

# ALAMANCE COUNTY COMMERCIAL BUILDING PERMIT APPLICATION

## PROPERTY INFORMATION

Property Address 937 E. Haggard Ave City, State, Zip Code Elon, NC, 27244  
Property Owner Name SAF SS Elon LP Property Owner Phone 336-502-7700  
Utility Owner Name \_\_\_\_\_ Utility Owner Phone \_\_\_\_\_  
Subdivision Name \_\_\_\_\_ Subdivision Lot Number \_\_\_\_\_  
Geographic Parcel Identification Number 8855891517 Tax Map Number 3-6-43  
Census Tract \_\_\_\_\_ Township \_\_\_\_\_  
Jurisdiction: Elon Zoning: Industrial

Watershed       Flood Zone       Flood Certification       Farm District       Corner Lot  
Water Type:       City Water       New Well       Existing Well       Community Well  
Sewage Type:       City Sewer       New Septic       Existing Septic

## CONTRACTOR INFORMATION

Contractor Name TBD Contractor Phone TBD  
Contractor Street Address TBD City, State, Zip Code TBD  
County Control Number TBD North Carolina License Number TBD  
 Owner is Contractor       Owner Occupied

## BUILDING INFORMATION

Work Description Interior retrofit to existing warehouses to add storage units. Restroom to be added to Building 2. Construction Cost \$728,245.00  
Total Square Feet Under Roof 22,482 Length \_\_\_\_\_ Width \_\_\_\_\_ Height \_\_\_\_\_  
Number of Stories 1 Number of Bathrooms 0 Number of Units 134 Tower Height \_\_\_\_\_  
Building Type:  New       Existing  
Construction Class:  Type 1       Type 2       Type 3       Type 4  
    Type 5  
Occupancy Type:  Assembly       Assisted Living       Business       Educational  
                  Factory/Industrial       High Hazard       Institutional       Mercantile  
                  Hotel       Multi-Family (3 or more)       Storage       Utility/Maintenance  
Alteration Type:  Remodel       Addition  
Basement Status:  Unfinished       Finished       Partial Finish  
Utility Company:  Duke Energy       Randolph Electric       Piedmont Electric      Other \_\_\_\_\_  
Gas Company:  Piedmont Natural Gas       Public Service Gas       LP Gas      Other \_\_\_\_\_

A photo ID is required to accompany all applicant signatures

ALAMANCE COUNTY COMMERCIAL BUILDING PERMIT APPLICATION

- Building shell only
- Requires the use of a saw service
- Land disturbance will be more than one acre
- State soil erosion certificate has been obtained (if needed)

I hereby certify that all information in this application is correct and all work will comply with the N.C. State Building Code and all other applicable state, local laws, ordinances, and regulations. The Inspection Department will be notified of any changes in the approved plans and specifications for the project permitted herein.

Applicant Printed Name Mark A. Dean, AIA Applicant Phone 716-651-0381  
 Applicant Signature  Date 3-15-23

**MUST BE COMPLETED BY ZONING OFFICIAL ONLY**

Jurisdiction Elon Zoning Industrial

Setbacks: Front 50 Back 30 Left 30 Right 30

Water Type:  City Water  Well

Sewage Type:  City Sewer  Septic

Zoning Official Printed Name Mary Kathryn Harward

Zoning Official Signature  Date 3/16/2023

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**AFFIDAVIT OF WORKERS' COMPENSATION COVERAGE**

The undersigned applicant for Building Permit # \_\_\_\_\_ being the

\_\_\_\_\_ Contractor

\_\_\_\_\_ Owner

**Mark Dean Dean Architect**

Officer/Agent of the Contractor or Owner

**Do hereby aver under penalties of perjury that the person(s), firm(s) or corporation(s) performing the work set forth in the permit:**

- has/have three (3) or more employees and have obtained worker's compensation insurance to cover them,
- has/have one or more subcontractor(s) and have obtained workers' compensation insurance to cover them,
- has/have one or more subcontractors(s) who has/have their own policy of workers' compensation covering themselves,
- has/have not more than two (2) employees and no subcontractors,

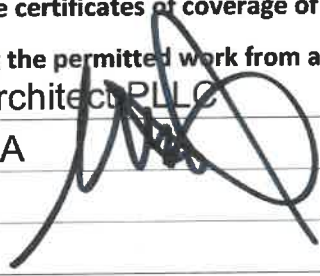
**while working on the project for which this permit is sought. It is understood that the Inspection Department issuing the permit may require certificates of coverage of workers, compensation insurance prior to issuance of the permit and at any time during the permitted work from any person, firm or corporation carrying out the work.**

Firm Name: Dean Architect PLLC

By: Mark Dean AIA

Title: Principal

Date: 3-15-23



# ALAMANCE COUNTY ELECTRICAL PERMIT APPLICATION

Master Permit Number \_\_\_\_\_

## PROPERTY INFORMATION

Property Address 937 E. Haggard Ave City, State, Zip Code Elon, NC, 27244

Property Owner Name SAF SS Elon LP Property Owner Phone 336-502-7700

Utility Owner Name \_\_\_\_\_ Utility Owner Phone \_\_\_\_\_

Subdivision Name \_\_\_\_\_ Subdivision Lot Number \_\_\_\_\_

Geographic Parcel Identification Number 8855891517 Tax Map Number 3-6-43

Census Tract \_\_\_\_\_ Township \_\_\_\_\_

Jurisdiction Elon Zoning Industrial

- |                                    |  |  |  |   |
|------------------------------------|--|--|--|---|
| <input type="checkbox"/> Watershed | <input type="checkbox"/> Flood Zone            | <input type="checkbox"/> Flood Certification | <input type="checkbox"/> Farm District   | <input type="checkbox"/> Corner Lot     |
| <b>Water Type:</b>                 | <input checked="" type="checkbox"/> City Water | <input type="checkbox"/> New Well            | <input type="checkbox"/> Existing Well   | <input type="checkbox"/> Community Well |
| <b>Sewage Type:</b>                | <input checked="" type="checkbox"/> City Sewer | <input type="checkbox"/> New Septic          | <input type="checkbox"/> Existing Septic |   |

## CONTRACTOR INFORMATION

Contractor Name TBD Contractor Phone TBD

Contractor Street Address TBD City, State, Zip Code TBD

County Control Number TBD North Carolina License Number TBD

- Owner is Contractor  Owner Occupied

## BUILDING INFORMATION

Work Description Interior retrofit to existing warehouses to add storage units. Restroom to be added to Building 2. Construction Cost \$728,245.00

- |                        |  |   |  |
|------------------------|--|---|--|
| <b>Building Use:</b>   | <input type="checkbox"/> Residential         | <input checked="" type="checkbox"/> Commercial  | <input type="checkbox"/> Farm  |
| <b>Building Type:</b>  | <input type="checkbox"/> New                 | <input checked="" type="checkbox"/> Existing    | <input type="checkbox"/> Mobile Home <input type="checkbox"/> Modular Home       |
| <b>Occupancy Type:</b> | <input type="checkbox"/> 1 or 2 Family       | <input type="checkbox"/> Apartments (3 or more) | <input type="checkbox"/> Assembly <input type="checkbox"/> Assisted Living       |
|                        | <input type="checkbox"/> Business            | <input type="checkbox"/> Educational            | <input type="checkbox"/> Factory/Industrial <input type="checkbox"/> High Hazard |
|                        | <input type="checkbox"/> Hotel               | <input type="checkbox"/> Institutional          | <input type="checkbox"/> Mercantile <input checked="" type="checkbox"/> Storage  |
|                        | <input type="checkbox"/> Utility/Maintenance |   |  |

Utility Company:  Duke Energy  Randolph Electric  Piedmont Electric Other \_\_\_\_\_

Service Change: Old Amps Re-Use Existing Service New Amps No new service

Incoming Service: Overhead \_\_\_\_\_ Underground \_\_\_\_\_

New Service 1: Volts \_\_\_\_\_ Amps \_\_\_\_\_

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# ALAMANCE COUNTY ELECTRICAL PERMIT APPLICATION

New Service 2: Volts \_\_\_\_\_ Amps \_\_\_\_\_

New Service 3: Volts \_\_\_\_\_ Amps \_\_\_\_\_

Low Voltage Wiring Volts \_\_\_\_\_

- |  |                                       |                                       |  |
|--|---------------------------------------|---------------------------------------|--|
| <input type="checkbox"/> Modular Home                                  | <input type="checkbox"/> Mobile Home  | <input type="checkbox"/> Saw Service  | <input type="checkbox"/> Addition Only |
| <input type="checkbox"/> Heating Units                                 | <input type="checkbox"/> AC Units     | <input type="checkbox"/> Hot Tub      | <input type="checkbox"/> Swimming Pool |
| <input type="checkbox"/> Sewage Pump                                   | <input type="checkbox"/> Well Service | <input type="checkbox"/> Farm Service | <input type="checkbox"/> Fence Service |
| <input type="checkbox"/> Gas Pumps                                     | <input type="checkbox"/> Signs        | <input type="checkbox"/> Transformers | <input type="checkbox"/> Generator     |
| <input type="checkbox"/> Underground (Slab, Ditch) Inspection Required |                                       |                                       |  |
| <input type="checkbox"/> Solar Installation                            | <input type="checkbox"/> Footings     |                                       |  |

Other \_\_\_\_\_

I hereby certify that all information in this application is correct and all work will comply with the N.C. State Building Code and all other applicable state, local laws, ordinances, and regulations. The Inspection Department will be notified of any changes in the approved plans and specifications for the project permitted herein.

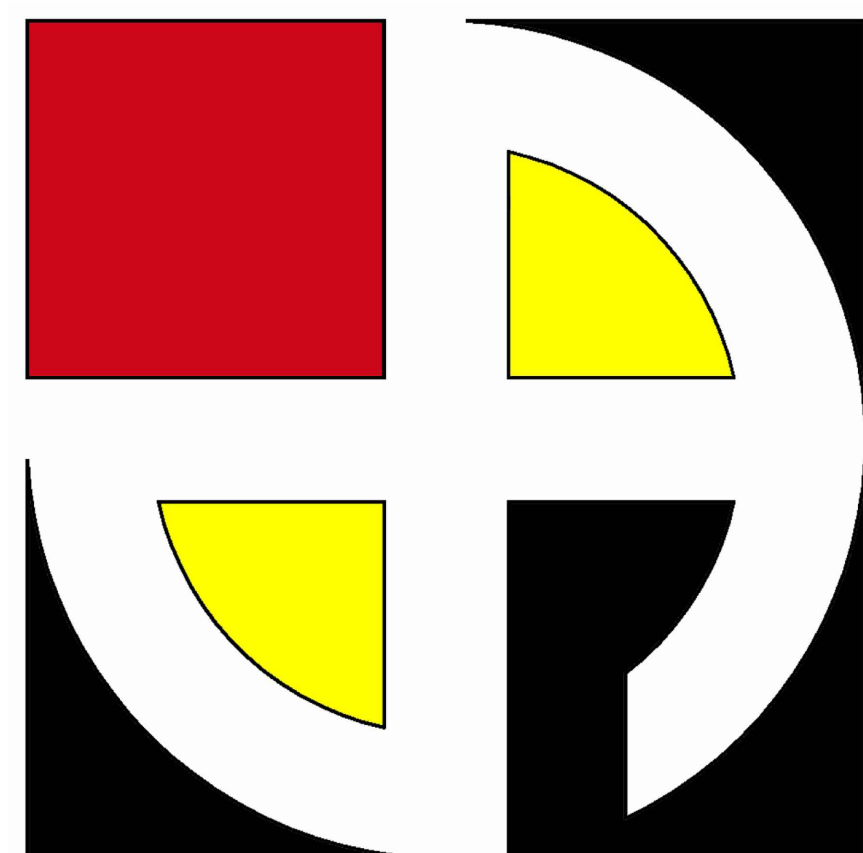
Applicant Printed Name Mark A. Dean, AIA Applicant Phone 716-651-0381  
Applicant Signature  Date 3-15-23

A photo ID is required to accompany all applicant signatures



# STORE SPACE

**937 E. HAGARD AVE.      ELON, NC**



**D·E·A·N** ARCHITECTS

3284 WALDEN AVENUE    DEPEW, NEW YORK 14043  
PHONE: (716) 651-0381  
FAX: (716) 651-0382

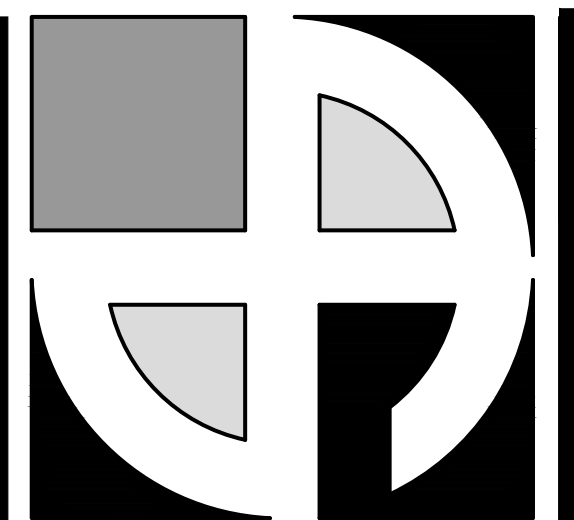


[www.deanarchitects.com](http://www.deanarchitects.com)

# STORE SPACE

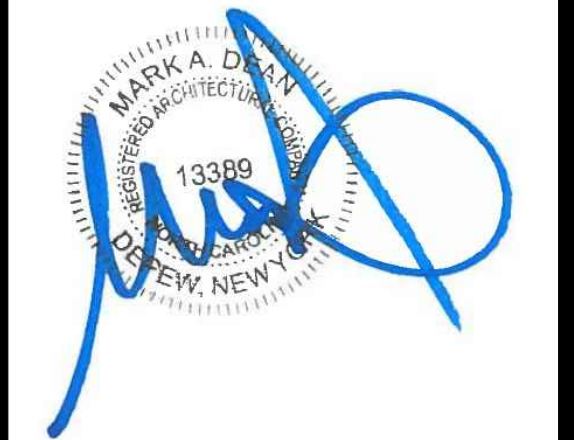
937 E. Haggard Ave.  
Elon, NC

General Information	
G 1.0	Drawing List
G 2.0	Building Code Summary
Building 1	
TS 1.0	Life Safety Plan
TS 1.1	Life Safety Details
D 1.0	Demolition Plan
A 1.0	Floor Plan
A 1.1	Unit Mix Plan
A 1.2	Storage Unit Details
A 1.3	Storage Unit Installation
A 1.4	Elevations
A 2.0	Reflective Ceiling Plan
A 3.0	Room Finish Plan
A 4.0	Door Schedule
M 1.0	Mechanical Symbols, Abbreviations, & Notes
M 1.1	HVAC Plan
M 1.2	HVAC Schedule
M 1.3	Condensing Units
M 1.4	HVAC Details
P 1.0	Plumbing Notes
P 2.0	Condensate Plan
P 3.0	Gas Piping Plan
FP 1.0	Sprinkler Notes
FP 1.1	Sprinkler Plan
FP 2.0	Sprinkler Details
E 1.0	Symbols & Notes
E 1.1	Lighting Plan
E 1.2	Lighting Details
E 2.0	Power Plan
E 3.0	Fire Alarm Plan
E 4.0	CCTV Plan



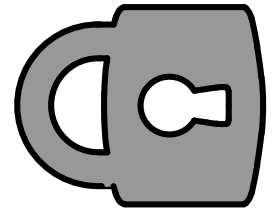
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**22-238**

STORE  SPACE

937 E. Haggard Ave.  
Elon, NC

No.	Description	Date	By
1	ISSUED FOR BID	2-3-23	AB

DATE:  
9-3-22

DRAWN BY: A. Barraclough  
CHECKED BY: M. Dean

SCALE:  
NTS

DRAWING LIST

**1**  
**G1.0**

BUILDING 1

BUILDING 2



## CONTRACTOR NOTES

- IN USING THESE PLANS FOR BIDDING OR CONSTRUCTION PURPOSES, ALL CONTRACTORS ARE REQUIRED TO REVIEW AND TREAT THEM AS A WHOLE IN ORDER TO IDENTIFY ALL REQUIREMENTS THAT DIRECTLY OR INDIRECTLY AFFECT THEIR PORTION OF THE WORK. EVEN REQUIREMENTS LOCATED IN SECTIONS DESIGNATED AS APPLICABLE TO OTHER TRADES TO IN DOCUMENTS LOCATED IN SECTIONS DESIGNATED AS APPLICABLE TO OTHER TRADES OR IN DOCUMENTS PROVIDED BY OTHER MEMBERS OF THE PROJECT DESIGN TEAM. UNLESS EXPRESSLY PROVIDED OTHERWISE, THE INTENT IS TO INCLUDE ALL LABOR, MATERIALS, PRODUCTS AND SERVICES NECESSARY OR APPROPRIATE FOR THE COMPLETED PROJECT AS CALLED FOR OR REASONABLY IMPLIED FROM THE PLANS AND SPECIFICATIONS PROVIDED BY THE PROJECT'S DESIGN TEAM. IN CASE OF CONFLICTS OR OMISSIONS, THE AFFECTED CONTRACTOR IS REQUIRED TO EITHER OBTAIN DIRECTION FROM AN APPROPRIATE REPRESENTATIVE OF THE OWNER, OR OTHERWISE TO APPLY THE MORE STRINGENT OR COSTLY STANDARD. ALL SUBSTITUTIONS MUST BE APPROVED PRIOR TO BID.
- THESE PLANS AND SPECIFICATIONS ARE INTENDED TO REPRESENT ONLY THE FINISHED CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION AND DEMOLITION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES INCLUDING ANY AND ALL SAFETY PRECAUTIONS AND PROGRAMS AND SHALL INDEMNIFY TO THE FULLEST EXTENT ALLOWED BY LAW THE OWNER AND THE PROJECT DESIGN TEAM FROM AND AGAINST ANY AND ALL RELATED CLAIMS AND LIABILITY.
- THESE PLANS AND SPECIFICATIONS ARE INTENDED TO SET FORTH THE REQUIREMENTS FOR CONSTRUCTION IN ONLY AN INDUSTRY-STANDARD LEVEL OF QUALITY AND DETAIL, AND THEY ARE INTENDED TO BE SUPPLEMENTED BY APPROPRIATE REQUESTS FOR INFORMATION (RFI'S). ERRORS AND OMISSIONS ARE TO BE EXPECTED AND ANTICIPATED, AND ALL CONTRACTORS ARE REQUIRED TO CAREFULLY REVIEW THESE PLANS FOR ERRORS AND OMISSIONS AND TO BEING THERE ERRORS AND OMISSIONS TO THE ATTENTION OF AN APPROPRIATE OWNER REPRESENTATIVE IN A TIMELY MANNER; AND ANY CONTRACTOR WHO FAILS TO DO SO BEFORE BIDDING OR OTHERWISE PROCEEDING ASSUMES THE RISK OF ANY CONSEQUENCES.
- PLANS ARE TO BE CONSIDERED DIAGRAMMATIC IN NATURE AND INTENDED ONLY TO DEMONSTRATE THE RELATIONSHIP AMONG COMPONENT PARTS AND NOT TO DEPICT SPECIFIC LOCATIONS.
- CONTRACTOR RFI'S ARE INTENDED TO OBTAIN INFORMATION NOT AVAILABLE FROM THE PLANS AND SPECIFICATIONS. RFI'S WILL NOT BE PROCESSED THAT CAN BE ANSWERED BY A REVIEW OF THESE DOCUMENTS, THAT REQUEST DIMENSIONS THAT CAN BE OBTAINED FROM THE PLANS BY MATHEMATICAL CALCULATION THAT ARE IN EFFECT A SUBSTANTIAL SUBMITTAL, OR THAT SEEK DIRECTION CONCERNING CONSTRUCTION MEANS AND METHODS OR SAFETY PRECAUTIONS. WHERE APPROPRIATE, RFI'S SHOULD BE SPECIFIC AS TO WHAT PORTION OF THE PLANS AND SPECIFICATIONS NEEDS CLARIFICATION, AND WHAT INFORMATION IS REQUIRED.
- NO DEVIATIONS OR OMISSIONS FROM THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS PROVIDED BY THE PROJECT'S DESIGN TEAM ARE ALLOWED WITHOUT THE EXPRESSED AUTHORIZATION OF AN APPROPRIATE OWNER REPRESENTATIVE, AND THE RESPONSIBLE CONTRACTOR WILL INDEMNIFY AND HOLD HARMLESS THE OWNER AND THE PROJECT DESIGN TEAM FROM AND AGAINST THE CONSEQUENCES OF ANY UNAUTHORIZED DEVIATIONS OF OMISSIONS. SUBSTITUTION SUBMITTALS WILL BE CONSIDERED ONLY IF THE PROPOSED SUBSTITUTION IMPROVES THE QUALITY OF THE PROJECT TO THE OWNER; AND IN NO EVENT WILL THE OWNER BE REQUIRED TO AUTHORIZE A SUBSTITUTION THAT IS NOT EQUAL IN QUALITY TO WHAT IS SPECIFIED.
- VERSIONS OF THESE PLANS PROVIDED IN ANY ELECTRONIC FORM ARE SUBJECT TO THE SAME PROVISION AS THE OTHER INSTRUMENTS OF SERVICE PREPARED BY OR ON BEHALF OF THE PROJECT DESIGN TEAM, INCLUDING WITHOUT LIMITATION THEIR COMMON LAW, STATUTORY OR OTHER RESERVED RIGHTS, INCLUDING COPYRIGHTS. A RECIPIENT IS GRANTED AT MOST A TRANSFERABLE NONEXCLUSIVE LICENSE TO REUSE THE PLANS SOLELY FOR PROJECT PURPOSES; AND NO RECIPIENT IS AUTHORIZED TO USE THE OR ALLOW THE USE OF ALL OR ANY PORTION OF THESE PLANS FOR ANY OTHER PURPOSE, AND ANY OTHER USE FOR ANY OTHER PURPOSE COULD CONSTITUTE ACTIONABLE PLAGIARISM. ANY ELECTRONIC DOCUMENTS WILL BE PROVIDED IN THE RESPONSIBLE DESIGN PROFESSIONAL'S STANDARD FORMATS AND CONVENTIONS AND WITH NO GUARANTEE OF THE ABSENCE OF VIRUSES OR OTHER HARMFUL MATERIAL OR OF COMPATIBILITY WITH ANY RECIPIENT'S SOFTWARE OR HARDWARE SO THAT ANY USE WITH OR CONVERSIONS TO THE OTHER FORMS OR CONVENTIONS, OR THE USE WITH ANY PARTICULAR SOFTWARE OR HARDWARE IS AT THE RECIPIENT'S SOLE RISK.
- NO HAZARDOUS MATERIALS SHALL BE USED OR STORED WITHIN THE BUILDING WHICH DOES NOT COMPLY WITH THE LOCAL FIRE AUTHORITY AND STATE AND COUNTY REGULATIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR BLOCKING OFF SUPPLY AND RETURN AIR GRILLES, DIFFUSERS, & DUCTS TO KEEP DUST FROM ENTERING INTO BUILDING AIR DISTRIBUTION SYSTEMS.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THE SAFETY OF THE OCCUPANTS AND WORKERS AT ALL TIMES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE BUILDING AND SITE WHILE THE JOB IS IN PROGRESS AND UNTIL THE JOB IS COMPLETED.
- THE CONTRACTOR AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AND SURROUND AREA FREE FROM DUST AND DEBRIS. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR AND WATER POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH.
- THE CONTRACTOR SHALL PROVIDE PEDESTRIAN PROTECTION, WHERE REQUIRED PER STATE AND LOCAL CODES.

### DRAWING NOTES

- UNLESS OTHERWISE NOTED OR INDICATED, ALL DIMENSIONS ON THESE DOCUMENTS SHALL BE TO FACE OF CURB, FACE OF CONCRETE OR MASONRY, FACE OF FINISH OR CENTERLINE OF GRIDS.
- ALL VERTICAL DIMENSIONS SHOWN ARE FROM FLOOR SLAB, U.O.N.
- DIMENSIONS SHOWN IN FIGURES TAKE PRECEDENCE OVER DIMENSIONS SCALED FROM DRAWINGS. LARGE SCALE DRAWINGS AND DETAILS TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS.
- THE TERM "ALIGN" IN THESE DOCUMENTS, SHALL MEAN TO ACCURATELY LOCATE FINISHES IN THE SAME PLANE.
- "TYPICAL" AS USED IN THESE DOCUMENTS SHALL MEAN THAT THE CONDITION IS THE SAME OF REPRESENTATIVE FOR ALL SIMILAR CONDITIONS THROUGHOUT, U.O.N.
- DETAILS ARE USUALLY KEED AND NOTED "TYPICAL" ONLY ONCE, WHEN THEY FIRST OCCUR AND ARE REPRESENTATIVE OF ALL SIMILAR CONDITIONS THROUGHOUT U.O.N.
- COLUMN CENTERLINES (GRID LINES) ARE SHOWN FOR DIMENSIONING PURPOSES.
- WHERE CONSTRUCTION DETAILS ARE NOT SHOWN OR NOTED FOR ANY PART OF THE WORK, THE DETAILS SHALL BE THE SAME AS FOR OTHER SIMILAR WORK IN THE SAME BUILDING.

### INTERIOR/EXTERIOR NOTES

- WHERE ELECTRICAL, MECHANICAL AND/OR PLUMBING ITEMS, SUCH AS LIGHTS, DUCTS, PIPING, DOWNSPOUTS, ETC. ARE TO PENETRATE ANY BUILDING FOOTINGS, SLABS, FLOORS, STRUCTURAL FRAMING, WALL PARTITIONS, CEILINGS, ETC., IT IS REQUIRED THAT AN APPROPRIATELY SIZED OPENING OR CLEARANCE BE FURNISHED. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL ITEMS WITH THE CONSTRUCTION DOCUMENTS PRIOR TO THE INSTALLATION OF STRUCTURAL, MECHANICAL, PLUMBING AND ELECTRICAL WORK. CONTRACTOR SHALL SUBMIT A PLAN OF ALL PROPOSED ACCESS PANEL LOCATIONS TO ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION.
- CONTRACTOR, ALONG WITH MECHANICAL CONTRACTOR, SHALL PROVIDE AND LOCATE ACCESS DOORS/ PANELS IN WALL AND CEILING CONSTRUCTION AS REQUIRED TO PROVIDE ACCESS TO MECHANICAL, FIRE SPRINKLER, PLUMBING AND ELECTRICAL WORK. CONTRACTOR SHALL SUBMIT A PLAN OF ALL PROPOSED ACCESS PANEL WORK. CONTRACTOR SHALL SUBMIT A PLAN OF ALL PROSED ACCESS PANEL LOCATIONS TO ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION.
- ALL PENETRATIONS AT RATED CONSTRUCTION SHALL BE PROTECTED TO MAINTAIN RATING.
- WHERE OCCURS, CONTRACTOR SHALL PATCH ANY EXISTING WALLS AND/OR CEILINGS AS NEEDED TO REFURBISH THE LEASE SPACE AND REPAIR ALL DAMAGES CAUSED BY CONTRACTOR.
- INTERIOR WALLS AND CEILINGS SHALL BE INSTALLED IN ACCORDANCE TO STATE AND LOCAL CODES, INCLUDING REQUIREMENTS FOR FLAME SPREAD AND SMOKE DENSITY RATINGS FOR FINISH MATERIALS.
- WHEN USED, ALL NOISE BARRIER BATTS (SOUND INSULATION) AND INSULATION BATTS SHALL BE NON-COMBUSTIBLE AND SHALL NOT CONTAIN OR UTILIZE OZONE DEPLETING COMPOUNDS.
- ALL NEW CONSTRUCTION MATERIALS SHALL BE 100% ASBESTOS- FREE.

## GENERAL NOTES

THE FOLLOWING NOTES SHALL APPLY THROUGHOUT. EXCEPTIONS ARE SPECIFICALLY NOTED ON EACH DRAWING.

- THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND CONDITIONS OF THE SITE AND/OR BUILDING. DRAWINGS ARE NOT TO BE SCALED. USE DIMENSIONS ONLY.
- THE CONTRACTOR SHALL, UNLESS OTHERWISE PROVIDED IN THE CONTRACT DOCUMENTS, SECURE AND PAY FOR THE REQUIRED CONSTRUCTION PERMIT(S), FEES, LICENSES AND INSPECTIONS NECESSARY FOR THE PROPER EXECUTION OF THE WORK. APPLICATION FOR CONSTRUCTION PERMITS SHALL BE PROCESSED THRU THE BUILDING CODE COMPLIANCE DIVISION OF THE AUTHORITY.
- ALL WORK SHALL BE COVERED BY THE 2018 NORTH CAROLINA BUILDING CODE AND ALL REQUIREMENTS SPECIFIED IN THE CODE SHALL BE ADHERED TO AS IF THEY WERE CALLED FOR OR SHOWN ON THE DRAWINGS. THIS SHALL NOT BE CONSTRUED TO MEAN THAT ANY REQUIREMENTS SET FORTH ON THESE DRAWINGS CAN BE MODIFIED BECAUSE THEY ARE MORE STRINGENT THAN THE CODE REQUIREMENTS OR BECAUSE THEY ARE NOT SPECIFICALLY REQUIRED BY THE CODE.
- THE VARIOUS CONDITIONS AND DIMENSIONS SHOWN ON THE DRAWINGS FOR NEW WORK ARE PRESUMED TO BE REASONABLY CORRECT. THE CONTRACTOR IS TO VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS THEREIN AND HE SHALL REPORT IMMEDIATELY TO THE ARCHITECT ANY DISCREPANCY.
- COORDINATION OF ALL WORK UNDER THIS CONTRACT SHALL BE MAINTAINED TO ENSURE THE QUALITY AND TIMELY COMPLETION OF THE WORK/PROJECT.
- THE CONTRACTOR SHALL PERFORM ALL CUTTING AND PATCHING REQUIRED TO COMPLETE THE WORK OR TO MAKE ITS PARTS FIT TOGETHER PROPERLY WITHOUT COMPROMISING THE QUALITY OF THE WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY BRACING AND PROTECTING ALL WORK DURING CONSTRUCTION AGAINST DAMAGE, BREAKAGE, COLLAPSE, DISTORTIONS, AND OFF ALIGNMENTS ACCORDING TO CODES AND STANDARDS OF GOOD PRACTICE.
- ALL ELEVATIONS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVDD88) AS ESTABLISHED AND MAINTAINED BY NATIONAL GEODETIC SURVEY OF THE NATIONAL OCEAN SERVICE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION OR SUCCESSOR AGENCY.
- THE TERM "FINISH FLOOR" SHALL MEAN THE NORMAL FINISHED SURFACE OF THE FLOOR LEVEL. ALL ELEVATIONS GIVEN FOR EXISTING BUILDINGS ARE TO FINISHED FLOOR. THE CONTRACTOR SHALL FIELD VERIFY ALL ELEVATIONS FOR EXISTING STRUCTURES PRIOR TO THE COMMENCEMENT OF WORK.
- THE CONTRACTOR SHALL CORRECT ANY VARIATIONS IN FLOOR ELEVATIONS CREATED BY THE REMOVAL OF PARTITIONS AND/OR FOR THE INSTALLATION OF NEW DOOR OPENINGS.
- THE CONTRACTOR SHALL NOT CONSTRUCT INTERIOR CMU PARTITION WALLS TO FULL HEIGHT UNTIL ALL PIPES, DUCTS, ETC. ARE IN PLACE AND TESTED.
- THE CONTRACTOR SHALL INSTALL SUSPENDED CEILINGS, TO MEET THE CEILING HEIGHT REQUIREMENTS INDICATED IN THE CEILING HEIGHT INFORMATION ON REFLECTED CEILING PLANS.
- THE CONTRACTOR SHALL PATCH AND REPAIR ALL FLOORS, WALLS CEILINGS, ETC.. DAMAGED OR EXPOSED DUE TO WORK OR REMOVALS AND FINISH TO MATCH ADJOINING SURFACES.
- FLOORS IN SPACES WITH MULTIPLE FLOOR DRAINS SHALL BE PITCHED TO THE FLOOR DRAIN.
- AT TOILET AREAS AND OTHER LOCATIONS WITH ONE DRAIN ONLY, PROVIDE DRAIN $\frac{1}{2}$ " BELOW FINISH FLOOR AND PROVIDE A TWO (2) FEET SWALE IN CONCRETE TO DRAIN.
- THE CONTRACTOR SHALL NOT INSTALL SUSPENDED OR FURRED CEILINGS IN AREAS WHERE PIPES ARE TO BE CONCEALED (HEATING, PLUMBING) UNTIL THE PIPING HAS BEEN TESTED.
- ALL VERTICAL SHAFTS SHALL HAVE A MINIMUM FIRE RATING OF 2-HOURS UNLESS REQUIRED OTHERWISE BY CODES DUE TO OCCUPANCY ADJACENCIES.
- ALL LOOSE LINTELS GREATER THAN 4'-0" SHALL BE FIREPROOFED.
- THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF PLUMBING FIXTURES PRIOR TO THE CONSTRUCTION OF PARTITIONS BEHIND SUCH FIXTURES.
- THE DISTANCE FROM DOOR JAMBS TO ADJACENT PARTITIONS, BUILT-IN FURNITURE OR OTHER FURNISHINGS ON THE HINGE SIDE SHALL NOT BE LESS THAN 6" UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- THE CONTRACTOR SHALL EXTEND FLOORING MATERIAL INTO ALL WARDROBES AND CLOSETS.
- ALL ELECTRICAL INDICATIONS ON ARCHITECTURAL DRAWINGS ARE FOR LOCATION PURPOSES ONLY.
- THE CONTRACTOR SHALL COORDINATE OPENINGS IN THE FOUNDATION AND EXTERIOR WALLS FOR THE INSTALLATION OF CONDUITS AND BOXES FOR ELECTRICAL EQUIPMENT.
- THE CONTRACTOR SHALL EXTEND ALL WALL FINISHES A MINIMUM OF 6" ABOVE THE SUSPENDED OR FURRED CEILING.
- UNLESS OTHERWISE NOTED, EXTERIOR BRICK WALLS SHALL BE INSTALLED IN A RUNNING BOND.
- WHERE MANUFACTURES' NAMES AND PRODUCT NUMBERS ARE INDICATED ON THE DRAWINGS, IT SHALL BE CONSTRUED TO MEAN THE ESTABLISHING OF QUALITY AND PERFORMANCE STANDARDS OF SUCH ITEMS. ALL OTHER PRODUCTS MUST BE SUBMITTED TO THE ARCHITECT FOR APPROVAL BEFORE THEY SHALL BE DEEMED EQUAL.
- FIRESTOPPING SHALL BE INSTALLED AT EACH SIDE OF PENETRATION OF FIRE-RATED CONSTRUCTION AS PER SPECIFICATIONS. FIRESTOPPING MATERIALS ARE TO BE APPROPRIATE FOR, AND BE PART OF A LISTED AND LABELED ASSEMBLY IN ACCORDANCE WITH THE BUILDING CODE OR HAVE OTCR OR MEA APPROVAL.
- LOCATIONS AND DIMENSIONS OF CONCRETE EQUIPMENT PADS IN THESE DRAWINGS ARE APPROXIMATE. FINAL LOCATIONS AND SIZES MUST BE COORDINATED WITH THE EQUIPMENT MANUFACTURER AND ARE SUBJECT TO APPROVAL WITH THE EQUIPMENT SHOP DRAWINGS. THERE SHALL BE NO ADDITIONAL MONIES PAID FOR INCREASE IN SIZE OF PAD DUE TO DIFFERENCE IN SIZE OF THE EQUIPMENT CHOSEN BY THE CONTRACTOR FROM THAT OF MODEL NUMBER/SIZE INDICATED IN CONTRACT DOCUMENTS.
- ALL RAMPS TO HAVE NON-SLIP SURFACE.
- THE CONTRACTOR SHALL COORDINATE AND INSTALL ALL CLEANOUT AND ACCESS DOORS IN PARTITIONS AND HUNG CEILINGS AS REQUIRED BY THE CONTRACT DOCUMENTS WHETHER OR NOT THEY ARE SPECIFICALLY CALLED FOR ON THE DRAWINGS.
- SIZE OF MASONRY UNITS AND WOOD MEMBERS ON PLANS, BUILDING ELEVATIONS AND SECTIONS ARE SHOWN AS NOMINAL SIZE.
- APPLICATION FOR A CERTIFICATE OF OCCUPANCY SHALL BE ACCOMPANIED BY AN ACCURATE AND COMPLETE FINAL SURVEY MADE BY A LICENSED SURVEYOR, SHOWING THE LOCATION OF ANY NEW BUILDING AND/OR ANY EXTENSION TO AN EXISTING BUILDING, THE ELEVATION OF THE FIRST FLOOR, THE FINISHED GRADE OF OPEN SPACES ON THE LOT, THE LOCATION AND CONTROLLING GRADES OF WATERCOURSES, PAVED SWALES, AND SIMILAR ABOVE-GRADE METHODS OF STORM WATER DISPOSAL, THE LOCATIONS OF ALL CATCH BASINS ON THE PROPERTY, THE ESTABLISHED CURB LEVEL, AND THE LOCATION OF ALL OTHER STRUCTURES AND IMPERVIOUS SURFACES ON THE LOT. THE SURVEY SHALL ALSO SHOW THE LOCATION AND BOUNDARIES OF THE LOT OR PLOT UPON WHICH SUCH BUILDINGS AND STRUCTURES ARE LOCATED.
- ADDITIONAL NOTES THAT ARE APPLICABLE TO THIS PROJECT MAY BE FOUND THROUGHOUT THE CONTRACT DRAWINGS.

## CODE DATA

### I. GENERAL SITE AND PROJECT INFORMATION

- This is a renovation of an existing building for use as Self-Storage (S-1)
- The building construction type is IIB Non-Combustible
- The entire building is sprinklered in accordance with 2018 NCBC and NFPA 13
- Provisions have been made so that all exits discharge to grade or at access to grade.
- These construction documents indicate for accessibility to be maintained from the public way into, and throughout building

### II. GOVERNING CODES

**BUILDING:** 2018 North Carolina Building Code  
**MECHANICAL:** 2018 North Carolina Mechanical Code  
**ELECTRICAL:** 2020 North Carolina Electrical Code  
**PLUMBING:** 2018 North Carolina Plumbing Code  
**FIRE PROTECTION:** most current NFPA 13  
**LIFE SAFETY:** most current NFPA Life Safety Code  
**ACCESSIBILITY:** Americans with Disabilities Act and Associated Guidelines (ADAAG), ANSI A117.1-2009

### III. USE AND OCCUPANCY CLASSIFICATION

A.Tab. 508.4- Group S-1 (Medium Hazard Storage)

B. Sec. 304 & 311- This project is classified as Moderate Hazard Storage Use Group S-1 Classification

### IV. TYPE OF CONSTRUCTION

A. Height and fire Area

	Moderate Hazard Storage (S-1) Type IIB Construction (Sprinklered)	
	Allowable	Actual
Height	75'-0"	20'-0" +/-
Stories	3	1
Area	104,000	21,000

B. Fire Resistance Ratings Requirements- Per Table 601:Section IBC601

Building Element	Construction Type IIB
Primary Structural Frame	0
Bearing Walls (Exterior)	0
Bearing Walls (Interior)	0
Non-Bearing Walls (Exterior)	X<5' = 1      5<X>10 = 1      10<X>30 = 1      X > 30 = 0
Non-Bearing Walls (Interior)	0
Floor Construction and Associated Secondary Members	0
Roof Construction and Associated Secondary Members	0

### V. INTERIOR FINISHES

A. Table. 803.1- Interior Wall And Ceiling Finish Requirements.(Sprinklered)

Occupancy Group	Interior Exit Stairways and Exit Passageways	Corridors and Enclosures for Exit Access Stairways and Ramps	Rooms and Enclosed spaces
Business (B)	B	C	C
Storage (S-1)	C	C	C

Class A: Flame Spread 0-25  
 Class B: Flame Spread 26-75  
 Class C: Flame Spread 76-200

### VI. MEANS OF EGRESS

A. Values are from plan layout contained in these construction documents.  
 Business/Moderate Hazard Storage/Moderate Hazard Factory  
 TOTAL SQUARE FOOTAGE

Building	Storage (S-1)	Business (B-1)	Occupant Load
Building 1	14,875 S.F.	0 S.F.	30
Building 2	13,000 S.F.	1,025 S.F.	33

B. Occupancy calculation values are from Tab. 1004.5 and plan layout contained in these construction documents.

TOTAL OCCUPANT LOAD:

Business (B-1)	Storage (S-1)	Total
Occupant Load= 3	Occupant Load= 60	63

C. Egress width calculation values are from Sec. 1005.1 and calculations above.

Total occupant load of 60 multiplied by 0.20 per occupant equals 12.0" of exit width required. 144" of exit width have been provided.

**Stairway Capacity** with a total occupant load of 60, multiplied by 0.3 per occupant equals 18.3" of exit width required. 72" of exit width for stairways have been provided.

### VII. DOOR REQUIREMENTS

- Sec. 1010.1.3- Opening force for interior side swinging doors without closers shall not exceed a 5 lb. force. For other doors the latch shall release when subjected to a 15 lb. force. The door shall be set in motion when subjected to a 30 lb. force and shall swing to a full open position when subjected to a 15 lb. force. All forces shall be applied to latch side.
- Sec. 1010.1.9- Egress doors shall be readily openable from the egress side without the use of a key or special knowledge or effort. Per 1010.1.9.3.2 the main exterior door or doors in Group B occupancy may be equipped with a key operated locking device from the egress side if the device is readily distinguishable as locked and there is a sign stating "This door to remain unlocked when building is occupied".

### VIII. EXIT QUANTITIES AND LOCATIONS

B. **Storage:** Per Table 1021.1 with an occupant load of 1-500 people, the minimum number of exits is 2. 2 Exits have been provided

### IX. EXIT ACCESS COMPONENTS

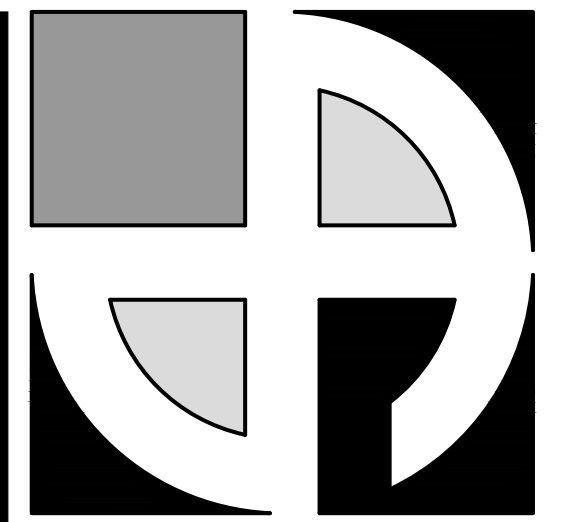
A. Sec. 1018- Minimum clear aisle widths for public areas in Groups B occupancies shall be determined by Sec. 1005.1, but shall not be less than 36 inches.

### X. ACCESSIBILITY

- Sec. 1109.2- Toilet rooms are required to be accessible.
- Sec. 1109.3- Mop and service sinks are not required to be accessible.
- Sec. 1109.5.1- 2 drinking fountains shall be provided, one shall comply with requirements for people who use a wheelchair & one shall comply with requirements for standing patrons.
- Sec. 1109.12.2/ Table 1109.12.3- Point of Sale and Service Counters provided shall be accessible.

### XI. MINIMUM PLUMBING FACILITIES

A. Sec. 2902.2- Separate toilet facilities provided for in adjacent office building.



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**22-238**

**STORE SPACE**  
 937 E. Haggard Ave.  
 Elon, NC

No.	Description	Date	By
1	ISSUED FOR BID	2-3-23	AB

DATE:  
 9-3-22

DRAWN BY: A. Barraclough  
 CHECKED BY: M. Dean

SCALE:  
 NTS

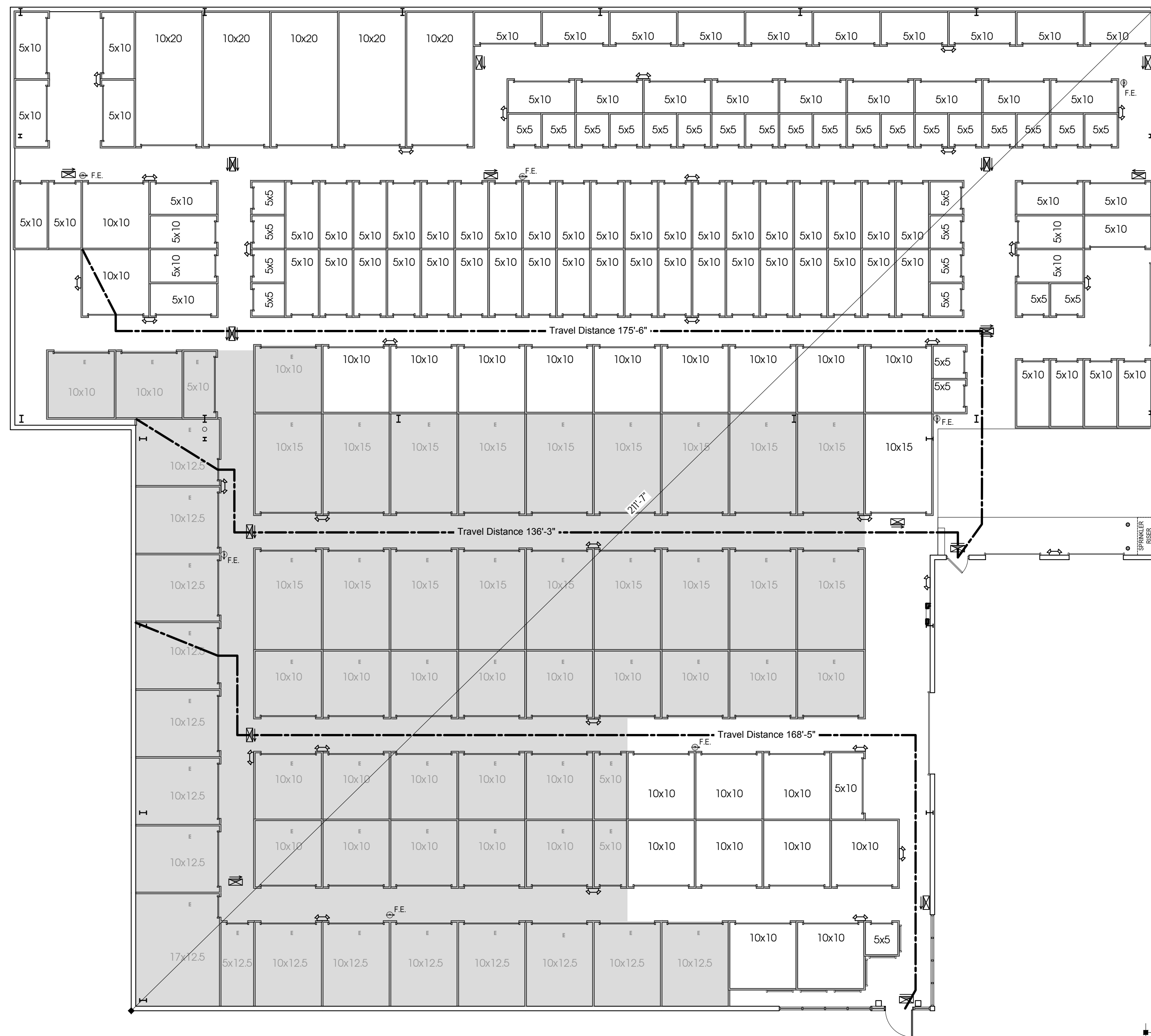
**BUILDING CODE  
 SUMMARY**

**G2.0**

### NOTE:

- ALL BIDDERS ARE REQUIRED TO VISIT THE SITE TO VIEW THE EXISTING CONDITION PRIOR TO SUBMITTING ANY PROPOSALS
- Substitutions Allowed **ONLY** Prior to Bid Delivery





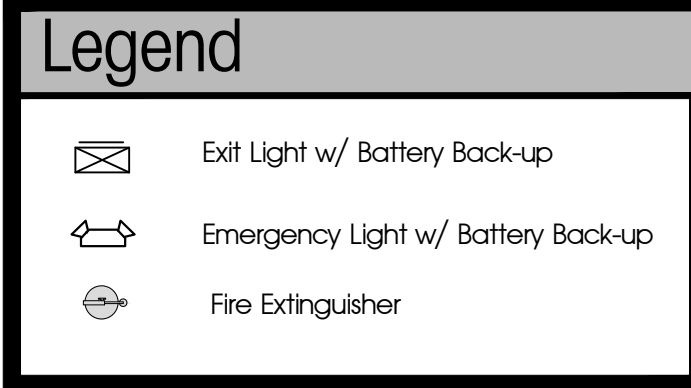
**BUILDING 1**

**Remoteness of Exits**  
 Building Diagonal is 211'-7"  
 Min Exit Separation Required is 105'-9 1/2"  
 Exits are separated by more than one half the building diagonal

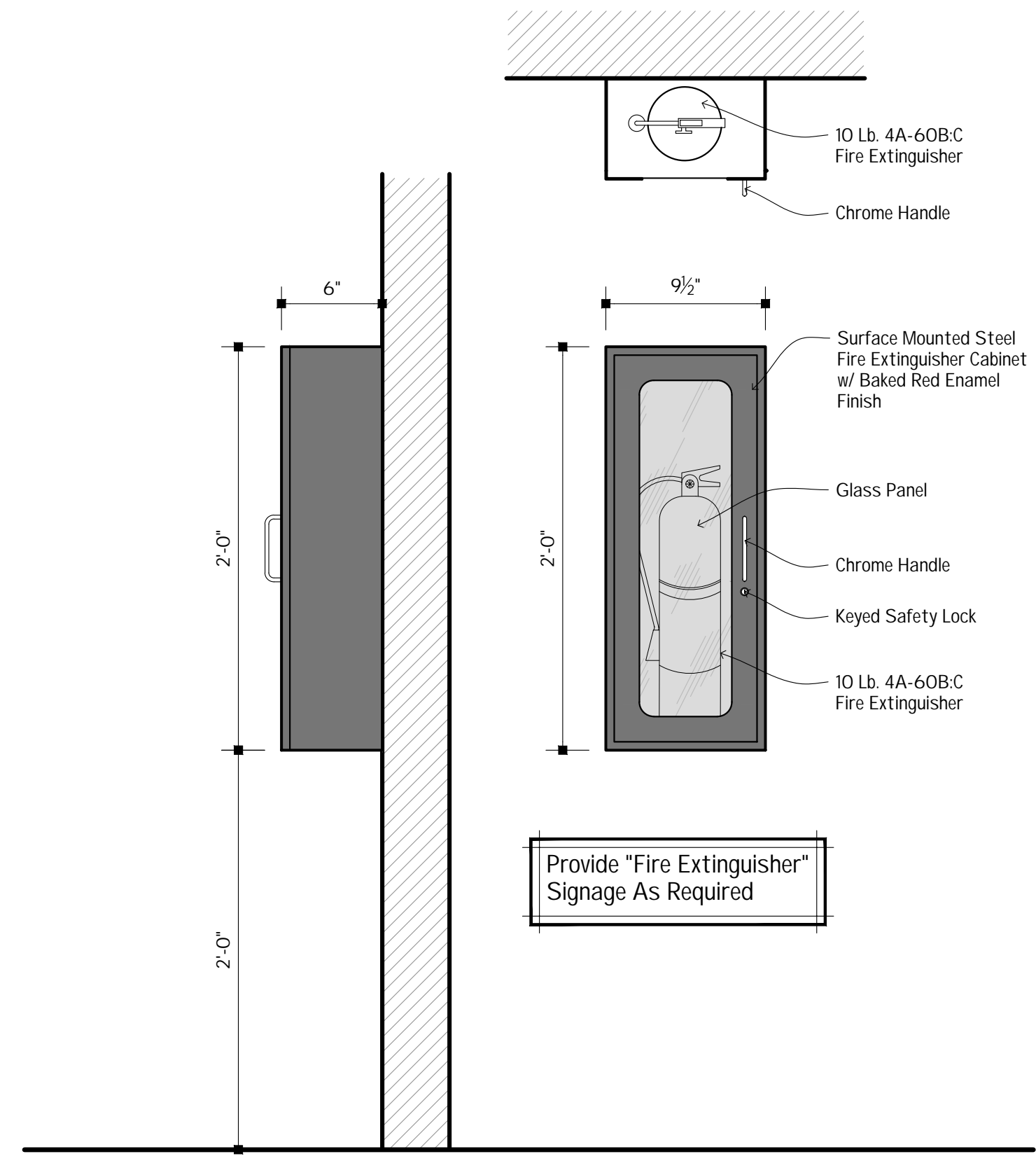
**Maximum Travel Distance**  
 Allowable: 200'  
 Actual: 175'-6"

**FE Locations**  
 Hazard Rating- Moderate  
 Max Floor Area Per Fire Extinguisher- 11,250  
 Minimum Fire Extinguisher Required- 2  
 14 Fire Extinguishers Provided  
 Fire Extinguisher Travel Distance- 75'

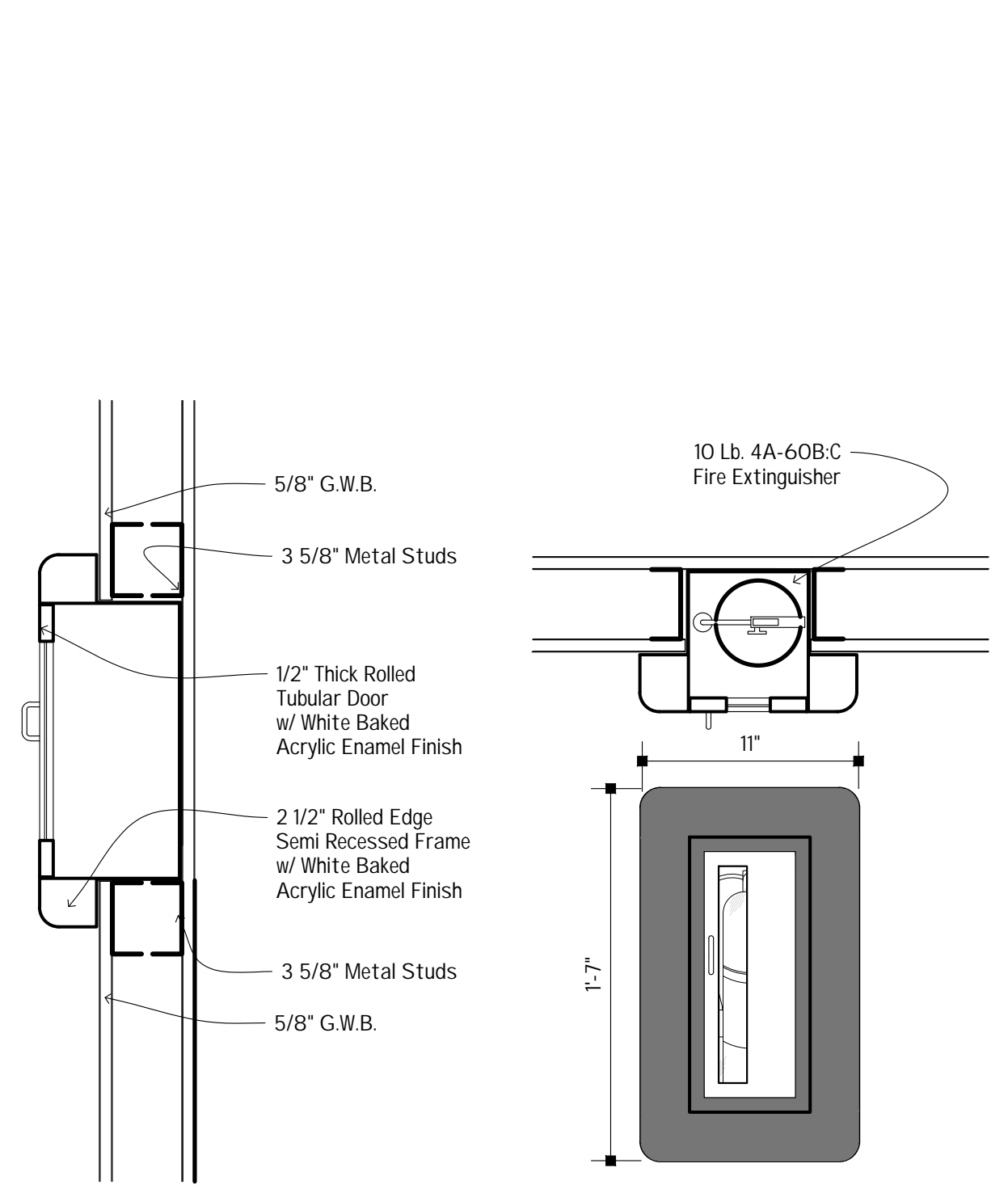
**Egress Capacity**  
 Floor Gross Area- 14,875 Sqft  
 Max Floor Area per Occupant  
 Storage (14,875 Sqft) -500 Sqft =30  
 Total Occupant Load- 30 People  
 Required Egress Width per Occupant- 0.2"  
 Total Egress Width Required- 6.8"  
 Total Egress Width Provided- 144"



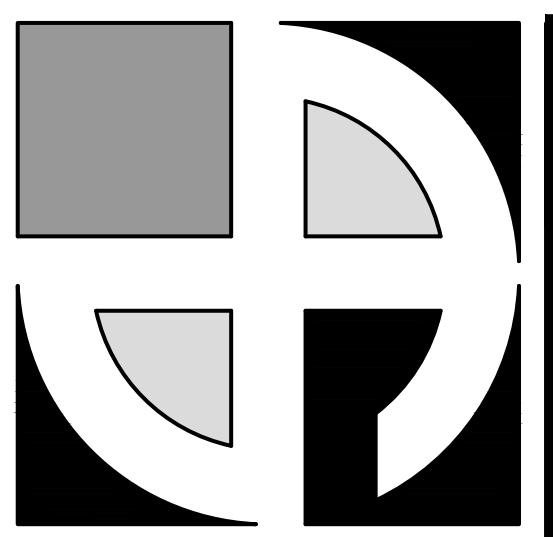
**1 BUILDING 1 LIFE SAFETY PLAN**  
 3/32"=1'-0"



**2 FIRE EXTINGUISHER DETAIL**  
 NTS



**3 FIRE EXTINGUISHER DETAIL**  
 Semi-Recessed



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**STORE SPACE**

937 E. Haggard Ave.  
 Elon, NC

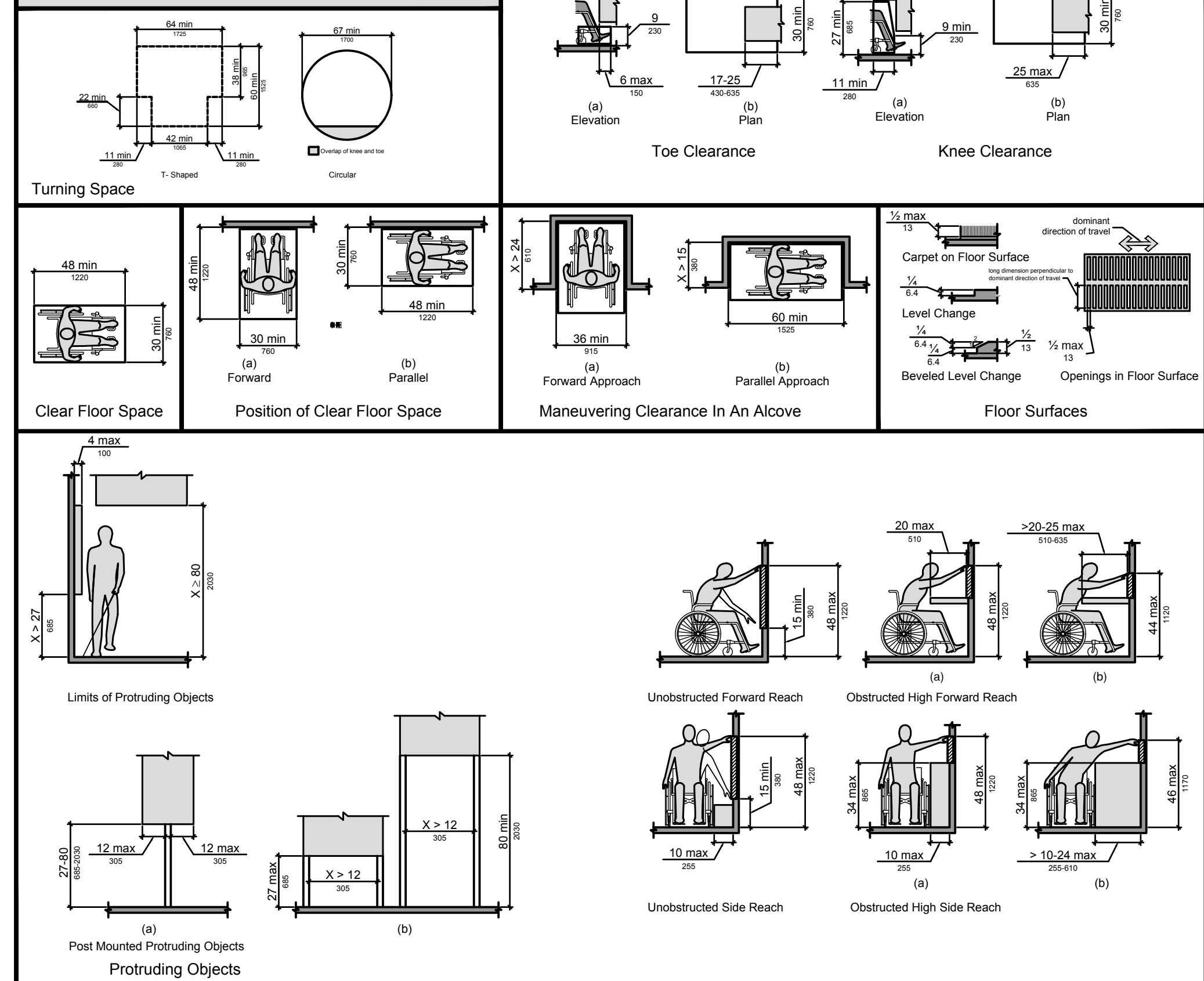
No.	Description	Date	By
1	ISSUED FOR BID	2-3-23	AB

