ADDENDUM 2

Addendum #	2	**Date Issued**	Nov. 13th, 2026

Project Name | Job #	Bismarck Fire Station 6	20253510

Bid Date | Time	Nov. 19th, 2026	3:00pm Local Time

THIS ADDENDUM AMENDS AND BECOMES PART OF THE CONTRACT DOCUMENTS FOR EAPC PROJECT 20253510 DATED October 29th, 2026, RESPECTIVELY. EACH BIDDER SHALL ACKNOWLEDGE RECEIPT OF THIS ADDENDUM BY MARKING THE ADDENDUM NUMBER AND DATE ON THE BID FORM.

*****Please Note Allowance Spec Section – Affects GC, MC, EC *****

PRE-BID MEETING - NONE

PLAN HOLDERS LIST

The current Plan Holders List is attached.

SPECIFICATIONS

00 3000	**DELETE** "Minnesota Contractor Compliance Form" from the Bid Form section.
01 1000	**REPLACE** Full Summary Spec section
01 5000	**REPLACE** Full Temporary Facilities and Controls Spec section
01 2100	**ADD** Full Allowance Spec section
07 2100	**DELETE** paragraph 1.2.C Elastomeric Membrane Roofing section for the low-slope deck. **DELETE** paragraph 2.2.B. Extruded Polystyrene (XPS) Cavity Wall Insulation Board…
07 1400	**DELETE** Full specification section.
07 2400	**CLARIFICATION** 2.3.F, Water -Resistive Barrier Coating shall be continuous over the entire exterior shell, see specification 07 2700 – Air Barriers.
07 4113	**DELETE** Paragraph 2.5 Secondary Framing.

08 3613	**REPLACE** section in its entirety with attached.
08 7100	**ADD** attached full Door Hardware Spec section which includes Hardware Schedule
08 7100.13	**OMIT** from Table of Contents (Door Hardware Schedule)
08 7113	**ADD** attached full Power Door Operators section.
09 2116	**CLARIFICATION** 2.1.C.1. Application of Impact Resistant Wallboard to be install along bottom 4 feet of Corridors and other high-trafficked areas – Hall 103 and Hall 109.
09 9000	**REPLACE** paragraph 2.4, E, 1, a, 1. Prosoco, SL100 Water Repellent
	REPLACE paragraph 2.4, E, 1, b, 1. Prosoco, SL100 Water Repellent
10 1419	**CLARIFY** Dimensional Letters: 15” tall, ¾” thick, Black Anodized Alum.
10 2800	**DELETE** paragraph 2.4.D Coat Hook: Heavy-Duty…
10 5113	**DELETE and REPLACE** paragraph 2.2A.7 ~~Padlock hasps, for padlocks provided by Owner~~ as follow: Built-in combination locks.
	DELETE paragraph 2.3.H Built-In Lock Boxes: Same material as locker, manufacturer’s….
11 3013	**DELETE** Full specification section, Residential Appliances spec section. Allowance spec will cover purchasing appliances.
11 5213	**DELETE** Full specification section.
12 2400	**DELETE** paragraph 3.5.D Training: Train Owner’s…
22 1005	Press fittings are allowed per specifications 2.5 A.3.
23 0993	**ADD:**

2.16 SPLIT SYSTEM AC-2

B. All controls are self-contained, BAS to monitor room space temperature and alarm if space temperature rises above 85 Deg F (ADJ). On a call for cooling the unit shall turn on and run until space temperature setpoint is met then shut off.

23 1123	Press fittings rated for gas piping are allowed.

DRAWINGS

G101	**ADDED** Elec Room.
	ADDED Fire Extinguisher locations.
S001	**REVISED** Company awarded Geotech work.
	REVISED Top plate splice requirements for stud walls.
	ADDED Wood roofing construction requirements.
S002	**ADDED** Wood roofing design and material requirements.
S200	**REVISED** Schedules and OHD location.
	ADDED Keynote 2.
S201	**REVISED** Masonry pier schedule and Keynote 1.
	ADDED Keynotes 11-13 and CMU wall in equipment area.
S202	**REVISED** Living quarters framing and deck to be wood construction.
	REVISED Elevation callouts, schedules, and keynotes.
S203	**REMOVED** Second framing plan.
	ADDED Truss connection details and callouts.
	REVISED Truss diagram, keynotes, elevations, and masonry lintel schedule.
S301	**REVISED** Schedules, keynote 2, and plan.
S601	**REVISED** Details 3, 4, 6, 9, 11, 12, and 13.
S602	**REVISED** All details.
S701	**REVISED** Details 3, 4, 5, 6, 7, 8, 9, 10, 12, 13,14, and 15.

S702	**REVISED** Details 2, 3, 5, 6, 8, 9, 10, and 11.
S703	**REVISED** All details.
A003	**ADDED** details for trash enclosure.
A021	**ADDED** Roof type R2 for Living Quarter roof.
	REVISE Roof type R1, R-35 nail base insulation, PAC-Shield or sim.
	REVISED floor tag names.
	REVISED R Value for roof type R1.
A201	**ADDED** Elec. Room and Dr 135 in Maintenance Room 134.
	RELOCATED door 134B 2'-8" plan east.
	RELOCATED door 134A 2'-0" to plan north.
	REVISED Keynote AE02 detail reference.
A301	**ADDED** room 135.
A401	**REVISED** to EIFS reveal in 1/4A401 where OH Dr 134B has moved.
A421	**REVISED** roof detail.
A441	**REVISED** roof assembly notes updated.
A442	**REVISED** roof assembly notes updated.
A501	**REVISED** width of Shower Rm 124.
	CLARIFICATION furniture within Office 105, Contractor furnish Contractor install, owner selection during Appliance / Furniture allowance.
A601	**ADD** Detail 7/A601 – High App Bay Clearstory – Typical Detail.
	REVISE/CLARIFICATION of roof insulation within details.
A702	**REVISE** Keynote AI 33: Markerboard, see specification 10 1100 for additional information.

A703	**REVISE** Keynote AE 34: Stainless Steel Table, Contractor furnish Contractor install, owner selection during Appliance / Furniture allowance
	REVISE Keynote AE 43 (all sheets): CONCEALED METAL COUNTERTOP SUPPORT, Iron Supports, Hidden Granite Countertop L Bracket – 22”, every 36” of countertop
	REVISE Keynote AE 48: FITNESS ROOM EQUIPMENT, OWNER PROVIDED BY ALLOWANCE 1 – See Spec.
	ADD NOTE Detail 11/A703 – Gypsum board wall to be capped with 5/8” gyp. bd. Paint and texture to match face of wall
A801	**REVISED** door frame types. Hm-02 added.
	REVISED door schedule.
A901	**REVISED** general note 28.
	REVISED 1/A901 to show location of window shades.
M201	**ADDED** AC-2 and ACCU-4 for new Electrical Room.
	REVISED GUH-3 location and associated thermostat and piping.
M301	**REVISED** EF-2, L-2, and GUH-3 locations and associated ductwork.
	REVISED MOD-1 size.
M801	**REVISED** motorized damper schedule.
M802	**ADDED** to split system heat pump schedule.
F201	**ADDED** FP01 keynote to added elec. Room 135
P200	**ADDED** 2” waste line for floor drain, shifted waste piping for catch basin
P201	**ADDED** 2” floor drain
	ADDED 2” vent line for floor drain and 4” VTR
	REVISED CB-1 location

P203	**ADDED** VTR location on the roof
P501	**REVISED** Sanitary waste and vent riser diagram
E100	**ADDED** disconnects for ATS-1 and ATS-LS to site plan.
	ADDED additional Type BB light to the site plan.
	REVISED light pole layout on site plan.
E100A	**REVISED** light fixture schedule, statistics, and photometric calcs.
E201	**ADDED** ACCU-4 to power plan.
	REVISED service entrance equipment with new electrical room.
	REVISED location of GUH-3.
E301	**REVISED** lighting layout with new electrical room.
E501	**REVISED** fire alarm device layout with new electrical room.
E801	**REVISED** disconnects for ATS-1 and ATS-LS to include NEMA 3R rating.
	REVISED ATS-LS voltage to 208V.
E802	**ADDED** ACCU-4 and AC-2 to Motor Riser and Motor and Equipment schedule.
E803	**REVISED** exterior light fixtures AA and BB.
	REVISED exterior light fixture DD wattage label.
E901	**ADDED** ACCU-4 to Panel Schedule L1.

