITCHEN LOADS (NEC 220.56)				
L1 (0 X 1) =	0 VA			
L2 (0 X 1) =		0 VA		0 VA
L3 (0 X 1) =			0 VA	
TOTAL BALANCED LOAD (3-PHASE)	94,381 VA	94,381 VA	94,381 VA	
TOTAL BALANCED LOAD (1-PHASE)	0 VA	127 VA	127 VA	
TOTAL UNBALANCED LOAD (1-PHASE)	0 VA	396 VA	0 VA	
				97,486 VA
LINE AMPS BALANCED (3-PHASE)	785.9 A	785.9 A	785.9 A	
LINE AMPS BALANCED (1-PHASE)	0.0 A	1.2 A	1.2 A	
LINE AMPS UNBALANCED (1-PHASE)	0.0 A	3.3 A	0.0 A	
TOTALS	785.9 A	790.4 A	787.1 A	790.4 A
ADJUSTMENT FACTOR	0.0 A	0.0 A	0.0 A	0.0 A
TOTAL DESIGN LOAD	785.9 A	790.4 A	787.1 A	790.4 A

HARMONIC CURRENT CALCULATION (NEC 310.15 (B) 4 (C) & NEC TABLE 310.15 B (2) A)
(Harmonic Load 0 VA ÷ Connected Load 286,671 VA) X 100 = 0 %
Harmonic Load Does Not Exceed 50%

FAULT CURRENT CALCULATIONS
Available Fault Current at Starting Point ((44,903 AFC x 1.00 UA) + 1,076 MC) = 45,979 AFC
Conductor Factor CF - Formula (1.732 x 100 L x 45,979 AFC) ÷ (18,177 C x 3 N x 208 SV) = 0.702 CF
Conductor Multiplier CM - Formula (1) ÷ (1 + 0.702 CF) = 0.588 CM
Conductor Let-Through Current CLC - Formula (45,979 AFC x 0.588 CM) = 27,036 CLC

A - Amps
AFC - Available Fault Current
C - Conductor Constant
CF - Conductor Factor
CLC - Conductor Let-Through Current
CM - Conductor Multiplier
L - Length of Conductor
MC - Motor Contribution
N - Number of Conductors Per Phase
SV - Secondary Voltage
UA - Utility Adjustment
VA - Volt Amps

REMODEL LIGHT FIXTURE SCHEDULE - TOTAL BUILDING LOAD 4

MARK	FIXTURE TYPE	SYMBOL	DESCRIPTION	MH[1]	QTY.	WATTS[2]	TOTAL WATTS (W)	TOTAL AMPS (A)
E1	2'X4' LED PANEL		LITHONIA CONFIGURABLE CPX LED PANELS (CPX 2X4 4000LM 80CRI 35K SWL MIN 10 ZT MVOLT E10 WLCP)	2X4 ACT, PER PLAN	97	40	3880	32.33
E2	1'X4' LED PANEL		LITHONIA CONFIGURABLE CPX LED PANELS (CPX 3200LM 80CRI 35K SWL MIN 10 ZT MVOLT E10 WLCP)	2X4 ACT, PER PLAN	10	32	320	2.67
E3	2X2' LED PANEL		LITHONIA CONFIGURABLE CPX LED PANELS (CPX 2X2 3200LM 80CRI 35K SWL MIN 10 ZT MVOLT E10 WLCP)	2X4 ACT, PER PLAN	12	31	372	3.10
E4	8' LOW-PROFILE LED		LITHONIA TZ232 MV TANDEM, T8 LOW-PROFILE STRIP	MOUNTED TO ROOF PURLINS	9	32	288	2.40
						TOTAL LIGHTING POWER	4860.0	40.5
						TOTAL ALLOWABLE INTERIOR WATTAGE PER CURRENTLY ADOPTED IECC	7886	

NOTES:
1. SOLID HATCH ON SYMBOL OR 'EM' LABEL INDICATES EMERGENCY LIGHTING SYSTEM FIXTURE AND REQUIRES EMERGENCY BALLAST
2. 'NL' LABEL INDICATES UNSWITCHED NIGHTLIGHT FIXTURE; 'MH' MOUNTING HEIGHT; 'AFF' ABOVE FINISH FLOOR; 'AG' ABOVE GRADE
3. STD-STANDARD; OS-OCCUPANT SENSOR; DIM-DIMMING. CONTRACTOR TO ENSURE COMPATIBLE BALLAST IS PROVIDED TO MATCH SWITCHING AS SHOWN ON PLANS.
4. ALL FIXTURES SPECIFIED AT 120V-1PH.

* OWNER, TENANT OR ARCHITECT MAY CHANGE EQUIPMENT MANUFACTURER OR USE EXISTING EQUIPMENT AS APPLICABLE, BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
* CONTRACTOR TO VERIFY ALL FIXTURES WITH OWNER PRIOR TO PURCHASE AND INSTALLATION.

POWER NOTES BY SYMBOL

1. ALL EXISTING POWER PANELS LOCATED WITHIN THE REMODEL AREA TO REMAIN IN SERVICE, AND/OR TO BE RELOCATED AS SHOWN ON FINAL REMODEL PLANS THROUGHOUT. ELECTRICAL CONTRACTOR TO ENSURE THAT ALL POWER PANELS MAINTAIN EXISTING SERVICE AND INTERIOR MAIN BREAKER SERVICE CONNECTIONS.
2. ESTIMATED LOAD DISTRIBUTION PROVIDED BY BEST AVAILABLE INFORMATION AT TIME OF INSPECTION & DESIGN. ELECTRICAL CONTRACTOR TO VERIFY FEASIBILITY OF FINAL REMODEL POWER DISTRIBUTION & TO COORDINATE WITH UNDERSIGNED ENGINEER IF FURTHER RE-DESIGN WORK IS REQUIRED TO SUSTAIN BUILDING LOAD.
3. GENERATOR AND 90A TRANSFER SYSTEM TO REMAIN IN PLACE AND IN-SERVICE AS REQUIRED. ANY MODIFICATIONS TO ELECTRICAL SYSTEM SHALL NOT PERTURB THE EMERGENCY TRANSFER SYSTEM IN ANY WAY. ELECTRICAL CONTRACTOR TO VERIFY ALL NECESSARY CHANGES SURROUNDING THE GENERATOR SYSTEM & SWITCH, AS NEEDED, W/ OWNER AND ANY EMERGENCY SYSTEMS IN PLACE.
4. ALL LIGHTING FIXTURES TO BE REPLACED THROUGHOUT (PER OWNER REQUEST). ALL FIXTURES ARE SCHEDULED ON THIS SHEET TO REFLECT TOTAL FIXTURE COUNT & MODEL INFORMATION FOR VERIFICATION AND NECESSARY SERVICE APPLICATIONS TO ADDITIONAL SERVICE DEMANDS.
5. ELECTRICAL CONTRACTOR TO VERIFY LOCATION OF PANEL CIRCUITING FOR CAMERA & LOCK SYSTEM FOR THE ENTIRE BUILDING. CURRENTLY SHOWN AS SEPARATE CONTINUOUS LOADS FOR EACH RESPECTIVE SECTOR. TOTAL ACCUMULATIVE LOADS (EXISTING & NEW) ARE SHOWN ON THIS PLAN AND EACH SECTOR (SHEETS: E1.0-A, E2.0-B, E2.0-C) IN ORDER TO HELP DETERMINE BOTH THE POWER & NETWORKING DISTRIBUTION THROUGHOUT THE BUILDING'S EXISTING & CONCLUSIVE REMODELED SYSTEM.

CAMERAS AND LOCKS SCHEDULE (TOTAL) 5

NAME	QTY	CURRENT (A)	POWER (W)	TOTAL POWER (W)
CAMERAS	29	0.125	15	435
LOCKS	35	0.083	10	349
TOTAL QTY				64
TOTAL POWER DRAW FOR BOTH SYSTEMS				784
TOTAL CURRENT DRAW FOR BOTH SYSTEMS				6.5
BREAKER SIZE REQUIRED (MOCP)				15A / 1P
VOLTAGE RATING AT SINGLE PHASE 120 V_{AC}, W/ INTERNAL CONVERSION @ EACH				
CAMERA RATING BASED ON HIGHEST DC TO AC RATING ($0.9A_{DC}$ @ $12V_{DC}$) = 15 VA				
LOCK RATING BASED ON HIGHEST DC TO AC RATING ($0.6A_{DC}$ @ $12V_{DC}$) = 10 VA				

NOTE TO BIDDERS	CONTRACTOR RESPONSIBILITIES
THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.	CONTRACTOR SHALL REPORT ANY DISCREPANCIES, OMISSIONS OR INCONSISTENCIES ON THE DRAWINGS TO ENGINEER FOR VERIFICATION BEFORE STARTING CONSTRUCTION. OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR ANY ERRORS IN CONSTRUCTION WHERE SUCH DISCREPANCIES, OMISSIONS OR INCONSISTENCIES HAVE NOT BEEN PROPERLY REPORTED IN A TIMELY MANNER.

ELECTRICAL REMODEL LEGEND

SYM	DESCRIPTION
	DATA JACK (COAXIAL / ETHERNET)
J	JUNCTION BOX (J-BOX)
	DISCONNECT SWITCH
	DUPLEX RECEPTACLE (110V OUTLET)
	GFCI DUPLEX RECEPTACLE (110V OUTLET)
	HIGHER VOLTAGE RECEPTACLE. SEE EQUPMENT SCHEDULE FOR SPECIFICATION. (220V OUTLET)
$ $3 ($)	WALL SWITCH: STANDARD/3-POLE/OCC SENSOR (DIMMING, ALL)
	AHU WITH EQUIPPED MOTOR LOAD SPECIFICATION (125%)
	HP WITH EQUIPPED MOTOR LOAD SPECIFICATION (125%)
	TANKLESS, ON-DEMAND GAS WATER HEATER
	TANK, GAS WATER HEATER
	RECESSED DOWNLIGHT
	GARAGE, 4' FLUORESCENT LIGHTING FIXTURES
	WET RATED WALL SCONCE
	EXTERIOR LED WALLPACK
	LINEAR LED PANEL W/ EMERGENCY BATTERY BACKUP
	PANELBOARD
	ELECTRICAL SERVICE METER / EMERGENCY DISCONNECT
SD	SMOKE DETECTOR INSIDE AND JUST OUTSIDE ALL BEDROOMS (EQUAL TO KIDDE i2040A), CEILING MOUNTED
CM	CARBON MONOXIDE DETECTOR , CEILING MOUNTED
	CEILING-MOUNTED OCCUPANCY SENSOR
	EXHAUST FAN (EF-0 & EF-1)
	EXISTING 2X4 LED PANEL LIGHT, TO BE REUSED WHERE APPLICABLE ON PLAN. SEE E1.0 AND LIGHTING SCHEDULE
	EXISTING 1X4 LED PANEL LIGHT, TO BE REUSED WHERE ON APPLICABLE ON PLAN. SEE E1.0 AND LIGHTING SCHEDULE
AFF	ABOVE FINISHED FLOOR
AC	ABOVE COUNTER. CONSULT ARCHITECT/PLANS
BC	BELOW COUNTER. CONSULT ARCHITECT/PLANS
WP	WEATHER/WATER PROOF IN USE SPECIFICATION
DW	DISHWASHER
GD	GARBAGE DISPOSAL
ATS	AUTOMATIC TRANSFER SWITCH (POWER FROM GENERATOR)
AHU	AIR HANDLER COMPONENT OF SPLIT SYS
HP	HEAT PUMP COMPONENT OF SPLIT SYS
° F	THERMOSTAT-ACTUATED CONTROL W/ ADD. MANUAL SWITCHING
GEN	EMERGENCY BACKUP GENERATOR

*NOT ALL SYMBOLS MAY BE USED.

UNLESS OTHERWISE NOTED RECEPTACLES TO BE INSTALLED 12" AFF.

ITEMS SHOWN IN HALFTONE COLORS ARE MEANT TO REPRESENT EXISTING COMPONENTS, AND ARE DESIGNED TO REMAIN WITHIN THE SCOPE OF THE FINAL DESIGN. (TYPICAL, ALL)

NOTES:
1. CONTRACTOR TO PROVIDE EXIT SIGNS WITH ARROWS BASED ON REQUIREMENTS IN FIELD.
2. CONTRACTOR TO UTILIZE REMOTE HEAD CAPABLE (MULTI-TAP BATTERY) EMERGENCY LIGHTING FIXTURES WHEREVER POSSIBLE.
3. SEE LIGHTING SCHEDULE THIS SHEET FOR FIXTURE DESIGNATIONS.
4. SOLID HATCH ON SYMBOL OR 'EM' LABEL INDICATES EMERGENCY LIGHTING SYSTEM FIXTURE.

ELECTRICAL LIGHTING AND POWER NOTES

1. ALL WORK SHALL MEET CURRENTLY ADOPTED IBC, IECC AND NEC CODE REQUIREMENTS AS WELL AS ANY CITY ADOPTED AMENDMENTS.
2. LOADING AND BREAKER LAYOUT SHOWN IS BASED ON BEST AVAILABLE DATA. SPECIALTY, MEDICAL OR IT EQUIPMENT AND APPLIANCES, ETC MAY NEED SEPARATE CIRCUITS. INSTALLING ELECTRICIAN TO VERIFY ACTUAL EQUIPMENT WATTAGES AND SUPPLY CORRECT EQUIPMENT AS NEEDED.
3. ALL RECEPTACLES SHALL BE GFCI PROTECTED IF REQUIRED BY NEC OR AHJ.
4. ALL EXTERIOR RECEPTACLES TO BE GFCI PROTECTED WITH WEATHERPROOF IN-USE COVERS.
5. ALL RECEPTACLES IN AREAS GENERALLY OCCUPIED BY CHILDREN INCLUDING CLASSROOMS, PATIENT EXAM ROOMS, WAITING ROOMS, RESTROOMS, HALLWAYS AND GYMS TO BE TAMPER-RESISTANT.
6. ELECTRICAL CONTRACTOR TO PROVIDE JUNCTION BOX FOR BUILDING SIGNAGE AND PHOTOCELL WITH TIME CLOCK NEXT TO BREAKER PANEL.
7. ALL LIGHTING AND CONTROLS SHALL CONFORM TO CURRENT IECC SECTION C405.2
8. EMERGENCY ELECTRICAL SYSTEM AS LOCATED ON THIS PLAN SHALL PROVIDE POWER FOR A DURATION OF NOT LESS THAN 90 MINUTES AND AN INITIAL ILLUMINATION OF AN AVERAGE 1 FOOTCANDLE. EMERGENCY POWER SYSTEM TO BE IN COMPLIANCE WITH IBC SECTION 1006.
9. ALUMINUM CONDUCTORS GREATER THAN 2/0 (APPROX 150 AMPS) CAN BE USED FOR THE INDIVIDUAL SERVICE.
10. OWNER MAY CHANGE EQUIPMENT MANUFACTURER BUT SHALL KEEP MINIMUM SPECIFICATIONS, UNLESS NOTED OTHERWISE.
11. CONTRACTOR TO CONTACT UNDERSIGNED ENGINEER WITH ANY DESIGN PLAN CHANGES.
12. THE BRANCH CIRCUIT FEEDING THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE THE SAME BRANCH CIRCUIT AS THAT SERVING THE NORMAL LIGHTING IN THE AREA AND CONNECTED AHEAD OF ANY LOCAL SWITCHES. THE BRANCH CIRCUIT THAT FEEDS THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE CLEARLY IDENTIFIED AT THE DISTRIBUTION PANEL. EXCEPTION: IN A SEPARATE AND UNINTERRUPTED AREA SUPPLIED BY A MINIMUM OF THREE NORMAL LIGHTING CIRCUITS, A SEPARATE BRANCH CIRCUIT FOR UNIT EQUIPMENT SHALL BE PERMITTED IF IT ORIGINATES FROM THE SAME PANELBOARD AS THAT OF THE NORMAL LIGHTING CIRCUITS AND IS PROVIDED WITH A LOCK-ON FEATURE (700.12(F) NEC).
13. MAIN ELECTRICAL DISCONNECT SHALL BE LABELED WITH A PLAINLY VISIBLE AND LEGIBLE SIGN INDICATING ITS PURPOSE.

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The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL

2600 ROOSEVELT DRIVE
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CONTACT COMPANY	DWG POLICE & FIRE
CONTACT PHONE	817-275-1234
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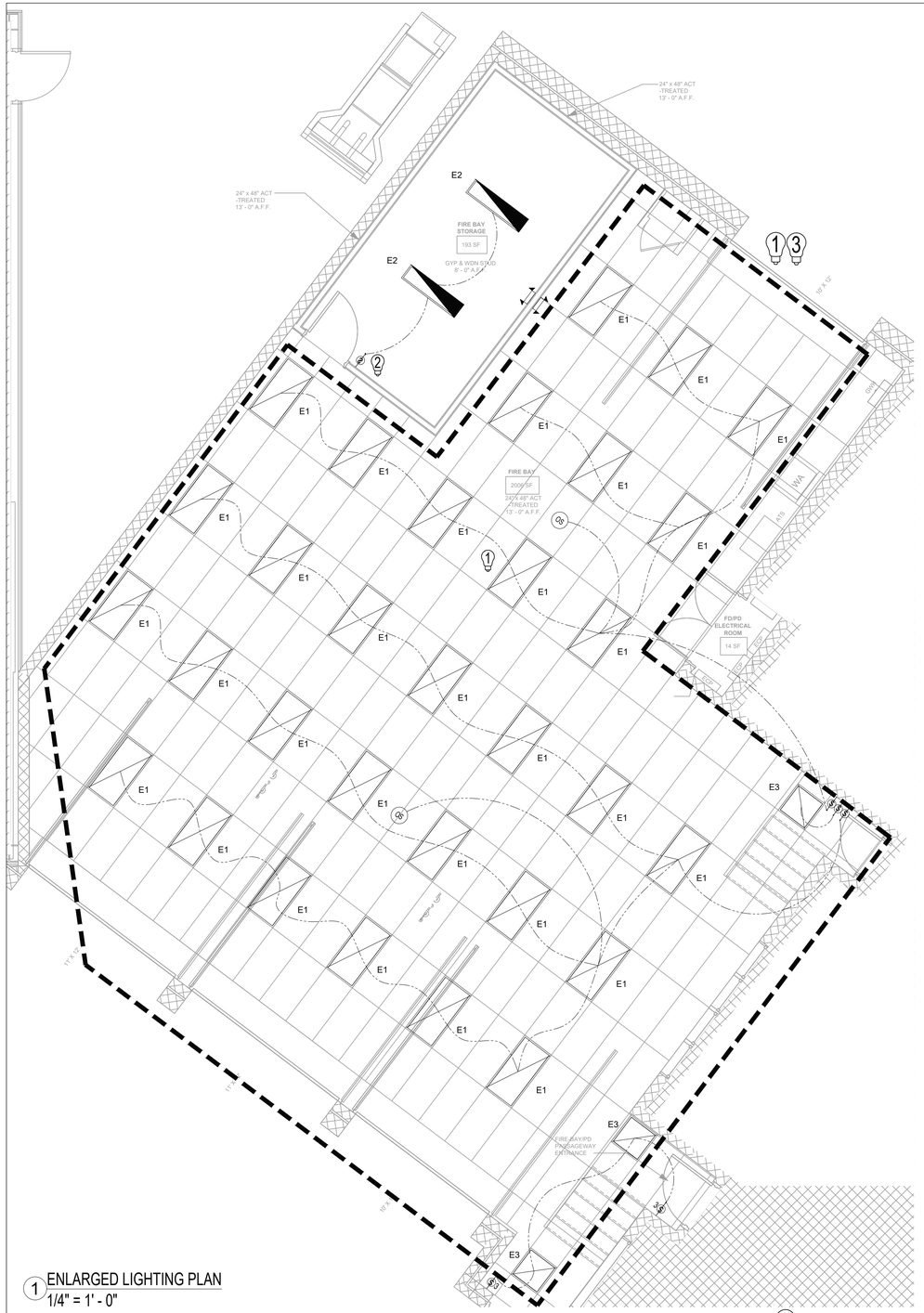
CLIENT REVIEW SET 2/15/23	
FINAL COUNCIL REVIEW 06/19/23	
FINAL PERMIT SET 06/26/23	
ADA REVISION SET 08/04/23	
SHEET REVISIONS	
PRINTED	8/4/2023 3:54 PM
DESIGNED	JL
CHECKED	JJK
IBC	2015
IECC/ASHRAE	2015
NEC	2017
SCALE	AS SHOWN

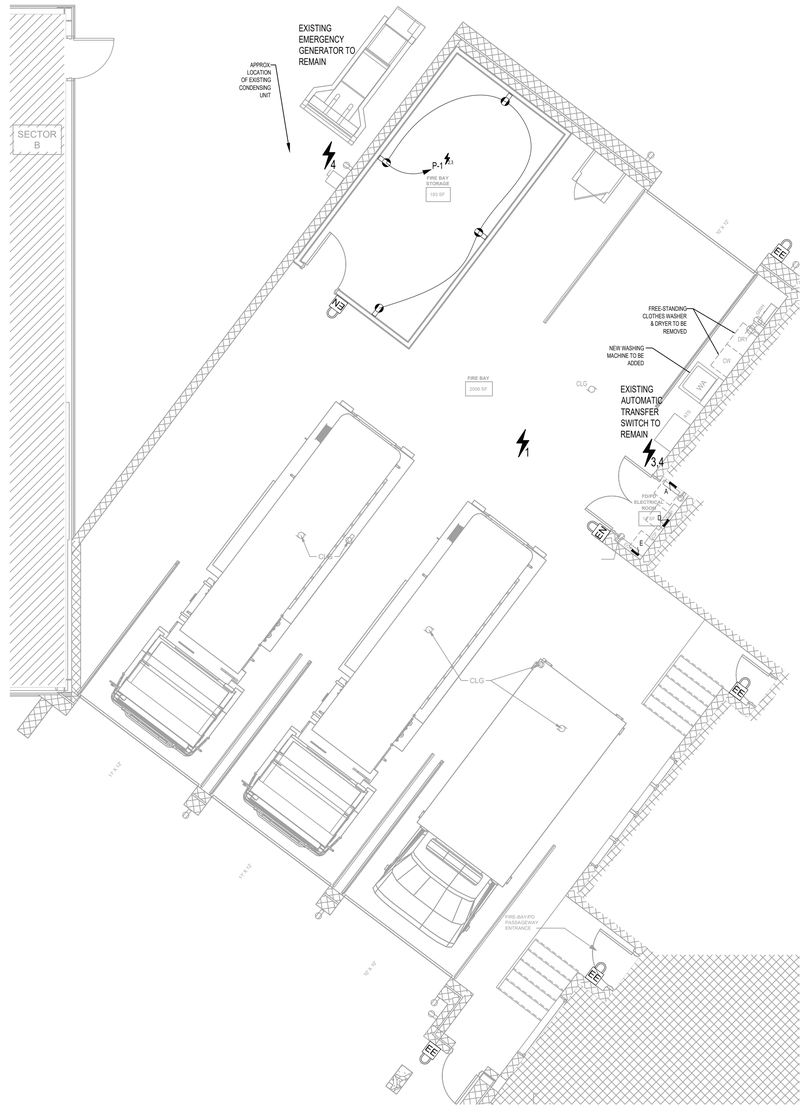
BUILDING REMODEL POWER CALCULATIONS & SCHEDULING

E0.1

PROJECT 1699



1 ENLARGED LIGHTING PLAN
1/4" = 1' - 0"



2 POWER PLAN
3/16" = 1' - 0"

POWER NOTES BY SYMBOL

1. ALL EXISTING FIRE BAY POWER CIRCUITING (RECEPTACLES, EQUIPMENT, LIGHTING, & EMERGENCY SYS.) TO REMAIN IN PLACE FOR FINAL REMODEL PLAN. CONTRACTOR TO VERIFY W/ OWNER BEFORE BEGINNING INSTALLATION OF REMODEL CONFIGURATION.
2. DEDICATED RECEPTACLE CIRCUIT TO BE INSTALLED IN NEW STORAGE ROOM.
   - 2.1. MCA @ 120/208V, 1ϕ: 6A/720W
   - 2.2. MOCP (BREAKER SIZE): 15A @ 1-POLE,120V
3. EXISTING POWER CIRCUITING FOR FIREFIGHTER LIVING QUARTERS TO BE REMOVED IN ORDER TO CORRELATE W/ SHOWN PLAN DESIGN (FIRE BAY STORAGE). REMAINING CIRCUITS TO BE FOUND & REMOVED ON EXISTING PANEL, ELECTRICAL CONTRACTOR TO VERIFY.
4. REMOVE EXISTING MECHANICAL, ELECTRICAL, AND PLUMBING EQUIPMENT FROM PREVIOUS LIVING QUARTER AREA. ANY RESPECTIVE CIRCUITING FROM PREVIOUS LIVING QUARTER SPACE SHALL BE REMOVED AND KEPT AS A SPARE BREAKER ON EXISTING PANEL. IN ORDER TO COORDINATE FUTURE UTILIZATION & SIZING AVAILABLE, ELECTRICAL CONTRACTOR TO COORDINATE WITH OWNER ANY POTENTIAL UTILIZATION OF RELOCATED/REMOVED EQUIPMENT (MECH / ELEC / PLUM). ELECTRICAL CONTRACTOR TO COORDINATE ALL ELECTRICAL LOADS W/ RESPECT TO THE AVAILABLE CIRCUITRY WITHIN THE EXISTING PANELBOARD.
5. BOTH EXISTING AND NEW CAMERA / LOCK LOCATIONS ARE ANNOTATED AND SHOWN IN THIS SECTOR FOR A TOTAL ACCUMULATIVE ELECTRICAL LOAD & THE RELOCATION OF THE NETWORKING CABLES / DISTRIBUTION REQUIRED FOR THE FINAL REMODEL DESIGN.

ELECTRICAL REMODEL LEGEND

SYM	DESCRIPTION
	DATA JACK (COAXIAL / ETHERNET)
J	JUNCTION BOX (J-BOX)
	DISCONNECT SWITCH
	DUPLEX RECEPTACLE (110V OUTLET)
	GFCI DUPLEX RECEPTACLE (110V OUTLET)
	HIGHER VOLTAGE RECEPTACLE. SEE EQUIPMENT SCHEDULE FOR SPECIFICATION. (220V OUTLET)
$ $3	WALL SWITCH: STANDARD/3-POLE/OCC SENSOR (DIMMING, ALL)
	AHU WITH EQUIPPED MOTOR LOAD SPECIFICATION (125%)
	HP WITH EQUIPPED MOTOR LOAD SPECIFICATION (125%)
	TANKLESS, ON-DEMAND GAS WATER HEATER
	TANK, GAS WATER HEATER
	RECESSED DOWNLIGHT
	GARAGE, 4' FLUORESCENT LIGHTING FIXTURES
	WET RATED WALL SCONCE
	EXTERIOR LED WALLPACK
	LINEAR LED PANEL W/ EMERGENCY BATTERY BACKUP
	PANELBOARD
	ELECTRICAL SERVICE METER / EMERGENCY DISCONNECT
SD	SMOKE DETECTOR INSIDE AND JUST OUTSIDE ALL BEDROOMS (EQUAL TO KIDDE i2040A), CEILING MOUNTED
CM	CARBON MONOXIDE DETECTOR , CEILING MOUNTED
	BATHROOM EXHAUST FAN
AFF	ABOVE FINISHED FLOOR
AC	ABOVE COUNTER. CONSULT ARCHITECT/PLANS
BC	BELOW COUNTER. CONSULT ARCHITECT/PLANS
WP	WEATHERWATER PROOF IN USE SPECIFICATION
DW	DISHWASHER
GD	GARBAGE DISPOSAL
ATS	AUTOMATIC TRANSFER SWITCH (POWER FROM GENERATOR)
AHU	AIR HANDLER COMPONENT OF SPLIT SYS
HP	HEAT PUMP COMPONENT OF SPLIT SYS
RO	RANGE OVEN
OS	GENERAL OCCUPANCY SENSOR FOR CIRCUIT LIGHTING
E#	ELECTRIC LOCKING SYSTEM: KEYCARD SCANNER / MODULE EE = EXISTING LOCK TO REMAIN EN = NEW LOCK INSTALLATION
C#	SECURITY CAMERA MODULE: CE = EXISTING CAMERA TO REMAIN CN = NEW CAMERA TO BE INSTALLED

*NOT ALL SYMBOLS MAY BE USED.

UNLESS OTHERWISE NOTED RECEPTACLES TO BE INSTALLED 12" AFF.

ITEMS SHOWN IN HALFTONE COLORS ARE MEANT TO REPRESENT EXISTING COMPONENTS, AND ARE DESIGNED TO REMAIN WITHIN THE SCOPE OF THE FINAL DESIGN. (TYPICAL, ALL)

NOTES:
1. CONTRACTOR TO PROVIDE EXIT SIGNS WITH ARROWS BASED ON REQUIREMENTS IN FIELD.
2. CONTRACTOR TO UTILIZE REMOTE HEAD CAPABLE (MULTI-TAP BATTERY) EMERGENCY LIGHTING FIXTURES WHEREVER POSSIBLE.
3. SEE LIGHTING SCHEDULE THIS SHEET FOR FIXTURE DESIGNATIONS.
4. SOLID HATCH ON SYMBOL OR 'EM' LABEL INDICATES EMERGENCY LIGHTING SYSTEM FIXTURE.

EMERGENCY LIGHTING SCHEDULE AND NOTES

SYM	FIXTURE	DESCRIPTION
	EXIT SIGN ONLY	LSI UNIVERSAL-MOUNT DIRECTIONAL GREEN-LETTER WHITE-FINISH WITH 90-MINUTE NICAD BATTERY BACKUP 120V WITH EASY TEST BUTTON. MODEL EX-G-U-WB-WH
	EMERGENCY LIGHT ONLY	LSI EMERGENCY LIGHT WHITE WITH 90 MINUTE BATTERY. 10' THROW TO 1.0 FC. MODEL LTEM-WH
	EXIT SIGN W/ EXTERIOR REMOTE HEAD	LSI EXTERIOR ROUND SINGLE-HEAD REMOTE HEAD 6V 5.4W MODEL PRLED-WL. ORDER WITH SIGN EX-G-U-WB-WH-RH-6 EMERGENCY ILLUMINATION IS REQUIRED AT THE PORTION OF THE EXTERIOR DISCHARGE IMMEDIATELY ADJACENT TO THE EXIT DISCHARGE DOORWAYS.
	EXIT SIGN LIGHT COMBO	LSI EXIT SIGN WITH INTEGRATED ROUND DUAL-HEAD LIGHTS. 10' THROW TO 1.0 FC. ORDER MODEL LPRX-G-U-WHU-D11

OWNER, TENANT OR ARCHITECT MAY CHANGE EQUIPMENT MANUFACTURER, BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
CONTACT MARK SCHMULEN WITH ALA FOR MORE INFORMATION ABOUT UNITS SPECIFIED: 214-658-9000

NOTES: MEANS OF EGRESS AND EMERGENCY POWER FOR ILLUMINATION (PER 2018/2015/2012 IBC SECTION 1008)

1. THE PATH OF EGRESS, INCLUDING THE EXIT DOOR, SHALL BE ILLUMINATED AT FLOOR LEVEL AT LEAST 1-FOOTCANDLE (FC) AT ALL TIMES WHILE THE BUILDING SPACE THAT IS SERVED BY THIS PATH OF EGRESS IS OCCUPIED.
2. THE EMERGENCY POWER SYSTEM SHALL PROVIDE POWER FOR A DURATION OF AT LEAST 90 MINUTES.
3. EMERGENCY LIGHTING FIXTURES SHALL BE ARRANGED TO PROVIDE INITIAL ILLUMINATION THAT IS AT LEAST AN AVERAGE OF 1 FC AND A MINIMUM, AT ANY POINT, OF 0.1 FC MEASURED ALONG THE PATH OF EGRESS AT FLOOR LEVEL. ELECTRICAL CONTRACTOR SHALL PROVIDE ADDITIONAL FIXTURES TO MEET IBC SPECIFIED EMERGENCY LIGHTING REQUIREMENTS REQUIREMENTS AS NEEDED FOR COMPLIANCE.
4. EMERGENCY AND STANDBY POWER SYSTEMS SHALL BE MAINTAINED AND TESTED IN ACCORDANCE WITH THE AND ADOPTED INTERNATIONAL FIRE CODE.
5. ELECTRICAL CONTRACTOR TO COORDINATE WITH FIRE PROTECTION CONTRACTOR FOR REQUIRED CIRCUITRY.
6 ADDITIONAL EMERGENCY LIGHTING MAY BE REQUIRED AND IS SUBJECT TO FIELD VERIFICATION.
7. THE BRANCH CIRCUIT FEEDING THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE THE SAME BRANCH CIRCUIT AS THAT SERVING THE NORMAL LIGHTING IN THE AREA AND CONNECTED AHEAD OF ANY LOCAL SWITCHES THE BRANCH CIRCUIT THAT FEEDS THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE CLEARLY IDENTIFIED AT THE DISTRIBUTION PANEL. EXCEPTION: IN A SEPARATE AND UNINTERRUPTED AREA SUPPLIED BY A MINIMUM OF THREE NORMAL LIGHTING CIRCUITS, A SEPARATE BRANCH CIRCUIT FOR UNIT EQUIPMENT SHALL BE PERMITTED IF IT ORIGINATES FROM THE SAME PANELBOARD AS THAT OF THE NORMAL LIGHTING CIRCUITS AND IS PROVIDED WITH A LOCK-ON FEATURE (700.12(F) NEC).

REMODEL BREAKER SCHEDULE (@120V/208V, 3ϕ)

NAME	P-#	MINIMUM POWER (W)	MCA (A)	CIRCUIT POWER RATING @ 80%	RATED CURRENT (A)	MOCP (A/P)
RECEP.	1	720	6.0	864.0	7.2	15A/1P
LIGHTING	2	1800	15.0	2160.0	18.0	20A/1P
DRYER	4	1500	12.5	1800.0	15.0	20A/1P
C# / L#	5	75	0.6	90.0	0.8	20A/1P
TOTALS	4	TOTAL SERVICE LOAD		4914.0	13.6	

CAMERAS AND LOCKS SCHEDULE (TOTAL)

NAME	QTY	CURRENT (A)	POWER (W)	TOTAL POWER (W)
CAMERAS	1	0.125	15	15
LOCKS	6	0.083	10	60
TOTAL QTY				7
TOTAL POWER DRAW FOR BOTH SYSTEMS				75
TOTAL CURRENT DRAW FOR BOTH SYSTEMS				0.6
BREAKER SIZE REQUIRED (MOCP)				15A / 1P
VOLTAGE RATING AT SINGLE PHASE 120 V_{AC}, W/ INTERNAL CONVERSION @ EACH				
CAMERA RATING BASED ON HIGHEST DC TO AC RATING ($0.9A_{DC}$ @ $12V_{DC}$) = 15 VA				
LOCK RATING BASED ON HIGHEST DC TO AC RATING ($0.6A_{DC}$ @ $12V_{DC}$) = 10 VA				

LIGHT FIXTURE SCHEDULE

MARK	INTERIOR FIXTURE	DESCRIPTION	MH	QTY.	WATTS	TOTAL WATTS	TOTAL AMPERAGE
E1	2'X4' LED PANEL	LITHONIA: CPX 2x4 4000LM 80CRI 35K SWL MINI10 ZT MVOLT E10WLCP	12', FIRE BAY ACT	31	40	1240	10.33
E2	1'X4' LED PANEL	LITHONIA: CPX 1X4 3200LM 80CRI 35K SWL MINI10 ZT MVOLT E10WLCP	8', GYP & WDN CLNG	2	32	64	0.53
E3	2'X2' LED PANEL	LITHONIA: CPX 2X2 3000LM 80CRI 35K SWL MINI10 ZT MVOLT E10WLCP	12', FIRE BAY ACT	3	31	93	0.78
					TOTAL INTERIOR POWER DRAW	1397	11.6
		TOTAL ALLOWABLE INTERIOR WATTAGE PER CURRENTLY ADOPTED IECC				1877	

NOTES:
1. SOLID HATCH ON SYMBOL OR 'EM' LABEL INDICATES EMERGENCY LIGHTING SYSTEM FIXTURE AND REQUIRES EMERGENCY BALLAST.
2. 'NL' LABEL INDICATES UNSWITCHED NIGHTLIGHT FIXTURE; 'MH' MOUNTING HEIGHT; 'AFF' ABOVE FINISH FLOOR; 'AG' ABOVE GRADE
3. STD-STANDARD; OS-OCCUPANT SENSOR; DIM-DIMMING. CONTRACTOR TO ENSURE COMPATIBLE BALLAST IS PROVIDED TO MATCH SWITCHING AS SHOWN ON PLANS.
4. ALL FIXTURES SPECIFIED AT 120V-1PH.

* OWNER, TENANT OR ARCHITECT MAY CHANGE EQUIPMENT MANUFACTURER OR USE EXISTING EQUIPMENT AS APPLICABLE, BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
* CONTRACTOR TO VERIFY ALL FIXTURES WITH OWNER PRIOR TO PURCHASE AND INSTALLATION.