DATE: 9-3-22  
 DRAWN BY: A. Barraclough  
 CHECKED BY: M. Dean  
 SCALE: 3/32"=1'-0"

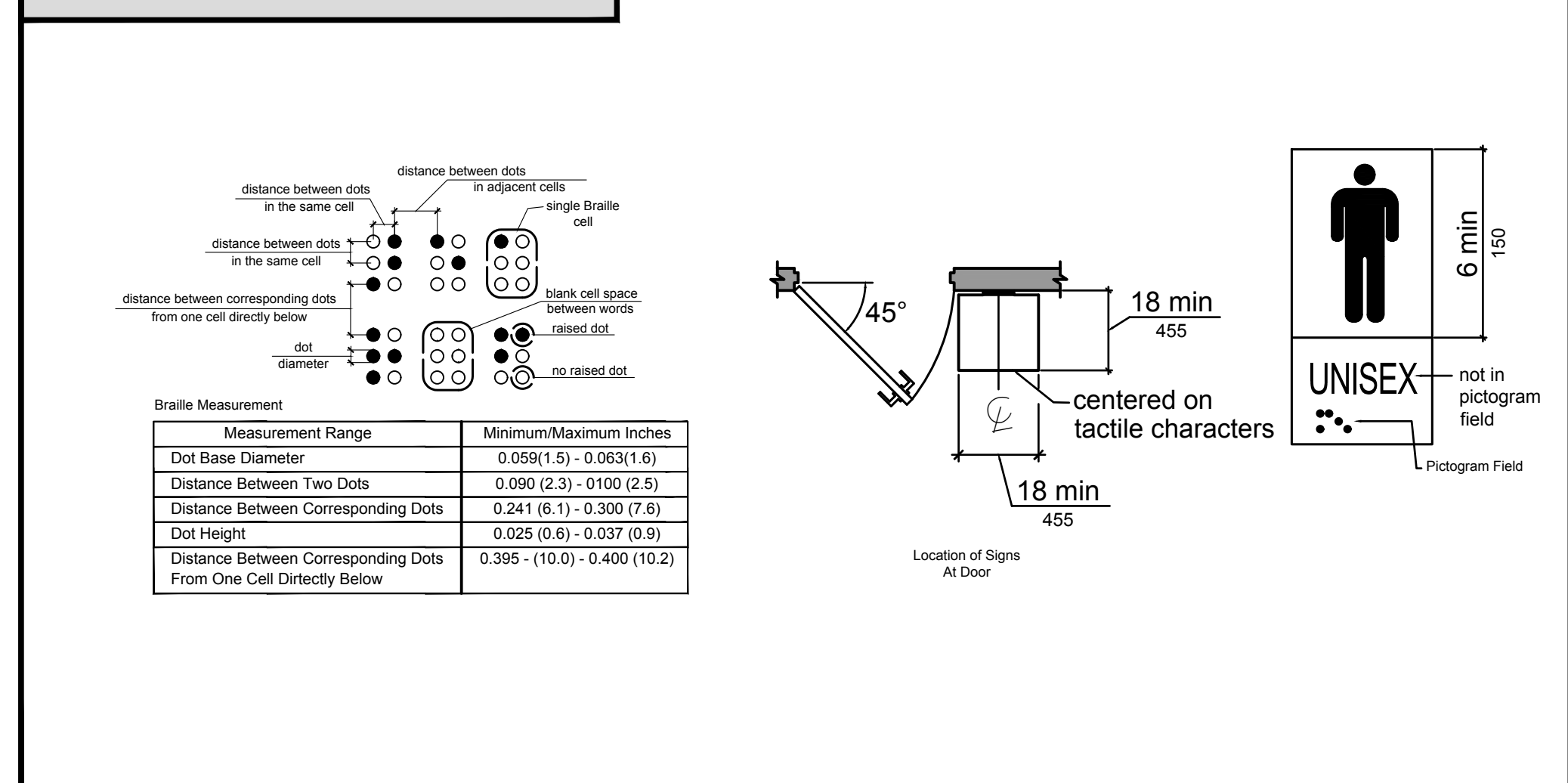
LIFE SAFETY PLAN  
**TS1.0**



# Basic Building Blocks



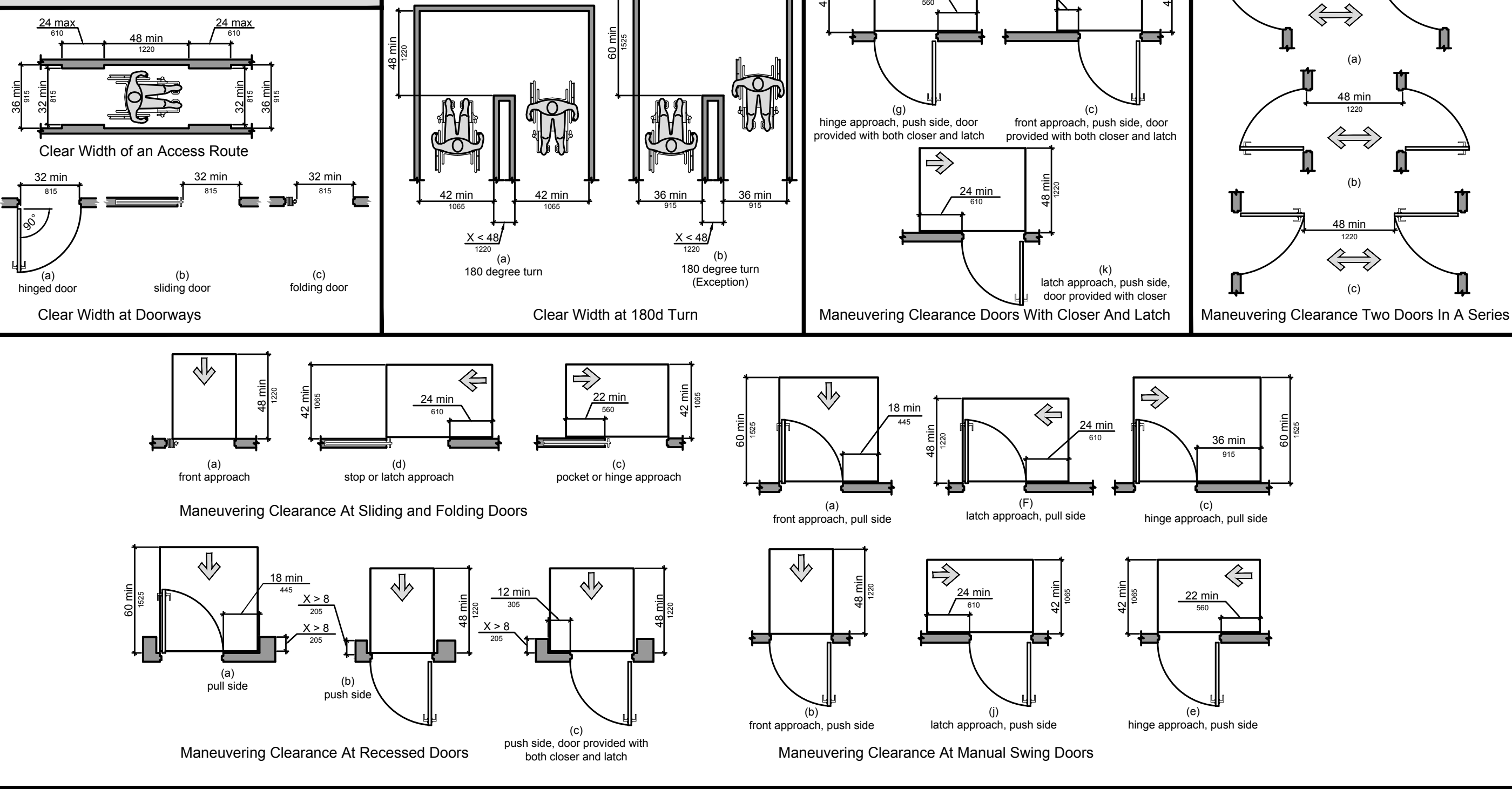
# Signage



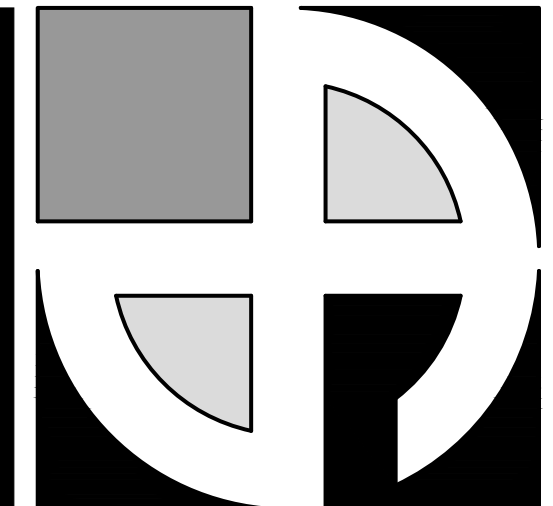
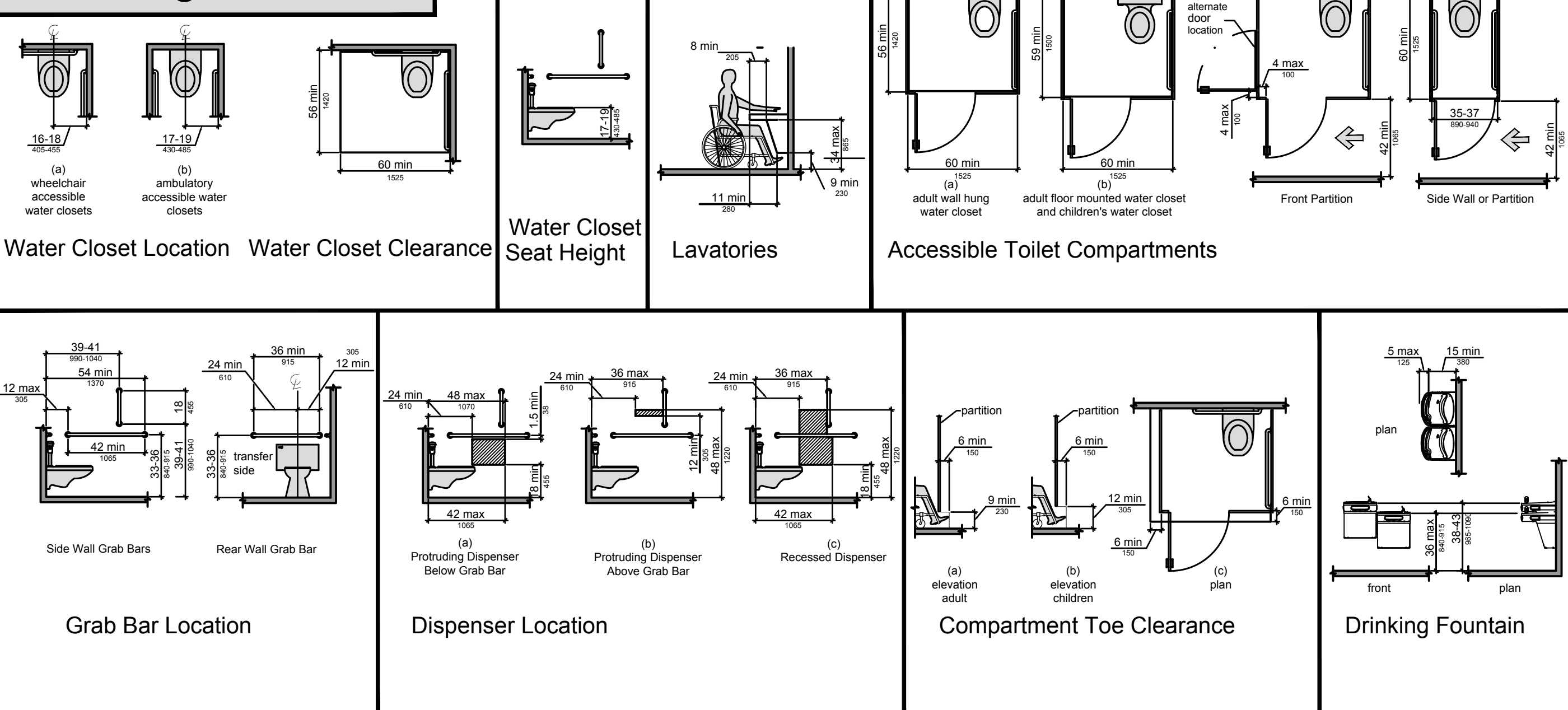
# Notes

Convention	Description	Convention	Description	Convention	Description
	dimension showing English units (in inches unless otherwise specified) above the line and SI units (in millimeters unless otherwise specified) below the line	$>$	greater than		a wall, floor, ceiling or other element cut in section or plan
	dimension for small measurements	$\geq$	greater than or equal to		a highlighted element in elevation or plan
	dimension showing a range with minimum - maximum	$<$	less than		location zone of element, control or feature
	minimum maximum	$\leq$	less than or equal to		centerline
			boundary of clear floor space or maneuvering clearance		a permitted element or its extension
			centerline		direction of travel or approach
			direction of travel or approach		International Symbol of Access for Hearing Loss
					Volume-Controlled Telephone
					International TTY Symbol
					International Symbol of Accessibility

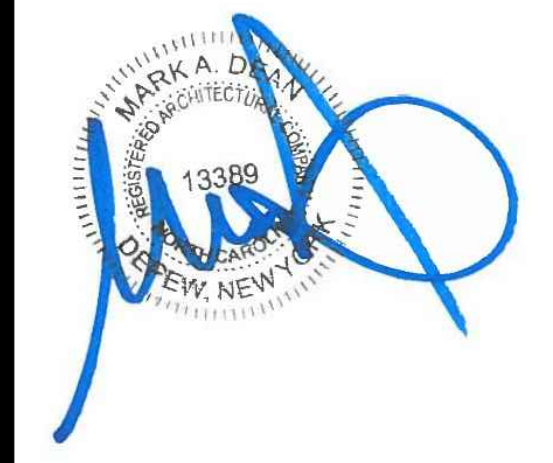
# Accessible Routes



# Plumbing Elements



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**22-238**

**STORE SPACE**

937 E. Haggard Ave.  
Elion, NC

**BUILDING 2**

No.	Description	Date	By
1	ISSUED FOR BID	2-3-23	AB

DATE: 9-3-22  
DRAWN BY: A. Barraclough  
CHECKED BY: M. Dean  
SCALE: 1/8" = 1'-0"

LIFE SAFETY  
DETAILS  
**TS1.1**





**BUILDING 2**

**Remoteness of Exits**  
 Building Diagonal is 228'-8"

Min Exit Separation Required is 114'-4"  
 Exits are separated by more than one half the building diagonal

**Maximum Travel Distance**

Allowable: 300'  
 Actual: 195'-2"

**FE Locations**

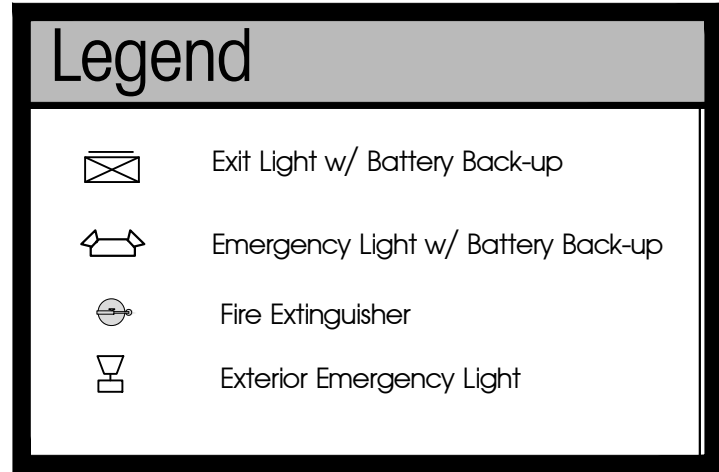
Hazard Rating- Moderate  
 Max Floor Area Per Fire Extinguisher- 11,250  
 Minimum Fire Extinguisher Required- 2  
 4 Fire Extinguishers Provided

Fire Extinguisher Travel Distance- 75'

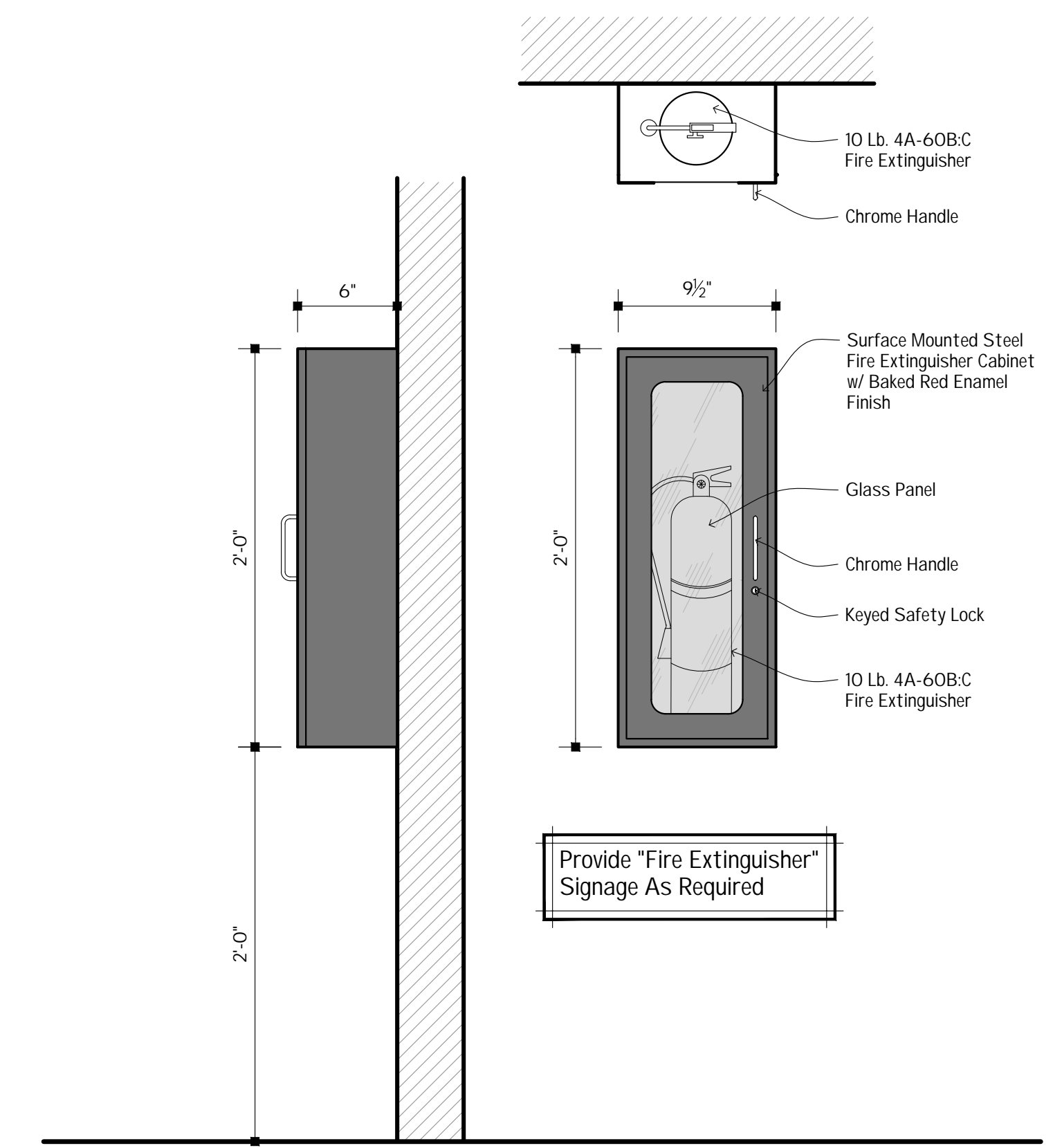
**Egress Capacity**

Floor Gross Area- 20,348 Sqft  
 Max Floor Area per Occupant  
 Storage (13,000 Sqft.) -500 Sqft.= 26  
 Business (1,025 Sqft.) -150 Sqft.= 7  
 Total Occupant Load- 33 People

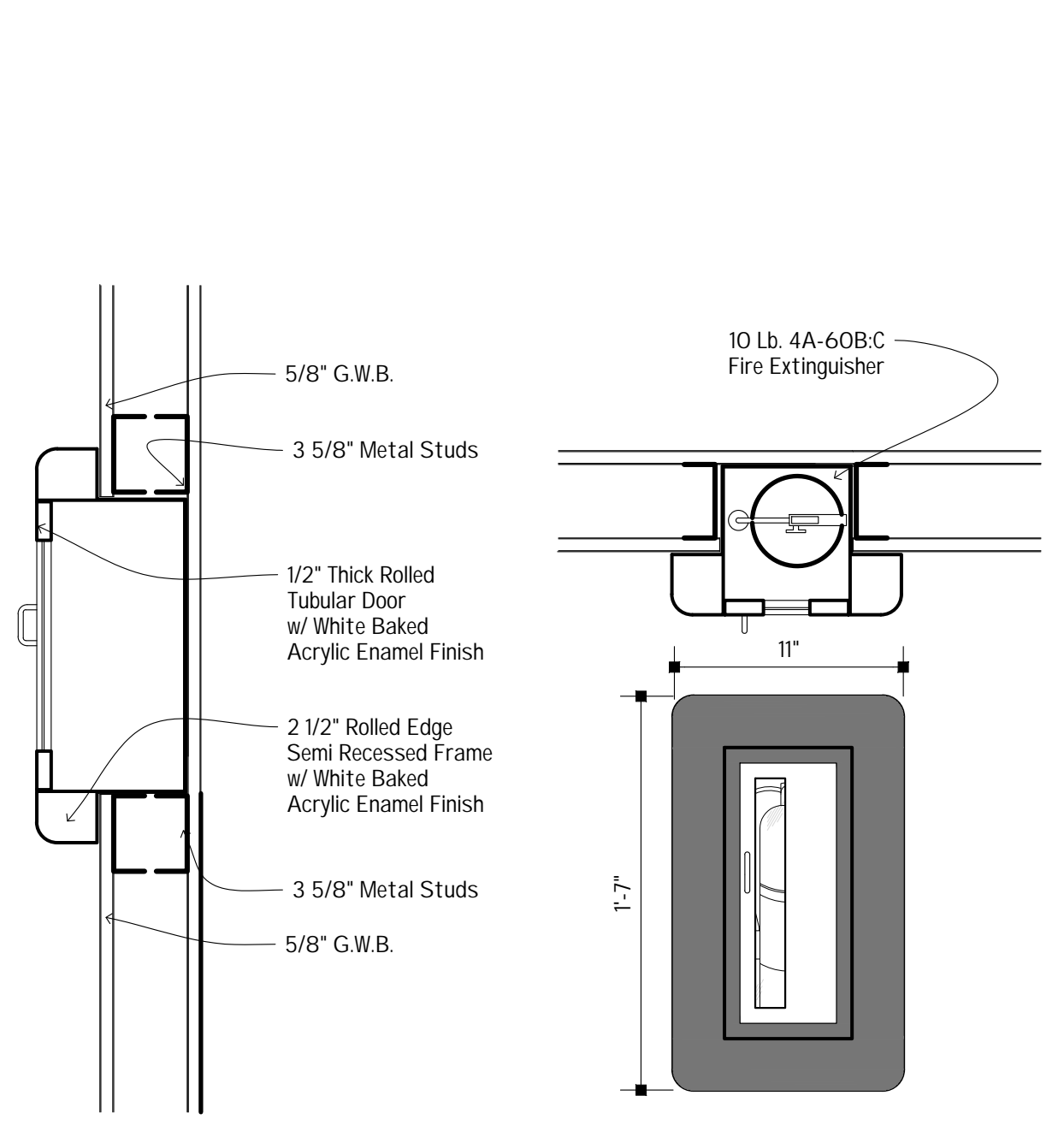
Required Egress Width per Occupant- 0.20"  
 Total Egress Width Required- 6.2"  
 Total Egress Width Provided- 72"



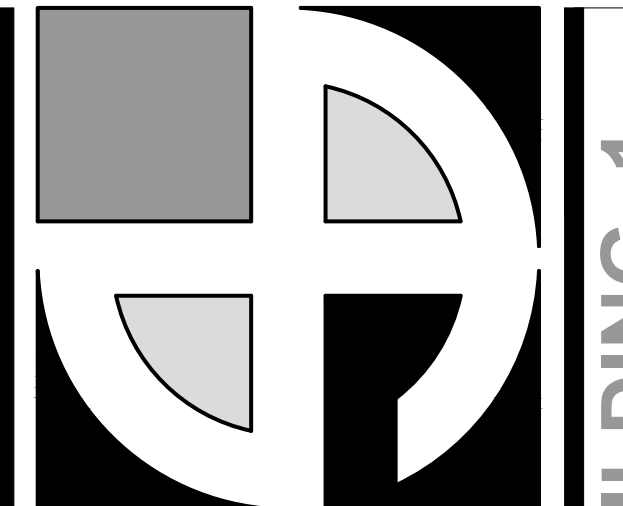
**1 BUILDING 2 LIFE SAFETY PLAN**  
 3/32"=1'-0"



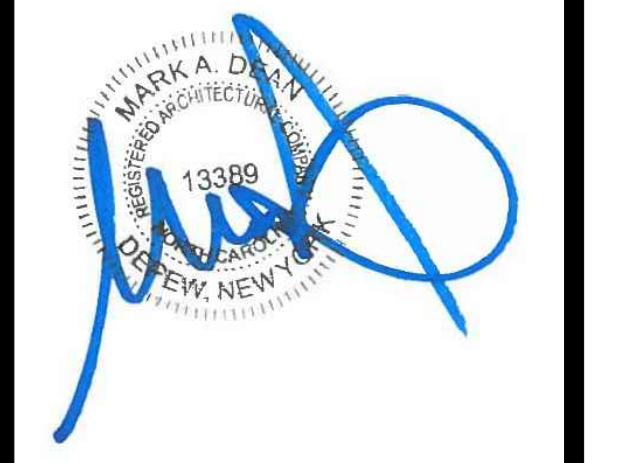
**2 FIRE EXTINGUISHER DETAIL**  
 NTS Surface Mount



**3 FIRE EXTINGUISHER DETAIL**  
 NTS Semi-Recessed



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**STORE SPACE**  
 937 E. Haggard Ave.  
 Elon, NC

No.	Description	Date	By
1	ISSUED FOR BID	2-3-23	AB

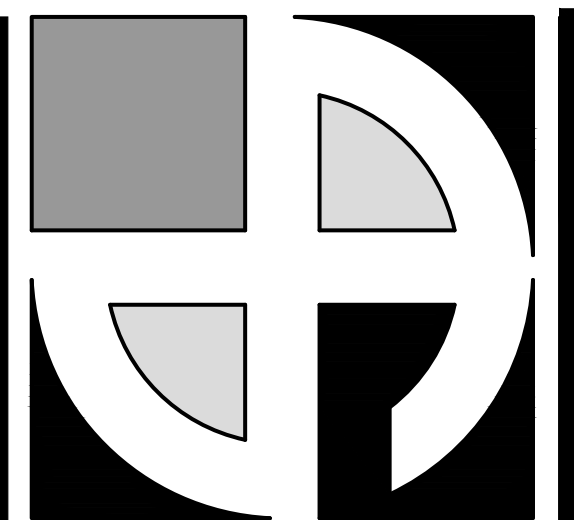
DATE: 9-3-22  
 DRAWN BY: A. Barraclough  
 CHECKED BY: M. Dean  
 SCALE: 3/32"=1'-0"

LIFE SAFETY PLAN  
**TS1.0**









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**STORE SPACE**

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Elon, NC

BUILDING 2

BUILDING 1

No.	Description	Date	By
1	ISSUED FOR BID	2-3-23	AB

DATE:  
9-3-22

DRAWN BY: A. Barraclough  
CHECKED BY: M. Dean

SCALE:  
3/32" = 1'-0"

FLOOR PLAN

**A1.0**

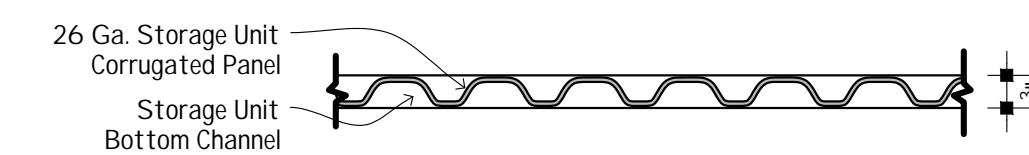
**GENERAL NOTES**

1. Do Not Scale Drawings.
2. The Contractor Shall Verify All Dimensions, Grades, Boundries, And Construction And Immediately Report Any Discrepancies To Owner Before Proceeding With The Work.
3. All Work Shall Conform To The Requirements Of All Local State And Federal Codes. Local, State And Federal Codes Are To Are To Take Precedence Over The Drawings And Specifications. If Discrepancy Is Noted Inform Owner Immediately And Before Proceeding With The Work.
4. All Dimensions, Notes, Finishes And Fixtures Shown On Typical Floor Plans, Sections Or Details Shall Apply To All Similar, Symmetrical Or Opposite Hand Plans, Sections Or Details.
5. All Dimensions Are To Face Stud Or Actual Face Of Masonry Unless Otherwise Noted.
6. All Wood Blocking And Plywood Sheathing To Be Fire Retardant (FRT) In Accordance With Latest AWPA Standards For Plywood And Lumber.
7. The Contractor Shall Follow All Safety Regulations As Recommended By OSHA.
8. The Contractor Shall Confine Operations At The Site To Areas Indicated On The Drawings And Shall Not Encumber The Site With Material And Equipment.
9. Guarantee Material, Equipment And Labor For A Period Of One Year After Owner Acceptance Of Work.
10. Failure To Show Or Mention Minor Details Shall Not Be Warrent For Omission Of Necessary Apputenances For The Normal, Usual And Proper Completion Of The Work.
11. All New Wall And Floor Finishes Shall Be Of Class 'A' Or 'B' And Class '1' Or Class '2' Ratings Respectively, And Shall Be Installed Per The Manufacturers Instructions.

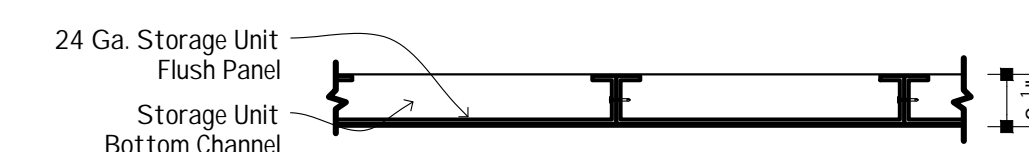
**LEGEND**

- EX Existing Door
- # Wall Type
- Existing Wall
- Xxx Existing Storage Unit

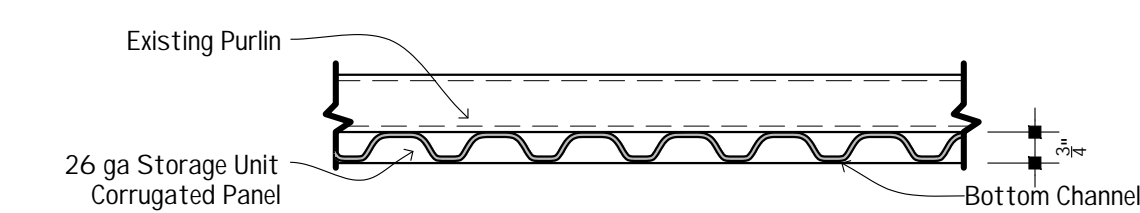
**WALL TYPES**



**1 | STORAGE UNIT CORRUGATED PANEL**  
1 1/2"=1'-0"

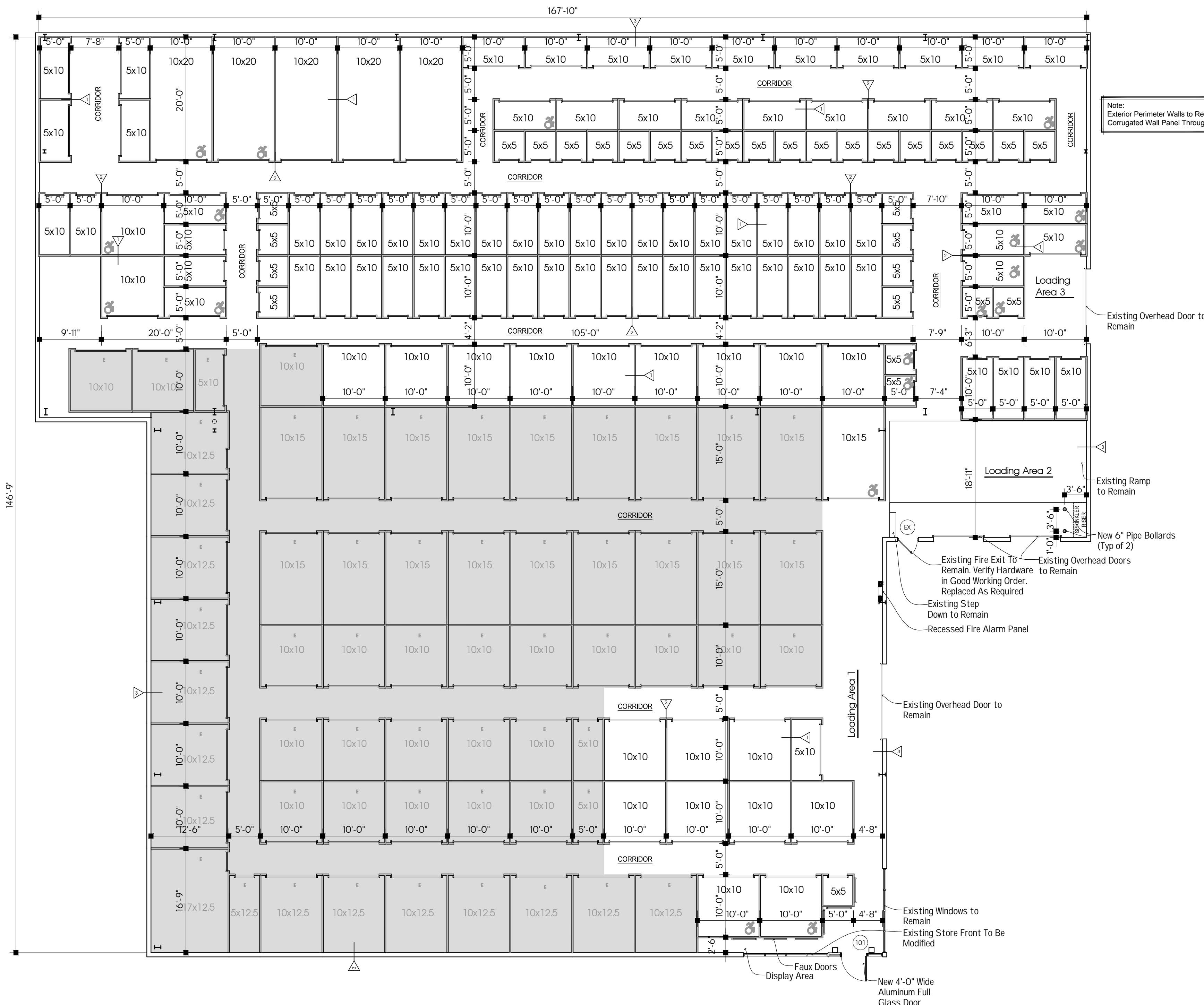


**2 | STORAGE UNIT FLUSH PANEL**  
1 1/2"=1'-0"

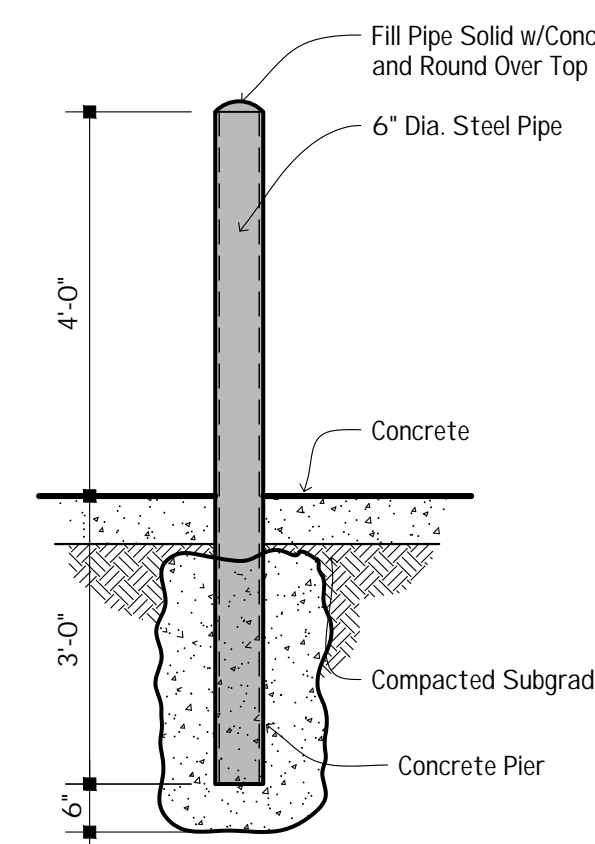


**3 | EXISTING WALL**  
1 1/2"=1'-0"

1. These notes are intended for use in conjunction with the specifications. Refer to the specifications for additional information.
2. Gypsum board nomenclature generally refers to products of United States Gypsum Company. Other gypsum products of similar and equivalent nature will be acceptable when differences do not materially detract from the design concept or the intended performance.
3. Install occoustical sediment in accordance with manufacturer's recommendations. Caulking the perimeter of partitions, openings, outlet box openings, and cut-outs in all partitions designated to receive occoustical insulation.
4. Maximum partition height: Do not exceed manufacturer's recommendations for spacing and stud gauge for 1/2" deflection. Where scheduled partition type does not meet requirements, increase stud gauge, decrease spacing, or provide bracing above ceiling to meet deflection criteria.
5. Provide double studs at all joints.
6. Provide solid lateral bracing in metal stud walls at 48" O.C. maximum or at wall mid-span, whichever is less. Lateral bracing shall be field cut runner with 1/2" x 20 Gs. strap or 1/2" cold rolled channel placed through stud web holes and welded to both sides of channel. Lateral bracing shall be installed immediately after the studs are erected.
7. Where walls transition from one wall type to another, the studs shall be aligned to provide for a flush and smooth finished surface.



**1 | FLOOR PLAN**  
3/32"=1'-0"



**2 | PIPE BOLLARD DETAIL**  
1/2"=1'-0"

BUILDING 1 UNIT MIX SCHEDULE								
Gross SF: 20,896	Existing	5x5	5x10	10x10	10x15	10x20	Total	
Unit Quantity	59	30	78	20	1	5	193	Total Units
SF Per Unit		25	50	100	150	200		
Total SF	7075	750	3900	2000	150	1000	14,875	Net Rentable
Unit Percentage	30.57%	15.54%	40.41%	10.36%	0.52%	2.59%	77.1	Average SF/Unit
SF Percentage	47.56%	5.04%	26.22%	13.45%	1.01%	6.72%	71.19%	Efficiency
ACCESSIBLE UNITS								
	Existing	5x5	5x10	10x10	10x15	10x20	Total	
Unit Quantity	0	4	8	4	1	2	19	Total Units





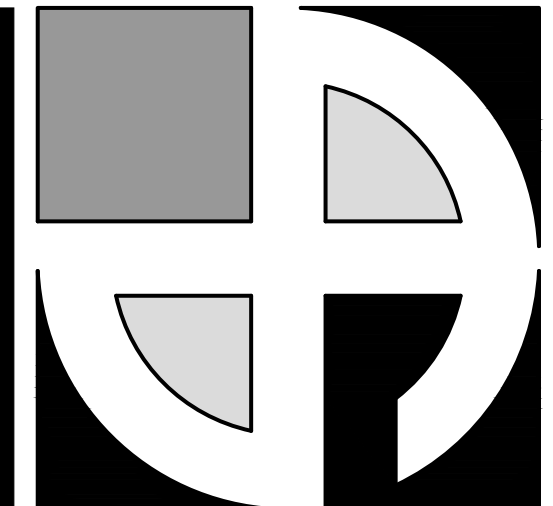


**1 UNIT MIX PLAN**  
3/32"=1'-0"

**LEGEND**

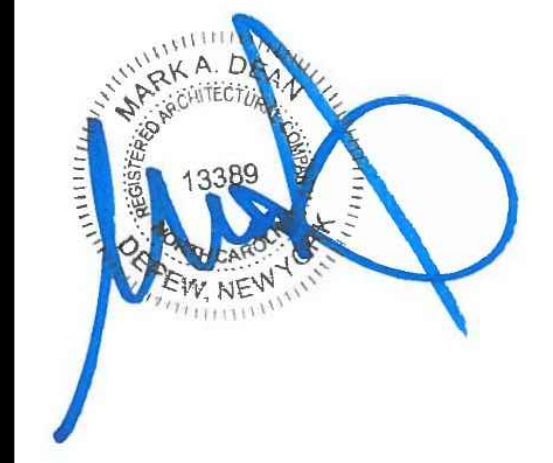
- 5x5 Unit
- 5x10 Unit
- 10x10 Unit
- 10x15 Unit
- 10x20 Unit
- Existing Unit To Remain

BUILDING 1 UNIT MIX SCHEDULE							
Gross SF: 20,896	Existing	5x5	5x10	10x10	10x15	10x20	Total
Unit Quantity	59	30	78	20	1	5	193 Total Units
SF Per Unit		25	50	100	150	200	
Total SF	7075	750	3900	2000	150	1000	14,875 Net Rentable
Unit Percentage	30.57%	15.54%	40.41%	10.36%	0.52%	2.59%	77.1 Average SF/Unit
SF Percentage	47.56%	5.04%	26.22%	13.45%	1.01%	6.72%	71.19% Efficiency
ACCESSIBLE UNITS							
	Existing	5x5	5x10	10x10	10x15	10x20	Total
Unit Quantity	0	4	8	4	1	2	19 Total Units



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**22-238**

**STORE SPACE**

937 E. Haggard Ave.  
Elon, NC

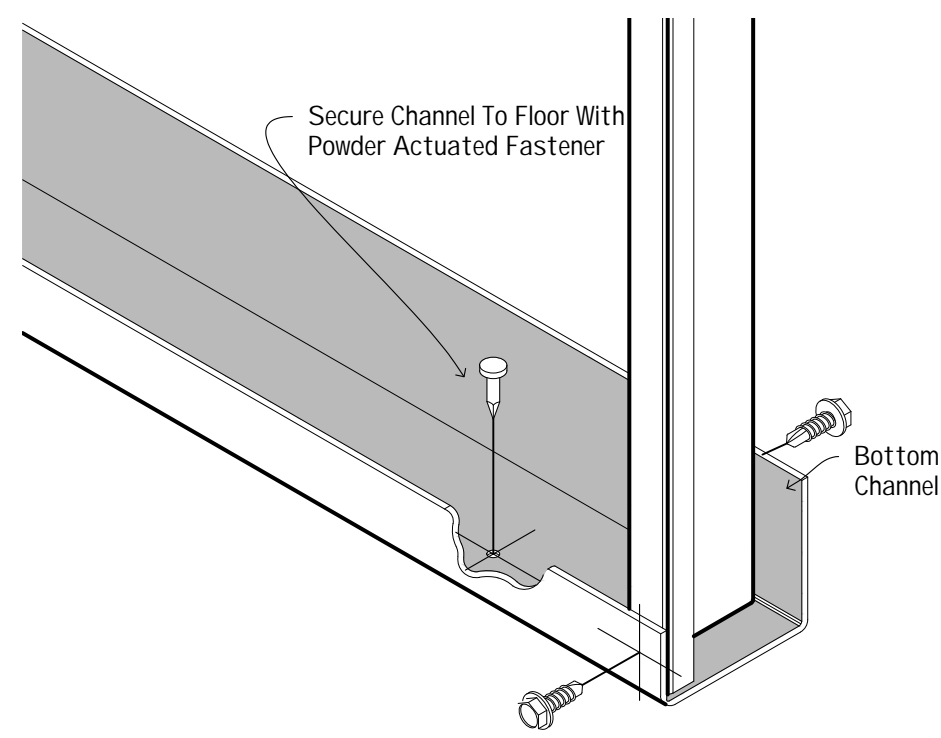
No.	Description	Date	By
1	ISSUED FOR BID	2-3-23	AB

DATE:  
9-3-22  
DRAWN BY:  
A. Barraclough  
CHECKED BY:  
M. Dean  
SCALE:  
3/32"= 1'-0"

UNIT MIX PLANS

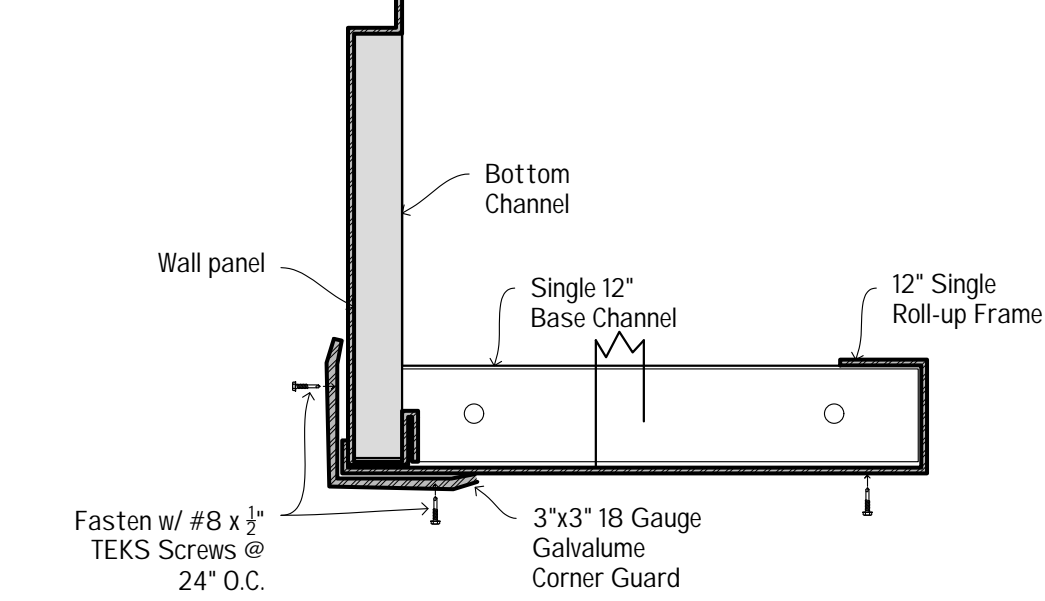
**A1.1**





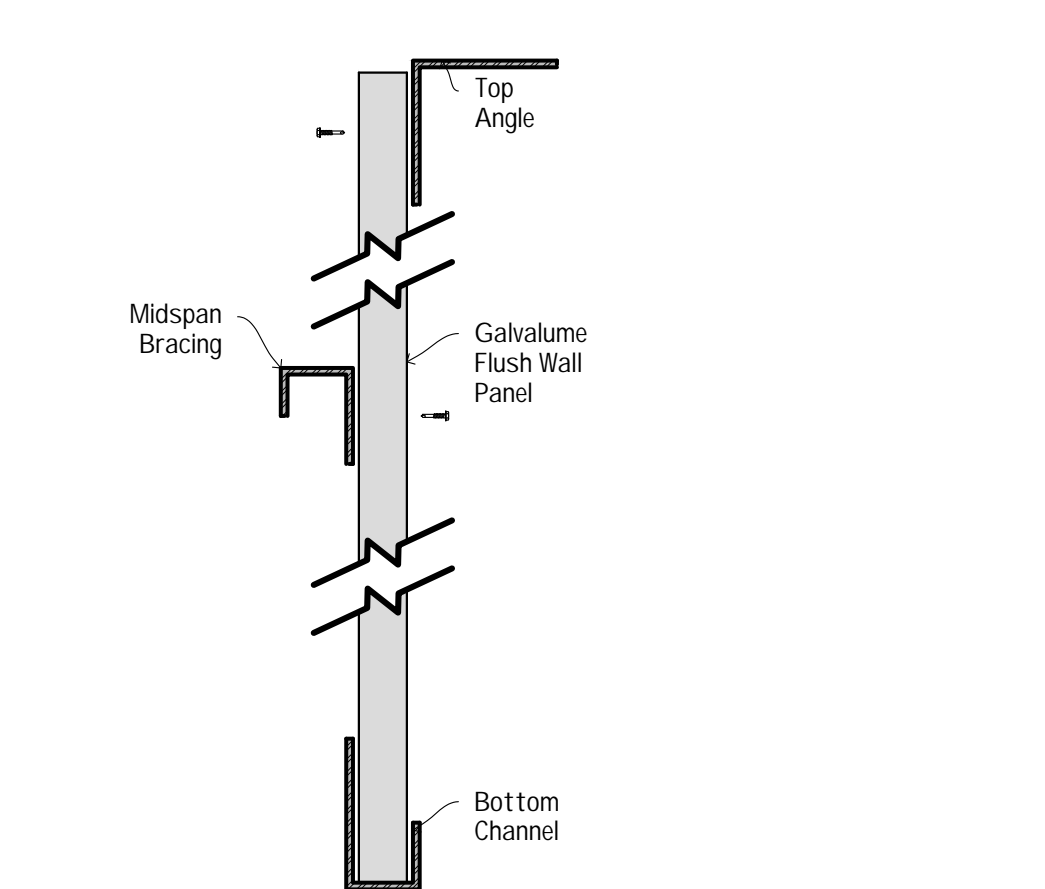
**A | Base Mounting**

3"=1'-0"

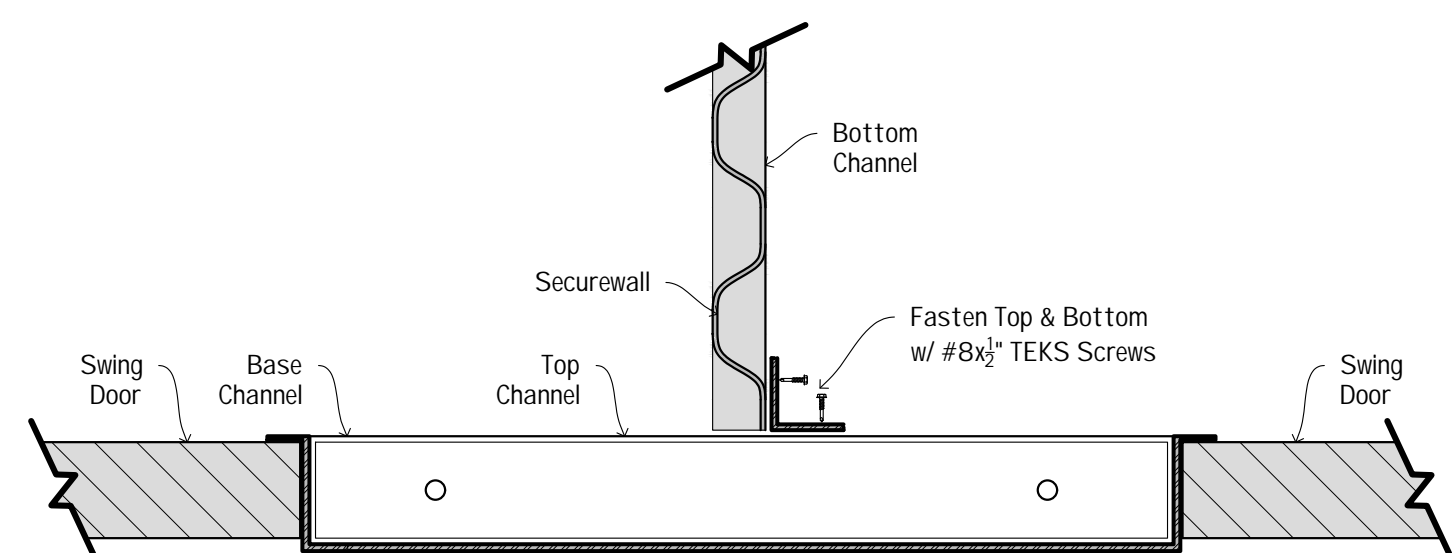


**B | Outside Corner**

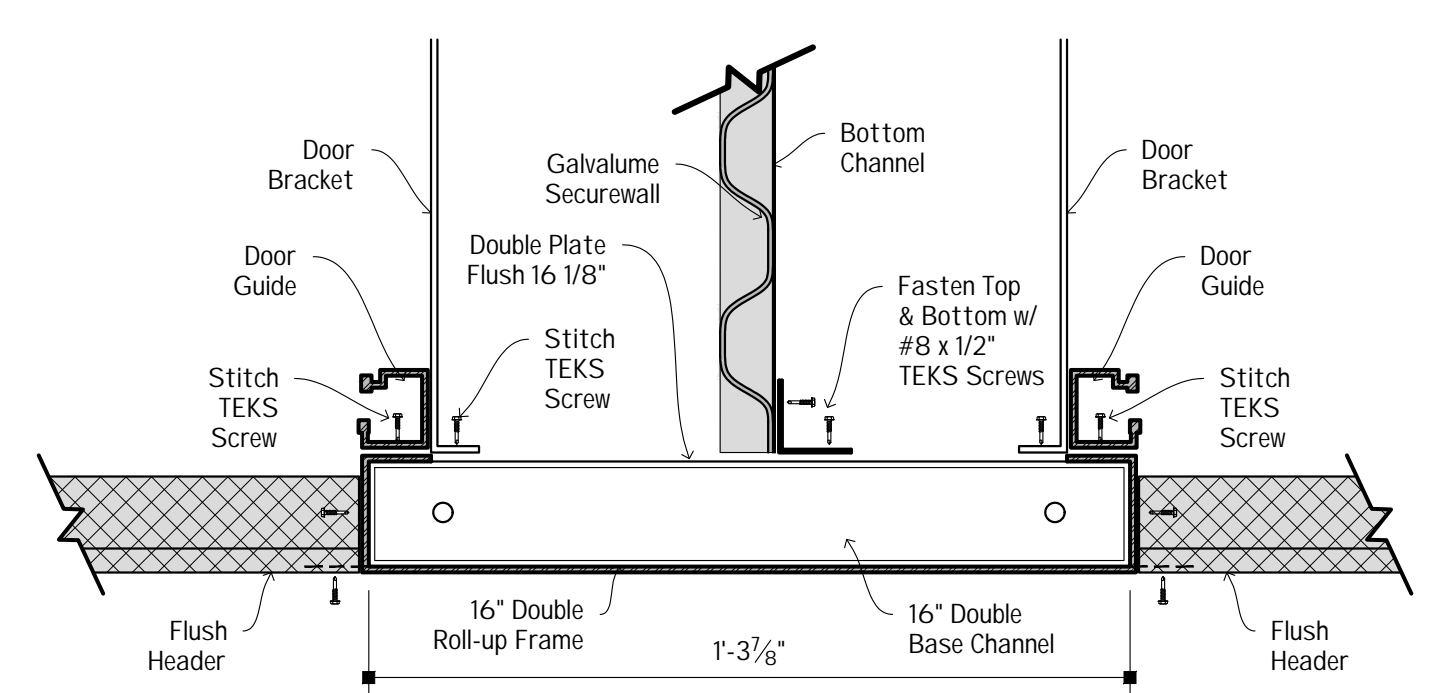
3"=1'-0"