PRIOR APPROVALS

06 4100	Casework	Bismarck Kitchens
06 4100	Casework	Northern Woodwork
07 2700	Air Barrier	Tremco; Exoair 230
07 4113	Metal Roofing	TITANTEK
07 4113	Metal Roofing	ATAS International, Inc.

22 1123	Domestic Pumps	Wilo
23 0923	Control Dampers	United Enertech
23 2114	Expansion Tanks	Calefactio, Amtrol, Wessels
23 2114	Air Separators	Calefactio, Amtrol
23 2114	Balancing Valves	Griswold
23 2123	Pumps	Wilo
23 3300	Dampers	Greenheck
23 3600	VAVs	Anemostat
23 3700	GRDs	Anemostat
23 3700	Louvers	United Enertech
23 5400	Gas Fired Furnace	Fraser-Johnston
23 7313	Air Handling Units	Pace
	Contractor to verify units fit within mechanical room space.	
23 7433	Make Up Air Unit	Aaon, Grease Master, VTS
	Contractor to verify units fit within mechanical room space.	
23 8126	Outdoor Condensing Units	Lennox, Fraser-Johnston, Tempmaster
23 8126	Mini Splits	Lennox, Hitatchi
23 8216	HW Coils	Precision
23 8300	Radiant Heating	ComfortPro
23 8413	Humidifiers	Pure Humidifier, Neptronic
23 8413	Dispersion Tubes	Pure Humidifier, Neptronic

ATTACHMENTS

Updated Plan Holders List

Specifications:

01 1000 Summary
01 2100 Allowances
01 5000 Temp Facilities and controls
08 3613 Sectional Doors
08 7100 Door Hardware
08 7113 Power Door Operators

Drawings:

G101	**A003**	**M301**
S001	**A021**	**M801**
S002	**A201**	**M802**
S200	**A301**	**E100**
S201	**A401**	**E100A**
S202	**A421**	**E201**
S203	**A441**	**E301**
S301	**A442**	**E501**
S601	**A501**	**E801**
S602	**A601**	**E802**
S701	**A801**	**E803**
S702	**A901**	**E901**
S703	**M201**	

END ADDENDUM 1

EAPC

PLAN HOLDERS LIST
Fire Station #6
Bismarck, ND 58503
EAPC Project: # 20253510

BID DATE: Thursday, November, 19, 2026
BID TIME: 3:00 PM CST

PLAN HOLDER	CONTACT PERSON	ADDRESS	CITY	STATE	ZIP	PHONE	FAX	EMAIL
EAPC	Brett Donat	116 West Main Ave	Bismarck	ND	58501	701-224-7306		brett.donat@eapc.net
BUILDERS EXCHANGES								
Aberdeen Builders Exchange		302 N. Jackson Street	Aberdeen	SD	57401	605-290-4210		dakotabuild@midconetwork.com
Billings Builders Exchange		2050 Broadwater Avenue	Billings	MT	59102	406-652-1311	406-652-1391	bbx@billingsplanroom.com
Bismarck Builders Exchange		215 Airport Road	Bismarck	ND	58504	701-258-4215	701-258-1391	info@bbxnd.com
Bismarck-Mandan Builders Exchange		P. O. Box 550	Mandan	ND	58554	701-667-4322	701-667-5217	bismanblderex@gmail.com
CMD (Construction Market Data)		Suite 500	Norcross	GA	30092	770-417-4000	800-508-5370	content@constructconnect.com
Construction Industry Center		Box 1227	Rapid City	SD	57709	605-343-5252	605-343-4591	cic@constructionindustrycenter.com or chrissy@constructionindustrycenter.com
Fargo-Moorhead Bldrs. Exchange		P. O. Box 10076	Fargo	ND	58106	701-237-6772	701-232-1653	upload
Grand Forks Builders Exchange		2211 S. Washington St. Ste D	Grand Forks	ND	58201	701-772-7798	701-772-0387	planroom@bntgf.com
McGraw Hill Const./Dodge Plan Rm.		1401 Glenwood Avenue No.	Minneapolis	MN	55405	612-381-2290	612-381-2295	dodge.docs@construction.com
Minnesota Builders Exchange		1123 Glenwood Avenue	Minneapolis	MN	55405	612-381-2620	612-381-2621	new project: jb@mbex.org addendums: addenda@mbex.org
Minot Builders Exchange		2424 Burdick Expy East	Minot	ND	58701	701-838-5353	701-839-0638	mbe1@srt.com
Plains Builders Exchange		220 N. Kiwanis Ave.	Sioux Falls	SD	57104-2530	605-334-8886	605-334-0112	info@plainsbuilders.com
QuestCDN.com								www.questcdn.com
Sioux Falls Builders Exchange		1418 "C" Avenue	Sioux Falls	SD	57104	605-357-8687	605-357-8655	info@sfbx.com
Williston Builders Exchange		2108 - 4th Ave. West	Williston	ND	58801-3423	701-572-9460	701-572-2511	willistonbuildersexchange@gmail.com
CONTRACTOR								
Roers	Matt Thomas					701-495.1416		mthomas@roers.com
Capitol City Construction	Erik Bilstad					701.570.1817		erik@cccincnd.com
JN Contracting	Tyler Kellen					701.478.4567		estimating@jncbuilds.com
JE Dunn	Katie Weeks					612.358.3987		katie.weeks@jedunn.com
First Dakota Enterprises	Kyle McKeever					605.223.9600		kyle.mckeever@firstdakotaenterprises.com
Oztech Electric						701.390.6886		office@oztechelectric.com
Northwest Contracting	Jennifer					701.255.7727		Jennifer@northwestcontracting.com
Paramount Builders	Eric					701.258.0088		estimating@buildparamount.com
Missouri River Contracting	Donnie					701.258.9140		donnie@missouririvercontracting.com
Comstock Construction, Inc of Minneso	Brady Pederson					218.332.7363		bpederson@comstockconst.com
Northern Valley Electrical Service	Danny Lamberson					701.757.3865		dlamberson@nvesi.com
SUPPLIER OR SUBCONTRACTOR								
Core and Main LP	Heather Schumacher					314.432.4700		heather.schumacher@coreandmain.com
SiteWorx Excavation	Cayne Cymbaluk					701.425.1874		caynec@site-worx.net
Phaze Concrete Inc	Lyle Jeffs					435.703.8122		lylej@phazeconcrete.com
Dakota Supply Group - Waterworks	Mitchell Spotts					612.236.9355		mitchell.spotts@dsgsupply.com
Oldcastle Infrastructure	Derek Strei					320.424.1638		derek.strei@oldcastle.com
Sentry	Brady Burghardt					605.753.0880		estimating@sentryusa.com

SECTION 01 1000 - SUMMARY

PART 1 GENERAL

1.1 PROJECT

A. Project Name: 20253510 - BSMK Fire Station 6

B. Owner's Name: Bismarck Fire Department.

C. Architect's Name: EAPC Architects Engineers.

D. The Project consists of the construction of The project consists of a new 3 bay 12,000 sq.ft. fire station. The apparatus bay is cmu walls with wood studs for the living quarters. The exterior is a combination of a brick veneer and EIFS with a standing seam metal roof. The project will be Three Prime Contractor bid with the option for Single Combined Bid..