LIGHTING NOTES BY SYMBOL

1. ALL EXISTING WAREHOUSE LIGHTING, CIRCUITING, AND SWITCHING TO BE REPLACED AND INSTALLED AS SHOWN IN THE REMODEL CONFIGURATION.
2. NEW LIGHTING FIXTURES TO CONSUME 1600W OF POWER WITH CURRENT LOAD @ 13.3 A. ELECTRICAL CONTRACTOR TO UTILIZE A SINGLE NEW 20A, SINGLE-POLE BREAKER, OR TO VERIFY FEASIBILITY OF ADDING TO FIRE BAY'S EXISTING LIGHTING CIRCUITS. (P-2)
3. NEW FIRE BAY ACT INSTALLATION TO BE EQUIPPED WITH NEWLY INSTALLED 2X4' LED PANELS AS SHOWN. ELECTRICAL CONTRACTOR TO ENSURE ALL HIGH-BAY FIXTURES ARE INSTALLED WITH A COMPATIBLE OCCUPANCY/ MOTION SENSOR.
4. PER IECC (C405.2.1.2) OCCUPANCY SENSOR SHALL REDUCE LIGHTING POWER BY 50% AFTER 30 MINUTES OF NO-MOTION PRESENT & AND/OR LACK OF OCCUPANCY FOR SWITCHING CIRCUIT SHOWN.

MEP GENERAL NOTES

1. ALL CONSTRUCTION TO CONFORM TO INTERNATIONAL, STATE AND LOCAL CODES AND ORDINANCES CURRENTLY ADOPTED BY THE AUTHORITY HAVING JURISDICTION (AHJ).
2. CONTRACTORS TO CONFIRM ALL SPECIFICATIONS HEREIN WITH ACTUAL EQUIPMENT IN FIELD PRIOR TO PURCHASE AND INSTALLATION.
3. REVIEW PLAN SHEET "MEPG - MEP NOTES" PRIOR TO BIDDING, PERMITTING, AND CONSTRUCTION.
4. THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.
5. SEE CIVIL AND ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ALL FIXTURES AND STRUCTURES.
6. SEE ARCHITECTURAL FINISH OUT SCHEDULES FOR SPECIFIC MODELS, COLORS AND DESIGN NOT DEFINED HEREIN.
7. WITH OWNER APPROVAL, CONTRACTOR MAY CHANGE SPECIFIED EQUIPMENT BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
8. CONTRACTOR TO CONTACT AME ENGINEERING, INC. AT 817-653-4122 PRIOR TO ANY SIGNIFICANT DESIGN REVISIONS.
9. DETAILS LABELED "TYPICAL" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE OR ARE SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE DRAWINGS CAN BE DETERMINED BY THE TITLE OF DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.

ELECTRICAL LIGHTING AND POWER NOTES

1. ALL WORK SHALL MEET CURRENTLY ADOPTED IBC, IECC AND NEC CODE REQUIREMENTS AS WELL AS ANY CITY ADOPTED AMENDMENTS.
2. LOADING AND BREAKER LAYOUT SHOWN IS BASED ON BEST AVAILABLE DATA. SPECIALTY, MEDICAL OR IT EQUIPMENT AND APPLIANCES, ETC MAY NEED SEPARATE CIRCUITS. INSTALLING ELECTRICIAN TO VERIFY ACTUAL EQUIPMENT WATTAGES AND SUPPLY CORRECT EQUIPMENT AS NEEDED.
3. ALL RECEPTACLES SHALL BE GFCI PROTECTED IF REQUIRED BY NEC OR AHJ.
4. ALL EXTERIOR RECEPTACLES TO BE GFCI PROTECTED WITH WEATHERPROOF IN-USE COVERS.
5. ALL RECEPTACLES IN AREAS GENERALLY OCCUPIED BY CHILDREN INCLUDING CLASSROOMS, PATIENT EXAM ROOMS, WAITING ROOMS, RESTROOMS, HALLWAYS AND GYMS TO BE TAMPER-RESISTANT.
6. ELECTRICAL CONTRACTOR TO PROVIDE JUNCTION BOX FOR BUILDING SIGNAGE AND PHOTOCELL WITH TIME CLOCK NEXT TO BREAKER PANEL.
7. ALL LIGHTING AND CONTROLS SHALL CONFORM TO CURRENT IECC SECTION C405.2
8. EMERGENCY ELECTRICAL SYSTEM AS LOCATED ON THIS PLAN SHALL PROVIDE POWER FOR A DURATION OF NOT LESS THAN 90 MINUTES AND AN INITIAL ILLUMINATION OF AN AVERAGE 1 FOOTCANDLE. EMERGENCY POWER SYSTEM TO BE IN COMPLIANCE WITH IBC SECTION 1006.
9. ALUMINUM CONDUCTORS GREATER THAN 2/0 (APPROX 150 AMPS) CAN BE USED FOR THE INDIVIDUAL SERVICE.
10. OWNER MAY CHANGE EQUIPMENT MANUFACTURER BUT SHALL KEEP MINIMUM SPECIFICATIONS, UNLESS NOTED OTHERWISE.
11. CONTRACTOR TO CONTACT UNDERSIGNED ENGINEER WITH ANY DESIGN PLAN CHANGES.
12. THE BRANCH CIRCUIT FEEDING THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE THE SAME BRANCH CIRCUIT AS THAT SERVING THE NORMAL LIGHTING IN THE AREA AND CONNECTED AHEAD OF ANY LOCAL SWITCHES. THE BRANCH CIRCUIT THAT FEEDS THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE CLEARLY IDENTIFIED AT THE DISTRIBUTION PANEL. EXCEPTION: IN A SEPARATE AND UNINTERRUPTED AREA SUPPLIED BY A MINIMUM OF THREE NORMAL LIGHTING CIRCUITS, A SEPARATE BRANCH CIRCUIT FOR UNIT EQUIPMENT SHALL BE PERMITTED IF IT ORIGINATES FROM THE SAME PANELBOARD AS THAT OF THE NORMAL LIGHTING CIRCUITS AND IS PROVIDED WITH A LOCK-ON FEATURE (700.12(F) NEC).
13. MAIN ELECTRICAL DISCONNECT SHALL BE LABELED WITH A PLAINLY VISIBLE AND LEGIBLE SIGN INDICATING ITS PURPOSE.

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LICENSED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL

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CONTACT COMPANY	DWG POLICE & FIRE
CONTACT PHONE	817-275-1234

ISSUE:

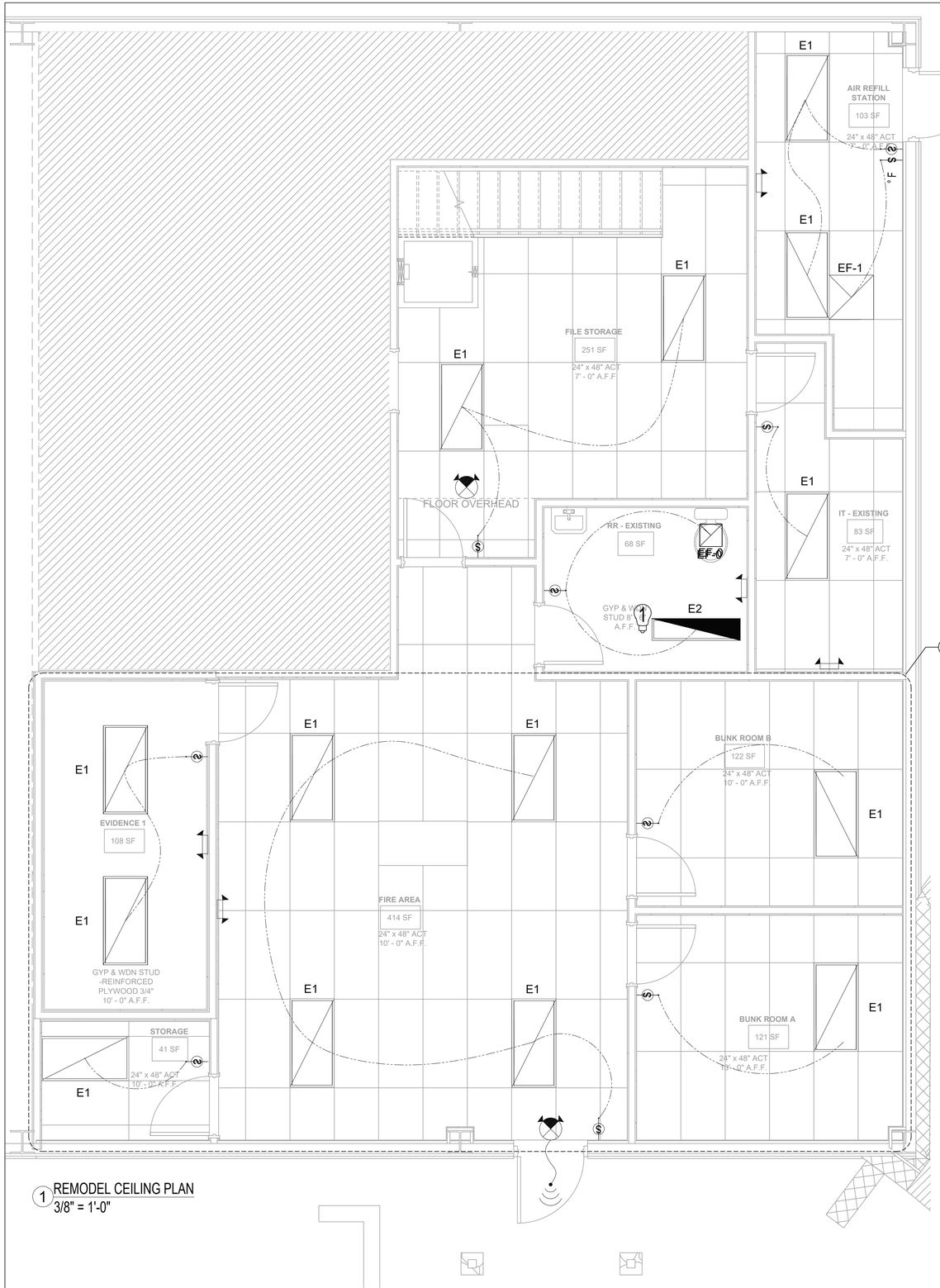
- SECTOR A PERMIT SET 08/31/22
- CLIENT REVIEW SET 02/15/23
- FINAL COUNCIL REVIEW 06/19/23
- FINAL PERMIT SET 06/26/23
- ADA REVISION SET 08/04/23

PRINTED	8/4/2023 3:54 PM
DESIGNED	JL
CHECKED	JJK
IBC	2015
IECC/ASHRAE	2015
NEC	2017
SCALE	1/4" = 1'-0"

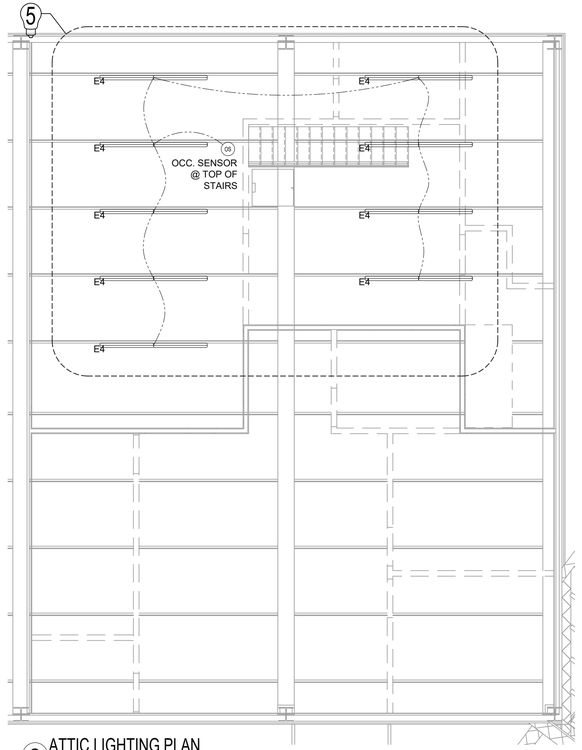
SECTOR A - LIGHTING & POWER PLAN

E1.0-A

PROJECT 1699



1 REMODEL CEILING PLAN
3/8" = 1'-0"



2 ATTIC LIGHTING PLAN
3/16" = 1'-0"

CONTRACTOR RESPONSIBILITIES

CONTRACTOR SHALL REPORT ANY DISCREPANCIES, OMISSIONS OR INCONSISTENCIES ON THE DRAWINGS TO ENGINEER FOR VERIFICATION BEFORE STARTING CONSTRUCTION. OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR ANY ERRORS IN CONSTRUCTION WHERE SUCH DISCREPANCIES, OMISSIONS OR INCONSISTENCIES HAVE NOT BEEN PROPERLY REPORTED IN A TIMELY MANNER.

NOTE TO BIDDERS

THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.

REMODEL LIGHTING NOTES

1. ALL EXISTING CIRCUITING, SWITCHING, AND LIGHTING POWER TO BE RECONFIGURED FOR FINAL REMODEL LIGHTING DESIGN. ELECTRICAL CONTRACTOR TO CONFIRM ALL CIRCUITING TO MEET THE SPECIFIED SWITCHING & POWER REQUIREMENTS SHOWN ON THIS PLAN, SHEET E2.0-B, AND TO REMOVE ANY ADDITIONAL LIGHTING CIRCUITS THAT ARE NOT APPLICABLE TO THE FINAL REMODEL DESIGN.
2. ALL EXISTING EXTERIOR LIGHTS TO REMAIN IN PLACE AND TO MAINTAIN POWER WITH THEIR RESPECTIVE SWITCHING CIRCUITS AND TIMERS/CONTROLS (TYPICAL, ALL). EXTERIOR LIGHTS NOT CURRENTLY DESIGNATED AS THE SCOPE OF THE FINAL REMODEL DESIGN.

ELECTRICAL REMODEL LEGEND

SYM	DESCRIPTION
	DATA JACK (COAXIAL / ETHERNET)
J	JUNCTION BOX (J-BOX)
	DISCONNECT SWITCH
	DUPLEX RECEPTACLE (110V OUTLET)
	GFCI DUPLEX RECEPTACLE (110V OUTLET)
	HIGHER VOLTAGE RECEPTACLE. SEE EQUPMENT SCHEDULE FOR SPECIFICATION. (220V OUTLET)
$ $3 $4	WALL SWITCH: STANDARD/3-POLE/OCC SENSOR (DIMMING, ALL)
	AHU WITH EQUIPPED MOTOR LOAD SPECIFICATION (125%)
	HP WITH EQUIPPED MOTOR LOAD SPECIFICATION (125%)
	TANKLESS, ON-DEMAND GAS WATER HEATER
	TANK, GAS WATER HEATER
	RECESSED DOWNLIGHT
	GARAGE, 4' FLUORESCENT LIGHTING FIXTURES
	WET RATED WALL SCONCE
	EXTERIOR LED WALLPACK
	LINEAR LED PANEL W/ EMERGENCY BATTERY BACKUP
	PANELBOARD
	ELECTRICAL SERVICE METER / EMERGENCY DISCONNECT
SD	SMOKE DETECTOR INSIDE AND JUST OUTSIDE ALL BEDROOMS (EQUAL TO KIDDE 2040A), CEILING MOUNTED
CM	CARBON MONOXIDE DETECTOR , CEILING MOUNTED
	CEILING-MOUNTED OCCUPANCY SENSOR
	EXHAUST FAN (EF-0 & EF-1)
	EXISTING 2X4 LED PANEL LIGHT, TO BE RELISED WHERE APPLICABLE ON PLAN. SEE E1.0 AND LIGHTING SCHEDULE
	EXISTING 1X4 LED PANEL LIGHT, TO BE REUSED WHERE ON APPLICABLE ON PLAN. SEE E1.0 AND LIGHTING SCHEDULE
AFF	ABOVE FINISHED FLOOR
AC	ABOVE COUNTER. CONSULT ARCHITECT/PLANS
BC	BELOW COUNTER. CONSULT ARCHITECT/PLANS
WP	WEATHER/WATER PROOF IN USE SPECIFICATION
DW	DISHWASHER
GD	GARBAGE DISPOSAL
ATS	AUTOMATIC TRANSFER SWITCH (POWER FROM GENERATOR)
AHU	AIR HANDLER COMPONENT OF SPLIT SYS
HP	HEAT PUMP COMPONENT OF SPLIT SYS
°F	THERMOSTAT-ACTUATED CONTROL W/ ADD. MANUAL SWITCHING
GEN	EMERGENCY BACKUP GENERATOR
L#	ELECTRIC LOCKING SYSTEM: KEYCARD SCANNER / MODULE LE = EXISTING LOCK TO REMAIN LN = NEW LOCK INSTALLATION
C#	SECURITY CAMERA MODULE: CE = EXISTING CAMERA TO REMAIN CN = NEW CAMERA TO BE INSTALLED

*NOT ALL SYMBOLS MAY BE USED.

UNLESS OTHERWISE NOTED RECEPTACLES TO BE INSTALLED 12" AFF.

ITEMS SHOWN IN HALFTONE COLORS ARE MEANT TO REPRESENT EXISTING COMPONENTS, AND ARE DESIGNED TO REMAIN WITHIN THE SCOPE OF THE FINAL DESIGN. (TYPICAL, ALL)

NOTES:
1. CONTRACTOR TO PROVIDE EXIT SIGNS WITH ARROWS BASED ON REQUIREMENTS IN FIELD.
2. CONTRACTOR TO UTILIZE REMOTE HEAD CAPABLE (MULTI-TAP BATTERY) EMERGENCY LIGHTING FIXTURES WHERE/EVER POSSIBLE.
3. SEE LIGHTING SCHEDULE THIS SHEET FOR FIXTURE DESIGNATIONS.
4. SOLID HATCH ON SYMBOL OR 'EM' LABEL INDICATES EMERGENCY LIGHTING SYSTEM FIXTURE

REMODEL LIGHT FIXTURE SCHEDULE

MARK	FIXTURE TYPE	SYMBOL	DESCRIPTION	MH[1]	QTY.	WATTS[2]	TOTAL WATTS (W)	TOTAL AMPS (A)
E1	2'X4' LED PANEL		LITHONIA CONFIGURABLE CPX LED PANELS (CPX 2X4 4000LM 80CRI 35K SWL MIN 10 ZT MVOLT E10 WLCP)	2X4 ACT, PER PLAN	14	40	560	4.67
E2	1'X4' LED PANEL		LITHONIA CONFIGURABLE CPX LED PANELS (CPX 3200LM 80CRI 35K SWL MIN 10 ZT MVOLT E10 WLCP)	GYP CLNG SURFACE	1	32	32	0.27
E4	8' LOW-PROFILE LED		LITHONIA TZ232 MV TANDEM, T8 LOW-PROFILE STRIP	MOUNTED TO ROOF PURLINS	9	32	288	2.40
						TOTAL LIGHTING POWER	880.0	7.3
						TOTAL ALLOWABLE INTERIOR WATTAGE PER CURRENTLY ADOPTED IECC	1081	

NOTES:
1. SOLID HATCH ON SYMBOL OR 'EM' LABEL INDICATES EMERGENCY LIGHTING SYSTEM FIXTURE AND REQUIRES EMERGENCY BALLAST
2. 'NL' LABEL INDICATES UNSWITCHED NIGHTLIGHT FIXTURE; 'MH' MOUNTING HEIGHT; 'AFF' ABOVE FINISH FLOOR; 'AG' ABOVE GRADE
3. STD-STANDARD; OS-OCCUPANT SENSOR; DIM-DIMMING. CONTRACTOR TO ENSURE COMPATIBLE BALLAST IS PROVIDED TO MATCH SWITCHING AS SHOWN ON PLANS.
4. ALL FIXTURES SPECIFIED AT 120V-1PH.

* OWNER, TENANT OR ARCHITECT MAY CHANGE EQUIPMENT MANUFACTURER OR USE EXISTING EQUIPMENT AS APPLICABLE, BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
* CONTRACTOR TO VERIFY ALL FIXTURES WITH OWNER PRIOR TO PURCHASE AND INSTALLATION.

EMERGENCY LIGHTING SCHEDULE AND NOTES

SYM	FIXTURE	DESCRIPTION
	EXIT SIGN ONLY	LSI UNIVERSAL MOUNT DIRECTIONAL GREEN LETTER WHITE-FINISH WITH 90-MINUTE NICAD BATTERY BACKUP 120V WITH EASY TEST BUTTON. MODEL EX-GU-WB-W5
	EMERGENCY LIGHT ONLY	LSI EMERGENCY LIGHT WHITE WITH 90 MINUTE BATTERY, 10' THROW TO 1.0 FC. MODEL LTEM-WH
	EXIT SIGN W/ EXTERIOR REMOTE HEAD	LSI EXTERIOR ROUND SINGLE-HEAD REMOTE HEAD 6V 5.4W MODEL PRLED-WL. ORDER WITH SIGN EX-GU-WB-WH-RH-4. EMERGENCY ILLUMINATION IS REQUIRED AT THE PORTION OF THE EXTERIOR DISCHARGE IMMEDIATELY ADJACENT TO THE EXIT DISCHARGE DOORWAYS.
	EXIT SIGN LIGHT COMBO	LSI EXIT SIGN WITH INTEGRATED ROUND DUAL-HEAD LIGHTS. 10' THROW TO 1.0 FC. ORDER MODEL LPRX-GU-WH-LD11

OWNER, TENANT OR ARCHITECT MAY CHANGE EQUIPMENT MANUFACTURER, BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
CONTACT MARK SCHMULEN WITH ALA FOR MORE INFORMATION ABOUT UNITS SPECIFIED: 214-658-9000

NOTES: MEANS OF EGRESS AND EMERGENCY POWER FOR ILLUMINATION (PER 2018/2015/2012 IBC SECTION 1008)

1. THE PATH OF EGRESS, INCLUDING THE EXIT DOOR, SHALL BE ILLUMINATED AT FLOOR LEVEL AT LEAST 1 FOOTCANDLE (FC) AT ALL TIMES WHILE THE BUILDING SPACE THAT IS SERVED BY THIS PATH OF EGRESS IS OCCUPIED.
2. THE EMERGENCY POWER SYSTEM SHALL PROVIDE POWER FOR A DURATION OF AT LEAST 90 MINUTES.
3. EMERGENCY LIGHTING FIXTURES SHALL BE ARRANGED TO PROVIDE INITIAL ILLUMINATION THAT IS AT LEAST AN AVERAGE OF 1 FC AND A MINIMUM, AT ANY POINT, OF 0.1 FC MEASURED ALONG THE PATH OF EGRESS AT FLOOR LEVEL. ELECTRICAL CONTRACTOR SHALL PROVIDE ADDITIONAL FIXTURES TO MEET IBC SPECIFIED EMERGENCY LIGHTING REQUIREMENTS REQUIREMENTS AS NEEDED FOR COMPLIANCE.
4. EMERGENCY AND STANDBY POWER SYSTEMS SHALL BE MAINTAINED AND TESTED IN ACCORDANCE WITH THE AHJ ADOPTED INTERNATIONAL FIRE CODE.
5. ELECTRICAL CONTRACTOR TO COORDINATE WITH FIRE PROTECTION CONTRACTOR FOR REQUIRED CIRCUITRY.
6. ADDITIONAL EMERGENCY LIGHTING MAY BE REQUIRED AND IS SUBJECT TO FIELD VERIFICATION.
7. THE BRANCH CIRCUIT FEEDING THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE THE SAME BRANCH CIRCUIT AS THAT SERVING THE NORMAL LIGHTING IN THE AREA AND CONNECTED AHEAD OF ANY LOCAL SWITCHES THE BRANCH CIRCUIT THAT FEEDS THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE CLEARLY IDENTIFIED AT THE DISTRIBUTION PANEL. EXCEPTION: IN A SEPARATE AND UNINTERRUPTED AREA SUPPLIED BY A MINIMUM OF THREE NORMAL LIGHTING CIRCUITS, A SEPARATE BRANCH CIRCUIT FOR UNIT EQUIPMENT SHALL BE PERMITTED IF IT ORIGINATES FROM THE SAME PANELBOARD AS THAT OF THE NORMAL LIGHTING CIRCUITS AND IS PROVIDED WITH A LOCK-ON FEATURE (700.12(F) NEC).

LIGHTING NOTES BY SYMBOL

1. EXISTING LIGHTING FIXTURE TO REMAIN, RELOCATE/MOUNT AND REINSTALL ELECTRICAL COMPONENTS FOLLOWING THE FINAL REMODEL DESIGN SPECIFIED HEREIN.
2. CONTRACTOR TO ENSURE MINIMUM INSTALLATION OF EMERGENCY BACKUP BATTERY FIXTURES WHERE DESIGNATED (TYPICAL, ALL EMERGENCY LIGHTING FIXTURES SHOWN ON PLAN).
3. NEW LIGHTING POWER CIRCUIT TO CONSUME 1081 W OF POWER IN TOTAL @ 7.3 A. ELECTRICAL CONTRACTOR TO UTILIZE A SINGLE-POLE 20 A BREAKER @ 120V/1ϕ/60HZ. VERIFY PANEL AVAILABILITY OR TO REUSE EXISTING LIGHTING POWER CIRCUIT FOR SECTOR B.
4. CEILING PLAN AND LIGHTING SYSTEM SHOWN WILL FOLLOW NEWLY REMODELED 2X4 ACT CEILING SYSTEM. 2X2 ACT CEILING SYSTEM TO BE REMOVED PER ARCHITECTURAL PLANS. EXISTING LIGHTING INFRASTRUCTURE AND SUPPORT SYSTEMS TO REMAIN IN PLACE FOR NEW LIGHTING SYSTEM INSTALLATION.
5. ALL EXISTING LIGHTING CIRCUITS, SWITCHES, AND FIXTURES TO REMAIN IN PLACE FOR SECTOR B ATTIC FINAL REMODEL DESIGN.
6. ALL LIGHTING SWITCHES SHOWN ON REMODEL PLAN HEREIN TO CONTAIN DIMMABLE MODULES PER IECC COMPLIANCE (IECC, C405).

ELECTRICAL LIGHTING AND POWER NOTES

1. ALL WORK SHALL MEET CURRENTLY ADOPTED IBC, IECC AND NEC CODE REQUIREMENTS AS WELL AS ANY CITY ADOPTED AMENDMENTS.
2. LOADING AND BREAKER LAYOUT SHOWN IS BASED ON BEST AVAILABLE DATA. SPECIALTY, MEDICAL OR IT EQUIPMENT AND APPLIANCES, ETC MAY NEED SEPARATE CIRCUITS. INSTALLING ELECTRICIAN TO VERIFY ACTUAL EQUIPMENT WATTAGES AND SUPPLY CORRECT EQUIPMENT AS NEEDED.
3. ALL RECEPTACLES SHALL BE GFCI-PROTECTED IF REQUIRED BY NEC OR AHJ.
4. ALL EXTERIOR RECEPTACLES TO BE GFCI PROTECTED WITH WEATHERPROOF IN-USE COVERS.
5. ALL RECEPTACLES IN AREAS GENERALLY OCCUPIED BY CHILDREN INCLUDING CLASSROOMS, PATIENT EXAM ROOMS, WAITING ROOMS, RESTROOMS, HALLWAYS AND GYMS TO BE TAMPER-RESISTANT.
6. ELECTRICAL CONTRACTOR TO PROVIDE JUNCTION BOX FOR BUILDING SIGNAGE AND PHOTOCELL WITH TIME CLOCK NEXT TO BREAKER PANEL.
7. ALL LIGHTING AND CONTROLS SHALL CONFORM TO CURRENT IECC SECTION C405.2
8. EMERGENCY ELECTRICAL SYSTEM AS LOCATED ON THIS PLAN SHALL PROVIDE POWER FOR A DURATION OF NOT LESS THAN 90 MINUTES AND AN INITIAL ILLUMINATION OF AN AVERAGE 1 FOOTCANDLE. EMERGENCY POWER SYSTEM TO BE IN COMPLIANCE WITH IBC SECTION 1006.
9. ALUMINUM CONDUCTORS GREATER THAN 2/0 (APPROX 150 AMPS) CAN BE USED FOR THE INDIVIDUAL SERVICE.
10. OWNER MAY CHANGE EQUIPMENT MANUFACTURER BUT SHALL KEEP MINIMUM SPECIFICATIONS, UNLESS NOTED OTHERWISE.
11. CONTRACTOR TO CONTACT UNDERSIGNED ENGINEER WITH ANY DESIGN PLAN CHANGES.
12. THE BRANCH CIRCUIT FEEDING THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE THE SAME BRANCH CIRCUIT AS THAT SERVING THE NORMAL LIGHTING IN THE AREA AND CONNECTED AHEAD OF ANY LOCAL SWITCHES. THE BRANCH CIRCUIT THAT FEEDS THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE CLEARLY IDENTIFIED AT THE DISTRIBUTION PANEL. EXCEPTION: IN A SEPARATE AND UNINTERRUPTED AREA SUPPLIED BY A MINIMUM OF THREE NORMAL LIGHTING CIRCUITS, A SEPARATE BRANCH CIRCUIT FOR UNIT EQUIPMENT SHALL BE PERMITTED IF IT ORIGINATES FROM THE SAME PANELBOARD AS THAT OF THE NORMAL LIGHTING CIRCUITS AND IS PROVIDED WITH A LOCK-ON FEATURE (700.12(F) NEC).
13. MAIN ELECTRICAL DISCONNECT SHALL BE LABELED WITH A PLAINLY VISIBLE AND LEGIBLE SIGN INDICATING ITS PURPOSE.

MEP GENERAL NOTES

1. ALL CONSTRUCTION TO CONFORM TO INTERNATIONAL, STATE AND LOCAL CODES AND ORDINANCES CURRENTLY ADOPTED BY THE AUTHORITY HAVING JURISDICTION (AHJ).
2. CONTRACTORS TO CONFIRM ALL SPECIFICATIONS HEREIN WITH ACTUAL EQUIPMENT IN FIELD PRIOR TO PURCHASE AND INSTALLATION.
3. REVIEW PLAN SHEET "MEPG - MEP NOTES" PRIOR TO BIDDING, PERMITTING, AND CONSTRUCTION.
4. THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.
5. SEE CIVIL AND ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ALL FIXTURES AND STRUCTURES.
6. SEE ARCHITECTURAL FINISH OUT SCHEDULES FOR SPECIFIC MODELS, COLORS AND DESIGN NOT DEFINED HEREIN.
7. WITH OWNER APPROVAL, CONTRACTOR MAY CHANGE SPECIFIED EQUIPMENT BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
8. CONTRACTOR TO CONTACT AME ENGINEERING, INC. AT 817-653-4122 PRIOR TO ANY SIGNIFICANT DESIGN REVISIONS.
9. DETAILS LABELED "TYPICAL" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE OR ARE SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE DRAWINGS CAN BE DETERMINED BY THE TITLE OF DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.

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The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL

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SHEET REVISIONS

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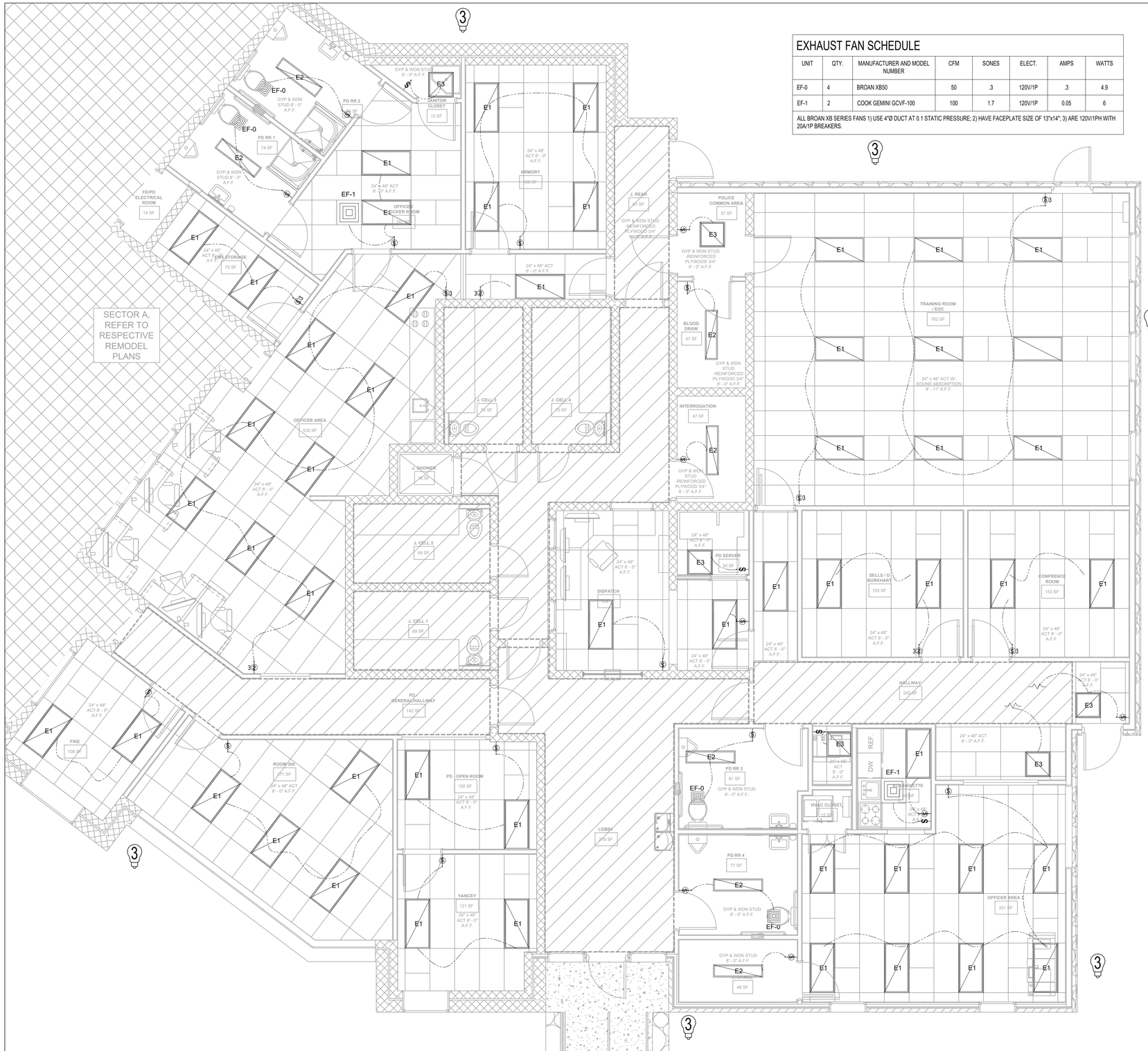
SECTOR B - REMODEL LIGHTING PLAN

E1.0-B

PROJECT 1699



EXHAUST FAN SCHEDULE

UNIT	QTY.	MANUFACTURER AND MODEL NUMBER	CFM	SONES	ELECT.	AMPS	WATTS
EF-0	4	BROAN XB50	50	.3	120V/1P	.3	4.9
EF-1	2	COOK GEMINI GCVF-100	100	1.7	120V/1P	0.05	6

ALL BROAN XB SERIES FANS 1) USE 4"Ø DUCT AT 0.1 STATIC PRESSURE; 2) HAVE FACEPLATE SIZE OF 13"x14"; 3) ARE 120V/1PH WITH 20A/1P BREAKERS.

LIGHTING NOTES BY SYMBOL

1. EXISTING LIGHTING FIXTURES & CIRCUITING TO REMAIN WHERE DESIGNATED ON PLAN. ELECTRICAL CONTRACTOR TO VERIFY EXISTING LIGHTING CIRCUITS CAN SUPPORT NEW LIGHTING INSTALLATIONS WHERE POSSIBLE IN CORRELATION WITH LIGHTING POWER REQUIREMENTS SHOWN ON THIS PLAN AND SHEET E2.0-C.
2. FIXTURE SCHEDULED AND SHOWN ON THIS PLAN ARE TO CORRESPOND WITH NEWLY INSTALLED OR ANY INSTANCE OF A REFURBISHED ACT CEILING SYSTEM.
3. ALL EXISTING EXTERIOR LIGHTING FIXTURES TO REMAIN IN PLACE, AND TO MAINTAIN EXISTING POWER DISTRIBUTION (TYPICAL, ALL). ELECTRICAL CONTRACTOR TO VERIFY ALL EXTERIOR LIGHTING LOCATIONS AND TO ENSURE ALL EXISTING CIRCUITS ARE MAINTAINED THROUGHOUT THE EXTERIOR OF THE BUILDING AREA.

LIGHTING SYMBOLS LEGEND

SYMBOL	DESCRIPTION
$X	LIGHT SWITCH WITH OPTIONAL MARK: 3 - THREE WAY SWITCH 4 - FOUR WAY SWITCH D - DIMMABLE SWITCH a - LIGHT FIXTURE SWITCH CIRCUIT
$	OCCUPANCY SENSOR SWITCH SET TO MANUAL-ON/ AUTO-OFF VACANCY SETTING. RECOMMENDED LUTRON MAESTRO MS-VPS2-WH (DIMMING USE MSCL-OP153M)
	EXTERIOR SIGNAGE PROVIDED BY OTHERS
	RECESSED DOWN LIGHT
B	LAY-IN LED TROFFER
NL	FIXTURES WITH THIS LABEL ARE ½ NIGHT LIGHTS
	EXISTING LIGHTING FIXTURES TO REMAIN AS INSTALLED & CIRCUITED. CONTRACTOR TO VERIFY ANY REQUIRED LAMPS TO BE REPLACED & TO MAINTAIN ALL EXISTING FIXTURES WITH THEIR RESPECTIVE POWER REQUIREMENTS.