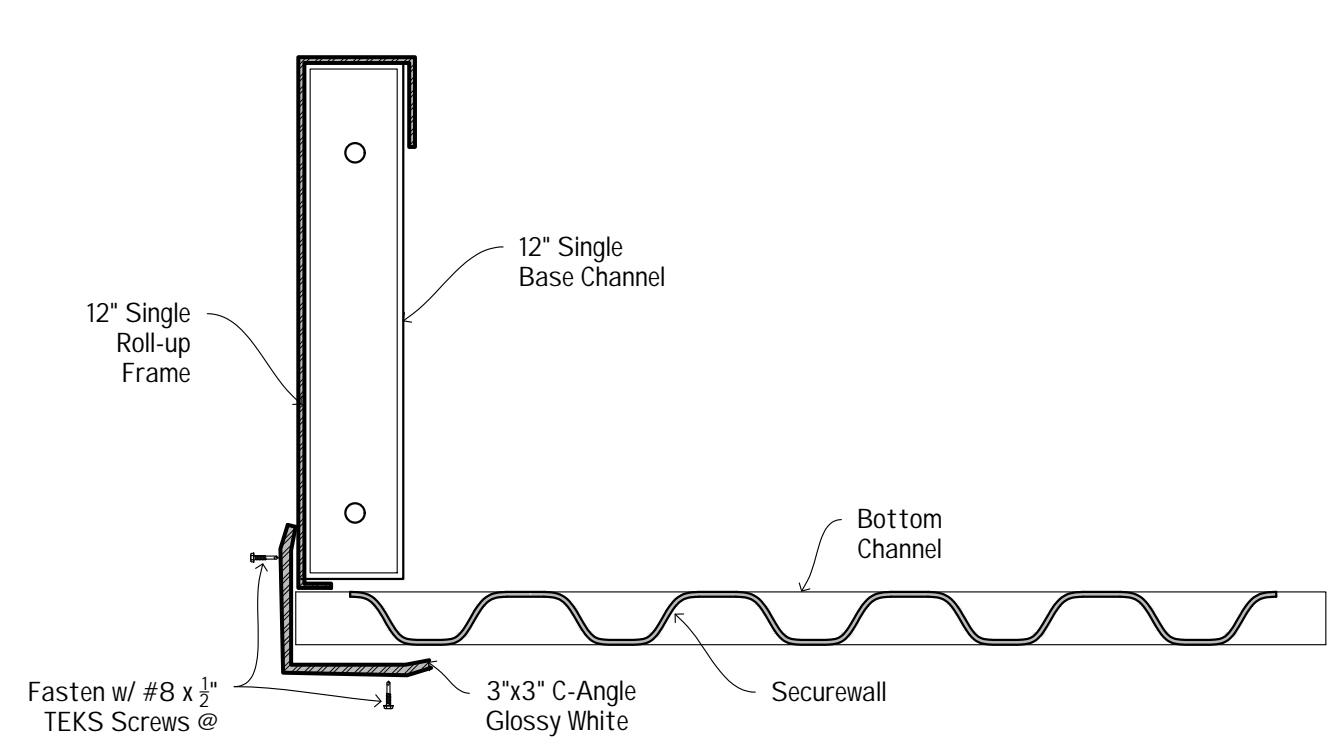
**C | Typical Wall Construction**



**Swing Door**

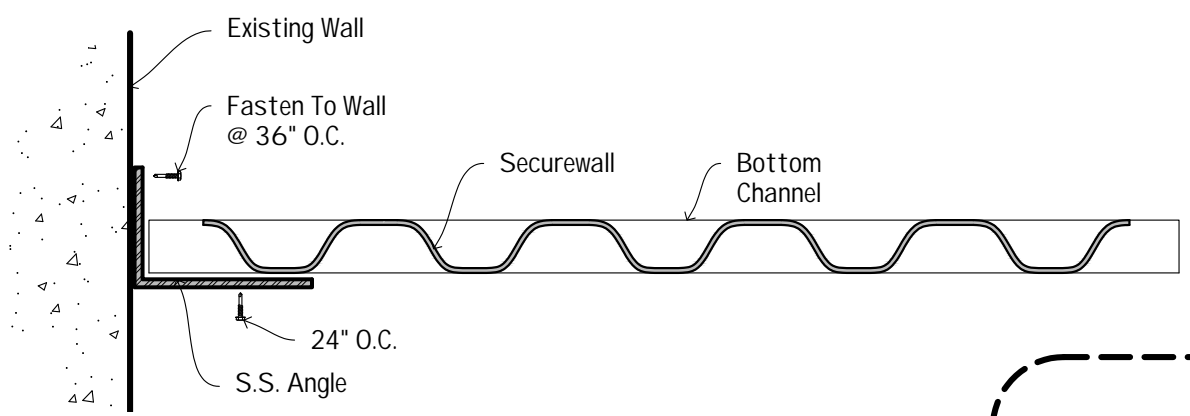


**D | Double Roll Up Door**



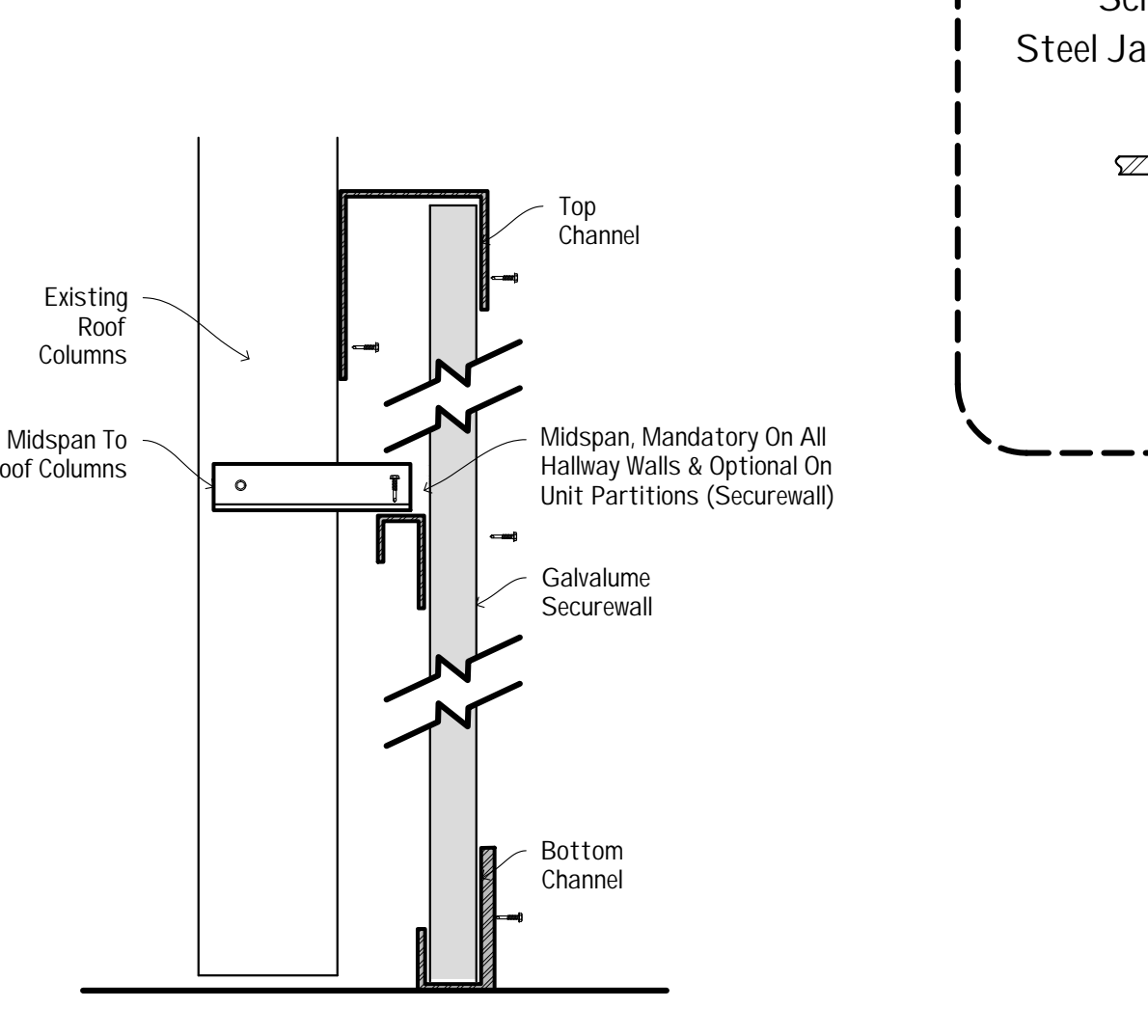
**F | Corner Connection**

Fasten w/ #8 x 1/2\"/>



**G | Wall Connection**

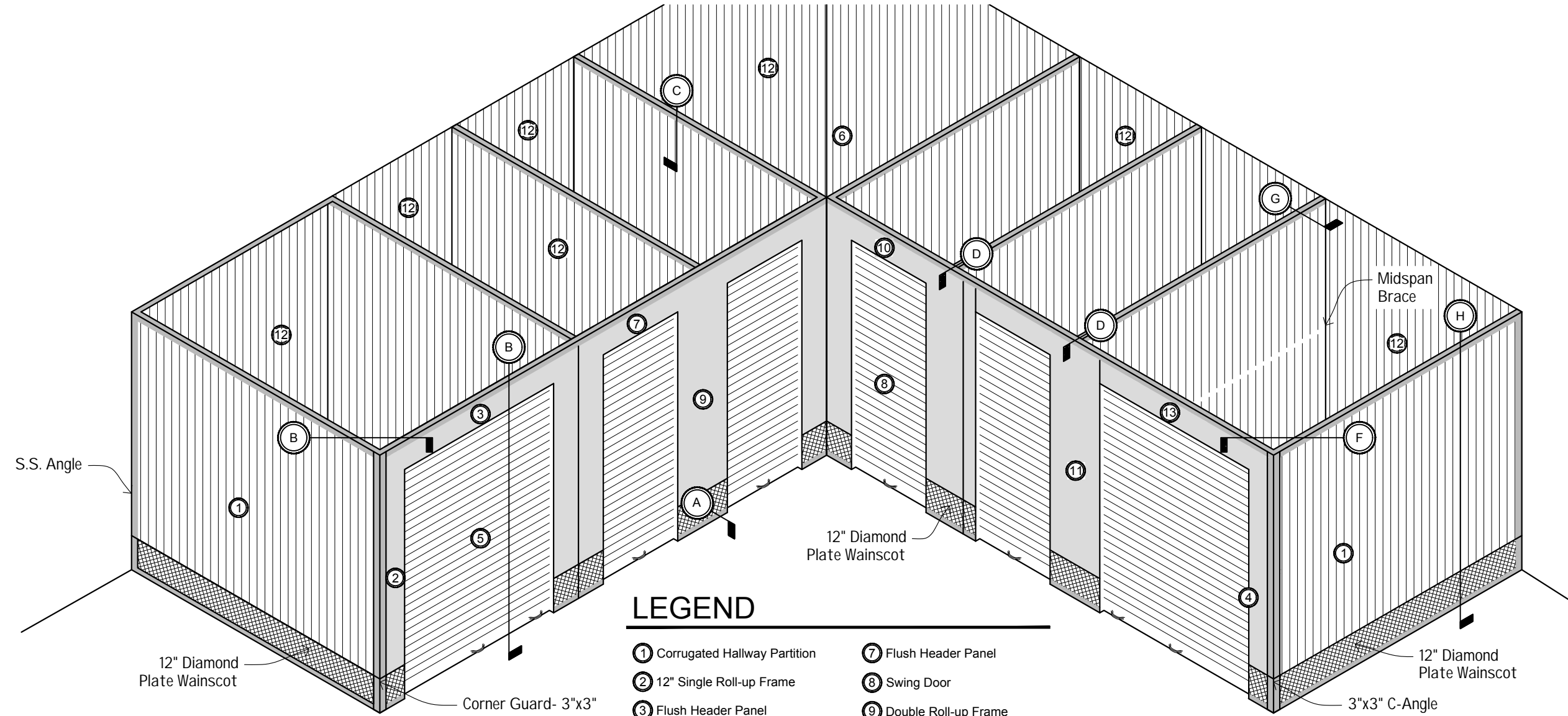
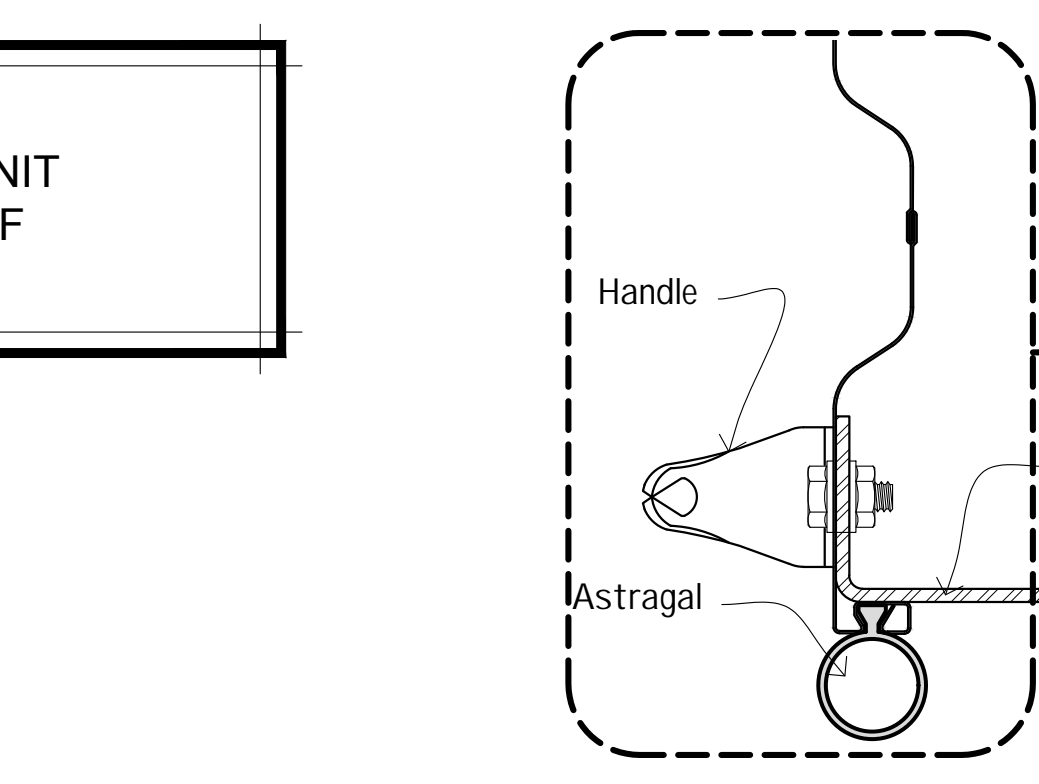
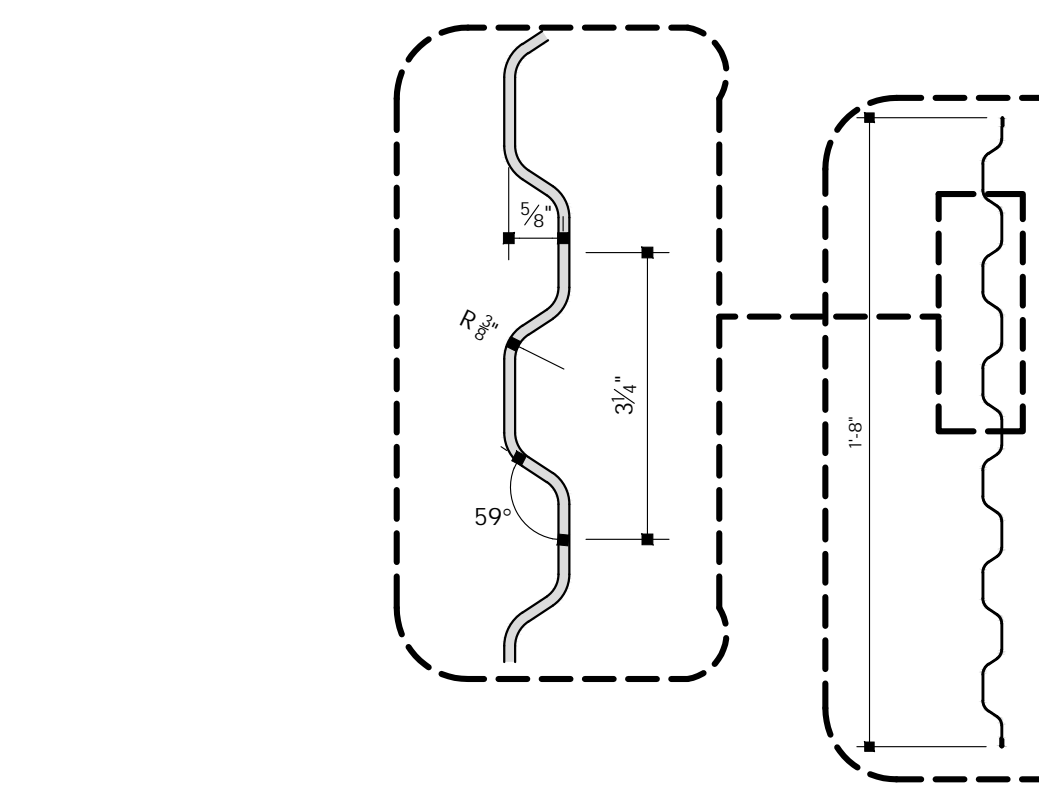
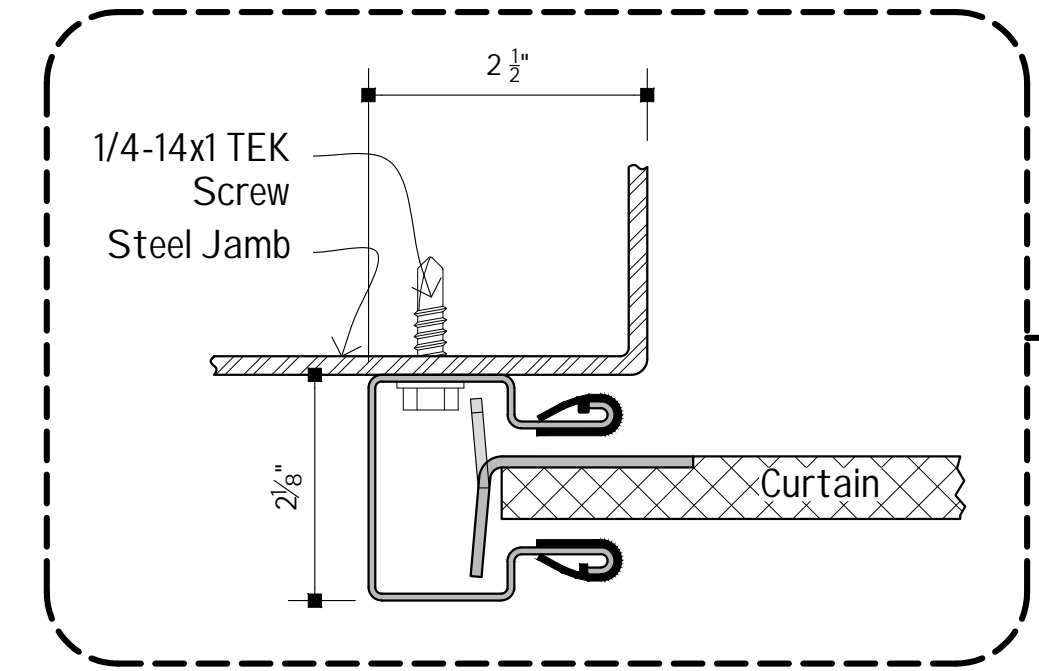
Fasten w/ #8 x 1/2\"/>



**H | Secure Connection**

**Note:**  
ALL INTERIOR CORRUGATED UNIT WALLS TO EXTEND TO 10'-0" AFF

**UNIT DOOR HARDWARE**  
Janus JBI CTS NHSS Stainless Steel  
(No Padlock Holes, Cylinder Only)  
  
Janus JBI CTS NHYZ Yellow Zinc  
(No Padlock, Cylinder Only)



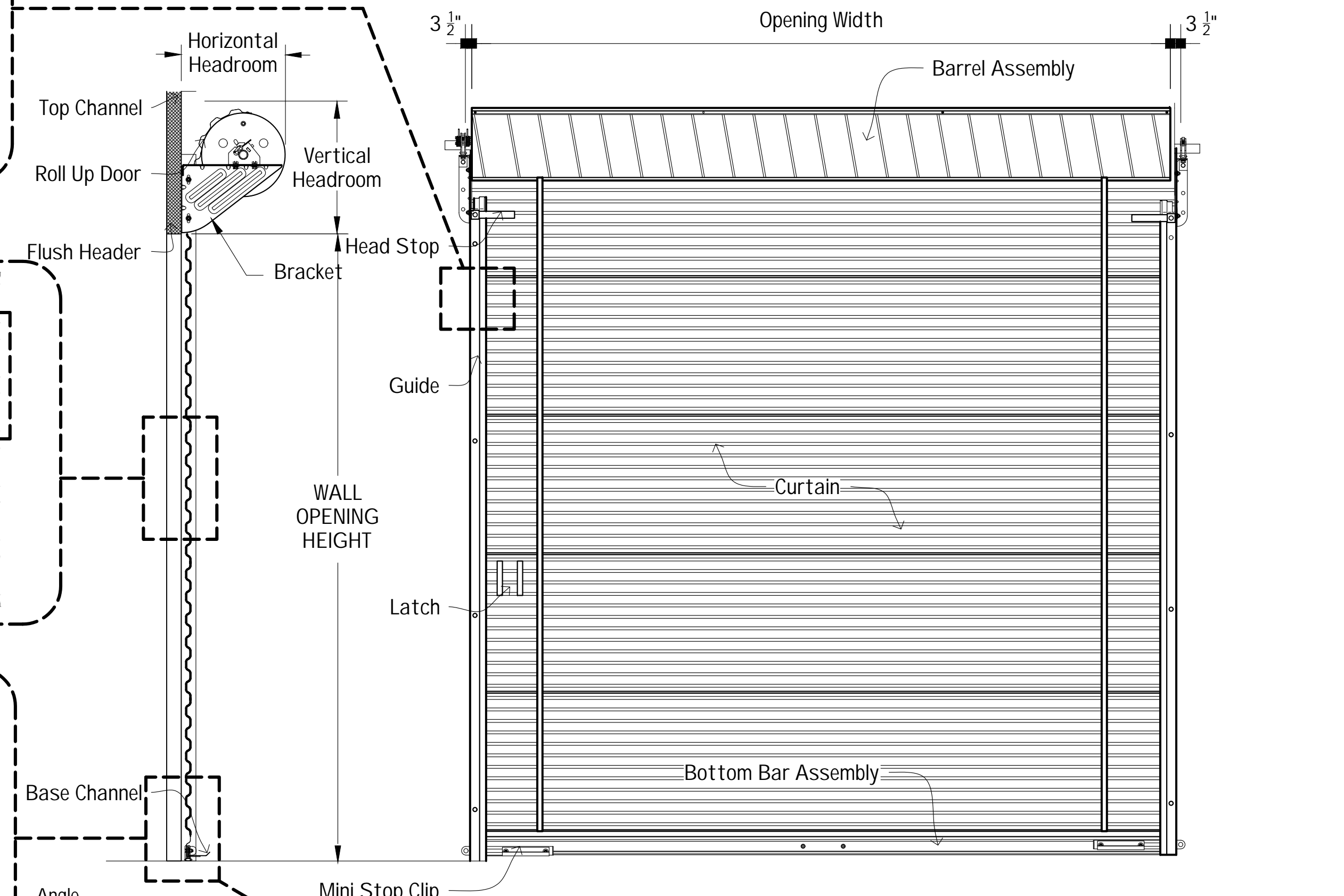
**1 | HALLWAY SYSTEM**

**LEGEND**

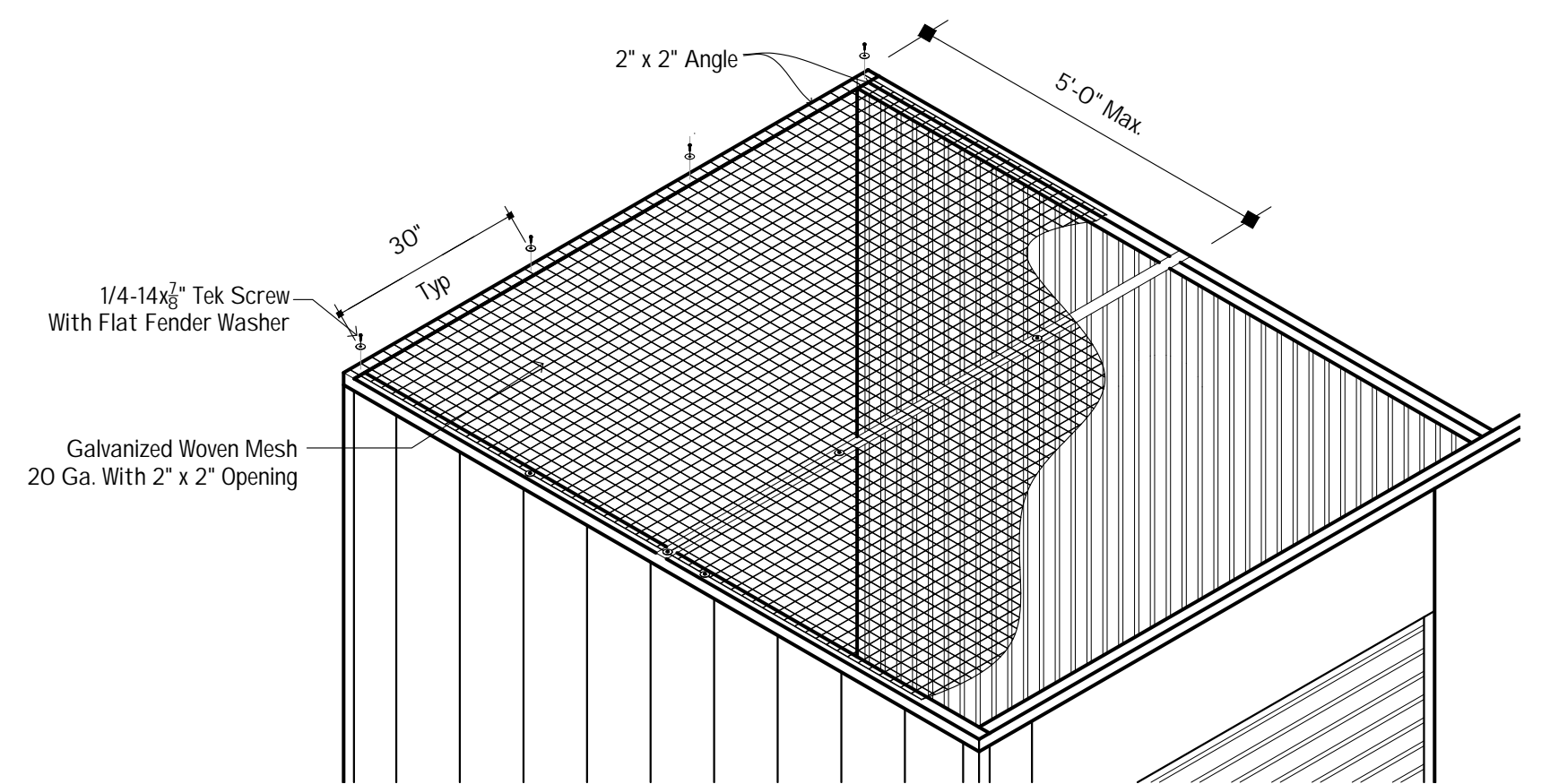
- ① Corrugated Hallway Partition
- ② 12" Single Roll-up Frame
- ③ Flush Header Panel
- ④ 8" Single Roll-up Frame
- ⑤ Roll-up Door
- ⑥ System Vertical Frame
- ⑦ Flush Header Panel
- ⑧ Swing Door
- ⑨ Double Roll-up Frame
- ⑩ Swing Door Header
- ⑪ 16" Double Roll-up Frame
- ⑫ Interior Wall Partition (Corrugated)

Standard Wall Assembly Details. Refer To Floor Plan For Specific Layout Information

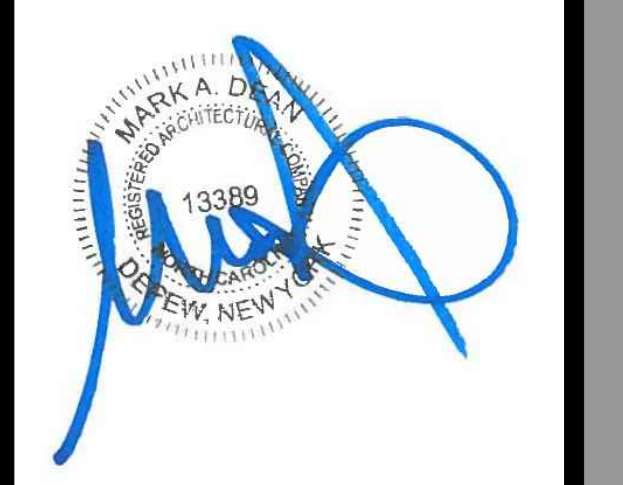
**UNIT WALL HEIGHT TO BE 8'-4" HIGH**  
  
Provide 4'-0" High Diamond Plate Wainscot @ Entry & Loading Area Walls



**2 | ROLLING DOOR**



**3 | WIRE MESH COVER**



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**22-238**

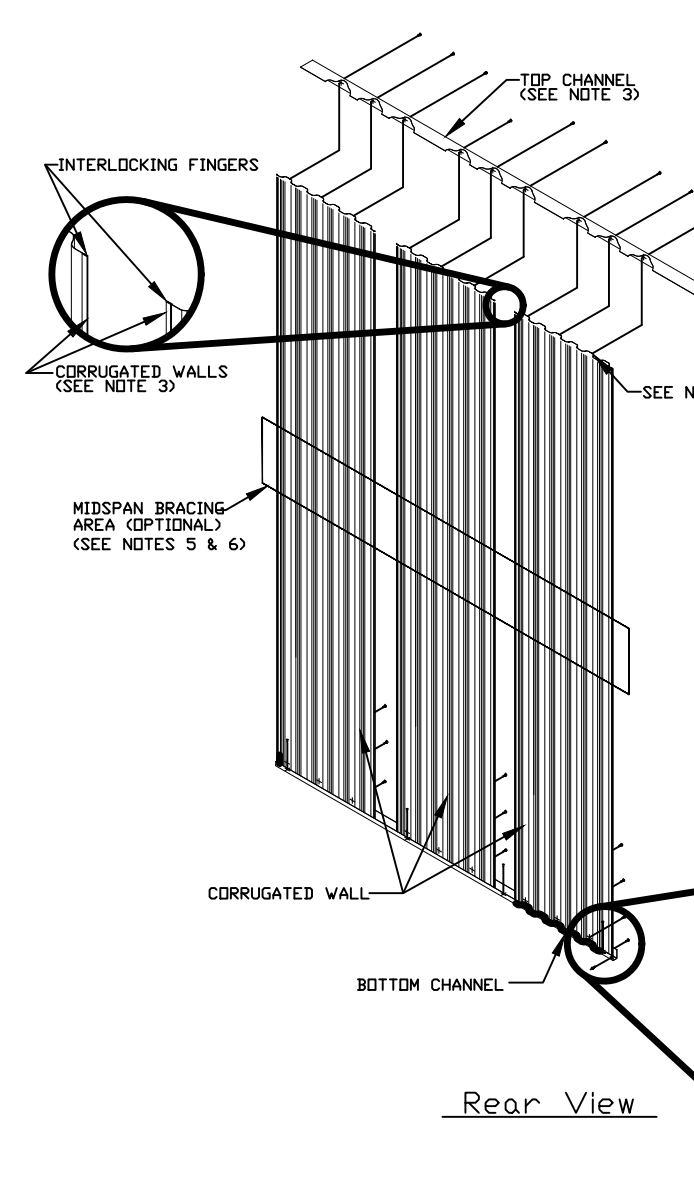
**STORE SPACE**  
937 E. Haggard Ave.  
Elon, NC

No.	Description	Date	By
1	ISSUED FOR BID	2-3-23	AB

DATE: 9-3-22  
DRAWN BY: A. Barraclough  
CHECKED BY: M. Dean  
SCALE: NTS

**STORAGE UNIT DETAILS**  
**A1.2**

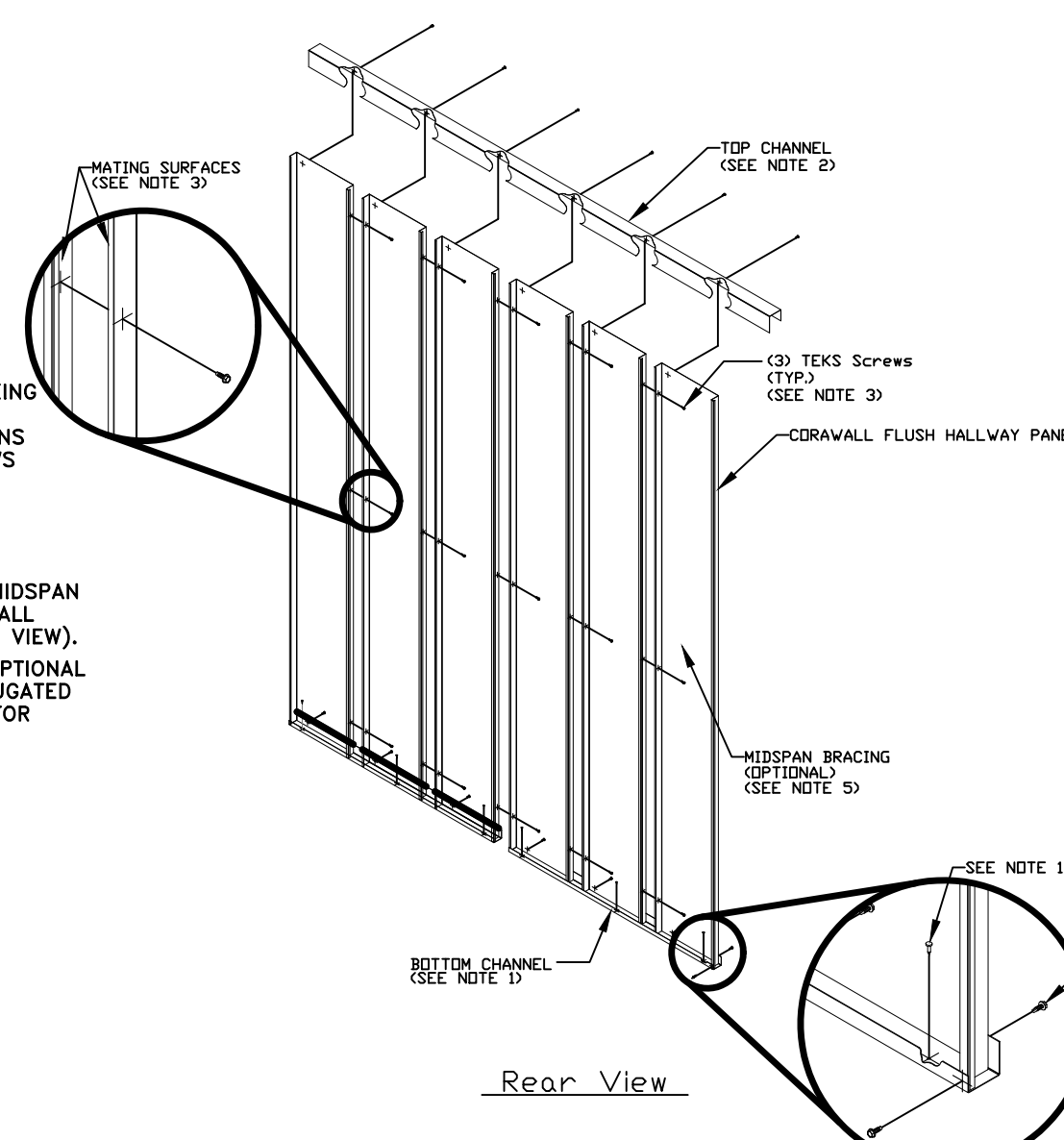




**NOTES:**

- 1) FASTEN THE BOTTOM CHANNEL TO THE FLOOR USING AIR OR POWDER ACTUATED FASTENERS.
- 2) CONNECT THE TOP CHANNEL TO THE ROOF PURLIN USING TAK SCREWS.
- 3) INSERT THE CORRUGATED WALL PANELS INTO THE TOP AND BOTTOM CHANNELS. SLIDE THE INTERLOCKING "FINGERS" OF THE CORRUGATED UNTIL SECURE AND FASTEN THE TOP OF THE CORRUGATED WALL SECTIONS TO THE TOP CHANNEL'S OUTER LIP USING TEKS SCREWS (AS SHOWN IN THE REAR VIEW).
- 4) SECURE THE BOTTOM OF THE CORRUGATED WALL SECTIONS TO THE BOTTOM CHANNEL'S FRONT FACE USING TEKS SCREWS (AS SHOWN IN REAR VIEW).
- 5) IF INCLUDED IN PARTS GROUPING, SECURE THE MIDSPAN BRACING ACROSS THE BACK OF THE CORRUGATED WALL SECTIONS USING TEKS SCREWS (AS SHOWN IN REAR VIEW).
- 6) THIS AREA IS THE APPLICATION AREA FOR THE OPTIONAL MIDSPAN BRACING ACROSS THE BACK OF THE CORRUGATED WALL SECTIONS. SEE DRAWING A-900-005-0005 FOR MOUNTING DETAILS.

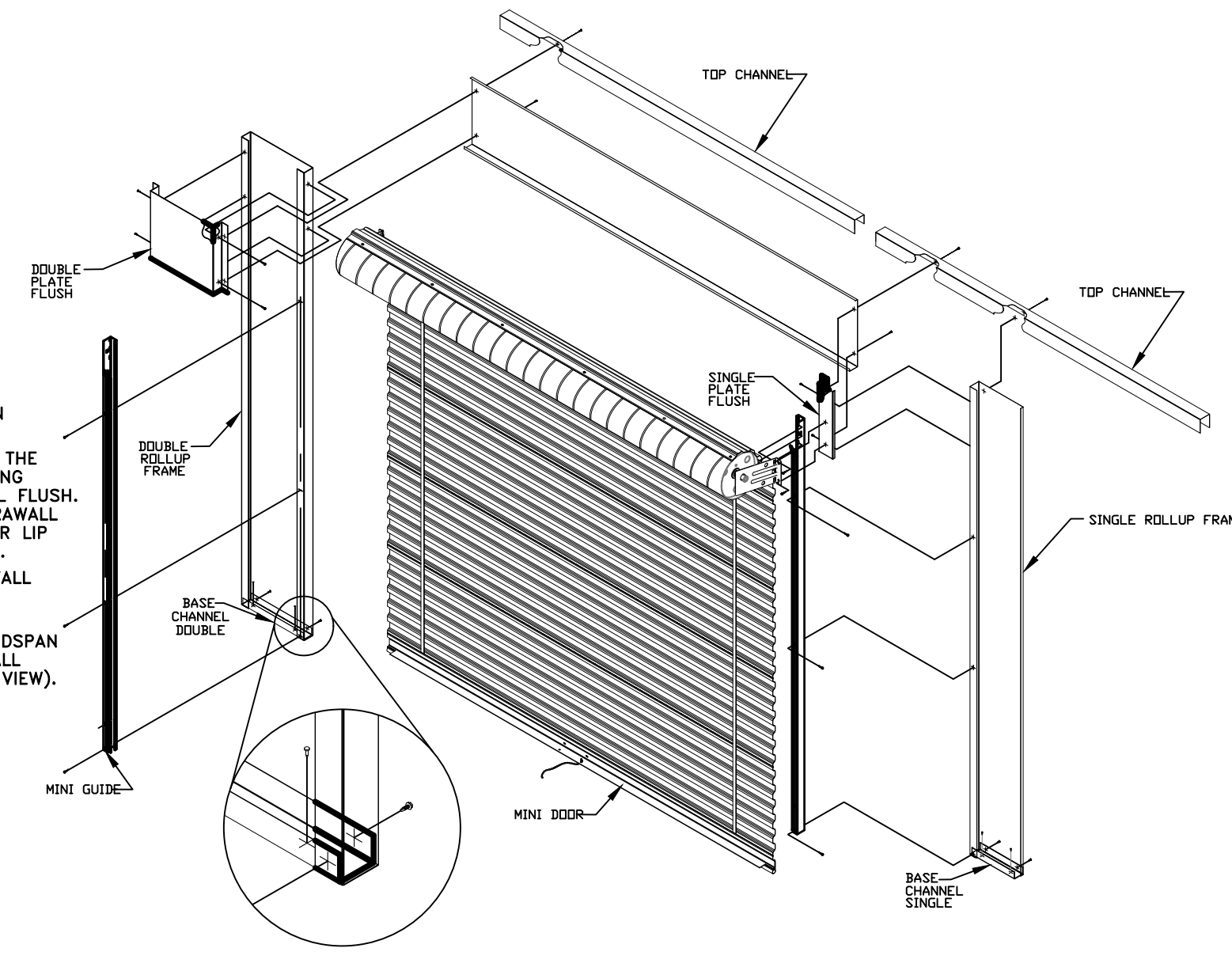
**1 | UNIT PARTITION**  
@ SIDE AND REAR PARTITION



**NOTES:**

- 1) FASTEN THE BOTTOM CHANNEL TO THE FLOOR USING AIR OR POWDER ACTUATED FASTENERS.
- 2) CONNECT THE TOP CHANNEL TO THE ROOF PURLIN USING TAK SCREWS.
- 3) INSERT THE CORAWALL FLUSH WALL PANELS INTO THE TOP AND BOTTOM CHANNELS. SLIDE THE INTERLOCKING "FACES" OF THE CORAWALL FLUSH WALL UNITS UNTIL FLUSH. FASTEN ALONG THE FACE OF THE SIDES OF THE CORAWALL FLUSH WALL SECTIONS TO THE TOP CHANNEL'S OUTER LIP USING TEKS SCREWS (AS SHOWN IN THE REAR VIEW).
- 4) SECURE THE BOTTOM OF THE CORAWALL FLUSH WALL SECTIONS TO THE BOTTOM CHANNEL'S FRONT FACE USING TEKS SCREWS (AS SHOWN IN REAR VIEW).
- 5) IF INCLUDED IN PARTS GROUPING, SECURE THE MIDSPAN BRACING ACROSS THE BACK OF THE CORRUGATED WALL SECTIONS USING TEKS SCREWS (AS SHOWN IN REAR VIEW).

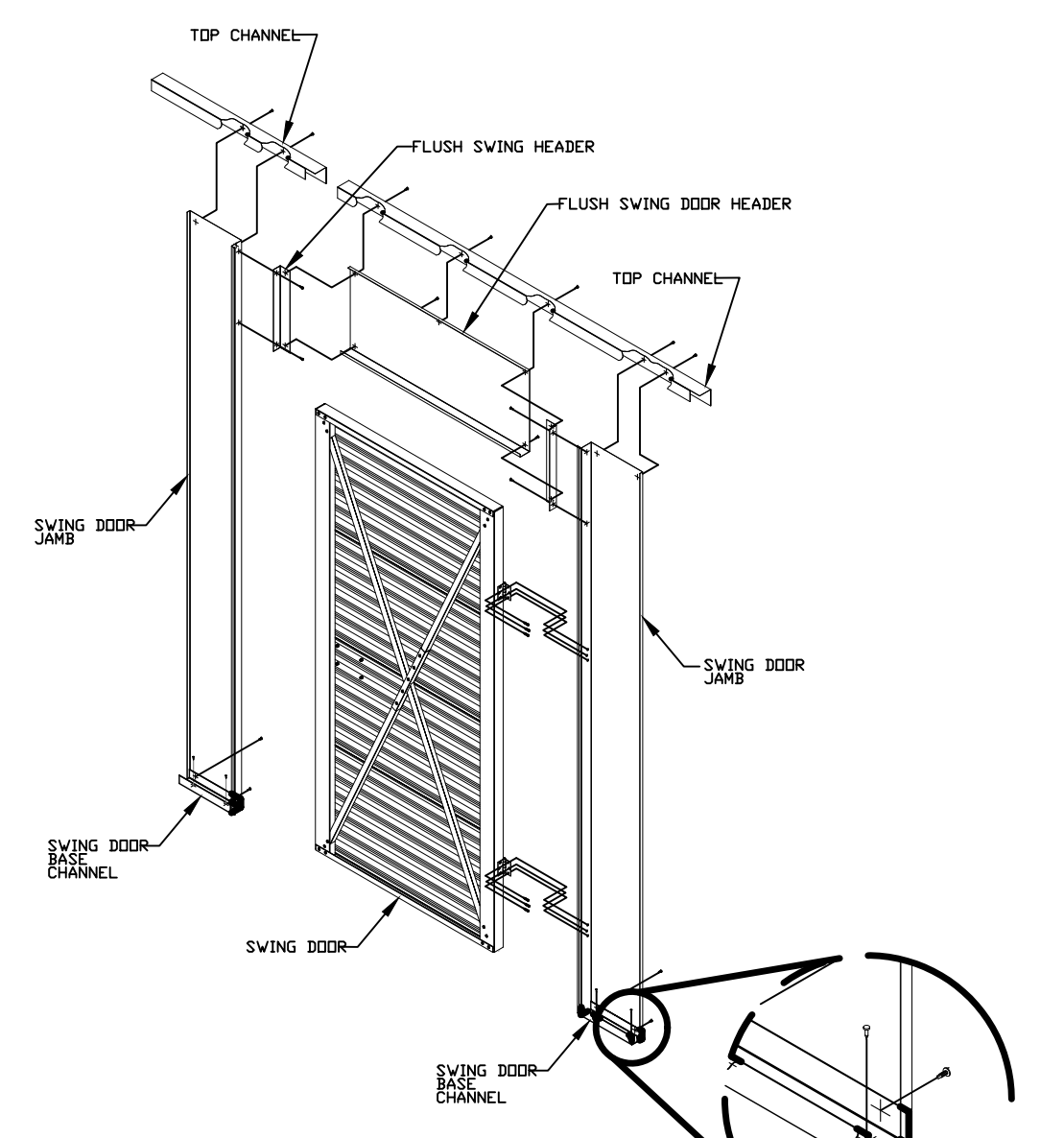
**2 | FLUSH PANEL**



**INSTALLATION NOTES:**

- 1.) These door and hallway system instructions are intended for a professional installer such as a steel erector or door installer. Individuals without sufficient knowledge of the doors, hallways or steel components can pose a threat for potential injury or harm. Failure to follow instructions can result in personal injury and/or material damages. Please review ALL drawings and instructions prior to installation and layout.
- 2.) Upon receiving material, check quantities and items against the packing list to confirm all materials were received. Arrange material in locations near their final position, out of the way of other trades. Stage in a dry area to minimize material movement and potential damage.
- 3.) Reference site drawing to review layout and unit mix before commencing installation. Note that the finished hallway dimension will be 4'-1/2" less than the rough hallway width due to the 2-1/4" bottom floor channel secured on each side of the hallway.
- 4.) Using a chalk line, mark the dimensions for the hallway 2-1/4" from a steel structure starting point. Affix the hallway bottom channel between the steel structure and the edge of the chalk line.
- 5.) Anchor with supplied shot & pin every 24" on center. Continue in the same manner with the unit partition Bottom Channel measuring the units dimension from the back of channel (already anchored to the front of the channel being laid out). As plans indicate, affix the roll up frame Base Channels accordingly with 2 shot and pin fasteners per base channel.
- 6.) Attach starter angle to floor bottom channel. Temporarily brace with 2"x2" angle, to reinforce and minimize flexibility. Make sure the starter angle is plumb for easy top channel installation. A starter angle is required between each individual unit.
- 7.) Attach flush or corrugated Back Plate to Rollup Frame with (4) #8 Tek screws-2 per side. Height of the plate is determined by the height of the hallway system and door size. The top edge of the Back Plate should also be flush with the top edge of the Rollup Frame.
- 8.) Install the Rollup Frames relative to door opening size. Stand up the Rollup Frame with the Back Plate and fasten the assembly to the rollup frame base channel. Insure that the frame is plumb for easy Top

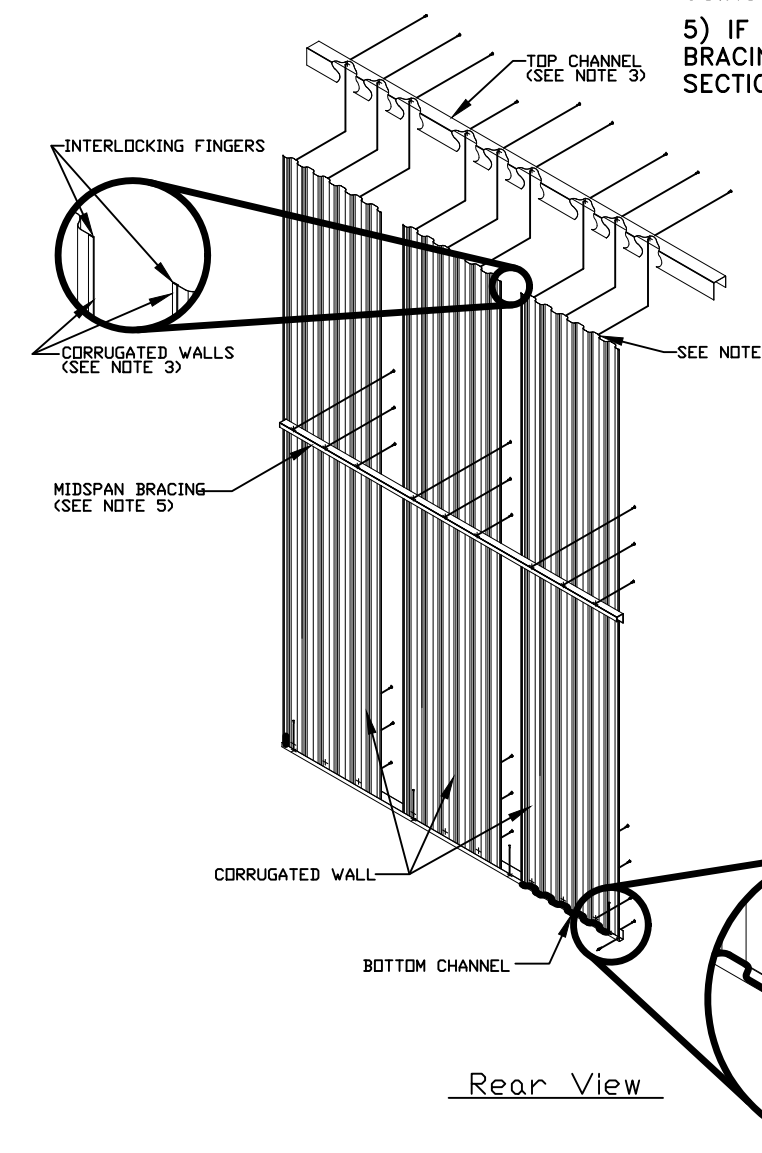
**3 | ROLL UP DOOR**



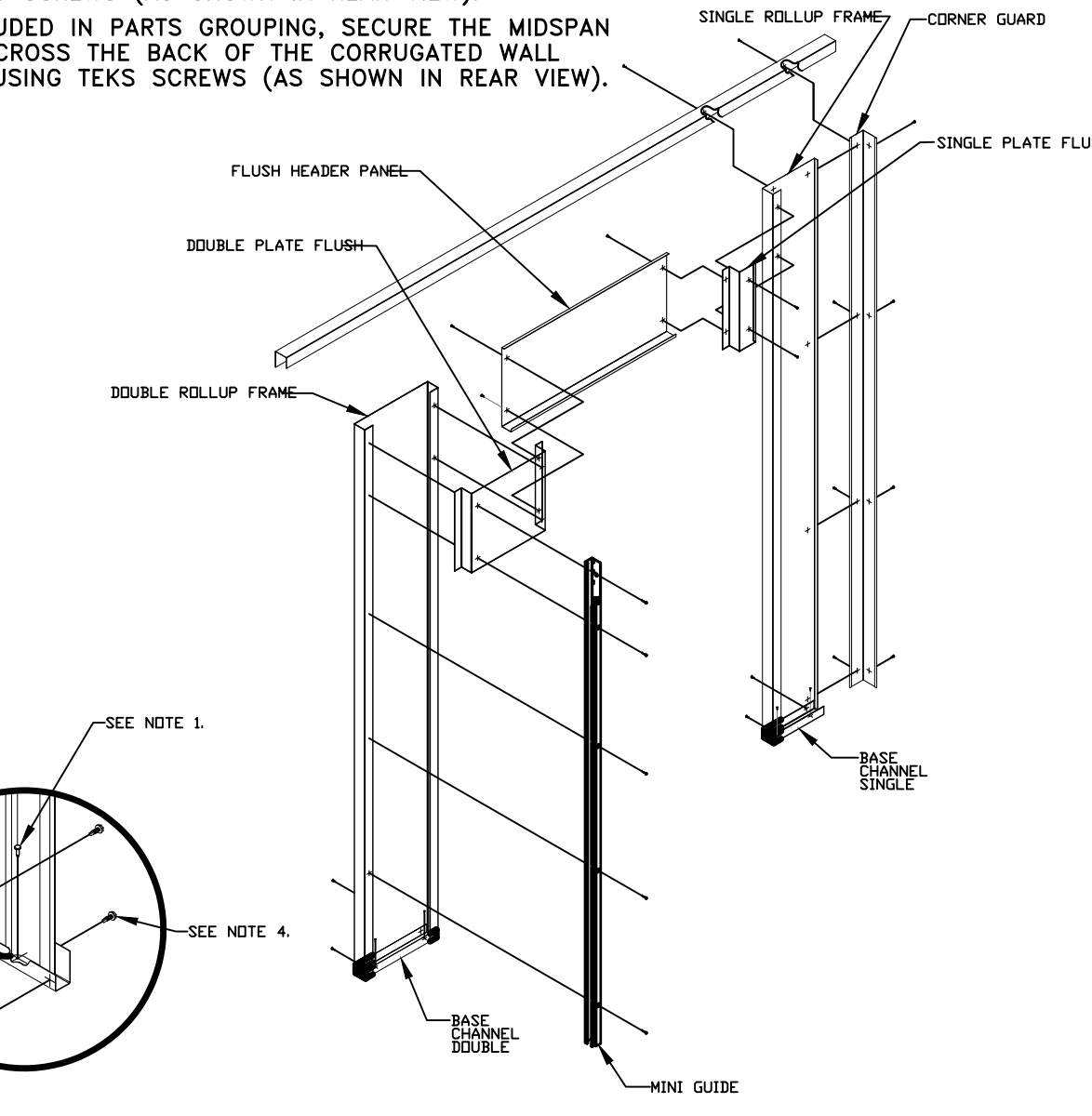
**4 | SWING DOOR**

**NOTES:**

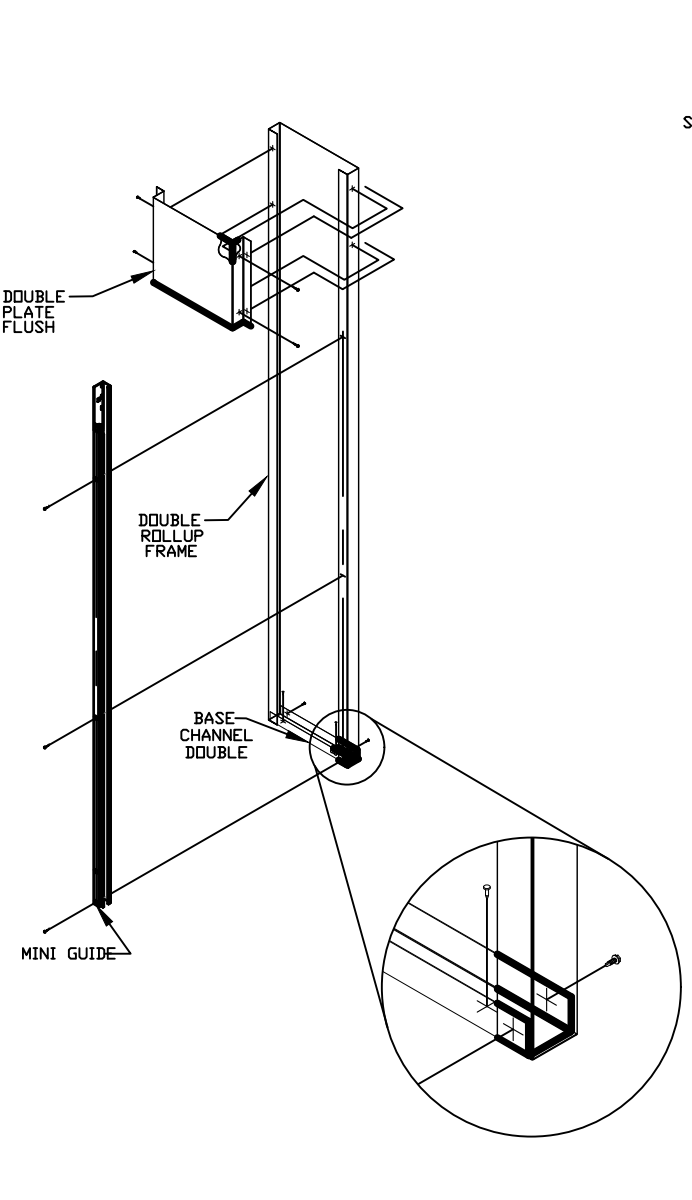
- 1) FASTEN THE BOTTOM CHANNEL TO THE FLOOR USING AIR OR POWDER ACTUATED FASTENERS.
- 2) CONNECT THE TOP CHANNEL TO THE ROOF PURLIN USING TAK SCREWS.
- 3) INSERT THE CORRUGATED WALL PANELS INTO THE TOP AND BOTTOM CHANNELS. SLIDE THE INTERLOCKING "FINGERS" OF THE CORRUGATED UNTIL SECURE AND FASTEN THE TOP OF THE CORRUGATED WALL SECTIONS TO THE TOP CHANNEL'S OUTER LIP USING TEKS SCREWS (AS SHOWN IN THE REAR VIEW).
- 4) SECURE THE BOTTOM OF THE CORRUGATED WALL SECTIONS TO THE BOTTOM CHANNEL'S FRONT FACE USING TEKS SCREWS (AS SHOWN IN REAR VIEW).
- 5) IF INCLUDED IN PARTS GROUPING, SECURE THE MIDSPAN BRACING ACROSS THE BACK OF THE CORRUGATED WALL SECTIONS USING TEKS SCREWS (AS SHOWN IN REAR VIEW).