1.2 CONTRACT DESCRIPTION

A. Contract Type: Multiple prime contracts, each based on a Stipulated Price as described in Document 00 5000 - Contracting Forms and Supplements.

B. Contract Type: A single prime contract based on a Stipulated Price as described in Document 00 5200 - Agreement Form.

C. The work of each separate prime contract is identified in this section and on Drawings.
   1. General Contract: Work described in Specification sections in Divisions 02-14 and on the civil, structural, and architectural sheets of the Drawings including, but not limited to:
      a. Site preparations and improvements
      b. Footings, foundations, slabs-on-grade, superstructure, and exterior closure.
      c. Interior construction and finishes.
      d. Demolition of existing heating building.
      e. Project Coordinator
   2. Combined Mechanical Contract: Work described in Specification sections in Divisions 20-23 and on the plumbing and mechanical sheets of the Drawings including, but not limitedto:
      a. Piping including domestic water distribution, sanitary waste, stormwater drainage,fuel oil, natural gas, steam, etc.
      b. Plumbing fixtures.
      c. HVAC systems & equipment.
      d. HVAC instrumentation & controls and building automation.
      e. HVAC testing and balancing.
      f. Mechanical and plumbing connections to equipment provided by other contracts.

   3. Electrical Contract: Work described in Specification sections in Divisions 26-28 and on the electrical sheets of the Drawings including, but not limited to:
      a. Electrical service and distribution.
      b. Site, exterior, and interior lighting.

c. Data and communication
d. Electrical connections to equipment provided by other contracts.

1.3 PROJECT COORDINATION

A. The General Contract shall serve as the Project Coordinator and shall be responsible for coordination between the General Contract, Combined Mechanical Contract and Electrical Contract.

B. Project Coordinator shall perform Project coordination activities for the multiple contracts,

including, but not limited to, the following:
1. Provide typical overall coordination of the Work.
2. Coordinate shared access to workspaces.
3. Coordinate product selections for compatibility.
4. Provide overall coordination of temporary facilities and controls.
5. Coordinate, schedule, and approve interruptions of permanent and temporary utilities, including those necessary to make connections for temporary services.
6. Coordinate construction and operations of the Work with work performed by each Contract and Owner's construction forces.
7. Prepare coordination drawings in collaboration with each contractor to coordinate work by more than one contract.
8. Coordinate sequencing and scheduling of the Work and prepare combined Contractors' Construction Schedule for entire Project.
9. Provide photographic documentation.
10. Provide quality-assurance and quality-control services specified in Section 014000 "Quality Requirements."
11. Coordinate sequence of activities to accommodate tests and inspections, and coordinate schedule of tests and inspections.
12. Provide information necessary to adjust, move, or relocate existing utility structures affected by construction.
13. Locate existing permanent benchmarks, control points, and similar reference points, and establish permanent benchmarks on Project site.
14. Provide field surveys of in-progress construction and site work and final property survey.
15. Provide progress cleaning of common areas and coordinate progress cleaning of areas or pieces of equipment where more than one contractor has worked.
16. Coordinate cutting and patching.
17. Coordinate protection of the Work.
18. Coordinate firestopping.

1.4 WORK BY OWNER

A. Items noted NIC (Not in Contract) will be supplied and installed by Owner before Date of Substantial Completion. Some items include:
1. Station alerting

1.5 OWNER OCCUPANCY

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

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

C. Schedule the Work to accommodate Owner occupancy.

1.6 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to areas noted on Drawings.
   1. Locate and conduct construction activities in ways that will limit disturbance to site.

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

C. Time Restrictions:
   1. Limit conduct of especially noisy exterior work to the hours of 7:00 am - 7:00 pm..

D. Utility Outages and Shutdown:
   1. Do not disrupt or shut down life safety systems, including but not limited to fire sprinklers and fire alarm system, without 7 days notice to Owner and authorities having jurisdiction.
   2. Limit shutdown of utility services to 4 hours at a time, arranged at least 24 hours in advance with Owner.
   3. Prevent accidental disruption of utility services to other facilities.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 01 1000

SECTION 01 2100 - ALLOWANCES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements governing allowances.

B. Types of allowances include the following:

1. Lump-sum allowances.

2. Contingency allowances

1.2 SELECTION AND PURCHASE

A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.

B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.

C. Purchase products and systems selected by Architect from the designated supplier.

1.3 ACTION SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

1.4 INFORMATIONAL SUBMITTALS

A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.

C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.5 COORDINATION

A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.6 LUMP-SUM ALLOWANCES

A. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials selected by Architect under allowance shall be included as part of the Contract Sum and not part of the allowance.

B. Unused Materials: Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.

1. If requested by Architect, retain and prepare unused material for storage by Owner. Deliver unused material to Owner's storage space as directed.

1.7 CONTINGENCY ALLOWANCE

A. Contractor’s cost for products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from this contingency allowance.

B. Funds will be drawn from the Contingency Allowance only be Change order.

C. At closeout of Contract, funds remaining in Contingency Allowance will be credited to the Owner by Change order

1.8 ADJUSTMENT OF ALLOWANCES

A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.

1. Include installation costs in purchase amount only where indicated as part of the allowance.
2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other margins claimed.
3. Submit substantiation of a change in scope of work, if any, claimed in Change Orders related to unit-cost allowances.
4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.

B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.

1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of work has changed from what could have been foreseen from information in the Contract Documents.
2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

A. Allowance No. 1: Lump-Sum Allowance: Include the sum of $50,000.00 (fifty thousand dollars and 0 cents) for Appliances and Furnishings:

1. This allowance includes material cost, receiving, handling, and installation, and Contractor overhead and profit.

B. Allowance No. 2: Lump-Sum Allowance: Include the sum of $5,000.00 (five thousand dollars and 0 cents) for Interior signage:

1. This allowance includes material cost, receiving, handling, and installation, and Contractor overhead and profit.

C. Allowance No. A: Contingency Allowance: Include the sum of $50,000.00 (fifty thousand dollars and 0 cents) for Poor soil removal and bringing in new soil – per CY unit cost bid on bid form:

1. This allowance includes material cost, receiving, handling, and installation, and Contractor overhead and profit.

D. Allowance No. B: Contingency Allowance: Include the sum indicated below for use upon Owner's instructions
   a. General Contract: $100,000
   b. Mechanical contract: $50,000
   c. Electrical Contract: $50,000
   d. SINGLE Prime Contract: $200,000

This allowance includes material cost, receiving, handling, and installation, and Contractor overhead and profit.

END OF SECTION 01 2100

SECTION 01 5000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Temporary utilities.

B. Temporary sanitary facilities.

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

D. Security requirements.

E. Vehicular access and parking.

F. Waste removal facilities and services.

G. Project identification sign.

H. Field offices.

1.2 REFERENCE STANDARDS

A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2026a.

B. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2023.

1.3 TEMPORARY UTILITIES

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

1.4 TELECOMMUNICATIONS SERVICES

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

1.5 TEMPORARY SANITARY FACILITIES

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

1.6 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect

existing facilities and adjacent properties from damage from construction operations and demolition.

B. Provide barricades and covered walkways required by governing authorities for public rights-of-way.

C. Provide protection for plants designated to remain. Replace damaged plants.

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

1.7 FENCING

A. Construction: Commercial grade chain link fence.

B. Provide 6 foot high fence around construction site; equip with vehicular and pedestrian gates with locks.

1.8 VEHICULAR ACCESS AND PARKING

A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.

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

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

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

1.9 WASTE REMOVAL

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

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

1.10 FIELD OFFICES

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

B. Provide space for Project meetings, with table and chairs to accommodate 10 persons.

1.11 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

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

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

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

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

E. Restore new permanent facilities used during construction to specified condition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 01 5000

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SECTION 08 3613 - SECTIONAL DOORS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Overhead and sliding sectional doors, electrically operated.

B. Operating hardware and supports.

C. Electrical controls.

1.2 RELATED REQUIREMENTS

A. Section 08 3510 - Folding Panel Doors and Grilles.

B. Section 26 0583 - Wiring Connections.

1.3 REFERENCE STANDARDS

A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025a.

B. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2021a.

C. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2025.

D. ASTM E283/E283M - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2026.

E. DASMA 102 - American National Standard Specifications for Sectional Doors; 2018.

F. NEMA EN 10250 - Enclosures for Electrical Equipment (1000 Volts Maximum); 2024.

G. NEMA ICS 2 - Controllers, Contactors and Overload Relays Rated 600 Volts; 2000 (Reaffirmed 2020).

H. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

I. UL 325 - Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems; Current Edition, Including All Revisions.

1.4 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Shop Drawings: Indicate opening dimensions and required tolerances, connection details, anchorage spacing, hardware locations, and installation details.

C. Product Data: Show component construction, anchorage method, and hardware.

D. Samples: Two panel finish samples, 6 by 6 inch in size, illustrating color and finish.

E. Executed warranty.

1.5 WARRANTY

A. See Section 01 7800 - Closeout Submittals for warranty requirements.

B. Manufacturer Warranty: Provide Manufacturer's Standard manufacturer warranty for parts and components. Complete forms in Owner's name and register with manufacturer.

C. Special Warranty: Provide Manufacturer's Standard warranty for electric operating equipment. Complete forms in Owner's name and register with warrantor.

D. Finish Warranty: Provide Manufacturer's Standard warrenty for components that show evidence of deterioration of factory-applied finishes. Complete forms in Owners's name and rigister with warrantor.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Sectional Doors:
1. Midland Garage Door Mfg Company; Commercial Garge Doors: www.midlandgaragedoor.com.
2. Overhead Door Compancy; Commercial Garage Doors: www.overheaddoor.com.
3. Raynor Garage Doors; Commercial Garage Doors: www.raynor.com.

2.2 PERFORMANCE REQUIREMENTS

A. Air Leakage Rate: Less than 0.40 cfm/sq ft when tested in accordance with ASTM E283/E283M at test pressure difference of 1.57 psf.

B. Thermal Transmittance: U-factor of 0.31 Btu/hr sq ft degrees F, maximum, in accordance with DASMA 102.

2.3 STEEL DOORS

A. Type OHS-F - Doors: Flush steel, insulated; standard lift operating style with track and hardware; complying with DASMA 102, Commercial application.
1. Door Panels: Steel construction; outer steel sheet of 24 gauge, 0.0239 inch minimum thickness, flush profile; inner steel sheet of 27 gauge, 0.0164 inch minimum thickness, flat profile; core reinforcement sheet steel roll formed to channel shape, rabbeted weather joints at meeting rails; polyurethane insulation.
2. Operation Cycles: Door components and operators capable of operating for not less than 50,000 cycles.

3. Door Nominal Thickness: 3 inches thick.
4. Exterior Finish:
    a. Factory finished with acrylic baked enamel; color as selected by Architect.
5. Interior Finish:
    a. Factory finished with powder coated finish; as selected by Architect from manufacturer's full range.
6. Electric Operation: Electric control station.

B. Type OHS-SG - Doors: Flush steel insulated and full vision aluminum frame panels, standard lift operating style with track and hardware; complying with DSM 102, commercial application.
1. Flush Door Panels: Steel construction; outer steel sheet of 24 gauge, 0.0239 inch minimum thickness, flush profile; inner steel sheet of 27 gauge, 0.0164 inch minimum thickness, flat profile; core reinforcement sheet steel roll formed to channel shape, rabbeted weather joints at meeting rails; polyurethane insulation.
    a. Exteriro Finish: Factory finish with acrylic baked enamal; color selected by Architect to match Architect's sample; Red.
    b. Interior Finish: Factory finish; white or manufacturer's standard.
2. Aluminum Full Vision Panel: 3 inches thick, aluminum alloy stiles and rails, panel infill 1/2 inch insulated glass: Clear.
    a. Finish: Powdercoat finish, color selected by Architect to match Architect's sample, Red.
3. Operation Cycles: Coor components and operators capableof operating for not less than 50,000 cycels.
4. Door Nominal Thickness: 3 inches thick.

2.4 ~~ALUMINUM DOORS~~

A. ~~Type OHS-SG - Doors: Flush aluminum, insulated; standard lift operating style with track and hardware, in accordance with DASMA 102, commercial application.~~
1. ~~Door Panels: Flush aluminum construction; outer aluminum sheet _____ inch thick; inner aluminum sheet _____ inch thick; flat profile; core reinforcement of _____ inch roll formed aluminum; rabbeted weather joints at meeting rails; insulated.~~
2. ~~Door Nominal Thickness: 1-3/4 inches.~~
3. ~~Finish: Factory finished with acrylic baked enamel; as selected by Architect from manufacturer's full range.~~
4. ~~Glazed Lites: Full panel width, one row; set in place with resilient glazing channel.~~
    a. ~~Glazing: Fully tempered glass; insulated glass units; tinted; 1/2 inch overall thickness.~~
5. ~~Electric Operation: Electric control station.~~

2.5 FOUR-FOLD SIDE OPENING METAL DOORS

A. See Section 08 3510.

2.6 COMPONENTS

A. Track: Galvanized steel angles, 0.094 inch minimum thickness; 2-5/16 x 4 inch size, continuous one piece per side; galvanized steel mounting brackets 1/4 inch thick.

B. Hinge and Roller Assemblies: Heavy duty hinges and adjustable roller holders of galvanized steel; floating hardened steel bearing rollers, located at top and bottom of each panel, each side.
   1. Hinge: Minimum 11-Gauge, double end style.

C. Lift Mechanism: Torsion spring on cross head shaft, with braided galvanized steel lifting cables.
   1. Pillow Block Bearing torsion spring mount.

D. Sill Weatherstripping: Resilient hollow rubber strip, one piece; fitted to bottom of door panel, full length contact.

E. Jamb Weatherstripping: Roll formed steel section full height of jamb, fitted with resilient weatherstripping, placed in moderate contact with door panels.

F. Head Weatherstripping: EPDM rubber seal, one piece full length.

G. Panel Joint Weatherstripping: Neoprene foam seal, one piece full length.

H. Lock: Inside center mounted, adjustable keeper, spring activated latch bar with feature to retain in locked or retracted position; interior and exterior handle.