NOTES:
1. CONTRACTOR TO PROVIDE EXIT SIGNS WITH ARROWS BASED ON REQUIREMENTS IN FIELD.
2. CONTRACTOR TO UTILIZE REMOTE HEAD CAPABLE (MULTI-TAP BATTERY) EMERGENCY LIGHTING FIXTURES WHEREVER POSSIBLE.
3. SEE LIGHTING SCHEDULE THIS SHEET FOR FIXTURE DESIGNATIONS.
4. SOLID HATCH ON SYMBOL OR 'EM' LABEL INDICATES EMERGENCY LIGHTING SYSTEM FIXTURE.

REMODEL LIGHT FIXTURE SCHEDULE

MARK	FIXTURE TYPE	SYMBOL	DESCRIPTION	MH[1]	QTY.	WATTS[2]	TOTAL WATTS (W)	TOTAL AMPS (A)
E1	2'X4' LED PANEL		LITHONIA CONFIGURABLE CPX LED PANELS (CPX 2X4 4000LM 80CRI 35K SWL MIN 10 ZT MVOLT E10 WLCP)	2X4 ACT, PER PLAN	52	40	2080	17.33
E2	1'X4' LED PANEL		LITHONIA CONFIGURABLE CPX LED PANELS (CPX 3200LM 80CRI 35K SWL MIN 10 ZT MVOLT E10 WLCP)	2X4 ACT, PER PLAN	7	32	224	1.87
E3	2X2' LED PANEL		LITHONIA CONFIGURABLE CPX LED PANELS (CPX 2X2 3200LM 80CRI 35K SWL MIN 10 ZT MVOLT E10 WLCP)	2X4 ACT, PER PLAN	9	31	279	2.33
						TOTAL LIGHTING POWER	2583.0	21.5
						TOTAL ALLOWABLE INTERIOR WATTAGE PER CURRENTLY ADOPTED IECC		PASSES VIA REMODEL EXEMPTION

NOTES:
1. SOLID HATCH ON SYMBOL OR 'EM' LABEL INDICATES EMERGENCY LIGHTING SYSTEM FIXTURE AND REQUIRES EMERGENCY BALLAST
2. 'NL' LABEL INDICATES UNSWITCHED NIGHTLIGHT FIXTURE; 'MH' MOUNTING HEIGHT; 'AFF' ABOVE FINISH FLOOR; 'AG' ABOVE GRADE
3. STD-STANDARD; OS-OCCUPANT SENSOR; DIM-DIMMING. CONTRACTOR TO ENSURE COMPATIBLE BALLAST IS PROVIDED TO MATCH SWITCHING AS SHOWN ON PLANS.
4. ALL FIXTURES SPECIFIED AT 120V-1PH.

* OWNER, TENANT OR ARCHITECT MAY CHANGE EQUIPMENT MANUFACTURER OR USE EXISTING EQUIPMENT AS APPLICABLE, BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
* CONTRACTOR TO VERIFY ALL FIXTURES WITH OWNER PRIOR TO PURCHASE AND INSTALLATION.

EMERGENCY LIGHTING SCHEDULE AND NOTES

SYM	FIXTURE	DESCRIPTION
	EXIT SIGN ONLY	LSI UNIVERSAL-MOUNT DIRECTIONAL GREEN-LETTER WHITE-FINISH WITH 90-MINUTE NICAD BATTERY BACKUP 120V WITH EASY TEST BUTTON. MODEL EX-G-U-W5-WH.
	EMERGENCY LIGHT ONLY	LSI EMERGENCY LIGHT WHITE WITH 90 MINUTE BATTERY. 10' THROW TO 1.0 FC. MODEL LTEM-WH
	EXIT SIGN W/ EXTERIOR REMOTE HEAD	LSI EXTERIOR ROUND SINGLE-HEAD REMOTE HEAD 6V 5.4W MODEL PRLED-VAL ORDER WITH SIGN EX-G-U-W5-WH-BLK. EMERGENCY ILLUMINATION IS REQUIRED AT THE PORTION OF THE EXTERIOR DISCHARGE IMMEDIATELY ADJACENT TO THE EXIT DISCHARGE DOORWAYS.
	EXIT SIGN LIGHT COMBO	LSI EXIT SIGN WITH INTEGRATED ROUND DUAL-HEAD LIGHTS. 10' THROW TO 1.0 FC. ORDER MODEL LPRX-G-U-WH-LD1

OWNER, TENANT OR ARCHITECT MAY CHANGE EQUIPMENT MANUFACTURER, BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
CONTACT MARK SCHMULLEN WITH ALA FOR MORE INFORMATION ABOUT UNITS SPECIFIED: 214-658-9000

NOTES: MEANS OF EGRESS AND EMERGENCY POWER FOR ILLUMINATION (PER 2018/2015/2012 IBC SECTION 1008)

1. THE PATH OF EGRESS, INCLUDING THE EXIT DOOR, SHALL BE ILLUMINATED AT FLOOR LEVEL AT LEAST 1-FOOTCANDLE (FC) AT ALL TIMES WHILE THE BUILDING SPACE THAT IS SERVED BY THIS PATH OF EGRESS IS OCCUPIED.
2. THE EMERGENCY POWER SYSTEM SHALL PROVIDE POWER FOR A DURATION OF AT LEAST 90 MINUTES.
3. EMERGENCY LIGHTING FIXTURES SHALL BE ARRANGED TO PROVIDE INITIAL ILLUMINATION THAT IS AT LEAST AN AVERAGE OF 1 FC AND A MINIMUM, AT ANY POINT, OF 0.1 FC MEASURED ALONG THE PATH OF EGRESS AT FLOOR LEVEL. ELECTRICAL CONTRACTOR SHALL PROVIDE ADDITIONAL FIXTURES TO MEET IBC SPECIFIED EMERGENCY LIGHTING REQUIREMENTS REQUIREMENTS AS NEEDED FOR COMPLIANCE.
4. EMERGENCY AND STANDBY POWER SYSTEMS SHALL BE MAINTAINED AND TESTED IN ACCORDANCE WITH THE AHJ ADOPTED INTERNATIONAL FIRE CODE.
5. ELECTRICAL CONTRACTOR TO COORDINATE WITH FIRE PROTECTION CONTRACTOR FOR REQUIRED CIRCUITRY.
6. ADDITIONAL EMERGENCY LIGHTING MAY BE REQUIRED AND IS SUBJECT TO FIELD VERIFICATION.
7. THE BRANCH CIRCUIT FEEDING THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE THE SAME BRANCH CIRCUIT AS THAT SERVING THE NORMAL LIGHTING IN THE AREA AND CONNECTED AHEAD OF ANY LOCAL SWITCHES. THE BRANCH CIRCUIT THAT FEEDS THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE CLEARLY IDENTIFIED AT THE DISTRIBUTION PANEL. EXCEPTION: IN A SEPARATE AND UNINTERRUPTED AREA SUPPLIED BY A MINIMUM OF THREE NORMAL LIGHTING CIRCUITS, A SEPARATE BRANCH CIRCUIT FOR UNIT EQUIPMENT SHALL BE PERMITTED IF IT ORIGINATES FROM THE SAME PANELBOARD AS THAT OF THE NORMAL LIGHTING CIRCUITS AND IS PROVIDED WITH A LOCK-ON FEATURE (700.12(F) NEC).

CONTRACTOR RESPONSIBILITIES

CONTRACTOR SHALL REPORT ANY DISCREPANCIES, OMISSIONS OR INCONSISTENCIES ON THE DRAWINGS TO ENGINEER FOR VERIFICATION BEFORE STARTING CONSTRUCTION. OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR ANY ERRORS IN CONSTRUCTION WHERE SUCH DISCREPANCIES, OMISSIONS OR INCONSISTENCIES HAVE NOT BEEN PROPERLY REPORTED IN A TIMELY MANNER.

NOTE TO BIDDERS

THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.

ELECTRICAL LIGHTING AND POWER NOTES

1. ALL WORK SHALL MEET CURRENTLY ADOPTED IBC, IECC AND NEC CODE REQUIREMENTS AS WELL AS ANY CITY ADOPTED AMENDMENTS.
2. LOADING AND BREAKER LAYOUT SHOWN IS BASED ON BEST AVAILABLE DATA. SPECIALTY, MEDICAL OR IT EQUIPMENT AND APPLIANCES, ETC MAY NEED SEPARATE CIRCUITS. INSTALLING ELECTRICIAN TO VERIFY ACTUAL EQUIPMENT WATTAGES AND SUPPLY CORRECT EQUIPMENT AS NEEDED.
3. ALL RECEPTACLES SHALL BE GFCI PROTECTED IF REQUIRED BY NEC OR AHJ.
4. ALL EXTERIOR RECEPTACLES TO BE GFCI PROTECTED WITH WEATHERPROOF IN-USE COVERS.
5. ALL RECEPTACLES IN AREAS GENERALLY OCCUPIED BY CHILDREN INCLUDING CLASSROOMS, PATIENT EXAM ROOMS, WAITING ROOMS, RESTROOMS, HALLWAYS AND GYMS TO BE TAMPER-RESISTANT.
6. ELECTRICAL CONTRACTOR TO PROVIDE JUNCTION BOX FOR BUILDING SIGNAGE AND PHOTOCELL WITH TIME CLOCK NEXT TO BREAKER PANEL.
7. ALL LIGHTING AND CONTROLS SHALL CONFORM TO CURRENT IECC SECTION C405.2
8. EMERGENCY ELECTRICAL SYSTEM AS LOCATED ON THIS PLAN SHALL PROVIDE POWER FOR A DURATION OF NOT LESS THAN 90 MINUTES AND AN INITIAL ILLUMINATION OF AN AVERAGE 1 FOOTCANDLE. EMERGENCY POWER SYSTEM TO BE IN COMPLIANCE WITH IBC SECTION 1006
9. ALUMINUM CONDUCTORS GREATER THAN 2/0 (APPROX 150 AMPS) CAN BE USED FOR THE INDIVIDUAL SERVICE.
10. OWNER MAY CHANGE EQUIPMENT MANUFACTURER BUT SHALL KEEP MINIMUM SPECIFICATIONS, UNLESS NOTED OTHERWISE.
11. CONTRACTOR TO CONTACT UNDERSIGNED ENGINEER WITH ANY DESIGN PLAN CHANGES.
12. THE BRANCH CIRCUIT FEEDING THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE THE SAME BRANCH CIRCUIT AS THAT SERVING THE NORMAL LIGHTING IN THE AREA AND CONNECTED AHEAD OF ANY LOCAL SWITCHES. THE BRANCH CIRCUIT THAT FEEDS THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE CLEARLY IDENTIFIED AT THE DISTRIBUTION PANEL. EXCEPTION: IN A SEPARATE AND UNINTERRUPTED AREA SUPPLIED BY A MINIMUM OF THREE NORMAL LIGHTING CIRCUITS, A SEPARATE BRANCH CIRCUIT FOR UNIT EQUIPMENT SHALL BE PERMITTED IF IT ORIGINATES FROM THE SAME PANELBOARD AS THAT OF THE NORMAL LIGHTING CIRCUITS AND IS PROVIDED WITH A LOCK-ON FEATURE (700.12(F) NEC).
13. MAIN ELECTRICAL DISCONNECT SHALL BE LABELED WITH A PLAINLY VISIBLE AND LEGIBLE SIGN INDICATING ITS PURPOSE.

MEP GENERAL NOTES

1. ALL CONSTRUCTION TO CONFORM TO INTERNATIONAL, STATE AND LOCAL CODES AND ORDINANCES CURRENTLY ADOPTED BY THE AUTHORITY HAVING JURISDICTION (AHJ).
2. CONTRACTORS TO CONFIRM ALL SPECIFICATIONS HEREIN WITH ACTUAL EQUIPMENT IN FIELD PRIOR TO PURCHASE AND INSTALLATION.
3. REVIEW PLAN SHEET "MEP0 - MEP NOTES" PRIOR TO BIDDING, PERMITTING, AND CONSTRUCTION.
4. THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.
5. SEE CIVIL AND ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ALL FIXTURES AND STRUCTURES.
6. SEE ARCHITECTURAL FINISH OUT SCHEDULES FOR SPECIFIC MODELS, COLORS AND DESIGN NOT DEFINED HEREIN.
7. WITH OWNER APPROVAL, CONTRACTOR MAY CHANGE SPECIFIED EQUIPMENT BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
8. CONTRACTOR TO CONTACT AME ENGINEERING, INC. AT 817-653-4122 PRIOR TO ANY SIGNIFICANT DESIGN REVISIONS.
9. DETAILS LABELED "TYPICAL" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE OR ARE SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE DRAWINGS CAN BE DETERMINED BY THE TITLE OF DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.

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STATE OF TEXAS
JESSICA J. KILGORE
106106
LICENSED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL

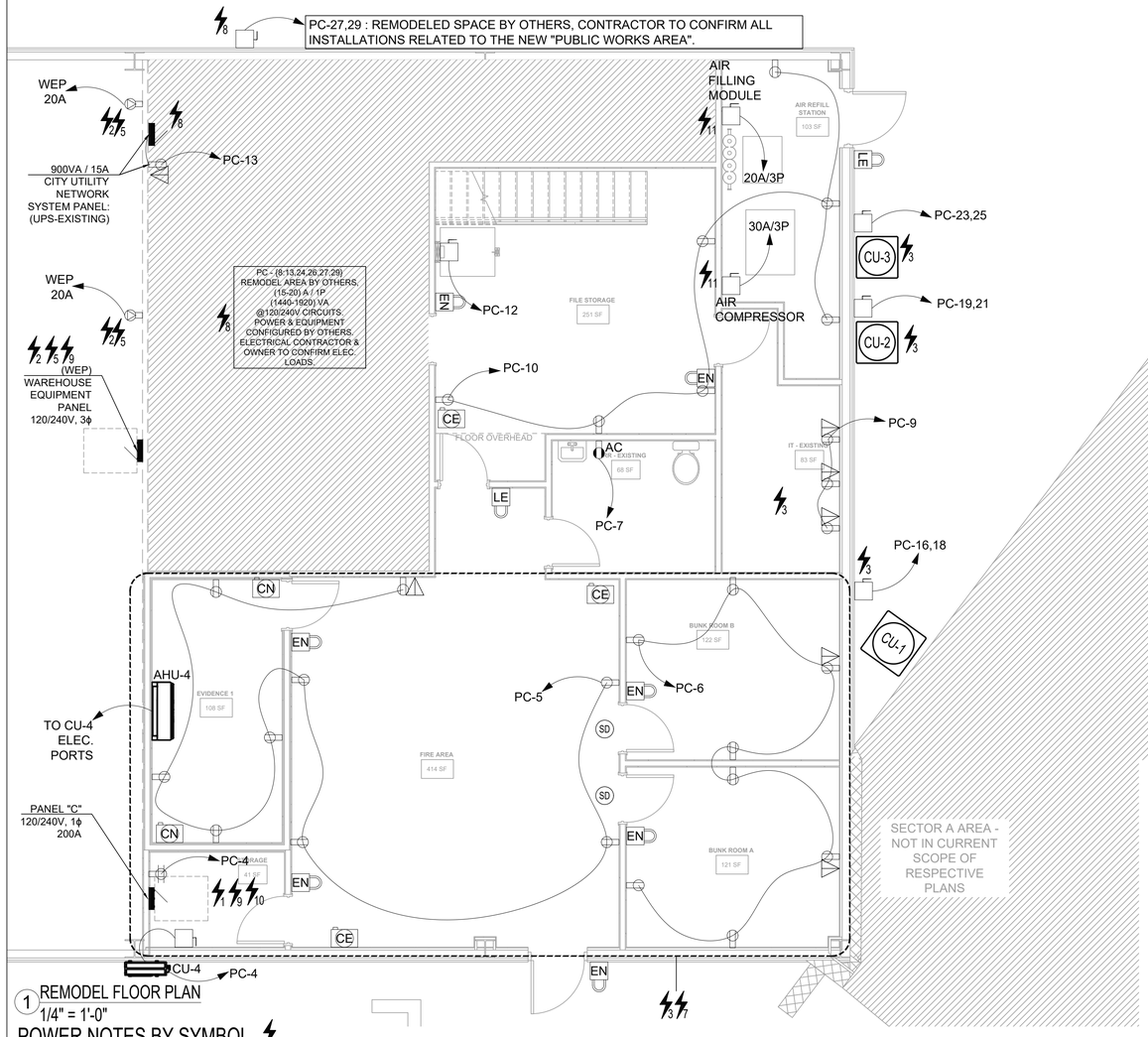
2600 ROOSEVELT DRIVE
DALWORTHINGTON GARDENS, TEXAS 76016

CONTACT NAME	CHIEF GREG PETTY
CONTACT COMPANY	DWG POLICE & FIRE
CONTACT PHONE	817-275-1234
ISSUE:	
CLIENT REVIEW SET 2/15/23	
FINAL COUNCIL REVIEW 06/19/23	
FINAL PERMIT SET 06/26/23	
ADA REVISION SET 08/04/23	
SHEET REVISIONS	
PRINTED	8/4/2023 3:54 PM
DESIGNED	JL
CHECKED	JJK
IBC	2015
IECC/ASHRAE	2015
NEC	2017
SCALE	1/4" = 1'-0"

SECTOR C - REMODEL LIGHTING PLAN

E1.0-C

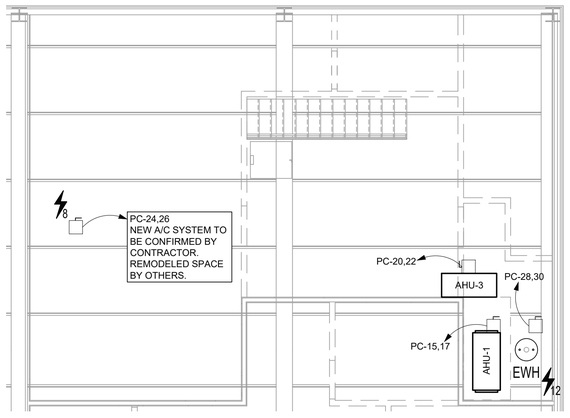
PROJECT 1699



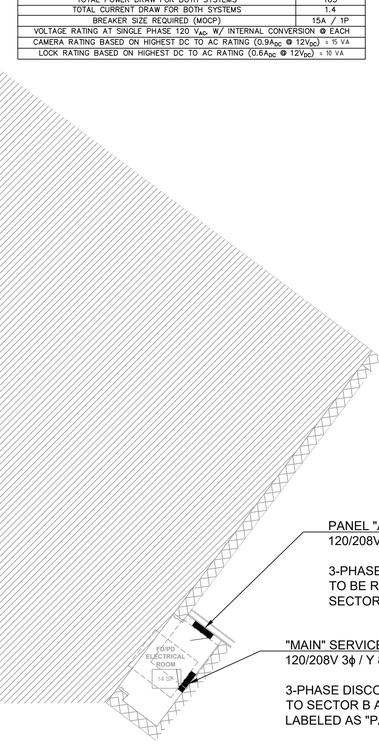
1 REMODEL FLOOR PLAN
1/4" = 1'-0"

POWER NOTES BY SYMBOL

1. ALL EXISTING POWER PANELS LOCATED WITHIN THE REMODEL AREA TO REMAIN IN SERVICE AND TO BE RELOCATED AS SHOWN ON FINAL REMODEL PLAN. ELECTRICAL CONTRACTOR TO ENSURE THAT ALL POWER PANELS MAINTAIN EXISTING SERVICE AND INTERIOR MAIN BREAKER SERVICE CONNECTIONS.
2. EXISTING WAREHOUSE POWER PANELS & DEDICATED RECEPTACLE LOADS TO BE RELOCATED INTO EXISTING WAREHOUSE SPACE PER OWNER'S DISCRETION. ELECTRICAL CONTRACTOR TO ENSURE THAT ALL POWER PANELS MAINTAIN EXISTING SERVICE, INTERIOR MAIN BREAKER SERVICE CONNECTIONS, AND WHETHER ANY ADDITIONAL DEDICATED LOADS ARE REQUIRED TO BE RELOCATED INTO THE EXISTING WAREHOUSE SPACE.
3. EXISTING SERVICE & DISCONNECTS FOR MECHANICAL EQUIPMENT TO REMAIN IN PLACE. ELECTRICAL CONTRACTOR TO ENSURE PROPER INTEGRATION WITH REMODELED POWER DISTRIBUTION SYSTEM WITH PANEL C AND ADDITIONAL LOAD CALCULATIONS SPECIFIED HEREIN. CONTRACTOR TO VERIFY REFRIGERANT LINE LENGTHS IN ORDER TO ALLOW EXISTING CONDENSING UNITS TO REMAIN IN PLACE, OTHERWISE, CONDENSING UNITS & DISCONNECTS TO BE RELOCATED AS SHOWN.
4. EXISTING RECEPTACLE LOADS TO BE RELOCATED AND CIRCUITED IN ORDER TO COMPLY WITH REMODEL DESIGN AS SHOWN. ANY LOAD THAT IS COMPLETELY REMOVED, TO BE SUBTRACTED FROM PANEL C'S EXISTING LOAD (EXISTING CURRENT LOAD = 200A). CURRENT HEADROOM THAT CAN BE UTILIZED FOR REMODEL DESIGN, TO BE REALLOCATED TOWARDS A NEW BREAKER INSTALLATION SPECIFIED HEREIN. (I.E. REMOVE ANY LOADS THAT ARE DEEMED UNECESSARY TO THE FINAL REMODEL DESIGN IN ORDER TO INTEGRATE NEW BREAKERS INTO THE EXISTING PANEL).
5. EXISTING WAREHOUSE DEDICATED RECEPTACLES TO BE RELOCATED PER OWNER'S DISCRETION GIVEN REMODEL BY OTHERS.
6. EXISTING SECURITY CAMERA LOCATIONS TO REMAIN IN PLACE OR REINSTALLED IN THE SAME COMPARABLE AREA AND ORIENTATION. CONTRACTOR AND OWNER TO CONFIRM LOCATIONS AND ORIENTATIONS FOR FINAL DESIGN.
7. ALL INTERIOR RECEPTACLES IN THE FRONT OF THE PROPOSED REMODEL AREA TO BE RELOCATED IN THE LOCATIONS SHOWN IN THE FINAL REMODEL DESIGN. ELECTRICAL CONTRACTOR TO CONFIRM THE POTENTIAL FOR RE-UTILIZING THE EXISTING INFRASTRUCTURE, WIREWAYS, CONDUITS, AND CABLE TRAYS FOR THE DESIGNATED REMODEL AREA. ELECTRICAL CONTRACTOR TO ENSURE THAT CIRCUITING IS FOLLOWING THE DESIGN SHOWN ON THE REMODEL PLAN.
8. EXISTING WAREHOUSE AREA REMODELED BY OTHERS, COMPONENTS SHOWN IN AREA ARE MEANT TO REPRESENT REQUIRED INSTALLATIONS THAT ARE RELOCATED FROM AN EXISTING SPACE, TO THE SPACE SHOWN HEREIN. EXISTING SPACE TO REQUIRE INSTALLATION OF ELECTRICAL INFRASTRUCTURE FOR ALL NETWORKING AND POWER INSTALLATIONS. (CONDUITS, CABLE TRAYS, RECEPTACLES, ETC.) CONTRACTOR TO VERIFY NEC-COMPLIANT INSTALLATIONS OF THE REMODELED SPACE BY OTHERS.
9. "PANEL C" ASSUMED TO BE FED FROM WAREHOUSE EQUIPMENT PANEL (WEP) AS A SUB-PANEL, GIVEN 3Φ SERVICE AVAILABILITY TO SECTOR B AREA (LABELED AS "PANEL C" FROM 3Φ BREAKER, EXISTING PANEL C IS 1Φ PANEL AS SCHEDULED) FROM MAIN PANEL SERVICE AS SHOWN. EXACT WAREHOUSE EQUIPMENT PANEL SIZE, AND EXISTING SERVICE MAIN DISCONNECT FOR SECTOR B CURRENTLY UNKNOWN. CONTRACTOR TO VERIFY EXISTING CONFIGURATION.
10. ANY FORM OF ADDITIONAL ELECTRICAL SERVICE THAT IS REQUIRED FOR THE FINAL REMODEL DESIGN TO BE CONFIRMED WITH THE OWNER, ELECTRICAL CONTRACTOR, AND ENGINEER IN ORDER TO ALLOCATE AN ADDITIONAL PANEL FOR PROPER SIZING AND INSTALLATION. FINAL LOAD ESTIMATE SHOWN ON CALCULATIONS, IS SPECIFIED BASED ON GENERAL DEMAND LOAD FACTORS DOCUMENTED IN ARTICLE 220 OF THE NEC.
11. SPECIFIED AIR REFILLING STATION COMPONENTS TO BE POWERED BY EXISTING SECTOR A EQUIPMENT PANEL @ 120/208V 3Φ (COMPRESSOR = 30A/3P, AIR FILLING MODULE = 20A/3P). OWNER AND ELECTRICAL CONTRACTOR TO SPECIFY THE USE OF UNDERGROUND AND/OR OVERHEAD CONDUIT/WIRING FOR EQUIPMENT.
12. ELECTRIC WATER HEATER MODEL TO BE CONFIRMED. TYPICAL 50 GALLON TANK ELECTRIC WATER HEATER MODEL USED FOR STANDARD ELECTRICAL REQUIREMENTS OF 12,000 W, 28.8 A @ 208V (2-POLE)
13. CITY NETWORK UTILITY PANEL UTILIZED FOR COMMUNICATION AND ANTENNA SIGNAL DISTRIBUTION. MAINTAIN INSTALLATION WITH BUILDING & EXISTING ANTENNA, AND TO BE RELOCATED AS SHOWN. INCLUDE DEDICATED RECEPTACLE FOR EXISTING 900VA/15A UPS BATTERY BACKUP MODULE.
14. BOTH EXISTING AND NEW CAMERA / LOCK LOCATIONS ARE ANNOTATED AND SHOWN IN THIS SECTOR FOR A TOTAL ACCUMULATIVE ELECTRICAL LOAD & THE RELOCATION OF THE NETWORKING CABLES / DISTRIBUTION REQUIRED THROUGHOUT FOR THE FINAL REMODEL DESIGN.



2 REMODEL ATTIC PLAN
3/16" = 1'-0"



14

CAMERAS AND LOCKS SCHEDULE (TOTAL)				
NAME	QTY	CURRENT (A)	POWER (W)	TOTAL POWER (W)
CAMERAS	5	0.125	15	75
LOCKS	9	0.083	10	90
TOTAL QTY				14
TOTAL POWER DRAW FOR BOTH SYSTEMS				165
TOTAL CURRENT DRAW FOR BOTH SYSTEMS				1.4
BREAKER SIZE REQUIRED (MOCP)				15A / 1P
VOLTAGE RATING AT SINGLE PHASE 120 V_{AC} W/ INTERNAL CONVERSION @ EACH				
CAMERA RATING BASED ON HIGHEST DC TO AC RATING (0.9A_{DC} @ 12V_{DC}) = 15 VA				
LOCK RATING BASED ON HIGHEST DC TO AC RATING (0.6A_{DC} @ 12V_{DC}) = 10 VA				

NOTE TO BIDDERS

THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.

CONTRACTOR RESPONSIBILITIES

CONTRACTOR SHALL REPORT ANY DISCREPANCIES, OMISSIONS OR INCONSISTENCIES ON THE DRAWINGS TO ENGINEER FOR VERIFICATION BEFORE STARTING CONSTRUCTION. OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR ANY ERRORS IN CONSTRUCTION WHERE SUCH DISCREPANCIES, OMISSIONS OR INCONSISTENCIES HAVE NOT BEEN PROPERLY REPORTED IN A TIMELY MANNER.

MEP GENERAL NOTES

1. ALL CONSTRUCTION TO CONFORM TO INTERNATIONAL, STATE AND LOCAL CODES AND ORDINANCES CURRENTLY ADOPTED BY THE AUTHORITY HAVING JURISDICTION (AHJ).
2. CONTRACTORS TO CONFIRM ALL SPECIFICATIONS HEREIN WITH ACTUAL EQUIPMENT IN FIELD PRIOR TO PURCHASE AND INSTALLATION.
3. REVIEW PLAN SHEET "MEP0 - MEP NOTES" PRIOR TO BIDDING, PERMITTING, AND CONSTRUCTION.
4. THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.
5. SEE CIVIL AND ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ALL FIXTURES AND STRUCTURES.
6. SEE ARCHITECTURAL FINISH OUT SCHEDULES FOR SPECIFIC MODELS, COLORS AND DESIGN NOT DEFINED HEREIN. WITH OWNER APPROVAL, CONTRACTOR MAY CHANGE SPECIFIED EQUIPMENT BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
7. CONTRACTOR TO CONTACT AME ENGINEERING, INC. AT 817-653-4122 PRIOR TO ANY SIGNIFICANT DESIGN REVISIONS.
8. DETAILS LABELED "TYPICAL" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE OR ARE SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE DRAWINGS CAN BE DETERMINED BY THE TITLE OF DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.

ELECTRICAL REMODEL LEGEND

SYM	DESCRIPTION
▽ ▽	DATA JACK (COAXIAL / ETHERNET)
J	JUNCTION BOX (J-BOX)
	DISCONNECT SWITCH
	DUPLEX RECEPTACLE (110V OUTLET)
	GFCI DUPLEX RECEPTACLE (110V OUTLET)
	HIGHER VOLTAGE RECEPTACLE. SEE EQUIPMENT SCHEDULE FOR SPECIFICATION. (220V OUTLET)
$ $3	WALL SWITCH: STANDARD/3-POLE/OCC SENSOR (DIMMING, ALL)
	AHU WITH EQUIPPED MOTOR LOAD SPECIFICATION (125%)
	HP WITH EQUIPPED MOTOR LOAD SPECIFICATION (125%)
	TANKLESS, ON-DEMAND GAS WATER HEATER
	TANK, GAS WATER HEATER
	RECESSED DOWNLIGHT
	GARAGE, 4' FLUORESCENT LIGHTING FIXTURES
	WET RATED WALL SCONCE
	EXTERIOR LED WALLPACK
	LINEAR LED PANEL W/ EMERGENCY BATTERY BACKUP
	PANELBOARD
	ELECTRICAL SERVICE METER / EMERGENCY DISCONNECT
SD	SMOKE DETECTOR INSIDE AND JUST OUTSIDE ALL BEDROOMS (EQUAL TO KIDDE i2040A), CEILING MOUNTED
CM	CARBON MONOXIDE DETECTOR , CEILING MOUNTED
	CEILING-MOUNTED OCCUPANCY SENSOR
	EXHAUST FAN (EF-0 & EF-1)
	EXISTING 2X4 LED PANEL LIGHT, TO BE REUSED WHERE APPLICABLE ON PLAN. SEE E1.0 AND LIGHTING SCHEDULE
	EXISTING 1X4 LED PANEL LIGHT, TO BE REUSED WHERE ON APPLICABLE ON PLAN. SEE E1.0 AND LIGHTING SCHEDULE
AFF	ABOVE FINISHED FLOOR
AC	ABOVE COUNTER. CONSULT ARCHITECT/PLANS
BC	BELOW COUNTER. CONSULT ARCHITECT/PLANS
WP	WEATHER/WATER PROOF IN USE SPECIFICATION
DW	DISHWASHER
GD	GARBAGE DISPOSAL
ATS	AUTOMATIC TRANSFER SWITCH (POWER FROM GENERATOR)
AHU	AIR HANDLER COMPONENT OF SPLIT SYS
HP	HEAT PUMP COMPONENT OF SPLIT SYS
°F	THERMOSTAT-ACTUATED CONTROL W/ ADD. MANUAL SWITCHING
GEN	EMERGENCY BACKUP GENERATOR
L#	ELECTRIC LOCKING SYSTEM: KEYCARD SCANNER / MODULE LE = EXISTING LOCK TO REMAIN LN = NEW LOCK INSTALLATION
C#	SECURITY CAMERA MODULE: CE = EXISTING CAMERA TO REMAIN CN = NEW CAMERA TO BE INSTALLED

*NOT ALL SYMBOLS MAY BE USED.

UNLESS OTHERWISE NOTED RECEPTACLES TO BE INSTALLED 12" AFF.

ITEMS SHOWN IN HALFTONE COLORS ARE MEANT TO REPRESENT EXISTING COMPONENTS, AND ARE DESIGNED TO REMAIN WITHIN THE SCOPE OF THE FINAL DESIGN. (TYPICAL, ALL)

NOTES:
1. CONTRACTOR TO PROVIDE EXIT SIGNS WITH ARROWS BASED ON REQUIREMENTS IN FIELD.
2. CONTRACTOR TO UTILIZE REMOTE HEAD CAPABLE (MULTI-TAP BATTERY) EMERGENCY LIGHTING FIXTURES WHEREVER POSSIBLE.
3. SEE LIGHTING SCHEDULE THIS SHEET FOR FIXTURE DESIGNATIONS.
4. SOLID HATCH ON SYMBOL OR 'EM' LABEL INDICATES EMERGENCY LIGHTING SYSTEM FIXTURE.

REMODEL BREAKER SIZING SCHEDULE (@120V/240V, 1Φ, PANEL C)						
NAME	PC-#	MINIMUM POWER (W)	MCA (A)	CIRCUIT @ RATED DEMAND PER (NEC 220)	MAX CURRENT LOAD (A)	MOCP (A/P)
LIGHT(OPT.)	1	1523	12.7	1827.6	15.2	20A/1P
EMERG. LIGHTS/FACP	2	1500	12.5	1800.0	15.0	20A/1P
EXIST EXT. LIGHTS	3	1200	10.0	1440.0	12.0	15A/1P
C# / L#	4	165	1.4	198.0	1.7	15A/1P
SERVICE QUAD	5	1200	10.0	1440.0	12.0	15A/1P
EVI / FIRE REC.	6	1080	9.0	1296.0	10.8	15A/1P
BUNK REC	7	1440	12.0	1728.0	14.4	15A/1P
RR-GFCI	8	500	4.2	600.0	5.0	15A/1P
RR-GFCI	9	500	4.2	600.0	5.0	15A/1P
IT ROOM	10	1800	15.0	2160.0	18.0	25A/1P
WASH/AIR REC	11	840	7.0	1008.0	8.4	15A/1P
PW REC	12	960	8.0	1152.0	9.6	15A/1P
WENCH	13	960	8.0	1152.0	9.6	15A/1P
CITY PANEL	14	900	7.5	1080.0	9.0	15A/1P
SPARE	15	1800	15.0	2160.0	18.0	20A/1P
AHU-1	16,18	5532	26.6	6915.0	33.2	40A/2P
CU-1	17,19	8736	42.0	10920.0	52.5	60A/2P
AHU/CU-2	20,22	5491	26.4	6863.8	33.0	20A/2P
AHU-3	21,23	1664	8.0	2080.0	10.0	15A/2P
CU-3	24,26	2516	12.1	3145.0	15.1	25A/2P
EXIST AHU	25,27	2787	13.4	3483.8	16.7	25A/2P
EXIST CU	28,30	3536	17.0	4420.0	21.3	25A/2P
AHU/CU-4	29,31	2080	10.0	2600.0	12.5	15A/2P
EWH	32,34	12000	50.0	14400.0	69.2	70A/2P
LIGHTING LOADS (CONTINUOUS = 1ST 3KVA, REMAINDER @ 35%)					7685.8	
RECEPTACLE LOADS (DIVERSIFIED = 1ST 10KVA, REMAINDER @ 50%)					10990.0	
MOTOR (430.24) = SUM OF MOTORS + 25% OF LARGEST					34526.0	
TOTAL POWER DEMAND PER-PHASE @ 70% TOTAL DEMAND, 220.61(B)(2)					37241.3	
QTY	33	TOTAL SERVICE LOAD			155.0	

ELECTRICAL LIGHTING AND POWER NOTES

1. ALL WORK SHALL MEET CURRENTLY ADOPTED IBC, IECC AND NEC CODE REQUIREMENTS AS WELL AS ANY CITY ADOPTED AMENDMENTS.
2. LOADING AND BREAKER LAYOUT SHOWN IS BASED ON BEST AVAILABLE DATA. SPECIALTY, MEDICAL OR IT EQUIPMENT AND APPLIANCES, ETC MAY NEED SEPARATE CIRCUITS. INSTALLING ELECTRICIAN TO VERIFY ACTUAL EQUIPMENT WATTAGES AND SUPPLY CORRECT EQUIPMENT AS NEEDED.
3. ALL RECEPTACLES SHALL BE GFCI PROTECTED IF REQUIRED BY NEC OR AHJ.
4. ALL EXTERIOR RECEPTACLES TO BE GFCI PROTECTED WITH WEATHERPROOF IN-USE COVERS.
5. ALL RECEPTACLES IN AREAS GENERALLY OCCUPIED BY CHILDREN INCLUDING CLASSROOMS, PATIENT EXAM ROOMS, WAITING ROOMS, RESTROOMS, HALLWAYS AND GYMS TO BE TAMPER-RESISTANT.
6. ELECTRICAL CONTRACTOR TO PROVIDE JUNCTION BOX FOR BUILDING SIGNAGE AND PHOTOCELL WITH TIME CLOCK NEXT TO BREAKER PANEL.
7. ALL LIGHTING AND CONTROLS SHALL CONFORM TO CURRENT IECC SECTION C405.2
8. EMERGENCY ELECTRICAL SYSTEM AS LOCATED ON THIS PLAN SHALL PROVIDE POWER FOR A DURATION OF NOT LESS THAN 90 MINUTES AND AN INITIAL ILLUMINATION OF AN AVERAGE 1 FOOTCANDLE. EMERGENCY POWER SYSTEM TO BE IN COMPLIANCE WITH IBC SECTION 1006.
9. ALUMINUM CONDUCTORS GREATER THAN 2/0 (APPROX 150 AMPS) CAN BE USED FOR THE INDIVIDUAL SERVICE.
10. OWNER MAY CHANGE EQUIPMENT MANUFACTURER BUT SHALL KEEP MINIMUM SPECIFICATIONS, UNLESS NOTED OTHERWISE.
11. CONTRACTOR TO CONTACT UNDERSIGNED ENGINEER WITH ANY DESIGN PLAN CHANGES.
12. THE BRANCH CIRCUIT FEEDING THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE THE SAME BRANCH CIRCUIT AS THAT SERVING THE NORMAL LIGHTING IN THE AREA AND CONNECTED AHEAD OF ANY LOCAL SWITCHES. THE BRANCH CIRCUIT THAT FEEDS THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE CLEARLY IDENTIFIED AT THE DISTRIBUTION PANEL. EXCEPTION: IN A SEPARATE AND UNINTERRUPTED AREA SUPPLIED BY A MINIMUM OF THREE NORMAL LIGHTING CIRCUITS, A SEPARATE BRANCH CIRCUIT FOR UNIT EQUIPMENT SHALL BE PERMITTED IF IT ORIGINATES FROM THE SAME PANELBOARD AS THAT OF THE NORMAL LIGHTING CIRCUITS AND IS PROVIDED WITH A LOCK-ON FEATURE (700.12(F) NEC).
13. MAIN ELECTRICAL DISCONNECT SHALL BE LABELED WITH A PLAINLY VISIBLE AND LEGIBLE SIGN INDICATING ITS PURPOSE.