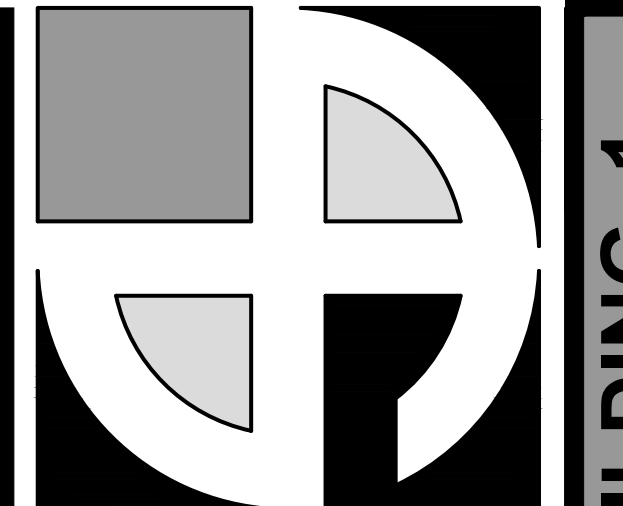
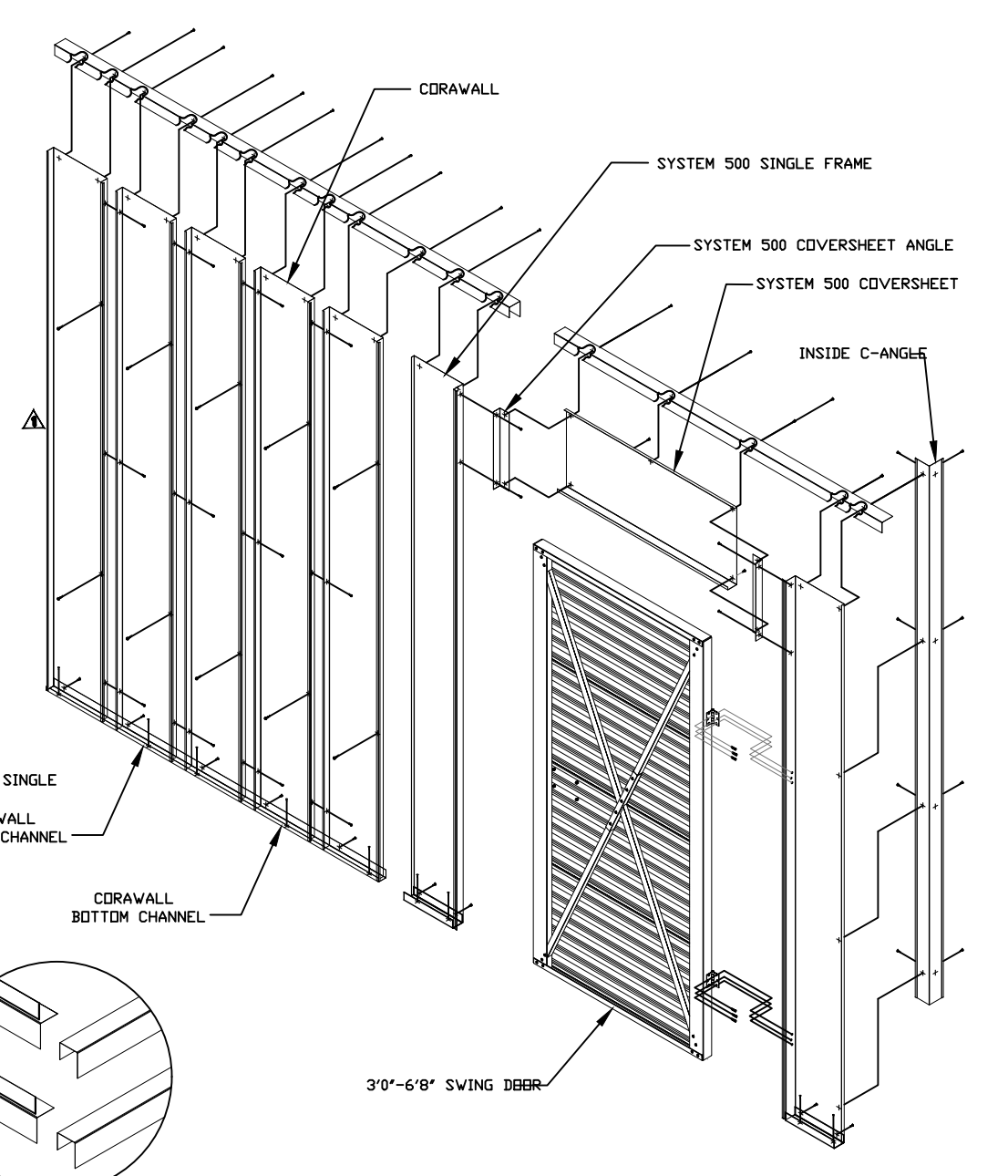
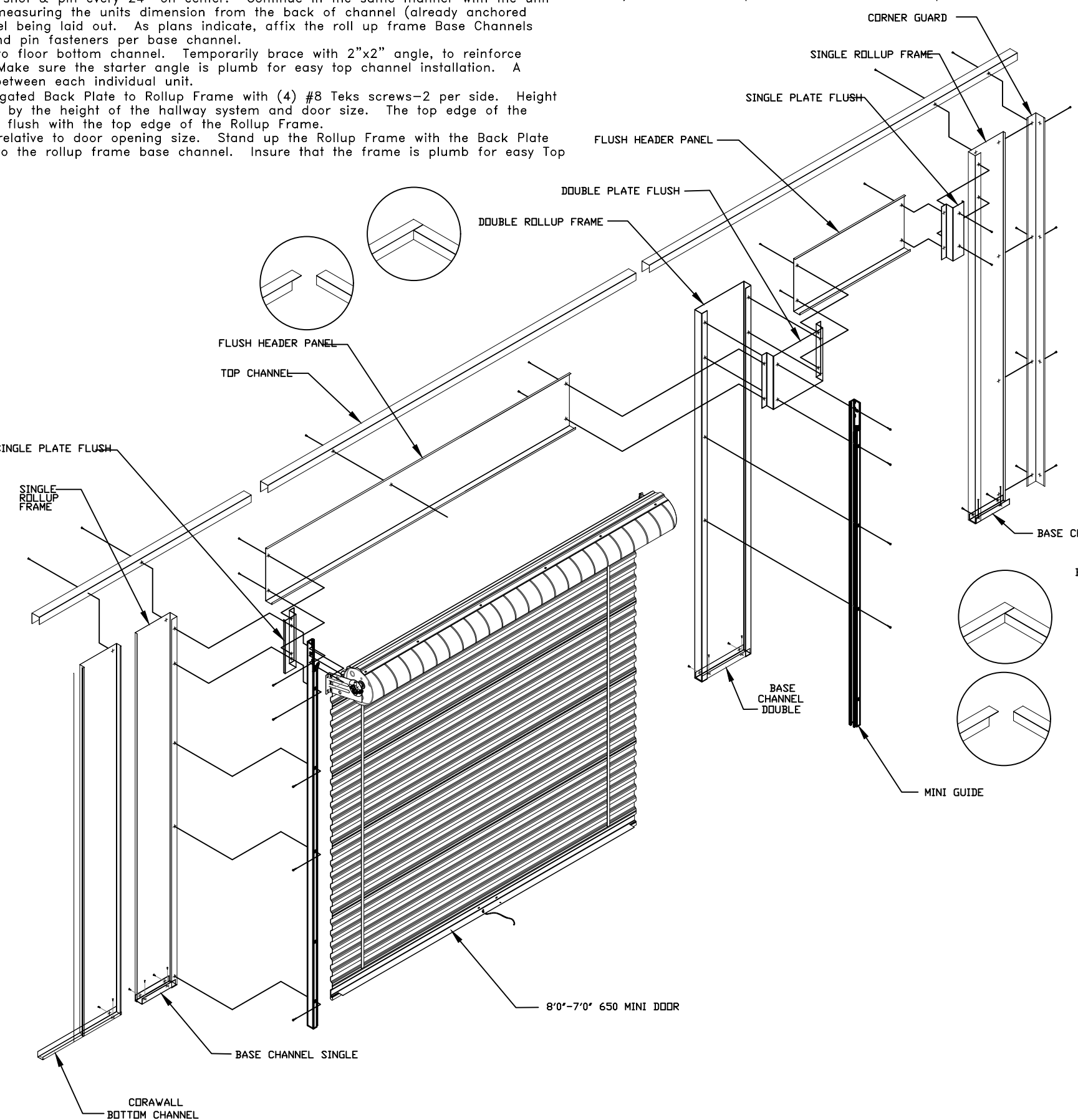
**5 | CORRUGATED HALLWAY PANEL**



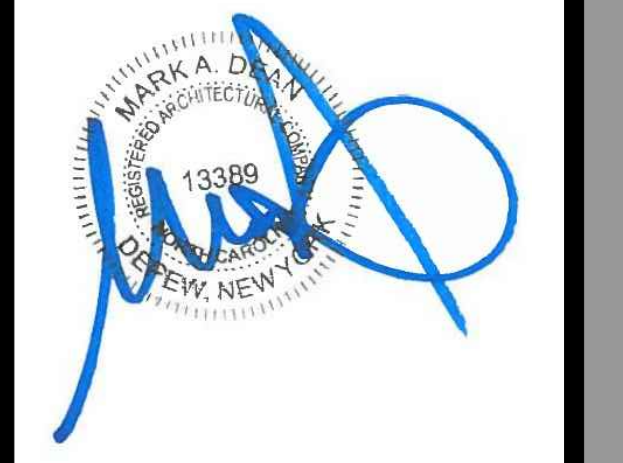
**6 | Flush Header**



**7 | FLUSH DOUBLE DOOR PLATE**



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**22-238**

**STORE SPACE**

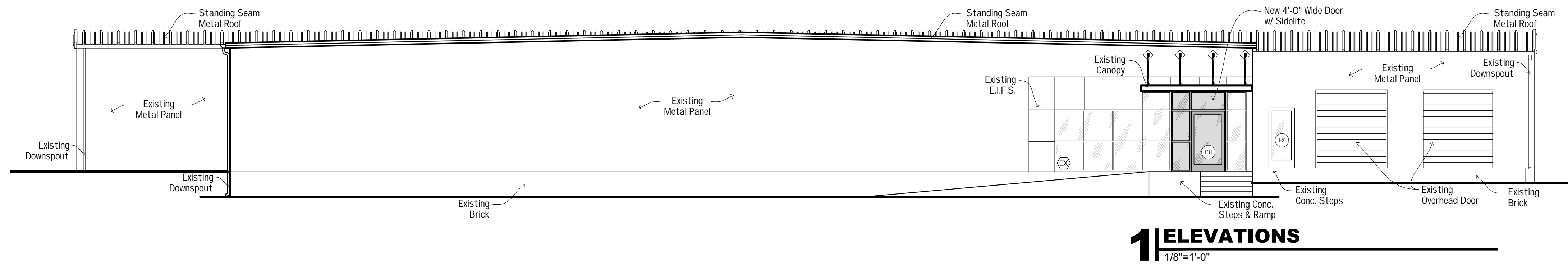
937 E. Haggard Ave.  
Elon, NC

No.	Description	Date	By
1	ISSUED FOR BID	2-3-23	AB

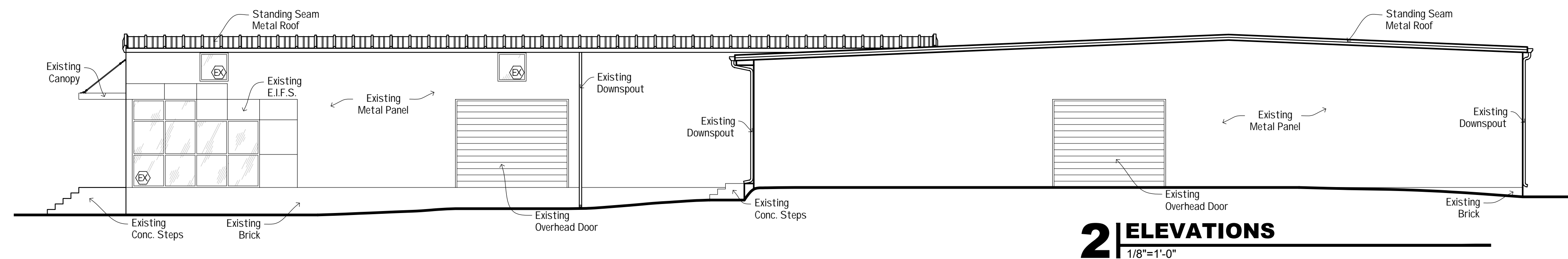
DATE: 9-3-22  
DRAWN BY: A. Barraclough  
CHECKED BY: M. Dean  
SCALE: 3/32" = 1'-0"

STORAGE UNIT  
INSTALLATION  
**A1.3**

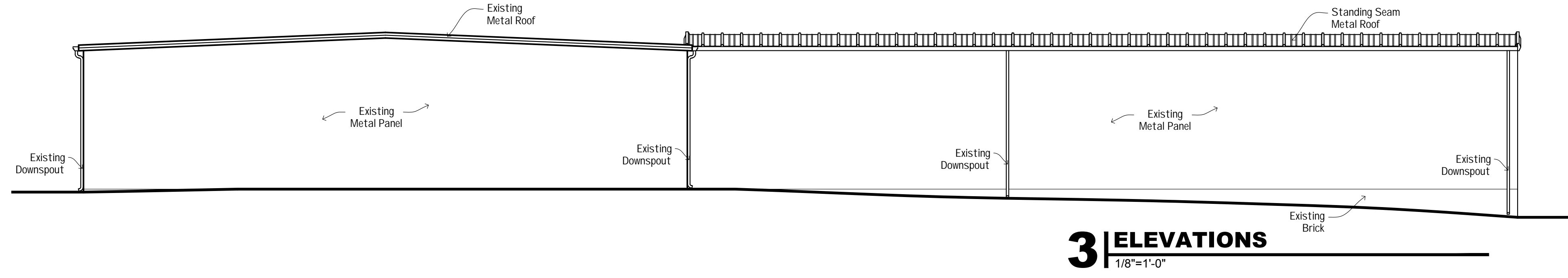




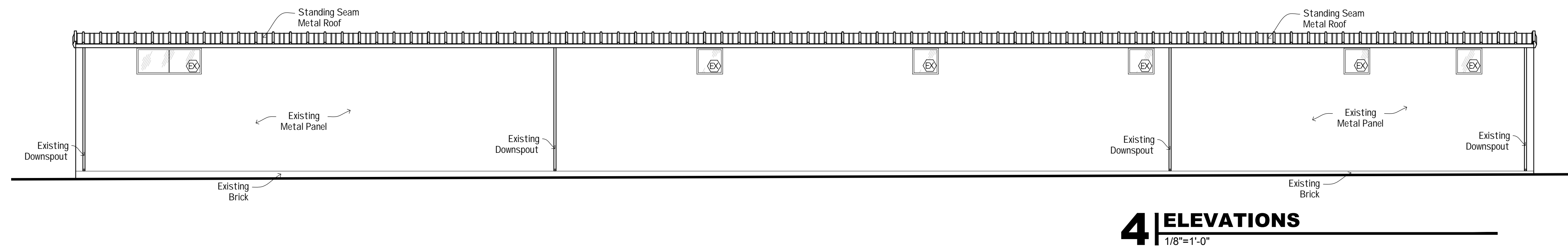
**1 ELEVATIONS**  
1/8"=1'-0"



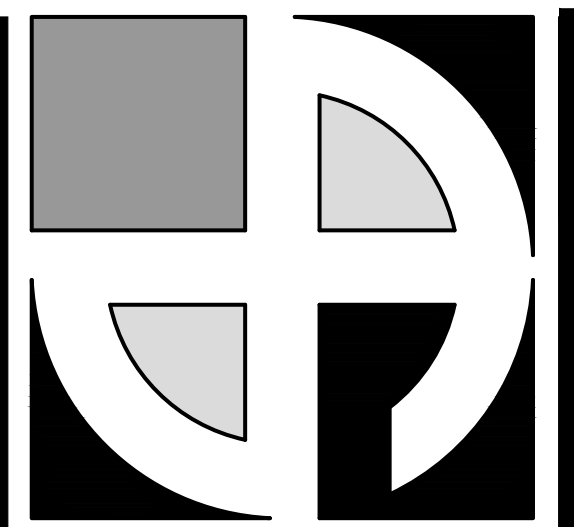
**2 ELEVATIONS**  
1/8"=1'-0"



**3 ELEVATIONS**  
1/8"=1'-0"

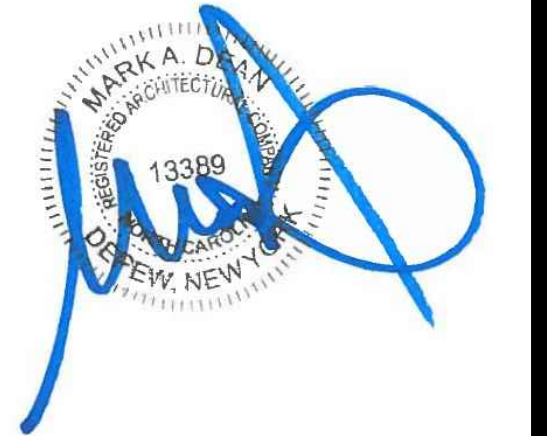


**4 ELEVATIONS**  
1/8"=1'-0"



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**STORE SPACE**

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**BUILDING 2**

No.	Description	Date	By
1	ISSUED FOR BID	2-3-23	AB

DATE:  
9-3-22

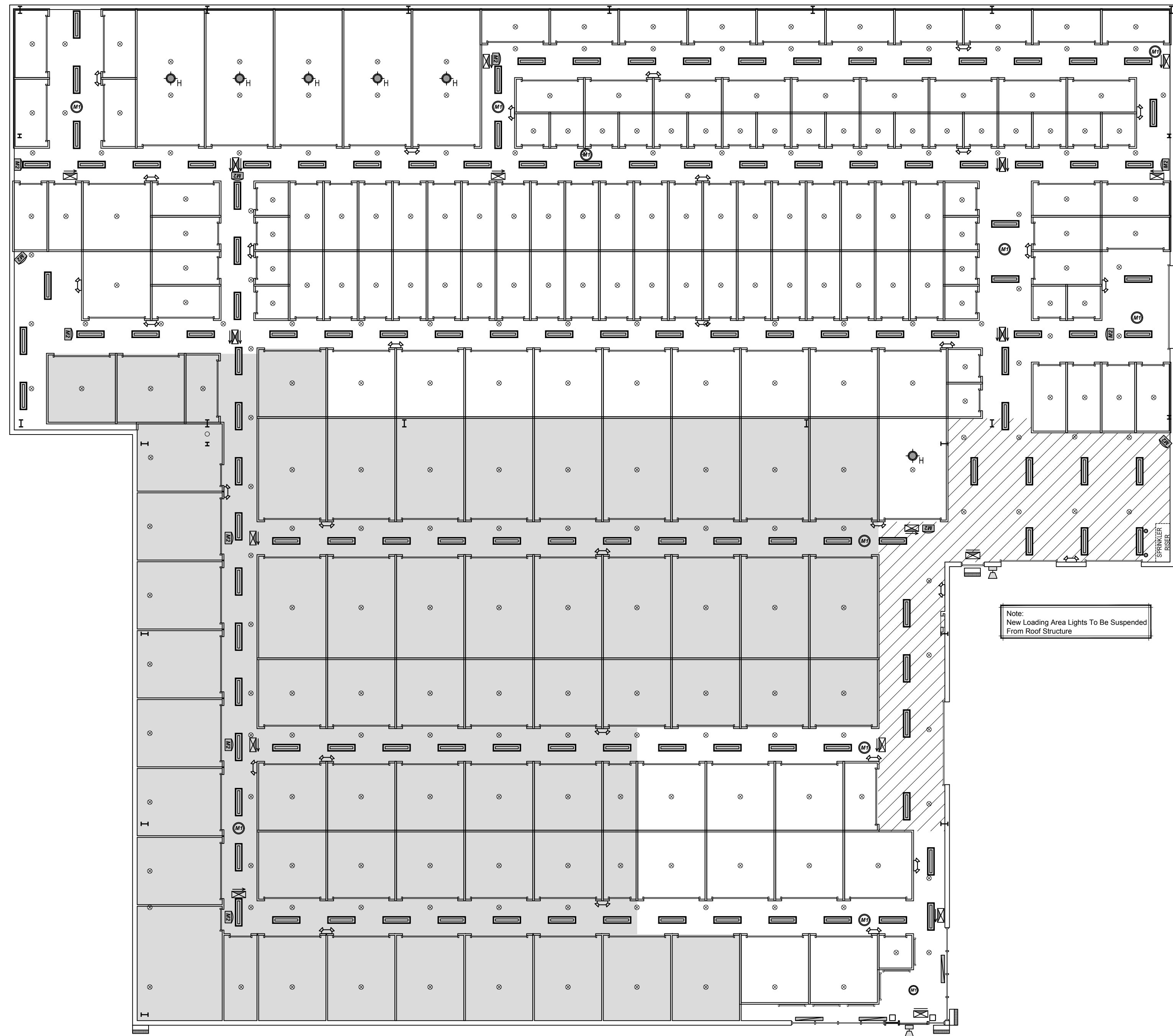
DRAWN BY: M. Kasperek  
CHECKED BY: M. Dean

SCALE:  
1/8"=1'-0"

ELEVATIONS

**A1.4**

**BUILDING 1**



**1 REFLECTIVE CEILING PLAN**  
3/32"=1'-0"

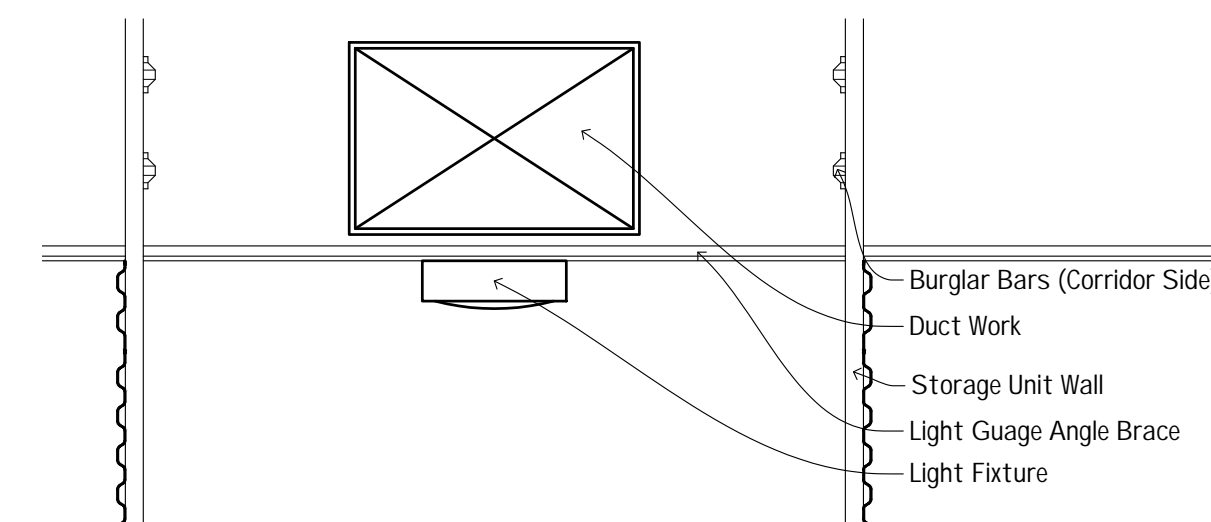
**RCP NOTES**

- All ceilings shall be installed as noted
- Do not begin installation of ceiling materials until all overhead work, including but not limited to, mechanical, electrical and fire protection installations are completed, tested and approved.
- Verify ceiling layouts by actual field dimensions prior to installation. Verify actual location of penetrating items in field.
- Support system independent of walls, columns, ducts, pipes and conduit. Maintain face plane with adjacent members, when splicing carrying tee's.
- Use properly placed and suspended load carrying framing channels to maintain hanger spacing and vertical position when interrupted by mechanical and electrical equipment and other horizontally run equipment
- Coordinate with other work supported by or penetrating ceiling systems, including mechanical and electrical work and partitions systems.
- Refer to mechanical and electrical drawings for type, size and location of ceiling mounted and penetrating equipment, including but not limited to return diffusers, light fixtures, emergency light fixtures, exit signs, fire detection systems, fire suppression systems and audio systems.

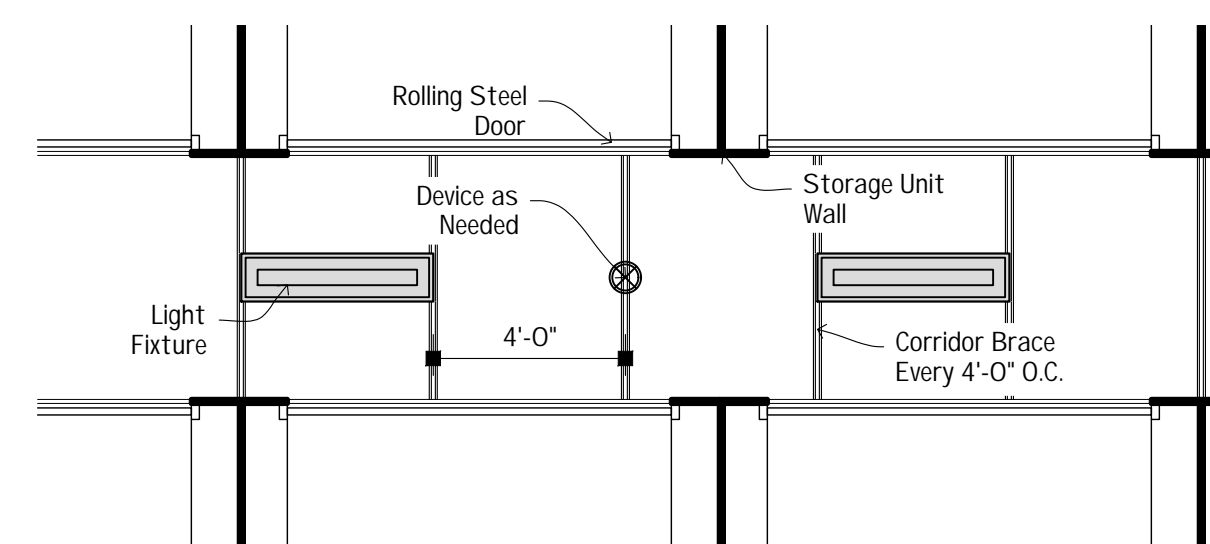
**LEGEND**

- Exit Light w/ Battery Back-Up
- Emergency Light w/ Battery Back-Up
- Exterior Emergency Light
- New Suspended 1x4 Light Fixture
- M1 360 Deg- Motion Sensor
- M2 115 Deg- Motion Sensor
- CCTV Security Camera
- Sprinkler Head

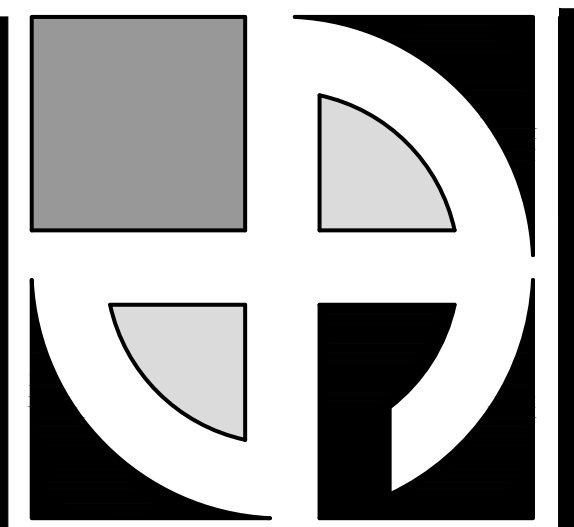
Refer to Sheet E3.0 For Fire Alarm Plans



**2 CORRIDOR CEILING DETAIL**  
3/4"=1'-0"

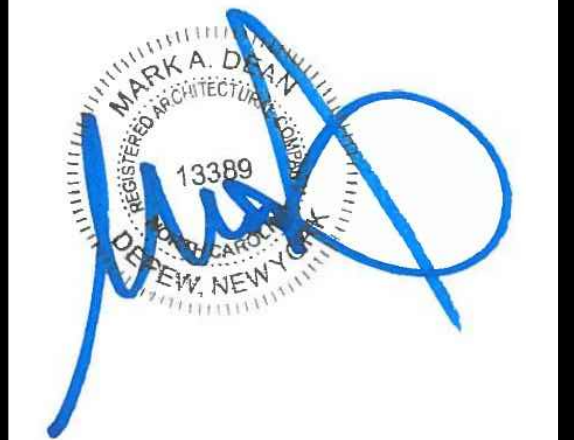


**3 CORRIDOR CEILING DETAIL**  
1/4"=1'-0"



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DATE:  
9-3-22

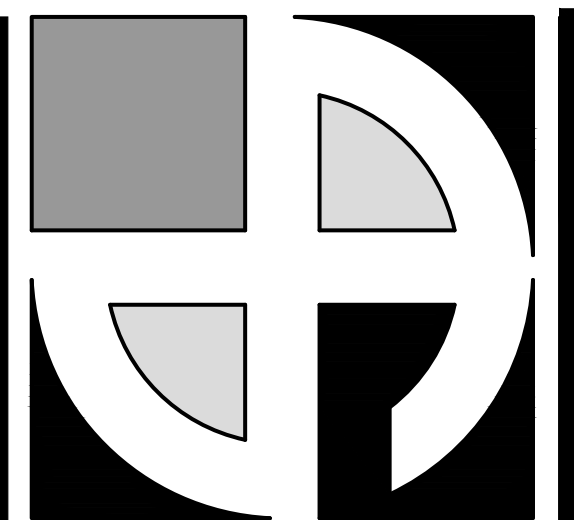
DRAWN BY: A. Barraclough  
CHECKED BY: M. Dean

SCALE:  
3/32"= 1'-0"

REFLECTIVE  
CEILING PLAN

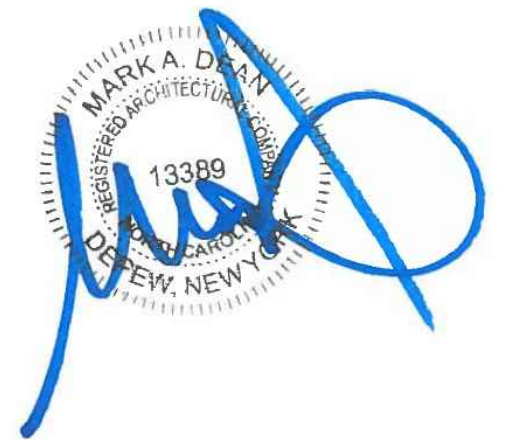
**A2.0**





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BUILDING 2

BUILDING 1



Note:  
Exterior Perimeter Walls to Receive 26 ga  
Corrugated Wall Panel Throughout (10'-0" High)

Note:  
12" High Diamond Plate @ Base of All Units  
Throughout  
4'-0" High Diamond Plate As Shown on Plan

- FINISH NOTES**
- ALL FINISH SUBSTITUTIONS MUST BE MADE PRIOR BID SUBMISSION.
  - ALL FINISHES SHALL BE APPLIED IN STRICT ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
  - GENERAL CONTRACTOR TO PROVIDE TEMPORARY PROTECTION FOR ALL INSTALLED FINISHES AS WORK PROGRESSES.
  - THE CONTRACTOR SHALL SUBMIT SAMPLES OF FINISH MATERIALS TO ARCHITECT. THE CONTRACTOR SHALL BE WHOLLY LIABLE IF HE FAILS TO DO SO, WHETHER FINISHES ARE SPECIFIED CORRECTLY OR INCORRECTLY IN THE CONTRACT DOCUMENTS. GENERAL CONTRACTOR TO NOTIFY ARCHITECT AND/OR OWNER OF ITEMS WITH LONG LEAD TIMES.
  - FLOORING SUBCONTRACTOR TO SUBMIT SEAMING DIAGRAM WITH BID PACKAGE. SUBMITTAL
  - APPLICATION OF CONTROLLED INTERIOR FINISHES SHALL BE IN ACCORDANCE WITH MUNICIPAL CODES AND NATIONAL REGULATIONS.
  - THE MAXIMUM FLAME SPREAD CLASSIFICATION OF FINISH MATERIALS USED ON INTERIOR WALLS AND CEILINGS SHALL NOT EXCEED THAT SET FORTH IN MUNICIPAL BUILDING CODE.
  - THE SMOKE DENSITY OF MATERIALS SHALL BE NO GREATER THAN 450 WHEN TESTED IN ACCORDANCE WITH 2022 UNIFORM BUILDING CODE, STANDARD No. 8-1 IN THE WAY INTENDED FOR USE.
  - INSTALL WALL FINISH FOR THE FULL HEIGHT OF THE PARTITION WITHOUT BASE. THERE SHALL BE NO UNFINISHED GAPS OF GYP. BOARD AT THE BASE.
  - PAINT FINISH ON METAL SURFACES INCLUDING: DOOR FRAMES, HANDRAILS, ELEVATOR DOORS, ETC. SHALL BE SATIN, U.N.O.
  - ALL METAL ACCESS DOORS SHALL BE PAINTED PT-3
  - ALL CONCRETE SUBFLOORS SHALL BE TREATED FOR MOISTURE PRIOR TO INSTALLATION OF ANY FLOOR COVERING. RATINGS SHALL BE IN ACCORDANCE WITH THOSE AS CONSIDERED ACCEPTABLE BY THE MFR. FOR THE SPECIFIED PRODUCTS. SUBFLOORS EXCEEDING THESE MOISTURE RATINGS WILL REQUIRE CORRECTIVE MEASURES.
  - ALL BASE SHALL BE AS SPECIFIED, OR EQUAL. CONTRACTOR TO PROVIDE SAMPLE FOR REVIEW AND APPROVAL.
  - INSTALL BASE LENGTHS AS LONG AS POSSIBLE. WRAP BASE AROUND CORNER AND CONTINUE A MIN. OF 6" BEYOND BEFORE SEAMING, OR USE PRE-FORMED CORNER PIECES.
  - FLOORING SHALL MEET ALL CURRENT NON-SLIP STANDARDS AND REQUIREMENTS SPECIFIED BY APPLICABLE CODES AND/OR AUTHORITIES. CONTRACTOR SHALL PROVIDE NON-SLIP COATINGS AS NECESSARY TO MEET THESE REQUIREMENTS.
  - AFTER CLEANING, THE FLOORING CONTRACTOR SHALL PROVIDE (2) APPLICATIONS OF AN APPROVED NON-SLIP WAX TO ALL RESILIENT TILE FLOOR, WHICH SHALL BE THOROUGHLY MACHINE-BUFFED AND IN CONDITION ACCEPTABLE TO OWNER.

**1 ROOM FINISH PLAN**  
3/32"=1'-0"

FINISH MATERIALS LIST						
Location	Identifier	Material	Manufacturer	Style	Color	Comments
Floors	CT-1	Ceramic Tile	Crosville	12x12	A825 Mercury	Used at restroom, floor grout
	CONC-S	Concrete Seal	Euclid Chemical	Super Aqua-Cure VOX	Clear	Laticrete #89 Smoke Gray
	CONC-P		TBD	Polished Concrete	Grey	Gloss Level-4- Highly Polished
Base	BASE-1	Vinyl	Evertrue	Craftsman Primed MDF	SW-9544 Dashing (Satin)	5 1/2" height
Paint	PT-1	Paint	Sherw in Williams	SW-7006	Extra White (Satin)	
	PT-2	Paint	Sherw in Williams	SW-7063	Nebulous White (Satin)	Office Walls
	PT-3	Paint	Sherw in Williams	SW-9544	Dashing (Satin)	On All Office Sw ing Doors & Frames
	PT-4	Paint	Sherw in Williams	SW-6531	Indigo Blue (Satin)	Accent Wall
	PT-5	Paint	Sherw in Williams	SW-6531	Gray Screen (Satin)	Bathroom Walls
Ceiling	ACT-1	2x2 ACT	Armstrong	Prelude XL 15'16"	Sahara 271	8' FT AFF

Note: Provide Ardex Kr15 Self-Leveler @ Existing Spalls, Holes and All Other Areas That Require Patching

No.	Description	Date	By
1	ISSUED FOR BID	2-3-23	AB

DATE:  
9-3-22

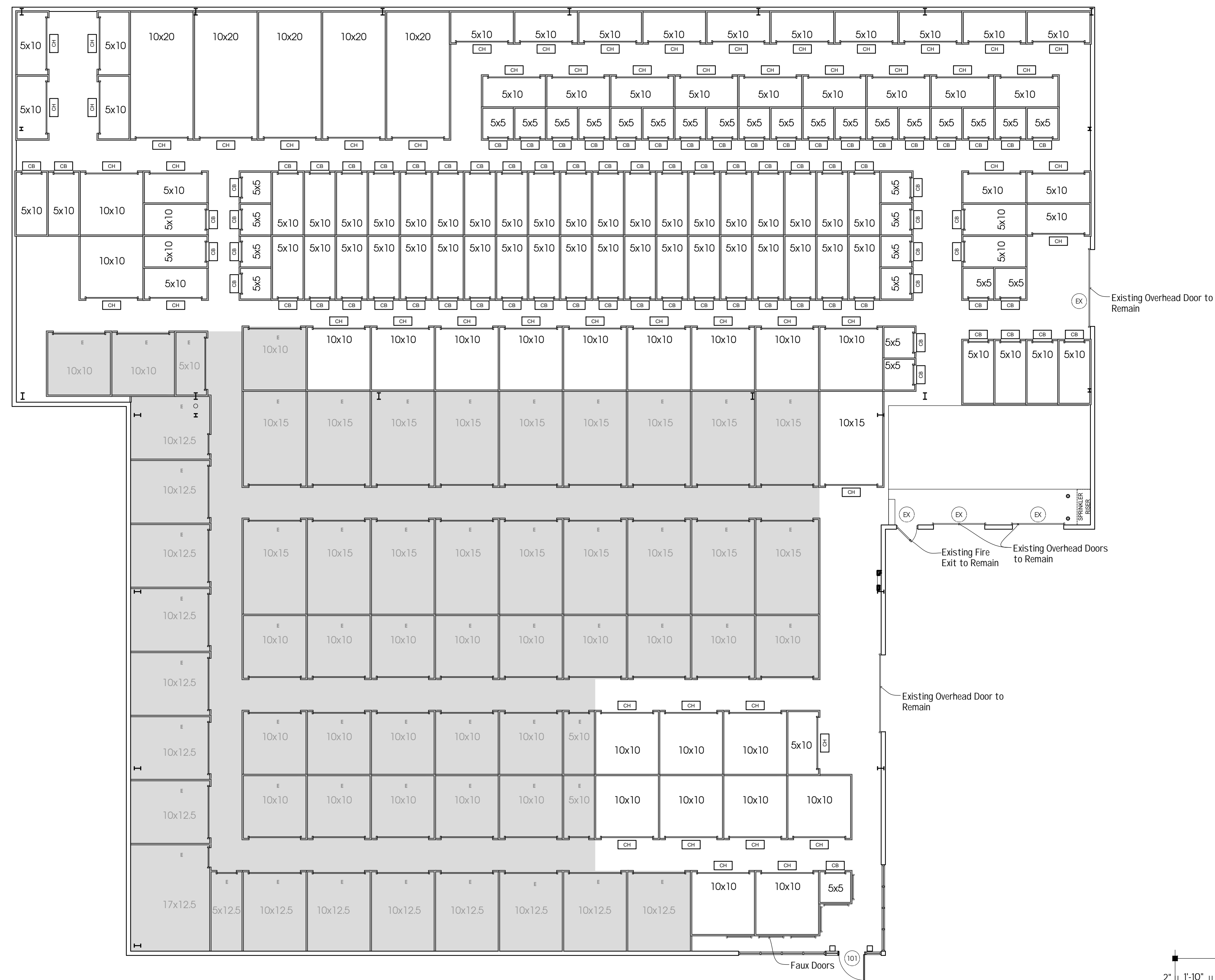
DRAWN BY: A. Barraclough  
CHECKED BY: M. Dean

SCALE:  
3/32"= 1'-0"

ROOM FINISH PLAN

**A3.0**





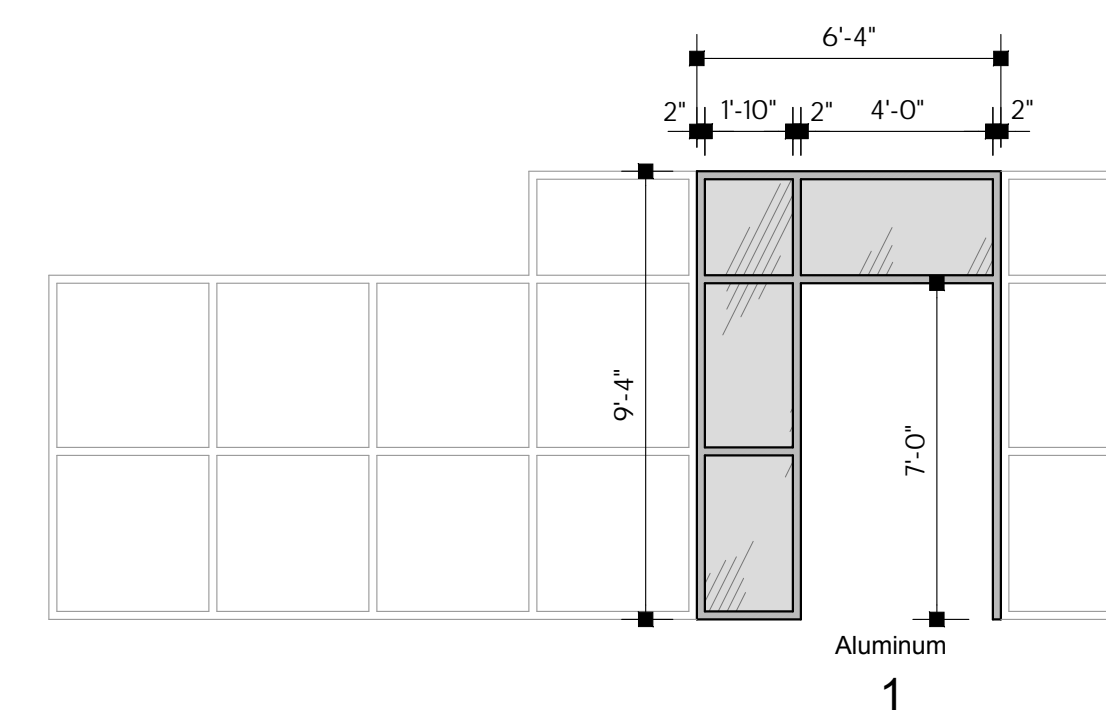
### 1 KEY PLAN

3/32"=1'-0"

UNIT DOOR SCHEDULE					
CODE	TYPE	SIZE	ROUGH OPENING	MANUF.	DESCRIPTION
CB	ROLL-UP	3'-0" x 7'-0"	3'-0" x 7'-0"	TRAC-RITE/eq.	CORRIDOR ROLL-UP DOOR
CH	ROLL-UP	8'-0" x 7'-0"	8'-8" x 7'-0"	TRAC-RITE/eq.	CORRIDOR ROLL-UP DOOR

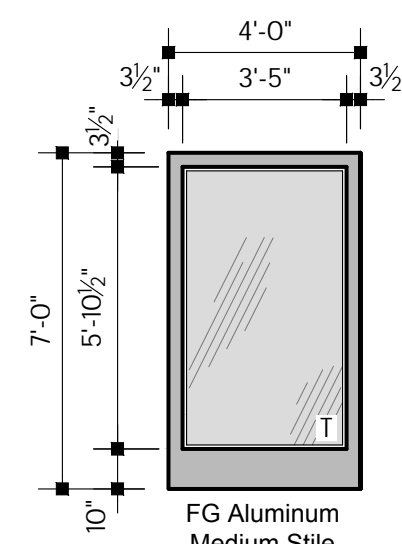
### DOOR NOTES

- Dimensions given on plans and schedules are nominal. General contractor and manufacturers to coordinate all dimensions in field concerning frames and rough openings prior to fabrication and construction.
- The hardware model numbers provided in door schedule refer to a single manufacturer listed at the end of each column unless noted otherwise. See specifications for alternate hardware manufacturers.
- All glazing to comply with Glazed Panel Safety Standard and code requirements.
- Provide tempered glass as required to comply with code requirements and as indicated by a "T" on the drawings.
- Provide a 26 gauge steel plaster guard or mortar boxes welded to a frame and back of finish hardware cutouts where mortar or other materials might obstruct hardware operation, and to close off interior of openings.
- Install rubber silencers before frame erection to avoid grout filling rubber silencer holes.
- Coordinate installation of security devices and entrance detector equipment with electrical contract documents and electrical contractor.
- Do not paint over any code required labeled such as labeled such as underwriters laboratories, performances rating, name, or nomenclature plates.



### 2 SWING DOOR FRAMES

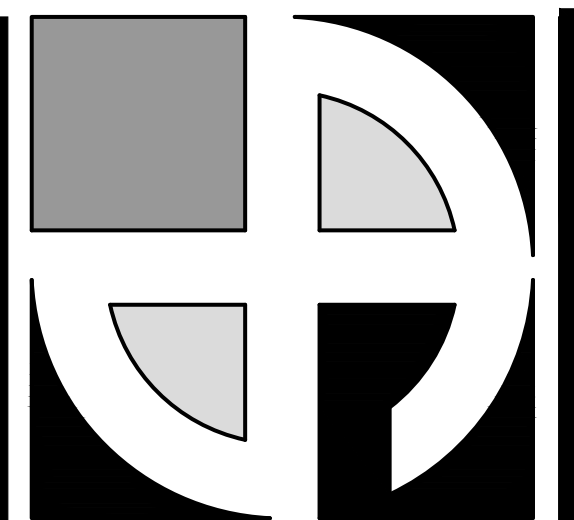
1/4"=1'-0"



HARDWARE GROUP	
1	
Exterior Entrance (Access Control)	
Hinge: Hager 780 Continuous Hinge	
Panic: Von Duprin EL 98F 996L LAT F 3' US26D	
Closer: LCN 4040XP MC HCUSH US26D	
Weatherstrip: Provided by Door Mfg.	
Threshold: Zero 6" Alum. (ADA Compliant)	
Coordinate w/ access control system, provide low-voltage wiring and transformers as necessary	

### 3 SWING DOOR TYPES

1/4"=1'-0"



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**22-238**

**STORE SPACE**

937 E. Haggard Ave.  
Elon, NC

No.	Description	Date	By
1	ISSUED FOR BID	2-3-23	AB

DATE:  
9-3-22

DRAWN BY: A. Barraclough  
CHECKED BY: M. Dean

SCALE:  
3/32"= 1'-0"

DOOR SCHEDULE

**1**  
**A4.0**



## MECHANICAL GENERAL NOTES

- ALL WORK AND MATERIALS SHALL BE PURCHASED AND INSTALLED IN ACCORDANCE WITH ALL NATIONAL & 2018 NORTH CAROLINA BUILDING CODES AND REGULATIONS (AS WELL AS ALL APPLICABLE LOCAL CODES & REGULATIONS). THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL HVAC WORK IS PROVIDED AND INSTALLED IN STRICT ACCORDANCE WITH SEISMIC REQUIREMENTS.
- DO NOT SCALE FROM THESE DRAWINGS.
- THE EXACT MOUNTING HEIGHTS AND LOCATIONS OF ALL HVAC EQUIPMENT SHALL BE FIELD VERIFIED AND COORDINATED WITH ALL OTHER MECHANICAL, ELECTRICAL, PLUMBING, FIRE SPRINKLER, ARCHITECTURAL AND STRUCTURAL SYSTEMS. DURING SHOP DRAWINGS SUBMISSIONS, SHOW ALL MOUNTING HEIGHTS OF DUCTWORK, UNITS, ETC.
- VERIFY ALL EQUIPMENT VOLTAGES WITH THE ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.
- ELECTRICAL CONTRACTOR WILL PROVIDE DISCONNECT SWITCHES FOR ALL HVAC EQUIPMENT INCLUDING WEATHERPROOF UNITS AS REQUIRED, UNLESS UNITS ARE SPECIFIED WITH FACTORY MOUNTED & INSTALLED DISCONNECT SWITCHES. REFER TO MECHANICAL EQUIPMENT SCHEDULE FOR EXACT DETAILS.
- PROVIDE PHASE LOSS PROTECTION FOR ALL POLY-PHASE MOTOR DEVICES.
- DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET STEEL IN STRICT COMPLIANCE WITH THE LATEST EDITION OF THE ASHRAE, NFPA, AND SMACNA GUIDE RECOMMENDATIONS. ALL DUCTS TO HAVE PITTSBURGH TYPE LOCK FOR LONGITUDINAL SEAMS AND DRIVE SLIP / "S" SLIP FOR TRANSVERSE JOINTS. "DUCT-MATE" JOINT SYSTEM IS ACCEPTABLE IN LIEU OF PRIOR SEAM SYSTEMS. SIZES AS SHOWN INDICATE INSIDE CLEAR DIMENSIONS OF THE AIR PASSAGE. DUCTWORK SHALL BE FULLY INSULATED AS PER APPLICABLE CODES AND WRITTEN SPECIFICATIONS.
- DUCT SIZES MUST BE VERIFIED FOR CLEARANCES AT THE JOB SITE PRIOR TO FABRICATION. DIMENSIONS MAY BE CHANGED TO ACCOMMODATE CONSTRUCTION AS LONG AS EFFECTIVE CROSS-SECTIONAL AREA IS MAINTAINED. DUCT TRANSITIONS SHALL BE CONSTRUCTED WITH A SLOPE OF 1" TO 4". ALL DEVIATIONS FROM ORIGINAL CONTRACT DRAWINGS SHALL BE REVIEWED BY ENGINEER DURING THE SHOP DRAWING PROCESS.
- PROVIDE ELBOWS OR TEES WITH TURNING VANES FOR ALL CHANGES OF DUCT DIRECTION. PROVIDE SPLITTER DAMPERS WITH LOCKING QUADRANTS IN ALL TEES.
- PROVIDE MANUAL BALANCING DAMPERS AS REQUIRED TO PROPERLY BALANCE EACH INDIVIDUAL AIR DISTRIBUTION SYSTEM. IF THE LOCATION OF THE BALANCING DAMPER IS NOT DEFINED ON THE DRAWINGS, THE FOLLOWING MINIMUM STANDARDS SHALL GOVERN. ALL SUPPLY, RETURN, AND EXHAUST MAIN BRANCHES FROM TRUNKS, EACH SPLIT AND ALL SUB-BRANCHES FROM MAIN SHALL INCORPORATE BALANCING DAMPERS.
- PROVIDE FLEXIBLE CONNECTORS AT ALL DUCT CONNECTIONS TO VIBRATING EQUIPMENT. THESE CONNECTORS SHALL BE INSTALLED IN CLOSE PROXIMITY TO SUCH EQUIPMENT.
- ALL ACCESS DOORS REQUIRED IN GENERAL CONSTRUCTION ARE TO BE PROVIDED AND INSTALLED BY THE GENERAL CONTRACTOR. IT IS THE RESPONSIBILITY OF THE HVAC CONTRACTOR TO IDENTIFY SIZE, TYPE AND LOCATION OF SUCH DOORS FOR PROPER ACCESS TO ALL CONCEALED HVAC EQUIPMENT, VALVES AND OTHER RELATED EQUIPMENT. THE HVAC CONTRACTOR SHALL IDENTIFY THESE REQUIREMENTS ON A COORDINATED SHOP DRAWING PRIOR TO SYSTEM FABRICATION AND INSTALLATION.
- ALL CEILING MOUNTED EQUIPMENT MUST BE SUPPORTED DIRECTLY FROM BUILDING STRUCTURE WITH COMBINATION SPRING AND EOPRENE-IN-SHEAR HANGERS AND ROD. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED TO ADEQUATELY SUPPORT THE LOAD.
- M.C. MUST CONTRACT AN INDEPENDENT NEBB CERTIFIED AIR BALANCING & TESTING COMPANY TO PERFORM THE AIR BALANCING WORK AND ASSOCIATED SYSTEM AIR BALANCING REPORT. ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH ALL APPLICABLE CODES, REGULATIONS, PLANS AND WRITTEN SPECIFICATIONS. SUBMIT THE FINAL AIR BALANCE REPORT TO THE ENGINEER FOR REVIEW AND APPROVAL. PRIOR TO SUBSTANTIAL COMPLETION OF THE PROJECT, AS DETERMINED BY THE G.C. AND OWNER/CLIENT, THE AIR BALANCE REPORT MUST INCLUDE ALL SUPPLY, RETURN, & EXHAUST AIR TERMINALS, FRESH AIR (OUTSIDE AIR) INTAKE AND VENTILATION EXHAUST CFM RATES FOR ALL UNITS. ALSO INCLUDE ACTUAL SUPPLY & RETURN AIR VELOCITY & STATIC PRESSURE READINGS ALONG WITH ALL MOTOR AMPERAGES FOR ALL UNITS.
- FIRE ALARM CONTRACTOR IS TO PROVIDE & INSTALL 12V SMOKE DETECTORS WITH AUXILIARY CONTACTS. UPON ACTIVATION THE SMOKE DETECTORS SHALL SHUT DOWN THE AIR DISTRIBUTION SYSTEMS AND ACTIVATE A VISIBLE AND AUDIBLE SUPERVISOR SIGNAL AT A CONSTANTLY ATTENDED LOCATION IN ACCORDANCE WITH NFPA 90A & 90B. THE M.C. IS RESPONSIBLE FOR WIRING BETWEEN THE FAN SHUTDOWN RELAY AND THE HVAC UNIT. THE M.C. IS RESPONSIBLE TO COORDINATE THE INSTALLATION OF THE SMOKE DETECTORS WITH THE FIRE ALARM CONTRACTOR.
- THE MECHANICAL CONTRACTOR IS TO INCLUDE IN HIS BID ALL LOW VOLTAGE CONTROL WIRING, THERMOSTATS, RELAYS, TRANSFORMERS, STARTERS ETC FOR A COMPLETE OPERATING CONTROL SYSTEM AS DESCRIBED IN THE SEQUENCE OF OPERATION. (M.C. IS ALSO RESPONSIBLE FOR LOW VOLTAGE CONTROL FOR EXHAUST FANS CONTROLLED FROM LIGHT SWITCH AND THERMOSTATS. ALL CONTROL WIRING IN THE AREAS THAT DO NOT HAVE DROPPED CEILING THE (M.C) MUST PROVIDE ALL CONTROL WIRING CONDUIT. IN AREAS OF DROPPED CEILING PLENUM RATED CONTROL WIRING CAN BE RUN EXPOSED ABOVE CEILING.
- ALL MECHANICAL EQUIPMENT SHALL BE MOUNTED AND/OR INSTALLED PER MANUFACTURER'S REQUIREMENTS/SPECIFICATIONS.
- IN ACCORDANCE WITH 2018 ECCNC, HEATING AND COOLING LOADS HAVE BEEN CALCULATED USING COMPUTATIONAL PROCEDURES VIA CARRIER HAP SOFTWARE
- IN AGREEMENT WITH 2018 ECCNC SECTION C403.2.4.3, SHUT-OFF DAMPERS SHALL BE INSTALLED AT ALL STAIRWAY ENCLOSURE PENETRATIONS, ELEVATOR SHAFT PENETRATIONS, AND OUTDOOR AIR INTAKE BUILDING ENVELOPE PENETRATIONS. PERFORMANCE REQUIREMENTS AND CONTROLS SHALL MATCH THOSE DETAILED IN THE ABOVE REFERENCED CODE.
- SUPPLY AIR DUCT IN FIRST FLOOR OFFICE AREA (ABOVE SUSPENDED CEILING) SHALL HAVE MINIMUM R-6 RATED INSULATION. DUCT SEALING SHALL COMPLY WITH REQUIREMENTS OF SECTION 603.9 OF THE 2018 NC MECHANICAL CODE. NO OTHER DUCTWORK THROUGHOUT THE BUILDING SHALL BE INSULATED.
- INSULATION SHALL CONFORM TO STATE OF NORTH CAROLINA ENERGY CODES AND

FLUID OPERATING TEMPERATURE RANGE & USAGE (°F)	INSULATION CONDUCTIVITY			
	CONDUCTIVITY BTU-IN (H-FE-1) <sup>c</sup>	<1	1 To <1.5	1.5 To <4
40-60	0.21-0.27	0.5	0.5	1.0

- PIPE SURFACES TO BE CLEAN AND DRY SURFACES, ENDS TIGHTLY BUTTED AND SECURED WITH SSL BUTT STRIPS.
  - INSULATE PIPE FITTINGS AND VALVES TO SAME THICKNESS AS ADJACENT PIPE INSULATION. FITTINGS AND VALVES SHALL BE COVERED WITH WOVEN GLASS FIBRIC.
  - RUN INSULATION CONTINUOUS THROUGH HANGERS. USE 16 GAUGE SHEET STEEL 2 PIPE DIA. LONG, 180 DEGREE SUPPORT.
  - ALL INSULATION SHALL HAVE SURFACE BURNING CHARACTERISTIC RATINGS OF FLAME SPREAD 25 AND SMOKE DEVELOPED 50.
- B. PIPE COVERING:
- INSULATION SHALL BE JOHNS - MANVILLE, KNAUFF, OR APPROVED EQUAL EXTERIOR PIPING SHALL BE PROVIDED WITH VENTURECLAD WEATHERPROOF JACKETING OR APPROVED EQUAL.
- C. MINIMUM REQUIRED PIPE, VALVE, AND FITTING INSULATION FIELD APPLIED JACKETING:
- OUTDOOR PIPES: 0.032" ALUMINUM JACKET.
  - INDOOR, INACCESSIBLE PORTIONS OF SHAFTS: NONE.
  - INDOOR, ALL OTHER AREAS NOT LISTED ABOVE: PVC.

## HVAC ABBREVIATIONS

IDENTIFIER	DESCRIPTION
AC	DIRECT EXPANSION AIR CONDITIONING UNIT
ACCU	AIR COOLED CONDENSING UNIT
AI	ANALOG INPUT
AO	ANALOG OUTPUT
AHU	AIR HANDLING UNIT
A.P.D.	AIR PRESSURE DROP
BACNET	BUILDING AUTOMATION AND CONTROL NETWORKS
BAS	BUILDING AUTOMATION SYSTEM
BG	BOTTOM GRILLE
BHP	BRAKE HORSEPOWER
BMS	BUILDING MANAGEMENT SYSTEM
BOT	BOTTOM
BR	BOTTOM REGISTER
BTU/HR	BRITISH THERMAL UNITS/HR
CA	COMMON ALARM
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CND	LOW PRESSURE CONDENSATE RETURN
COND	CONDENSATE DRAIN
CP	CONTROL PANEL
CR	CEILING REGISTER
CU	CONDENSING UNIT
DB	DRY BULB
DES	DAMPER END SWITCH
DIA	DIAMETER
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
DN	DOWN
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EG	EXHAUST GRILLE
ESP	EXTERNAL STATIC PRESSURE
EWB	ENTERING WET BULB
EWT	ENTERING WATER TEMPERATURE
FAI	FRESH AIR INTAKE
FLA	FULL-LOAD-AMPERAGE
FPM	FEET PER MINUTE
FZ	FREEZE
G	GAS
GC	GENERAL CONTRACTOR
HP	HORSEPOWER
IAW	IN ACCORDANCE WITH
IF	INTAKE FAN
IR	INTERPOSING RELAY
LAT	LEAVING AIR TEMPERATURE
LPVR	LOW PRESSURE VAPOR REFRIGERANT
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MIN	MINIMUM
PD	PRESSURE DROP
RA	RETURN AIR
RG	RETURN GRILLE
RH	RELATIVE HUMIDITY
RHG	REFRIGERANT HOT GAS LINE
RLL	REFRIGERANT LIQUID LINE
RPM	ROTATIONS PER MINUTE
RR	RETURN REGISTER
SA	SUPPLY AIR
SD	SUPPLY DIFFUSER
SG	SUPPLY GRILLE
SPS	STATIC PRESSURE SENSOR
SR	SAFETY RELAY
SS	START/STOP
ST	STATUS
TSP	TOTAL STATIC PRESSURE
TYP.	TYPICAL
WB	WET BULB
W.C.	WATER COLUMN
WG	WATER GAUGE

NOTE: NOT ALL ABBREVIATIONS USED IN DRAWINGS.

## BUILDING DEPARTMENT NOTES

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2018 CODE OF NORTH CAROLINA BUILDING CODE (BC), AND MECHANICAL CODE (MC). WORK SHALL BE EXECUTED IN FULL COMPLIANCE WITH THE APPLICABLE PROVISIONS OF ALL LOCAL LAWS, BY LAWS, STATUTES, ORDINANCES, CODES, RULES REGULATIONS AND LAWFUL ORDERS OF PUBLIC AUTHORITIES BEARING ON THE PERFORMANCE AND EXECUTION OF THE WORK. ALL WORK SHALL COMPLY WITH THE ENERGY CONSERVATION CODE.
- MATERIALS, OPERATIONS AND EQUIPMENT OF REQUIRED HVAC SYSTEM SHALL BE SUBJECT TO SPECIAL INSPECTIONS AS REQUIRED IN CONSTRUCTION CODE ADMINISTRATIVE PROVISION, ARTICLES 28-115, 28-116, 28-118, BC-109.
  - FORM TR-1 SHALL BE FILED PRIOR TO INSTALLATION. FORM TR-1 SHALL AGAIN BE FILED UPON COMPLETION OF INSTALLATION.
  - THEY SHALL HAVE BEEN ACCEPTABLE PRIOR TO THE EFFECTIVE DATE OF THE CODE BY THE BOARD OF STANDARDS AND APPEALS.
  - THEY SHALL HAVE BEEN ACCEPTED FOR USE UNDER THE PRESCRIBED TEST METHODS BY THE COMMISSIONER (OR) PREVIOUSLY APPROVED BY THE BOARD OF STANDARDS AND APPEALS (AS PER CC SECTION 28-113)
- ALL MATERIALS AND EQUIPMENT DELIVERED TO THE SITE SHALL BE RECOGNIZED BY THE OFFICE OF TECHNICAL CERTIFICATION AND RESEARCH (OTCR). PRODUCTS ARE NOT CODE-PRESCRIBED OR APPROVED ALTERNATIVE AND SHALL BE REJECTED UNTIL SUCH CERTIFICATES ARE OBTAINED.
- ALL EQUIPMENT USE PERMITS SHALL BE OBTAINED BY THE CONTRACTOR AS REQUIRED IN NORTH CAROLINA CONSTRUCTION CODES.