2.7 MATERIALS

A. Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G60/Z180 coating, plain surface.

B. Aluminum Sheet: ASTM B209/B209M, 5005 alloy, H14 temper, plain surface.

C. Float Glass: Provide float glass glazing, unless noted otherwise.
   1. Heat-Strengthened and Fully Tempered Types: ASTM C1048.

D. Insulation: Foamed-in-place polyurethane, bonded to facing.
   1. Same thickness as core framing members.

E. Metal Primer Paint: Zinc molybdate type.

2.8 ELECTRIC OPERATION

A. Electric Operators: High Performance
   1. Basis of Design: Liftmaster; Cornell Extreme Series
      a. Manufacturers: Subject to compliance with requirements, provided by one of the following:
         1) Manaras-Opera
         2) Rytec
         3) Other Manufacturers: Provide either the product identified as "Basis of Design" or an equivalent product of one of the manufacturers listed above.
      b. Substitutions: See Section 01 6000 - Product Requirements.
   2. Mounting: Side mounted on cross head shaft.
   3. ~~Motor Enclosure:~~
   4. Motor Rating: 1.25 hp; continuous duty.
   5. Motor Voltage: 230 volts, three phase, 60 Hz.
   6. Motor Controller: NEMA ICS 2, full voltage, reversing magnetic motor starter.
   7. Controller Enclosure: NEMA EN 10250, Type 1.

8. Opening Speed: 24 inches per second.
    a. Operation: Soft start and stop.
9. Brake: Adjustable friction clutch type, activated by motor controller.
10. Manual override in case of power failure.
11. See Section 26 0583 for electrical connections.

B. Electric Operators: Standard Performce
1. Basis of Design: Liftmaster; Gearhead Hoist Operator
    a. Manufacturers: Subject to compliance with requirements, provided by one of the following:
        1) Manaras-Opera
        2) Rytec
        3) Other Manufacturers: Provide either the product identified as "Basis of Design" or an equivalent product of one of the manufacturers listed above.
2. Mounting: Side mounted on cross head shaft.
3. Motor Enclosure:
4. Motor Rating: 0.75 hp; continuous duty.
5. Motor Voltage: 230 volts, three phase 60 Hz.
6. Motor Controller: NEMA ICS 10250, Type 1
7. Opening Speed: 12 nches per second, manufacturer's standard opening speed.
    a. Operation: Soft start and stop.

C. Wiring Terminations: Provide terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated; enclose terminal lugs in terminal box sized to comply with NFPA 70.

D. Control Station: Provide standard three button (Open-Close-Stop) momentary-contact control device for each operator complying with UL 325.
1. 24 volt circuit.
2. Surface mounted, at interior door jamb.
3. Entrapment Protection Devices: Provide sensing devices and safety mechanisms complying with UL 325.
    a. Primary Device: Provide electric sensing edge, wireless sensing, NEMA 1 photo eye sensors, or NEMA 4X photo eye sensors as required with momentary-contact control device.

E. ~~Safety Edge: Located at bottom of sectional door panel, full width; electro-mechanical sensitized type, wired to stop and reverse door direction upon striking object; hollow neoprene covered to provide weatherstrip seal.~~

F. Door Control Safety: Protection curtain, minimum height 36 inches, mounted vertically along each overhead door jamb and track, wired to stop and reverse door direction upon sensor interruption, NEMA 4 and/or IP67 water adn dust protection rating.
1. Manufacturers:
    a. Basis of Design: LiftMaster, LC-36; www.liftmaster.com
    b. Genie Commercial Line; www.geniecompany.com
    c. Assa Abloy; www.assaabloyentrance.com.
    d. Other Manufacturers: Provide either product identified as "Basis of Design" or an equivalent product from one of the manufacturers listed above.

G. Hand Held Transmitter: Digital control, and resettable. Provide 2 each per door.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install door unit assembly in accordance with manufacturer's instructions.

B. Anchor assembly to wall construction and building framing without distortion or stress.

C. Securely brace door tracks suspended from structure. Secure tracks to structural members only.

D. Fit and align door assembly including hardware.

E. Coordinate installation of electrical service. Complete power and control wiring from disconnect to unit components.

END OF SECTION 08 3613

SECTION 08 7100 – DOOR HARDWARE

PART 1 - GENERAL

1.1 CONDITIONS

A. Conditions of the contract (General and Supplementary Conditions) and Division One General Requirements, govern the work of this section.

B. This section includes all material, and related service necessary to furnish all finish hardware indicated on the drawings, or specified herein.

C. Furnish UL listed hardware for all labeled and 20 min. openings in conformance with the requirements for the class of opening scheduled. Underwriters' requirements shall have precedence over specification where conflicts exist.

D. All work shall be in accordance with all applicable state and local building codes. Code requirements shall have precedence over this specification where conflicts exist.

1.2 WORK INCLUDED

A. This section includes the following:
   1. Furnish door hardware (for hollow metal, and wood doors) specified herein, listed in the hardware schedule, and/or required by the drawings.
   2. Complete hardware for interior and exterior Aluminum doors, excluding cylinders, to be specified by this Section (08 7100), but supplied by Section 08 4113 Aluminum-Framed Entrances and Storefronts. Cylinders for the Aluminum door hardware to be provided by Section 08 7100.
   3. Electro-Mechanical Devices

B. Where items of hardware are not definitely or correctly specified and is required for the intended service, such omission, error or other discrepancy should be directed to the Architect prior to the bid date for clarification by addendum. Otherwise furnish such items in the type and quantity established by this specification for the appropriate service intended.

1.3 RELATED WORK IN OTHER SECTIONS

A. This section includes coordination with related work in the following sections:
   1. Division 6 Section "Cabinet Hardware"
   2. Division 8 Section "Hollow Metal Doors and Frames".
   3. Division 8 Section "Wood Doors"
   4. Division 8 Section "Aluminum Entrances and Storefronts"
   5. Division 28 Sections "Electrical".

1.4 REFERENCES

A. Publications of agencies and organizations listed below form a part of this specification section to the extent referenced.
   1. DHI - Recommended Locations for Builders' Hardware.

2. NFPA 80 - Standards for Fire Doors and Windows.
3. NFPA 101 - Code for Safety to Life from Fire in Buildings and Structures.
4. UL - Building Material Directory.
5. DHI - Door and Hardware Institute
6. WHI - Warnock Hersey
7. BHMA - Builders Hardware Manufacturers Association
8. IBC 2006 - International Building Code 2006 Edition (as amended by local building code)

1.5 SUBMITTALS

A. Within ten days after award of contract, submit detailed hardware schedule in quantities as required by Division 1 - General Conditions.

B. Schedule format shall be consistent with recommendations for a vertical format as set forth in the Door & Hardware Institute's (DHI) publication "Sequence and Format for the Hardware Schedule". Hardware sets shall be consolidated to group multiple door openings which share similar hardware requirements. Schedule shall include the following information:
   1. Door number, location, size, handing, and rating.
   2. Door and frame material, handing.
   3. Degree of swing.
   4. Manufacturer
   5. Product name and catalog number
   6. Function, type and style
   7. Size and finish of each item
   8. Mounting heights
   9. Explanation of abbreviations, symbols, etc.
   10. Numerical door index, indicating the hardware set/ group number for each door.

C. When universal type door closers are to be provided, the schedule shall indicate the application method to be used for installation at each door: (regular arm, parallel arm, or top jamb).