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STATE OF TEXAS
JESSICA J. KILGORE
106106
LICENSED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL

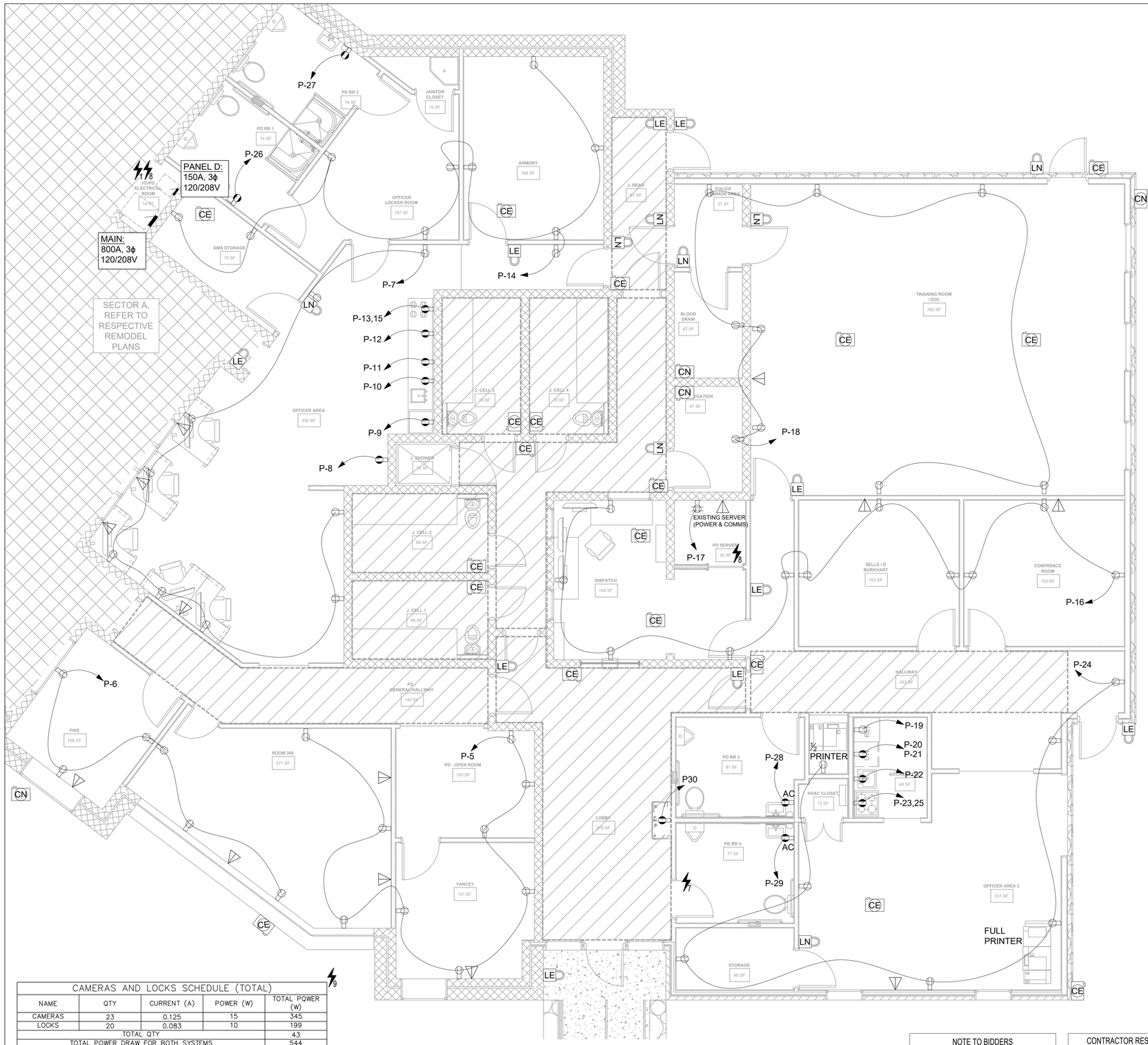
2600 ROOSEVELT DRIVE
DALWORTHINGTON GARDENS, TEXAS 76016

CONTACT NAME	CHIEF GREG PETTY
CONTACT COMPANY	DWG POLICE & FIRE
CONTACT PHONE	817-275-1234
ISSUE:	
CLIENT REVIEW SET 2/15/23	
FINAL COUNCIL REVIEW 06/19/23	
FINAL PERMIT SET 06/26/23	
ADA REVISION SET 08/04/23	
SHEET REVISIONS	
PRINTED	8/4/2023 3:54 PM
DESIGNED	JL
CHECKED	JJK
IBC	2015
IECC/ASHRAE	2015
NEC	2017
SCALE	AS SHOWN

SECTOR B - REMODEL POWER PLAN

E2.0-B

PROJECT 1699



ELECTRICAL LEGEND

SYM	DESCRIPTION
	POWER CIRCUITING
	SWITCH CIRCUITING
	PANELBOARD
	SWITCH
	DUPLEX RECEPTACLE
	DUPLEX GFCI RECEPTACLE
	QUADPLEX RECEPTACLE
	FLOOR RECEPTACLE
J	JUNCTION BOX
	DISCONNECT SWITCH
	MOTOR
	HIGH VOLTAGE RECEPTACLE
	SPECIAL USE RECEPTACLE
	SINGLE CAT6e KEYSTONE JACK
	DOUBLE KEYSTONE
	TELEPHONE JACK
	DUAL KEYSTONE/PHONE JACK
4	QUADPLEX
AC	MOUNT ABOVE COUNTER
BC	MOUNT BELOW COUNTER
CLG	CEILING MOUNTED
FLR	FLOOR INSTALLATION
G	GFCI CIRCUIT
H	HOSPITAL GRADE
TR	TAMPER-RESISTENT
WP	WEATHERPROOF IN-USE COVER
L#	ELECTRIC LOCKING SYSTEM: KEYCARD SCANNER / MODULE LE = EXISTING LOCK TO REMAIN LN = NEW LOCK INSTALLATION
C#	SECURITY CAMERA MODULE: CE = EXISTING CAMERA TO REMAIN CN = NEW CAMERA TO BE INSTALLED

NOTE: NOT ALL SYMBOLS MAY BE USED. IF NO HEIGHT IS NOTED FOR RECEPTACLES, NEC STANDARD HEIGHT RANGE OF 12' - 16" AFF IS TO BE USED UNLESS OTHERWISE SPECIFIED BY OWNER. CONTRACTOR TO VERIFY PRIOR TO BEGINNING OF WORK.

POWER NOTES BY SYMBOL

1. EXISTING POWER PANELS LOCATED WITHIN THE REMODEL AREA TO REMAIN IN SERVICE AND TO BE RELOCATED AS SHOWN ON FINAL REMODEL PLAN. ELECTRICAL CONTRACTOR TO ENSURE THAT ALL POWER PANELS MAINTAIN EXISTING SERVICE RATINGS (LOAD) AND MAINTAIN THEIR CONNECTION WITH THE BREAKER ON THE MAIN PANEL BOARD.
2. EXISTING SERVICE & DISCONNECTS FOR MECHANICAL EQUIPMENT TO REMAIN IN PLACE. ELECTRICAL CONTRACTOR TO ENSURE PROPER INTEGRATION WITH REMODELED POWER DISTRIBUTION SYSTEM WITH PANEL D & A AND ADDITIONAL LOAD CALCULATIONS SPECIFIED HEREIN.
3. EXISTING RECEPTACLE LOADS TO BE RELOCATED AND CIRCUITED IN ORDER TO COMPLY WITH REMODEL DESIGN AS SHOWN. ANY LOAD THAT IS COMPLETELY REMOVED, TO BE SUBTRACTED FROM PANEL D'S EXISTING LOAD (EXISTING CURRENT LOAD = 200A). CURRENT HEADROOM THAT CAN BE UTILIZED FOR REMODEL DESIGN, TO BE REALLOCATED TOWARDS A NEW BREAKER INSTALLATION SPECIFIED HEREIN. (I.E. REMOVE ANY LOADS THAT ARE DEEMED UNECESSARY TO THE FINAL REMODEL DESIGN IN ORDER TO INTEGRATE NEW BREAKERS INTO THE EXISTING PANEL).
4. EXISTING SECURITY CAMERA LOCATIONS TO REMAIN IN PLACE OR REINSTALLED IN THE SAME COMPARABLE AREA AND ORIENTATION. CONTRACTOR AND OWNER TO CONFIRM LOCATIONS AND ORIENTATIONS FOR FINAL DESIGN.
5. ALL INTERIOR RECEPTACLES IN THE PROPOSED REMODEL AREA TO BE RELOCATED IN THE LOCATIONS SHOWN IN THE DESIGN. ELECTRICAL CONTRACTOR TO CONFIRM THE POTENTIAL FOR RE-UTILIZING THE EXISTING INFRASTRUCTURE, WIREWAYS, CONDUITS, AND CABLE TRAYS FOR THE DESIGNATED REMODEL AREA. ELECTRICAL CONTRACTOR TO ENSURE THAT CIRCUITING IS FOLLOWING THE DESIGN SHOWN ON THE REMODEL PLAN.
6. MARKING & SHADING SHOWN ON PLAN DESIGNATES EXISTING AREAS FOR REMODEL PLAN TO REMAIN IN PLACE & TO MAINTAIN POWER CIRCUITING & INSTALLATIONS.
7. EXISTING PANEL BOARD LOCATED WITHIN REMODEL AREA TO BE RE-CIRCUITED WITHIN PANEL D AS CALCULATED BELOW.
8. ALL SPECIALITY PANEL BOARDS (IT ROOM, EMERGENCY SERVICES, ETC.) TO REMAIN IN PLACE AND TO MAINTAIN SERVICE UTILIZATION WITHIN THE BUILDING.
9. BOTH EXISTING AND NEW CAMERA / LOCK LOCATIONS ARE ANNOTATED AND SHOWN IN THIS SECTOR FOR A TOTAL ACCUMULATIVE ELECTRICAL LOAD & THE RELOCATION OF THE NETWORKING CABLES / DISTRIBUTION REQUIRED FOR THE FINAL REMODEL DESIGN.

REMODEL BREAKER SIZING SCHEDULE (@120V/208V, 3ϕ, PANEL D)

NAME	MINIMUM LOAD & CIRCUIT DESIGNATION			LOAD CALCULATIONS PER NEC (C,D,G,M)		MOCP (A/P)
	PC-#	MINIMUM POWER (W)	MCA (A)	CIRCUIT @ RATED DEMAND PER (NEC 220)	MAX CURRENT LOAD (A)	
NEW LIGHTS	1	1920	16.0	2304.0	19.2	20A/1P
NEW LIGHTS	2	1920	16.0	2304.0	19.2	20A/1P
NEW+EXI.	3	1920	16.0	2304.0	19.2	20A/1P
EXI. LIGHTS	4	1920	16.0	2304.0	19.2	20A/1P
C# / L#	5	545	4.5	654.0	5.5	15A/1P
YANCEY/300	6	1080	9.0	1350.0	11.3	15A/1P
300/FIKE	7	1080	9.0	1350.0	11.3	15A/1P
OFF. AREA	8	1800	15.0	2250.0	18.8	15A/1P
REF 1	9	800	6.7	1000.0	8.3	15A/1P
REF 2	10	800	6.7	1000.0	8.3	15A/1P
GFCI-POL KIT	11	1200	10.0	1440.0	12.0	15A/1P
MICRO	12	1200	10.0	1440.0	12.0	15A/1P
GFCI-POL KIT	13	1200	10.0	1440.0	12.0	15A/1P
STO/LOCK/ARM	14	1920	16.0	2400.0	20.0	20A/1P
DIS/SELL/CONF	15	1920	16.0	2400.0	20.0	20A/1P
SERVER QUAD	16	1920	16.0	2400.0	20.0	20A/1P
TRA/POL/INT/B	17	1920	16.0	2400.0	20.0	20A/1P
REF 3	18	800	6.7	1000.0	8.3	15A/1P
DW	19	800	6.7	960.0	8.0	20A/1P
KITCH GFCI	20	1440	12.0	1800.0	15.0	20A/1P
KITCH DISP	21	800	6.7	1000.0	8.3	15A/1P
OFF. AREA 2	22	1920	16.0	2400.0	20.0	20A/1P
RR1 GFCI	23	1440	12.0	1800.0	15.0	15A/1P
RR2 GFCI	24	1440	12.0	1800.0	15.0	15A/1P
RR3 GFCI	25	1440	12.0	1800.0	15.0	15A/1P
RR4 GFCI	26	1440	12.0	1800.0	15.0	15A/1P
EWC	27	800	6.7	1000.0	8.3	15A/1P
RANGE	28,30	2400	11.5	2880.0	24.0	15A/2P
RANGE	29,31	2400	11.5	2880.0	24.0	15A/2P
LIGHTING LOADS (CONTINUOUS = 1ST 3KVA, REMAINDER @ 35%)					4828.8	
RECEPTACLE LOADS (DIVERSIFIED = 1ST 10KVA, REMAINDER @ 50%)					19580.0	
APPLIANCE LOADS @ < 3½ KW = 75% DEMAND (TABLE 220.55)					3600.0	
TOTAL POWER DEMAND FOR SERVICE FEEDER & NEUTRAL LOAD, 220.61					28008.8	
QTY	31	TOTAL SERVICE LOAD (A)			78.0	

CAMERAS AND LOCKS SCHEDULE (TOTAL)

NAME	QTY	CURRENT (A)	POWER (W)	TOTAL PQWER (W)
CAMERAS	23	0.125	15	345
LOCKS	20	0.083	10	199
TOTAL QTY				43
TOTAL POWER DRAW FOR BOTH SYSTEMS				544
TOTAL CURRENT DRAW FOR BOTH SYSTEMS				4.5
BREAKER SIZE REQUIRED (MOCP)				15A / 1P
VOLTAGE RATING AT SINGLE PHASE 120 V_{AC}, W/ INTERNAL CONVERSION @ EACH				
CAMERA RATING BASED ON HIGHEST DC TO AC RATING ($0.9A_{DC}$ @ $12V_{DC}$) ≈ 15 VA				
LOCK RATING BASED ON HIGHEST DC TO AC RATING ($0.6A_{DC}$ @ $12V_{DC}$) ≈ 10 VA				

NOTE TO BIDDERS

THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.

CONTRACTOR RESPONSIBILITIES

CONTRACTOR SHALL REPORT ANY DISCREPANCIES, OMISSIONS OR INCONSISTENCIES ON THE DRAWINGS TO ENGINEER FOR VERIFICATION BEFORE STARTING CONSTRUCTION. OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR ANY ERRORS IN CONSTRUCTION WHERE SUCH DISCREPANCIES, OMISSIONS OR INCONSISTENCIES HAVE NOT BEEN PROPERLY REPORTED IN A TIMELY MANNER.

MEP GENERAL NOTES

1. ALL CONSTRUCTION TO CONFORM TO INTERNATIONAL, STATE AND LOCAL CODES AND ORDINANCES CURRENTLY ADOPTED BY THE AUTHORITY HAVING JURISDICTION (AHJ).
2. CONTRACTORS TO CONFIRM ALL SPECIFICATIONS HEREIN WITH ACTUAL EQUIPMENT IN FIELD PRIOR TO PURCHASE AND INSTALLATION.
3. REVIEW PLAN SHEET "MEP0 - MEP NOTES" PRIOR TO BIDDING, PERMITTING, AND CONSTRUCTION.
4. THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.
5. SEE CIVIL AND ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ALL FIXTURES AND STRUCTURES.
6. SEE ARCHITECTURAL FINISH OUT SCHEDULES FOR SPECIFIC MODELS, COLORS AND DESIGN NOT DEFINED HEREIN.
7. WITH OWNER APPROVAL, CONTRACTOR MAY CHANGE SPECIFIED EQUIPMENT BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
8. CONTRACTOR TO CONTACT AME ENGINEERING, INC. AT 817-653-4122 PRIOR TO ANY SIGNIFICANT DESIGN REVISIONS.
9. DETAILS LABELED "TYPICAL" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE OR ARE SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE DRAWINGS CAN BE DETERMINED BY THE TITLE OF DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.

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STATE OF TEXAS
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LICENSED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL

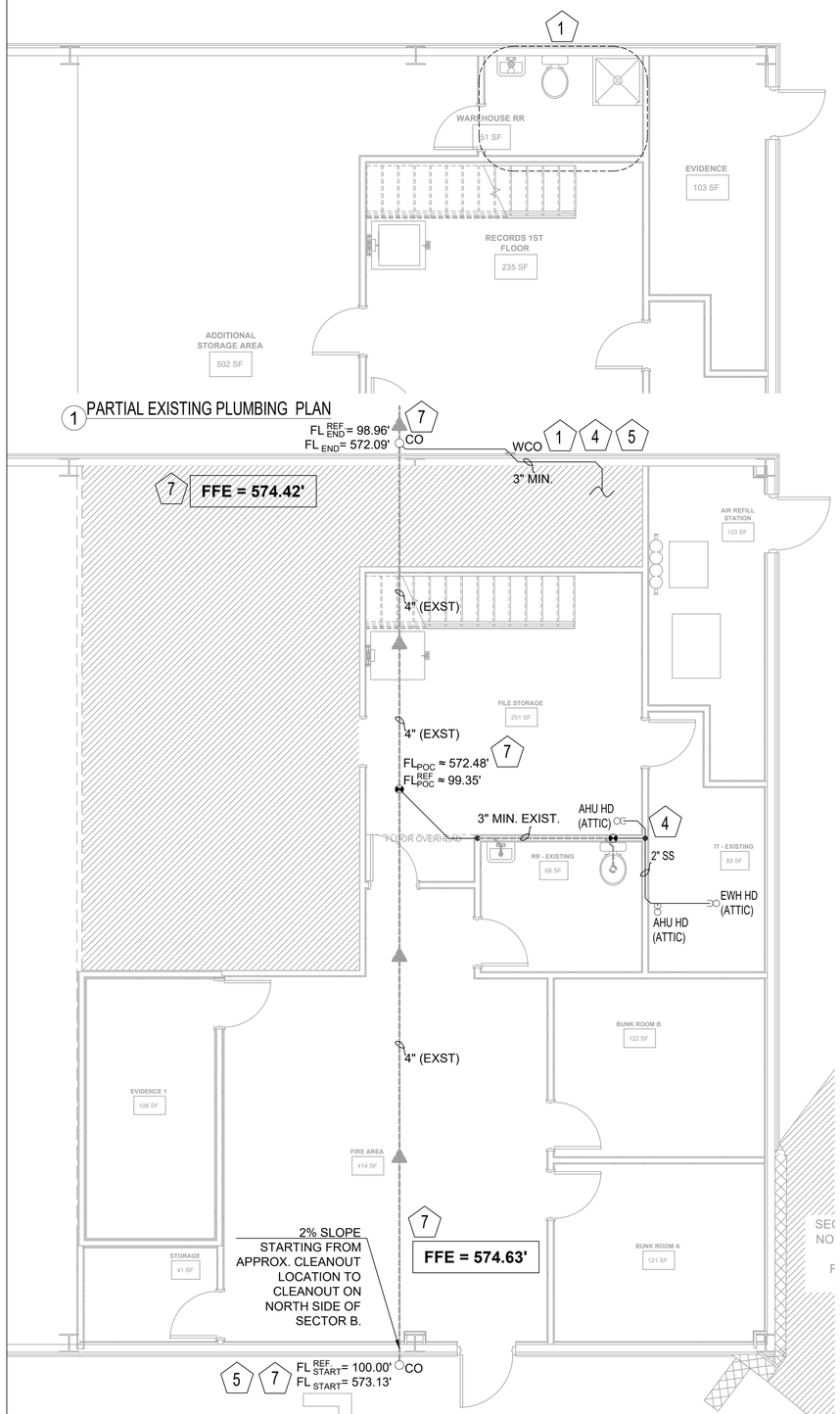
2600 ROOSEVELT DRIVE
DALWORTHINGTON GARDENS, TEXAS 76016

CONTACT NAME	CHIEF GREG PETTY
CONTACT COMPANY	DWG POLICE & FIRE
CONTACT PHONE	817-275-1234
ISSUE:	
CLIENT REVIEW SET 2/15/23	
FINAL COUNCIL REVIEW 06/19/23	
FINAL PERMIT SET 06/26/23	
ADA REVISION SET 08/04/23	
SHEET REVISIONS	
PRINTED	8/4/2023 3:54 PM
DESIGNED	JL
CHECKED	JJK
IBC	2015
IECC/ASHRAE	2015
NEC	2017
SCALE	3/16" = 1'-0"

SECTOR C - REMODEL POWER PLAN

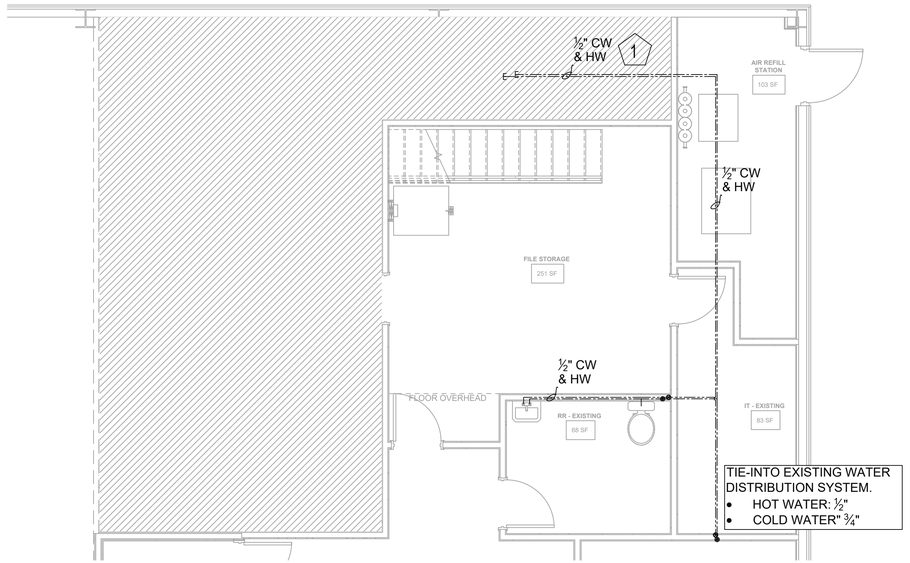
E2.0-C

PROJECT 1699

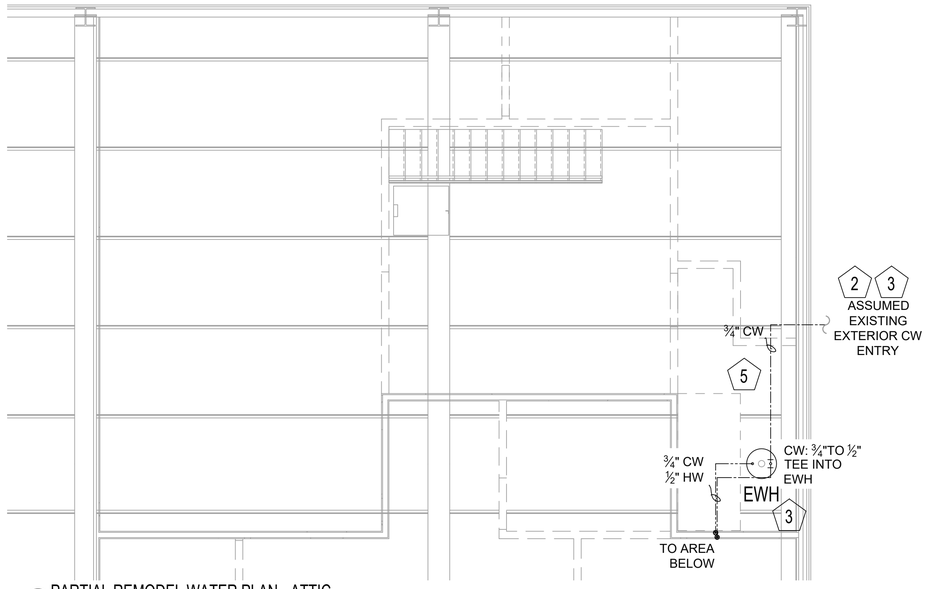


1 PARTIAL EXISTING PLUMBING PLAN

3 REMODEL SEWER PLAN - GND FLOOR



2 PARTIAL REMODEL WATER PLAN - GND FLOOR



4 PARTIAL REMODEL WATER PLAN - ATTIC

EXISTING ELECTRIC TANK WATER HEATER SCHEDULE

UNIT	QTY	TYPE	BRAND	MODEL	CAPACITY	VOLTAGE	ELEC REQ'D	INPUT PER HOUR (WATTS)	RECOVERY RATE (GPH)	1ST HOUR DELIVERY (GAL)	HEAT-UP TIME (HR)	WATER CONNECT.
EWH	1	ELECTRIC TANK - EXISTING INSTALLATION (GALLON & RECOVERY CALCULATIONS SHOWN HERE TO REFLECT TOTAL SYSTEM SIZING)			50 GAL	240V/ 1PH	65A/2P	12,000.0	36.4	78.8	1.6	¾" NPT

NOTES:
1. REFER TO INSTALLATION MANUAL FOR ALL STRUCTURAL, ELECTRICAL, PLUMBING, VENTING AND GAS REQUIREMENTS PRIOR TO INSTALLATION.
2. ROUTE T&P AND OVERFLOW DRAINS TO BUILDING EXTERIOR OR AHU APPROVED INDIRECT WASTE WITH REQUIRED AIR GAP FOR TANK-STYLE WATER HEATERS.
3. PROVIDE THERMAL EXPANSION TANK ON COLD WATER SUPPLY LINE FOR TANK-STYLE WATER HEATERS.
4. PROVIDE AND INSTALL DRIP PAN AND FLOODSTOP BY ONSITE PRO SHUT-OFF SYSTEM MODEL FS3/4NPT FOR TANK-STYLE WATER HEATERS.
5. PROVIDE 120°F THERMOSTATIC MIXING/ TEMPERING VALVE AT ALL SINKS.
6. INSULATE ALL HOT WATER LINES EQUAL TO ½" ARMAFLEX.

PLUMBING LEGEND

SYM.	DESCRIPTION
	COLD WATER PIPING (CW)
	HOT WATER PIPING (HW)
	SANITARY SEWER LINE (SS)
	SANITARY SEWER VENT
	GREASE TRAP LINE (GT)
	VENT-TO-ROOF (VTR)
	VERTICAL PIPING
	SHUT-OFF VALVE
	REDUCED PRESSURE ZONE (RPZ) ASSEMBLY
	FLOOR CLEANOUT (CO)
	WALL CLEANOUT (WCO)
	DOUBLE CLEANOUT AT GRADE (DCO)
	FLOOR DRAIN (FD)
	HOSE BIBB (SILLCOCK VALVE)
	CAPPED PIPE PER IPC
	BUILDING SS POINT OF CONNECTION (POC)/STUB-UP
	CONDENSATE & COMBUSTION HUB DRAIN (HB)

NOTE: CONTRACTOR TO IDENTIFY GREASE LINE W/ DIFFERENT COLOR RATED SEWER PIPE OR PIPE WRAPPING MATERIAL TO SIGNIFY FOR GREASE TRAP ONLY

*NOT ALL SYMBOLS MAY BE USED.

PLUMBING NOTES BY SYMBOL

1. EXISTING PLUMBING SYSTEM IN PUBLIC WORKS RESTROOM TO BE RENOVATED BY OTHERS, OWNER TO CONFIRM THE UTILIZATION AND ADDITION OF ANY FIXTURES WITHIN THE REMODELED AREA. SYSTEM TO BE VERIFIED FOR COMPLIANCE WITHINI THE SYSTEM SHOWN ON THE PLANS HEREIN. CONTRACTOR AND OWNER TO CONFIRM/VERIFY LOCATION, AND WATER LINE INSTALLATION/SIZING, FOR ELECTRIC TANK WATER HEATER. MODEL TO BE VERIFIED FOR ELECTRIC 50 GALLON TANK WATER HEATER.
2. ROUTING AND ENTRYWAY FOR COLD WATER, AND NEWLY INSTALLED WATER HEATER LOCATION, ASSUMED TO BE AS SHOWN BASED ON SITE INSPECTION. CONTRACTOR TO VERIFY EXISTING LOCATIONS AND ROUTING SHOWN.
3. CONTRACTOR AND OWNER TO CONFIRM AND VERIFY ¾" MINIMUM AVAILABLE SIZE FOR COLD WATER LINE, AND ANY RESPECTIVE INSTALLATIONS FOR BUILDING WATER SYSTEM. EXISTING EXTERIOR FIXTURES (HOSE BIBBS, FAUCETS, ETC.)
4. UTILIZE EXISTING SANITARY FIXTURES AND VENTING PIPES WHERE APPLICABLE, AND FOR CONTINUATION OF EXISTING SANITARY SYSTEM FUNCTIONALITY. REFER TO SHEET P3.0-B (PLUMBING DETAIL #1) FOR ANY FOUNDATIONAL MODIFICATION NEEDED FOR PLUMBING CONTINUATION.
5. EXISTING SANITARY SEWER LINE FLOW DIRECTION AND PATH TO BE CONFIRMED BY CONTRACTOR. VERIFY FLOW-LINE DIRECTION & ELEVATION W/ RESPECT TO EXISTING FINISH FLOOR ELEVATION FOR TIE-IN'S WITH PROPOSED SS-LINES SHOWN. EXISTING SS-LINE SHOWN IS BASED ON ASSUMPTIONS MADE ON FIELD AND EXISTING CLEAN-OUT LOCATIONS SHOWN.
6. REMODEL BY OTHERS: CAP PER IPC TO INSTALLED WHERE APPLICABLE.
7. PER BEST AVAILABLE SURVEY DATA PROVIDED, CONTRACTOR TO VERIFY ALL ELEVATIONS AS SHOWN ON THE PLAN HEREIN. "REF" ELEVATION PROVIDED TO SHOW THE OVERALL ELEVATION DROP OF THE SEWER LINE AS A REFERENCE DURING REMODEL DEVELOPMENT AND MAINTAINING THE DESIGNATED SLOPE THROUGHOUT.

CONTRACTOR TO VERIFY ANY EXISTING (OR NEW) PLUMBING FIXTURES WITHIN THE ENTIRE WAREHOUSE / BUILDING, NOT SHOWN ON THE PLANS HEREIN, FOR CONTINUED SERVICED THROUGHOUT THE FINAL REMODEL DESIGN.

NOTE TO BIDDERS

THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.

CONTRACTOR RESPONSIBILITIES

CONTRACTOR SHALL REPORT ANY DISCREPANCIES, OMISSIONS OR INCONSISTENCIES ON THE DRAWINGS TO ENGINEER FOR VERIFICATION BEFORE STARTING CONSTRUCTION. OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR ANY ERRORS IN CONSTRUCTION WHERE SUCH DISCREPANCIES, OMISSIONS OR INCONSISTENCIES HAVE NOT BEEN PROPERLY REPORTED IN A TIMELY MANNER.

GENERAL PLUMBING NOTES

1. ALL WORK SHOWN TO COMPLY WITH ALL NATIONAL, STATE AND LOCAL CODES, ORDINANCES, ETC.
2. SEE ALL OTHER DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL WORK OR CLARIFICATION OF NECESSARY WORK.
3. ALL HOT AND COLD WATER PIPING ABOVE FINISHED FLOOR TO BE COPPER TYPE 'L' OR 2015 IPC APPROVED.
4. ALL PIPING TO BE INSULATED.
5. IF WATER PRESSURE IS FOUND TO BE LESS THAN SHOWN IN DESIGN CRITERIA CONTACT UNDERSIGNED ENGINEER IMMEDIATELY.
6. REFER TO SITE DEVELOPERS CIVIL ENGINEER'S DRAWING FOR ALL PIPING 5'-0" BEYOND BUILDING.
7. ALL SEWER LINES TO HAVE MINIMUM 1% SLOPE.
8. ALL HAND SINKS TO BE EQUIPPED WITH TEMPERING VALVE. ASSE1070 APPROVED THERMOSTATIC MIXING VALVES AT ALL LAVATORIES AND HAND WASH SINKS PER 2015 IPC 416.5.
9. INSTALL A RPZ BACKFLOW PREVENTION ASSEMBLY ON THE INCOMING WATER LINE PRIOR TO ANY OTHER CONNECTIONS AS REQUIRED.
9. VERIFY LOCATION OF SANITARY SEWER AND WATER LINES IN FIELD PRIOR TO CONSTRUCTION.
10. CONTRACTOR TO COORDINATE WITH ATMOS AND DETERMINE EXACT GAS METER LOCATION IN FIELD PRIOR TO CONSTRUCTION.

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3. REVIEW PLAN SHEET "MEP0 - MEP NOTES" PRIOR TO BIDDING, PERMITTING, AND CONSTRUCTION.
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5. SEE CIVIL AND ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ALL FIXTURES AND STRUCTURES.
6. SEE ARCHITECTURAL FINISH OUT SCHEDULES FOR SPECIFIC MODELS, COLORS AND DESIGN NOT DEFINED HEREIN.
7. WITH OWNER APPROVAL, CONTRACTOR MAY CHANGE SPECIFIED EQUIPMENT BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
8. CONTRACTOR TO CONTACT AME ENGINEERING, INC. AT 817-653-4122 PRIOR TO ANY SIGNIFICANT DESIGN REVISIONS.
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STATE OF TEXAS
JESSICA J. KILGORE
106106
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL

2600 ROOSEVELT DRIVE
DALWORTHINGTON GARDENS, TEXAS 76016

CONTACT NAME	CHIEF GREG PETTY
CONTACT COMPANY	DWG POLICE & FIRE
CONTACT PHONE	817-275-1234
ISSUE:	
CLIENT REVIEW SET 2/15/23	
FINAL COUNCIL REVIEW 06/19/23	
FINAL PERMIT SET 06/26/23	
ADA REVISION SET 08/04/23	
SHEET REVISIONS	
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DESIGNED	JL
CHECKED	JJK
IBC	2015
IECC/ASHRAE	2015
NEC	2017
SCALE	1/4" = 1'-0" (100')

SECTOR B - REMODEL WATER & SEWER PLAN

P1.0-B

PROJECT 1699

EXISTING WATER HEATER SCHEDULE & REMODEL SIZING (GAS)

UNIT	QTY	TYPE	BRAND	MODEL	INPUT (BTU/H)	VOLTAGE	ELEC REQ'D	RATING (GPM)	RECOVERY	1ST HOUR DELIVERY	HEATER DIMENSIONS	VENT DIA.	WATER CONNECT.	GAS CONNECT.	SHIPPING WEIGHT
GWH	2	TANKLESS ON-DEMAND GAS	RINNAI (NW) & STEIBEL (SE)		199,999 BTUH	120V/1ϕ	15A/1P	9.4	INSTANT	~245 USGPH	EXISTING	EXISTING	¾" NPT	¾" NPT	EXISTING

NOTES:
1. REFER TO INSTALLATION MANUAL FOR ALL STRUCTURAL, ELECTRICAL, PLUMBING, VENTING AND GAS REQUIREMENTS PRIOR TO INSTALLATION.
2. ROUTE T&P AND OVERFLOW DRAINS TO BUILDING EXTERIOR OR AHJ APPROVED INDIRECT WASTE WITH REQUIRED AIR GAP FOR TANK-STYLE WATER HEATERS.
3. PROVIDE THERMAL EXPANSION TANK ON COLD WATER SUPPLY LINE FOR TANK-STYLE WATER HEATERS.
4. PROVIDE AND INSTALL DRIP PAN AND FLOODSTOP BY ONSITE PRO SHUT-OFF SYSTEM MODEL FS3/4NPT FOR TANK-STYLE WATER HEATERS.
5. PROVIDE 120°F THERMOSTATIC MIXING/ TEMPERING VALVE AT ALL SINKS.
6. INSULATE ALL HOT WATER LINES EQUAL TO ½" ARMAFLEX.