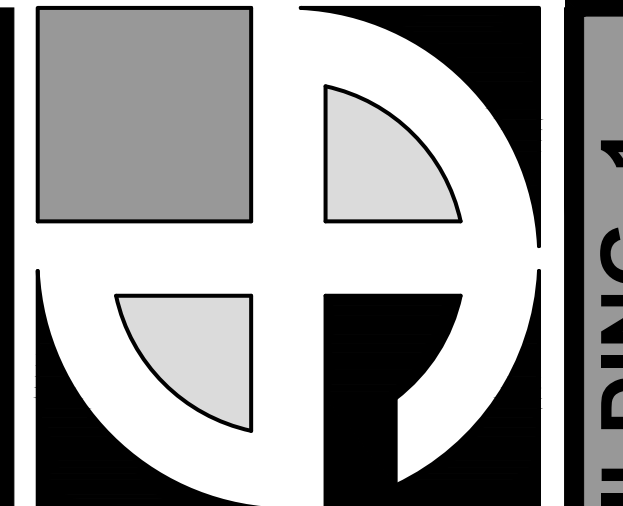
## NOTE:

- ALL BIDDERS ARE REQUIRED TO VISIT THE SITE TO VIEW THE EXISTING CONDITION PRIOR TO SUBMITTING ANY PROPOSALS
- Substitutions Allowed **ONLY** Prior to Bid Delivery

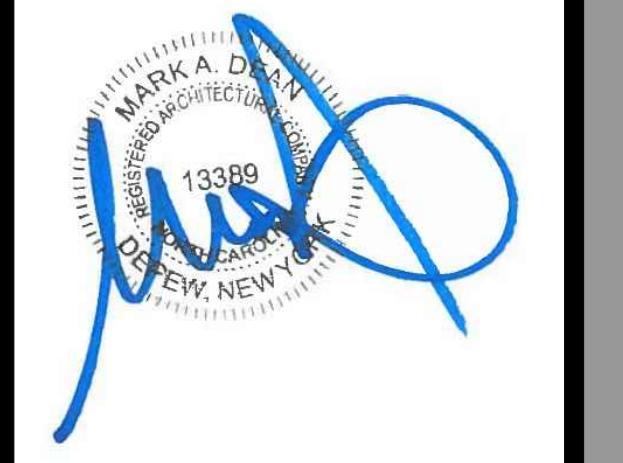
## HVAC SYMBOL LIST

IDENTIFIER	DESCRIPTION	IDENTIFIER	DESCRIPTION	SINGLE LINE	DOUBLE LINE
	SPIRAL DUCTWORK WITH 1" ACUSTICAL LINING HARD DUCT CONNECTION TO ROUND DIFFUSER DUCTWORK TO BE PAINTED TO COLOR SPECIFIED BY ARCHITECT		FLAT, PLEATED FILTER		
	AIR VENT		CARTRIDGE FILTER	ELBOW MAY TRANSITION IN "W" DIMENSION ONLY	
	PRESSURE GAUGE WITH PETCOCK		HUMIDIFIER	SUPPLY, RETURN OR EXHAUST ROUND ELBOW	
	THERMOMETER		COIL - PREHEAT		SINGLE THICKNESS TURNING VANES
	PIPE RUNOUT UP THROUGH FINISHED FLOOR ABOVE		COIL - COOLING	SUPPLY, RETURN OR EXHAUST SQUARE ELBOW	
	PIPE DROP ON DIRECTION OF FLOW		COIL - HEATING		VARIABLE FREQUENCY DRIVE
	PIPE RISER		ELECTRIC HEATER		SUPPLY DUCT SPLIT
	PIPE TEE DOWN		AVERAGING DEVICE XX - DEVICE TYPE YY - SIGNAL TYPE		SUPPLY DUCT SPLIT
	PIPE TEE UP		PUMP		SUPPLY DUCT SPLIT
	TWO WAY AND THREE WAY CONTROL VALVE		VARIABLE FREQUENCY DRIVE		SUPPLY DUCT SPLIT
	BALL/ISOLATION VALVE		SPLIT-CASE PUMP		SUPPLY DUCT SPLIT
	GLOBE VALVE		END-SUCTION PUMP		SUPPLY DUCT SPLIT
	EXPANSION/RELIEF VALVE		INLINE PUMP		SUPPLY DUCT SPLIT
	BALANCING VALVE		EQUIPMENT TAG EQUIPMENT NUMBER		SUPPLY DUCT SPLIT
	CHECK VALVE		DETAIL TAG/CALL OUT TAG MECHANICAL SHEET NUMBER		SUPPLY DUCT SPLIT
	DRAIN VALVE		TAG - BMS DEVICE XX - DEVICE TYPE YY - SIGNAL TYPE		SUPPLY DUCT SPLIT
	FLEXIBLE CONNECTION		ELECTRIC PNEUMATIC RELAY XX - TAG NUMBER YYY - SYSTEM		SUPPLY DUCT SPLIT
	UNION		FIELD CONNECT NEW TO EXISTING		SUPPLY DUCT SPLIT
	STRAINER WITH BLOW OFF VALVE		FIELD DISCONNECT		SUPPLY DUCT SPLIT
	TRIPLE DUTY VALVE		DIFFERENTIAL PRESSURE SENSOR		SUPPLY DUCT SPLIT
	THERMOSTATIC STEAM TRAP		SUPPLY AIR FLOW		SUPPLY DUCT SPLIT
	CAPPED PIPE		EXHAUST AIR		SUPPLY DUCT SPLIT
	FLOAT & THERMOSTATIC STEAM TRAP		GAS SENSOR (INDICATE TYPE)		SUPPLY DUCT SPLIT
	PIPE ANCHOR		UNDERCUT DOOR		SUPPLY DUCT SPLIT
	PIPE SLEEVE		THERMOSTAT		SUPPLY DUCT SPLIT
	NEW DUCTWORK OR PIPING		DUCT SMOKE DETECTOR		SUPPLY DUCT SPLIT
	EXISTING DUCTWORK OR PIPING TO BE REMOVED		TEMPERATURE SENSOR		SUPPLY DUCT SPLIT
	EXISTING DUCTWORK OR PIPING TO REMAIN		4 WAY CEILING DIFFUSER		SUPPLY DUCT SPLIT
	HEAT TRACE PIPE		3 WAY CEILING DIFFUSER		SUPPLY DUCT SPLIT
	DOUBLE-LINE AND SINGLE-LINE RECTANGULAR DUCT, FIRST NUMBER INDICATES SIDE IN VIEW IN INCHES, SECOND NUMBER INDICATES SIDE IN DEPTH IN INCHES		2 WAY CEILING DIFFUSER		SUPPLY DUCT SPLIT
	DOUBLE-LINE AND SINGLE-LINE ROUND DUCT, NUMBER INDICATES DIAMETER IN INCHES		EXHAUST FAN		SUPPLY DUCT SPLIT
	FLEXIBLE DUCTWORK		EXHAUST GRILLE		SUPPLY DUCT SPLIT
	REGULAR SUPPLY AIR DUCT (UP AND DOWN)		METER		SUPPLY DUCT SPLIT
	REGULAR RETURN AIR DUCT (UP AND DOWN)		REGULATOR		SUPPLY DUCT SPLIT
	REGULAR EXHAUST AIR DUCT (UP AND DOWN)		RETURN GRILLE/REGISTER		SUPPLY DUCT SPLIT
	REGULAR OUTSIDE AIR DUCT (UP AND DOWN)		SUPPLY DIFFUSER - ROUND		SUPPLY DUCT SPLIT
	ROUND SUPPLY AIR DUCT (UP AND DOWN)		RETURN DIFFUSER - ROUND		SUPPLY DUCT SPLIT
	ROUND RETURN AIR DUCT (UP AND DOWN)		EXHAUST DIFFUSER - ROUND		SUPPLY DUCT SPLIT
	ROUND EXHAUST AIR DUCT (UP AND DOWN)		SIDEWALL GRILLE		SUPPLY DUCT SPLIT
	ROUND OUTSIDE AIR DUCT (UP AND DOWN)		ELECTRONIC TIMECLOCK		SUPPLY DUCT SPLIT
	INSULATED FLEXIBLE DUCT		REFER TO SUPPLEMENTAL FIGURE INDICATED BY NUMBER (I.E. F2 REFERS TO FIGURE 2)		SUPPLY DUCT SPLIT
	VOLUME DAMPER				SUPPLY DUCT SPLIT
	BACKDRAFT DAMPER				SUPPLY DUCT SPLIT
	FIRE DAMPER AND ACCESS DOOR				SUPPLY DUCT SPLIT
	SMOKE DAMPER AND ACCESS DOOR				SUPPLY DUCT SPLIT
	MOTOR OPERATED DAMPER				SUPPLY DUCT SPLIT
	CONTROL DAMPER				SUPPLY DUCT SPLIT
	FAN - CENTRIFUGAL				SUPPLY DUCT SPLIT
	AIRFLOW MEASURING STATION				SUPPLY DUCT SPLIT

NOTE: NOT ALL SYMBOLS USED IN DRAWINGS.



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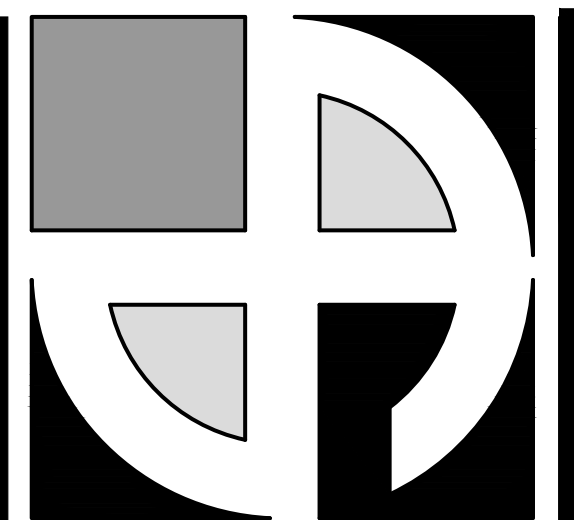
No.	Description	Date	By
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DATE: 9-3-22  
DRAWN BY: A. Barraclough  
CHECKED BY: M. Dean  
SCALE: 1/16" = 1'-0"

MECHANICAL SYMBOLS  
ABBREVIATIONS &  
NOTES  
**M1.0**

**Note:**  
Contractor Shall Provide  
Minimum Standard Labor &  
Material Warranties





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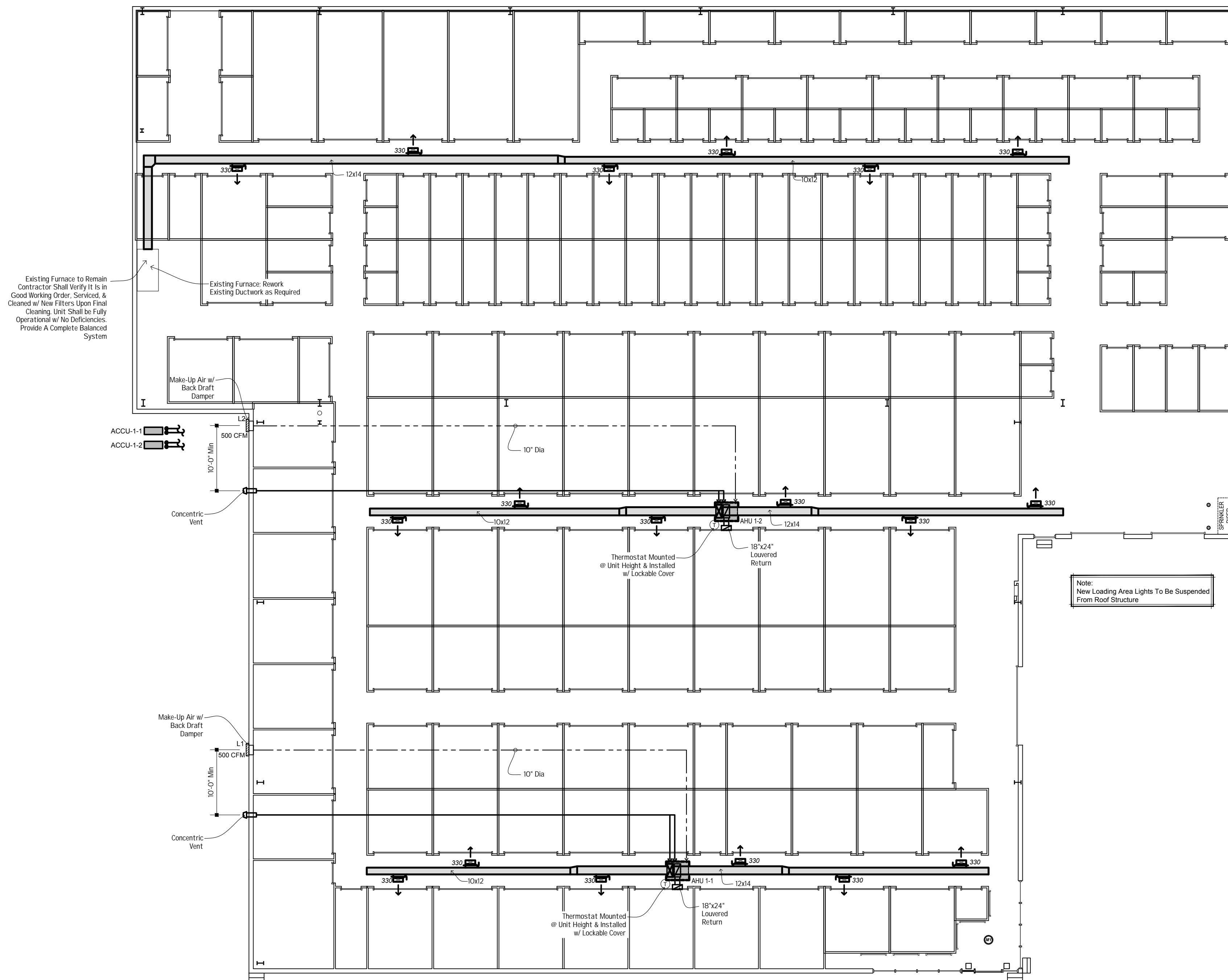
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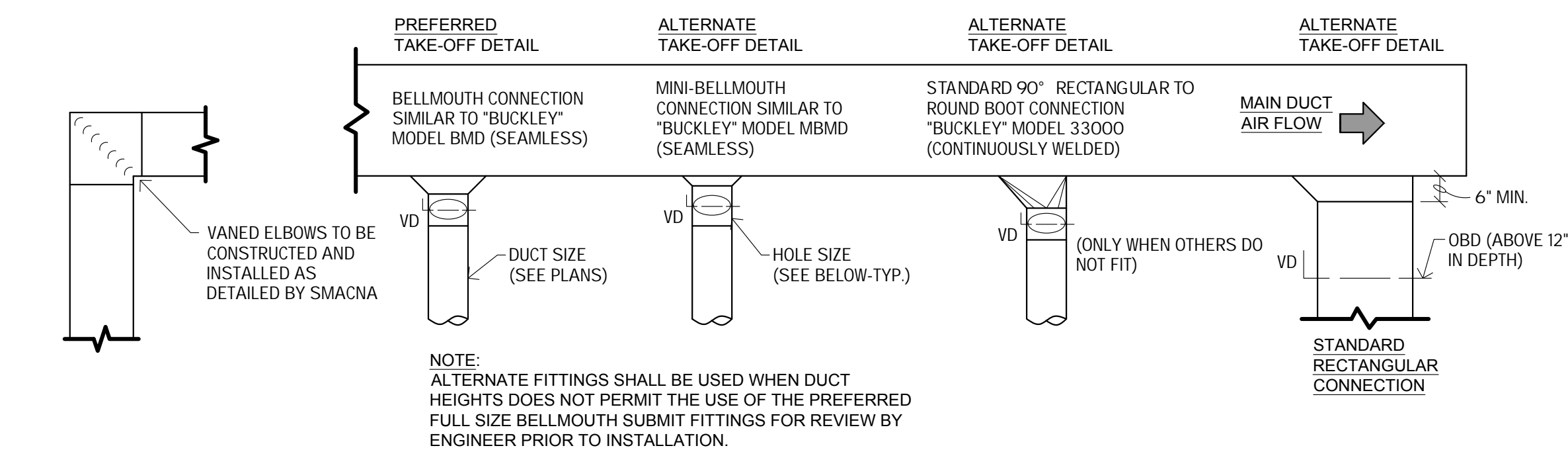
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BUILDING 2



**1 HVAC PLAN**  
3/32"=1'-0"



**2 DUCT TAKEOFFS AND ELBOW DETAIL**  
NTS

Outdoor Air Requirements	
The HVAC System Outdoor Air Quantities Meets The Requirements for the Ventilation Rate Procedure Of Ashrae Standard 62.1-2022 (Ventilation for Acceptable Indoor Air Quality)	
Warehouse:	0.06 CFM/SF
14,875 SF * 0.06 CFM/SF=	893 CFM
Outside Air To Be Provided: 500 CFM Per Furnace	

**GENERAL NOTES:**

INSTALL ALL ACCU'S PER MANUFACTURER'S INSTALLATION INSTRUCTIONS WITH PROPER CLEARANCES BETWEEN UNITS.

**MECHANICAL NOTES:**

- INSTALL HORIZONTAL COMBINATION VENT TERMINAL & COMBUSTION AIR INLET PER MANUFACTURER'S INSTRUCTIONS.
- REFRIGERANT LIQUID AND REFRIGERANT GAS LINES UP TO CONDENSING UNIT ON ROOF ABOVE. SIZES PER MANUFACTURER'S INSTALLATION REQUIREMENTS.

No.	Description	Date	By
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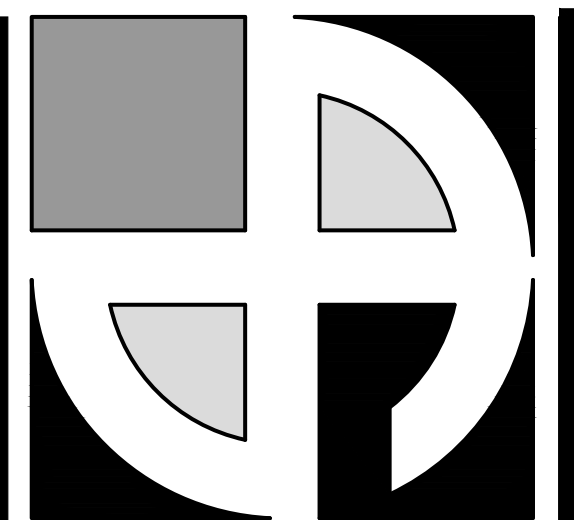
SCALE:  
3/32"= 1'-0"

HVAC PLAN

**1**  
**M1.1**







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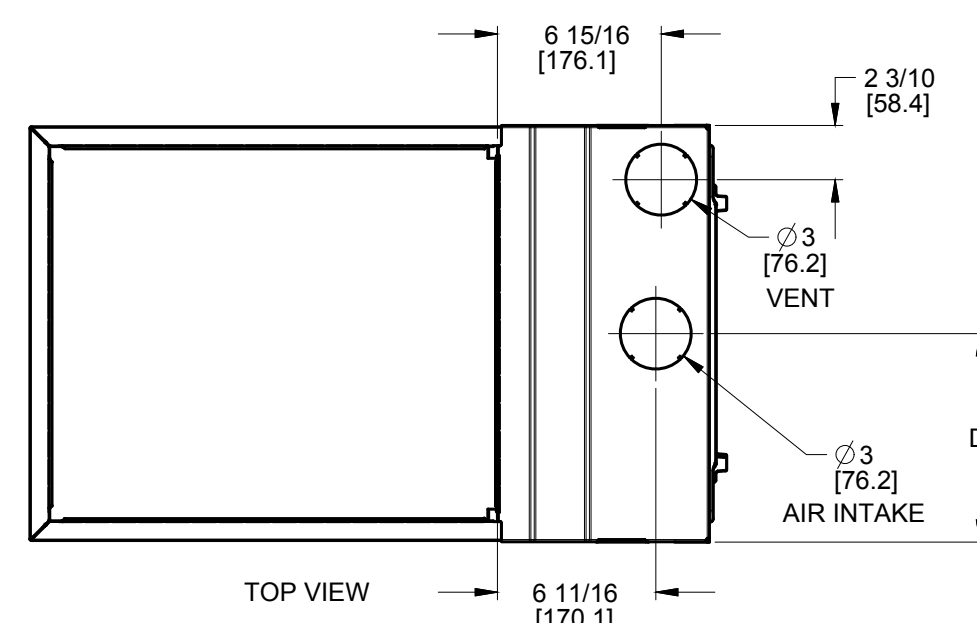
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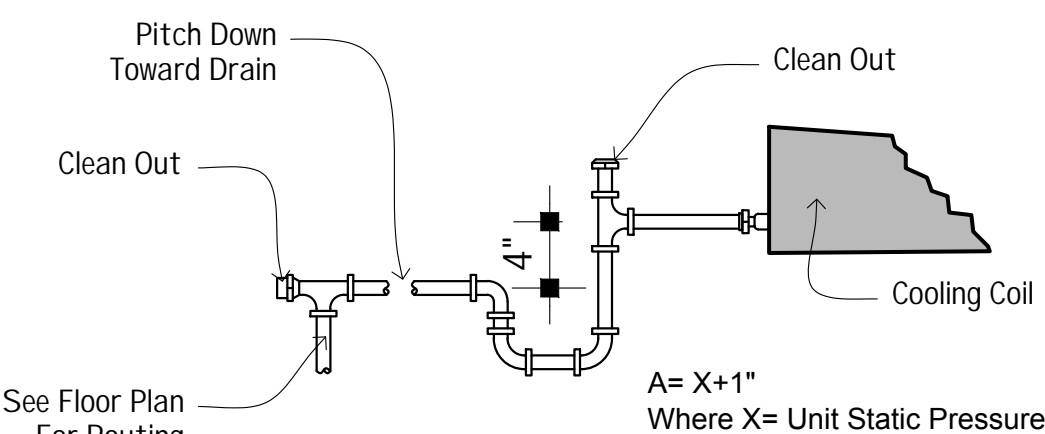
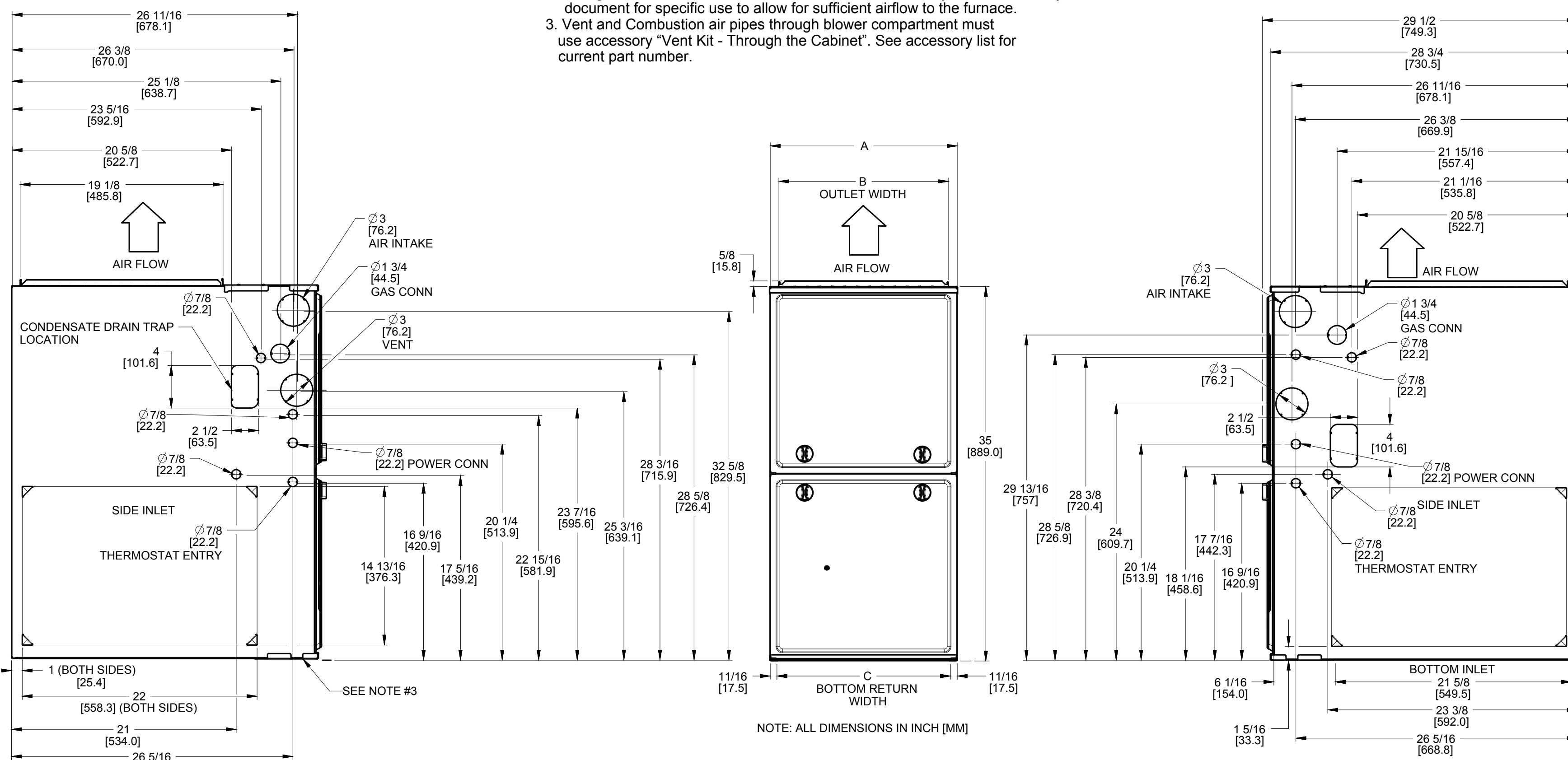
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BUILDING 2

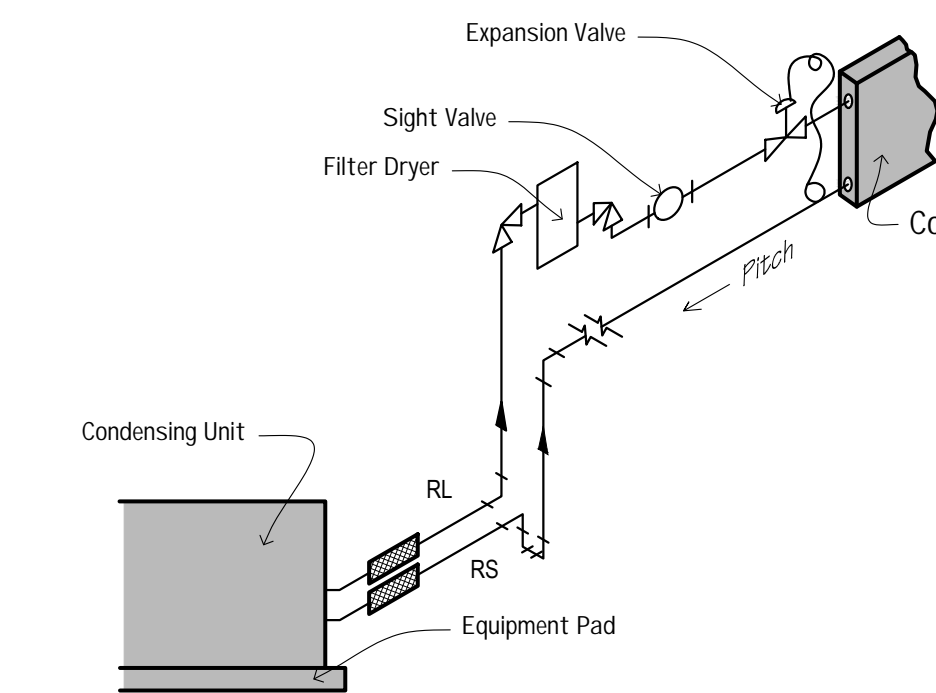
AIR COOLED CONDENSING UNIT SCHEDULE														
TAG	MANUFACTURER	MODEL	SERVICE	LOCATION	NOMINAL CAPACITY (TONS)	SEER	COMPRESSOR TYPE	REFRIGERANT	ELECTRICAL			OPERATING WEIGHT (LB)	DIMENSIONS WxLxH (IN)	NOTES
									V-PH-HZ	MCA	MOCp			
1st Floor Units														
ACCU-1	CARRIER	24AH460A003	AHU-1-1	GRADE-PAD	5	14.0	SCROLL	PURON	208-1-60	31.1	50	245	17x45x43	
ACCU-2	CARRIER	24AH460A003	AHU-1-2	GRADE-PAD	5	14.0	SCROLL	PURON	208-1-60	31.1	50	245	17x45x43	



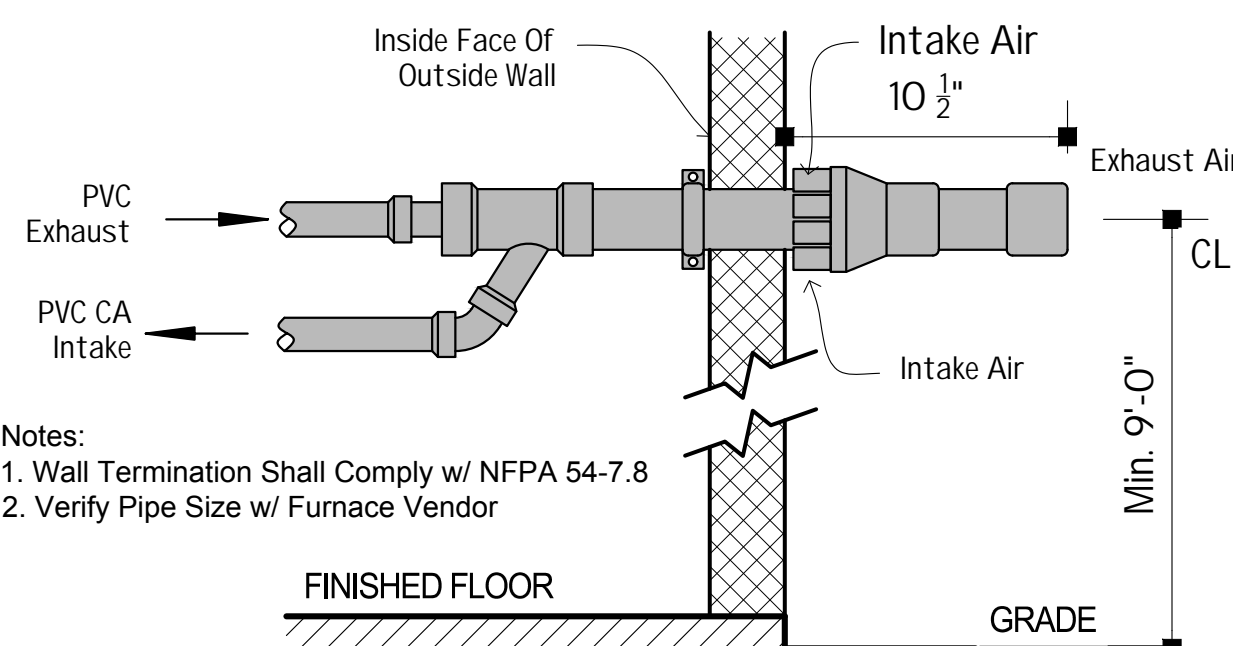
- NOTES:
- Doors may vary by model.
  - Minimum return-air openings at furnace, based on metal duct. If flex duct is used, see flex duct manufacturer's recommendations for equivalent diameters.
    - For 800 CFM-16-in. (406 mm) round or 14 1/2 x 12-in. (368 x 305 mm) rectangle.
    - For 1200 CFM-20-in. (508 mm) round or 14 1/2 x 19 1/2-in. (368 x 495 mm) rectangle.
    - For 1600 CFM-22-in. (559 mm) round or 14 1/2 x 22 1/2-in. (368 x 560 mm) rectangle.
    - Return air above 1800 CFM at 0.5 in. w.c. ESP on 24.5" casing, requires one of the following configurations: 2 sides, 1 side and a bottom or bottom only. See Air Delivery table in this document for specific use to allow for sufficient airflow to the furnace.
  - Vent and Combustion air pipes through blower compartment must use accessory "Vent Kit - Through the Cabinet". See accessory list for current part number.



**2 | CONDENSATE DRAIN TRAP**  
NOT TO SCALE



**3 | REFRIGERANT PIPING SCHEMATIC**  
NOT TO SCALE



- Notes:
- Wall Termination Shall Comply w/ NFPA 54-7.8
  - Verify Pipe Size w/ Furnace Vendor

**4 | CONCENTRIC WALL TERMINATION**  
NOT TO SCALE

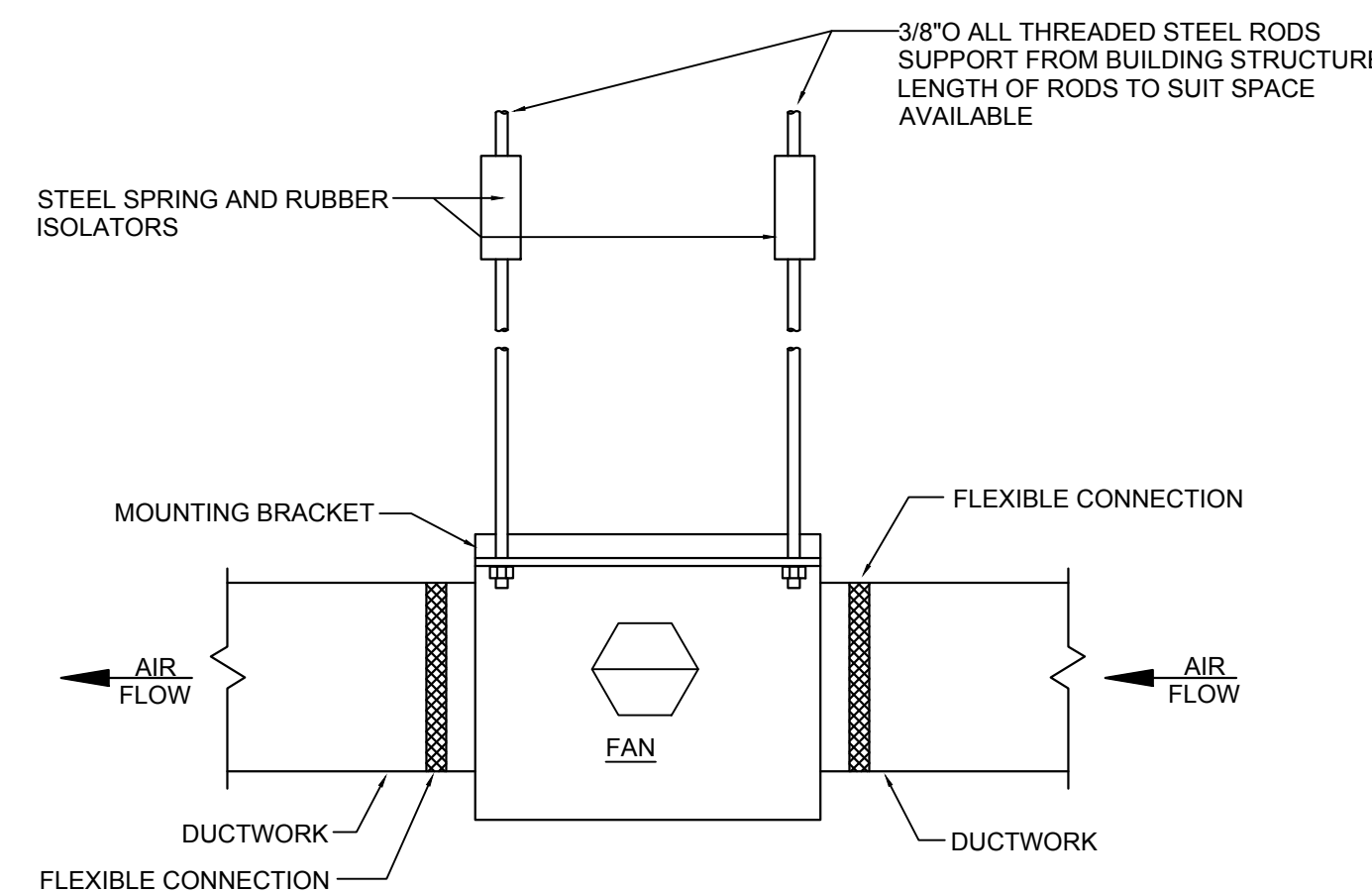
**1 | GAS FIRED FURNACE DETAILS**  
NTS

No.	Description	Date	By
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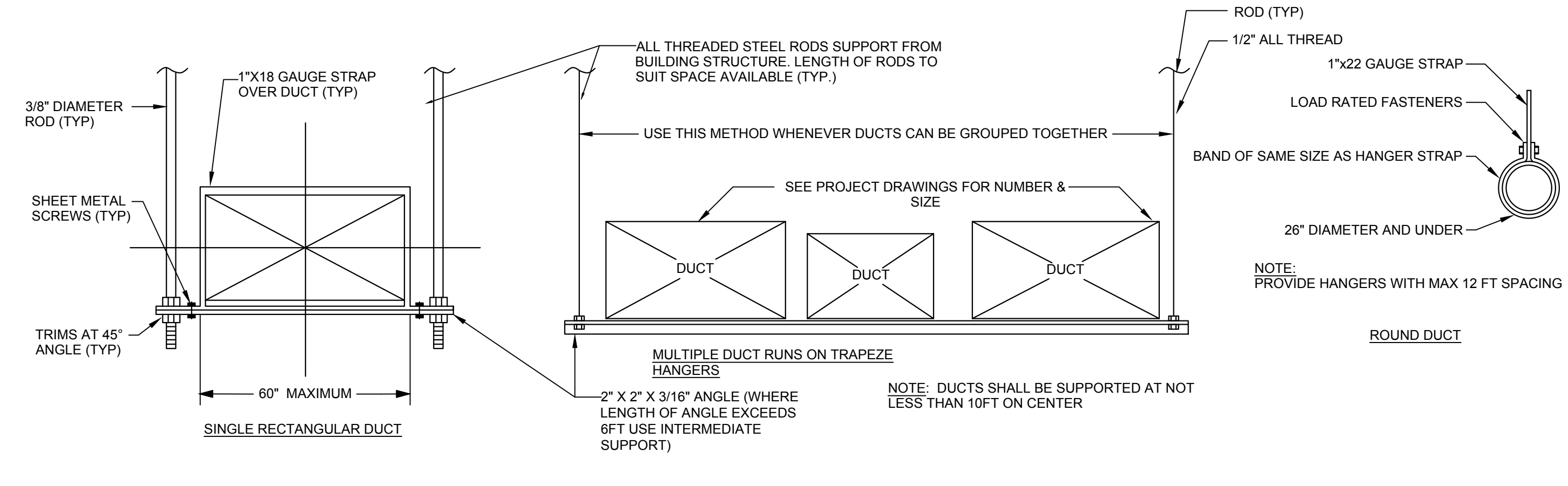
DATE: 9-3-22  
DRAWN BY: A. Barraclough  
CHECKED BY: M. Dean  
SCALE: NTS

CONDENSING  
UNITS  
**M1.3**

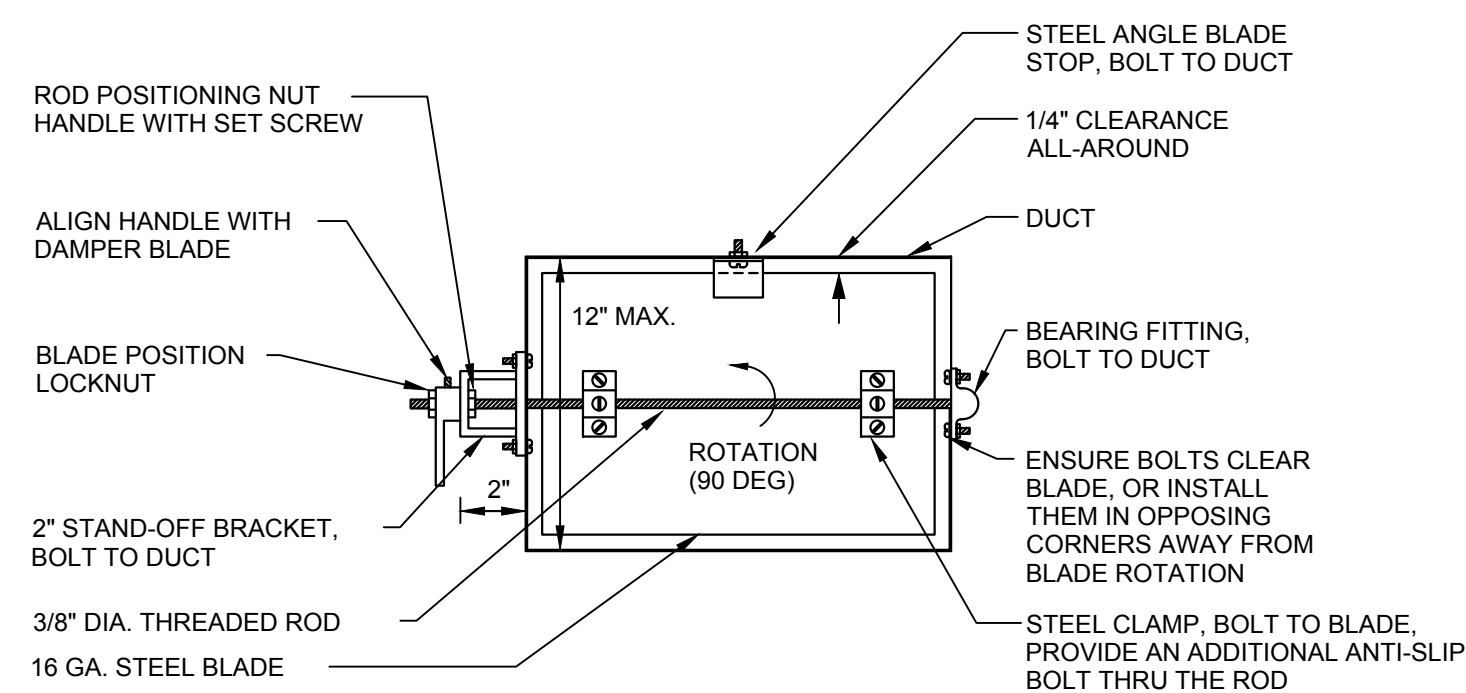




**2 | IN-LINE EXHAUST FAN DETAIL**  
N.T.S.

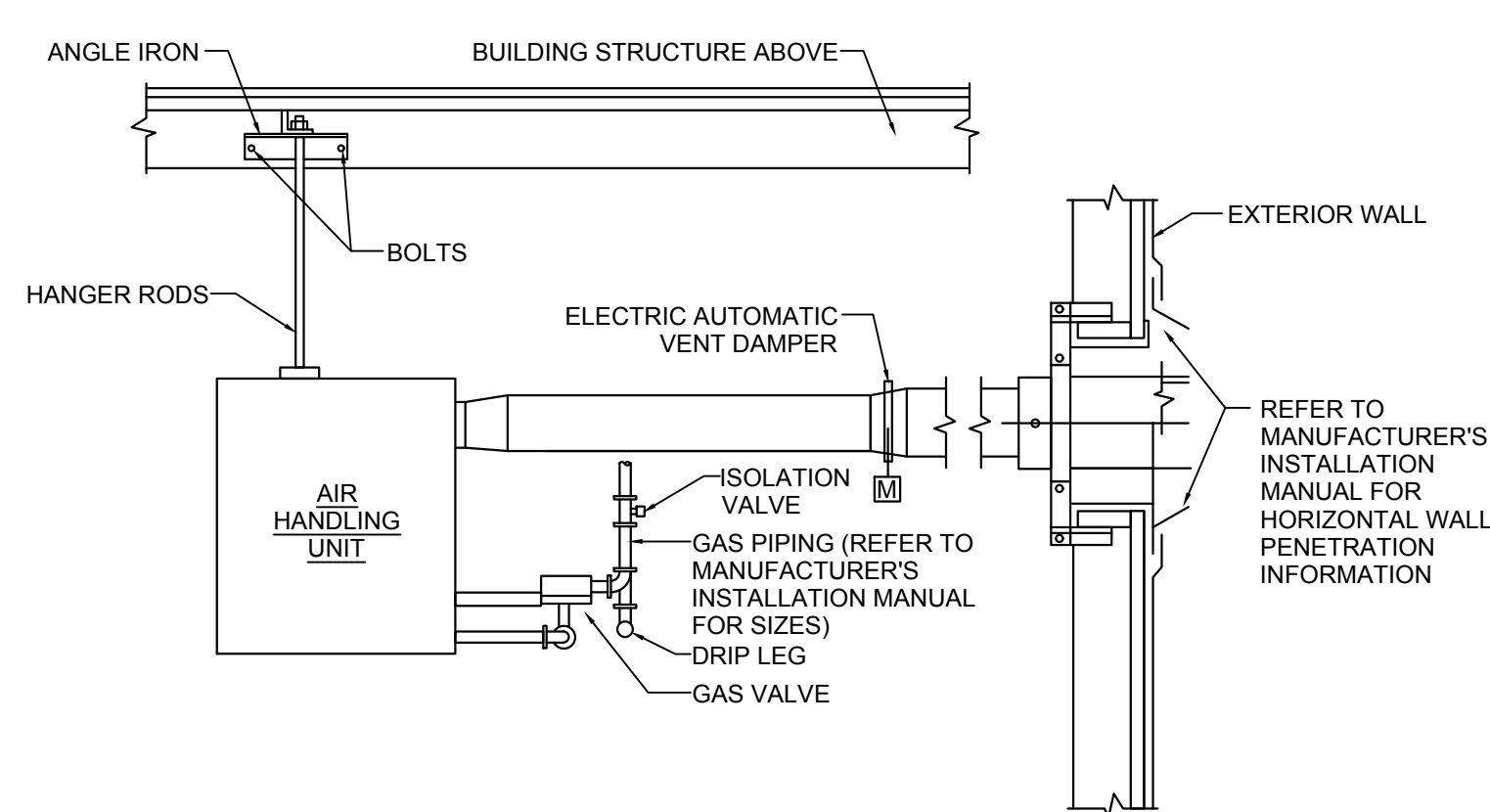


**3 | DUCT HANGER DETAIL**  
N.T.S.

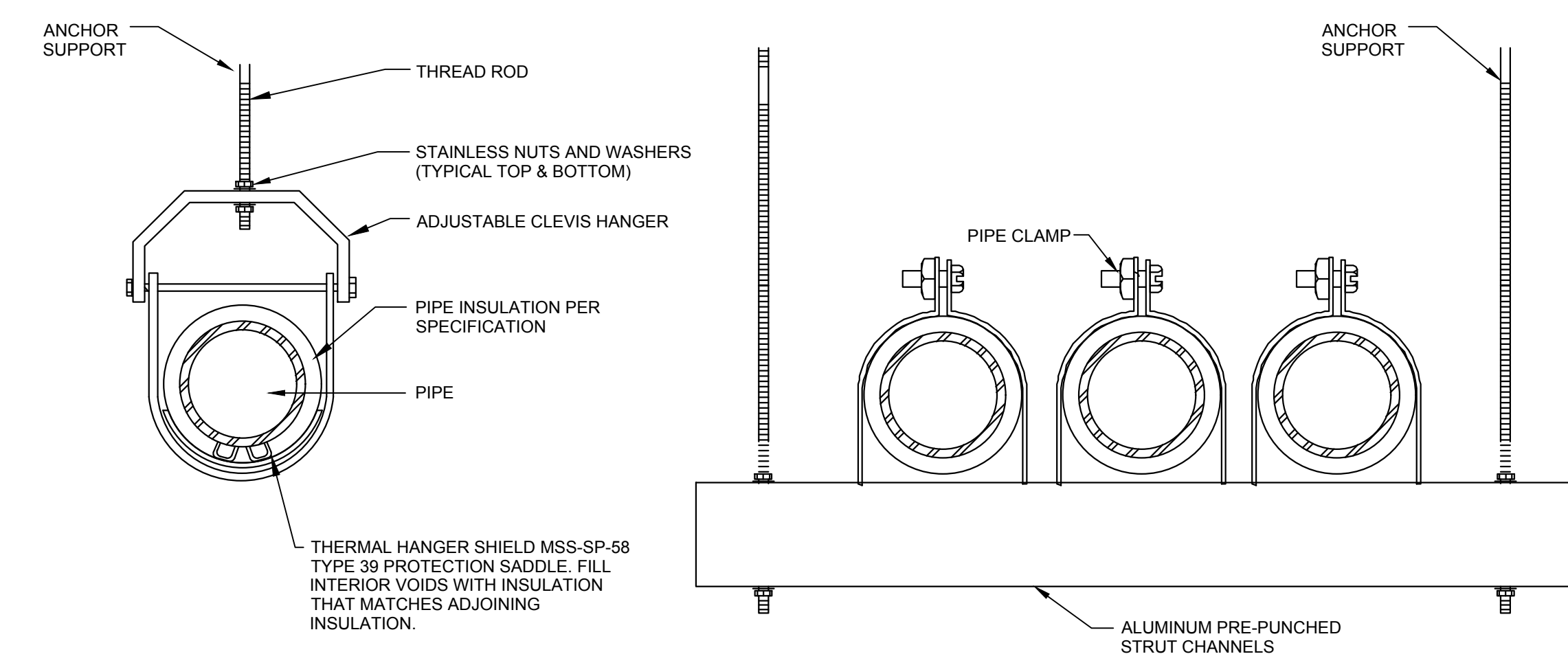


- NOTES:
1. DAMPERS FOR ROUND DUCTS SHALL BE SIMILAR TO THE DAMPER SHOWN ABOVE.
  2. ENSURE THAT FULL 90 DAMPER BLADE MOVEMENT IS UNOBSTRUCTED.
  3. FOR DUCT HEIGHTS MORE THAN 12", PROVIDE FACTORY-FABRICATED OPPOSED BLADE DAMPERS.

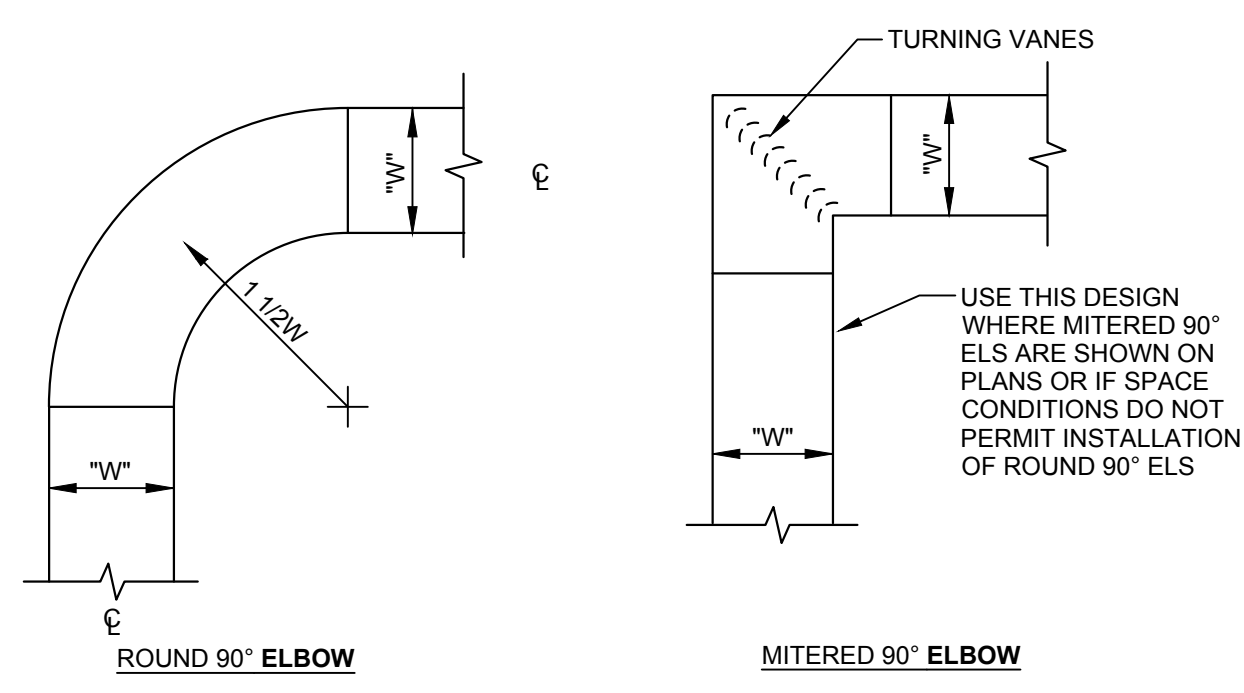
**1 | SINGLE BLADE VOLUME DAMPER DETAIL**  
N.T.S.



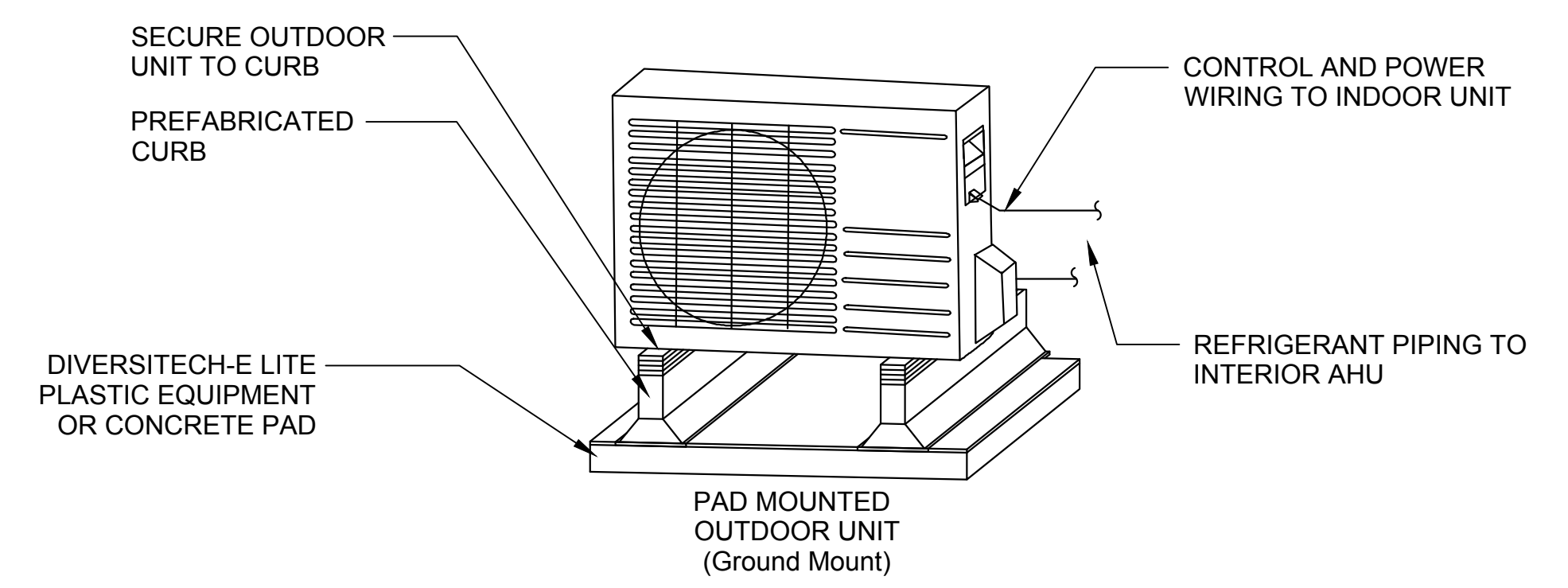
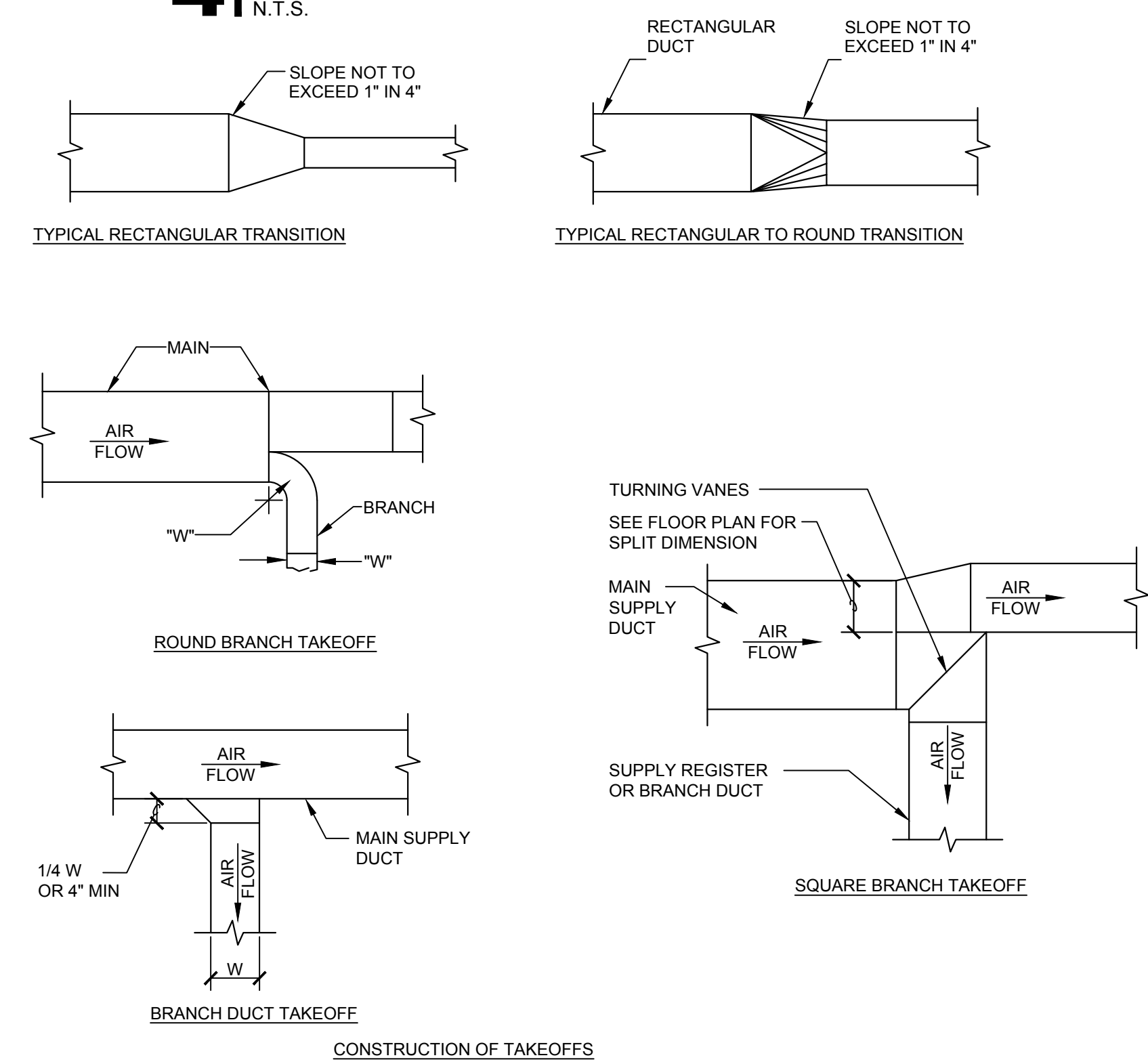
**4 | TYPICAL GAS FIRED FURNACE DETAIL**  
N.T.S.



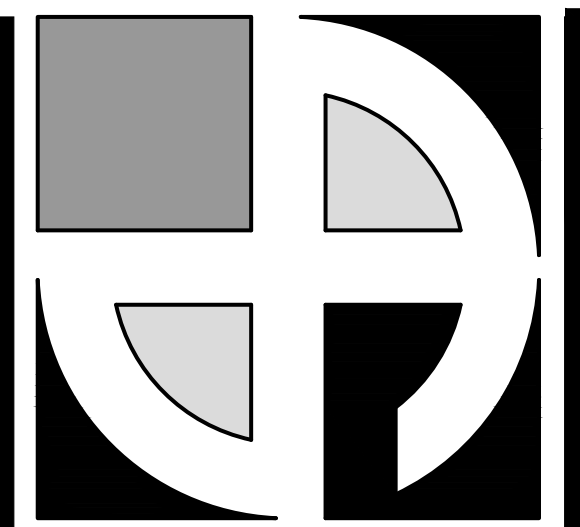
**5 | PIPE SUPPORT DETAIL**  
N.T.S.