D. The schedule will be prepared under the direct supervision of a certified Architectural Hardware Consultant (AHC) employed by the hardware distributor. The hardware schedule shall be signed and embossed with the DHI certification seal of the supervising AHC. The supervising AHC shall attend any meetings related to the project when requested by the architect.

E. Check the specified hardware for suitability and adaptability to the details and surrounding conditions.

F. Review drawings from related trades as required to verify compatibility with specified hardware. Indicate unsuitable or in compatible items, and proposed substitutions in the hardware schedule.

G. Provide documentation for all hardware to be furnished on labeled fire doors indicating compliance with positive pressure fire testing UL 10C.

H. Furnish manufacturers' catalog data for each item of hardware in quantities as required by Division 1 - General Conditions.

I. Submit a sample of each type of hardware requested by the architect. Samples shall be of the same finish, style, and function as specified herein. Tag each sample with its permanent location so that it may be used in the final work.

J. Furnish with first submittal, a list of required lead times for all hardware items.

K. After final approved schedule is returned, transmit corrected copies for distribution and field use in quantities as required by Division 1 - General Conditions.

L. Furnish approved hardware schedules, template lists, and pertinent templates as requested by related trades.

M. Furnish necessary diagrams, schematics, voltage and amperage requirements for all electro-mechanical devices or systems as required by related trades. Wiring diagrams shall be opening specific and include both a riser diagram and point to point diagram showing all wiring terminations.

N. After receipt of approved hardware schedule, Hardware supplier shall initiate a meeting including the owner's representative to determine keying requirements. Upon completion of the initial key meeting, hardware supplier shall prepare a proposed key schedule with symbols and abbreviations as set forth in the door and hardware institute's publication "Keying Procedures, Systems, and Nomenclature". Submit copies of owner approved key schedule for review and field use in quantities as required by Division 1 - General Conditions. Wiring diagrams shall be included in final submittals transmitted for distribution and field use.

1.6 QUALITY ASSURANCE

A. Manufacturers and model numbers listed are to establish a standard of function and quality. Similar items by approved manufacturers that are equal in design, function, and quality, may be considered for prior approval of the architect, provided the required data and physical samples are submitted for approval as set forth in Division One General Requirements.

B. Obtain each type of hardware (hinges, latch & locksets, exit devices, closers, etc.) from a single manufacturer, although several may be indicated as offering products complying with requirements.

C. Hardware supplier shall be factory trained and certified by the manufacture to provide and support all computer managed locks and system components.

D. Installation of hardware shall be installed or directly supervised and inspected by a skilled installer certified by the manufacturer of locksets, door closers, and exit devices used on the project, or with not less than 3 years experience in successful completion of projects similar in size and scope.

E. Provide hardware for all labeled fire doors, which complies with positive pressure fire testing UL 10C.

F. Comply with all applicable provisions of the standards referenced within section 1.4 of this specification.

G. Hardware supplier shall participate when reasonably requested to meet with the contractor and or architect to inspect any claim for incorrect or non-functioning materials; following such inspection, the hardware supplier shall provide a written statement documenting the cause and proposed remedy of any unresolved items.

1.7 DELIVERY, STORAGE AND HANDLING

A. Hardware supplier shall deliver hardware to the job site unless otherwise specified.

B. All hardware shall be delivered in manufacturers' original cartons and shall be clearly marked with set and door number.

C. Coordinate with contractor prior to hardware delivery and recommend secure storage and protection against loss and damage at job site.

D. Contractor shall receive all hardware and provide secure and proper protection of all hardware items to avoid delays caused by lost or damaged hardware. Contractor shall report shortages to the Architect and hardware supplier immediately after receipt of material at the job site.

E. Coordinate with related trades under the direction of the contractor for delivery of hardware items necessary for factory installation.

1.8 PRE-INSTALLATION MEETING

A. Schedule a hardware pre-installation meeting on site to review and discuss the installation of continuous hinges, locksets, door closers, exit devices, overhead stops, and electromechanical door hardware.

B. Meeting attendees shall be notified 7 days in advance and shall include: Architect, Contractor, Door Hardware Installers (including low voltage hardware), Manufacturers representatives for above hardware items, and any other effected subcontractors or suppliers.

C. All attendees shall be prepared to distribute installation manuals, hardware schedules, templates, and physical hardware samples.

1.9 WARRANTY

A. All hardware items shall be warranted against defects in material and workmanship as set forth in Division One General Requirements.

B. Repair, replace, or otherwise correct deficient materials and workmanship without additional cost to owner.

PART 2 - PRODUCTS

2.1 FASTENERS

A. All exposed fasteners shall be Phillips head or as otherwise specified, and shall match the finish of the adjacent hardware. All fasteners ex-posed to the weather shall be non-ferrous or stainless steel. Furnish correct fasteners to accommodate surrounding conditions.

B. Where torx tamper resistant fasteners have been specified for a specific hardware group, provide torx head fasteners with center pin on ALL exposed fasteners.

C. Coordinate required reinforcements for doors and frames. Seek approval of the architect prior to furnishing through-bolts. Furnish through-bolts as required for materials not readily reinforced.

2.2 BUTT HINGES

A. Acceptable manufacturers and respective catalog numbers:

	Ives	Stanley	Hager	McKinney
1. Standard Weight, Plain Bearing	5PB1	F179	1279	T2714
2. Standard Weight, Ball Bearing	5BB1	BB179	BB1279	TB2714
3. Standard Weight, Ball Bearing, Non-Ferrous	5BB1	FBB191	BB1191	TB2314
4. Heavy Weight, Ball Bearing	5BB1HW	FBB168	BB1168	T4B3786
5. Heavy Weight, Ball Bearing, Non-Ferrous	5BB1HW	FBB199	BB1199	T4B3386

B. Unless otherwise specified, furnish the following hinge quantities for each door leaf.
   1. 3 hinges for doors up to 90 inches.
   2. 1 additional hinge for every 30 inch on doors over 90 inches.
   3. 4 hinges for Dutch door applications.

C. Unless otherwise specified, top and bottom hinges shall be located as specified in division 8 Section "Hollow Metal Doors and Frames". Intermediate hinges shall be located equidistant from others.

D. Unless otherwise specified, furnish hinge weight and type as follows:
   1. Standard weight: plain bearing hinge 5PB1 for interior openings through 36 inches wide without a door closer.
   2. Standard weight: ball bearing hinge 5BB1 for interior opening over 36 through 40 inches wide without a door closer, and for interior openings through 40 inches wide with a door closer.
   3. Heavyweight: 4 ball bearing hinge 5BB1HW for interior openings over 40 inches wide, and for all vestibule doors.
   4. Heavyweight: 4 ball bearing hinge 5BB1HWss for exterior openings unless otherwise listed in groups.

E. Unless otherwise specified, furnish hinges for exterior doors, fabricated from brass, bronze, or stainless steel. Unless otherwise specified, hinges for interior doors may be fabricated from steel.

F. Unless otherwise specified, furnish hinges in the following sizes:
   1. 5" x 5" 2-1/4" thick doors
   2. 4-1/2" x 4-1/2" 1-3/4" thick doors
   3. 3-1/2" x 3-1/2" 1-3/8" thick doors

G. Furnish hinges with sufficient width to accommodate trim and allow for 180-degree swing.

H. Unless otherwise specified, furnish hinges with flat button tips with non-rising pins at interior doors, non-removable loose pins (NRP) at exterior and out-swinging interior doors.