WATER HEATER CALCS (SECTOR C - SE CORNER)

CALC: JL | CHECKED: JJK

DATE: 3/2/2023 | PROJECT NO: 1699 | PROJECT: DWG POLICE & FIRE REMODEL PLANS

REVISED DATE:

ON-DEMAND GAS WATER HEATER - REMODEL *(EXISTING INSTALLATION @ ≤ 199 KBTUH)*

BUILDING: COMMERCIAL - WAREHOUSE RR & SERVICE

FIXTURE OR EQUIPMENT *(PER IPC TABLE 604.3)*	QTY.	GPM	LOADS SUBTOTAL-GPM
KITCHEN SINK (RESIDENTIAL)	2	1.75	3.50
SHOWER	1	2.5	2.50
DISHWASHER	1	2.75	2.75
LAVATORIES	6	0.5	3.00

MECHANICAL TOTALS & SUMMARY
(MIXED WATER DEMAND = 46%, Δ78°F)
η = 95% EFF (ON-DEMAND, GAS)
@ 75% FULL DEMAND

FLOW RATE (GPM)	11.75
HOT WATER DEMAND (GPM)	5.43
RATED HEAT INPUT (BTU/HR)	167073.80
TOTAL RECOVERY (USGPH)	244.28

WATER HEATER CALCS (SECTOR C - NW CORNER)

CALC: JL | CHECKED: JJK

DATE: 3/2/2023 | PROJECT NO: 1699 | PROJECT: DWG POLICE & FIRE REMODEL PLANS

REVISED DATE:

ON-DEMAND GAS WATER HEATER - REMODEL *(EXISTING INSTALLATION @ ≤ 199 KBTUH)*

BUILDING: COMMERCIAL - WAREHOUSE RR & SERVICE

FIXTURE OR EQUIPMENT *(PER IPC TABLE 604.3)*	QTY.	GPM	LOADS SUBTOTAL-GPM
SHOWER	2	2.5	5.00
CLOTHES WASHER (COMMERCIAL FOR FD/PD)	1	3	3.00
MOP SINK	1	3	3.00
LAVATORIES	2	0.5	1.00

MECHANICAL TOTALS & SUMMARY
(MIXED WATER DEMAND = 46%, Δ78°F)
η = 95% EFF (ON-DEMAND, GAS)
@ 75% FULL DEMAND

FLOW RATE (GPM)	12.00
HOT WATER DEMAND (GPM)	5.54
RATED HEAT INPUT (BTU/HR)	170628.56
TOTAL RECOVERY (USGPH)	249.48

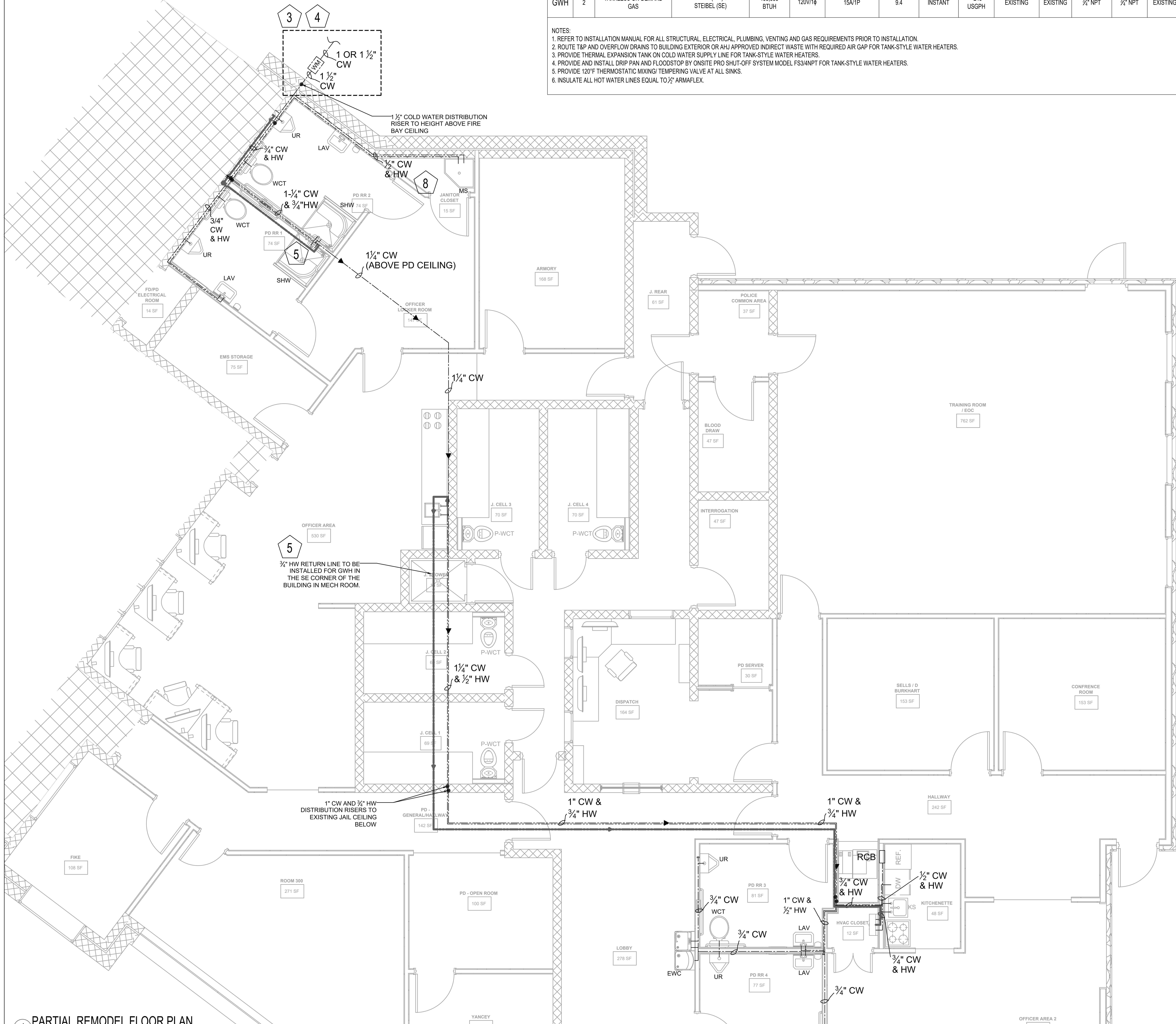
4

PLUMBING CALCULATIONS SUMMARY

Maximum Developed Length	243.6
Building Total Water Supply Fixture Units	87
*Meter and Service Pipe	**1" - 1 1/2"**
Tenant Distribution Pipe	**1 1/2"**
Building Total Drainage Fixture Units	94
Building Sanitary Sewer Pipe	**4"**

Notes:
WSFU from 2018 IPC Table E103.3(2)
Water Pipe Size from 2018 IPC Table E201.1 30-39 psi
DFU from 2018 IPC Table 709.1
Sewer Pipe Size from 2018 IPC Table 710.1(1) for 1/8" (1%)

Possible meter sizes shown to calculate distribution pipe size, based on pressure & WSFU required to supply entire building load, throughout water line length scheduled. Contractor to verify existing Distribution pipe sizing, meter & service pipe sizing, and water pressure where applicable.



1 PARTIAL REMODEL FLOOR PLAN
1/4" = 1'-0"

PLUMBING NOTES BY SYMBOL

1. OWNER TO CONFIRM W/ CONTRACTOR NEW FIXTURE MODEL SELECTION AS SHOWN IN DESIGN. ALL MIXING VALVES & WATER/REFRIGERATOR BOXES TO BE REPLACED W/ NEW MODELS THROUGHOUT.
2. GAS WATER HEATERS LOCATED & SIZED ON EXISTING LOCATIONS AS SHOWN WITHIN EXISTING BUILDING.
3. ROUTING AND ENTRYWAY FOR EXISTING COLD ASSUMED TO BE AS SHOWN BASED ON SITE INSPECTIONS & BEST AVAILABLE DATA INTERPOLATED FROM THE EXISTING INSTALLATIONS.
4. TWO WATER METER SIZES ARE SHOWN TO CONFIRM THAT THE CALCULATED LOAD CAN WITHSTAND THE NECESSARY 1 ½" COLD WATER DISTRIBUTION LINE SIZE REQUIRED. CONTRACTOR TO VERIFY EXISTING LOCATIONS AND ROUTING SHOWN FOR ANY EXISTING COLD & HOT WATER LINES, AND TO ENSURE THAT AT LEAST A 1 ½" COLD WATER DISTRIBUTION LINE IS INSTALLED. CONTRACTOR TO VERIFY ALL EXISTING WATER LINE SIZES WITH REMODEL DESIGN.
5. EXISTING HOT WATER FIXTURES TO REMAIN IN PLACE WITHIN CURRENT INSTALLATION. HOT WATER RETURN LINE TO SUPPLY EXISTING WATER HEATERS AS SHOWN IN THE FINAL REMODEL DESIGN. CONTRACTOR TO ENSURE A PRECEDING BALL CHECK VALVE IS PROVIDED IN ORDER TO BACKFLOW & ENSURE HOT WATER RETURN LINE IS INITIATED FROM THE COMMON, FURTHEST, POINT OF BOTH HOT WATER RETURN LINES FOUND IN SECTOR C (HOT WATER FROM SOUTHEAST CORNER & NORTHWEST CORNER - SECTOR A).

PLUMBING LEGEND

SYM.	DESCRIPTION
	COLD WATER PIPING (CW)
	HOT WATER PIPING (HW)
	SANITARY SEWER LINE (SS)
	SANITARY SEWER VENT
	HOT WATER RETURN LINE (NEW)
	EXISTING SANITARY SEWER LINE (EST. LOCATIONS)
	VENT-TO-ROOF (VTR)
	VERTICAL PIPING
	SHUT-OFF VALVE
	DOUBLE CHECK VALVE
	FLOOR CLEANOUT (CO)
	WALL CLEANOUT (WCO)
	DOUBLE CLEANOUT AT GRADE (DCO)
	FLOOR DRAIN (FD)
	HOSE BIBB (SILLCOCK VALVE)
	CAPPED PIPE PER IPC
	BUILDING SS POINT OF CONNECTION (POC)/STUB-UP

NOTE: CONTRACTOR TO IDENTIFY GREASE LINE W/ DIFFERENT COLOR RATED SEWER PIPE OR PIPE WRAPPING MATERIAL TO SIGNIFY FOR GREASE TRAP ONLY

*NOT ALL SYMBOLS MAY BE USED.

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GENERAL PLUMBING NOTES

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2. SEE ALL OTHER DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL WORK OR CLARIFICATION OF NECESSARY WORK.
3. ALL HOT AND COLD WATER PIPING ABOVE FINISHED FLOOR TO BE COPPER TYPE 'L' OR 2015 IPC APPROVED.
4. ALL PIPING TO BE INSULATED.
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STATE OF TEXAS
JESSICA J. KILGORE
106106
LICENSED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

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2600 ROOSEVELT DRIVE
DALWORTHINGTON GARDENS, TEXAS 76016

CONTACT NAME	CHIEF GREG PETTY
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CONTACT PHONE	817-275-1234

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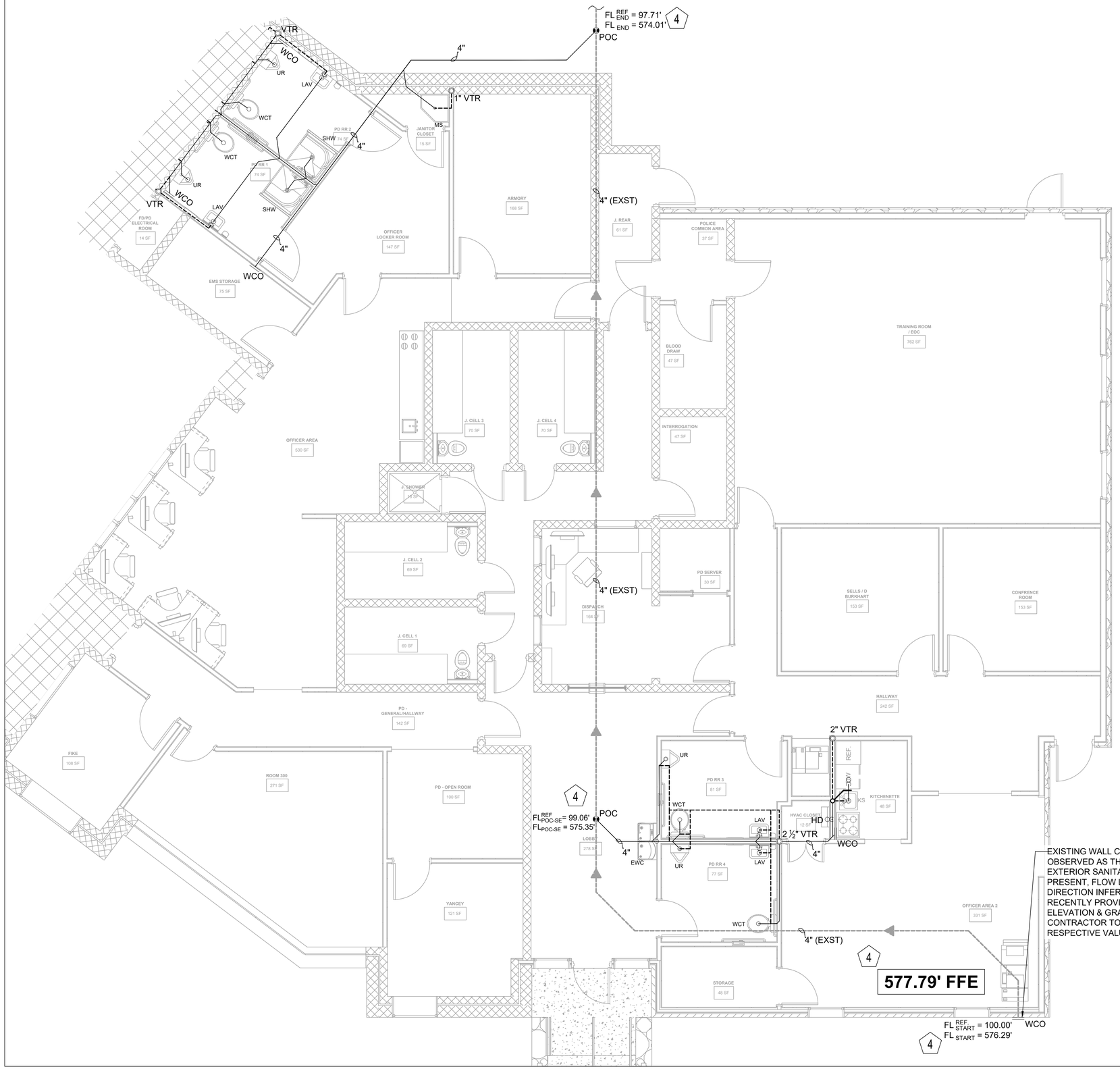
SCALE	1/4" = 1'-0"

SECTOR C - REMODEL WATER PLAN

P1.0-C

PROJECT 1699



PLUMBING CALCULATIONS SUMMARY

Maximum Developed Length	243.6
Building Total Water Supply Fixture Units	87
*Meter and Service Pipe	**1" - 1 1/2"**
Tenant Distribution Pipe	**1 1/2"**
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Building Sanitary Sewer Pipe	**4"**

Notes:
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Sewer Pipe Size from 2018 IPC Table 710.1(1) for 1/8" (1%)

Possible meter sizes shown to calculate distribution pipe size, based on pressure & WSFU required to supply entire building load, throughout water line length scheduled. Contractor to verify existing Distribution pipe sizing, meter & service pipe sizing, and water pressure where applicable.

PLUMBING NOTES BY SYMBOL (#)

1. UTILIZE EXISTING SANITARY FIXTURES AND VENTING PIPES WHERE APPLICABLE, AND FOR CONTINUATION OF EXISTING SANITARY SYSTEM FUNCTIONALITY. REFER TO SHEET P4.0-C (PLUMBING DETAIL #1) FOR ANY FOUNDATIONAL MODIFICATION NEEDED FOR PLUMBING CONTINUATION.
2. WATER SUPPLY LINES TO TERMINATE W/ CAP PER IPC.
3. EXISTING SANITARY SEWER LINE FLOW DIRECTION AND PATH TO BE CONFIRMED BY CONTRACTOR. VERIFY FLOW-LINE DIRECTION & ELEVATION W/ RESPECT TO EXISTING FINISH FLOOR ELEVATION FOR TIE-IN'S WITH PROPOSED SS-LINES SHOWN. EXISTING SS-LINE SHOWN IS BASED ON ASSUMPTIONS MADE ON FIELD AND CLEAN-OUT LOCATIONS SHOWN.
4. PER BEST AVAILABLE SURVEY DATA PROVIDED, CONTRACTOR TO VERIFY ALL ELEVATIONS AS SHOWN ON THE PLAN HEREIN. "REF" ELEVATION PROVIDED TO SHOW THE OVERALL ELEVATION DROP OF THE SEWER LINE AS A REFERENCE DURING REMODEL DEVELOPMENT AND MAINTAINING THE DESIGNATED SLOPE THROUGHOUT.

PLUMBING LEGEND

SYM.	DESCRIPTION
	COLD WATER PIPING (CW)
	HOT WATER PIPING (HW)
	SANITARY SEWER LINE (SS)
	SANITARY SEWER VENT
	GREASE TRAP LINE (GT)
	VENT-TO-ROOF (VTR)
	VERTICAL PIPING
	SHUT-OFF VALVE
	REDUCED PRESSURE ZONE (RPZ) ASSEMBLY
	FLOOR CLEANOUT (CO)
	WALL CLEANOUT (WCO)
	DOUBLE CLEANOUT AT GRADE (DCO)
	FLOOR DRAIN (FD)
	HOSE BIBB (SILLCOCK VALVE)
	CAPPED PIPE PER IPC
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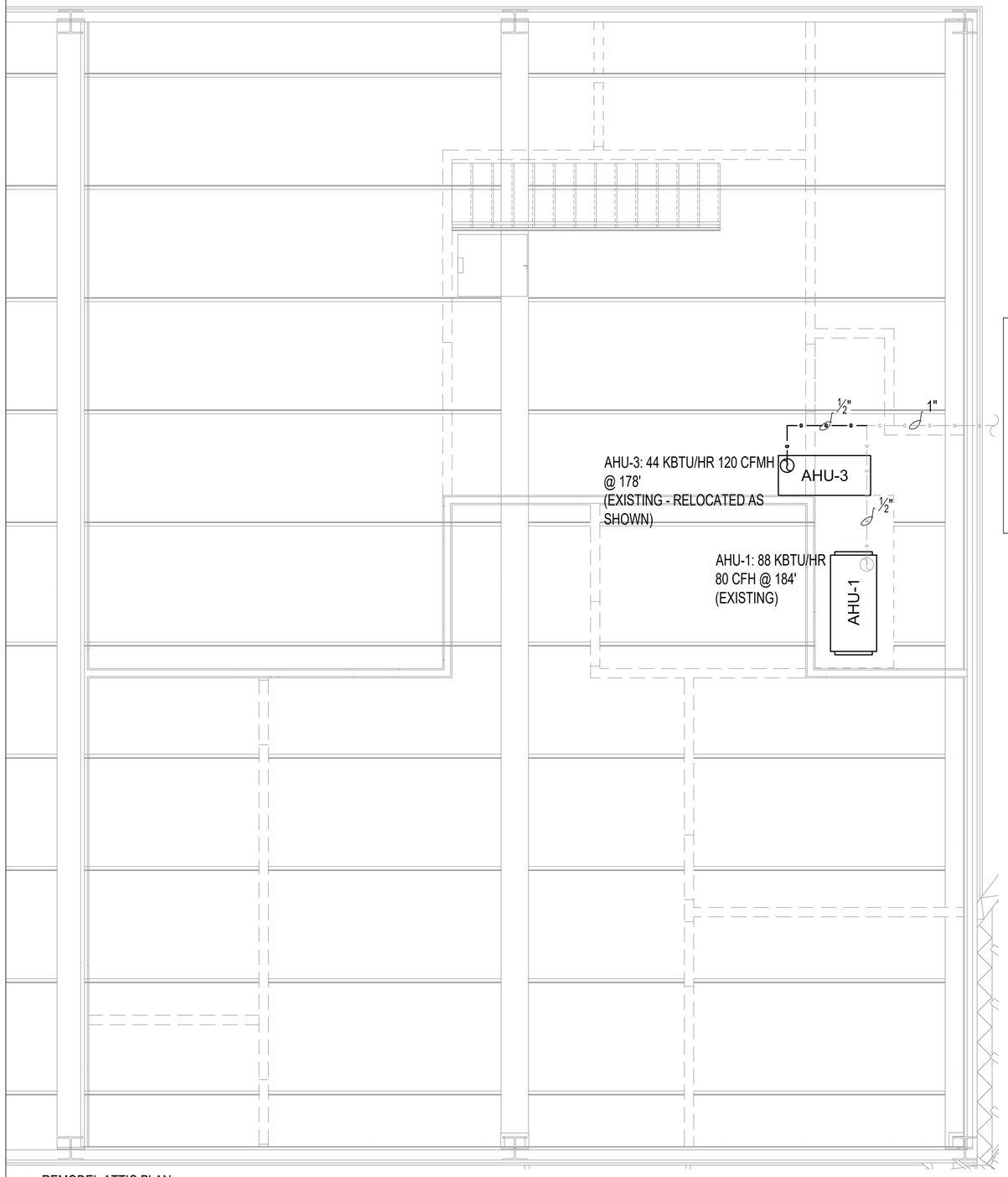
SCALE	3/16" = 1'-0"

SECTOR C - REMODEL SEWER PLAN

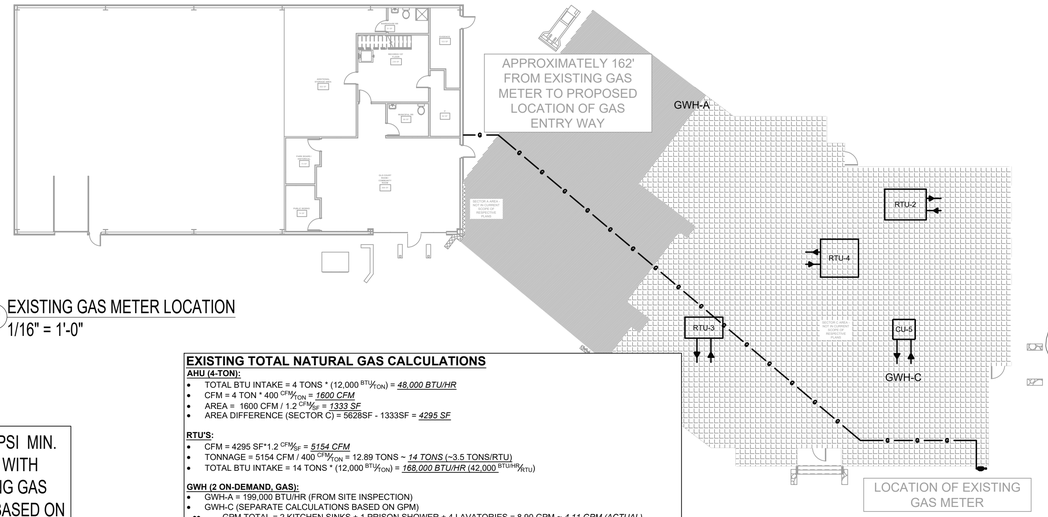
P1.1-C

PROJECT 1699



1 REMODEL ATTIC PLAN
3/8" = 1'-0"

1" @ 2.0 PSI MIN. TIE-IN WITH EXISTING GAS SYSTEM BASED ON EXISTING SIZING REQUIREMENTS. CONTRACTOR TO VERIFY ALL EXISTING GAS INSTALLATIONS IN FIELD.



2 EXISTING GAS METER LOCATION
1/16" = 1'-0"

EXISTING TOTAL NATURAL GAS CALCULATIONS

AHU (4-TON):
- TOTAL BTU INTAKE = 4 TONS * (12,000 $^{BTU}/_{TON}$) = *48,000 BTU/HR*
- CFM = 4 TON * 400 $^{CFM}/_{TON}$ = *1600 CFM*
- AREA = 1600 CFM / 1.2 $^{CFM}/_{SF}$ = *1333 SF*
- AREA DIFFERENCE (SECTOR C) = 5628SF - 1333SF = *4295 SF*

RTU'S:
- CFM = 4295 SF*1.2 $^{CFM}/_{SF}$ = *5154 CFM*
- TONNAGE = 5154 CFM / 400 $^{CFM}/_{TON}$ = 12.89 TONS ~ *14 TONS* (~3.5 TONS/RTU)
- TOTAL BTU INTAKE = 14 TONS * (12,000 $^{BTU}/_{TON}$) = *168,000 BTU/HR* (42,000 $^{BTU/HR}/_{RTU}$)

GWH (2 ON-DEMAND, GAS):
- GWH-A = 199,000 BTU/HR (FROM SITE INSPECTION)
- GWH-C (SEPARATE CALCULATIONS BASED ON GPM)
  - GPM TOTAL = 2 KITCHEN SINKS + 1 PRISON SHOWER + 4 LAVATORIES = 8.90 GPM ~ *4.11 GPM (ACTUAL)*
  - BTU INPUT = 4.11 GPM ----> *190,000 BTU/HR*

GAS LEGEND

SYM.	DESCRIPTION
—•—•—	GAS PIPING - NEW
•	VERTICAL PIPING
①	APPLIANCE GAS REGULATOR (SEE TABLE THIS SHEET)

*NOT ALL SYMBOLS MAY BE USED.

GAS PIPE LINE SIZING

FIXTURE	INPUT kBTUh	FEET FROM METER	NPT SIZE
AHU-1	88	184	1/2"
AHU-3	44	177.5	1/2"
RTU (EXISTING)	42		
RTU (EXISTING)	42		
RTU (EXISTING)	42		
RTU (EXISTING)	42		
AHU (EXISTING)	48		
GWH-A (EXISTING)	199		
GWH-C (EXISTING)	199		
TOTAL kBTUh	746		
MAXIMUM PIPE LENGTH		184	
APPROXIMATE TOTAL PIPE		220.8	
TOTAL CFH		678	
SIZING	PSI	DIA.	CFH @ 300' (MAX)
	< 2.0	2 1/2"	1020
	2.0	1"	945

NOTES:
1. GAS LINE SIZING PER IFGC TABLES 402.4(3) AND (5).
2. PIPE TO BE SCHEDULE 40 METALLIC.
3. PIPE LENGTHS ARE APPROXIMATIONS. ALL LENGTHS TO BE FIELD VERIFIED PRIOR TO PURCHASE AND INSTALLATION.
4. CONTACT UNDERSIGNED ENGINEER IF 10% OR GREATER INCREASE IN LENGTH FOR POSSIBLE RESIZING.
5. ONCOR LIMITS 1,000 CFH PER METER.

CONTRACTOR RESPONSIBILITIES

CONTRACTOR SHALL REPORT ANY DISCREPANCIES, OMISSIONS OR INCONSISTENCIES ON THE DRAWINGS TO ENGINEER FOR VERIFICATION BEFORE STARTING CONSTRUCTION. OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR ANY ERRORS IN CONSTRUCTION WHERE SUCH DISCREPANCIES, OMISSIONS OR INCONSISTENCIES HAVE NOT BEEN PROPERLY REPORTED IN A TIMELY MANNER.

NOTE TO BIDDERS

THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.

GENERAL PLUMBING NOTES

1. ALL WORK SHOWN TO COMPLY WITH ALL NATIONAL, STATE AND LOCAL CODES, ORDINANCES, ETC.
2. SEE ALL OTHER DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL WORK OR CLARIFICATION OF NECESSARY WORK.
3. ALL HOT AND COLD WATER PIPING ABOVE FINISHED FLOOR TO BE COPPER TYPE 'L' OR 2015 IPC APPROVED.
4. ALL PIPING TO BE INSULATED.
5. IF WATER PRESSURE IS FOUND TO BE LESS THAN SHOWN IN DESIGN CRITERIA CONTACT UNDERSIGNED ENGINEER IMMEDIATELY.
5. REFER TO SITE DEVELOPER'S CIVIL ENGINEER'S DRAWING FOR ALL PIPING 5'-0" BEYOND BUILDING.
6. ALL SEWER LINES TO HAVE MINIMUM 1% SLOPE.
7. ALL HAND SINKS TO BE EQUIPPED WITH TEMPERING VALVE. ASSE1070 APPROVED THERMOSTATIC MIXING VALVES AT ALL LAVATORIES AND HAND WASH SINKS PER 2015 IPC 418.5.
8. INSTALL A RPZ BACKFLOW PREVENTION ASSEMBLY ON THE INCOMING WATER LINE PRIOR TO ANY OTHER CONNECTIONS AS REQUIRED.
9. VERIFY LOCATION OF SANITARY SEWER AND WATER LINES IN FIELD PRIOR TO CONSTRUCTION.
10. CONTRACTOR TO COORDINATE WITH ATMOS AND DETERMINE EXACT GAS METER LOCATION IN FIELD PRIOR TO CONSTRUCTION.

MEP GENERAL NOTES

1. ALL CONSTRUCTION TO CONFORM TO INTERNATIONAL, STATE AND LOCAL CODES AND ORDINANCES CURRENTLY ADOPTED BY THE AUTHORITY HAVING JURISDICTION (AHJ).
2. CONTRACTORS TO CONFIRM ALL SPECIFICATIONS HEREIN WITH ACTUAL EQUIPMENT IN FIELD PRIOR TO PURCHASE AND INSTALLATION.
3. REVIEW PLAN SHEET "MEP0 - MEP NOTES" PRIOR TO BIDDING, PERMITTING, AND CONSTRUCTION.
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5. SEE CIVIL AND ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ALL FIXTURES AND STRUCTURES.
6. SEE ARCHITECTURAL FINISH OUT SCHEDULES FOR SPECIFIC MODELS, COLORS AND DESIGN NOT DEFINED HEREIN.
7. WITH OWNER APPROVAL, CONTRACTOR MAY CHANGE SPECIFIED EQUIPMENT BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
8. CONTRACTOR TO CONTACT AME ENGINEERING, INC. AT 817-653-4122 PRIOR TO ANY SIGNIFICANT DESIGN REVISIONS.
9. DETAILS LABELED "TYPICAL" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE OR ARE SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE DRAWINGS CAN BE DETERMINED BY THE TITLE OF DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.

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STATE OF TEXAS
JESSICA J. KILGORE
106106
LICENSED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL

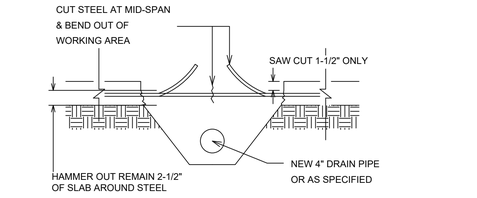
2600 ROOSEVELT DRIVE
DALWORTHINGTON GARDENS, TEXAS 76016

CONTACT NAME	CHIEF GREG PETTY
CONTACT COMPANY	DWG POLICE & FIRE
CONTACT PHONE	817-275-1234
ISSUE:	
CLIENT REVIEW SET 2/15/23	
FINAL COUNCIL REVIEW 06/19/23	
FINAL PERMIT SET 06/26/23	
ADA REVISION SET 08/04/23	
SHEET REVISIONS	
PRINTED	8/4/2023 3:54 PM
DESIGNED	JL
CHECKED	JJK
IBC	2015
IECC/ASHRAE	2015
NEC	2017
SCALE	3/8" = 1'-0"

SECTOR B - REMODEL GAS PLAN

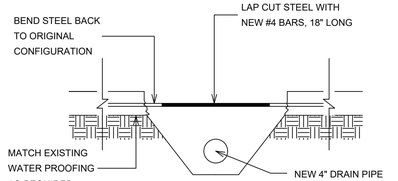
P2.0-B

PROJECT 1699

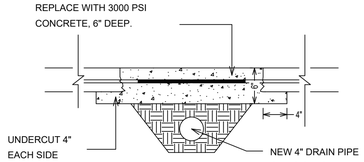


DETAIL A-A: (1) TYPICAL SAW CUT

(BASED ON ASSUMED TYP. 4" SLAB CONSTRUCTION WITH STEEL AS SHOWN)



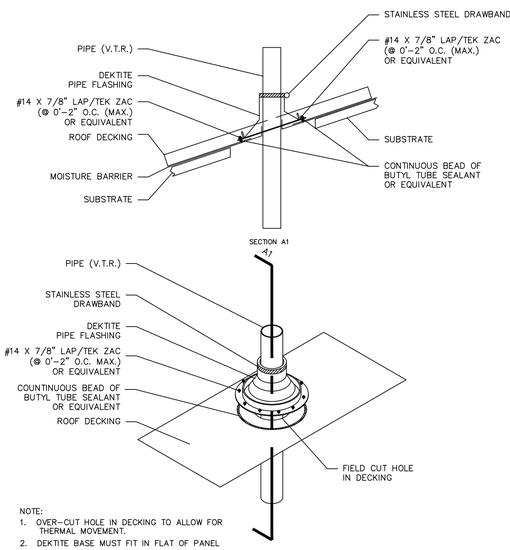
DETAIL A-A: (2) LAP STEEL



DETAIL A-A: (3) REPLACE CONCRETE

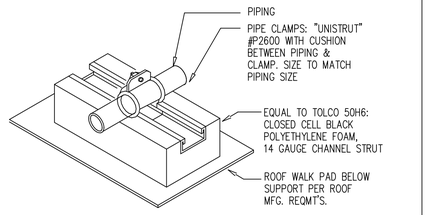
FOUNDATION CUT/REPAIR GENERAL NOTES:
1. ALL CONCRETE 3000 PSI STRENGTH AT 28 DAYS. 2. ALL REINFORCING GRADE 40 BARS. 3. IF SLAB STEEL BARS ARE CUT AT SAW JOINT, DOWELL NEW #4 BAR INTO EXISTING SLAB 12". 4. IF INTERIOR OR EXTERIOR BEAM ENCOUNTERED DURING CUTS, RELOCATE PIPE TO OFFSET BEAM. 5. ALL CONSTRUCTION WILL CONFORM TO BUILDING CODE REQUIREMENTS. 6. SEE ARCHITECTURAL FLOOR PLAN FOR DIMENSIONS.

1 FOUNDATION CUT/REPAIR DETAIL
NO SCALE



NOTE:
1. OVER-CUT HOLE IN DECKING TO ALLOW FOR THERMAL MOVEMENT.
2. DEKTITE BASE MUST FIT IN FLAT OF PANEL

2 RUBBER BOOT DEKTITE FLASHING DETAIL
SCALE: X" = 1'-0"

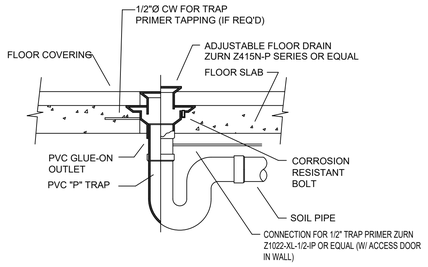


NOTES:
SUPPORT PIPE AT MAXIMUM OF 6'-0" O.C.
SEE ARCH. DWGS. FOR ROOF PENETRATION DETAILS.

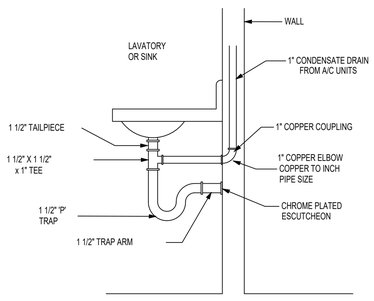
1 GAS PIPING ROOF SUPPORT DETAIL
NO SCALE

NOTE: LINE SIZES AS CALLED FOR ON SITE PLAN

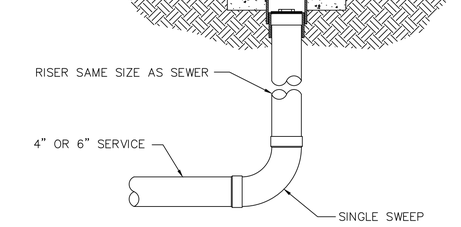
6 TYPICAL GAS SERVICE CONNECTION DETAIL
NO SCALE



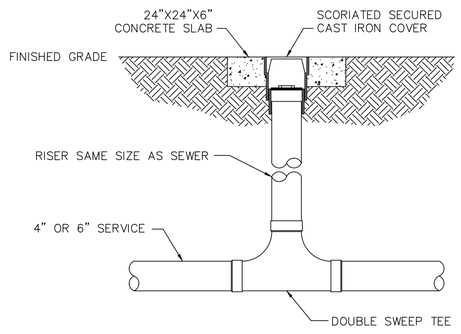
5 TRAP PRIMER DETAIL
NO SCALE



7 LAVATORY TAILPIECE DETAIL
NO SCALE

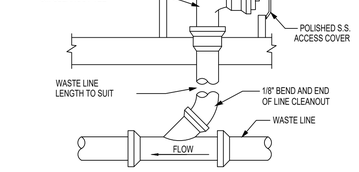


DEADEND CLEANOUT

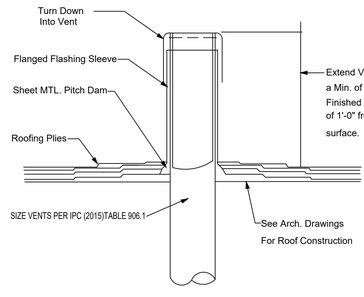


INLINE CLEANOUT

8 TYPICAL CLEANOUT DETAIL
NO SCALE



4 WALL CLEANOUT - FINISHED ROOM
NO SCALE



9 VENT THROUGH ROOF (VTR) DETAIL
NO SCALE

MEP GENERAL NOTES

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STATE OF TEXAS
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The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on JUNE 19, 2023.