**6 | LOW VELOCITY DUCT LAYOUT DETAIL**  
N.T.S.



**7 | TYPICAL PAD MOUNTED ACCU DETAIL**  
N.T.S.



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Elon, NC

No.	Description	Date	By
1	ISSUED FOR BID	2-3-23	AB

DATE: 9-3-22

DRAWN BY: A. Barraclough  
CHECKED BY: M. Dean

SCALE: NTS

HVAC DETAILS

**M1.4**



## PLUMBING GENERAL NOTES:

- ALL PLUMBING WORK UNDER THIS CONTRACT SHALL CONFORM TO THE LATEST EDITION OF THE PLUMBING CODE OF NORTH CAROLINA (2018 NORTH CAROLINA PLUMBING CODE), THE NORTH CAROLINA ENERGY CODE, AND THE REQUIREMENTS OF THE UTILITY AND THE LOCAL WATER COMPANY.
- ALL MATERIALS SHALL BE NEW UNLESS NOTED OTHERWISE.
- THE PLUMBING CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ALL LABOR AND MATERIALS SUPPLIED AND INSTALLED UNDER THIS CONTRACT AND SHALL GUARANTEE THE WORK PERFORMED UNDER THIS CONTRACT FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE OF THIS WORK.
- PLUMBING CONTRACTOR SHALL CONSULT WITH, COOPERATE AND COORDINATE WITH THE GENERAL CONTRACTOR, MECHANICAL CONTRACTOR, SPRINKLER CONTRACTOR, ELECTRICAL CONTRACTOR, ETC. IN ORDER TO MINIMIZE INTERFERENCES BETWEEN TRADES DURING PERFORMANCE OF THIS WORK.
- THE PLUMBING CONTRACTOR SHALL PREPARE AND FILE ALL REQUIRED PLANS AND PERMITS WITH THE LOCAL AUTHORITIES. PC SHALL PAY THE FILING FEES AS REQUIRED. PC SHALL OBTAIN ALL APPROVALS AND SHALL PAY FOR ALL WORK PERMITS, INSPECTIONS AND SIGN-OFFS AS REQUIRED TO EXECUTE THIS WORK IN A MANNER IN CONFORMANCE WITH THE CODES AND AUTHORITIES HAVING JURISDICTION.
- THE PLUMBING CONTRACTOR SHALL PERFORM ALL TESTS AND ARRANGE FOR ALL INSPECTIONS FOR WORK UNDER HIS CONTRACT AS REQUIRED BY LAW AND SHALL SUPPLY ALL CERTIFICATES OF INSURANCE AS REQUIRED BY THE LAW AND THE OWNER. REFER TO SECTION 106 (INSPECTIONS) OF THE 2018 NORTH CAROLINA BUILDING CODE.
- THE PLUMBING CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS TO ALL PLUMBING EQUIPMENT REGARDLESS WHETHER ILLUSTRATED HEREIN WITHOUT ANY ADDITIONAL COSTS TO THE OWNER.
- PLUMBING CONTRACTOR SHALL VISIT THE SITE & BECOME FAMILIAR WITH THE EXISTING CONDITIONS, INCLUDING THE SIZE OF CONNECTIONS, ROUGHING DIMENSIONS, ETC. BEFORE SUBMITTING A QUOTATION FOR THE WORK.
- PLUMBING CONTRACTOR SHALL PERFORM ALL CUTTING, EXCAVATION, BACKFILLING, ROUGH & FINISH PATCHING AS PER THE SPECIFICATIONS AS REQUIRED FOR THE INSTALLATION OF THE WORK, UNLESS NOTED OTHERWISE.
- ALL CONNECTIONS TO NEW AND/OR EXISTING EQUIPMENT SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- IT IS THE INTENT OF THIS CONTRACT THAT THE COMPLETED WORK BE FULLY OPERATIONAL.
- ALL PIPE HANGERS AND SUPPORTS SHALL BE INSTALLED AT INTERVALS AND BE FABRICATED OF MATERIALS AS REQUIRED BY THE PCPA.
- ALL NEW PLUMBING FIXTURES SHALL BE INSTALLED WITH ANGLE STOP VALVES IN THE SUPPLY LINES SERVING THE FIXTURE.
- ALL NEW EXPOSED WATER AND WASTE PIPING SERVING THE FIXTURES SHALL BE CHROME PLATED AND SHALL HAVE CHROME PLATED ESCUTCHEONS RIGIDLY ATTACHED TO THE PIPING AT THE POINT OF WALL OR FLOOR PENETRATIONS.
- PLUMBING CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL NEW PLUMBING FIXTURES AND EQUIPMENT TO BE SUPPLIED AND INSTALLED UNDER THIS CONTRACT FOR APPROVAL BEFORE INSTALLATION OF SAME.
- WATERPROOF PIPE SLEEVES SHALL BE INSTALLED AT ALL PENETRATIONS THROUGH EXTERIOR WALLS. PIPE SLEEVES SHALL BE INSTALLED AT ALL WALL PENETRATIONS THROUGH INTERIOR WALLS AND FLOORS.
- WATER HAMMER ELIMINATORS (APPROVED - FIELD FABRICATED OR MANUFACTURED) SHALL BE INSTALLED AT ALL RUN OUTS IN HOT AND/OR COLD WATER LINES SERVING TOILET ROOMS AND OTHER AREAS WHICH INCORPORATE "RAPID - ACTION" VALVES SUCH AS FLUSHMETERS, SOLENOID VALVES, ETC.
- ALL PIPING SHALL BE TESTED AT A MINIMUM PRESSURE OF 1-1/2 TIMES THE MAXIMUM OPERATING PRESSURE UNLESS OTHERWISE NOTED ON THE DOCUMENTS OR THE PLUMBING CODE AND IN ACCORDANCE WITH THE UTILITY REQUIREMENTS FOR GAS PIPING SYSTEMS.
- ALL REMOVALS PERFORMED UNDER THIS CONTRACT SHALL INCLUDE REMOVAL OF ALL DEBRIS AND DISPOSAL AT AN APPROPRIATE SITE.
- ALL LAVATORIES DESIGNED FOR USE BY PERSONS CONFINED TO WHEELCHAIRS SHALL HAVE THE HOT & COLD WATER SERVICES, AS WELL AS THE TRAP, RECESSED & INSULATED IN ACCORDANCE WITH ADA REQUIREMENTS.
- REFER TO THE ARCHITECTURAL PLANS FOR ALL STRUCTURAL DIMENSIONS.
- ALL WORK TO BE COORDINATED WITH OTHER TRADES.
- ALL PIPING PENETRATIONS TO BE SEALED AROUND WITH "NELSON" FIRE SEAL.
- ALL WATER SERVICE PIPING WITHIN THE BUILDING IS TO BE INSULATED IN ACCORDANCE WITH ALL 2018 NORTH CAROLINA BUILDING CODE.
- ALL PLUMBING FIXTURES TO BE INSTALLED AS PER FACTORY RECOMMENDATIONS.
- ALL PLUMBING FIXTURES TO BE TRAPPED, VENTED AND PROVIDED WITH AIR SHOCKS WHEN REQUIRED.
- PLUMBING FIXTURES SHALL COMPLY WITH "WATER CONSERVATION" REQUIREMENT AS DETAILED IN THE 2018 NORTH CAROLINA BUILDING CODE.
- GC IS RESPONSIBLE TO SUBMIT APPLICATION AND TAP FEES TO LOCAL WATER AUTHORITY AND HAVE OWNER FILL OUT APPLICATION UPON COMPLETION OF PLUMBING ROUGH-IN INSPECTION.
- ALL WATER AND HORIZONTAL STORM DRAIN PIPING INCLUDING ROOF DRAIN BODY SHALL BE INSULATED.
- FLOOR DRAINS AND FLOOR CLEAN-OUTS SHALL BE SET LEVEL WITH FINISHED FLOORS.
- ALL PIPE DIMENSIONS ARE INSIDE CLEAR.
- ALL PLUMBING FIXTURES TO HAVE ISOLATION VALVES.
- P.C. IS RESPONSIBLE TO ADJUST HOT WATER HEATER (HWH) TEMPERATURE TO ENSURE A TEMPERATURE RANGE OF 110°F TO 120°F AT THE INDIVIDUAL FIXTURE OUTPUT. P.C. MUST ENSURE A TEMPERATURE OF 120°F MAXIMUM AT THE FIXTURES TO PREVENT SCALDING.
- P.C. IS RESPONSIBLE TO MOUNT HOT WATER HEATER IN CEILING AS HIGH AS POSSIBLE TO AVOID ANY CONFLICT WITH OTHER TRADES, CEILING HEIGHT, AND ANY STRUCTURE (I.E. BEAMS, JOIST, ETC).
- BUILDING DOMESTIC WTR DEMAND & SIZING IS CALCULATED FROM 2018 NORTH CAROLINA BUILDING CODE SECTION 603 & 604.
- BUILDING SANITARY DEMAND & SIZING IS CALCULATED FROM PCNC SECTIONS 709 AND 710.
- ALL DFO CALCULATIONS ARE BASED OFF OF TABLE 704.1 OF THE PCNC.
- ALL SANITARY AND STORM WATER PIPING SHALL BE PITCHED IN ACCORDANCE WITH PCNC SECTION 704 BASED ON TABLE 704.1 SLOPE OF HORIZONTAL DRAINAGE PIPE.
- ALL STORM WATER PIPING IS SIZED FROM TABLE 1106.2 OF THE PCNC BASED OFF OF 3" RAINFALL RATE.
- ALL VENT SIZING IS BASED OFF OF SECTION 916 OF THE PLUMBING CODE OF NC.
- P.C. TO PROVIDE 1-1/2" FIBERGLASS INSULATION AROUND ALL HORIZONTAL STORM WATER PIPING IN THE PLENUM.
- ALL GAS PIPE SIZING IS BASED OFF OF SECTIONS 402 TABLE 402.4(2) OF THE NORTH CAROLINA FUEL GAS CODES. ALL NATURAL GAS LINES TO BE CARBON STEEL OR WROUGHT IRON AND COMPLY WITH SECTION 403 FGCCNC.
- ALL PLUMBING EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS/SPECIFICATIONS.
- ALL PLUMBING EQUIPMENT SHALL BE MOUNTED ON MINIMUM 6" HIGH CONCRETE PAD UNLESS OTHERWISE NOTED (PAVER AND CINDER BLOCK IS NOT ACCEPTABLE).

## SHOP DWGS & EQUIPMENT SUBMITTALS

- THE CONTRACTOR MUST SUBMIT ANY EQUIPMENT ALTERNATES 2 WEEKS PRIOR TO BIDS DUE FOR REVIEW AND COMMENTS. ALTERNATES MUST BE ACCEPTED BY LIRO ENGINEERS, INC., THE ARCHITECT, AND THE OWNER PRIOR TO INCLUSION IN BID. THE CONTRACTOR IS RESPONSIBLE TO COORDINATE EQUIPMENT ALTERNATES WITH OTHER TRADES AND MAKE ADJUSTMENTS TO THE MECHANICAL SYSTEMS, AS REQUIRED, TO ACCOMMODATE THESE NEW ALTERNATES.
- PLUMBING CONTRACTOR TO PROVIDE X-RAY AND TEST CORE DRILLING TO DETERMINE EXACT LOCATION AND INVERT OF EXISTING SANITARY MAIN. SUBMIT FINDING VIA SHOP DRAWINGS TO ENGINEER FOR APPROVAL AND DIRECTION. COORDINATE LOCATION WITH SANITARY CONSTRUCTION PLANS TO DETERMINE ROUTING OF NEW PIPING AND POSSIBILITY OF RE-USING EXISTING PIPING.
- CHANGES WHICH DEEM TO EFFECT THE DESIGN SHALL BE SUBMITTED WITH A NORTH CAROLINA P.E. APPROVED DRAWING AT THE CONTRACTOR'S EXPENSE AND SHALL BE REVIEWED BY ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE TO SUBMIT ALL OF THE FOLLOWING ITEMS FOR REVIEW/APPROVAL BY NO MORE THAN 3 WEEKS AFTER THE CONTRACTOR'S CONTRACT/BID HAS BEEN AWARDED. ALL SUBMITTALS MUST BE SENT TOGETHER AS A SINGLE PACKAGE WITH MANUFACTURER'S SPECIFIC MODELS AND SPECIFICATIONS OUTLINED TO MATCH THE SCHEDULED REQUIREMENTS. EACH SUBMITTAL MUST BE LABELED WITH THE UNIT DESIGNATION USED WITHIN THIS DRAWING SET. IF THE SUBMITTAL PACKAGE IS FOUND TO BE INCOMPLETE UPON RECEIPT, THE PACKAGE WILL BE HELD AND WILL NOT BE REVIEWED UNTIL THE REMAINDER OF THE PACKAGE IS RECEIVED. ALL SHOP DRAWINGS AND SUBMITTALS SHALL BE SUBMITTED ELECTRONICALLY TO THE ENGINEER FOR REVIEW. CONTRACTOR SHALL NOT PURCHASE OR INSTALL ANY EQUIPMENT UNTIL WRITTEN ACCEPTANCE IS OBTAINED FROM THE ENGINEER.
  - CONTRACTOR IS RESPONSIBLE TO DEVELOP & SUBMIT TO THE ENGINEER FOR REVIEW & APPROVAL THE FOLLOWING SHOP DWGS:
    - GAS FIRED HOT WATER HEATER.
    - HOT WATER RETURN JUMP
    - PLUMBING FIXTURES & ACCESSORIES.
    - ALL VALVES.
    - ALL PIPING, FITTINGS, & SUPPORT MATERIALS.
    - WALL CARRIERS.
    - RPZ ASSEMBLY, WATER METER
    - HOT WATER TEMPERATURE REPORT (REPORT MUST SHOW HOW LONG IT TAKES TO GET 120°F HOT WATER TO ALL FIXTURES THAT REQUIRE HOT WATER AFTER 6 HOURS OF STATIC SYSTEM.)

- NOTE: REFER TO SPECIFICATIONS FOR FURTHER SHOW DRAWING REQUIREMENTS. IF CONFLICTS ARISE, CONTACT DESIGN ENGINEER BEFORE FABRICATION.

## BUILDING DEPARTMENT NOTES

- ALL PLUMBING WORK SHALL MEET THE REQUIREMENTS OF 2014 PLUMBING CODE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NORTH CAROLINA BUILDING CODE 2018, AND ALL AMENDMENTS.
- PROTECTION OF PIPING AS OUTLINED IN CHAPTER 3, SECTION PC 305 SHALL BE PROVIDED AS REQUIRED.
  - ALL PIPING MATERIALS SHALL BE AS DIRECTED IN CHAPTER 3, SECTION 303.
  - PIPING JOINTS AND CONNECTIONS SHALL BE AS APPROVED IN THE PLUMBING CODE 2018 FOR EACH SPECIFIC TYPE OF SYSTEM.
  - CONSTRUCTION, QUANTITIES, DEVICES, FIXTURES, VALVES AND FACILITIES FOR DISABLED SHALL BE AS OUTLINED IN CHAPTER 4, SECTION PC 404.
  - CLEANOUTS SHALL BE AS PER CHAPTER 7, SECTION PC708.
  - TRAPS SHALL BE AS PER CHAPTER 10, SECTION PC1103.
  - CONSTRUCTION AND SPACING OF HANGERS AND SUPPORTS SHALL BE AS DIRECTED IN CHAPTER 3, SECTION PC308.
  - WATER SUPPLY SYSTEM, VALVES, AND TESTS SHALL BE AS DIRECTED IN CHAPTER 6.
  - SANITARY DRAINAGE PIPING, SIZING, GRADING AND OFFSETS SHALL BE AS OUTLINED IN CHAPTER 7.
  - VENT SIZING, GRADING, CONNECTIONS, LOCATIONS AND OFFSETS SHALL BE AS DIRECTED IN CHAPTER 8.
  - SPECIAL AND MISCELLANEOUS PIPING SHALL BE AS DIRECTED IN CHAPTER 12.
  - INDIRECT WASTE PIPING SHALL BE AS DIRECTED IN CHAPTER 8.
  - ALL PLUMBING SHALL COMPLY WITH CHAPTER 4.

PLUMBING SYMBOL LIST	
IDENTIFIER	DESCRIPTION
— CW —	NEW DOMESTIC COLD WATER
— HW —	NEW DOMESTIC HOT WATER
— HWR —	NEW DOMESTIC HOT WATER RETURN
— TW —	NEW TEMPERED WATER
— S —	NEW SANITARY PIPING (ABOVE SLAB)
— COND —	NEW CONDENSATE DRAIN
— G —	NEW GAS LOW PRESSURE
— CA —	NEW COMPRESSED AIR
— S —	NEW SANITARY PIPING (UNDER SLAB)
— V —	NEW SANITARY VENT PIPING
⊙	FIELD CONNECT
⊙	FIELD DISCONNECT
⊙	REFER TO SUPPLEMENTAL FIGURE INDICATED BY NUMBER (I.E. F2 REFERS TO FIGURE 2)
⊙	EQUIPMENT TAG
⊙	EQUIPMENT NUMBER
⊙	DETAIL TAG/CALL OUT TAG
⊙	PLUMBING SHEET NUMBER

PIPING ELEMENTS/VALVING			
◇	AQUASTAT	OS ∞	OPEN SITE DRAIN
ADR	AREA DRAIN	→	PIPE DROPPING DOWN
⊙	AUTOMATIC AIR VENT	○	PIPE RISING UP
⊙	BACKFLOW PREVENTER	⊘	PLUG VALVE
⊙	BACKFLOW PREVENTER (DOUBLE CHECK VALVE ASSEMBLY)	⊘	PRESSURE REDUCING VALVE (PRV)
⊙	BACKFLOW PREVENTER (REDUCED ZONE)	PT/PS	PRESSURE TRANSMITTER OR PRESSURE SWITCH
⊙	BALL VALVE	⊙	RELIEF/SAFETY VALVE
⊙	BUTTERFLY VALVE	RD	ROOF DRAIN
⊙	CAP ON END OF PIPE	⊙	SOLENOID VALVE
⊙	CIRCUIT SETTING BALANCING VALVE	⊙	SPRINKLER HEAD
⊙	CLEANOUT	⊙	STRAINER
⊙	FLEXIBLE-CONNECTION	⊙	STRAINER WITH BLOW OFF VALVE
⊙	FLOOR DRAIN	⊙	SWING CHECK VALVE
⊙	FLOW SWITCH	⊙	TEE OUTLET DOWN
⊙	GAS COCK	⊙	TEE OUTLET UP
⊙	GAS PRESSURE REGULATOR	⊙	TEMPERATURE AND PRESSURE RELIEF VALVE
⊙	GATE VALVE	⊙	TEMPERATURE TRANSMITTER
⊙	GATE VALVE, ANGLE	⊙	THERMOMETER/TEMPERATURE INDICATOR
⊙	GAUGE WITH GAUGE COCK/ PRESSURE INDICATOR	⊙	THREE WAY CONTROL VALVE
⊙	GLOBE VALVE	⊙	TWO WAY CONTROL VALVE
⊙	GLOBE VALVE, ANGLE	⊙	UNION - SCREWED OR FLANGED
⊙	HOSE BIBB	⊙	VALVE IN RISE OR DROP
⊙	LIFT CHECK VALVE	⊙	WALL CLEAN OUT
⊙	MANUAL AIR VENT	⊙	WATER HAMMER ARRESTER

SCOPE OF WORK	
PLUMBING SCOPE OF WORK INCLUDES, BUT IS NOT LIMITED TO:	
1. THE INSTALLATION OF NEW PLUMBING FIXTURES AND ALL ASSOCIATED PIPING AND ACCESSORIES.	
2. ALL PLUMBING EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS/SPECIFICATIONS.	
3. ALL PLUMBING EQUIPMENT SHALL BE MOUNTED ON MINIMUM 6" HIGH CONCRETE PAD UNLESS OTHERWISE NOTED (PAVER AND CINDER BLOCK IS NOT ACCEPTABLE).	
NOTE: THIS SCOPE OF WORK DESCRIPTION IS PROVIDED TO GIVE AN OVERALL "MACRO" DESCRIPTION OF THIS PROJECT. P.C. IS RESPONSIBLE TO REVIEW ALL ENGINEERING & ARCHITECTURAL DRAWINGS & VISIT THE SITE IF NEEDED, PRIOR TO SUBMISSION OF BID.	

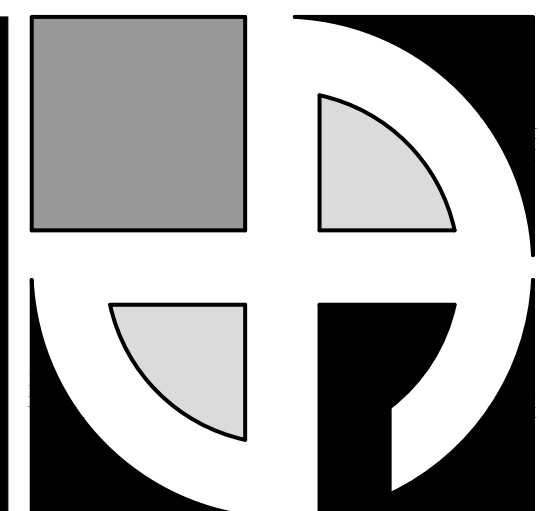
CODE REFERENCE	
2018 NORTH CAROLINA PLUMBING CODE	2018 NORTH CAROLINA BUILDING CODE
2018 NORTH CAROLINA MECHANICAL CODE	MOST CURRENT NFPA 13 & LIFE SAFETY CODE
2020 NORTH CAROLINA ELECTRICAL CODE	

DOB DISCLAIMER NOTE:	
*THIS PLAN APPROVED ONLY FOR WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON, OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.	

SECTION 704 DRAINAGE PIPING INSTALLATION		
704.1 SLOPE OF HORIZONTAL DRAINAGE PIPING.		
HORIZONTAL DRAINAGE PIPING SHALL BE INSTALLED IN UNIFORM ALIGNMENT AT UNIFORM SLOPES. THE MINIMUM SLOPE OF HORIZONTAL DRAINAGE PIPE SHALL BE IN ACCORDANCE WITH TABLE 704.1.		
TABLE 704.1 SLOPE OF HORIZONTAL DRAINAGE PIPE		
SIZE (INCHES)	MINIMUM SLOPE (INCH PER FOOT)	
2 1/2 OR LESS	1/4	
3 TO 6	1/8	
8 OR LARGER	1/16	

**Note:**  
Contractor Shall Provide  
Minimum Standard Labor &  
Material Warranties

ABBREVIATIONS:	
AD	ACCESS DOOR
BFP	BACKFLOW PREVENTER
CO	CLEAN OUT
CW	COLD WATER
DCV	DOUBLE CHECK VALVE
DFU	DRAINAGE FIXTURE UNIT
DPCO	DECK PLATE CLEAN OUT
FC	FIELD CONNECT
FD	FLOOR DRAIN
FFD	FUNNEL FLOOR DRAIN
FU	FIXTURE UNIT
HW	HOT WATER
HWR	HOT WATER RETURN
IAW	IN ACCORDANCE WITH
IWFD	INDIRECT WASTE FUNNEL DRAIN
LAV	LAVATORY
JS	JANITOR'S SINK
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NCPC	NORTH CAROLINA PLUMBING CODE
RD	ROOF DRAIN
	SANITARY
SD	STORM DRAIN
TMV	THERMOSTATIC MIXING VALVE
U.O.N.	UNLESS OTHERWISE NOTED
UR	URINAL
	VENT
WC	WATER CLOSET
PC	PLUMBING CONTRACTOR
MC	MECHANICAL CONTRACTOR
TYP.	TYPICAL
VIF	VERIFY IN FIELD
WCO	WALL CLEAN OUT
WFO	WATER FIXTURE UNITS
THE ABBREVIATIONS ARE SHOWN FOR GENERAL REFERENCE ONLY. THE PRESENCE OF AN ABBREVIATION ON THIS LIST DOES NOT IMPLY ITS USE ON THIS PROJECT. REFER TO DRAWINGS FOR SPECIFIC ABBREVIATIONS USED.	



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BUILDING 2

No.	Description	Date	By
1	ISSUED FOR BID	2-3-23	AB

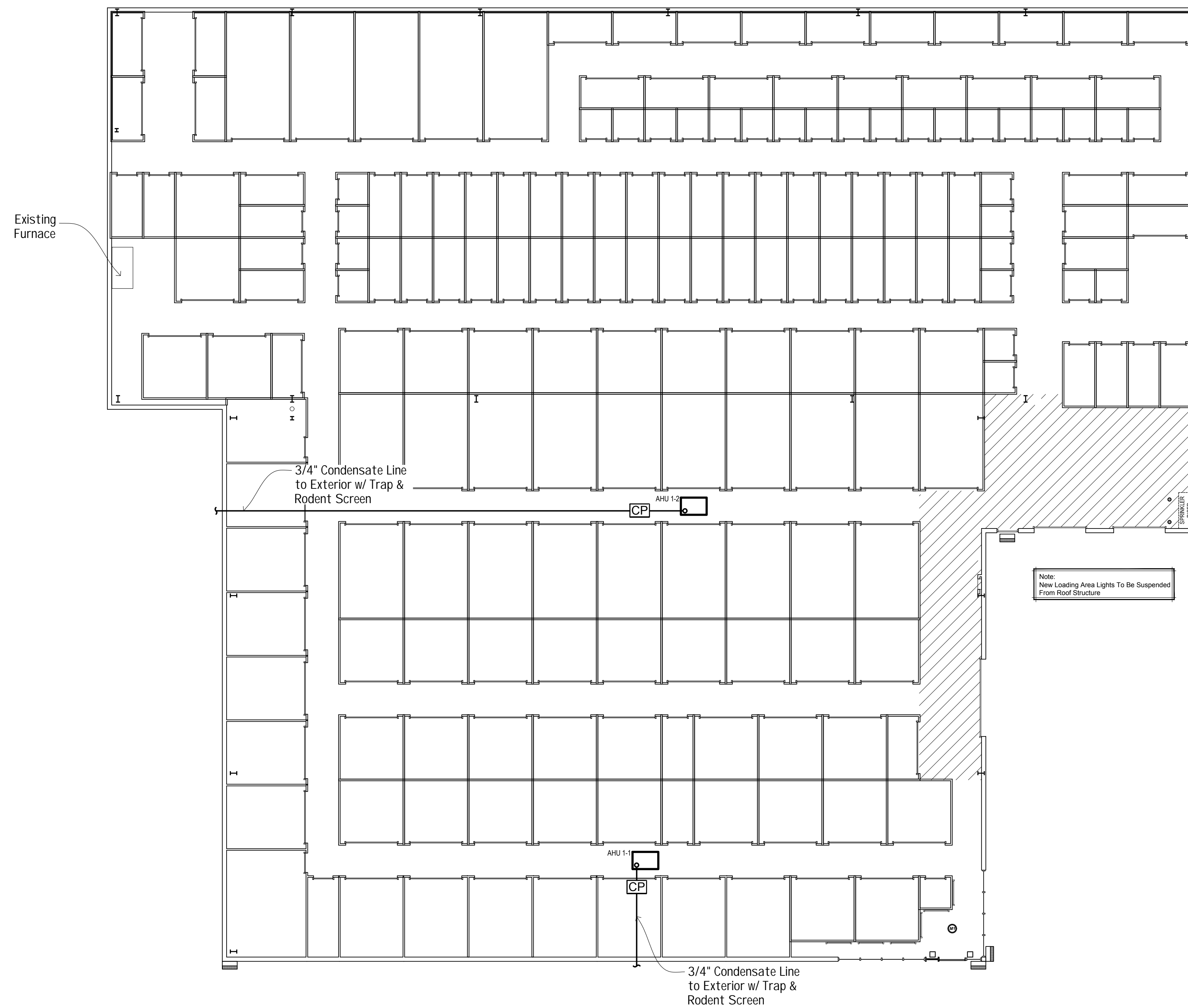
DATE:  
9-3-22

DRAWN BY: A. Barraclough  
CHECKED BY: M. Dean

SCALE:  
NTS

PLUMBING  
NOTES  
**P1.0**

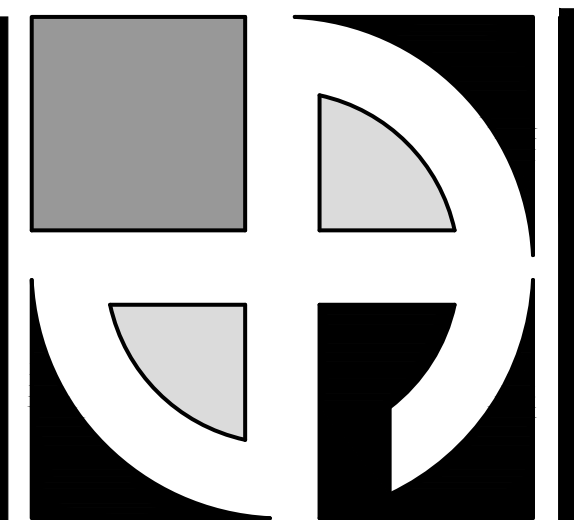




**1 CONDENSATE PLAN**  
3/32"=1'-0"

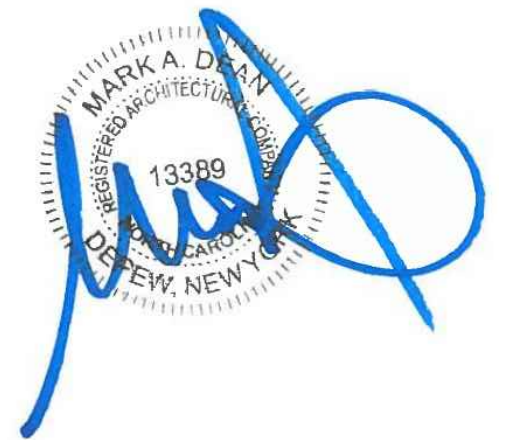
Condensate Pump Schedule							
Mark	GPH	Total Head (FT)	HP	Volts/PH/Hz	FLA	Model	Notes
CP	0.5	15	19 WATTS	115/1/60	0.24	EC-400	1

Notes:  
1. Provide w/ Suction, Vent & Drain Tubing, Tubing Adapter & Safety Switch  
SELECTIONS ARE BASED ON PRODUCTS BY: LITTLE GIANT



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No.	Description	Date	By
1	ISSUED FOR BID	2-3-23	AB

DATE:  
9-3-22

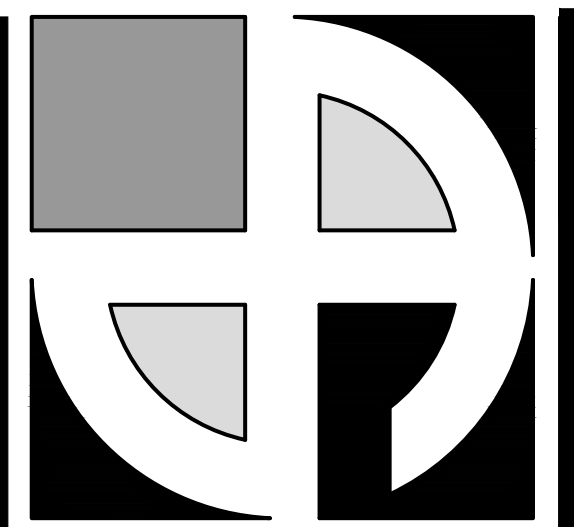
DRAWN BY: A. Barraclough  
CHECKED BY: M. Dean

SCALE:  
3/32"= 1'-0"

CONDENSATE  
PLAN

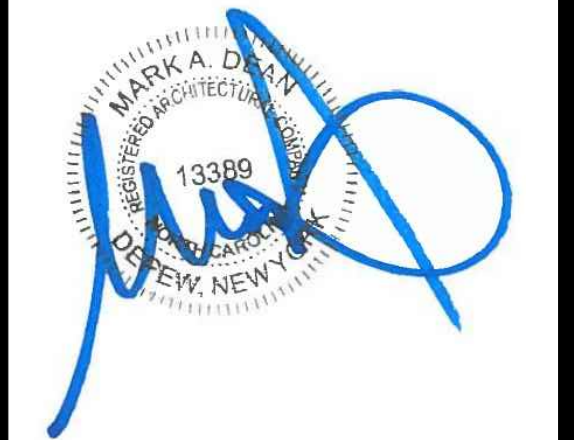
**P2.0**





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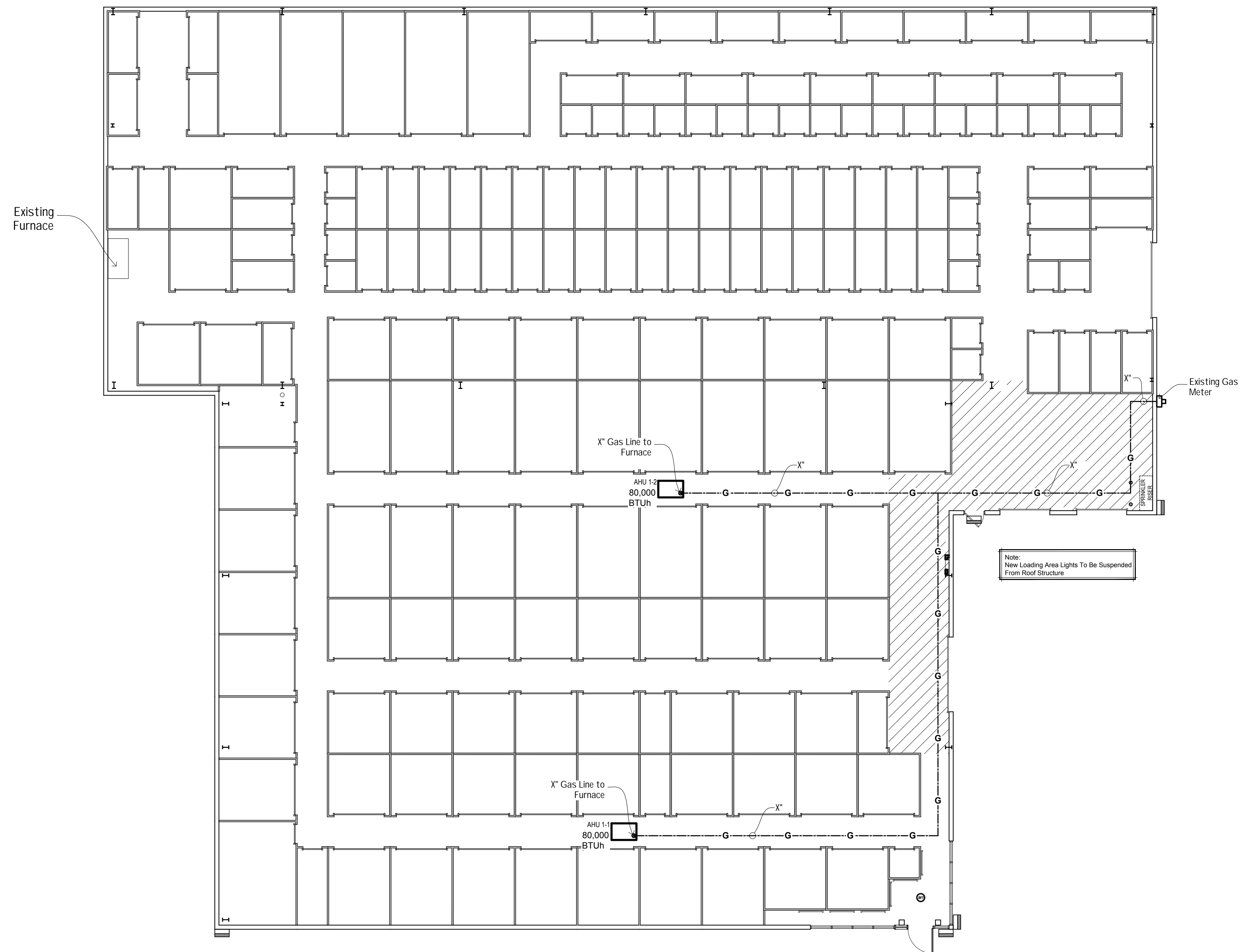
**22-238**

**STORE SPACE**

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Elon, NC

BUILDING 2

BUILDING 1

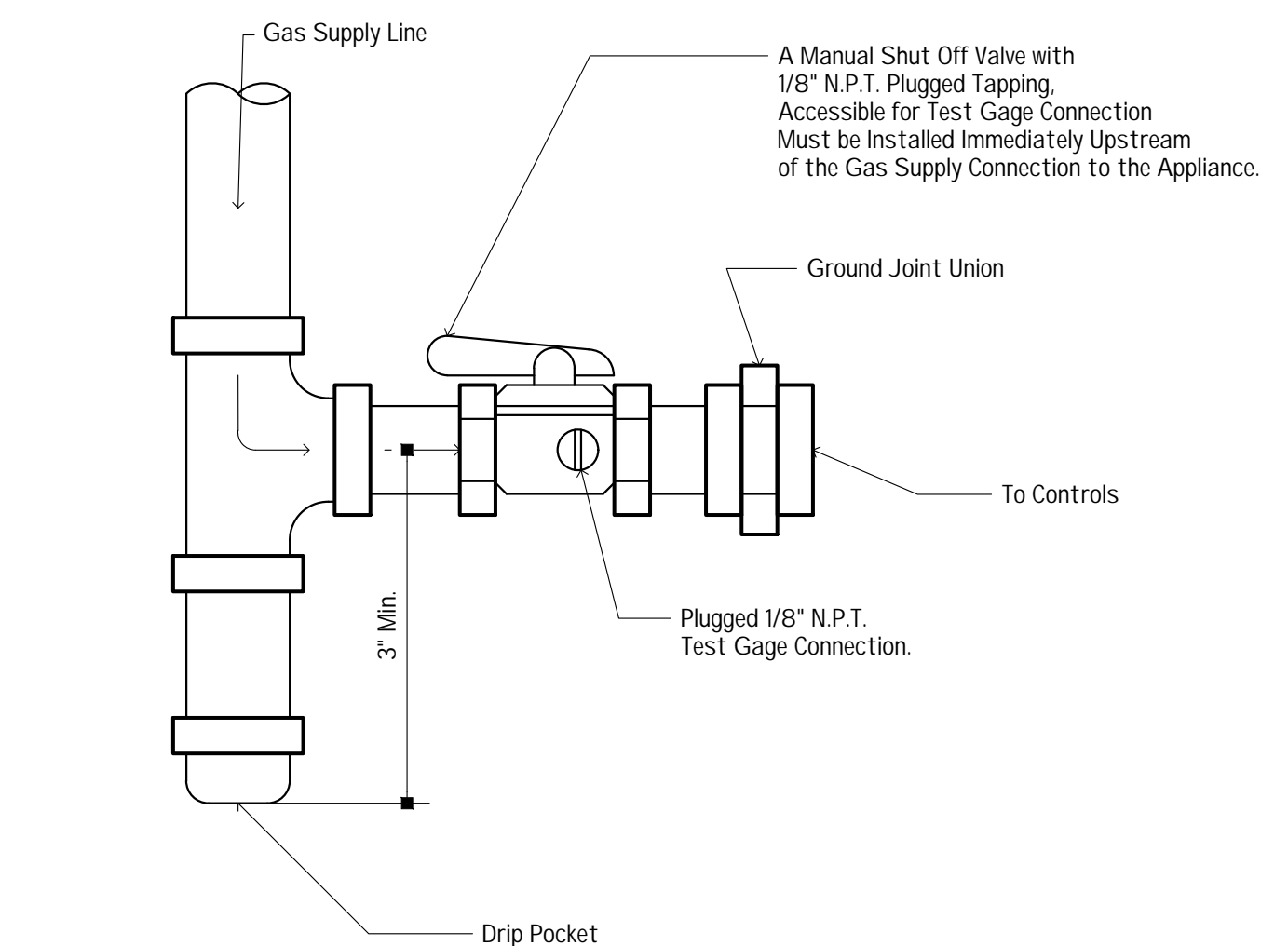
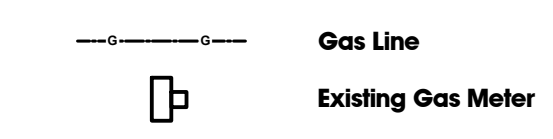


Note:  
New Loading Area Lights To Be Suspended  
From Roof Structure

**1 GAS PIPING PLAN**

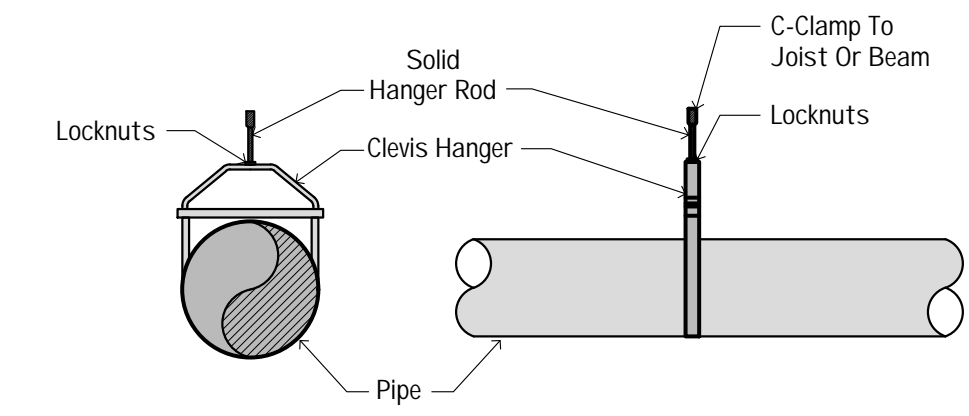
3/32"=1'-0"

**GAS LEGEND**



**2 GAS PIPING INSTALLATION**

NTS



**3 PIPE HANGER DETAIL**

NTS

**Note:**  
REMOVE EXISTING ABANDONED GAS LINES BACK TO METER. PROVIDE GAS LINES FOR NEW AIR HANDLING UNITS AS SHOWN. VERIFY EXISTING SERVICE IS MIN 2"

No.	Description	Date	By
1	ISSUED FOR BID	2-3-23	AB

DATE:  
9-3-22  
DRAWN BY:  
A. Barraclough  
CHECKED BY:  
M. Dean  
SCALE:  
3/32"= 1'-0"

GAS PIPING  
PLAN  
**P3.0**



### FIRE PROTECTION SAFETY NOTES:

1. SPECIAL PRECAUTION SHALL BE TAKEN BY THE CONTRACTOR SO THAT EQUIPMENT OF THIS APPLICATION AND ITS INSTALLATION WILL NOT AFFECT THE FOLLOWING: EGRESS TO AND FROM THE BUILDING, FIRE SAFETY OR CREATE A FIRE HAZARD, STRUCTURAL SAFETY OF THE BUILDING, ACCUMULATION OF DUST AND DEBRIS, (THE CONTRACTOR SHALL LEAVE THE SITE BROOM CLEANED EACH DAY.)

### FIRE PROTECTION SPECIAL INSPECTIONS:

SPECIAL INSPECTIONS REQUIRED IN ACCORDANCE WITH CHAPTER 17 AND THE APPLICABLE SECTION OF BUILDING CODE 2018 OF NORTH CAROLINA ARE LISTED IN THE FOLLOWING TABLES. THE AUTHORITY SHALL BE RESPONSIBLE FOR THE FOLLOWING SPECIAL INSPECTIONS:

SPRINKLER SYSTEM	BC 1704.23
FIRE-RESISTANT PENETRATIONS AND JOINTS	BC 1704.27
STANDPIPE AND POST INSTALLED ANCHORS	BC 1704.24

### FIRE PROTECTION GENERAL NOTES:

- DIMENSIONS, LOCATIONS AND SIZES INDICATED ON THE PLANS AND THE ELEVATION ARE APPROXIMATE AND SHALL BE VERIFIED BY FIELD INSPECTION BY THE CONTRACTOR.
- NO WORK SHALL BE INITIATED UNTIL A WORK PERMIT IS OBTAINED BY THE CONTRACTOR AND A SAFETY PLAN IS SUBMITTED AND IS APPROVED.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS, EQUIPMENT USE PERMITS, ALL INSPECTION APPROVALS, AND LETTER OF COMPLETION FROM BUILDING DEPARTMENT FOR WORK UNDER THIS CONTRACT AS APPLICABLE.
- CONTRACTOR MAY PROPOSE ALTERNATE ROUTING IN DIFFICULT AREAS WHERE REPLACEMENT IN KIND IS NOT PRACTICAL. ANY AND ALL ALTERNATE ROUTING IS SUBJECT TO PRIOR REVIEW AND APPROVAL BY THE ENGINEER.
- A FIRE WATCH SHALL BE USED IF REQUIRED.

### FIRE PROTECTION SYMBOL LIST

FS	NEW WET SPRINKLER PIPING
△	NEW DRY SPRINKLER PIPING
○	NEW SIDEWALL SPRINKLER HEAD
●	NEW UPRIGHT SPRINKLER HEAD
⊙	NEW CONCEALED PENDENT SPRINKLER HEAD-ORDINARY TEMPERATURE
(H)	SMOKE DETECTOR
⊕	HEAT DETECTOR
□	SPRINKLER DRY PIPE VALVE
▭	FIRE HOSE CABINET
▭	FIRE HOSE RACK
○	FIRE HOSE RACK / SPRINKLER
○	SIAMESE CONNECTION
○	SIAMESE CONNECTION FREESTAND
⊕	CHECK VALVE
⊕	CHECK VALVE W/ ALARM
○	PIPE DROP
○	PIPE UP
○	DRY PIPE VALVE
FCVA	SPRINKLER PLUG
FE	FLOOR CONTROL VALVE ASSEMBLY
□	FIRE EXTINGUISHER
□	PREACTION TROUBLE HORN
□	PREACTION 6" BELL FOR SUPERVISION
□	PREACTION 10" BELL STROBE ALARM
□	SOLENOID VALVE
OS & Y VALVE	OS & Y VALVE
□	BACKFLOW PREVENTER DOUBLE CHECK TYPE
□	BACKFLOW PREVENTER REDUCED PRESSURE ZONE (RPZ) TYPE
△	REVISION SYMBOL
ED	REFER TO SUPPLEMENTAL FIGURE INDICATED BY NUMBER (I.E. P2 REFERS TO FIGURE 2)
X	EQUIPMENT TAG
X	EQUIPMENT NUMBER
X	DETAIL TAG / CALL OUT TAG
XXXX	FIRE PROTECTION SHEET NUMBER

### ABBREVIATIONS

ACV	ALARM CHECK VALVE	NC	NORTH CAROLINA
B.O.P	BOTTOM OF PIPE	P.C	PLUMBING CONTRACTOR
F.S.C	FIRE SPRINKLER CONTRACTOR	W/	WITH

### FIRE PROTECTION NOTES

- THE DRAWINGS SHOW THE LAYOUT OF THE SYSTEM AND INDICATE THE APPROXIMATE LOCATIONS OF EQUIPMENT AND PIPING. CONTRACTOR IS CAUTIONED NOT TO SCALE THE DRAWINGS. THE PIPING SHALL BE RUN APPROXIMATELY IN THE AREAS AS INDICATED ON THE DRAWINGS. (HOWEVER, TO THE ARRANGEMENT OF THE PIPING SYSTEMS AS MAY BE REFERENCED WITH WORK OF OTHER TRADES). CONTRACTOR SHALL REVIEW AND COORDINATE WITH STRUCTURAL, ELECTRICAL AND MECHANICAL DRAWINGS, PARTITIONS, STRUCTURAL MEMBERS, ETC. ARE DESIGNED TO BE FURRED OR CLOSED IN AND TO INCLUDE ROUGH-IN PIPING. CONTRACTOR SHALL FURNISH ALL OFFSETS, ADDITIONAL FITTINGS, ETC. WHETHER SHOWN ON DRAWINGS OR NOT, AS REQUIRED TO MEET INSTALLATION CONDITIONS.
- CONTRACTOR IS TO COMPLY WITH LATEST NFPA AND NORTH CAROLINA CODES, AND COORDINATE HIS WORK WITH OTHER TRADES AND MAKE NECESSARY ADJUSTMENTS.
- CONTRACTOR IS TO PREPARE SHOP DRAWINGS FOR ENGINEERS REVIEW AFTER MAKING A COMPLETE FIELD SURVEY.
- CONTRACTOR IS TO REPORT ANY CONDITION REQUIRING CHANGES FROM PLANS TO ENGINEER PRIOR TO STARTING WORK.
- BRANCH LINES AND MAINS (1 1/2" OR LESS) - SCHEDULE 40 FM APPROVED
- BRANCH LINES AND MAINS (2" OR LARGER) - THINWALL (THICKNESS LESS THEN SCHEDULE 40 MORE THEN SCHEDULE 10 & FM APPROVED)
- HEAT BY OWNER THROUGHOUT INCLUDING CONCEALED SPACE, EXCEPT AS INDICATED.
- SYSTEM TO BE TURNED ON AT END OF EACH WORK DAY.
- CONTRACTOR IS TO PERFORM A HYDROSTATIC TEST FOR 2 HRS. @ 200 PSI WITH NO LEAKAGE AND PROVIDE A TEST CERTIFICATE TO ENGINEER
- CONTRACTOR IS TO EMPLOY EXPERIENCED WORKMEN WHO ARE TO FAMILIARIZE THEMSELVES WITH THE BUILDING AND OBSERVE SAFETY REQUIREMENTS.
- CONTRACTOR TO ADJUST HEAD LOCATION TO COORDINATE WITH LIGHTS, DUCTS, ETC.
- PENDENT DEFLECTORS MIN 2" BELOW CEILING
- PERMIT FROM LOCAL AUTHORITY, TO BE OBTAINED BY CONTRACTOR.
- ALL WORK TO BE APPROVED BY OWNERS ENGINEER, STATE AUTHORITIES HAVING JURISDICTION AND MUNICIPAL FIRE, PLUMBING, BUILDING AND WATER DEPARTMENTS.
- U.L. AND/OR FM APPROVED EQUIPMENT TO BE USED.
- WORK TO BE IN ACCORDANCE WITH MUNICIPAL WATER DEPT. RULES.
- SYSTEM IS TO BE MAINTAINED AND TESTED BY THE OWNER OR HIS AGENT IN ACCORDANCE WITH APPLICABLE LOCAL AND STATE CODES AND IN CONFORMANCE WITH NFPA 13A, LATEST EDITION.
- IF BUILDING OCCUPANCY OR CONSTRUCTION CHANGES, THE SPRINKLER SYSTEM IS TO BE UPDATED ACCORDINGLY BY THE OWNER OR HIS AGENT.
- CONTRACTOR IS TO NEATLY CUT AND PATCH IN A FIRST CLASS WORKMANLIKE MANNER, ALL HOLES AND PENETRATIONS IN WALLS, CEILINGS, FLOORS, PARTITIONS, ETC.
- THE ENGINEER IS NOT RETAINED FOR SUPERVISION.
- THE INSTALLATION OF THIS SYSTEM WILL REQUIRE THE CLOSING OF ONE OR MORE FIRE PROTECTION CONTROL VALVES. THESE VALVE CLOSURES SHOULD BE CLOSELY COORDINATED WITH THE OWNERS WHO SHOULD CONTACT THE LOCAL FIRE DEPARTMENT, INSURANCE INTERESTS, ETC. PRIOR TO VALVE CLOSURES.
- ACTUAL DESIGN DENSITY MAY EXCEED STANDARDS, HOWEVER, IT IS A MINIMUM TO BE USED BY THE CONTRACTOR.
- ALL ALARMS RELATING TO THE SPRINKLER SYSTEM SHOULD BE ACTIVATED UPON PLACING THE SPRINKLER SYSTEM IN SERVICE.
- THE INSTALLATION COMPONENTS, SIZING, SPACING, MATERIALS LOCATION CLEARANCES, POSITION AND TYPE OF SYSTEM SHALL CONFORM TO NFPA 13 AND NORTH CAROLINA UNIFORM FIRE PREVENTION BUILDING CODE LATEST EDITION
- SPRINKLERS SHALL BE PROTECTED AGAINST FREEZING AND INJURY AS PER NFPA CODE.
- INSPECTION AND TESTS OF SPRINKLER SYSTEM SHALL BE CONDUCTED AS SPECIFIED IN NFPA CODE.
- WATER SUPPLY TEST PIPES AND GAUGES SHALL BE PROVIDED AS SPECIFIED IN CHAPTER 2-9 OF NFPA 13.
- PIPING SPECIFICATIONS, PIPE SCHEDULES, SYSTEM TEST PIPES, PROTECTION AGAINST CORROSION, DAMAGE FITTINGS, VALVES, HANGERS, SPRINKLERS, GUARDS AND SHIELDS SHALL BE IN ACCORDANCE WITH CHAPTER 3 OF NFPA 13, LATEST EDITION.
- STOCK OF EXTRA SPRINKLERS WILL BE FURNISHED AS PER CHAPTER 3 OF NFPA 13 (REQUIRED FOR EACH TEMPERATURE RATINGS).
- SPRINKLER ALARMS WILL BE IN ACCORDANCE WITH NFPA 13.
- SPACING, LOCATION AND POSITION OF SPRINKLERS SHALL BE IN ACCORDANCE WITH CHAPTER 4 OF NFPA 13.
- ALL BLIND SPACES EXCEEDING 6 INCHES IN WIDTH OR DEPTH WHICH CONTAIN COMBUSTIBLE MATERIAL SHALL BE SPRINKLERED.
- ALL PIPING PASSING THROUGH WALLS SHALL COMPLY WITH NFPA FOR FIRE PROOFING.
- DISTANCE OF SPRINKLERS FROM HEAT SOURCES SHALL BE IN ACCORDANCE WITH TABLE 3-16.6.3 OF NFPA 13.
- AUTOMATIC INTERLOCK CUTOFF SWITCH FOR VENTILATION SHALL BE BY HVAC FAN SHUTDOWN.
- PROVIDE WATER SUPPLY LETTER WITH FLOW TEST DATA.
- ALL PIPES PASSING THROUGH FOUNDATION WALLS TO BE PROTECTED.
- ALL VALVES SHALL BE IDENTIFIED AS REQUIRED BY NFPA 13.
- DRAINAGE TO CONFORM TO CHAPTER 3-11 OF NFPA 13.
- A ONE PIECE REDUCING FITTING OF GOOD DESIGN SHOULD BE USED WHEREVER A CHANGE IS MADE IN THE SIZE OF PIPE AS PER SECTION 3-12.2.7 OF NFPA 13.
- ALL VALVES ON CONNECTIONS TO WATER SUPPLIES AND IN SUPPLY TO SPRINKLERS SHALL BE APPROVED O.S. & Y. OR APPROVED INDICATOR TYPE WITH TAMPER SWITCHES.
- DRAIN VALVES AND TEST VALVES SHALL BE APPROVED TYPE AS PER SECTION 3-14.1.2 OF NFPA 13.
- HANGERS SHALL BE OF A TYPE APPROVED FOR USE WITH THE PIPE OR TUBE INVOLVED. SPRINKLER PIPING SHOULD BE SUPPORTED BY ADJUSTABLE HANGERS PER NFPA 13, SECTION 3-15.
- PROVISIONS SHOULD BE MADE TO FACILITATE FLUSHING SYSTEM PIPING BY PROVIDING FLUSHING CONNECTIONS CONSISTING OF A CAPPED NIPPLE 4" LONG ON THE END OF THE CROSS MAIN, AS PER SECTION 3-8.2 OF NFPA 13.
- SPRINKLER SHALL BE AN APPROVED TYPE AS PER SECTION 3-16 OF NFPA 13.
- TEMPERATURE RATING SHALL COMPLY WITH SEC. 3-16.6 OF NFPA 13.
- CLEARANCES BETWEEN SPRINKLERS AND STORAGE OR PARTITIONS AS PER NFPA 13, SECTION 4-2.5.
- SPACING AND LOCATION OF SPRINKLER SHALL COMPLY WITH CHAPTER 4 NFPA 13. OF
- CONTRACTOR TO COORDINATE HIS WORK WITH OTHER TRADES.
- HEAT IS TO BE PROVIDED THROUGHOUT THE ENTIRE AREA THAT PIPING, EQUIPMENT AND HEADS ARE INSTALLED.
- ONLY EXPERIENCED SPRINKLER MECHANICS TO WORK ON THE SYSTEM.
- ALL PIPING TO BE A MINIMUM OF 1" UNLESS OTHERWISE NOTED.
- PROVIDE WATER SHIELDS OVER ALL / SURFACE MOUNTED ELECTRIC PANELS AND EQUIPMENT IN ELECTRICAL ROOMS PER NFPA & LOCAL FIRE MARSHALL REQUIREMENTS.

### NORTH CAROLINA SPRINKLER NOTES:

- AUTOMATIC SPRINKLER SYSTEM SHALL COMPLY WITH MOST CURRENT NFPA 13.
- CONSTRUCTION DOCUMENTS FOR STANDPIPE SYSTEM SHALL CONTAIN PLANS THAT INCLUDE THE INFORMATION AND DATA LISTED IN MOST CURRENT NFPA 13.
- APPROVED AUTOMATIC SPRINKLER SYSTEM IN NEW BUILDINGS AND STRUCTURES SHALL BE PROVIDED IN THE LOCATIONS DESCRIBED IN MOST CURRENT NFPA 13.
- AUTOMATIC SPRINKLER SYSTEM SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE MOST CURRENT NFPA 13.
- WHERE THE PROVISIONS OF BUILDING CODE REQUIRE THAT A BUILDING OR PORTION THERE OF BE EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH MOST CURRENT NFPA 13, SPRINKLERS SHALL BE INSTALLED THROUGHOUT IN ACCORDANCE WITH NFPA 13 AS MODIFIED IN APPENDIX Q EXCEPT AS PROVIDED IN THE MOST CURRENT NFPA 13.
- AUTOMATIC SPRINKLERS SHALL NOT BE REQUIRED IN THE ROOMS OR AREAS WHICH ARE LISTED IN THE MOST CURRENT NFPA 13, AS LONG AS AN APPROVED AUTOMATIC FIRE DETECTION SYSTEM IN ACCORDANCE WITH NFPA 13 AND AN ALTERNATIVE EXTINGUISHING SYSTEM INSTALLED IN ACCORDANCE WITH NFPA 13.
- SPRINKLERS SHALL NOT BE OMITTED FROM ANY ROOM MERELY BECAUSE IT IS DAMP. OF FIRE-RESISTANCE-RATED CONSTRUCTION OR CONTAINS ELECTRICAL EQUIPMENT, AS PER NFPA 13.
- WHERE ALLOWED IN BUILDINGS OF GROUP R, UP TO & INCLUDING SIX STORES IN HEIGHT, AUTOMATIC SPRINKLER SYSTEM SHALL BE INSTALLED THROUGHOUT IN ACCORDANCE WITH NFPA 13 R AND THE MOST CURRENT NFPA 13.
- WHERE AUTOMATIC SPRINKLER SYSTEMS ARE REQUIRED BY BUILDING CODE 2018 NORTH CAROLINA FIRE SAFETY CODE, QUICK-RESPONSE OR RESIDENTIAL AUTOMATIC SPRINKLERS SHALL BE INSTALLED IN THE AREAS LISTED IN THE MOST CURRENT NFPA 13.
- AUTOMATIC SPRINKLERS SHALL BE INSTALLED WITH DUE REGARD TO OBSTRUCTIONS THAT WILL DELAY ACTIVATION OR OBSTRUCT THE WATER DISTRIBUTION PATTERN. AUTOMATIC SPRINKLERS SHALL BE INSTALLED IN OR UNDER COVERED KIOSKS, DISPLAYS, BOOTH, CONCESSION STANDS, OR EQUIPMENT THAT EXCEEDS 4 FEET IN WIDTH, NOT LESS THAN 3 FOOT CLEARANCE SHALL BE MAINTAINED BETWEEN AUTOMATIC SPRINKLERS & TOP OF PILES OF COMBUSTIBLE FIBERS MOST CURRENT NFPA 13.
- WATER SUPPLIES FOR AUTOMATIC SPRINKLER SYSTEM SHALL COMPLY WITH SEC. 903.35 OF NC BUILDING CODE AND SEC. 903.3.1 THE POTABLE WATER SUPPLY SHALL BE PROTECTED AGAINST BACK FLOW IN ACCORDANCE WITH THE REQUIREMENTS OF THE MOST CURRENT NFPA 13.
- A SECONDARY ON-SITE WATER SUPPLY EQUAL TO THE HYDRAULICALLY CALCULATED SPRINKLER DEMAND, INCLUDING THE HOSE STREAM REQUIREMENT, SHALL BE PROVIDED FOR HIGH-RISE BUILDINGS IN SEISMIC DESIGN CATEGORY "C" OR "D" AS DETERMINED BY THIS CODE, AND IN ANY HIGH-RISE BUILDING GREATER THAN 300 FEET IN HEIGHT. THE SECONDARY WATER SUPPLY SHALL HAVE A DURATION NOT LESS THAN 30 MINUTES AS DETERMINED BY THE OCCUPANCY HAZARD CLASSIFICATION IN ACCORDANCE WITH NFPA 13-2002. AS PER THE MOST CURRENT NFPA 13.
- FIRE HOSE THREADS USED IN CONNECTION WITH AUTOMATIC SPRINKLER SYSTEMS SHALL BE APPROVED AND COMPATIBLE WITH FIRE DEPARTMENT HOSE THREADS, AS PER THE MOST CURRENT NFPA 13
- ALL VALVES CONTROLLING THE WATER SUPPLY FOR AUTOMATIC SPRINKLER SYSTEM, PUMPS, TANKS, WATER LEVELS AND TEMPERATURES, CRITICAL AIR PRESSURES AND WATER-FLOW SWITCHES ON ALL SPRINKLER SYSTEMS SHALL BE ELECTRICALLY SUPERVISED BY THE FIRE ALARM SYSTEM, AS PER THE MOST CURRENT NFPA 13.
- APPROVED SUPERVISED INDICATING CONTROL VALVES SHALL BE PROVIDED AT THE POINT OF CONNECTION TO THE RISER ON EACH FLOOR IN HIGH-RISE BUILDINGS, AS PER THE MOST CURRENT NFPA 13.
- THE DOCUMENTS OR PORTIONS THERE OF LISTED IN CHAPTER 2 OF NFPA 13 ARE REFERENCED WITHIN NFPA-13 AND SHALL BE CONSIDERED PART OF THE REQUIREMENTS OF THIS DOCUMENT.
- OCCUPANCY CLASSIFICATION SHALL COMPLY WITH CHAPTER 5 OF NFPA 13.
- PROTECTION REQUIREMENTS FOR MIXED COMMODITIES SHALL BE IN ACCORDANCE WITH SEC. 5.6.1.2 OF NFPA 13.
- REQUIREMENTS FOR CORRECT USE OF SPRINKLER SYSTEM COMPONENTS SHALL COMPLY WITH CHAPTER 6 OF NFPA 13.
- THE K-FACTOR, RELATIVE DISCHARGE, AND MARKING IDENTIFICATION FOR SPRINKLERS HAVING DIFFERENT ORIFICE SIZES SHALL BE IN ACCORDANCE WITH TABLE 6.2.3.1 OF NFPA 13.
- LARGE DROP & ESFR SPRINKLERS SHALL HAVE A MINIMUM NOMINAL K-FACTOR OF 11.2, PER SECTION 6.2.3.5 OF NFPA 13.
- AUTOMATIC SPRINKLERS SHALL HAVE THEIR FRAME ARMS, DEFLECTOR, COATING MATERIAL, OR LIQUID BULB COLORED IN ACCORDANCE WITH THE REQUIREMENTS OF TABLE 6.2.5.1 OF NFPA 13.
- LISTED CORROSION RESISTANT SPRINKLER SHALL BE INSTALLED IN LOCATIONS WHERE CHEMICALS, MOISTURE, OR OTHER CORROSIVE VAPORS SUFFICIENT TO CAUSE CORROSION OF SUCH DEVICES EXIST WITH SECTION 6.2.6.1, OF NFPA 13.
- ALL CONTROL, DRAIN, AND TEST CONNECTION VALVES SHALL BE PROVIDED WITH PERMANENTLY MARKED WEATHERPROOF METAL OR RIGID PLASTIC IDENTIFICATION SIGNS, SEC. 6.7.4.1 OF NFPA 13.
- FIRE DEPARTMENT CONNECTIONS SHALL BE EQUIPPED WITH LISTED PLUGS OR CAPS, PROPERLY SECURED AND ARRANGED FOR EASY REMOVAL BY THE FIRE DEPARTMENT, SEC. 6.8.4 OF NFPA 13.
- REQUIREMENTS OF DRY PIPE SYSTEM INSTALLATION SHALL COMPLY WITH SEC. 7.2 OF NFPA 13.
- REQUIREMENTS OF PREACTION & DELUGE SYSTEM INSTALLATION SHALL COMPLY WITH SEC. 7.3 OF NFPA 13.
- OUTSIDE SPRINKLERS FOR PROTECTION AGAINST EXPOSURE FIRE SHALL COMPLY WITH SEC. 7.7 OF NFPA 13.
- THE MAXIMUM FLOOR AREA OR ANY ONE FLOOR TO BE PROTECTED BY A SINGLE RISER FROM A CONTROL VALVE AND ALARM DEVICE SHALL COMPLY WITH SEC. 8.2.1 OF NFPA 13.
- WHERE CIRCUMSTANCES REQUIRE THE USE OF OTHER THAN ORDINARY TEMPERATURE-RATED SPRINKLERS, STANDARD RESPONSE SPRINKLERS SHALL BE PERMITTED TO BE USED SEC. 8.3.3. OF NFPA 13.
- WHEN EXISTING LIGHT HAZARD SYSTEMS ARE CONVERTED TO USE QUICK-RESPONSE OR RESIDENTIAL SPRINKLERS, ALL SPRINKLERS IN A COMPARTMENTED SPACE SHALL BE CHANGED, SEC. 8.3.3.4 OF NFPA 13.
- SPRINKLERS OF INTERMEDIATE AND HIGH TEMPERATURE RATINGS SHALL BE INSTALLED IN SPECIFIC LOCATIONS AS REQUIRED BY SEC. 8.3.2 OF NFPA 13.
- SPRINKLERS SHALL BE LOCATED, SPACED AND POSITIONED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 8.5, OF NFPA 13.
- PROTECTION AREAS AND MAXIMUM SPACING FOR EACH HAZARD SHALL COMPLY WITH TABLE 8.6.2.2.1 (a) (b) (c) (d) OF NFPA14.
- REQUIREMENTS OF DWELLING UNITS PROTECTION SHALL COMPLY WITH SEC. 8.14.8 OF NFPA 13.
- REQUIREMENTS OF STAGES AREA PROTECTION SHALL COMPLY WITH SEC. 8.14.15 OF NFPA 13.