I. Unless otherwise specified, furnish all hinges to template standards.

2.3 EXIT DEVICES

A. Acceptable manufacturers and respective catalog numbers:

	Von Duprin
1. Wide Stile, Push Pad	99 Series – ¾"throw

B. Obtain exit devices from a single manufacturer, although several may be indicated as offering products complying with requirements.

C. On full glass doors there shall be no exposed fasteners on the back of the mechanism visible through the glass.

D. All exit devices shall be provided with flush end caps to reduce potential damage from impact.

E. All exit devices shall be provided with dead-locking latch bolts to insure security.

F. All exit devices shall be U.L. listed for accident hazard. Exit device for use on fire doors shall also be U.L. listed for fire exit hardware.

G. Provide optional strikes, special length rods, and adapter plates to accommodate door and frame conditions. Provide narrow style series devices in lieu of wide stile series devices where optional strikes will not accommodate door and frame conditions.

H. Coordinate with related trades to insure adequate clearance and reinforcement is provided in doors and frames. Provide thru bolts as required.

I. Refer to hardware groups for exit device applications utilizing the option of: "less bottom rod and floor strike" (LBR)

J. All exit devices shall be provided with optional trim designs to match other lever and pull designs used on the project.

K. Unless specific exit device dogging options are noted within hardware sets, provide dogging options as follows:

1. Fire Rated devices: Dogging not permitted.
2. Non-Rated Exit Only functions not equipped with outside trim or pull: Dogging permitted.
3. Non-Rated devices utilizing electric latch retraction or electrified outside trim: Less Dogging.
4. All Other Non-Rated devices: Cylinder Dogging utilizing interchangeable core cylinders. Cylinder keyway shall match locksets furnished on this project.

L. Provide glass bead kits as required to accommodate door conditions. Screws shall not be visible through full glass doors.

M. Where specified, provide compatible keyed mullions with cylinder for pairs of doors.

2.4 LOCKS AND LATCHES

A. Acceptable manufacturers and respective catalog numbers:

	Schlage
1. Grade 1 Mortise	L Series 06A
2. Grade 1 Cylindrical	ND Series RHO

B. Unless otherwise specified, all locks and latches to have:
1. 2-3/4" Backset
2. 1/2" minimum throw latchbolt
3. 1" throw deadbolt
4. ANSI A115.2 strikes

C. Provide guarded latch bolts for all locksets, and latch bolts with sufficient throw to maintain fire rating of both single and paired door assemblies.

D. Length of strike lip shall be sufficient to clear surrounding trim.

E. Provide wrought boxes for strikes at inactive doors, wood frames, and metal frames without integral mortar covers.

2.5 PULLS, PUSH BARS, PUSH/PULL PLATES

A. Acceptable manufacturers and respective catalog numbers:

	Burns	Hager	Ives
1. Straight Pull (1" dia., 10" ctc)	26C	4J	8103EZ-0
2. Push Plate (.050 4"X 16")	54	30S 4 x 16	8200 4 x 16
3. Push Plate (.050 6"X 16")	56	30S 6 x 16	8200 X 16"

B. Adjust dimensions of push plates to accommodate stile and rail dimensions, lite and louver cutouts, and adjacent hardware. Where required by adjacent hardware, push plates shall be factory drilled for cylinders or other mortised hardware. All push plates shall be beveled 4 sides and counter sunk.

C. Where possible, provide back-to-back, and concealed mounting for pulls and push bars. Push bar length shall be 3" less door width, or center of stile to center of stile for stile & rail or full glass doors.

2.6 CLOSERS

A. Acceptable manufacturers and respective catalog numbers:

	LCN	Corbin
1.	4011 /4111 EDA	DC8000 A10 /DC8000 A3

B. Obtain door closers from a single manufacturer, although several may be indicated as offering products complying with requirements.

C. Provide extra heavy duty arm (EDA / HD) when closer is to be installed using parallel arm mounting.

D. Closers shall use high strength cast iron cylinders, forged main arms, and 1 piece forged steel pistons.

E. Closers for fire-rated doors shall be provided with temperature stabilizing fluid that complies with standards UL10C.

F. Unless otherwise specified, all door closers shall have full covers and separate adjusting valves for sweeps, latch, and backcheck.

G. Provide closers for all labeled doors. Provide closer series and type consistent with other closers for similar doors specified elsewhere on the project.

H. Provide closers with adjustable spring power. Size closers to insure exterior and fire rated doors will consistently close and latch doors under existing conditions. Size all other door closers to allow for reduced opening force not to exceed 5 lbs.

I. Install closers on the room side of corridor doors, stair side of stairways and interior side of exterior doors.

J. Closers shall be furnished complete with all mounting brackets and cover plates as required by door and frame conditions, and by adjacent hardware.

2.7 KICK PLATES AND MOP PLATES

A. Furnish protective plates as specified in hardware groups.

B. Where specified, provide 10" kick plates, 34" armor plates, and 4" mop plates. Unless otherwise specified, metal protective plates shall be .050" thick; plastic plates shall be 1/8" thick.

C. Protective plates shall be 2" less door width, or 1" less door width at pairs. All protective plates shall be beveled 4 sides and counter sunk. Protection plates over 16" shall not be provided for labeled doors unless specifically approved by door manufacturers listing.

D. Where specified, provide surface mounted door edges. Edges shall butt to protective plates. Provide edges with cutouts as required adjacent hardware.

E. Adjust dimensions of protection plates to accommodate stile and rail dimensions, lite and louver cutouts, and adjacent hardware. Where required by adjacent hardware, protection plates shall be factory drilled for cylinders or other mortised hardware.

2.8 OVERHEAD STOPS

A. Acceptable manufacturers and respective catalog numbers:

	Glynn-Johnson	Rixson	Sargent
1. Heavy Duty Surface Mount	GJ900 Series	9 Series	590
2. Heavy Duty Concealed Mount	GJ100 Series	1 Series	690
3. Medium Duty Surface Mount	GJ450 Series	10 Series	1540
4. Medium Duty Concealed Mount	GJ410	2 Series	1530

B. Overhead stops (including slide block and end caps) shall be fabricated from metal.

C. Unless otherwise specified, furnish GJ900 series overhead stop for doors equipped with regular arm surface type closers that swing more than 140 degrees before striking a wall, for doors that open against equipment, casework, sidelights, or other objects that would make wall bumpers inappropriate, and as specified in hardware groups.

D. Furnish sex bolt attachments for wood and mineral core doors unless doors are supplied with proper reinforcing blocks.

E. Provide special stop only (“SE” suffix) overhead stops when used in conjunction with electronic hold open closers.

F. Do not provide holder function for labeled doors.

2.9 WALL STOPS AND HOLDERS

A. Acceptable manufacturers and respective catalog numbers:

	Ives	Hager	Burns
1. Wrought Convex Wall Bumper	WS406CVX	232W	570
2. Wrought Concave Wall Bumper	WS406CCV	236W	575
3. Extended Wall Stop	WS11/WS11X	255W	530
4. Extended Wall Stop	WS33/WS33X	****	****
5. Automatic Wall Holder	WS40	326W	533

B. Furnish a stop or holder for all doors. Furnish floor stops only where specifically specified.

C. Where wall stops are not applicable, furnish overhead stops.

D. Do not provide holder function for labeled doors.

2.10 WEATHERSTRIP, GASKETING

A. Acceptable manufacturers and respective catalog numbers:

	Zero	Pemko	NGP	Reese
1. Weatherstrip	429	2891_PK	700NA	755
2. Adhesive Gasket	188	S88	5050	797
3. Meeting Edge Seals	8193	18041	9605	959
4. Adhesive Edge Seal	****	S771	5060	****
5. Sweep w/ drip	8198	345_N	C627	354
6. Drip Cap	142	346	16	R201

B. Where specified in the hardware groups, furnish the above products unless otherwise detailed in groups.

C. Provide weatherstripping all exterior doors and where specified.

D. Provide intumescent and other required edge sealing systems as required by individual fire door listings to comply with positive pressure standards UL 10C.