DWG POLICE & FIRE - REMODEL

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CHECKED	JJK
IBC	2015
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NEC	2017
SCALE	AS SHOWN

PLUMBING DETAILS

P3.0

PROJECT 1699

SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Concrete building frame members.

B. Elevated concrete slabs.

C. Floors and slabs on grade.

D. Joint devices associated with concrete work.

E. Miscellaneous concrete elements, including equipment pads, equipment pits, light pole bases, flagpole bases, thrust blocks, and manholes.

F. Concrete curing.

1.02 RELATED REQUIREMENTS

A. Section 031000 - Concrete Forming and Accessories: Forms and accessories for formwork.

B. Section 032000 - Concrete Reinforcing.

C. Section 033511 - Concrete Floor Finishes: Densifiers, hardeners, applied coatings, and polishing.

D. Section 079200 - Joint Sealants: Products and installation for sealants and joint fillers for saw cut joints and isolation joints in slabs.

E. Section 079513 - Expansion Joint Cover Assemblies.

1.03 REFERENCE STANDARDS

A. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; 1991 (Reapproved 2009).

B. ACI 301 - Specifications for Structural Concrete; 2010 (Errata 2012).

C. ACI 302.1R - Guide for Concrete Floor and Slab Construction; 2004 (Errata 2007).

D. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; 2000.

E. ACI 305R - Hot Weather Concreting; 2010.

F. ACI 306R - Cold Weather Concreting; 2010.

G. ACI 308R - Guide to Curing Concrete; 2001 (Reapproved 2008).

H. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; 2011.

I. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2013.

J. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2015a.

K. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2015.

L. ASTM C109/C109M - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or (50-mm) Cube Specimens); 2013.

M. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic-Cement Concrete; 2012.

N. ASTM C150/C150M - Standard Specification for Portland Cement; 2015.

O. ASTM C171 - Standard Specification for Sheet Materials for Curing Concrete; 2007.

P. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete; 2010a.

Q. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete; 2011.

R. ASTM C330/C330M - Standard Specification for Lightweight Aggregates for Structural Concrete; 2014.

S. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete; 2013.

T. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2015.

U. ASTM C881/C881M - Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete; 2014.

V. ASTM C979/C979M - Standard Specification for Pigments for Integrally Colored Concrete; 2010.

W. ASTM C1107/C1107M - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink); 2014.

X. ASTM C1602/C1602M - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete; 2012.

Y. ASTM D994/D994M - Standard Specification for Preformed Expansion Joint Filler for Concrete (Bituminous Type); 2011.

Z. ASTM E1643 - Standard Practice for Selection, Design, Installation and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs; 2011.

AA. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs; 2011.

AB. COE CRD-C 48 - Method of Test for Water Permeability of Concrete; 1992.

AC. COE CRD-C 513 - COE Specifications for Rubber Waterstops; 1974.

AD. NSF 61 - Drinking Water System Components - Health Effects; 2014 (Errata 2015).

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.

C. Samples: Submit samples of underslab vapor retarder to be used.

D. Test Reports: Submit report for each test or series of tests specified.

E. Manufacturer's Installation Instructions: For concrete accessories, indicate installation procedures and interface required with adjacent construction.

F. Sustainable Design Submittal: If any fly ash, ground granulated blast furnace slag, silica fume, rice hull ash, or other waste material is used in mix designs to replace Portland cement, submit the total volume of concrete cast in place, mix design(s) used showing the quantity of portland cement replaced, reports showing successful cylinder testing, and temperature on day of pour if cold weather mix is used.

G. Project Record Documents: Accurately record actual locations of embedded utilities and components that will be concealed from view upon completion of concrete work.

1.05 QUALITY ASSURANCE

A. Perform work of this section in accordance with ACI 301 and ACI 318.

B. Follow recommendations of ACI 305R when concreting during hot weather.
   1. Limit concrete placement temperature to 90 degrees F.

C. Follow recommendations of ACI 306R when concreting during cold weather.

PART 2 PRODUCTS

2.01 FORMWORK

A. Comply with requirements of Section 031000.

2.02 REINFORCEMENT MATERIALS

A. Comply with requirements of Section 032000.

2.03 CONCRETE MATERIALS

A. Cement: ASTM C150/C150M, Type I - Normal Portland type.
   1. Acquire cement for entire project from same source.

B. Fine and Coarse Aggregates: ASTM C33/C33M.
   1. Acquire aggregates for entire project from same source.

C. Lightweight Aggregate: ASTM C330/C330M.

D. Fly Ash: ASTM C618, Class C or F.

E. Color Additives: Pure, concentrated mineral pigments specifically intended for mixing into concrete and complying with ASTM C979/C979M.

F. Waterproofing Additive: Crystalline waterproofing intended for mixing into concrete to close concrete pores by growth of crystals, with no decrease in concrete strength or chemical resistance.
   1. Permeability of Cured Concrete: No measurable leakage when tested in accordance with COE CRD-C 48 at 350 feet of head; provide test reports.
   2. Potable Water Contact Approval: NSF certification for use on structures holding potable water, based on testing in accordance with NSF 61.
   3. Products:
      a. Aquafin, Inc; Product Aquafin - IC: www.aquafin.net.
      b. W.R. Meadows, Inc.; ADI-CON CW Plus: www.wrmeadows.com.
      c. Xypex Chemical Corporation; Product C-500: www.xypex.com.
      d. Substitutions: See Section 016000 - Product Requirements.

G. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to concrete.

2.04 ADMIXTURES

A. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.

B. Air Entrainment Admixture: ASTM C260/C260M.

C. High Range Water Reducing and Retarding Admixture: ASTM C494/C494M Type G.

D. High Range Water Reducing Admixture: ASTM C494/C494M Type F.

E. Water Reducing and Accelerating Admixture: ASTM C494/C494M Type E.

F. Water Reducing and Retarding Admixture: ASTM C494/C494M Type D.

G. Accelerating Admixture: ASTM C494/C494M Type C.

H. Retarding Admixture: ASTM C494/C494M Type B.

I. Water Reducing Admixture: ASTM C494/C494M Type A.

J. Shrinkage Reducing Admixture:
   1. ASTM C494/C494M, Type S.
   2. Manufacturers:
      a. GCP Applied Technologies; Eclipse Floor 200: www.gcpat.com/#sle.
      b. Sika; Control 75: www.sikausa.com.
      c. Substitutions: See Section 016000 - Product Requirements.

2.05 ACCESSORY MATERIALS

A. Underslab Vapor Retarder:
   1. Accessory Products: Vapor retarder manufacturer's recommended tape, adhesive, mastic, prefabricated boots, etc., for sealing seams and penetrations.
   2. Manufacturers:
      a. Fortifiber Building Systems Group: www.fortifiber.com/#sle.
      b. ISI Building Products; Viper VaporCheck II 15-mil (Class A): www.isibp.com/#sle.
      c. W. R. Meadows, Inc; PERMINATOR Class A - 10 mils (0.25 mm): www.wrmeadows.com/#sle.

d. Substitutions: See Section 016000 - Product Requirements.

B. Non-Shrink Cementitious Grout: Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents.
1. Minimum Compressive Strength at 28 Days: 7,000 pounds per square inch.

C. Moisture-Retaining Cover: ASTM C 171; regular curing paper, white curing paper, clear polyethylene, white polyethylene, or white burlap-polyethylene sheet.

D. Liquid Curing Compound: ASTM C 309, Type 1, clear or translucent.

2.06 BONDING AND JOINTING PRODUCTS

A. Epoxy Bonding System:

B. Waterstops: Polyurethane, extrudable, swelling waterstop (bentonite-free) equal to Sika SikaSwell S-2. Size shall be 3/4" x 3/4" x 3/4" triangular bead.

C. Slab Isolation Joint Filler: 1/2 inch thick, height equal to slab thickness, with removable top section that will form 1/2 inch deep sealant pocket after removal.

D. Joint Filler: Compressible asphalt mastic with felt facers, complying with ASTM D 994, thickness as indicated on drawings and full depth of slab less 1/2 inch.

2.07 CONCRETE MIX DESIGN

A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.

B. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI 301.
1. For trial mixtures method, employ independent testing agency acceptable to Architect for preparing and reporting proposed mix designs.

C. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended or required by manufacturer.

D. Normal Weight Concrete:
1. Compressive Strength, when tested in accordance with ASTM C39/C39M at 28 days: 3,000 pounds per square inch.
2. Compressive Strength, when tested in accordance with ASTM C39/C39M at 28 days: As scheduled.
3. Fly Ash Content: Maximum 20 percent of cementitious materials by weight.
4. Water-Cement Ratio: Maximum 0.50. percent by weight, unless noted otherwise.
5. Maximum Aggregate Size: 5/8 inch.
6. Additional requirements for exposed-to-view interior slab on grade:
   a. Limit w/c ratio to 0.45.
7. Additional requirement for exposed-to-view structural slabs:
   a. Use shrinkage control admixture at dosage rate recommended by manufacturer.
   b. Limit w/c ratio to 0.40.

2.08 MIXING

A. Transit Mixers: Comply with ASTM C94/C94M.

B. Adding Water: If concrete arrives on-site with slump less than suitable for placement, do not add water that exceeds the maximum water-cement ratio or exceeds the maximum permissible slump.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 PREPARATION

A. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning and applying bonding agent in according to bonding agent manufacturer's instructions.

1. Use epoxy bonding system for bonding to damp surfaces, for structural load-bearing applications, and where curing under humid conditions is required.

B. Where new concrete with integral waterproofing is to be bonded to previously placed concrete, prepare surfaces to be treated in accordance with waterproofing manufacturer's instructions. Saturate cold joint surface with clean water, and remove excess water before application of coat of waterproofing admixture slurry. Apply slurry coat uniformly with semi-stiff bristle brush at rate recommended by waterproofing manufacturer.

C. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout.

D. Interior Slabs on Grade: Install vapor retarder under interior slabs on grade. Comply with ASTM E1643. Lap joints minimum 6 inches. Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions. Repair damaged vapor retarder before covering.

3.03 PLACING CONCRETE

A. Place concrete in accordance with ACI 304R.

B. Place concrete for floor slabs in accordance with ACI 302.1R.

C. Notify Architect not less than 24 hours prior to commencement of placement operations.

D. Ensure reinforcement, inserts, waterstops, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.

E. Finish floors level and flat, unless otherwise indicated, within the tolerances specified below.

3.04 SLAB JOINTING

A. Locate joints as indicated on drawings.

B. Anchor joint fillers and devices to prevent movement during concrete placement.

C. Isolation Joints: Use preformed joint filler with removable top section for joint sealant, total height equal to thickness of slab, set flush with top of slab.

D. Repair underslab vapor retarder damaged during placement of concrete reinforcing. Repair with vapor retarder material; lap over damaged areas minimum 6 inches and seal watertight.

E. Extend joint filler from bottom of slab to within 1/2 inch of finished slab surface. Conform to Section 079005 for finish joint sealer requirements.

F. Install waterstop in accordance with Manufacture's published instructions.

G. Install joint devices in accordance with manufacturer's instructions.

H. Install joint device anchors for expansion joint assemblies specified in Section 079513. Maintain correct position to allow joint cover to be flush with floor and wall finish.

I. Apply sealants in joint devices in accordance with Section 079005.

J. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.

K. Place concrete continuously between predetermined expansion, control, and construction joints.

L. Do not interrupt successive placement; do not permit cold joints to occur.

M. Place floor slabs in checkerboard or saw cut pattern indicated.

N. Saw cut joints within 24 hours after placing. Use 3/16 inch thick blade, cut into 1/4 depth of slab thickness.

O. Screed floors level, maintaining surface flatness of maximum 1/4 inch in 10 ft.

3.05 FLOOR FLATNESS AND LEVELNESS TOLERANCES

A. Correct defects by grinding or by removal and replacement of the defective work. Areas requiring corrective work will be identified. Re-measure corrected areas by the same process.

3.06 CONCRETE FINISHING

A. Repair surface defects, including tie holes, immediately after removing formwork.

B. Unexposed Form Finish: Rub down or chip off fins or other raised areas 1/4 inch or more in height.

C. Exposed Form Finish: Rub down or chip off and smooth fins or other raised areas 1/4 inch or more in height. Provide finish as follows:
   1. Smooth Rubbed Finish: Wet concrete and rub with carborundum brick or other abrasive, not more than 24 hours after form removal.
   2. Grout Cleaned Finish: Wet areas to be cleaned and apply grout mixture by brush or spray; scrub immediately to remove excess grout. After drying, rub vigorously with clean burlap, and keep moist for 36 hours.

D. Concrete Slabs: Finish to requirements of ACI 302.1R, and as follows:
   1. Surfaces to Receive Thick Floor Coverings: "Wood float" as described in ACI 302.1R; thick floor coverings include quarry tile, ceramic tile, and Portland cement terrazzo with full bed setting system.
   2. Surfaces to Receive Thin Floor Coverings: "Steel trowel" as described in ACI 302.1R; thin floor coverings include carpeting, resilient flooring, seamless flooring, resinous matrix terrazzo, thin set quarry tile, and thin set ceramic tile.
   3. Decorative Exposed Surfaces: Trowel as described in ACI 302.1R; take measures necessary to avoid black-burnish marks; decorative exposed surfaces include surfaces to be stained or dyed, pigmented concrete, surfaces to receive liquid hardeners, surfaces to receive dry-shake hardeners, surfaces to be polished, and all other exposed slab surfaces.

E. In areas with floor drains, maintain floor elevation at walls; pitch surfaces uniformly to drains at 1:100 nominal.

3.07 CURING AND PROTECTION

A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
   1. Normal concrete: Not less than seven days.
   2. High early strength concrete: Not less than four days.

C. Formed Surfaces: Cure by moist curing with forms in place for full curing period.

D. Surfaces Not in Contact with Forms:
   1. Slabs and Floors To Receive Adhesive-Applied Flooring: Curing compounds and other surface coatings are usually considered unacceptable by flooring and adhesive manufacturers. If such materials must be used, either obtain the approval of the flooring and adhesive manufacturers prior to use or remove the surface coating after curing to flooring manufacturer's satisfaction.
   2. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water ponding or saturated burlap.
   3. Final Curing: Begin after initial curing but before surface is dry.
      a. Moisture-Retaining Cover: Seal in place with waterproof tape or adhesive.
      b. Curing Compound: Apply in two coats at right angles, using application rate recommended by manufacturer.

3.08 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control tests, as specified in Section 014000 - Quality Requirements.

B. Provide free access to concrete operations at project site and cooperate with appointed firm.

C. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of concrete operations.

D. Tests of concrete and concrete materials may be performed at any time to ensure compliance with specified requirements.

E. Compressive Strength Tests: ASTM C39/C39M, for each test, mold and cure three concrete test cylinders. Obtain test samples for every 100 cubic yards or less of each class of concrete placed.

F. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.

G. Perform one slump test for each set of test cylinders taken, following procedures of ASTM C143/C143M.

3.09 DEFECTIVE CONCRETE

A. Test Results: The testing agency shall report test results in writing to Architect and Contractor within 24 hours of test.

B. Defective Concrete: Concrete not complying with required lines, details, dimensions, tolerances or specified requirements.

C. Repair or replacement of defective concrete will be determined by the Architect. The cost of additional testing shall be borne by Contractor when defective concrete is identified.

D. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Architect for each individual area.

3.10 SCHEDULE - CONCRETE TYPES AND FINISHES

A. Piers: 3,000 psi 28 day concrete, 5-7 inch slump.

B. Foundation Walls: 3,000 psi 28 day concrete, 3-5 inch slump, form finish with honeycomb filled surface. Use integral waterproofing admixture at basement walls.

C. Underside of Supported Floors and Structure Exposed to View: 4,000 psi 28 day concrete, 3-5 inch slump, form finish with honeycomb filled surface.

D. Above grade columns, beams, and pan-joists: 4,000 psi 28 day concrete, 3-5 inch slump, with honeycomb filled surface.

E. Exterior Exposed To View Concrete: 3000 psi 28 day concrete, 4 - 6% air entrained, smooth rubbed finish.

END OF SECTION

SECTION 047200

CAST STONE MASONRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Architectural cast stone.

B. Units required are:
   1. Exterior wall units, including wall caps, lintels, and sills.
   2. Cast stone masonry columns at entry.
   3. Other items indicated on drawings.

1.02 RELATED REQUIREMENTS

A. Section 040511 - Mortar and Masonry Grout: Mortar for setting cast stone.

B. Section 042000 - Unit Masonry: Installation of cast stone in conjunction with masonry.

C. Section 079200 - Joint Sealants: Sealing joints indicated to be left open for sealant.

D. Section 079005 - Joint Sealers: Materials and execution methods for sealing soft joints in cast stone work.

1.03 REFERENCE STANDARDS

A. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; 2011.

B. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2015.

C. ASTM A185/A185M - Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete; 2007.

D. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon Steel Bars for Concrete Reinforcement; 2015.

E. ASTM A767/A767M - Standard Specification for Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement; 2009.

F. ASTM A884/A884M - Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement; 2014.

G. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2015.

H. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2013.

I. ASTM C150/C150M - Standard Specification for Portland Cement; 2015.

J. ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2014a.

K. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete; 2013.

L. ASTM C642 - Standard Test Method for Density, Absorption, and Voids in Hardened Concrete; 2013.

M. ASTM C979/C979M - Standard Specification for Pigments for Integrally Colored Concrete; 2010.

N. ASTM C1364 - Standard Specification for Architectural Cast Stone; 2010b.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Manufacturer's Qualification Data: Documentation showing compliance with specified requirements.

C. Shop Drawings: Include elevations, dimensions, layouts, profiles, cross sections, reinforcement, exposed faces, arrangement of joints, anchoring methods, anchors, and piece numbers.

D. Mortar Color Selection Samples.

E. Verification Samples: Pieces of actual cast stone components not less than 6 inches square, illustrating range of color and texture to be anticipated in components furnished for the project.

F. Full-Size Samples, For Review:
   1. Basic Shapes: One of each.
   2. Accent, Trim and Specialty Shapes: One of each.

G. Verification Samples: Pieces of actual cast stone components not less than 12 inches square, illustrating range of color and texture to be anticipated in components furnished for the project.

H. Source Quality Control Test Reports.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications:
   1. A firm with a minimum of 5 years experience producing cast stone of types required for project.
   2. Current producer member of the Cast Stone Institute or the Architectural Precast Association.
   3. Manufacturer's production facility currently holds a Plant Certification from the Cast Stone Institute or the Architectural Precast Association.
   4. Adequate plant capacity to furnish quality, sizes, and quantity of cast stone required without delaying progress of the work.

B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

C. Manufacturer Qualifications: A current producer member of the Cast Stone Institute with a minimum of 5 years of experience in producing cast stone of the types required for project and:
   1. Adequate plant capacity to furnish quality, sizes, and quantity of cast stone required without delaying progress of the work.
   2. Products previously produced by plant and exposed to weather that exhibit satisfactory appearance.

1.06 MOCK-UP

A. Mock-Up: Provide full size cast stone components for installation in mock-up of exterior wall. Coordinate with other masonry work.

B. See Section 014000 - Quality Requirements for additional requirements.
   1. Approved mock-up will become standard for appearance and workmanship.
   2. Mock-up may remain as part of the completed work.
   3. Remove mock-up not incorporated into the work and dispose of debris.

C. Source Quality Control: Test compressive strength and absorption of specimens selected at random from plant production.
   1. Test in accordance with ASTM C642.
   2. Select specimens at rate of 3 per 500 cubic feet, with a minimum of 3 per production week.
   3. Submit reports of tests by independent testing agency, showing compliance with requirements.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver cast stone components secured to shipping pallets and protected from damage and discoloration. Protect corners from damage.

B. Number each piece individually to match shop drawings and schedule.

C. Store cast stone components and installation materials in accordance with manufacturer's

instructions.

D. Store cast stone components on pallets with nonstaining, waterproof covers. Ventilate under covers to prevent condensation. Prevent contact with dirt.

E. Protect cast stone components during handling and installation to prevent chipping, cracking, or other damage.

F. Store mortar materials where contamination can be avoided.

G. Schedule and coordinate production and delivery of cast stone components with unit masonry work to optimize on-site inventory and to avoid delaying the work.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Architectural Cast Stone:
   1. Any current producer member of the Architectural Precast Association.
   2. Any current producer member of the Cast Stone Institute meeting the specified qualifications.
   3. Stone Legends; www.stonelegends.com.
   4. Substitutions: See section 01600 - Product Requirements.

2.02 ARCHITECTURAL CAST STONE

A. Cast Stone: Architectural concrete product manufactured to simulate appearance of natural granite, complying with ASTM C1364.
   1. Compressive Strength: As specified in ASTM C1364; calculate strength of pieces to be field cut at 80 percent of uncut piece.
   2. Freeze-Thaw Resistance: Demonstrated by laboratory testing in accordance with ASTM C1364.
   3. Surface Texture: Fine grained texture, with no bugholes, air voids, or other surface blemishes visible from distance of 20 feet.
   4. Color: Selected by Architect from manufacturer's full range.
   5. Remove cement film from exposed surfaces before packaging for shipment.

B. Shapes: Provide shapes indicated on drawings.
   1. Variation from Any Dimension, Including Bow, Camber, and Twist: Maximum of plus/minus 1/8 inch or length divided by 360, whichever is greater, but not more than 1/4 inch.
   2. Unless otherwise indicated on drawings, provide:
      a. Wash or slope of 1:12 on exterior horizontal surfaces.
      b. Drips on projecting components, wherever possible.
      c. Raised fillets at back of sills and at ends to be built in.

C. Reinforcement: Provide reinforcement as required to withstand handling and structural stresses; comply with ACI 318.
   1. Pieces More than 24 inches in Any Dimension: Provide full length two-way reinforcement of cross-sectional area not less than 0.25 percent of unit cross-sectional area.

2.03 MATERIALS

A. Portland Cement: ASTM C150/C150M.
   1. For Mortar: Type I or II, except Type III may be used in cold weather.

B. Coarse Aggregate: ASTM C33/C33M, except for gradation; granite, quartz, or limestone.

C. Fine Aggregate: ASTM C33/C33M, except for gradation; natural or manufactured sands.

D. Pigments: ASTM C979, inorganic iron oxides; do not use carbon black.

E. Admixtures: ASTM C494/C494M.

F. Water: Potable.

G. Reinforcing Bars: ASTM A615/A615M deformed bars, galvanized.

H. Galvanized in accordance with ASTM A767/A767M, Class I.

I. Steel Welded Wire Reinforcement: ASTM A1064/A1064M, galvanized or ASTM A884/A884M, epoxy coated.

J. Embedded Anchors, Dowels, and Inserts: Type 304 stainless steel, of type and size as required for conditions.

K. Shelf Angles and Similar Structural Items: Hot-dip galvanized steel per ASTM A123/A123M, of shapes and sizes as required for conditions.

L. Mortar: Portland cement-lime, as specified in Section 040511; do not use masonry cement.

M. Sealant: As specified in Section 079005.

N. Cleaner: General-purpose cleaner designed for removing mortar and grout stains, efflorescence, and other construction stains from new masonry surfaces without discoloring or damaging masonry surfaces; approved for intended use by cast stone manufacturer and by cleaner manufacturer for use on cast stone and adjacent masonry materials.

2.04 SOURCE QUALITY CONTROL

A. Test compressive strength and absorption of specimens selected at random from plant production.
   1. Test in accordance with ASTM C642.
   2. Select specimens at rate of 3 per 500 cubic feet, with a minimum of 3 per production week.
   3. Submit reports of tests by independent testing agency, showing compliance with requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine construction to receive cast stone components. Notify Architect if construction is not acceptable.

B. Do not begin installation until unacceptable conditions have been corrected.

3.02 INSTALLATION

A. Install cast stone components in conjunction with masonry, complying with requirements of Section 042000.

B. Mechanically anchor cast stone units indicated; set remainder in mortar.

C. Setting:
   1. Drench cast stone components with clear, running water immediately before installation.
   2. Set units in a full bed of mortar unless otherwise indicated.
   3. Fill vertical joints with mortar.
   4. Fill dowel holes and anchor slots completely with mortar or non-shrink grout.

3.03 TOLERANCES

A. Joints: Make all joints 3/8 inch, except as otherwise detailed.
   1. Rake mortar joints 3/4 inch for pointing.
   2. Remove excess mortar from face of stone before pointing joints.
   3. Point joints with mortar in layers 3/8 inch thick and tool to a slight concave profile.
   4. Leave the following joints open for sealant:
      a. Head joints in top courses, including copings, parapets, cornices, sills, and steps.
      b. Joints in projecting units.
      c. Joints between rigidly anchored units, including soffits, panels, and column covers.
      d. Joints below lugged sills and stair treads.
      e. Joints below ledge and relieving angles.
      f. Joints labeled "expansion joint".

B. Sealant Joints: Install sealants as specified in Section 079005.

C. Installation Tolerances:
   1. Variation from Plumb: Not more than 1/8 inch in 10 feet or 1/4 inch in 20 feet or more.
   2. Variation from Level: Not more than 1/8 inch in 10 feet or 1/4 inch in 20 feet, or 3/8 inch maximum.
   3. Variation in Joint Width: Not more than 1/8 inch in 36 inches or 1/4 of nominal joint width, whichever is less.
   4. Variation in Plane Between Adjacent Surfaces (Lipping): Not more than 1/16 inch difference between planes of adjacent units or adjacent surfaces indicated to be flush with units.

3.04 REPAIR

A. Repair chips and other surface damage noticeable when viewed in direct daylight at 20 feet.
   1. Repair with matching touch-up material provided by the manufacturer and in accordance with manufacturer's instructions.
   2. Repair methods and results subject to Architect 's approval.

3.05 CLEANING

A. Repair chips and other surface damage noticeable when viewed in direct daylight at 10 feet.
   1. Repair with matching touchup material provided by the manufacturer and in accordance with manufacturer's instructions.
   2. Repair methods and results subject to Architect 's approval.

B. Clean completed exposed cast stone after mortar is thoroughly set and cured.
   1. Wet surfaces with water before applying cleaner.
   2. Apply cleaner to cast stone in accordance with manufacturer's instructions.
   3. Remove cleaner promptly by rinsing thoroughly with clear water.
   4. Do not use acidic cleaners.

C. See Section 017419 - Construction Waste Management and Disposal, for additional requirements.

3.06 PROTECTION

A. Protect completed work from damage. Clean, repair, or restore damaged or mortar-splashed work to condition of new work.

END OF SECTION

SECTION 055213

PIPE AND TUBE RAILINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Wall mounted handrails.

B. Stair railings and guardrails.

B. Free-standing railings at steps and ADA ramp.

C. Other railings and guardrails shown on drawings.

1.02 RELATED SECTIONS

A. Section 03 3000 - Cast-in-Place Concrete: Placement of anchors in concrete.

B. Section 04 2000 – Concrete Unit Masonry: Placement of anchors in masonry.

C. Section 04 2001 – Brick Masonry Veneer: Placement of anchors in brick masonry.

D. Section 09 2116 - Gypsum Board Assemblies: Placement of backing plates in stud wall construction.

1.03 REFERENCES

A. ASTM A 53 - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; current edition.

B. ASTM E 935 - Standard Test Methods for Performance of Permanent Metal Railing Systems and Rails for Buildings; current edition.

C. ASTM E 985 - Standard Specification for Permanent Metal Railing Systems and Rails for Buildings; current edition.

D. SSPC-Paint 15 - Steel Joist Shop Paint; The Society for Protective Coatings; current edition

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate profiles, sizes, connection attachments, anchorage, size and type of fasteners, and accessories.

PART 2 PRODUCTS

2.01 RAILINGS - GENERAL REQUIREMENTS

A. Design, fabricate, and test railing assemblies in accordance with the most stringent requirements of ASTM E 985 and applicable local code.

B. Design railing assembly, wall rails, and attachments to resist lateral force of 75 lbs at any point without damage or permanent set. Test in accordance with ASTM E 935.

C. Allow for expansion and contraction of members and building movement without damage to connections or members.

D. Dimensions: See drawings for configurations and heights.
   1. Top Rails and Wall Rails: 1-1/2 inches diameter, round.
   2. Intermediate Rails: 1-1/4 inches diameter, round.
   3. Posts: 1-1/4 inches diameter, round.

E. Provide anchors and other components as required to attach to structure, made of same materials as railing components unless otherwise indicated; where exposed fasteners are unavoidable provide flush countersunk fasteners.
   1. For anchorage to concrete, provide inserts to be cast into concrete, for bolting anchors.
   2. For anchorage to masonry, provide brackets to be embedded in masonry, for bolting anchors.
   3. For anchorage to stud walls, provide backing plates, for bolting anchors.
   4. Posts: Provide adjustable flanged brackets.

F. Provide welding fittings to join lengths, seal open ends, and conceal exposed mounting bolts and nuts, including but not limited to elbows, T-shapes, splice connectors, flanges, escutcheons, and wall brackets.

2.02 STEEL RAILING SYSTEM

A. Steel Pipe: ASTM A 53, Grade B Schedule 40, galvanized finish.

B. Welding Fittings: Factory- or shop-welded from matching pipe or tube; seams continuously welded; joints and seams ground smooth.

C. Exposed Fasteners: Flush countersunk screws or bolts; consistent with design of railing.

D. Straight Splice Connectors: Steel concealed spigots.

E. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.

F. Finish: Field applied over galvanized finish.

2.03 FABRICATION

A. Accurately form components to suit specific project conditions and for proper connection to building structure.

B. Fit and shop assemble components in largest practical sizes for delivery to site.

C. Fabricate components with joints tightly fitted and secured. Provide spigots and sleeves to accommodate site assembly and installation.

D. Welded Joints:
   1. Exterior Components: Continuously seal joined pieces by continuous welds. Drill condensate drainage holes at bottom of members at locations that will not encourage water intrusion.
   2. Interior Components: Continuously seal joined pieces by continuous welds.
   3. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.

3.02 PREPARATION

A. Clean and strip primed steel items to bare metal where site welding is required.

B. Supply items required to be cast into concrete or embedded in masonry with setting templates, for installation as work of other sections.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install components plumb and level, accurately fitted, free from distortion or defects, with tight joints.

C. Anchor railings securely to structure.

D. Field weld anchors as indicated on shop drawings. Touch-up welds with primer. Grind welds smooth.

E. Conceal anchor bolts and screws whenever possible. Where not concealed, use flush countersunk fastenings.

3.04 ERECTION TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch per floor level, non-cumulative.

B. Maximum Offset From True Alignment: 1/4 inch.

C. Maximum Out-of-Position: 1/4 inch.

END OF SECTION

SECTION 064100

ARCHITECTURAL WOOD CASEWORK

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Shop fabricated cabinet units.

B. Countertops.

C. Cabinet hardware.

D. Factory finishing.

E. Preparation for installing utilities.

F. Miscellaneous furniture items, as selected by City.

1.02 REFERENCE STANDARDS

A. AWI (QCP) - Quality Certification Program, www.awiqcp.org; current edition at www.awiqcp.org.

B. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2009.

C. BHMA A156.9 - American National Standard for Cabinet Hardware; Builders Hardware Manufacturers Association; 2010 (ANSI/BHMA A156.9).

D. NEMA LD 3 - High-Pressure Decorative Laminates; National Electrical Manufacturers Association; 2005.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Pre-installation Meeting: Convene a preinstallation meeting not less than one week before starting work of this section; require attendance by all affected installers.

1.04 SUBMITTALS

A. See Section 013000 – Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.
   1. Minimum Scale of Detail Drawings: 1-1/2 inch to 1 foot.
   2. Provide the information required by AWI/AWMAC/WI Architectural Woodwork Standards.
   3. Include certification program label.

C. Product Data: Provide data for hardware accessories.

D. Samples: Submit actual samples of architectural cabinet construction, minimum 12 inches square, illustrating proposed cabinet, countertop, and shelf unit substrate and finish.

E. Samples: Submit actual sample items of proposed pulls, hinges, shelf standards, and locksets, demonstrating hardware design, quality, and finish.

1.05 QUALITY ASSURANCE

A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.
   1. Company with at least one project in the past 5 years with value of woodwork within 20 percent of cost of woodwork for this Project.
   2. Accredited participant in the specified certification program prior to the commencement of fabrication and throughout the duration of the project.

B. Quality Certification: Provide AWI Quality Certification Program inspection report and quality certification of completed work.
   1. Provide labels or certificates indicating that the work complies with requirements of AWS Grade or Grades specified.
   2. Prior to delivery to the site provide shop drawings with certification labels.
   3. Provide labels on each product when required by certification program.
   4. Upon completion of installation provide certificate certifying that the installation and products meet the specified requirements.
   5. Arrange and pay for inspections required for certification.
   6. Replace, repair, or rework all work for which certification is refused.

1.06 MOCK-UP

A. Provide mock-up of typical base cabinet, wall cabinet, and countertop, including hardware, finishes, and plumbing accessories.

B. Locate where directed.

C. Mock-up may remain as part of the Work, if approved by the Architect.

1.07 PRE-INSTALLATION MEETING

A. Convene not less than one week before starting work of this Section.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Protect units from moisture damage.

1.09 FIELD CONDITIONS

A. During and after installation of custom cabinets, maintain temperature and humidity conditions in building spaces at same levels planned for occupancy.

PART 2 PRODUCTS

2.01 CABINETS

A. Quality Standard: Premium Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

B. Plastic Laminate Faced Cabinets: Premium grade.

C. Cabinets:
   1. Finish - Exposed Exterior Surfaces: Decorative laminate.
   2. Finish - Exposed Interior Surfaces: Decorative laminate.
   3. Finish - Semi-Exposed Surfaces: Decorative laminate
   4. Finish - Concealed Surfaces: Manufacturer's option.
   5. Casework Construction Type: Type A - Frameless.
   6. Cabinet Design Series: As indicated on drawings.
   7. Adjustable Shelf Loading: 50 lbs. per sq. ft.
      a. Deflection: L/144.
   8. Cabinet Style: Flush overlay.
   9. Cabinet Doors and Drawer Fronts: Flush style.

2.02 WOOD-BASED COMPONENTS

A. Hardwood Edgebanding: Use solid hardwood edgebanding matching species, color, grain, and grade for exposed portions of cabinetry.

B. Wood fabricated from old-growth timber is not permitted.

2.03 LUMBER MATERIALS

A. Softwood Lumber: NIST PS 20; Graded in accordance with, Grade II/Custom; average moisture content of 5-10 percent; species as scheduled.

2.04 PANEL MATERIALS

A. Plywood for Non-Decorative Purposes: Exterior grade adhesives, core of wood plies from listed species unless otherwise indicated, thickness as indicated or as required by application.
   1. Concealed Surfaces: PS 1; APA B-B Grade, exterior grade panels, thickness 3/4", rotary cut birch face veneer.
   2. At countertops with sinks: Provide B-C grade, ACQ or CA-B pressure treated, kiln dried after treatment to a MC of 19%, thickness 3/4"

2.05 LAMINATE MATERIALS

A. Manufacturers:
   1. Wilsonart, LLC: www.wilsonart.com.
   2. Substitutions: See Section 016000 - Product Requirements.

B. High Pressure Decorative Laminate (HPDL): NEMA LD 3, types as recommended for specific applications and as follows:
   1. Horizontal Surfaces: HGS, 0.048 inch nominal thickness, through color, color as selected.
   2. Vertical Surfaces: HGS, 0.048 inch (1.22 mm) nominal thickness, color as selected.
   3. Cabinet Liner: CLS, 0.020 inch nominal thickness, through color, color as selected.
   4. Laminate Backer: BKL, 0.020 inch nominal thickness, undecorated; for application to concealed backside of panels faced with high pressure decorative laminate.
   5. Edge Treatment: Wilsonart, 3mm ABS Plastic Edgeband; color as selected

2.06 COUNTERTOPS

A. Quartz Countertops:
   1. Manufacturer: Dupont Zodiac Quartz Surfaces
      a. Color: As selected from manufacturer's full range of colors
      b. Thickness: 3/4" (2 cm.) slabs minimum
         1) Provide built-up edge of 1 1/2 inch quartz thickness minimum
      c. Back and End Splashes: Same material and construction.

B. Solid Surfacing Countertops: Solid surfacing sheet or plastic resin casting over continuous substrate.
   1. Flat Sheet Thickness: ¾ inch, minimum.
   2. Solid Surfacing Sheet and Plastic Resin Castings: Complying with ISSFA-2 and NEMA LD 3; acrylic or polyester resin, mineral filler, and pigments; homogenous, non-porous and capable of being worked and repaired using standard woodworking tools; no surface coating; color and pattern consistent throughout thickness.
      a. Surface Burning Characteristics: Flame spread 25, maximum; smoke developed 450, maximum; when tested in accordance with ASTM E 84.
      b. NSF approved for food contact.
      c. Sinks and Bowls: Integral castings; minimum 3/4 inch wall thickness; comply with ANSI Z124.3.
      d. Finish on Exposed Surfaces: As approved by Architect.
      e. Color and Pattern: As designated in the ‘Finish Schedule’ on Drawings.
      f. Manufacturers:
         1) Dupont: www.corian.com.
         2) Substitutions: See Section 01 6000 Product Requirements for substitution procedures.
   3. Other Components Thickness: 1/2 inch, minimum.
   4. Exposed Edge Treatment: Built up to minimum 1-1/4 inch thick; radiused edge.