### SHOP DWGS/EQUIPMENT SUBMITTALS

THE CONTRACTOR IS RESPONSIBLE TO SUBMIT ALL ITEMS FOR REVIEW/APPROVAL BY NO MORE THAN 3 WEEKS AFTER THE CONTRACTORS CONTRACTOR HAS BEEN AWARDED. ALL SUBMITTALS MUST BE SENT TOGETHER AS A SINGLE PACKAGE WITH MANUFACTURER'S SPECIFIC MODELS AND SPECIFICATIONS OUTLINED TO MATCH THE SCHEDULED REQUIREMENTS. EACH SUBMITTAL MUST BE LABELED WITH THE UNIT DESIGNATION USED WITHIN THIS DRAWING SET. IF THE SUBMITTAL PACKAGE IS FOUND TO BE INCOMPLETE UPON RECEIPT, THE PACKAGE WILL BE HELD AND WILL NOT BE REVIEWED UNTIL THE REMAINDER OF THE PACKAGE IS RECEIVED. ALL SHOP DRAWINGS AND SUBMITTALS SHALL BE SUBMITTED ELECTRONICALLY TO THE ENGINEER FOR REVIEW. CONTRACTOR SHALL NOT PURCHASE OR INSTALL ANY EQUIPMENT UNTIL WRITTEN ACCEPTANCE IS OBTAINED FROM THE ENGINEER.

NOTE: REFER TO SPECIFICATIONS FOR FURTHER SHOW DRAWING REQUIREMENTS. IF CONFLICTS ARISE, CONTACT DESIGN ENGINEER BEFORE FABRICATION.

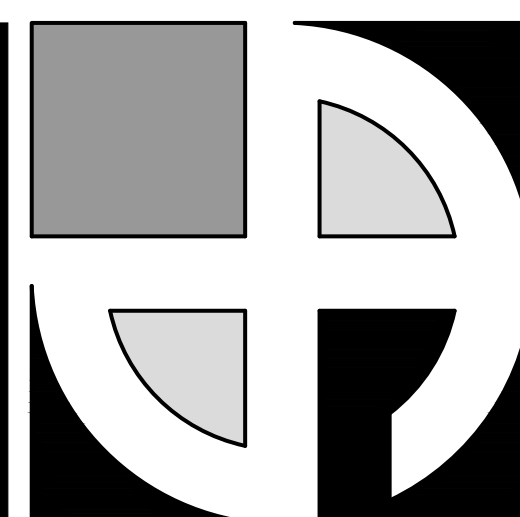
### SCOPE OF WORK:

- THE MODIFICATION OF AN EXISTING WET FS SYSTEM.
- PROPOSED FIRE SPRINKLER HEAD LOCATIONS AND PIPING ARE AS NOTED ON PLANS. EXACT PIPING FROM THE FIRE SPRINKLER MAIN TO ALL HEADS IS TO BE COORDINATED AND HYDRAULICALLY CALCULATED BY THE F.S.C. & SUBMITTED TO THE ENGINEER FOR APPROVAL.

NOTE: THIS SCOPE OF WORK DESCRIPTION IS PROVIDED TO GIVE AN OVERALL "MACRO" DESCRIPTION OF THIS PROJECT. F.S.C. IS RESPONSIBLE TO REVIEW ALL ENGINEERING AND ARCHITECTURAL DRAWINGS AND VISIT THE SITE IF NEEDED, PRIOR TO SUBMISSION OF BID.

### DOB DISCLAIMER NOTE:

\*THIS PLAN APPROVED ONLY FOR WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON, OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.



**D.E.A.N**  
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**22-238**

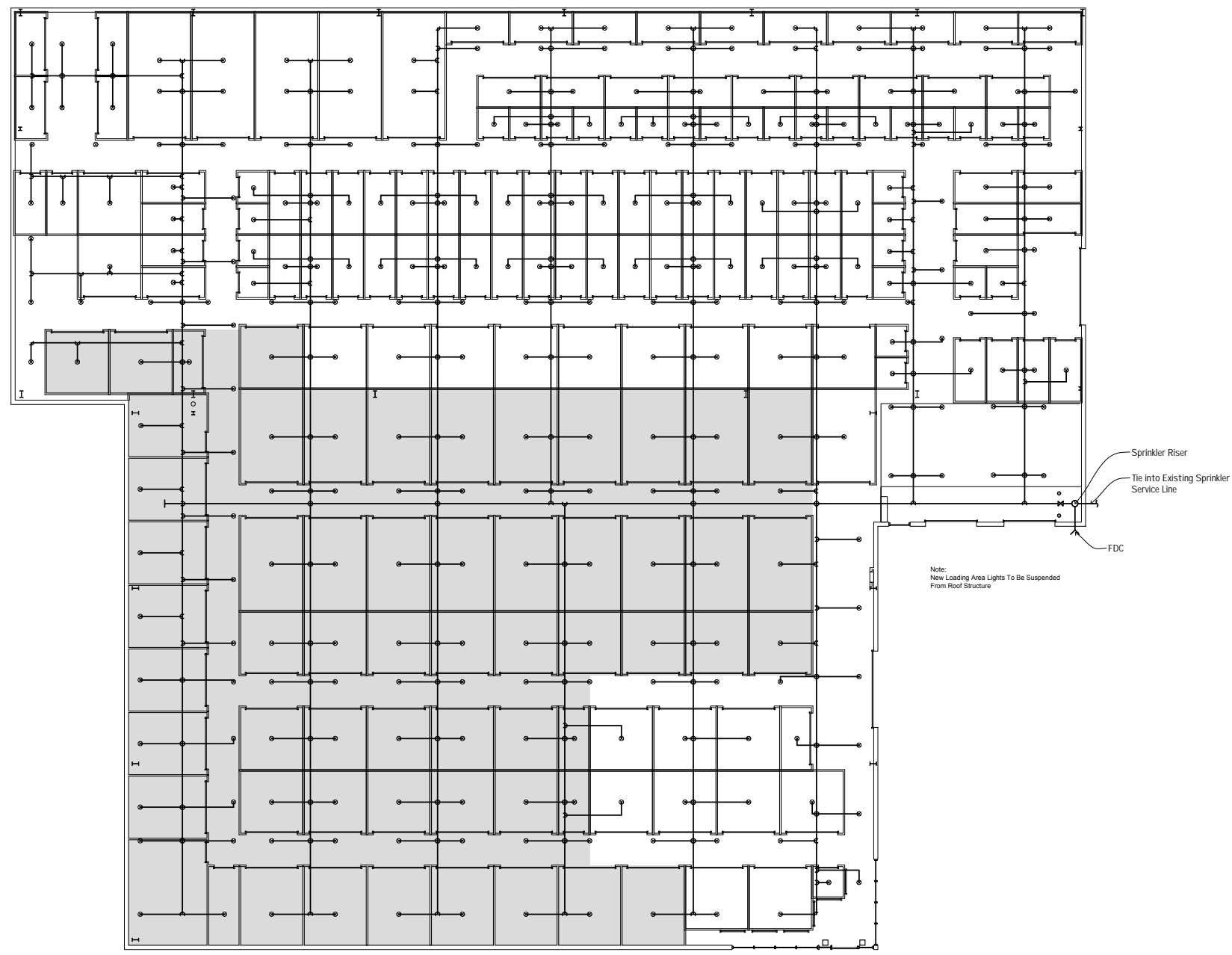
STORE SPACE

937 E. Haggard Ave.  
Elon, NC

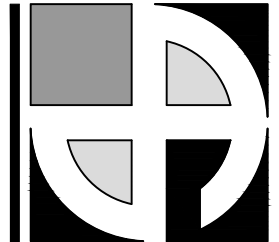
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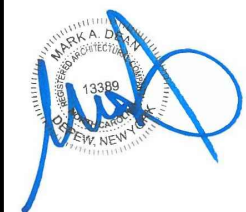
SPRINKLER  
NOTES  
**FP1.0**



**1 SPRINKLER PLAN**  
3/32"=1'-0"



**D·E·A·N**  
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**22-238**

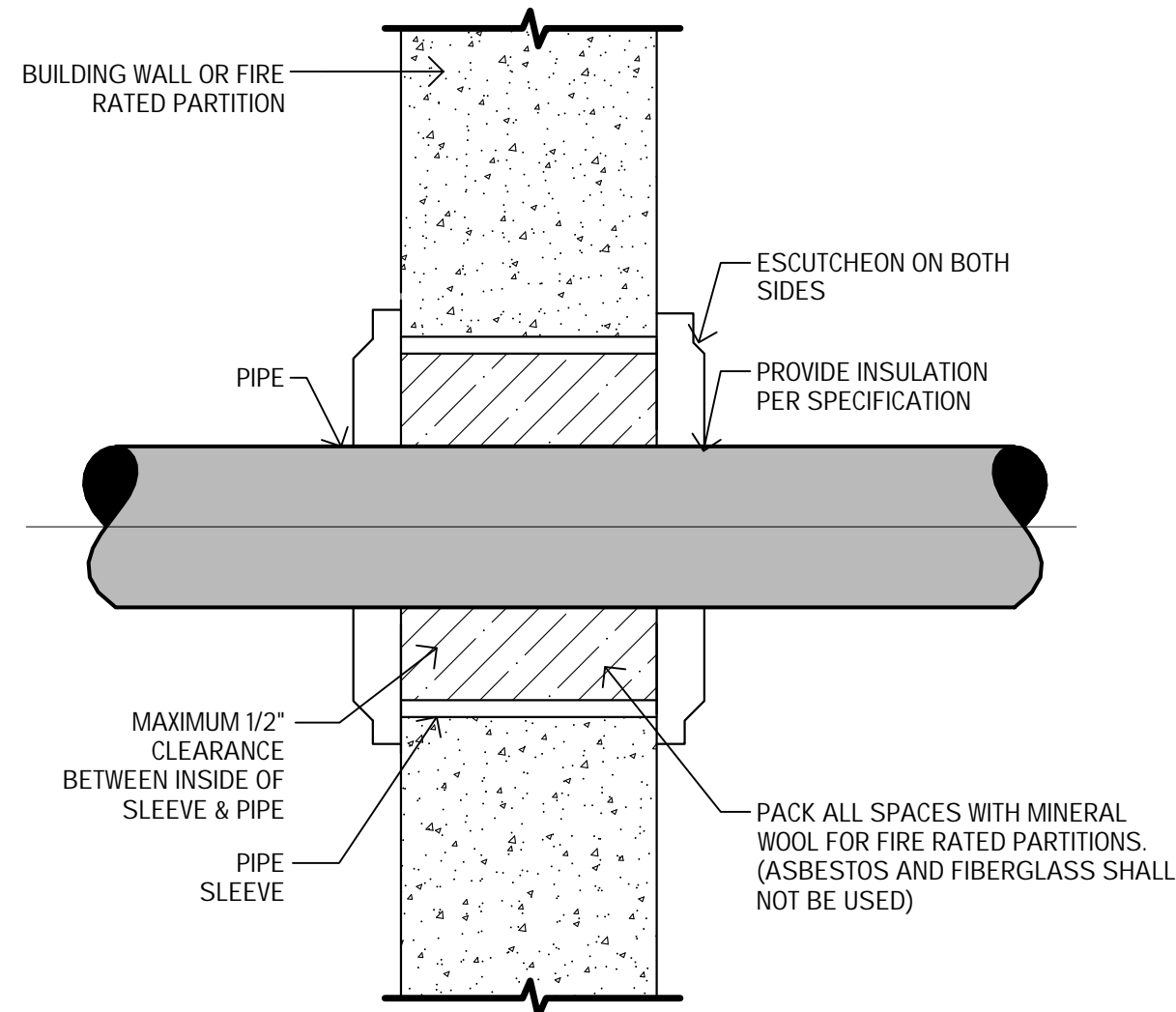
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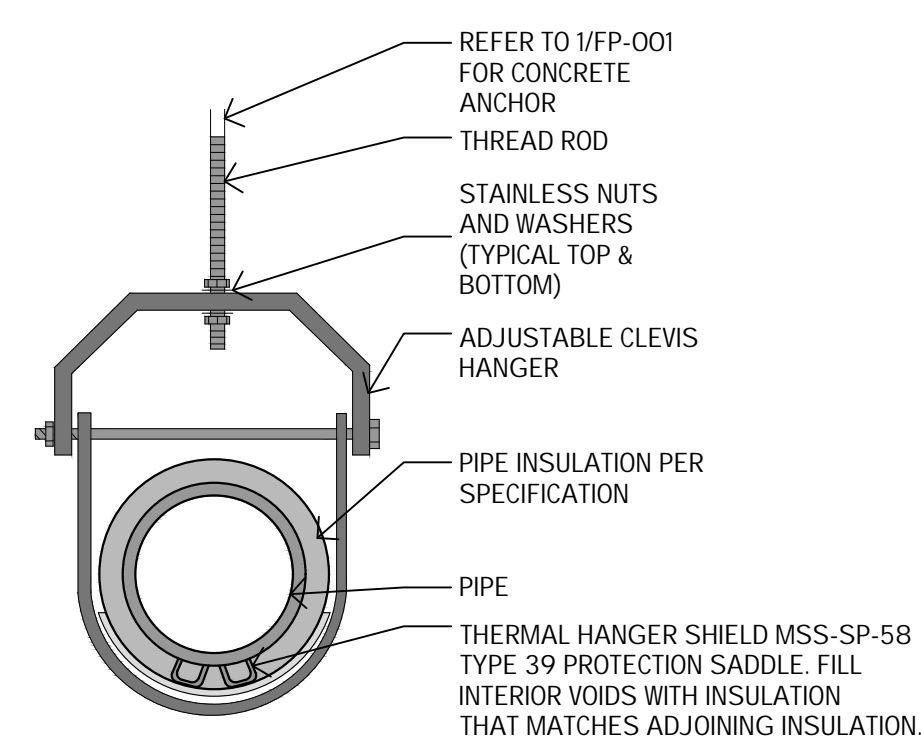
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SPRINKLER PLAN  
**1**  
**FP1.1**

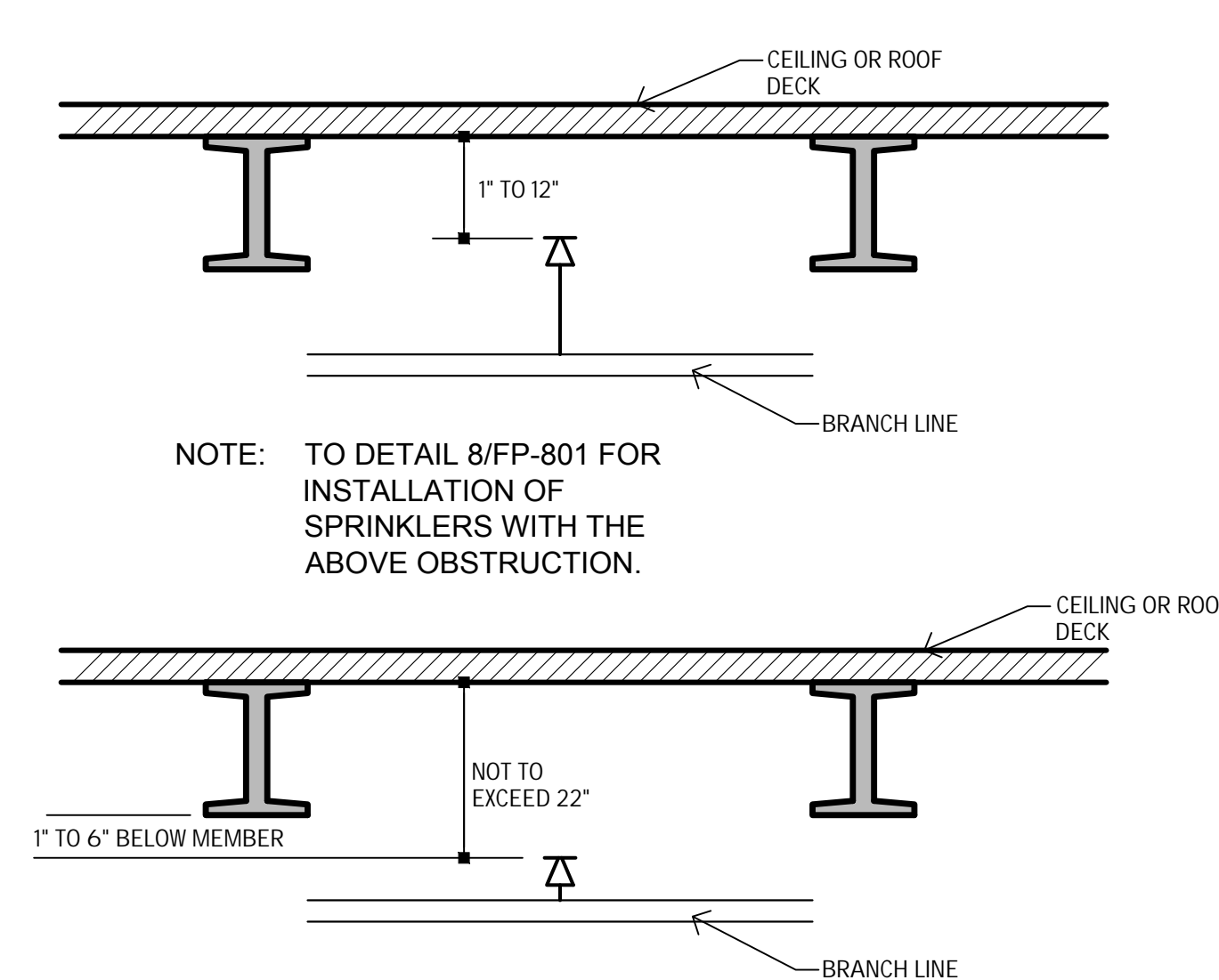




**1 | PIPE PENETRATION DETAIL**  
N.T.S.



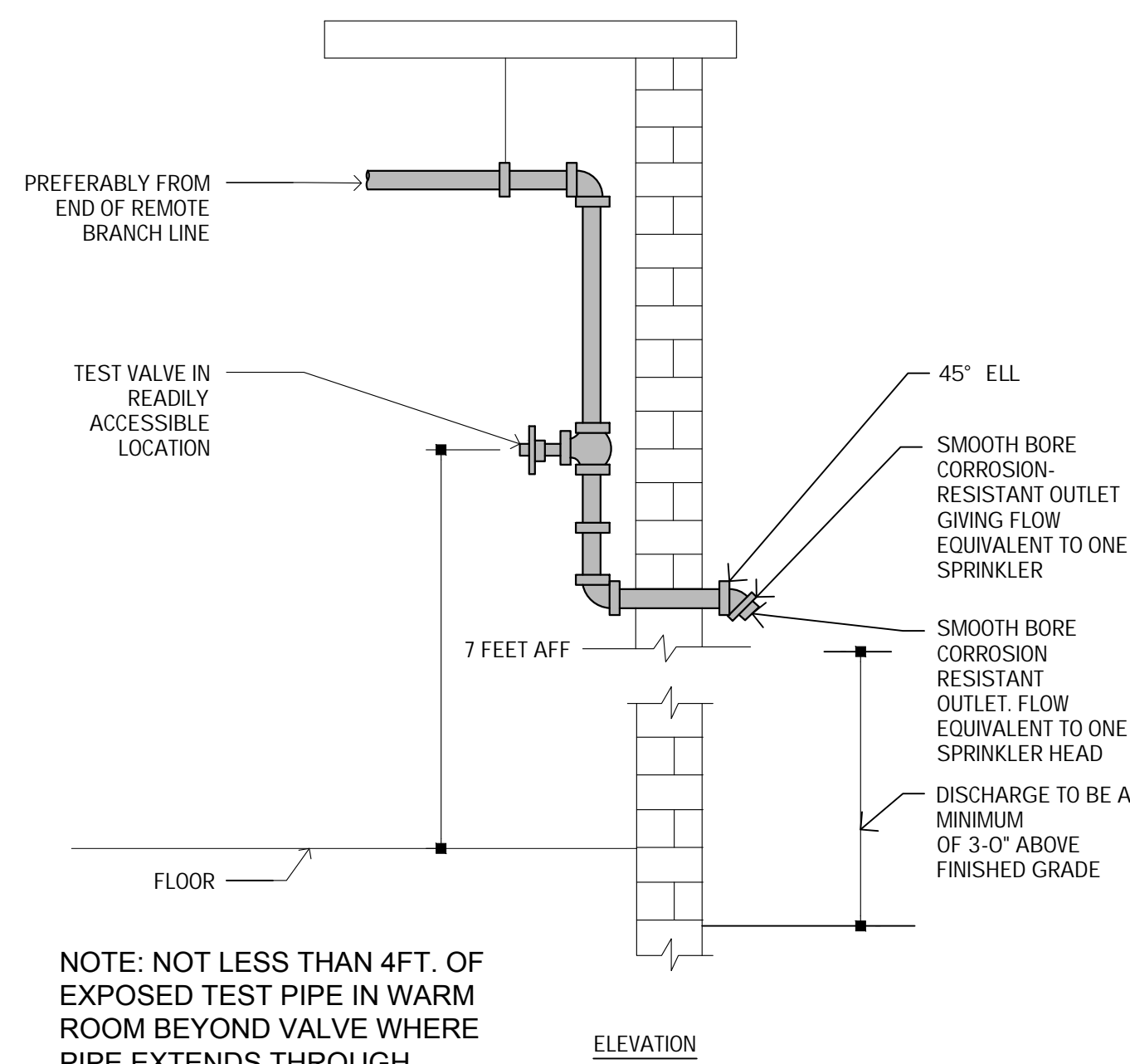
**2 | PIPE HANGAR DETAIL**  
N.T.S.



NOTE: TO DETAIL 8/FP-801 FOR INSTALLATION OF SPRINKLERS WITH THE ABOVE OBSTRUCTION.

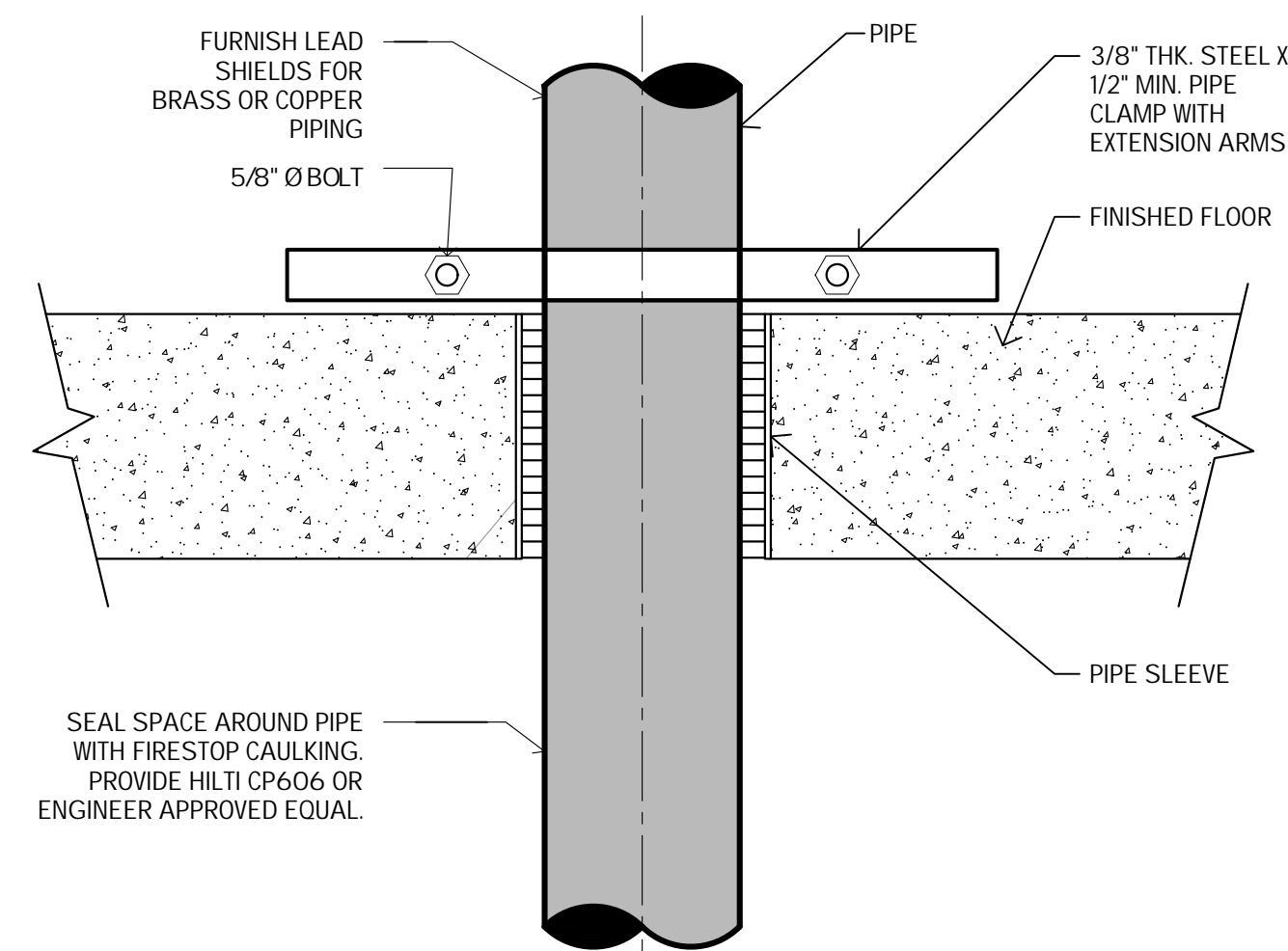
NOTE: INSTALL SPRINKLER WITH THE DEFLECTORS WITHIN THE HORIZONTAL PLANES OF 1\"/>

**3 | STRUCTURAL MEMBER OBSTRUCTED DETAL**  
N.T.S.

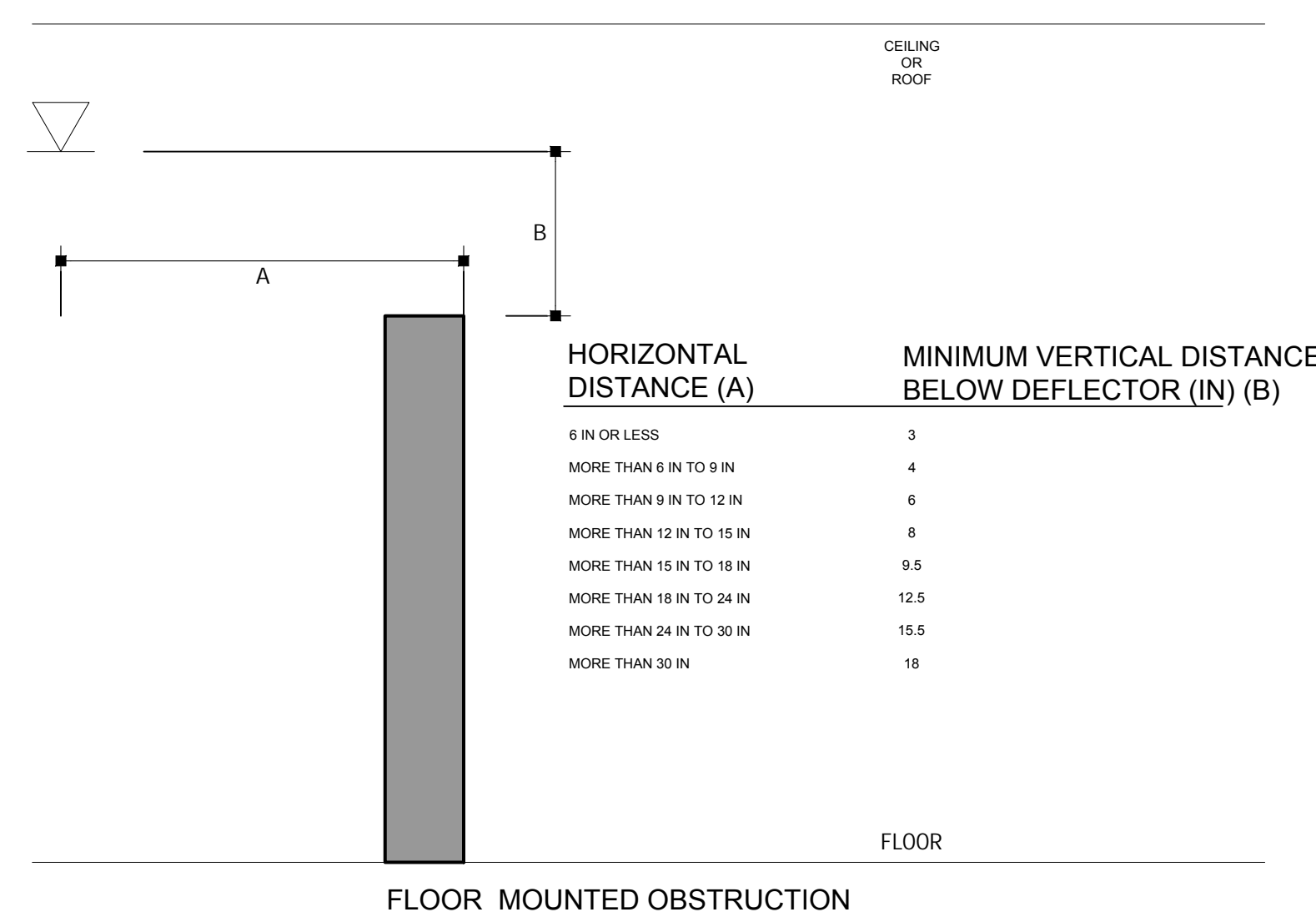


NOTE: NOT LESS THAN 4FT. OF EXPOSED TEST PIPE IN WARM ROOM BEYOND VALVE WHERE PIPE EXTENDS THROUGH WALL TO OUTSIDE.

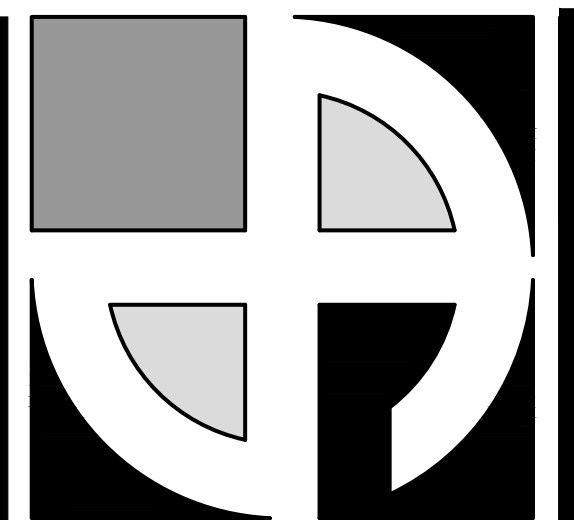
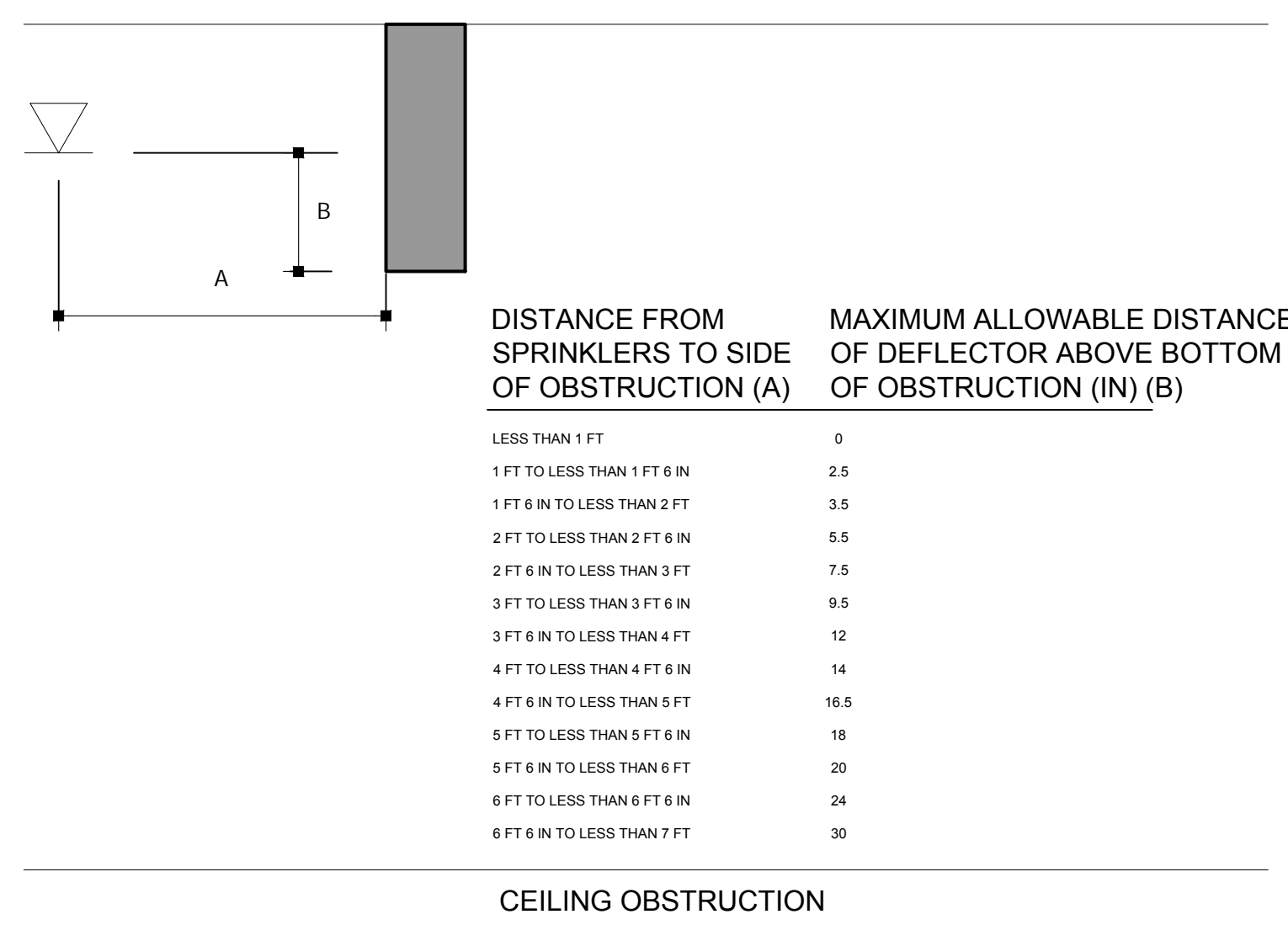
**4 | TEST CONNECTION DETAIL**  
N.T.S.



**5 | PIPE RISER DETAIL**  
N.T.S.



**6 | OBSTRUCTION AND CLEARANCE**  
N.T.S.



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No.	Description	Date	By
1	ISSUED FOR BID	2-3-23	AB

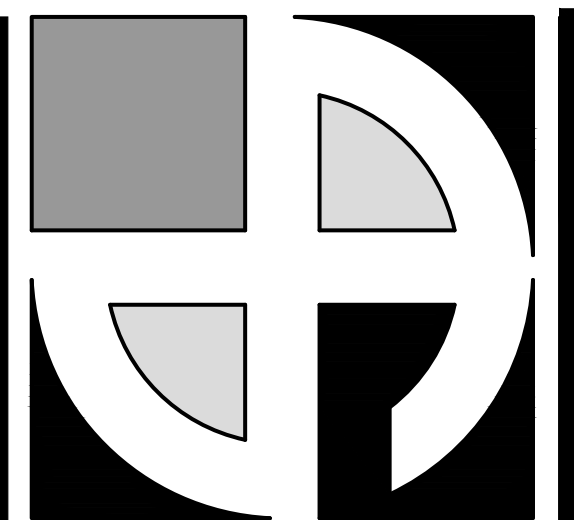
DATE: 9-3-22

DRAWN BY: A. Barraclough | CHECKED BY: M. Dean

SCALE: NTS

SPRINKLER  
DETAILS  
**FP2.0**





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ARCHITECTS

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FAX: (716) 651-0382

**22-238**

**STORE SPACE**

937 E. Haggard Ave.  
Elon, NC

No.	Description	Date	By
1	ISSUED FOR BID	2-3-23	AB

DATE:  
9-3-22

DRAWN BY: A. Barraclough  
CHECKED BY: M. Dean

SCALE:  
NTS

SYMBOLS &  
NOTES

**E1.0**

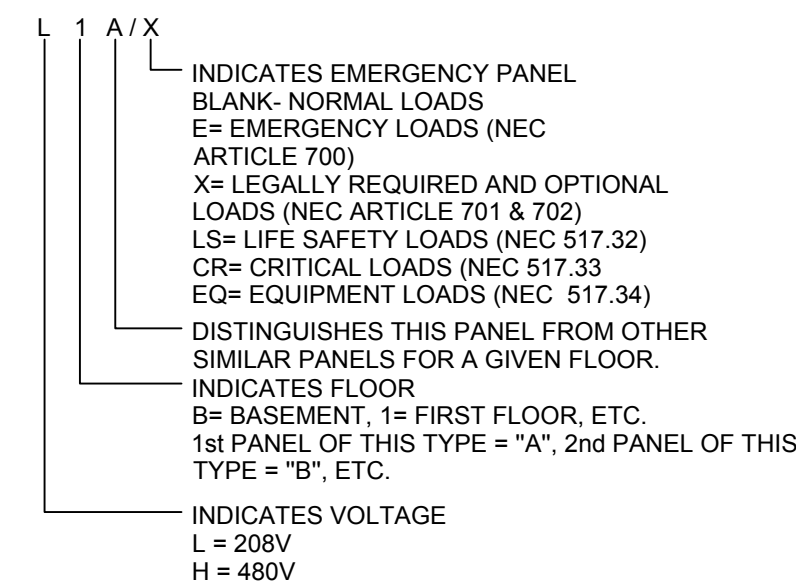
### ELECTRICAL NOTES

- All material shall be installed in compliance with all code requirements, manufacturer's instructions and practices unless written direction to the contrary is provided. The installation and design shall comply with the following:
- 2018 NORTH CAROLINA BUILDING CODE
  - 2008 NFPA 70
  - Conservation Code 2018 OF NORTH CAROLINA
  - All other applicable local codes
- The contractor shall check the location, number and size of all chases provided on the construction plans and arrange for ant others required.
  - The contractor shall coordinate with the HVAC, P&D and structural trades for exact locations of equipment in order to avoid interference.
  - All penetrations of rated walls and floors shall receive fire rating in conformance with rated value of floor or wall being compromised by all components. See project manual section 07270.
  - All ductwork and piping shall not be installed above electrical equipment per national electrical code. If these systems are installed above electrical equipment, notify the general contractor immediately.
  - Provide fire proofing for any corridor wall mounted devices outlet box where located within 24" horizontally of wall mounted device in the resident units.
  - In unfinished portions of the building, such as mechanical and electrical rooms, pipe spaces, etc., locations of conduit and outlets are approximate and shall clear piping and all other construction. Conduits in these portions of the building may be run exposed or run concealed. All outlets and pull boxes must be extended to clear ant interference with fixtures.
  - No conduit shall be run in any floor in contact with the Earth unless otherwise directed in the plan. Conduit for motors and starters shall be run overhead and supported as required.
  - Conduit penetrations through floor slabs and fire stopped to the same rating as the rated partition or slab.
  - Where recessed fixtures are indicated on these plans, lighting fixture trim shall be provided to suit ceiling construction.
  - Light fixtures shall be located in the centerline of corridors. Light location shall be coordinated with the architectural reflected ceiling plans. Coordinate with the mechanical and fire sprinkler contractors for placement and alignment of fixtures.
  - Verify the type of ceiling system with general contractor to ensure that all recessed lighting fixture are compatible with the ceiling system being installed. Lighting fixtures shall not be ordered until ceiling type has been verified.
  - All duplex receptacles connected to emergency power shall be "red" in color with an "ivory" cover plate.

- Unless otherwise noted on floor plans or in floor plan notes, switches shall be installed at 4'-0" above finished floor. Where switch heights are given on these drawings for areas in which there are tile waistcoats such as toilets, locker rooms, etc., the contractor shall adjust switch heights, if necessary to avoid interference with the waistcoat.
- Pull and junction boxes shall be surface type in unfinished areas and flush type in finished areas, unless otherwise noted. The junction and pull boxes shall be located approximately where indicated on the plan to suit conduit entrance, but shall, in all cases, be located to avoid interference with equipment from other trades and shall be located so that covers are readily accessible.
- The electrical contractor is responsible to balance loads for phases in panelboards.
- Within the area of new work, all low voltage cabling shall be run exposed above the suspended ceiling in cable tray UON. Install all wall and floor branch units in EMT conduit. Conduits must stub-up 6" into the cable tray from the location of each low voltage device. Extend stub-ups as required into the cable tray from the location of each low voltage device. Extend stub-ups as required into cable tray in areas with accessible ceilings. Refer to low voltage cable details. At no time shall any low voltage cabling be exposed in excess in the ceiling rooms.
- Where equipment, lighting fixtures and wiring devices are shown with circuit numbers only, the minimum branch circuiting requirements shall be as follows:
  - Lighting fixtures, exit signs & receptacles - 2#12 & 1#12GND-3/4"C
  - Branch circuit breakers (120 volt) - 1P, 20A as shown.
  - Homeruns to panelboards shall contain no more than (3) three circuits.
- Wire sizes shall be increased to compensate for voltage drop as follows:
  - Feeder circuit voltage drop shall not exceed 2%
  - Branch circuit voltage drop shall not exceed 3%
- Minimum raceway size shall be 3/4" raceways shall be run parallel to building structural lines. All empty raceways shall be furnished with a 200 LB test nylon dragline. Conduit fill not to exceed 40%.
- Install telecommunications and video surveillance cables so that no run exceeds 90 meters (295').
- All low voltage cabling in riser shafts that are not in conduit shall be supported with split mesh kellem grips.
- Devices in CMU walls shall be centered on joint walls. See architectural drawings.
- Provide expansions/deflection couplings for all conduits that cross building expansion joints. Coordinate these locations with the GC.
- Provide a multipole breaker for all multi-wire branch circuits utilizing common neutral.
- All conductors smaller than 8AWG shall be solid wire.
- Provide certification that the emergency lighting and exit lighting is in compliance with the emergency power requirements of local law. This written certification shall be signed and sealed by the contractors licensed electrician.

- Provide documents to the owners certifying that the installed lighting controls meet documents performance criteria of Section 0405 of the Energy Conservation Code 2018 OF NORTH CAROLINA. Documents shall be provided within 90 days from the date of receipt of the Certificate of Occupancy.
- It is the intent of these drawing and other related documents to produce a complete and functioning electrical system. Provide all labor, materials and other services necessary to achieve this product. Notify the architect of any discrepancies in the plans and specifications that will affect the work prior to submission of the bid price.
- Contractor shall review all project drawings and contract documents and provide power wiring to all required motors and appliances, whether or not the power wiring is specifically shown on the drawings.
- Electrical plans are diagrammatic and indicate general arrangement of systems and work. Check drawings of other trades to verify space conditions, door swings, room finishes, etc. Maintain headroom and working clearances.
- During the course of the work, the contractor experiences a problem relative to the plans and specifications, the National Electrical Code of other applicable codes and governing documents, he shall notify the architect and/ or the engineer for direction prior to execution of this work. Any work installed in violation of the contract documents of applicable codes which could have been avoided by contacting the architect or engineer shall be rectified at NO additional cost.
- Circuit numbers are for identification purposes only. The contractor is responsible for correctly phasing the circuits in the panel and shall balance the load on the phases under normal operating conditions. Provide typewritten panelboard directories including all circuits. Identify all circuits with room numbers served by circuit (comply with NEC 408.4).
- The number of wires is indicated only where clarification is necessary. The electrical contractor shall provide all wires necessary for the proper function of the system.
- Increase all branch circuit conductors to the next larger size from the panel to the first outlet where the length of the homerun exceeds 100FT on 120/208V circuits.
- Contractor shall note UL labels on packaged type mechanical equipment. If UL label on mechanical equipment calls for the overcurrent protective device to be fuses, provide a fused switch with proper size fuses at the switch location indicated on the drawings.
- Verify wire sizes, circuit breaker and fuse ratings for all equipment, and notify the architect/ engineer of any discrepancies affecting the work prior to proceeding.
- Gang all multiple switches at the same location under one common cover plate. Provide multi-gang outlet box of adequate size.
- Contractor shall furnish O&M manuals for the system and equipment to the building owner or designated representative within 90 days of acceptance.
- Contractor shall furnish as-built drawings for electrical power system within 90 days of system acceptance
- Contractor shall arrange for the lighting system to be tested to ensure proper calibration, adjustment, programming, and operation.

### STANDARD PANEL DESIGNATIONS



	208V ONLY		208V & 480V	
	A, B, C, ETC.	LA, LB, LC, ETC.	HA, HB, HC, ETC.	H2B, ETC.
SINGLE STORY BUILDING NORMAL PANELS	A, B, C, ETC.	LA, LB, LC, ETC.	HA, HB, HC, ETC.	H2B, ETC.
MULTIPLE STORY BUILDING NORMAL PANELS	1A, 1B, 2A, 2B, ETC.	L1A, L1B, BBA, BBB, ETC.	H1A, H1B, H2A, H2B, ETC.	
SINGLE STORY BUILDING EMERGENCY PANELS	A/E, B/E, C/E, A/X, B/X, ETC.	L/A/E, L/B/E, L/C/E, L/A/X, ETC.	H/A/E, H/B/E, H/C/E, H/A/X, ETC.	
MULTIPLE STORY BUILDING EMERGENCY PANELS	1A/E, 1B/E, 1A/E, 2A/X	L1A/E, L1B/E, BBA/E, BBA/X, ETC.	H1A/E, H1B/E, H2A/E, H2A/X, ETC.	

### STANDARD SWITCHBOARD DESIGNATIONS

208V ONLY MSB / A  
 "MAIN SWITCHBOARD" 1st SWITCHBOARD OF THIS TYPE = "A", 480V & 208V IN SAME BUILDING. 2nd SWITCHBOARD OF THIS TYPE = "B", ETC.  
 480V = MSB/HA  
 208V = MSB/LA  
 L=LINE PANELS ARE SIMILAR EXCEPT USE MDP/A.  
 MDP = MAIN DISTRIBUTION PANEL OR USE MP/A WHERE MP = MECHANICAL PANEL.

### ABBREVIATIONS

A	AMP-AMPERE	KW	KILOWATT
AD	ACCESS DOOR	KWH	KILOWATT HOUR
AFF	ABOVE FINISHED FLOOR	LP	LIGHTING PANEL
ALT	ALTERNATE	LTG	LIGHTING
AWG	AMERICAN WIRE GAUGE	MANUF	MANUFACTURER
BKR	BREAKER	MC	MAIN CIRCUIT BREAKER
C	CONDUIT/CONDUCTOR	MLO	MAIN LUGS ONLY
CB	CIRCUIT BREAKER	N	NEUTRAL
CKT	CIRCUIT	NEC	NATIONAL ELECTRICAL CODE
CU	COPPER	NEMA	NATIONAL ELECTRICAL
DWG	DRAWING		MANUFACTURERS ASSOCIATION
EC	ELECTRICAL CONTRACTOR	NIC	NOT IN CONTRACT
ELEC	ELECTRICAL	PNL	PANEL
ETR	EXISTING TO REMAIN	RTU	ROOF TOP UNIT
FACP	FIRE ALARM CONTROL PANEL	TYP	TYPICAL
FD	FIRE DAMPER	UON	UNLESS OTHERWISE NOTED
GND	GROUND	V	VOLTS
GFI	GROUND FAULT INTERRUPTER	WP	WEATHERPROOF
HD	HAND DRYER	WT	WEIGHT
HP	HORSE POWER	XFMR	TRANSFORMER
JC	JANITORS CLOSET	Y	WYE (STAR)
KV	KILOVOLT		
KVA	KILOVOLT AMPERE		

**Note:**  
Contractor Shall Provide  
Minimum Standard Labor &  
Material Warranties

### GENERAL NOTES

- ALL ELECTRICAL WORK SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE 2018 EDITION OF THE NATIONAL ELECTRICAL CODE (N.E.C.), 2018 NORTH CAROLINA BUILDING CODE AND ALL LOCAL AND MUNICIPAL CODES HAVING JURISDICTION.
- ELECTRICAL CONTRACTOR (E.C.) TO VISIT SITE, ACQUAINT HIMSELF WITH EXISTING CONDITIONS AND INCLUDE ALL NECESSARY COSTS TO COMPLETE THE INSTALLATION.
- E.C. TO FURNISH AND PAY FOR ALL PERMITS AS REQUIRED AND OBTAIN FINAL CERTIFICATE OF INSPECTION.
- CATALOG NUMBERS ARE MEANT TO INDICATE TYPE DESIRED AND MAY BE SUBSTITUTED WITH AN APPROVED EQUAL DEVICE. "APPROVED EQUAL" MUST BE SUBMITTED TO THE ENGINEER FOR WRITTEN APPROVAL PRIOR TO INSTALLATION IN THE FIELD.
- WORK MUST BE COORDINATED WITH ALL OTHER TRADES TO ELIMINATE CONFLICTS AND INTERFERENCES.
- E.C. SHALL BALANCE LOADS ON PARALLEL FEEDER AND ALL PANELS.
- E.C. MUST PROVIDE PROPER "FIRE STOPPING" AT ALL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES (EACH SIDE). SUBMIT EXACT MATERIALS AND METHODS TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. NO EXCEPTIONS TAKEN.
- CONTROL WIRING FOR HVAC UNITS (OTHER THAN LOW VOLTAGE POWER SUPPLY WIRING) SHALL BE DONE BY HVAC CONTRACTOR.
- ALL FUSES SHALL BE CURRENT LIMITING CLASS RK1.
- ALL UNDERGROUND CONDUIT SHALL BE RIGID PVC COATED, HOT DIPPED GALVANIZED STEEL WITH WARNING TAPE ABOVE IT.
- CONDUIT AND WIRE ON POWER AND LIGHTING PLANTS IS NOT SHOWN EXCEPT FOR HOMERUNS. CONTRACTOR SHALL PROVIDE ALL NECESSARY CONDUIT, BOXES, PULL BOXES, WIRING, SWITCHES AND ACCESSORIES TO INTERCONNECT THE ELECTRICAL ITEM FOR CIRCUITING AND HOMERUNS INDICATED SYMBOLICALLY ON THE DRAWINGS. SEE LEGEND-HOMERUNS DESIGNATION FOR SYMBOLOGY APPLICABLE TO ALL SYMBOLS SHOWN.
- U.O.N. ON PLANS AND SECTIONS: ALL HEAVY LINES ARE NEW EQUIPMENT CONDUIT, WIRING, ETC. ALL LIGHT LINES ARE EQUIPMENT, CONDUIT, WIRING, ETC. BY OTHERS.
- E.C. MUST INCLUDE IN HIS PRICE COORDINATION OF POWER POLE (FOR POWER AND VOICE/DATA) AND WALL "IN-FEED" BOXES AND "WHIPS" (SEALTITE OR EQUAL), E.C. TO PROVIDE ALL WALL BOXES FOR POWER & VOICE/DATA. E.C. MUST PROVIDE POWER WHIP, EMPTY VOICE/DATA RACEWAYS WITH DRAG LINES, AND FINAL POWER CONNECTIONS TO FURNITURE SYSTEMS. FINAL COORDINATION WITH FURNITURE VENDOR IS THE RESPONSIBILITY OF THE E.C.
- E.C. MUST INCLUDE IN HIS PRICE ALL MATERIAL AND LABOR FOR TEMPORARY POWER AND LIGHTING FOR ALL TRADES DURING DEMOLITION (IF APPLICABLE) & CONSTRUCTION.
- POWER DISTRIBUTION NOTE: CONDUITS TO BE AS FOLLOWS. WHERE RUN WITHIN THE BUILDING IN DRY LOCATIONS NOT SUBJECT TO PHYSICAL DAMAGE PROVIDE E.M.T. WHERE RUN IN BUILDING WHERE SUBJECT TO PHYSICAL DAMAGE, WET OR DAMP LOCATIONS, THRU ROOFS OR CONCRETE PROVIDE THICK WALLED RIGID STEEL CONDUIT, WHERE RUN UNDERGROUND PROVIDE SCHEDULE 40 P.V.C. EXCEPT THAT ALL ELBOWS ON P.V.C. CONDUIT SYSTEM SHALL BE THICK WALLED RIGID STEEL AND SHALL BE GROUNDED IN ACCORDANCE WITH N.E.C. 300-5(D) WHERE REQUIRED.

### SHOP DWGS/EQUIPMENT SUBMITTALS:

THE CONTRACTOR IS RESPONSIBLE TO SUBMIT ALL OF THE FOLLOWING ITEMS FOR REVIEW/APPROVAL BY NO MORE THAN 3 WEEKS AFTER THE CONTRACTOR'S CONTRACT/BID HAS BEEN AWARDED. ALL SUBMITTALS MUST BE SENT TOGETHER AS A SINGLE PACKAGE WITH MANUFACTURER'S SPECIFIC MODELS AND SPECIFICATIONS OUTLINED TO MATCH THE SCHEDULED REQUIREMENTS. EACH SUBMITTAL MUST BE LABELED WITH THE UNIT DESIGNATION USED WITHIN THIS DRAWING SET. IF THE SUBMITTAL PACKAGE IS FOUND TO BE INCOMPLETE UPON RECEIPT, THE PACKAGE WILL BE HELD AND WILL NOT BE REVIEWED UNTIL THE REMAINDER OF THE PACKAGE IS RECEIVED. ALL SHOP DRAWINGS AND SUBMITTALS SHALL BE SUBMITTED ELECTRONICALLY TO THE ENGINEER FOR REVIEW. CONTRACTOR SHALL NOT PURCHASE OR INSTALL ANY EQUIPMENT UNTIL WRITTEN ACCEPTANCE IS OBTAINED FROM THE ENGINEER.

- CONTRACTOR IS RESPONSIBLE TO DEVELOP & SUBMIT TO THE ENGINEER FOR REVIEW & APPROVAL THE FOLLOWING SHOP DWGS:

- ALL LIGHTING FIXTURES.
- ALL PANELS.
- ALL CONDUITS AND WIRES.
- ALL SPLICE/PULL BOXES.
- ALL JUNCTION BOXES.
- ALL DISCONNECT SWITCHES.
- ALL TRANSFORMERS.

NOTE: REFER TO SPECIFICATIONS FOR FURTHER SHOW DRAWING REQUIREMENTS. IF CONFLICTS ARISE, CONTACT DESIGN ENGINEER BEFORE FABRICATION.

### TYPICAL DEVICE MOUNTING HEIGHT

RECEPTACLES (OFFICE AREA)	18" AFF
LIGHT SWITCHES	48" AFF
DISCONNECT SWITCHES	NEC 404.8(A)
TELEPHONE OUTLETS	18" AFF
TELEPHONE OUTLET (WALL MTD)	48" AFF
COMPUTER OUTLETS	18" AFF
CLOCK OUTLETS	7'-6" AFF
FIRE ALARM PULL STATION	48" AFF
FIRE ALARM AUDIO/VISUAL ALARM	80" AFF
EXIT LIGHTS (WALL MTD)	1' ABOVE DOOR
EMERGENCY LIGHTS (WALL MTD)	7'-6" AFF
TV OUTLETS	18" AFF
AUDIO/VIDEO OUTLETS	18" AFF
MICROPHONE OUTLETS	18" AFF
PA ANNUNCIATOR PANEL	48" AFF
WELDING OUTLETS	36" AFF

NOTE: DIMENSIONS ARE TO DEVICE CENTERLINE UNLESS NOTED OTHERWISE

### ELECTRICAL SYMBOL LEGEND

THIS SYMBOL LEGEND IS SHOWN FOR GENERAL REFERENCE ONLY. THE PRESENCE OF A SYMBOL ON THIS LEGEND DOES NOT IMPLY ITS USE ON THIS PROJECT. REFER TO DRAWINGS FOR SPECIFIC SYMBOLS USED.

BRANCH CIRCUIT HOMERUN. SHORT LINES INDICATE PHASE CONDUCTORS. LONG LINES INDICATE NEUTRAL CONDUCTOR. ONE SEPARATE GREEN GROUNDING CONDUCTOR SHALL BE PROVIDED FOR EACH HOMERUN; NOT SHOWN.

JUNCTION BOX

PANELBOARD, SURFACE MOUNTED

PANELBOARD, RECESSED

RECEPTACLE, DUPLEX  
 EM = EMERGENCY  
 GFI = GROUND FAULT INTERRUPTER  
 WP = WEATHERPROF. NEMA 3R  
 RECEPTACLE, QUADRUPLEX

RECEPTACLE, SINGLE

RECEPTACLE, SPECIAL PURPOSE

A = 120V, 20A, 1 PHASE, 2-POLE, 3W, NEMA 5-20R  
 B = 208V, 20A, 1 PHASE, 2-POLE, 3W, NEMA 6-20R  
 C = 120V, 30A, 1 PHASE, 2-POLE, 3W, NEMA 5-30R  
 D = 208V, 30A, 1 PHASE, 2-POLE, 3W, NEMA 6-30R  
 E = 208V, 60A, 1 PHASE, 3-POLE, 4W, NEMA 14-60R  
 F = 208V, 30A, 3 PHASE, 3-POLE, 4W, NEMA 15-30R  
 G = 208V, 50A, 3 PHASE, 3-POLE, 4W, NEMA 15-30R  
 H = 208V, 60A, 3 PHASE, 3-POLE, 4W, NEMA 15-60R

ENCLOSED CIRCUIT BREAKER

DISCONNECT SWITCH, FUSED

DISCONNECT SWITCH, UNFUSED

STARTER, COMBINATION WITH DISCONNECT SWITCH

STARTER OR MOTOR CONTROLLER

VARIABLE FREQUENT DRIVE

SWITCH/NEMA STARTER SIZE

NUMBER OF POLES

FUSE/BREAKER SIZE

BLANK DENOTES UNFUSED

DISCONNECT/ICB TAG

SWITCH

BLANK = SINGLE POLE

2 = DOUBLE POLE

3 = THREE-WAY

4 = FOUR-WAY

D = DIMMER

F = FUSED

K = KEY OPERATED

LV = LOW VOLTAGE

L = LOCK

M = MOTOR

OS = OCCUPANCY SENSOR

P = WITH PILOT LIGHT

T = TIMER OPERATED

WP = WEATHER PROOF, NEMA 3R

X = EXPLOSION PROOF

GENERATOR

DRAW OUT CIRCUIT BREAKER (3P, U.O.N.)

AF = AMP FRAME

AT = AMP TRIP

CIRCUIT BREAKER (3P, U.O.N.)

SWITCH AND FUSE (3P, U.O.N.)