5. Back and End Splashes: Same sheet material, radiused top; minimum 4 inches high.

C. Plastic Laminate Countertops: Medium density fiberboard substrate; thickness 3/4"; covered with HPDL, conventionally fabricated, with decorative ABS plastic edge. At countertops with sinks: Provide moisture resistant core; thickness 3/4".
   1. Edge Treatment: Square, substrate built up to minimum 1 1/2 inch thick edge: cover with Wilsonart, 3mm ABS Plastic edgeband
   2. Back and End Splashes: Same material and construction.

2.07 ACCESSORIES

A. Adhesive: Type recommended by fabricator to suit application.

B. Fasteners: Size and type to suit application.

C. Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application; galvanized or chrome-plated finish in concealed locations and stainless steel finish in exposed locations.

D. Grommets: Standard rubber grommets for cut-outs, in color to match adjacent surface.

2.08 HARDWARE

A. Hardware: BHMA A156.9, types as recommended by fabricator for quality grade specified.

B. Fixed Counter and Shelf Supports: 1/8 inch steel brackets
   1. Manufacturer: A&M Hardware, Inc.; www.aandmhardware.com
   2. Size: Provide 5x8, 8x12, 12x18, 15x21, 18x24 or 24x29 as recommended by manufacturer for counter and shelf depth.
   3. Spacing: Provide supports at 3'-0" o.c. maximum or less if indicated in drawings. Provide shelf support at all ends (3 inch maximum from both ends of all shelves).

C. Adjustable Shelves: Standard side-mounted system using recessed metal shelf standards and coordinated self rests, polished chrome finish, for nominal 1 inch spacing adjustments.
   1. Shelf Supports: No 186/187 (as recommended by manufacturer for shelf depth) Heavy Duty Brackets as manufactured by KV (Knape & Vogt or equal as approved by Architect.
      a. Color: Anochrome
   2. Standards: No 87 - Heavy Duty Standards manufactured by KV (Knape & Vogt or equal as approved by Architect.
      a. Color: Anochrome

D. Drawer and Door Pulls: "U" shaped wire pull, steel with chrome finish, 4 inch centers.

E. Cabinet Locks: Keyed cylinder, two keys per lock, master keyed, steel with satin finish.

F. Catches: Magnetic.

G. Drawer Slides:
   1. Type: Full extension.
   2. Static Load Capacity: Heavy Duty grade - 100-lb. class
   3. Mounting: Side mounted.
   4. Stops: Integral type.
   5. Features: Provide self closing/stay closed type.
   6. Manufacturers:
      a. Knape & Vogt Manufacturing Company: www.knapeandvogt.com.
      b. Substitutions: See Section 016000 - Product Requirements.

H. Hinges: European style concealed self-closing type, ANSI/BHMA No. A156.9, steel with polished finish.
   1. Manufacturers:
      a. Salice; Product 170-degree overlay, with dowel and associated face-frame mounting plates. Salice #C2RFA99 hinges with Salilce #BAU3L19 mounting plates.; www.salice.com
         1) Finish: Stainless Steel
      b. Substitutions: See Section 016000 - Product Requirements.

I. Cabinet Stops:
   1. Manufacturers.
      a. Salice; Product - recessed SMOVE D005; www.salice.com
      b. Substitutions: See Section 016000 - Product Requirements.

J. Hinges at Bedroom Lockers:
   1. Manufacturers:
      a. Ives: 700 Stainless Steel Barrel Full Mortise 1/8" continuous hinge
      b. Substitutions: See Section 016000 - Product Requirements.

K. Cabinet Locks at Bedroom Lockers
   1. Manufacturers:
      a. Medeco/Assa Abloy: Medeco Cabinet Deadbolt Locks with removable core; keyed different/Master Keyed
      b. Substitutions: See Section 016000 - Product Requirements.

L. Surface Bolts at Bedroom Lockers
   1. Manufacturers:
      a. Ives: 40 Decorative Surface Bolt with strike - 4" (at top and bottom)
      b. Substitutions: See Section 016000 - Product Requirements.

M. Coat Hooks in Bedroom Lockers:
   1. Manufacturers:
      a. Ives: 571 Coat and Hat Hook; A15 finish
      b. Substitutions: See Section 016000 - Product Requirements.

N. Accessories: Provide all accessories and hardware as required for complete system assembly.

O. Hardware Finish: Satin stainless steel unless specified otherwise

2.09 SITE FINISHING MATERIALS

A. Finishing: Field finished as specified in Section 099300.

2.10 SHOP TREATMENT OF WOOD MATERIALS

A. Provide UL approved identification on fire retardant treated material.

B. Deliver fire retardant treated materials cut to required sizes. Minimize field cutting.

2.11 FABRICATION

A. Cabinet Style: Flush overlay.

B. Cabinet Doors and Drawer Fronts: Flush overlay.

C. Drawer Construction Technique: Dovetail joints.

D. Assembly: Shop assemble cabinets for delivery to site in units easily handled and to permit passage through building openings.

E. Edging: Fit shelves, doors, and exposed edges with specified edging. Do not use more than one piece for any single length.

F. Fitting: When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide matching trim for scribing and site cutting.

G. Plastic Laminate: Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel arises. Locate counter butt joints minimum 2 feet from sink cut-outs.
   1. Apply laminate backing sheet to reverse side of plastic laminate finished surfaces.
   2. Cap exposed plastic laminate finish edges with material of same finish and pattern.

H. Matching Wood Grain: Provide vertical grain direction. Comply with requirements of quality standard for specified Grade and as follows:
   1. Provide sequence matching across each elevation.

I. Mechanically fasten back splash to countertops with steel brackets at 16 inches on center.

J. Provide cutouts for plumbing fixtures. Verify locations of cutouts from on-site dimensions. Prime paint cut edges.

2.12 FACTORY FINISHING

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

B. For opaque finishes, apply wood filler in exposed nail and screw indentations and sand smooth.

C. Prime paint surfaces in contact with cementitious materials.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify adequacy of backing and support framing.

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

3.02 INSTALLATION

A. Set and secure custom cabinets in place, assuring that they are rigid, plumb, and level.

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

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

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

E. Secure cabinets to floor using appropriate angles and anchorages.

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

3.03 ADJUSTING

A. Test installed work for rigidity and ability to support loads.

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

3.04 CLEANING

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

END OF SECTION

SECTION 083610
SECTIONAL OVERHEAD DOORS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Overhead sectional doors, electrically operated.

B. Operating hardware and supports.

C. Electrical controls.

1.02 RELATED REQUIREMENTS

A. Section 055000 - Metal Fabrications: Steel channel opening frame.

B. Section 079200 - Joint Sealants: Sealing joints between frames and adjacent construction.

C. Section 087100 - Door Hardware: Lock cylinders.

D. Division 26 - Conduit: Conduit from electric circuit to operator and from operator to control station.

E. Division 26 - Conduit: Conduit from fire alarm system.

F. Division 26 - Conduit: Empty conduit from control units to door operator.

1.03 REFERENCE STANDARDS

A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; current edition.

B. ASTM E330/E330M - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference; current edition.

C. DASMA 102 - American National Standard Specifications for Sectional Overhead Type Doors; current edition.

D. NEMA MG 1 - Motors and Generators; current edition.

E. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

F. UL 325 - Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems; Current Edition, Including All Revisions.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate opening dimensions and required tolerances, connection details, anchorage spacing, hardware locations, and installation details.

C. Product Data: Show component construction, anchorage method, and hardware.

D. Manufacturer's Installation Instructions: Include any special procedures required by project conditions.

E. Operation Data: Include normal operation, troubleshooting, and adjusting.

F. Maintenance Data: Include data for motor and transmission, shaft and gearing, lubrication frequency, spare part sources.

G. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.05 QUALITY ASSURANCE

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

B. Installer Qualifications: Company specializing in performing work of type specified and with at least three years documented experience.

C. Conform to applicable code for motor and motor control requirements.

D. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified.

1.06 WARRANTY

A. See Section 01 7800 - Closeout Submittals for warranty requirements.

B. Correct defective Work within a five year period after Date of Substantial Completion.

C. Warranty: Include coverage for electric motor and transmission.

D. Provide five year manufacturer warranty for electric operating equipment.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Sectional Doors:
1. C.H.I. Overhead Doors: www.chiohd.com/sle.
2. Clopay Building Products: www.clopaydoor.com/sle.
3. Entrematic: www.amarr.com/commercial/sle.
4. Fimbel Architectural Door Specialties: www.fimbelads.com.
5. Wayne-Dalton, a Division of Overhead Door Corporation: www.wayne-dalton.com.
6. Windsor Republic Doors.
7. Raynor.
8. Substitutions: See Section 01 6000 - Product Requirements.

2.02 STEEL DOORS

A. Steel Doors: Flush steel, with dual layered aluminum panels, U-factor of 0.179 per approved 2015 IECC COMcheck; standard lift operating style with track and hardware; complying with DASMA 102, Commercial application.
1. Performance: Withstand positive and negative wind loads equal to 1.5 times design wind loads specified by local code without damage or permanent set, when tested in accordance with ASTM E330/E330M, using 10 second duration of maximum load.
2. Door Nominal Thickness: 2 inches thick.
3. Exterior Finish: Factory finished with acrylic baked enamel; color as selected by Architect.
4. Interior Finish: Factory finished with acrylic baked enamel; color as selected by Architect from manufacturers standard line.

B. Door Panels: Steel construction; outer steel sheet of 20 gage, 0.0359 inch minimum thickness, flush profile; inner steel sheet of 20 gage, 0.0359 inch minimum thickness, flat profile; core reinforcement to be sheet steel roll formed to channel shape, rabbeted weather joints at meeting rails; non-insulated.

C. Window Frame: Manufacturer standard, finish to match door.

D. Glazing: Fully tempered, single pane, clear, 1/8 inch thickness.

2.03 DOOR COMPONENTS

A. Track: Galvanized steel angles, 0.094 inch minimum thickness; 2-5/16 x 4 inch size, continuous one piece per side; galvanized steel mounting brackets 1/4 inch thick.

B. Hinge and Roller Assemblies: Heavy duty hinges and adjustable roller holders of galvanized steel; floating hardened steel bearing rollers, located at top and bottom of each panel, each side.

C. Lift Mechanism: Torsion spring on cross head shaft, with braided galvanized steel lifting cables.

D. Sill Weatherstripping: Resilient hollow rubber strip, one piece; fitted to bottom of door panel, full length contact.

E. Jamb Weatherstripping: Roll formed steel section full height of jamb, fitted with resilient weatherstripping, placed in moderate contact with door panels.

F. Head Weatherstripping: EPDM rubber seal, one piece full length.

G. Panel Joint Weatherstripping: Neoprene foam seal, one piece full length.

H. Lock: Inside center mounted, adjustable keeper, spring activated latch bar with feature to retain in locked or retracted position; interior and exterior handle.

I. Lock Cylinders: Keyed alike.

2.04 MATERIALS

A. Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G60/Z180 coating, plain surface.

2.05 ELECTRICAL OPERATION

A. Operator, Controls, Actuators, and Safeties: Comply with UL 325; provide products listed by a testing agency acceptable to authorities having jurisdiction.

B. Electrical Characteristics: Refer to Drawings.

C. Motor: NEMA MG 1, Type 1.

D. Wiring Terminations: Provide terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Enclose terminal lugs in terminal box sized to NFPA 70.

E. Disconnect Switch: Factory mount disconnect switch in control panel.

F. Electric Operator: Center mounted on cross head shaft, adjustable safety friction clutch; brake system actuated by independent voltage solenoid controlled by motor starter; enclosed gear driven limit switch; enclosed magnetic cross line reversing starter; mounting brackets and hardware.

G. Safety Edge: At bottom of door panel, full width; electro-mechanical sensitized type, wired to stop door upon striking object; hollow neoprene covered to provide weatherstrip seal.

H. Control Station: Standard three button (open-close-stop) momentary type control for each electric operator.
   1. 24 volt circuit.
   2. Surface mounted.
   3. Locate at inside door jamb.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that wall openings are ready to receive work and opening dimensions and tolerances are within specified limits.

B. Verify that electric power is available and of the correct characteristics.

3.02 PREPARATION

A. Prepare opening to permit correct installation of door unit to perimeter air and vapor barrier seal.

B. Apply primer to wood frame.

3.03 INSTALLATION

A. Install door unit assembly in accordance with manufacturer's instructions.

B. Anchor assembly to wall construction and building framing without distortion or stress.

C. Securely brace door tracks suspended from structure. Secure tracks to structural members only.

D. Fit and align door assembly including hardware.

E. Coordinate installation of electrical service. Complete power and control wiring from disconnect to unit components.

F. Install perimeter trim.

3.04 TOLERANCES

A. Maximum Variation from Plumb: 1/16 inch.

B. Maximum Variation from Level: 1/16 inch.

C. Longitudinal or Diagonal Warp: Plus or minus 1/8 inch from 10 ft straight edge.

D. Maintain dimensional tolerances and alignment with adjacent work.

3.05 ADJUSTING

A. Adjust door assembly for smooth operation and full contact with weatherstripping.

B. Have manufacturer's field representative present to confirm proper operation and identify adjustments to door assembly for specified operation.

3.06 CLEANING

A. Clean doors and frames and glazing.

B. Remove temporary labels and visible markings.

3.07 PROTECTION

A. Protect installed products from damage until Date of Substantial Completion.

B. Do not permit construction traffic through overhead door openings after adjustment and cleaning.

END OF SECTION

SECTION 084313

ALUMINUM-FRAMED STOREFRONTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Aluminum-framed storefront, with vision glass.

B. Infill panels of glass.

C. Aluminum doors and frames.

D. Weatherstripping.

E. Door hardware.

F. Perimeter sealant.

1.02 ADMINISTRATIVE REQUIREMENTS

A. Coordinate with installation of other components that comprise the exterior enclosure.

B. Preinstallation Meeting: Conduct a preinstallation meeting one week before starting work of this section; require attendance by all affected installers.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide component dimensions, describe components within assembly, anchorage and fasteners, glass and infill, door hardware, internal drainage details.

C. Shop Drawings: Provide Engineered, sealed shop drawings indicating system dimensions, framed opening requirements and tolerances, affected related Work, expansion and contraction joint location and details, and field welding required.

D. Design Data: Provide framing member structural and physical characteristics, engineering calculations, dimensional limitations.

E. Hardware Schedule: Complete itemization of each item of hardware to be provided for each door, cross-referenced to door identification numbers in Contract Documents.

F. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.04 QUALITY ASSURANCE

A. Designer Qualifications: Design structural support framing components under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed at the State in which the Project is located.

B. Manufacturer and Installer Qualifications: Company specializing in manufacturing aluminum glazing systems with minimum three years of documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Handle products of this section in accordance with AAMA CW-10.

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

1.06 FIELD CONDITIONS

A. Do not install sealants when ambient temperature is less than 40 degrees F. Maintain this minimum temperature during and 48 hours after installation.

1.07 WARRANTY

A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

B. Correct defective Work within a five year period after Date of Substantial Completion.

C. Provide five year manufacturer warranty against excessive degradation of exterior finish. Include provision for replacement of units with excessive fading, chalking, or flaking.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturers:
1. Oldcastle Building Envelope: www.oldcastlebe.com.
2. Kawneer North America: www.kawneer.com.
3. United States Aluminum Corp: www.usalum.com.
4. Substitutions: See Section 01 6000 - Product Requirements.

2.02 STOREFRONT

A. Aluminum-Framed Storefront: Factory fabricated, factory finished aluminum framing members with infill, and related flashings, anchorage and attachment devices.
1. Glazing Rabbet: For 1 inch insulating glazing.
2. Glazing Position: Center-set.
3. Vertical Mullion Dimensions: 2 inches wide by 4-1/2 inches deep.
4. Water Leakage Test Pressure Differential: 2.86 lbf/sq ft.
5. Air Infiltration Test Pressure Differential: 1.57 psf.
6. Basis of Design: Oldcastle.

B. Performance Requirements:
1. Design and size components to withstand the specified load requirements without damage or permanent set, when tested in accordance with ASTM E330, using loads 1.5 times the design wind loads and 10 second duration of maximum load.
   a. Member Deflection: Limit member deflection to flexure limit of glass in any direction, with full recovery of glazing materials.
2. Movement: Accommodate movement between storefront and perimeter framing and deflection of lintel, without damage to components or deterioration of seals.
3. Air Infiltration: Limit air infiltration through assembly to 0.06 cu ft/min/sq ft of wall area, measured at specified differential pressure across assembly in accordance with ASTM E283.
4. Condensation Resistance Factor: Measure in accordance with AAMA 1503 with 1 inch insulating glass installed.
5. System Internal Drainage: Drain to the exterior by means of a weep drainage network any water entering joints, condensation occurring in glazing channel, and migrating moisture occurring within system.
6. Expansion/Contraction: Provide for expansion and contraction within system components caused by cycling temperature range of 170 degrees F over a 12 hour period without causing detrimental effect to system components, anchorages, and other building elements.

2.03 COMPONENTS

A. Aluminum Framing Members: Tubular aluminum sections , thermally broken with interior section insulated from exterior, drainage holes and internal weep drainage system.
1. Framing members for interior applications need not be thermally broken.
2. Glazing stops: Flush.
3. Structurally Reinforced Members: Extruded aluminum with internal reinforcement of structural steel member.
4. Subsills: Provide manufacturer's standard subsills for all storefront framing.

B. Doors: Glazed aluminum, heavy duty (1/8-inch wall thickness; with fully welded internal joints).
1. Thickness: 1-3/4 inches.
2. Top Rail: 4 inches wide.

3. Vertical Stiles: 4-1/2 inches wide.
4. Bottom Rail: 10 inches wide.
5. Glazing Stops: Square.
6. Finish: Same as storefront.

2.04 MATERIALS

A. Extruded Aluminum: ASTM B221 (ASTM B221M).

B. Fasteners: Stainless steel.

C. Concealed Flashings: 0.018 inch thick galvanized steel.

D. Perimeter Sealant: Type S-GP specified in Section 07 9005.

E. Glass: As specified in Section 08 8000.

F. Glazing Gaskets: Type to suit application to achieve weather, moisture, and air infiltration requirements.

G. Glazing Accessories: As specified in Section 08 8000.

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

I.

2.05 FINISHES

A. High-Performance Organic Finish: Two-coat fluoropolymer finish complying with AAMA 2604 and containing not less than 50 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
   1. Color and Gloss: To match existing installed components.

B. Touch-Up Materials: As recommended by coating manufacturer for field application.

2.06 HARDWARE

A. Door Hardware: Refer Drawings.

B. Weatherstripping: Wool pile, continuous and replaceable; provide on all doors.

C. Sill Sweep Strips: Resilient seal type, retracting, of neoprene; provide on all doors.

2.07 FABRICATION

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

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

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

D. Coat concealed metal surfaces that will be in contact with cementitious materials or dissimilar metals with bituminous paint.

E. Arrange fasteners and attachments to conceal from view.

F. Reinforce components internally for door hardware .

G. Reinforce framing members for imposed loads.

H. Finishing: Apply factory finish to all surfaces that will be exposed in completed assemblies.
   1. Touch-up surfaces cut during fabrication so that no natural aluminum is visible in completed assemblies, including joint edges.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify dimensions, tolerances, and method of attachment with other work.

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

3.02 INSTALLATION

A. Install wall system in accordance with manufacturer's instructions.

B. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.

C. Provide alignment attachments and shims to permanently fasten system to building structure.

D. Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent work.

E. Provide thermal isolation where components penetrate or disrupt building insulation.

F. Install sill flashings. Turn up ends and edges; seal to adjacent work to form watertight dam.

G. Where fasteners penetrate sill flashings, make watertight by seating and sealing fastener heads to sill flashing.

H. Coordinate attachment and seal of perimeter air and vapor barrier materials.

I. Fill shim spaces with low rise urethane foam sealant at perimeter of assembly to maintain continuity of thermal barrier.

J. Set thresholds in bed of mastic and secure.

K. Install hardware using templates provided.

L. Install glass and infill panels in accordance with Section 088000, using glazing method required to achieve performance criteria.

M. Touch-up minor damage to factory applied finish; replace components that cannot be satisfactorily repaired.

3.03 TOLERANCES

A. Maximum Variation from Plumb: 0.06 inches every 3 ft non-cumulative or 1/16 inches per 10 ft, whichever is less.

B. Maximum Misalignment of Two Adjoining Members Abutting in Plane: 1/32 inch.

3.04 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for independent testing and inspection requirements. Inspection will monitor quality of installation and glazing.

B. Test installed storefront for water leakage in accordance with AAMA 501.2.

3.05 ADJUSTING

A. Adjust operating hardware and sash for smooth operation.

3.06 CLEANING

A. Remove protective material from pre-finished aluminum surfaces.

B. Wash down surfaces with a solution of mild detergent in warm water, applied with soft, clean wiping cloths. Take care to remove dirt from corners. Wipe surfaces clean.

C. Remove excess sealant by method acceptable to sealant manufacturer.

3.07 PROTECTION

A. Protect installed products from damage during subsequent construction.

END OF SECTION

SECTION 087100

DOOR HARDWARE

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 commercial door hardware for the following:
   1. Swinging doors.
   2. Sliding doors.
   3. Other doors to the extent indicated.

B. Door hardware includes, but is not necessarily limited to, the following:
   1. Mechanical door hardware.
   2. Electromechanical door hardware.
   3. Cylinders specified for doors in other sections.
   4. Electrical door lock and controls.

C. Related Sections:
   1. Division 08 Section “Hollow Metal Doors and Frames”.
   2. Division 08 Section “Flush Wood Doors”.
   3. Division 08 Section “Aluminum-Framed Entrances and Storefronts”.

D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.
   1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
   2. FEMA P-361 2015 - Design and Construction Guidance for Community Safe Rooms.
   3. ICC 500-2014, ICC/NSSA Standard for the Design and Construction of Storm Shelters.
   4. ICC/IBC - International Building Code.
   5. NFPA 70 - National Electrical Code.
   6. NFPA 80 - Fire Doors and Windows.
   7. NFPA 101 - Life Safety Code.
   8. NFPA 105 - Installation of Smoke Door Assemblies.
   9. State Building Codes, Local Amendments.

E. Standards: All hardware specified herein shall comply with the following industry standards as applicable. Any undated reference to a standard shall be interpreted as referring to the latest edition of that standard:
   1. ANSI/BHMA Certified Product Standards - A156 Series.
   2. UL10C - Positive Pressure Fire Tests of Door Assemblies.
   3. ANSI/UL 294 - Access Control System Units.
   4. UL 305 - Panic Hardware.
   5. ANSI/UL 437- Key Locks.

1.3 SUBMITTALS

A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.

B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing, fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
   1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."

2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
3. Content: Include the following information:
   a. Type, style, function, size, label, hand, and finish of each door hardware item.
   b. Manufacturer of each item.
   c. Fastenings and other pertinent information.
   d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
   e. Explanation of abbreviations, symbols, and codes contained in schedule.
   f. Mounting locations for door hardware.
   g. Door and frame sizes and materials.
   h. Warranty information for each product.
4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.

C. Shop Drawings: Details of electrified access control hardware indicating the following:
1. Wiring Diagrams: Upon receipt of approved schedules, submit detailed system wiring diagrams for power, signaling, monitoring, communication, and control of the access control system electrified hardware. Differentiate between manufacturer-installed and field-installed wiring. Include the following:
   a. Elevation diagram of each unique access controlled opening showing location and interconnection of major system components with respect to their placement in the respective door openings.
   b. Complete (risers, point-to-point) access control system block wiring diagrams.
   c. Wiring instructions for each electronic component scheduled herein.
2. Electrical Coordination: Coordinate with related sections the voltages and wiring details required at electrically controlled and operated hardware openings.

D. Proof of Qualification: Provide copy of manufacturer(s) Factory Trained Installer documentation indicating proof of status as a qualified installer of Windstorm assemblies.

E. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.

F. Informational Submittals:
1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.

G. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Procedures.

1.4 QUALITY ASSURANCE

A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.

B. Certified Products: Where specified, products must maintain a current listing in the Builders Hardware Manufacturers Association (BHMA) Certified Products Directory (CPD).

C. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

D. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.

E. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.
   1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.
   2. Provide electromechanical door hardware from the same manufacturer as mechanical door hardware, unless otherwise indicated.

F. Each unit to bear third party permanent label demonstrating compliance with the referenced standards.

G. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:
   1. Function of building, purpose of each area and degree of security required.
   2. Plans for existing and future key system expansion.
   3. Requirements for key control storage and software.
   4. Installation of permanent keys, cylinder cores and software.
   5. Address and requirements for delivery of keys.

H. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.
   1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.
   2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
   3. Review sequence of operation narratives for each unique access controlled opening.
   4. Review and finalize construction schedule and verify availability of materials.
   5. Review the required inspecting, testing, commissioning, and demonstration procedures

I. At completion of installation, provide written documentation that components were applied to manufacturer's instructions and recommendations and according to approved schedule.

J. Door Hardware Supplier to enlist an Architectural Hardware Consultant to assemble the hardware sets for each door. Submit hardware sets to Architect for review prior to ordering.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.

B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.

C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.6 COORDINATION

A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.

B. Door Hardware and Electrical Connections: Coordinate the layout and installation of scheduled electrified door hardware and related access control equipment with required connections to source power junction boxes, low voltage power supplies, detection and monitoring hardware, and fire and detection alarm systems.

C. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.7 WARRANTY

A. General Warranty: Reference Division 01, General Requirements. Special warranties 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. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:
   1. Structural failures including excessive deflection, cracking, or breakage.
   2. Faulty operation of the hardware.
   3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
   4. Electrical component defects and failures within the systems operation.

C. Warranty Period: Unless otherwise indicated, warranty shall be one year from date of Substantial Completion.

1.8 MAINTENANCE SERVICE

A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.

B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:
   1. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.

C. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01, Substitution Procedures. Approval of requests is at the discretion of the architect, owner, and their designated consultants.

2.2 HANGING DEVICES

A. Hinges: ANSI/BHMA A156.1 butt hinges with number of hinge knuckles and other options as specified in the Door Hardware Sets.
   1. Quantity: Provide the following hinge quantity:
      a. Two Hinges: For doors with heights up to 60 inches.
      b. Three Hinges: For doors with heights 61 to 90 inches.
      c. Four Hinges: For doors with heights 91 to 120 inches.
      d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.
   2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
      a. Widths up to 3’0”: 4-1/2” standard or heavy weight as specified.
      b. Sizes from 3’1” to 4’0”: 5” standard or heavy weight as specified.
   3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:
      a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
      b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.
   4. Hinge Options: Comply with the following:
      a. Non-removable Pins: With the exception of electric through wire hinges, provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.
   5. Manufacturers:
      a. McKinney (MK) - TA/T4A Series, 5 knuckle.

B. Continuous Geared Hinges: ANSI/BHMA A156.26 Grade 1-600 continuous geared hinge. with minimum 0.120-inch thick extruded 6063-T6 aluminum alloy hinge leaves and a minimum overall width of 4 inches. Hinges are non-handed, reversible and fabricated to template screw locations. Factory trim hinges to suit door height and prepare for electrical cut-outs.
   1. Manufacturers:.
      a. Pemko (PE).

2.3 POWER TRANSFER DEVICES

A. Electrified Quick Connect Transfer Hinges: Provide electrified transfer hinges with Molex™ standardized plug connectors and sufficient number of concealed wires (up to 12) to accommodate the electrified functions specified in the Door Hardware Sets with a 1-year warranty. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Wire nut connections are not acceptable.
   1. Manufacturers:
      a. McKinney (MK) - QC (# wires) Option.

B. Electric Door Wire Harnesses: Provide electric/data transfer wiring harnesses with standardized plug connectors to accommodate up to twelve (12) wires. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Provide sufficient number and type of concealed wires to accommodate electric function of specified hardware. Provide a connector for through-door electronic locking devices and from hinge to junction box above the opening. Wire nut connections are not acceptable. Determine the length required for each electrified hardware component for the door type, size and construction, minimum of two per electrified opening.
   1. Provide one each of the following tools as part of the base bid contract:
      a. McKinney (MK) - Electrical Connecting Kit: QC-R001.
      b. McKinney (MK) - Connector Hand Tool: QC-R003.
   2. Manufacturers:
      a. McKinney (MK) - QC-C Series.

2.4 DOOR OPERATING TRIM

A. Flush Bolts and Surface Bolts: Provide products conforming to ANSI/BHMA A156.3 and A156.16, Grade 1.
   1. Flush bolts to be furnished with top rod of sufficient length to allow bolt retraction device location approximately six feet from the floor.
   2. Furnish dust proof strikes for bottom bolts.
   3. Surface bolts to be minimum 8” in length and U.L. listed for labeled fire doors and U.L. listed for windstorm components where applicable.
   4. Provide related accessories (mounting brackets, strikes, coordinators, etc.) as required for appropriate installation and operation.
   5. Manufacturers:
      a. Rockwood (RO).

B. Coordinators: ANSI/BHMA A156.3 door coordinators consisting of active-leaf, hold-open lever and inactive-leaf release trigger. Model as indicated in hardware sets.
   1. Manufacturers:
      a. Rockwood (RO).

C. Door Push Plates and Pulls: ANSI/BHMA A156.6 door pushes and pull units of type and design specified in the Hardware Sets. Coordinate and provide proper width and height as required where conflicting hardware dictates.
   1. Push/Pull Plates: Minimum .050 inch thick, size as indicated in hardware sets, with beveled edges, secured with exposed screws unless otherwise indicated.
   2. Door Pull and Push Bar Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door unless otherwise indicated.
   3. Offset Pull Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door and offset of 90 degrees unless otherwise indicated.
   4. Pulls, where applicable, shall be provided with a 10” clearance from the finished floor on the push side to accommodate wheelchair accessibility.
   5. Fasteners: Provide manufacturer's designated fastener type as indicated in Hardware Sets.
   6. Manufacturers:
      a. Rockwood (RO).

2.5 CYLINDERS AND KEYING

A. General: Cylinder manufacturer to have minimum (10) years experience designing secured master key systems and have on record a published security keying system policy.

B. Cylinder Types: Original manufacturer cylinders able to supply the following cylinder formats and types:
   1. Threaded mortise cylinders with rings and cams to suit hardware application.
   2. Rim cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
   3. Bored or cylindrical lock cylinders with tailpieces as required to suit locks.
   4. Tubular deadlocks and other auxiliary locks.
   5. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
   6. Keyway: Manufacturer’s Standard.

C. Keying System: Each type of lock and cylinders to be factory keyed.
   1. Supplier shall conduct a "Keying Conference" to define and document keying system instructions and requirements.
   2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
   3. Existing System: Field verify and key cylinders to match Owner's existing system.

D. Key Quantity: Provide the following minimum number of keys:
   1. Change Keys per Cylinder: Two (2)
   2. Master Keys (per Master Key Level/Group): Five (5).

3. Construction Keys (where required): Ten (10).

E. Construction Keying: Provide construction master keyed cylinders.

F. Key Registration List (Bitting List):
1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
2. Provide transcript list in writing or electronic file as directed by the Owner.

2.6 MECHANICAL LOCKS AND LATCHING DEVICES

A. Mortise Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.13, Series 1000, Operational Grade 1 Certified Products Directory (CPD) listed. Locksets are to be manufactured with a corrosion resistant steel case and be field-reversible for handing without disassembly of the lock body.
1. Manufacturers:
   a. Schlage (SC) - L9000 Series.
   b. Yale Commercial (YA) - 8800FL Series.

B. Multi-Point Locksets, FEMA: ANSI/BHMA A156.37, Certified Products Directory (CPD) listed three-point locking system device engineered for in-swinging and out-swinging door applications on windstorm safe shelter rooms. Extra heavy duty steel component construction securing the door to the frame at top, bottom and center latch positions. All three latching points are automatically activated when the device is locked. Multi-Point Deadlocking System shall be used only with doors, frames and associated hardware that have been engineered, tested and approved for a complete opening assembly system.
1. Severe Storm Shelter Components: Multi-point locking system devices engineered for in-swinging and out-swinging door applications on tornado or hurricane resistant safe shelter rooms. The multi-point latching integrated device is approved for usage as part of a complete ICC 500 (2014) and FEMA P-361 (2015) door, frame and hardware assembly.
2. ANSI-BHMA listed to A156.37 Grade 1 for multi-point locks:
   a. Lever torque to retract all bolts less than 28 in.lb.
   b. Cycle tested to 1,000,000 cycles.
3. NFPA 80 and NFPA 101 life safety requirements.
4. UL10B or UL10C, 3-hour fire rated openings.
5. Latchbolt Construction:
   a. Center Bolt to be one piece, ¾” throw anti-friction stainless steel latch and one piece, 1” throw, hardened stainless steel deadbolt; 2-3/4” standard backset.
   b. Top and Bottom Bolts to be ¾” x ¾” stainless steel square latchbolt with ¾” rojection.
6. Independent top and bottom bolt projection shall be field adjustable:
   a. From the center mortise pocket.
   b. Ability to make field adjustments while the door is in the hung position without the removal of the door.
   c. Top and Bottom Bolts and the Center Mortise Case shall be factory installed into the door assembly.
7. Bottom strike shall be offset and reversible to accommodate alignment issues due to rough opening tolerances.
8. Devices must be able to accommodate sectional rose and lever trim to match the design style and architectural finishes of the balance of the lockset and latches as specified.
9. Devices must be available with electronic access control options for higher or everyday use and traceability.
10. Devices must be available with rod-dogging indicator options:
   a. Operated by single-point latching for non-emergency or normal use of the space.
   b. Ability to hold rods in a retracted state.
   c. Day-to-day operations with mortise lock only.
   d. Indicator to show status.
11. Manufacturers:
   a. Corbin Russwin Hardware (RU) - FE6600 Series.
   b. Sargent Manufacturing (SA) - FM7300 Series.
   c. Schlage (SC) - LM9300.

2.7 ELECTROMECHANICAL LOCKING DEVICES

A. Electromechanical Mortise Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.13, Series 1000, Operational Grade 1 Certified Products Directory (CPD) listed, subject to same compliance standards and requirements as mechanical mortise locksets, electrified locksets to be of type and design as specified below and in the hardware sets.
   1. Electrified Lock Options: Where indicated in the Hardware Sets, provide electrified options including: outside door lock/unlock trim control, latchbolt and lock/unlock status monitoring, deadbolt monitoring, and request-to-exit signaling. Support end-of-line resistors contained within the lock case. Unless otherwise indicated, provide electrified locksets standard as fail secure.
   2. Energy Efficient Design: Provide lock bodies which have a holding current draw of 15mA maximum, and can operate on either 12 or 24 volts. Locks are to be field configurable for fail safe or fail secure operation.
   3. Manufacturers:
      a. Schlage (SC) - L9000 EL/EU/RX Series.
      b. Yale Commercial (YA) - 8800FL Series.

2.8 STAND ALONE ACCESS CONTROL LOCKING DEVICES

A. Stand Alone Locksets: ANSI A156.2, Series 4000, Grade 1 locking mechanism complete with integrated touchscreen or keypad as specified for access and programming. Voice-guided programming with 12-digit PIN code selection and up to 1000 user option. Locks to accept standard, small format interchangeable core, security and patented cylinders. Battery-operated, with low power indicator, or hard-wired (9 Volt external power supply) option.
   1. Manufacturers:
      a. Yale Commercial (YA) - nexTouch Series.

2.9 LOCK AND LATCH STRIKES

A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:
   1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
   2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
   3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
   4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.

B. Standards: Comply with the following:
   1. Strikes for Mortise Locks and Latches: BHMA A156.13.
   2. Strikes for Bored Locks and Latches: BHMA A156.2.
   3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
   4. Dustproof Strikes: BHMA A156.16.

2.10 CONVENTIONAL EXIT DEVICES

A. General Requirements: All exit devices specified herein shall meet or exceed the following criteria:
   1. Exit devices shall have a five-year warranty.
   2. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.
   3. Where exit devices are required on fire rated doors, provide devices complying with NFPA 80 and with UL labeling indicating "Fire Exit Hardware". Provide devices with the proper fasteners for installation as tested and listed by UL. Consult manufacturer’s catalog and template book for specific requirements.

4. Except on fire rated doors, provide exit devices with hex key dogging device to hold the pushbar and latch in a retracted position. Provide optional keyed cylinder dogging on devices where specified in Hardware Sets.
5. Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is required in any case where the door light extends behind the device as in a full glass configuration.
6. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty escutcheon trim with threaded studs for thru-bolts.
   a. Lock Trim Design: As indicated in Hardware Sets, provide finishes and designs to match that of the specified locksets.
   b. Where function of exit device requires a cylinder, provide a cylinder (Rim or Mortise) as specified in Hardware Sets.
7. Vertical Rod Exit Devices: Where surface or concealed vertical rod exit devices are used at interior openings, provide as less bottom rod (LBR) unless otherwise indicated. Provide dust proof strikes where thermal pins are required to project into the floor.
8. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2” wide stiles.
9. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.
10. Rail Sizing: Provide exit device rails factory sized for proper door width application.
11. Through Bolt Installation: For exit devices and trim as indicated in Door Hardware Sets.
12. Hurricane and Tornado Resistance Compliance: Conventional exit devices are to be U.L. listed for windstorm assemblies where applicable. Provide the appropriate hurricane or tornado resistant products that have been independent third party tested, certified, and labeled to meet state and local windstorm building codes applicable to project.

B. Conventional Push Rail Exit Devices (Commercial Duty): ANSI/BHMA A156.3, Grade 1 Certified Products Directory (CPD) listed panic and fire exit hardware devices furnished in the functions specified in the Hardware Sets. Fabricate latchbolts from cast stainless steel, Pullman type, incorporating a deadlocking feature.
   1. Manufacturers:
      a. Falcon (FA) - 24/25 Series.
      b. Yale Commercial (YA) - 6000 Series.

C. Electromechanical Push Rail Exit Devices (Commercial Duty): ANSI/BHMA A156.3, Grade 1 Certified Products Directory (CPD) listed panic and fire exit hardware devices subject to same compliance standards and requirements as mechanical exit devices. Electrified exit devices to be of type and design as specified below and in the hardware sets.
   1. Where conventional power supplies are not sufficient, include any specific controllers required to provide the proper inrush current.
   2. Manufacturers:
      a. Yale (YA) - 6000 Series.

2.11 DOOR CLOSERS

A. All door closers specified herein shall meet or exceed the following criteria:
   1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers.
   2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
   3. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the Americans with Disabilities Act, provide units complying with ANSI ICC/A117.1.
   4. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
   5. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.

6. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.

B. Door Closers, Surface Mounted (Large Body Cast Iron): ANSI/BHMA A156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control.
   1. Large body cast iron surface mounted door closers shall have a 30-year warranty.
   2. Manufacturers:
      a. Corbin Russwin Hardware (RU) - DC8000 Series. (Windstorm Only)
      b. Sargent Manufacturing (SA) - 281 Series. (Windstorm Only)

C. Door Closers, Surface Mounted (Commercial Duty): ANSI/BHMA 156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, institutional grade door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck, closing sweep, and latch speed control valves. Provide non-handed units standard.
   1. Manufacturers:
      a. Falcon Hardware (FA) - SC70 Series.
      b. Yale Commercial (YA) - 3500 Series.
      c. Yale Commercial (YA) - 5800 Series.

2.12 ARCHITECTURAL TRIM

A. Door Protective Trim
   1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.
   2. Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1” LDW on stop side of pairs of doors, and not more than 1" less than door width on pull side. Coordinate and provide proper width and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.
   3. Where plates are applied to fire rated doors with the top of the plate more than 16” above the bottom of the door, provide plates complying with NFPA 80. Consult manufacturer’s catalog and template book for specific requirements for size and applications.
   4. Protection Plates: ANSI/BHMA A156.6 protection plates (kick, armor, or mop), fabricated from the following:
   5. Stainless Steel: 300 grade, 050-inch thick.
   6. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.
   7. Manufacturers:
      a. Rockwood (RO).

2.13 DOOR STOPS AND HOLDERS

A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.

B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.
   1. Manufacturers:
      a. Rockwood (RO).

C. Overhead Door Stops and Holders: ANSI/BHMA A156.8, Grade 1 Certified Products Directory (CPD) listed overhead stops and holders to be surface or concealed types as indicated in Hardware Sets. Track, slide, arm and jamb bracket to be constructed of extruded bronze and shock absorber spring of heavy tempered steel. Provide non-handed design with mounting brackets as required for proper operation and function.
   1. Manufacturers:
      a. Norton Rixson (RF).
      b. Rockwood (RO).

2.14 ARCHITECTURAL SEALS

A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.

B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.
   1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.

C. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.
   1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NPFA 252, Standard Methods of Fire Tests of Door Assemblies.

D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.

E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.

F. Manufacturers:
   1. Pemko (PE).

2.15 ELECTRONIC ACCESSORIES

A. Door Position Switches: Door position magnetic reed contact switches specifically designed for use in commercial door applications. On recessed models the contact and magnetic housing snap-lock into a 1" diameter hole. Surface mounted models include wide gap distance design complete with armored flex cabling. Provide SPDT, N/O switches with optional Rare Earth Magnet installation on steel doors with flush top channels.
   1. Manufacturers:
      a. Securitron (SU) - DPS Series.

B. Switching Power Supplies: Provide power supplies with either single or dual voltage configurations at 12 or 24VDC. Power supplies shall have battery backup function with an integrated battery charging circuit and shall provide capability for power distribution, direct lock control and Fire Alarm Interface (FAI) through add on modules. Power supplies shall be expandable up to 16 individually protected outputs. Output modules shall provide individually protected, continuous outputs and/or individually protected, relay controlled outputs.
   1. Manufacturers:

C. Securitron (SU) - AQD Series.

2.16 FABRICATION

A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.17 FINISHES

A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.

B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware

C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.

B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.2 PREPARATION

A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.

B. Wood Doors: Comply with ANSI/DHI A115-W series.

3.3 INSTALLATION

A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.
   1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.

B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:
   1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
   2. DHI TDH-007-20: Installation Guide for Doors and Hardware.
   3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
   4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.

C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.

D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."

E. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.4 FIELD QUALITY CONTROL

A. Field Inspection (Punch Report): Reference Division 01 Sections “Closeout Procedures”. Produce project punch report for each installed door opening indicating compliance with approved

submittals and verification hardware is properly installed, operating and adjusted. Include list of items to be completed and corrected, indicating the reasons or deficiencies causing the Work to be incomplete or rejected.

1. Organization of List: Include separate Door Opening and Deficiencies and Corrective Action Lists organized by Mark, Opening Remarks and Comments, and related Opening Images and Video Recordings.

3.5 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.6 CLEANING AND PROTECTION

A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.

B. Clean adjacent surfaces soiled by door hardware installation.

C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.7 DEMONSTRATION

A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

END OF SECTION

SECTION 088000

GLAZING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Glass.

B. Glazing compounds and accessories.

C. Privacy tinting on specified windows, as selected by Owner.

1.02 RELATED REQUIREMENTS

A. Section 064100 - Architectural Wood Casework: Cabinets with requirements for glass shelves .

B. Section 072500 - Weather Barriers.

C. Section 079005 - Joint Sealers: Sealant and back-up material.

D. Section 081113 - Hollow Metal Doors and Frames: Glazed lites in doors and borrowed lites.

E. Section 081416 – Flush Wood Doors: Glazed lites in doors.

F. Section 083610 - Sectional Overhead Doors: Glazed lites in doors.

G. Section 084313 - Aluminum-Framed Storefronts: Glazing furnished by storefront manufacturer.

H. Section 085113 - Aluminum Windows: Glazing furnished by window manufacturer.

I. Section 088300 - Mirrors.

1.03 REFERENCE STANDARDS

A. ASTM C864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers; 2005 (Reapproved 2011).

B. ASTM C1036 - Standard Specification for Flat Glass; 2011.

C. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2012.

D. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2013.

E. ASTM E1300 - Standard Practice for Determining Load Resistance of Glass in Buildings; 2012a.

F. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation; 2010.

G. GANA (GM) - GANA Glazing Manual; 2009.

H. GANA (SM) - GANA Sealant Manual; 2008.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by all affected installers.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data on Glass Types: Provide structural, physical and environmental characteristics, size limitations, special handling or installation requirements.

C. Product Data on Glazing Compounds: Provide chemical, functional, and environmental characteristics, limitations, special application requirements. Identify available colors.

D. Samples: Submit two samples 10 by 10 inch in size of glass and plastic units, showing coloration and design.

E. Certificates: Certify that products meet or exceed specified requirements.

F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 016000 - Product Requirements, for additional provisions.
   2. Extra Insulating Glass Units: One of each glass size and each glass type.

1.06 QUALITY ASSURANCE

A. Perform Work in accordance with GANA Glazing Manual and GANA Sealant Manual for glazing installation methods.

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

1.07 MOCK-UP

A. See Section 014000 - Quality Requirements, for additional mock-up requirements.

B. Provide mock-up of including glass.

C. Locate where directed by Architect.

D. Mock-up may remain as part of the Work.

1.08 FIELD CONDITIONS

A. Do not install glazing when ambient temperature is less than 50 degrees F.

B. Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

1.09 WARRANTY

A. See Section 017800 - Closeout Submittals, for additional warranty requirements.

B. Sealed Insulating Glass Units: Provide a five (5) year warranty to include coverage for seal failure, interpane dusting or misting, including replacement of failed units.

PART 2 PRODUCTS

2.01 INSULATING GLASS UNITS

A. Sealed Insulating Glass Units: Vision glass, double glazed.
   1. Application: All exterior glazing unless otherwise indicated.
   2. Outboard Lite: Annealed float glass, 1/4 inch thick, minimum.
      a. Tint: as selected.
      b. Coating: Self-cleaning type, on #1 surface.
      c. Coating: Low-E (passive type), on #2 surface.
   3. Inboard Lite: Annealed float glass, 1/4 inch thick, minimum.
      a. Tint: Clear.
   4. Total Thickness: 1 inch.
   5. Total Visible Light Transmittance:.57 percent, nominal.
   6. Total Solar Heat Gain Coefficient:.33 percent, nominal.
   7. Glazing Method: Gasket glazing.

2.02 GLAZING UNITS

A. Sealed Insulating Glass Units: Safety glazing.
   1. Application: Provide this type of glazing in the following locations:
      a. Glazed lites in exterior doors.
      b. Glazed sidelights and panels next to doors.
      c. Other locations required by applicable federal, state, and local codes and regulations.
      d. Other locations indicated on the drawings.
   2. Type: Same as other vision glazing except use fully tempered float glass for both outboard and inboard lites.
   3. Tint: as selected.

B. Single Vision Glazing:
   1. Application: All interior glazing unless otherwise indicated.

C. All glazing used in exterior applications to have have minimum thermal factor of 0.460.

2. Type: Fully tempered float glass.
3. Tint: Clear.
4. Thickness: 1/4 inch.

2.03 EXTERIOR GLAZING ASSEMBLIES

A. Performance Criteria: Select type and thickness of glass to withstand dead and live loads caused by positive and negative wind pressure acting normal to plane of glass.
   1. Use the procedure specified in ASTM E1300 to determine glass type and thickness.
   2. Limit glass deflection to 1/200 or flexure limit of glass, whichever is less, with full recovery of glazing materials.
   3. Glass thicknesses listed are minimum.
   4. All exterior glazing to have a minimum glazing thermal factor of 0.460.

B. Air and Vapor Seals: Provide completed assemblies that maintain continuity of building enclosure vapor retarder and air barrier:
   1. In conjunction with vapor retarder and joint sealer materials described in other sections.
   2. To utilize the inner pane of multiple pane sealed units for the continuity of the air barrier and vapor retarder seal.
   3. To maintain a continuous air barrier and vapor retarder throughout the glazed assembly from glass pane to heel bead of glazing sealant.

2.04 GLASS MATERIALS

A. Fabricators:
   1. Trulite Glass and Aluminum Solutions: www.trulite.com.
   2. Viracon, Inc: www.viracon.com.
   3. JE Berkowitz, LP: www.jeberkowitz.com.
   4. Substitutions: Refer to Section 016000 - Product Requirements.

B. Float Glass Manufacturers:
   1. AGC Glass Company North America, Inc: www.us.agc.com.
   2. PPG Industries, Inc: www.ppgideascapes.com.
   3. Substitutions: Refer to Section 016000 - Product Requirements.

C. Float Glass: Provide float glass based glazing unless noted otherwise.
   1. Annealed Type: ASTM C1036, Type I - Transparent Flat, Class 1 - Clear, Quality-Q3.
   2. Heat-Strengthened and Fully Tempered Types: ASTM C1048, Kind HS and Kind FT.
   3. Tinted Types: ASTM C1036, Class 2 - Tinted, color and performance characteristics as indicated. Windows to recieve privacy tinting to be selected by Owner.
   4. Thicknesses: As indicated; for exterior glazing comply with requirements indicated for wind load design regardless of thickness indicated.

2.05 SEALED INSULATING GLASS UNITS

A. Manufacturers:
   1. Any of the manufacturers specified for float glass.
   2. Substitutions: Refer to Section 016000 - Product Requirements.

B. Sealed Insulating Glass Units: Types as indicated.
   1. Application: Exterior, except as otherwise indicated.
   2. Durability: Certified by an independent testing agency to comply with ASTM E2190.
   3. Edge Spacers: Aluminum, bent and soldered corners.
   4. Edge Seal: Glass to elastomer with supplementary silicone sealant.
   5. Purge interpane space with dry hermetic air.

2.06 GLAZING COMPOUNDS

A. Manufacturers:
   1. Bostik Inc: www.bostik-us.com.
   2. Momentive Performance Materials, Inc (formerly GE Silicones): www.momentive.com.
   3. Pecora Corporation: www.pecora.com.

4. BASF Construction Chemicals-Building Systems: www.buildingsystems.basf.com.
5. Substitutions: Refer to Section 016000 - Product Requirements.

B. Glazing compounds as recommended by door/window/glazing manufacturer

2.07 GLAZING ACCESSORIES

A. Setting Blocks: Neoprene, 80 to 90 Shore A durometer hardness; ASTM C864 Option II. Length of 0.1 inch for each square foot of glazing or minimum 4 inch x width of glazing rabbet space minus 1/16 inch x height to suit glazing method and pane weight and area.

B. Spacer Shims: Neoprene, 50 to 60 Shore A durometer hardness; ASTM C864 Option II. Minimum 3 inch long x one half the height of the glazing stop x thickness to suit application, self adhesive on one face.

C. Glazing Tape, Back Bedding Mastic Type: Preformed, butyl-based, 100 percent solids compound with integral resilient spacer rod applicable to application indicated; hardness range of 5 to 30 cured Shore A durometer; coiled on release paper; black color.
   1. Manufacturers:
      a. Pecora Corporation: www.pecora.com.
      b. Tremco Global Sealants: www.tremcosealants.com.
      c. Substitutions: Refer to Section 016000 - Product Requirements.

D. Glazing Gaskets: Resilient silicone extruded shape to suit glazing channel retaining slotASTM C864 Option I;; ASTM C864 Option II; black color.

E. Glazing Clips: Manufacturer's standard type.

2.08 SECURITY GLAZING

A. Laminated glass, 3-Ply. Location as designated on Drawings (Reception).

B. Tint: Clear

C. Thickness ½-inch.

D. Interlayer: Polyvinyl butyral (PVB), thickness as required to meet performance criteria.

E. Middle Lite: Annealed glass.

F. Performance Criteria:
   1. Bullet Resistance: Pass ASTM F1233 tests in compliance with ballistic criteria class and weapon description indicated; Class HG4 – Handgun-High.

G. Manufacturers:
   1. Manko Window Systems, Inc.; Entryguard.
   2. McGrory Glass, Inc; DefendEd by McGrory Glass.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that openings for glazing are correctly sized and within tolerance.

B. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and ready to receive glazing.

3.02 PREPARATION

A. Clean contact surfaces with solvent and wipe dry.

B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.

C. Prime surfaces scheduled to receive sealant.

D. Install sealants in accordance with ASTM C1193 and GANA Sealant Manual.

E. Install sealants in accordance with manufacturer's instructions.

3.03 INSTALLATION - EXTERIOR/INTERIOR DRY METHOD (GASKET GLAZING)

A. Place setting blocks at 1/4 points with edge block no more than 6 inch from corners.

B. Rest glazing on setting blocks and push against fixed stop with sufficient pressure on gasket to attain full contact.

C. Install removable stops without displacing glazing gasket; exert pressure for full continuous contact.

3.04 INSTALLATION - INTERIOR DRY METHOD (TAPE AND TAPE)

A. Cut glazing tape to length and set against permanent stops, projecting 1/16 inch above sight line.

B. Place setting blocks at 1/4 points with edge block no more than 6 inch from corners.

C. Rest glazing on setting blocks and push against tape for full contact at perimeter of pane or unit.

D. Place glazing tape on free perimeter of glazing in same manner described above.

E. Install removable stop without displacement of tape. Exert pressure on tape for full continuous contact.

F. Knife trim protruding tape.

3.05 FIELD QUALITY CONTROL

A. Glass and Glazing product manufacturers to provide field surveillance of the installation of their products.

B. Monitor and report installation procedures and unacceptable conditions.

3.06 CLEANING

A. Remove glazing materials from finish surfaces.

B. Remove labels after Work is complete.

C. Clean glass and adjacent surfaces.

3.07 PROTECTION

A. After installation, mark pane with an 'X' by using removable plastic tape or paste; do not mark heat absorbing or reflective glass units.

END OF SECTION

SECTION 262726

WIRING DEVICES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes the following:
   1. Receptacles, receptacles with integral GFCI, and associated device plates.
   2. Snap switches to small scale design or per manufacturer requirements.
   3. Heavy duty safety switches (disconnects).

1.03 DEFINITIONS

A. GFCI: Ground-fault circuit interrupter.
B. Pigtail: Short lead used to connect a device to a branch-circuit conductor.
C. WP: Waterproof electrical equipment.

1.04 SUBMITTALS

A. Product Data: For each type of product indicated.
B. Field quality-control test reports.
C. Operation and Maintenance Data: For wiring devices to include in all manufacturers' packing label warnings and instruction manuals that include labeling conditions.

1.05 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of wiring device and associated wall plate through one source from a single manufacturer. Insofar as they are available, obtain all wiring devices and associated wall plates from a single manufacturer and one source.
B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
C. Comply with NFPA 70.

1.06 COORDINATION

A. Receptacles for Owner-Furnished Equipment: Match plug configurations.
   1. Cord and Plug Sets: Match equipment requirements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:
   1. Cooper Wiring Devices; a division of Cooper Industries, Inc. (Cooper).
   2. Hubbell Incorporated; Wiring Device-Kellems (Hubbell).
   3. Leviton Mfg. Company Inc. (Leviton).
   4. Pass & Seymour/Legrand; Wiring Devices & Accessories (Pass & Seymour).

2.02 STRAIGHT BLADE RECEPTACLES

A. Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 configuration 5-20R, and UL 498.
   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. Cooper; 5352 (white, duplex).
      b. Hubbell; HBL5352 (white, duplex).
      c. Leviton; 5352 (white, duplex).
      d. Pass & Seymour; 5352 (white, duplex).

2.03 GFCI RECEPTACLES

A. General Description: Straight blade, feed-through type. Comply with NEMA WD 1, NEMA WD 6, UL 498, and UL 943, Class A, and include indicator light that is lighted when device is tripped.
B. Duplex GFCI Convenience Receptacles, 125 V, 20 A:
   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. Cooper; VGF20, white.
      b. Pass & Seymour; 2095, white.

2.04 SNAP SWITCHES

A. Comply with NEMA WD 1 and UL 20.
B. Switches, 120/277 V, 20 A:
   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. Cooper; 2221 (single pole).
      b. Hubbell; CS1221 (single pole).
      c. Leviton; 1221-2 (single pole).
      d. Pass & Seymour; 20AC1 (single pole).

2.05 WALL PLATES

A. Single and combination types to match corresponding wiring devices.
   1. Plate-Securing Screws: Metal with head color to match plate finish.
   2. Material for Finished Spaces (except kitchen area and Apparatus Bay): Thermoplastic, color to match the wall color or as directed by architect.
   3. Material for Unfinished Spaces, Apparatus Bay, and Kitchen: Stainless steel.
   4. Material for Damp Locations: Cast aluminum with spring-loaded lift cover, and listed and labeled for use in "wet locations."
B. Wet-Location, Weatherproof Cover Plates: NEMA 250, complying with type 3R weather-resistant, die-cast aluminum with lockable cover.
C. For receptacle wall plates, identify each with adhesive label indicating circuit name and breaker number.

2.06 FINISHES

A. Color: Wiring device catalog numbers in Section Text do not designate device color.
   1. General Wiring Devices: White, unless otherwise indicated or required by NFPA 70 or device listing.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Comply with NECA 1, including the mounting heights listed in that standard, unless otherwise noted.
B. Coordination with Other Trades:
   1. Take steps to ensure that devices and their boxes are protected. Do not place wall finish materials over device boxes and do not cut holes for boxes with routers that are guided by riding against outside of the boxes.
   2. Keep outlet boxes free of plaster, drywall joint compound, mortar, cement, concrete, dust, paint, and other material that may contaminate the raceway system, conductors, and cables.
   3. Install device boxes in brick or block walls so that the cover plate does not cross a joint unless the joint is troweled flush with the face of the wall.
   4. Install wiring devices after all wall preparation, including painting, is complete.
C. Conductors:
   1. Do not strip insulation from conductors until just before they are spliced or terminated on devices.
   2. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.
   3. The length of free conductors at outlets for devices shall meet provisions of NFPA 70, Article 300, without pigtails.
D. Device Installation:
   1. Replace all devices that have been in temporary use during construction or that show signs that they were installed before building finishing operations were complete.
   2. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.
   3. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.
   4. Connect devices to branch circuits using pigtails that are not less than 6 inches (152 mm) in length.
   5. When there is a choice, use side wiring with binding-head screw terminals. Wrap solid conductor tightly clockwise, 2/3 to 3/4 of the way around terminal screw.
   6. Use a torque screwdriver when a torque is recommended or required by the manufacturer.
   7. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.
   8. Tighten unused terminal screws on the device.
   9. When mounting into metal boxes, remove the fiber or plastic washers used to hold device mounting screws in yokes, allowing metal-to-metal contact.
E. Receptacle Orientation:
   1. Install ground pin of vertically mounted receptacles down, and on horizontally mounted receptacles to the right.
F. Device Plates: Do not use oversized or extra-deep plates. Repair wall finishes and remount outlet boxes when standard device plates do not fit flush or do not cover rough wall opening. Identify device plates for all receptacles with adhesive label indicating panel name and circuit breaker number.
G. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical and with grounding terminal of receptacles on top. Group adjacent switches under single, multigang wall plates.

3.02 IDENTIFICATION

A. Comply with Division 26 Section "Identification for Electrical Systems."

3.03 FIELD QUALITY CONTROL

A. Perform tests and inspections and prepare test reports.
   1. Test Instruments: Use instruments that comply with UL 1436.
   2. Test Instrument for Convenience Receptacles: Digital wiring analyzer with digital readout or illuminated LED indicators of measurement.

B. Tests for Convenience Receptacles:
   1. Line Voltage: Acceptable range is 105 to 132 V.
   2. Percent Voltage Drop under 15-A Load: A value of 6 percent or higher is not acceptable.
   3. Ground Impedance: Values of up to 2 ohms are acceptable.
   4. GFCI Trip: Test for tripping values specified in UL 1436 and UL 943.
   5. Using the test plug, verify that the device and its outlet box are securely mounted.
   6. The tests shall be diagnostic, indicating damaged conductors, high resistance at the circuit breaker, poor connections, inadequate fault current path, defective devices, or similar problems. Correct circuit conditions, remove malfunctioning units and replace with new ones, and retest as specified above.

END OF SECTION

SECTION 26 28 16

ENCLOSED SWITCHES AND CIRCUIT BREAKERS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Section Includes:
   1. Nonfusible switches.
   2. Enclosed circuit breakers.
   3. Enclosures.

1.03 DEFINITIONS

A. NC: Normally closed.
B. NO: Normally open.
C. SPDT: Single pole, double throw.
D. MOCP: Maximum Over-Current Protection
E. HACR: Heating, Air-Conditioning and Refrigeration
F. Fault Current, where applicable for disconnects
G. SPDT: Single pole, double throw.

1.04 SUBMITTALS

A. Product Data: For each type of enclosed switch, circuit breaker, accessory, and component indicated. Include dimensioned elevations, sections, weights, and manufacturers' technical data on features, performance, electrical characteristics, ratings, accessories, and finishes.
   1. Enclosure types and details for types other than NEMA 250, Type 1.
   2. Current and voltage ratings.
   3. Short-circuit current ratings (interrupting and withstand, as appropriate).
   4. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices, accessories, and auxiliary components.

B. Shop Drawings: For enclosed switches and circuit breakers. Include plans, elevations, sections, details, and attachments to other work.
   1. Wiring Diagrams: For power, signal, and control wiring.

C. Field quality-control reports.
   1. Test procedures used.
   2. Test results that comply with requirements.
   3. Results of failed tests and corrective action taken to achieve test results that comply with requirements.

D. Manufacturer's field service report.

E. Operation and Maintenance Data: For enclosed switches and circuit breakers to include in emergency, operation, and maintenance manuals. In addition to items specified in Division 01 Section "Operation and Maintenance Data," include the following:
   1. Manufacturer's written instructions for testing and adjusting enclosed switches and circuit breakers.

1.05 QUALITY ASSURANCE

A. Source Limitations: Obtain enclosed switches and circuit breakers, overcurrent protective devices, components, and accessories, within same product category, from single source from single manufacturer.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
C. Comply with NFPA 70.

1.06 PROJECT CONDITIONS

A. Environmental Limitations: Rate equipment for continuous operation under the following conditions unless otherwise indicated:
   1. Ambient Temperature: Not less than minus 22 deg F (minus 30 deg C) and not exceeding 115 deg F.
   2. Altitude: Not exceeding 6600 feet (2010 m).

1.07 COORDINATION

A. Coordinate layout and installation of switches, circuit breakers, and components with equipment served and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

PART 2 - PRODUCTS

2.01 NONFUSIBLE SWITCHES

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. Eaton Electrical Inc.; Cutler-Hammer Business Unit.
   2. General Electric Company; GE Consumer & Industrial - Electrical Distribution.
   3. Siemens Energy & Automation, Inc.
   4. Square D; a brand of Schneider Electric.
B. Type HD, Heavy Duty, Single Throw, 240-V ac, 1200 A and Smaller: UL 98 and NEMA KS 1, horsepower rated, lockable handle with capability to accept three padlocks, and interlocked with cover in closed position.
C. Accessories:
   1. Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors.
   2. Neutral Kit: Internally mounted; insulated, capable of being grounded and bonded; labeled for copper and aluminum neutral conductors.
   3. Lugs: Compression type, suitable for number, size, and conductor material.

2.02 MOLDED-CASE CIRCUIT BREAKERS

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. Eaton Electrical Inc.; Cutler-Hammer Business Unit.
   2. General Electric Company; GE Consumer & Industrial - Electrical Distribution.
   3. Siemens Energy & Automation, Inc.
   4. Square D; a brand of Schneider Electric.
B. General Requirements: Comply with UL 489, NEMA AB 1, and NEMA AB 3, with interrupting capacity to comply with available fault currents.
C. Thermal-Magnetic Circuit Breakers: Inverse time-current element for low-level overloads and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.
D. Adjustable, Instantaneous-Trip Circuit Breakers: Magnetic trip element with front-mounted, field-adjustable trip setting.
E. Ground-Fault, Circuit-Interrupter (GFCI) Circuit Breakers: Single- and two-pole configurations with Class A ground-fault protection (6-mA trip).
F. Features and Accessories:

1. Standard frame sizes, trip ratings, and number of poles.
2. Lugs: Compression type, suitable for number, size, trip ratings, and conductor material.
3. Application Listing: Appropriate for application; Type SWD for switching fluorescent lighting loads; Type HID for feeding fluorescent and high-intensity discharge lighting circuits.
4. Ground-Fault Protection: Comply with UL 1053; integrally mounted, self-powered type with mechanical ground-fault indicator; relay with adjustable pickup and time-delay settings, push-to-test feature, internal memory, and shunt trip unit; and three-phase, zero-sequence current transformer/sensor.

2.03 ENCLOSURES

A. Enclosed Switches and Circuit Breakers: NEMA AB 1, NEMA KS 1, NEMA 250, and UL 50, to comply with environmental conditions at installed location.
   1. Indoor, Dry and Clean Locations: NEMA 250, Type 1.
   2. Outdoor Locations: NEMA 250, Type 3R.
   3. Wash-Down Areas: NEMA 250, Type 4X, stainless steel.
   4. Other Wet or Damp, Indoor Locations: NEMA 250, Type 4.
   5. Indoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: NEMA 250, Type 12.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine elements and surfaces to receive enclosed switches and circuit breakers for compliance with installation tolerances and other conditions affecting performance of the Work.
B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Install individual wall-mounted switches and circuit breakers with tops at uniform height unless otherwise indicated.
B. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from enclosures and components.
C. Comply with NECA 1.

3.03 IDENTIFICATION

A. Comply with requirements in Division 26 Section "Identification for Electrical Systems."
   1. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs.
   2. Label each enclosure with engraved metal or laminated-plastic nameplate.

3.04 FIELD QUALITY CONTROL

A. Perform tests and inspections.
   1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
B. Acceptance Testing Preparation:
   1. Test insulation resistance for each enclosed switch and circuit breaker, component, connecting supply, feeder, and control circuit.
   2. Test continuity of each circuit.
C. Tests and Inspections:

1. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
3. Perform the following infrared scan tests and inspections and prepare reports:
   a. Initial Infrared Scanning: After Substantial Completion, but not more than 60 days after Final Acceptance, perform an infrared scan of each enclosed switch and circuit breaker. Remove front panels so joints and connections are accessible to portable scanner.
   b. Instruments and Equipment: Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.
4. Test and adjust controls, remote monitoring, and safeties. Replace damaged and malfunctioning controls and equipment.

D. Enclosed switches and circuit breakers will be considered defective if they do not pass tests and inspections.

E. Prepare test and inspection reports, including a certified report that identifies enclosed switches and circuit breakers and that describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

3.05 ADJUSTING

A. Adjust moving parts and operable components to function smoothly, and lubricate as recommended by manufacturer.

END OF SECTION

SECTION 265100

INTERIOR LIGHTING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes the following:
   1. Interior lighting fixtures.
   2. Exit signs.
   3. Lighting fixture supports.
   4. Lighting Controls:
      a. Occupancy
      b. Dimming
      c. Photocell Timers
      d. Photocell Sensors

1.03 DEFINITIONS

A. CRI: Color-rendering index.
B. CU: Coefficient of utilization.
C. LER: Luminaire efficacy rating.
D. Luminaire: Complete lighting fixture,including LEDs/lamps, drivers/ballasts, and housing.

1.04 SUBMITTALS

A. Product Data: For each type of lighting fixture, arranged in order of fixture designation. Include data on features, accessories, finishes, and the following:
   1. Physical description of lighting fixture including dimensions.
   2. Emergency lighting units including battery and charger.
   3. Life, output, and energy-efficiency data.
B. Shop Drawings: Show details of nonstandard or custom lighting fixtures. Indicate dimensions, weights, methods of field assembly, components, features, and accessories.
   1. Wiring Diagrams: Power and control wiring.
C. Coordination Drawings: Reflected ceiling plan(s) and other details, drawn to scale, on which the following items are shown and coordinated with each other, based on input from installers of the items involved:
   1. Lighting fixtures.
   2. Suspended ceiling components.
   3. Structural members to which suspension systems for lighting fixtures will be attached.
   4. Other items in finished ceiling including the following:
      a. Air outlets and inlets.
      b. Speakers.
      c. Sprinklers.
      d. Smoke and fire detectors.
      e. Occupancy sensors.
      f. Access panels.
D. Field quality-control test reports.
E. Operation and Maintenance Data: For lighting equipment and fixtures to include in emergency, operation, and maintenance manuals.
F. DLC Certification for LED fixtures: Provide lighting facts documentation.
G. Warranties: Special warranties specified in this Section.

1.05 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
B. All LED fixtures are to be tested and should adhere to IESNA LM79 testing standards for lumen output and depreciation.
C. All LED fixtures are to be tested to LM80 standards.

D. Comply with NFPA 70.

1.06 COORDINATION

A. Coordinate layout and installation of lighting fixtures and suspension system with other construction that penetrates ceilings or is supported by them, including HVAC equipment, fire-suppression system, and partition assemblies.

1.07 WARRANTY

A. Special Warranty for Emergency Lighting Batteries: Manufacturer's standard form in which manufacturer of battery-powered emergency lighting unit agrees to repair or replace components of rechargeable batteries that fail in materials or workmanship within specified warranty period.
   1. Warranty Period for Self-Powered Exit Sign Batteries: Seven years from date of Substantial Completion. Full warranty shall apply for first year, and prorated warranty for the remaining six years.
B. Warranty for LED luminaires: Manufacturer's standard form, made out to Owner and signed by luminaire manufacturer agreeing to replace any component of the luminaire that fails in materials or workmanship, f.o.b. the nearest shipping point to Project site, within specified warranty period indicated below.
   1. Warranty Period: 5 years from date of Substantial Completion.

1.08 EXTRA MATERIALS

A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
   1. Plastic Diffusers and Lenses: 1 of each type and rating installed.
   2. Guards: 1 for every 20 of each type and rating installed. Furnish at least one of each type.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
   1. Basis-of-Design Product: The design for each lighting fixture is based on the product named on the drawings. Subject to compliance with requirements, provide either the named product or a comparable product by another manufacturer.

2.02 LIGHTING FIXTURES AND COMPONENTS, GENERAL REQUIREMENTS

A. Recessed Fixtures: Comply with NEMA LE 4 for ceiling compatibility for recessed fixtures.
B. Fluorescent Fixtures: Comply with UL 1598. Where LER is specified, test according to NEMA LE 5 and NEMA LE 5A as applicable.
C. Metal Parts: Free of burrs and sharp corners and edges.

D. Lighting Controls: Provide Lighting Control Panel
E. Sheet Metal Components: Steel, unless otherwise indicated. Form and support to prevent warping and sagging.
F. 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 when secured in operating position.
G. Reflecting surfaces shall have minimum reflectance as follows, unless otherwise indicated:
   1. White Surfaces: 85 percent.
   2. Specular Surfaces: 83 percent.
   3. Diffusing Specular Surfaces: 75 percent.
   4. Laminated Silver Metallized Film: 90 percent.

2.03 LED LUMINAIRES AND ACCESSORIES

A. Description:
   1. All fixtures are to be tested and should adhere to IESNA LM79 testing standards for lumen output and depreciation.
   2. All fixtures are to be tested to LM80 standards.
   3. All fixtures are to be DLC certified.
   4. All fixtures are to be rated to deliver L80 performance for a minimum of 50,000 hours.
   5. All fixtures are to be equipped with a 0-10V dimming driver.

2.04 LIGHTING FIXTURE SUPPORT COMPONENTS

A. Comply with Division 26 Section "Hangers and Supports for Electrical Systems" for channel- and angle-iron supports and nonmetallic channel and angle supports.
B. Single-Stem Hangers: 1/2-inch (13-mm) steel tubing with swivel ball fittings and ceiling canopy. Finish same as fixture.
C. Twin-Stem Hangers: Two, 1/2-inch (13-mm) steel tubes with single canopy designed to mount a single fixture. Finish same as fixture.
D. Wires: ASTM A 641/A 641M, Class 3, soft temper, zinc-coated steel, 12 gage .
E. Wires for Humid Spaces: ASTM A 580/A 580M, Composition 302 or 304, annealed stainless steel, 12 gage.
F. Rod Hangers: 3/16-inch minimum diameter, cadmium-plated, threaded steel rod.
G. Hook Hangers: Integrated assembly matched to fixture and line voltage and equipped with threaded attachment, cord, and locking-type plug.
H. Fixtures in apparatus bay shall be suspended to mounting height indicated on plans with threaded steel rod and slotted steel supports, and braced against any swinging.

2.05 EXIT SIGNS

A. Description: Comply with UL 924; for sign colors, visibility, luminance, and lettering size, comply with authorities having jurisdiction.
B. Internally Lighted Signs:
   1. Lamps for AC Operation: LEDs, 70,000 hours minimum rated lamp life.
   2. Self-Powered Exit Signs (Battery Type): Integral automatic charger in a self-contained power pack.
      a. Battery: Sealed, maintenance-free, nickel-cadmium type.
      b. Charger: Fully automatic, solid-state type with sealed transfer relay.
      c. Operation: Relay automatically energizes lamp from battery when circuit voltage drops to 80 percent of nominal voltage or below. When normal voltage is restored, relay disconnects lamps from battery, and battery is automatically recharged and floated on charger.

d. Test Push Button: Push-to-test type, in unit housing, simulates loss of normal power and demonstrates unit operability.
e. LED Indicator Light: Indicates normal power on. Normal glow indicates trickle charge; bright glow indicates charging at end of discharge cycle.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Lighting fixtures: Set level, plumb, and square with ceilings and walls.
B. Support for Lighting Fixtures in or on Grid-Type Suspended Ceilings: Use grid as a support element.
   1. Install a minimum of four ceiling support system rods or wires for each fixture. Locate not more than 6 inches (150 mm) from lighting fixture corners.
   2. Support Clips: Fasten to lighting fixtures and to ceiling grid members at or near each fixture corner with clips that are UL listed for the application.
   3. Fixtures of Sizes Less Than Ceiling Grid: Install as indicated on reflected ceiling plans or center in acoustical panel, and support fixtures independently with at least two 3/4-inch (20-mm) metal channels spanning and secured to ceiling tees.
   4. Install at least one independent support rod or wire from structure to a tab on lighting fixture. Wire or rod shall have breaking strength of the weight of fixture at a safety factor of 3.
C. Suspended Lighting Fixture Support:
   1. Pendants and Rods: Where longer than 48 inches (1200 mm), brace against swinging.
   2. Stem-Mounted, Single-Unit Fixtures: Suspend with twin-stem hangers.
   3. Continuous Rows: Use tubing or stem for wiring at one point and tubing or rod for suspension for each unit length of fixture chassis, including one at each end.
D. Connect wiring according to Division 26 Section "Low-Voltage Electrical Power Conductors and Cables."

3.02 FIELD QUALITY CONTROL

A. Test for Emergency Lighting: Interrupt power supply to demonstrate proper operation. Verify transfer from normal power to battery and retransfer to normal.
B. Prepare a written report of tests, inspections, observations, and verifications indicating and interpreting results. If adjustments are made to lighting system, retest to demonstrate compliance with standards.

END OF SECTION 265100