AS = AMP SWITCH

AF = AMP FUSE

AUTOMATIC TRANSFER SWITCH (ATS)

N = NORMAL (NON-GENERATOR) POWER

E = EMERGENCY (GENERATOR) POWER

L = LOAD (OUTPUT)

ATS-1 = DEVICE LABEL

LIGHT FIXTURES, VARIOUS. SEE LIGHTING FIXTURE SCHEDULE

DARK BLACK HATCH INDICATES EMERGENCY BATTERY OR EMERGENCY (LIFE SAFETY) GENERATOR POWER.

EXIT SIGN, CEILING MOUNTED; EXIT SIGN, WALL MOUNTED, ARROWS INDICATE CHEVRON DIRECTION.

EMERGENCY WALL PACK

DATA: VOICE/DATA; VOICE OUTLET

MOTOR, # = HORSEPOWER

REFER TO SUPPLEMENTAL FIGURE INDICATED BY NUMBER (I.E. F2 REFERS TO FIGURE 2)

EQUIPMENT TAG

EQUIPMENT NUMBER

DETAIL TAG/CALL OUT TAG

ELECTRICAL SHEET NUMBER

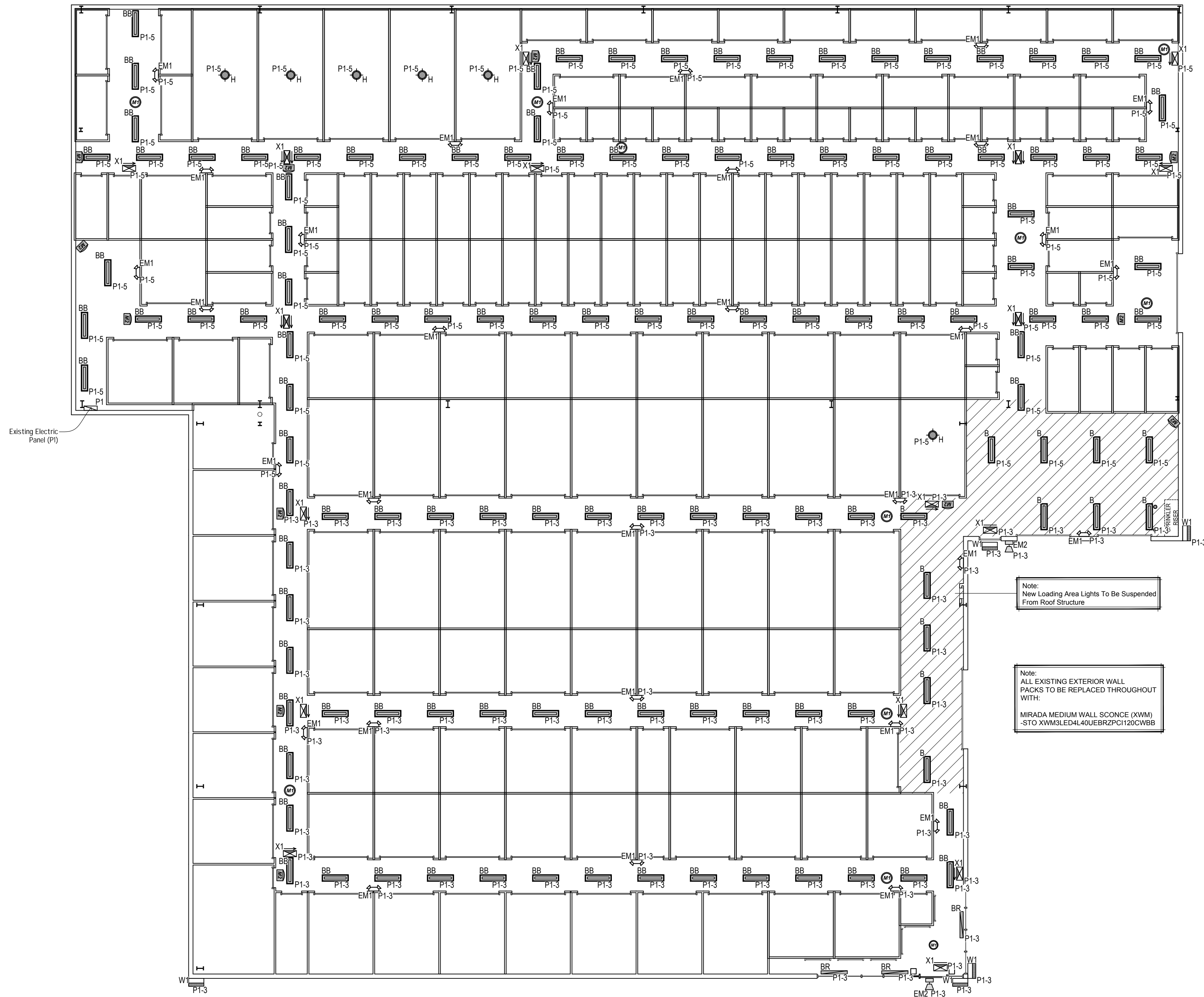
### SCOPE OF WORK

ELECTRICAL WORK CONSISTS OF:

- THE INSTALLATION OF POWER TO RECEPTACLES THROUGHOUT THE SPACE.
- THE INSTALLATION OF POWER TO LIGHT FIXTURES AND SWITCHES THROUGHOUT THE SPACE.
- THE INSTALLATION OF POWER TO NEW MECHANICAL ELECTRIC REHEAT COIL.

NOTE: THIS SCOPE OF WORK DESCRIPTION IS PROVIDED TO GIVE AN OVERALL "MACRO" DESCRIPTION OF THIS PROJECT. E.C. IS RESPONSIBLE TO REVIEW ALL ENGINEERING AND ARCHITECTURAL DRAWINGS AND VISIT THE SITE IF NEEDED, PRIOR TO SUBMISSION OF BID.





# 1 LIGHTING PLAN

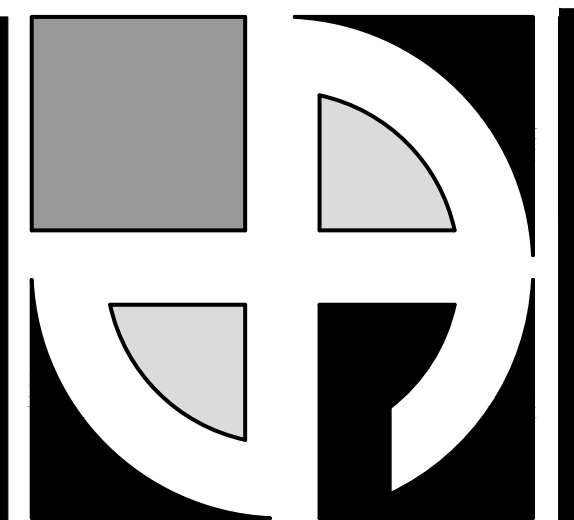
3/32"=1'-0"

Luminaire Schedule (Issue: January 6th, 2023)		Store Space - Prototype					
Contact McCay Green with Commercial Lighting Industries, 772-485-0561, McCay@Commercial-Lighting.net for pricing							
Note: If Lighting is owner supplied, the subcontractor on site is responsible for receiving the material, notifying of any damages within 72 hours and signing for missing items as incomplete if they did not arrive.							
B	4' Linear Lensed Strip	0-10V (10%)	CLI-AST44LSAUNV840M38258	Integral LED, 4000K, 4634Lm, 80CRI	UNV	34	3' Chain Mount Set. White Finish.
BB	4' Linear Lensed Strip	0-10V (10%)	CLI-AST44LSAUNV840	Integral LED, 4000K, 4634Lm, 80CRI	UNV	34	Surface Mounted. White Finish.
BR	4' Linear Lensed Strip @ Retail Display	0-10V (10%)	CLI-AST44LSAUNV840	Integral LED, 4000K, 4634Lm, 80CRI	UNV	34	Surface Mounted. White Finish.
H	LED Downlight w/ Occupancy Sensor	Integral Occ Sensor	CLI-001-9866-BOW	Integral LED, 4000K, 1440Lm	120V	18	Surface Mounted. White Finish.
W1	Wall Pack	0-10V (10%)	CLI-XWM3LED3L-12L40UEBRZ	Integral LED, 4000K, 12287Lm, Type 3, 70CRI	UNV	23 - 82	Surface Mounted. Dark Bronze Finish. Verify Voltage for Photocell.
SUBSTITUTIONS ARE NOT ALLOWED AND VALUE ENGINEERING WILL NOT BE CONSIDERED WITHOUT EXPRESSED WRITTEN APPROVAL FROM THE ARCHITECT OR OWNER. NO EXCEPTIONS.							
Luminaire Schedule (Issue: January 6th, 2023)		Store Space - Prototype					
Contact McCay Green with Commercial Lighting Industries, 772-485-0561, McCay@Commercial-Lighting.net for pricing							
Note: If Lighting is owner supplied, the subcontractor on site is responsible for receiving the material, notifying of any damages within 72 hours and signing for missing items as incomplete if they did not arrive.							
CNTRL	Controls Package - TBD						
PURCHASING: All Lighting is supplied by _____. Consult with the above listed Mfgs for pricing at pre-established customer pricing. The complete package is approved and available at established discounted pricing from Commercial Lighting Industries, 81161 Indio Blvd, Indio, CA 92201, 800-755-0155. Contact _____@Commercial-Lighting.net, for purchase order placement, and coordinating delivery of the package.							
LTG SPEC VERIFICATION: Purchaser assumes responsibility for, and must verify with CLI the following prior to purchasing: Voltage, specific mounting details (including recessed downlight hanger bars if non-standard from the Mfg), NYC or Chicago codes, IC Rating, wind/gust pole factors, integral luminaire wiring gauge, custom reflector reflectances, Kelvin temperature, distribution, emergency use and dimming method. The above catalog #s may not be completely solidified at time of drawing issuance for construction.							
PHOTOMETRIC COMPLIANCE: A complete Photometric drawing for this project as currently drawn and specified, has been submitted to approving authorities a applicable. Any substitutions or changes nullify the report and compliance and are strictly forbid without writtten approval from the owner, architect or lighting designer - <b>NO SUBSTITUTIONS ARE ALLOWED.</b>							
ENERGY COMPLIANCE: The purchasing party is responsible for solidifying the lighting package in compliance with the State Energy Code, both with respect to Lighting Power Density (LPD) and the use of mandated controls (dimmers, photocells, occupancy sensors, etc.). Consult with Istvan Derzi, Sr. Lighting Designer of Commercial Lighting Industries 323-905-2220 to ensure compliance prior to ordering.							
CONTROLS: The control system being implemented has been designed per meetings with the owner and architect, determining the complete requirements of the control system, and engineered to the exact specifications of the luminaires in this schedule, and in compliance with the State Energy Code. Any changes to the above would affect the Controls engineering and thus would require re-submission to all parties: Owner, Architect, Lighting Designer, Controls Manufacturer and the State Energy Compliance Department.							
DIMMING: The method of dimming each fixture type (generally either Non-Dim, ELV/MLV, 0-10V or DALI/Ecosystem) may not have been known at the time of the preliminary specifications submission. Some luminaires may be available with different dimming than is indicated - see the catalog cuts. When requesting a quotation, and ordering, the purchaser must verify the dimming method desired (to match the wiring and type of dimming that will get installed) of each type and request the quotation accordingly. Once product is on site, the dimming installed will have to be compatible with the luminaires. Note: the default dimming specifications are: For CA, US - all 0-10V wherever possible if using central Control System - same. Otherwise, any luminaire that is not 0-10V or combo ELV/120V, is specified as ELV because it cannot be assumed that LV wiring will be run.							
WIRING: 120V Leading Edge dimmers (old technology for mostly incandescent fixtures) aka Triac/120V dimming, and 120V Trailing Edge dimmers aka ELV dimming (utilizing standard 3 wire White/Black/Green) are not interchangeable with 0-10V dimming which has two additional low voltage wires (Grey/Violet) for analog control signal, using one volt increments from 0 to 10, thus dimming the LED fixtures down to 10% or even 1%. Each fixture must be ordered with the appropriate 120V or the 0-10V driver depending on which will dim it, they are NOT interchangeable. Do Not assume a fixture with 0-10V is "standard" and will thus dim correctly if only 120V dimming is available.							
VOLTAGE: Voltage to be verified. See Volt column: DV means Dual-Volt - fixtures come compatible for either 120 or 277V. MV means Multi-Volt - fixtures come compatible for either 120/208/240/277/347 volts. TBD means the fixture comes in 120 or 277 but not both and thus the voltage for these fixtures must be verified prior to ordering.							

Emergency Light Fixture Schedule								
Type	Fixture Symbol	Location	Description	Manufacturer/Model #	Lamp Type	Height	Input Watts	Remarks
EM1		All Areas Indicated On Plan	Emergency Lighting Unit w/ Two Heads	Lithonia ELM2-120VCLT	LED	8'-0"	1.4	
EM2		All Areas Indicated On Plan	LED Remote Head Exterior Emergency	Lithonia ELA-QWP-LO309	LED	8'-0"	.75	
X1		All Areas Indicated On Plan	LED Exit Sign	Lithonia LQMSW 3 R-120/277 EL N	LED	8'-0" +/-	3.0	

## LEGEND

- FIXTURE TYPE (See Schedule)
- CIRCUIT #
- PANEL DESIGNATION
- OCCUPANCY SENSOR
- OCCUPANCY SENSOR



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**22-238**

**STORE SPACE**

937 E. Haggard Ave.  
Elon, NC

**BUILDING 2**

No.	Description	Date	By
1	ISSUED FOR BID	2-3-23	AB

DATE:  
9-3-22

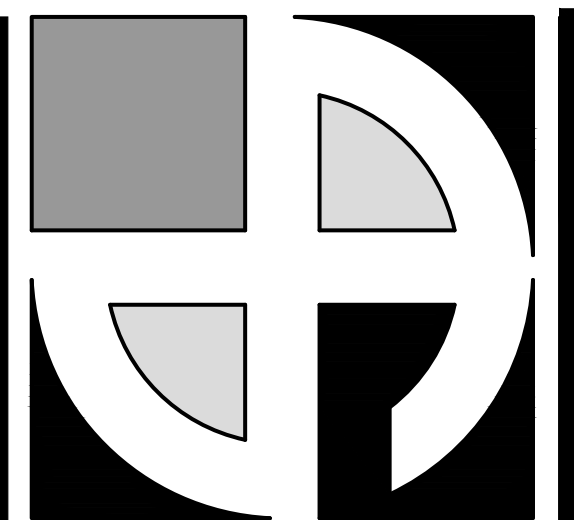
DRAWN BY: A. Barraclough  
CHECKED BY: M. Dean

SCALE:  
3/32"= 1'-0"

LIGHTING PLAN

**1**  
**E1.1**





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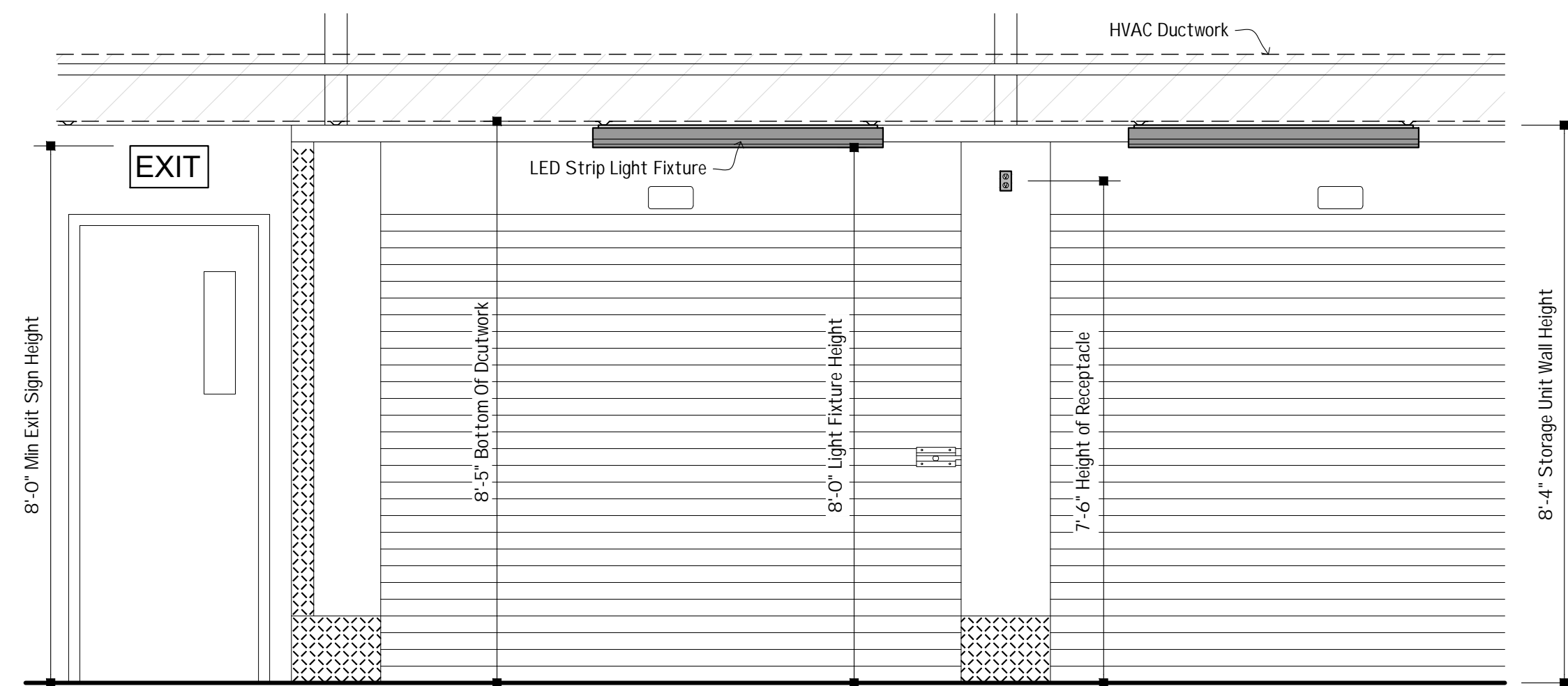
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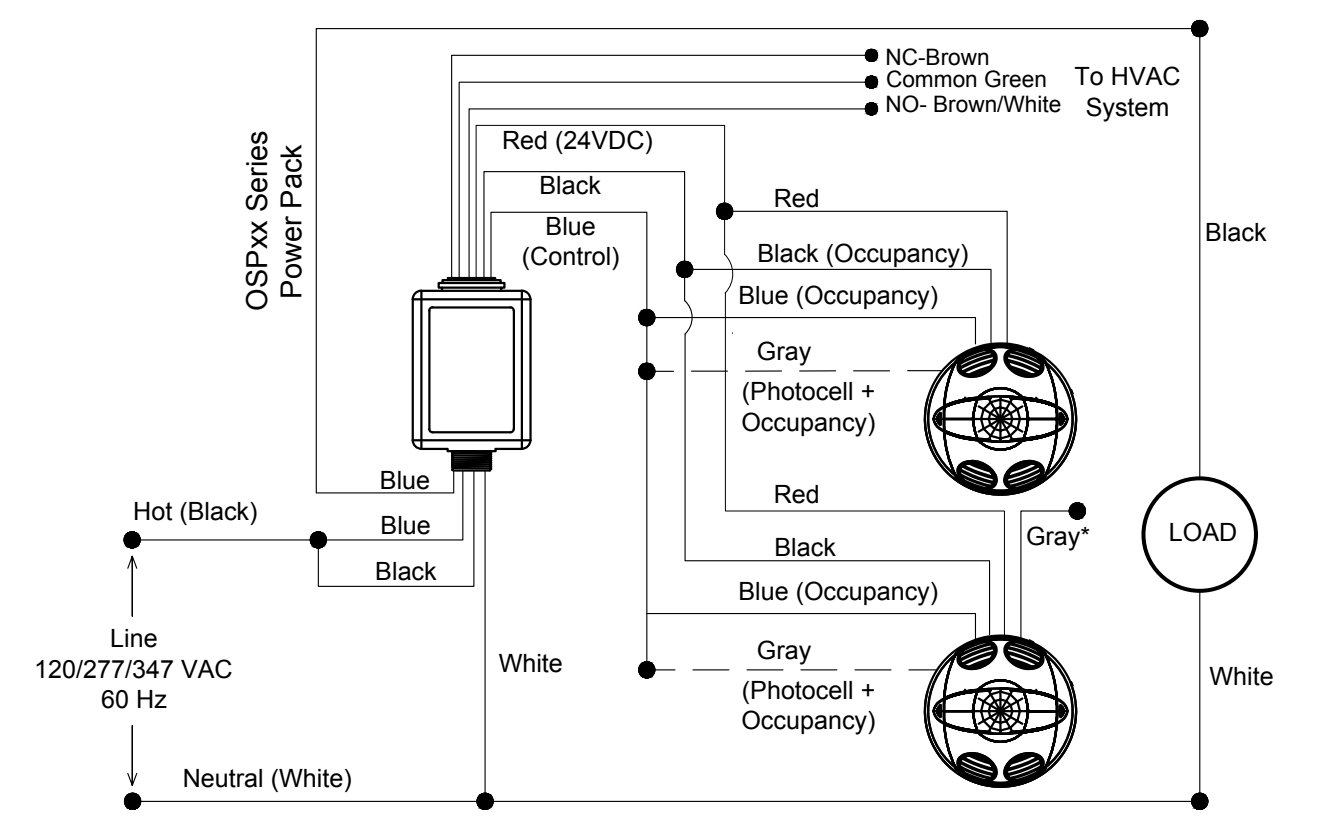
**STORE SPACE**

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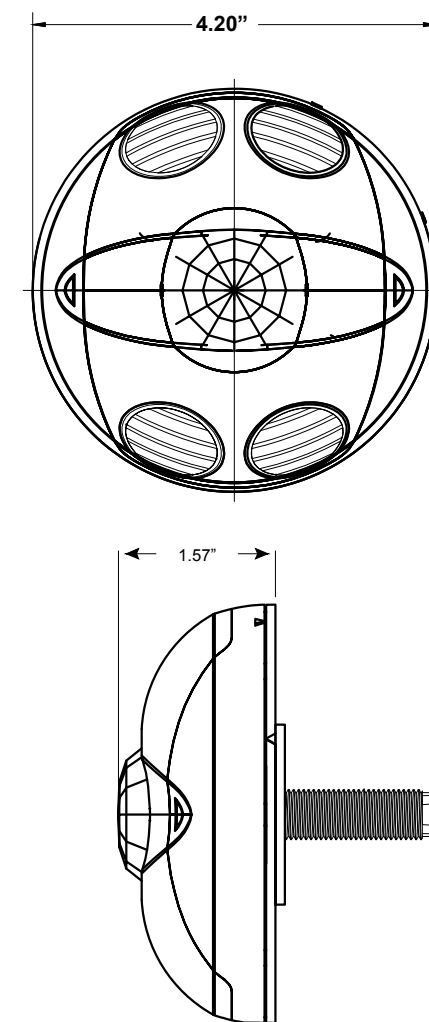
BUILDING 2



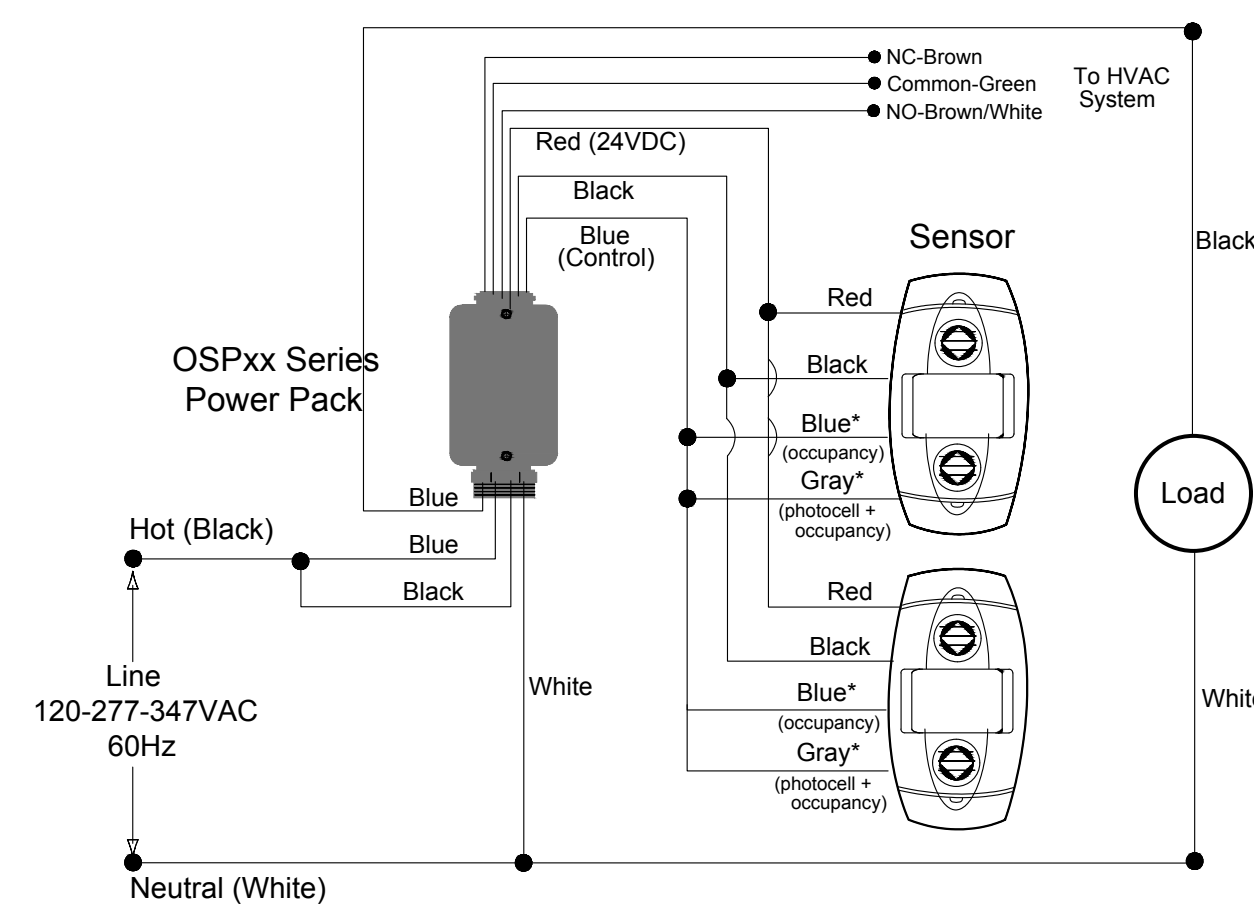
**1 | FIXTURE MOUNTING DIAGRAM**  
1/2"=1'-0"



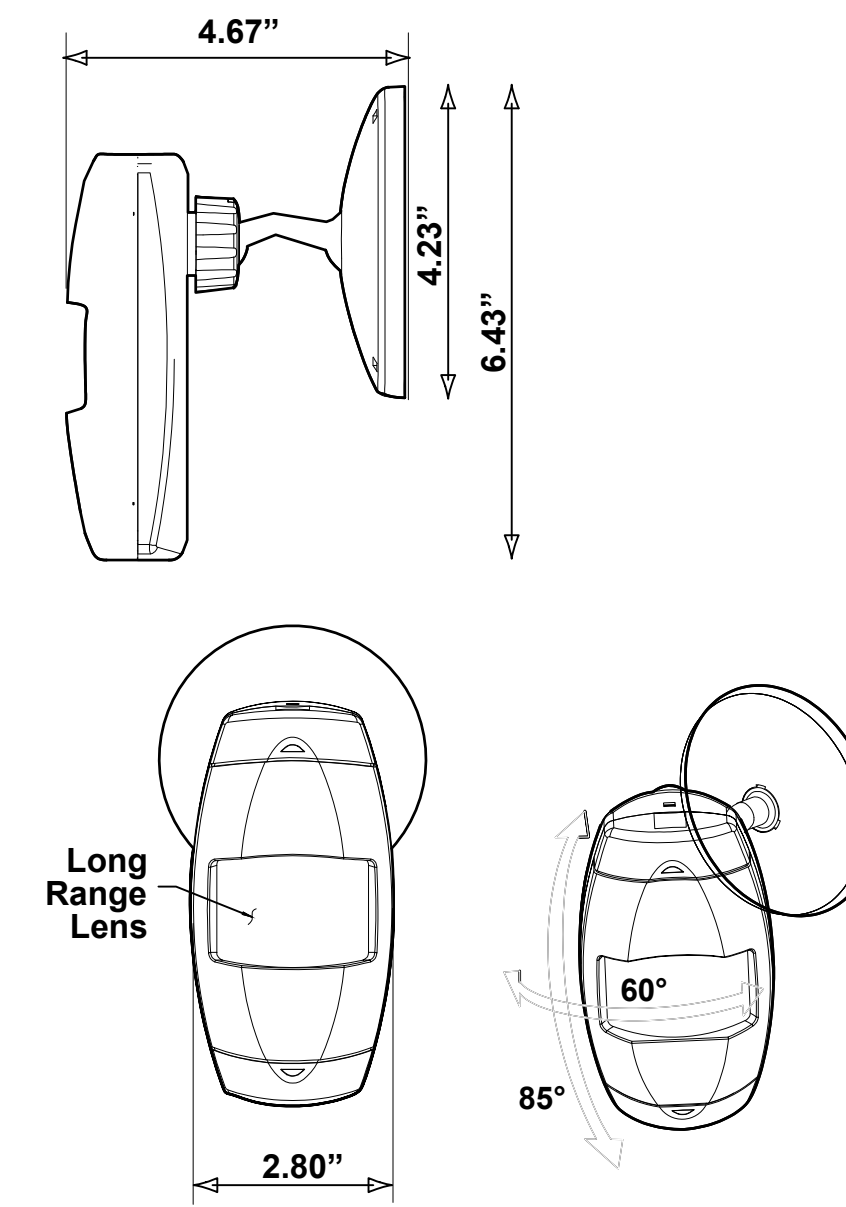
**2 | MOTION SENSOR - WIRING DIAGRAM**  
NTS M1



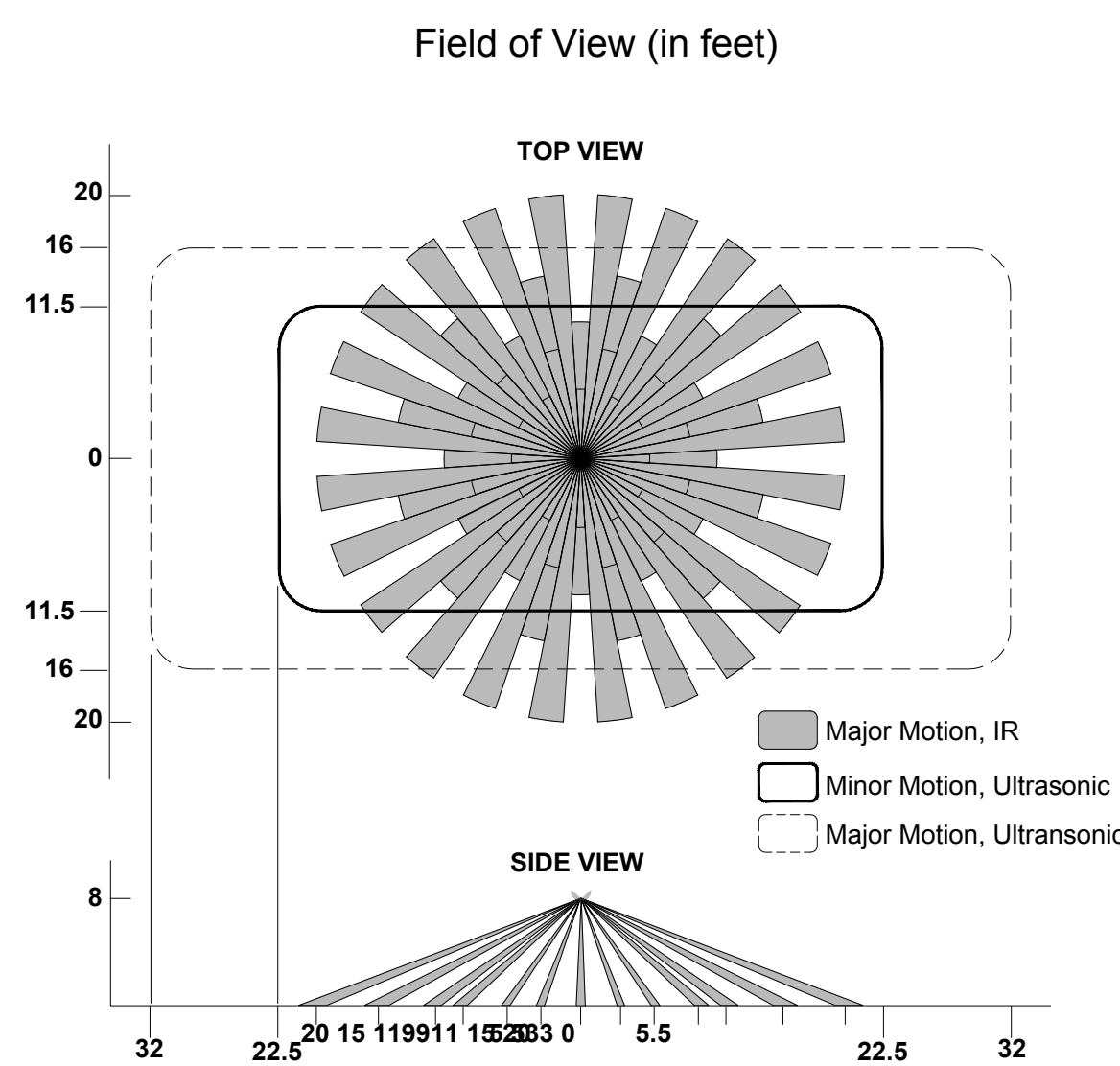
**4 | MOTION SENSOR**  
NTS M1



**5 | MOTION SENSOR - WIRING DIAGRAM**  
NTS M2



**7 | MOTION SENSOR**  
NTS M2

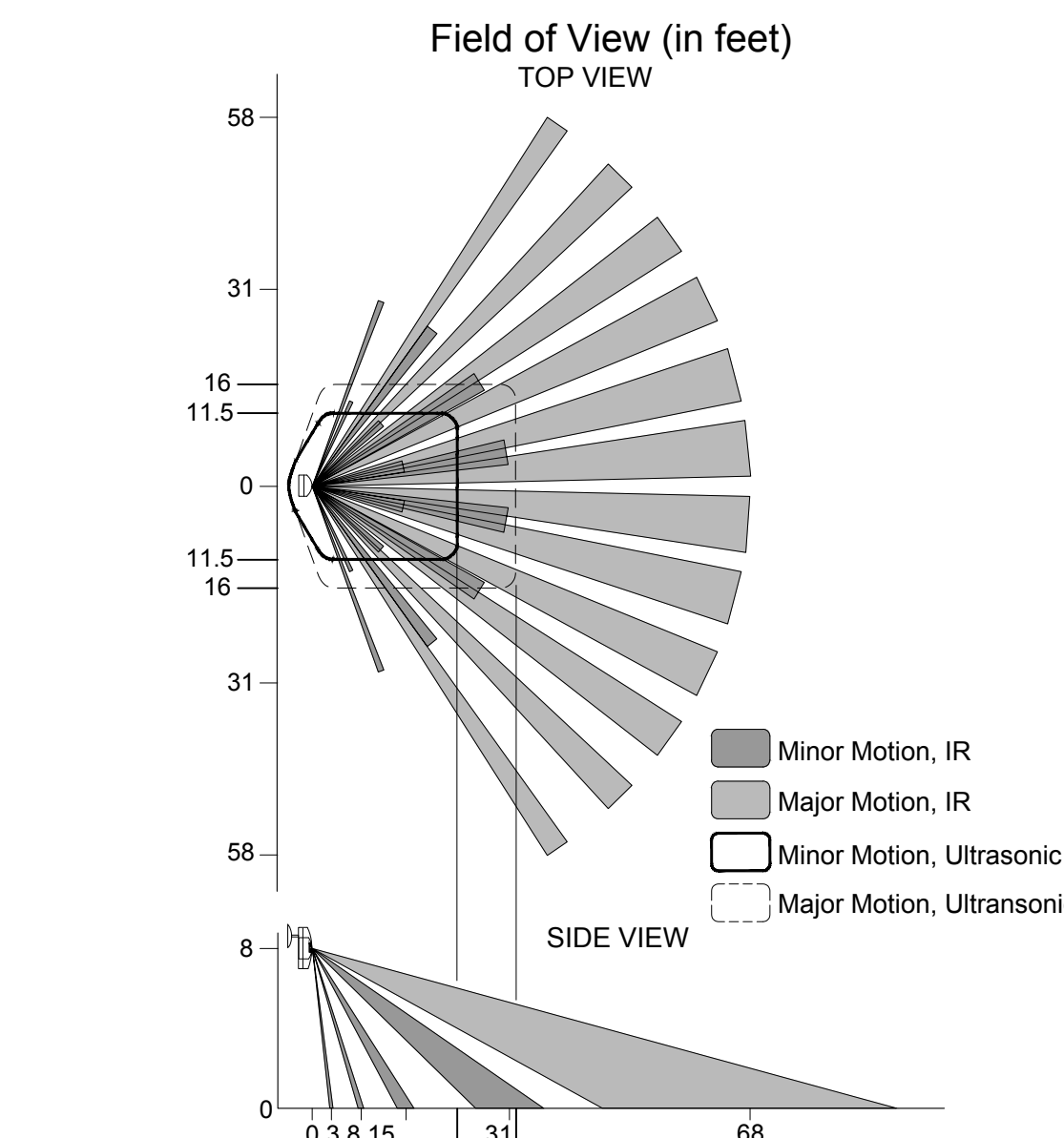


**3 | MOTION LOCATION DIAGRAM**  
NTS M1

**SPECIFICATIONS**

Frequency	OSC05-M0W, OSC10-M0W: 40kHz OSC20-M0W: 32kHz
Power Requirements	24 VDC, from OSPxx Power Pack or OPB15 Power Base
Power Consumption	OSC05: 25mA, OSC10: 35mA, OSC20: 30mA
Output	24 VDC active high logic control signal with short circuit protection
Ultrasonic Sensitivity	0-100%; green knob (factory setting: 50%)
Infrared Sensitivity	0-100%; red knob (factory setting: 75%)
Light Sensor	20 to 3,000 Lux, blue knob; factory set at 100% (grey wire required)
Time Delay	30sec-30min; black knob (factory setting: 10min)
Green LED	U/S motion technology
Red LED	Infrared motion technology
Operating Temperature Range	32-104°F (0-40°C)
Relative Humidity	0-95% non-condensing, for indoor use only
Mounting Height	8-12 feet
Listings	CULUS Certified, can be used to comply with 2010 Title 24, Part 6 occupancy sensing requirements
Warranty	Limited Five-Year Warranty
<b>ORDERING INFORMATION</b>	
OSC20-M0W	Multi-Technology Ceiling Sensor, 2,000 sq feet of coverage

LEVITON: OSC20-M0W  
MULTI-TECHNOLOGY CEILING  
OCCUPANCY SENSOR



**6 | MOTION LOCATION DIAGRAM**  
NTS M2

**SPECIFICATIONS**

Power Requirements	24 VDC, 25 mA (.6W) from OSPxx Power Pack or OPB15 Power Base
Power Consumption	25mA stand-by
Output	24 VDC active high logic control signal with short circuit protection
Ultrasonic (U/S) Sensitivity	0 to 100%; red knob (factory setting: 75%)
Infrared Sensitivity	0 to 100%; green knob (factory setting: 50%)
Light Sensor	Blue knob 20 to 3,000 Lux, Factory set at 100% (Grey wire required)
Time Delay	30sec-30min; black knob (Factory setting: 10min)
Red LED	Infrared motion technology
Green LED	Ultrasonic (U/S) motion technology
Operating Temperature Range	32-104°F (0-40°C)
Relative Humidity	0-95% non-condensing, for indoor use only
Mounting Height	8-10 feet
Listings	CULUS Certified, can be used to comply with ASHRAE 90.1 and 2016 Title 24, Part 6 occupancy sensing requirements
Warranty	Limited Five-Year Warranty
<b>ORDERING INFORMATION</b>	
OSW12-M0W	Multi-Technology Wall/Corner Occupancy Sensor

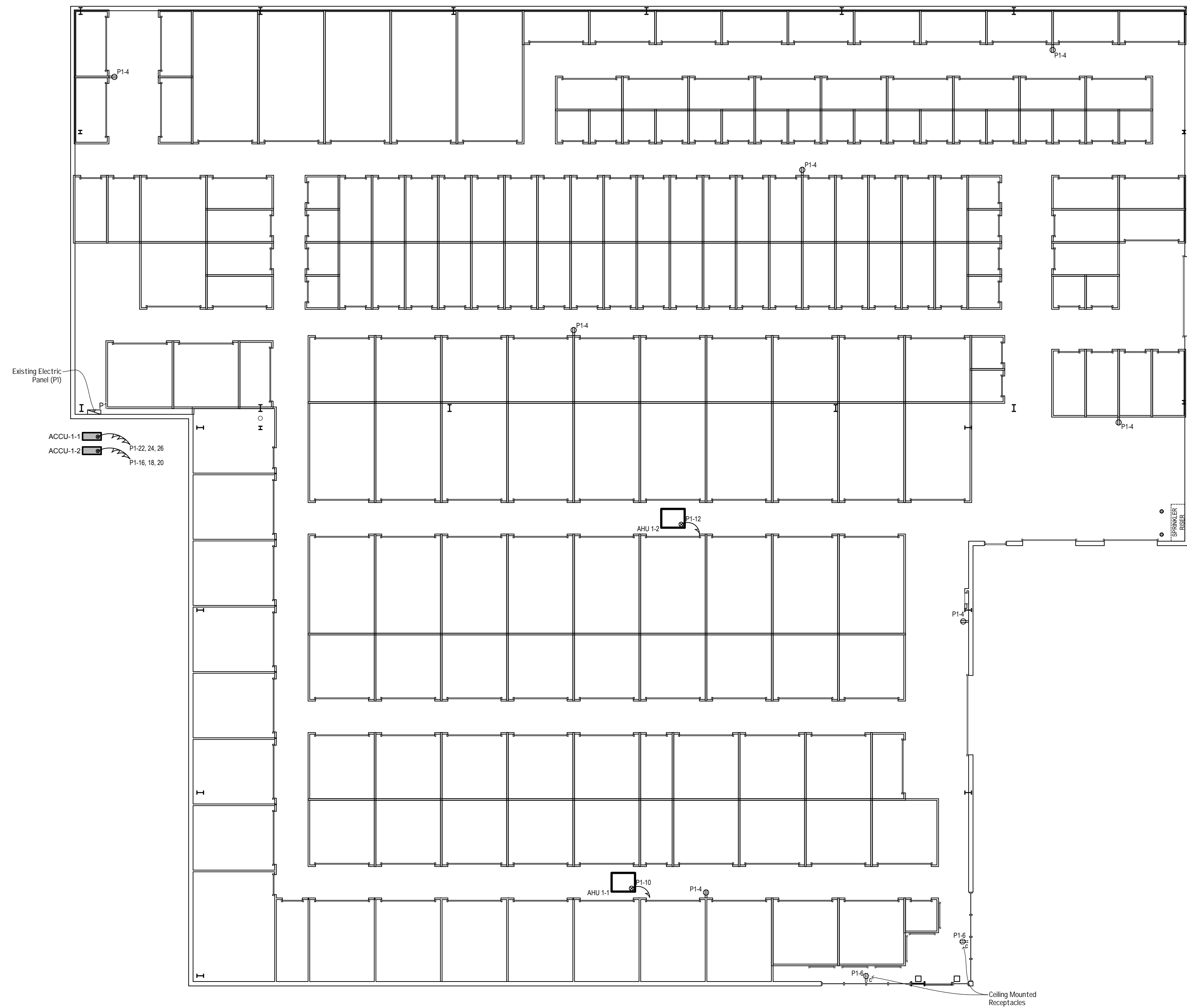
LEVITON: OSC12-M0W  
MULTI-TECHNOLOGY WALL/Corner  
OCCUPANCY SENSOR

No.	Description	Date	By
1	ISSUED FOR BID	2-3-23	AB

DATE: 9-3-22  
DRAWN BY: A. Barraclough  
CHECKED BY: M. Dean  
SCALE: 3/32"= 1'-0"

LIGHTING DETAILS

**E1.2**

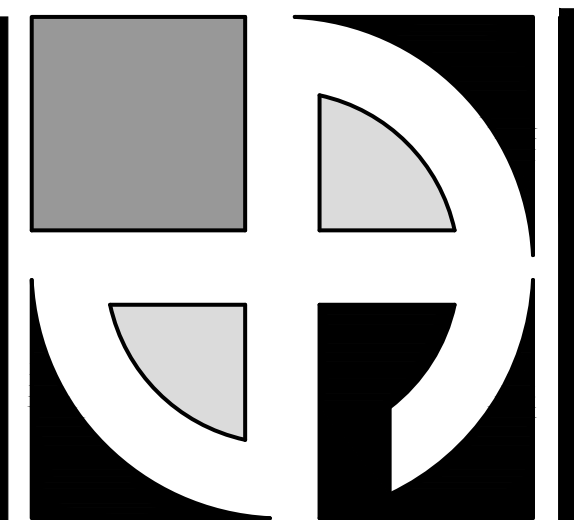


**1 POWER PLAN**  
3/32"=1'-0"

ALL DEVICES AND JUNCTION BOXES SHALL BE LOCATED WITH ACCESS FROM THE CORRIDOR WITHOUT ENTERING A STORAGE UNIT.  
NO RACEWAYS TO RUN ABOVE TENANT STORAGE UNITS

**LEGEND**

- 20 Amp, 120 Volt Flush Mounted Duplex Receptacle At 18" A.F.F.
- 20 Amp, 120 Volt Ceiling Mounted Duplex Receptacle At 18" A.F.F.
- 20 Amp, 120 Volt, Flush Mounted Duplex Receptacle- # Indicates Height A.F.F., W Indicates Weather Rated.
- 120 Volt, 20 Amp Circuit Homerun w/ #12 AWG, 1/2" EMT u.n.o., Circuit Concealed In Ceiling Or Wall.



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BUILDING 2

No.	Description	Date	By
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DATE:  
9-3-22

DRAWN BY: A. Barraclough  
CHECKED BY: M. Dean

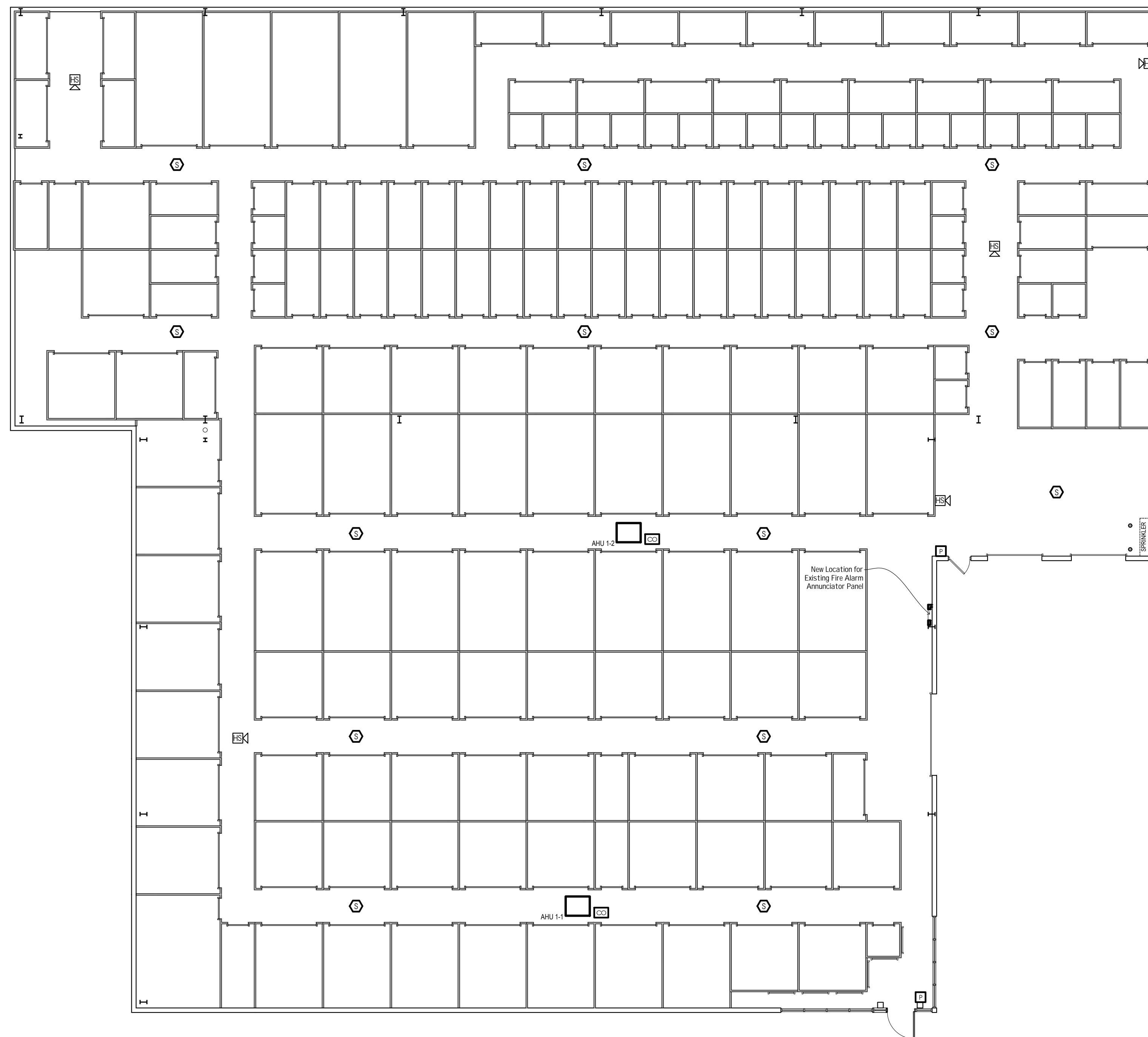
SCALE:  
3/32"= 1'-0"

POWER PLAN

**1**  
**E2.0**

BUILDING 1





**1 FIRE ALARM PLAN**  
3/32"=1'-0"

**LEGEND**

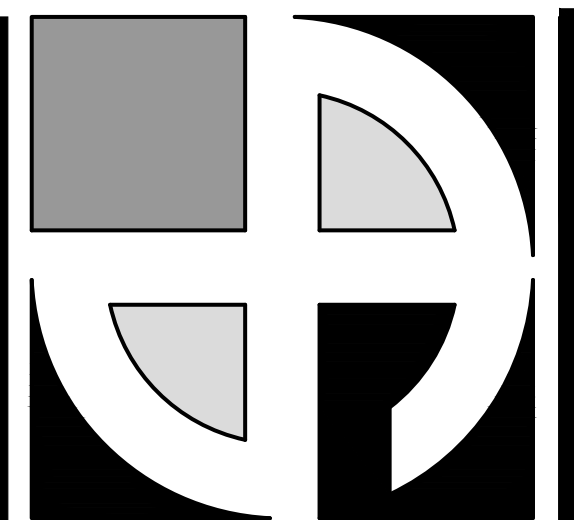
- Horn/ Strobe
- Smoke Detector
- Pull Station
- Carbon Monoxide Detector
- Fire Alarm Annunciator Panel
- Fire Alarm Control Panel

**FIRE ALARM GENERAL NOTES**

1. Fire alarm system shall be installed in accordance with the manufacturer's wiring diagrams, shop drawings and recommendations. The fire alarm system shall meet the requirements of the fire department.
2. All horns in the building shall be used a temporal code 3 signal. All strobes shall be of the synchronized type. All strobe units shall be furnished to meet the required candela ratings for each space per NFPA 72 -2008.
3. The fire alarm system is designed for general evacuation, therefore an alarm condition in any sector of the building will activate all A/V notification devices in the entire complex. Trouble alarm are supervisory only and will be a trouble alarm, no evacuation of the building.
4. The electrical contractor shall furnish and install reduced size CAD drawings with initiating device/ addresses in cabinet with Lexan shield at the main entrance showing the fire alarm system in the entire complex. Shop drawings and as built drawings shall be installed in a plan cabinet in the basement electric room. Plans cabinet furnished and installed by electrical contractor. Coordinate with architect and the fire department.
5. All wiring shall be class A. All addressable loop class A risers wiring shall be installed in separate EMT conduit. Supply and return wiring shall be installed in separate conduits. All class A A/V notification circuit riser shall be installed in separate EMT conduit, supply and return wiring shall be installed in separate EMT conduits. All remoted power extender panels shall be installed in electric closets. All power extender panels shall be connected to power panels with the required conduit and wire.
6. Each addressable loop shall be furnished with 20% spare capacity for future detectors and manual pull stations. Contractor to install the required number of addressable loops required to provide 20% future capacity for detectors and manual pull stations.
7. Electrical contractor to furnish and install all required power extender panels to drive the A/V light units in the building. The drawings are diagrammatic to show intent. All A/V circuits shall be furnished with 20% spare capacity.
8. Furnish and install isolation modules every twenty devices on all addressable loops.
9. Every initiating device shall be installed with its own address.
10. Self-adhesive labels address numbers shall be installed in all initiating devices and modules with addresses.
11. The manufacturer or electrical contractor shall submit point-to-point riser diagram showing all wiring and battery calculations with shop drawings. Final approval to the shop drawings will not be given without the calculations.

**FIRE ALARM SYSTEM NOTES**

1. Fire alarm system shall be noncoded, addressable system; multiplexed signal transmission dedicated to fire alarm service only. Fire alarm system to be fire-lite alarms by Honeywell. Fire alarm control panel to be MS9200UDLS (include XRM-24(E) transformer for additional NAC power). Note when SLC cable is installed in conduit, each SLC loop must be installed in separate conduit). Reference plan drawings for details.
2. Fire alarm system shall comply with NFPA 72 with class B, style 4 signaling line circuits and class B, style W notification - appliance circuits.
3. Install all fire alarm cabling in conduit.
4. Fire alarm system initiation devices to include:
  - a. Manual pull station - double action pull lever type Fire-Lite #BG12LX
  - b. Smoke detector - Photoelectric Fire -Lite #SD355
  - c. Duct smoke detector - Photoelectric Firbite #D355PL
  - d. Addressable relay module - Fire-Lite #CRF-300
  - e. Remote indicator/ test station - fire -Lite#RTS151
  - f. Heat detector- Verify heat detector rating with sprinkler vendor for elevator shaft installation
  - g. Addressable monitor module - fire-Lite #MMF 300
  - h. Addressable control module - FireLite #CMF-300
5. Fire alarm notification appliances to include:
  - a. Horn/ strobe indicator (red) - System Sensor Spectralert Model #P2R
  - b. Strobe/emit only indicator (red) - Visual light output 15, 30, 60, 75, 110 cd system sensor #SR
6. Riser diagram does NOT attempt to depict actual quantities of devices for project.
7. Fire alarm vendor to run calculations for voltage drop and verify candela requirements and provide all NAC panels required to supply all notification appliances shown on plans. Quantity shown is minimum required.



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**BUILDING 2**

**BUILDING 1**

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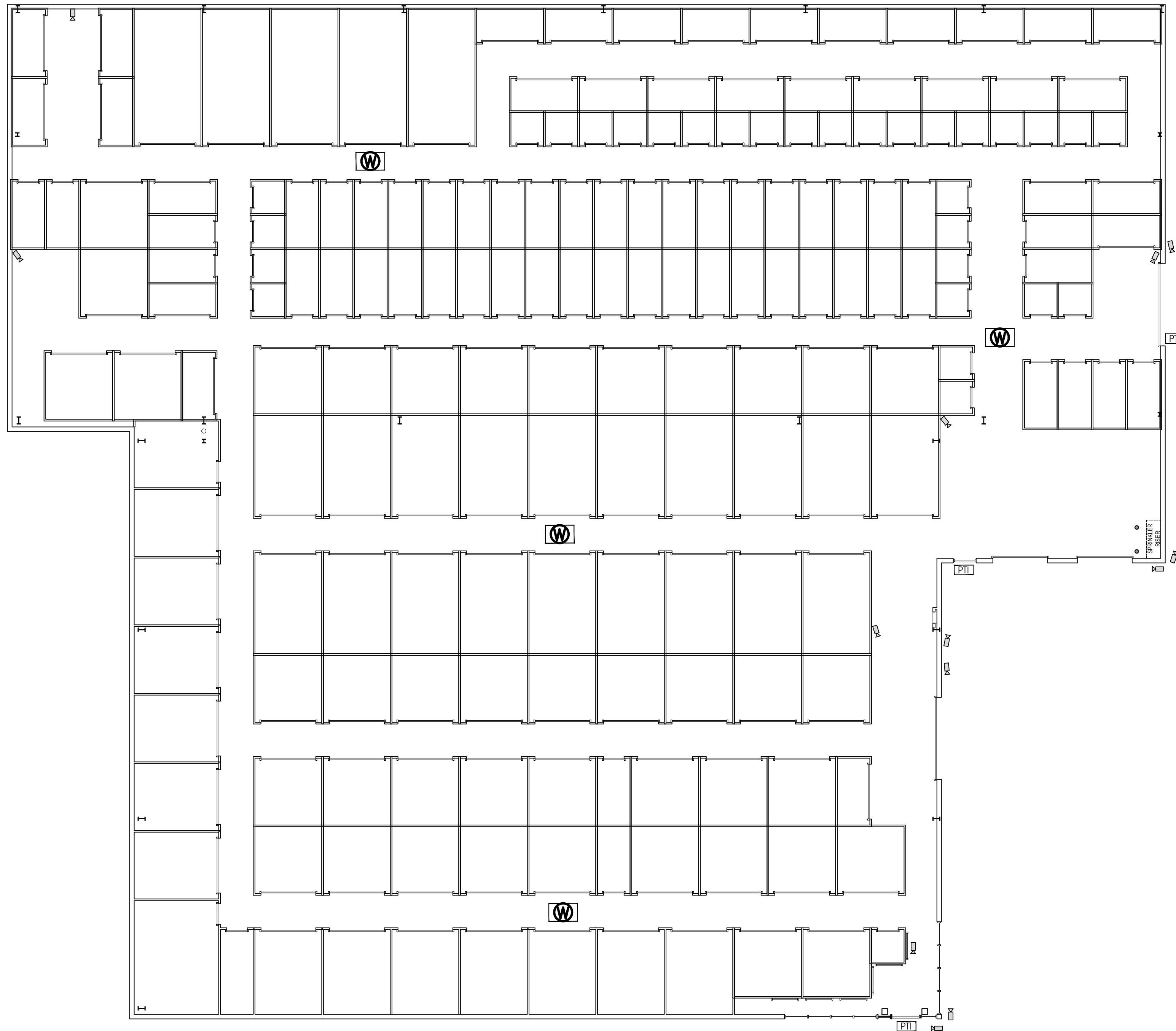
DATE:  
9-3-22

DRAWN BY: A. Barraclough  
CHECKED BY: M. Dean

SCALE:  
3/32"= 1'-0"

**FIRE ALARM PLAN**

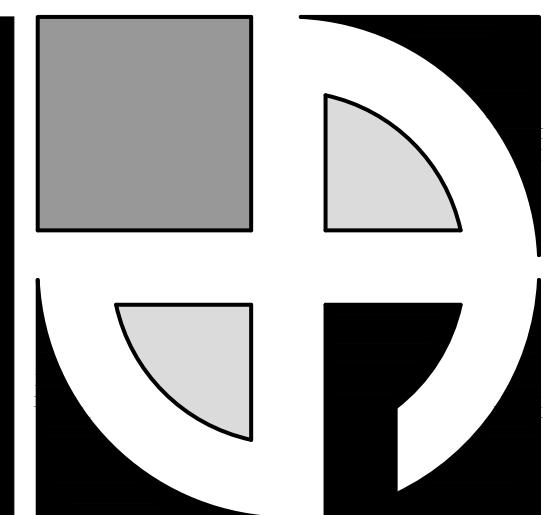
**1**  
**E3.0**



**1 | CCTV PLAN**  
3/32"=1'-0"

Note:  
Coordinate Any Required  
Door Hardware  
ie: Electric Strike/Mag Locks  
w/ Door Hardware Supplier  
& Electrical Contractor

LEGEND:		QTY.
	Camera	9
	PTI	3
	WAP - WIRELESS ACCESS POINT (IN)	4



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CHECKED BY:  
M. Dean  
SCALE:  
3/32"= 1'-0"

CCTV PLAN

**E4.0**