E. Provide Zero 188 smoke gaskets at all fire rated doors and smoke and draft control assemblies.

F. Provide gasketing for all meeting edges on pairs of fire doors. Gasketing shall be compatible with astragal design provided by door supplier as required for specific fire door listings.

2.11 THRESHOLDS

A. Acceptable manufacturers and respective catalog numbers:

	Zero	Pemko	NGP	Reese
1. Saddle Thresholds	8655	171	425	S205

B. Hardware supplier shall verify all finish floor conditions and coordinate proper threshold as required to insure a smooth transition between threshold and interior floor finish.

C. Threshold Types:

1. Unless otherwise specified, provide saddle threshold similar to Zero 8655 for all exterior openings with an interior floor finish less than or equal to 1/4" in height.
2. Unless otherwise specified, provide half saddle threshold similar to Zero 1674 for all exterior openings with an interior floor finish greater than 1/4" in height. Threshold height shall match thickness of interior floor finish.

2.12 FINISHES AND BASE MATERIALS

A. Unless otherwise indicated in the hardware groups or herein, hardware finishes shall be applied over base metals as specified in the following finish schedule:

	HARDWARE ITEM	BHMA FINISH AND BASE MATERIAL
1.	Butt Hinges: Exterior, or Non-Ferrous	622 (US19 – Matte Black)
2.	Butt Hinges: Interior	622 (US19 – Matte Black)
3.	Exit Devices	622 (US19 – Matte Black)
4.	Locks and Latches	622 (US19 – Matte Black)
5.	Pulls and Push Plates/Bars	622 (US19 – Matte Black)
6.	Closers	689 (Aluminum)
7.	Protective Plates	622 (US19 – Matte Black)
8.	Overhead Stops	622 (US19 – Matte Black)
9.	Wall Stops and Holders	622 (US19 – Matte Black)
10.	Thresholds	622 (US19 – Matte Black)
11.	Weather-strip, Sweeps Drip Caps (wood and hollow metal doors)	Aluminum Anodized
12.	Miscellaneous	622 (US19 – Matte Black)

2.13 KEYING

A. Acceptable manufacturers and respective catalog numbers:

1.

Best	No Substitution

B. All locks and cylinders shall accommodate Best interchangeable cores.

C. Cores and keys shall be provided by owner.

D. The owner shall install the cores. At the contractor's request, the owner shall install a limited number of temporary cores during construction with the appropriate cost charged to the contractor.

E. The contractor must request all owner keys 24 hours in advance of using them. The contractor will be charged for any keys that are not returned to the owner when the project is completed. The charge will be equal to the cost of replacing any locks and keys relevant to the key code for those locks and keys

PART 3 - EXECUTION

3.1 EXAMINATION

A. Prior to installation of hardware, installer shall examine door frame installation to insure frames have been set square and plumb. Installer shall examine doors, door frames, and adjacent wall, floor, and ceiling for conditions, which would adversely effect proper operation and function of door assemblies. Do not proceed with hardware installation until such deficiencies have been corrected.

3.2 INSTALLATION

A. Before hardware installation, general contractor/construction manager shall coordinate a hardware installation seminar with a 1 week notice to all parties involved. The seminar is to be conducted on the installation of hardware, specifically of locksets, closers, exit devices, continuous hinges and overhead stops. Manufacturer's representative of the above products to present seminar. Seminar to be held at the job site and attended by installers of hardware (including low voltage hardware) for aluminum, hollow metal and wood doors. Training to include use of installation manuals, hardware schedule, templates and physical products samples.

B. Install all hardware in accordance with the approved hardware schedule and manufacturer’s instructions for installation and adjustment.

C. Set units level, plumb and true to the line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.

D. Drill and countersink units which are not factory-prepared for anchorage fasteners. Space fasteners and anchors in accord with industry standards.

E. Drill appropriate size pilot holes for all hardware attached to wood doors and frames.

F. Shim doors as required to maintain proper operating clearance between door and frame.

G. Unless otherwise specified, locate all hardware in accordance with the recommended locations for builders hardware for standard doors and frames as published by the Door and Hardware Institute.

H. Use only fasteners supplied by or approved by the manufacturer for each respective item of hardware.

I. Mortise and cut to close tolerance and conceal evidence of cutting in the finished work.

J. Conceal push and pull bar fasteners where possible. Do not install through bolts through push plates.

K. Install hardware on UL labeled openings in accordance with manufacturer's requirements to maintain the label.

L. Apply self-adhesive gasketing on frame stop at head & latch side and on rabbet of frame at hinge side.

M. Install hardware in accordance with supplemental "S" label instructions on all fire rated openings.

N. Install wall stops to contact lever handles or pulls. Do not mount wall stops on casework, or equipment.

O. Where necessary, adjust doors and hardware as required to eliminate binding between strike and latchbolt. Doors should not rattle.

P. Overhead stops used in conjunction with electrified hold open closers shall be templated and installed to coincide with engagement of closer hold open position.

Q. Install door closers on corridor side of lobby doors, room side of corridor doors, and stair side of stairways.

R. Adjust spring power of door closers to the minimum force required to insure exterior and fire rated doors will consistently close and latch doors under existing conditions. Adjust all other door closers to insure opening force does not to exceed 5 lbs.

S. Adjust "sweep", "latch", & "back check" valves on all door closers to properly control door throughout the opening and closing cycle. Adjust total closing speed as required to comply with all applicable state and local building codes.

T. Install "hardware compatible" (bar stock) type weatherstripping continuously for an uninterrupted seal. Adjust templating for parallel arm door closers, exit devices, etc., as required to accommodate weatherstripping.

U. Unless otherwise specified or detailed, install thresholds with the bevel in vertical alignment with the outside door face. Notch and closely fit thresholds to frame profile. Set thresholds in full bed of sealant.

V. Compress sweep during installation as recommended by sweep manufacturer to facilitate a water resistant seal.

W. Deliver to the owner 1 complete set of installation and adjustment instructions, and tools as furnished with the hardware.

3.3 FIELD QUALITY CONTROL

A. After installation has been completed, the hardware supplier and manufacturers representative for locksets, door closers, exit devices, and overhead stops shall check the project and verify compliance with installation instructions, adjustment of all hardware items, and proper application according to the approved hardware schedule. Hardware supplier shall submit a list of all hardware that has not been installed correctly.

B. After installation has been completed, the hardware supplier and manufacturers representative shall meet with the owner to explain the functions, uses, adjustment, and maintenance of each item of hardware. Hardware supplier shall provide the owner with a copy of all wiring diagrams. Wiring diagrams shall be opening specific and include both a riser diagram and point to point diagram showing all wiring terminations.

3.4 ADJUSTMENT AND CLEANING

A. At final completion, and when H.V.A.C. equipment is in operation, installer shall make final adjustments to and verify proper operation of all door closers and other items of hardware. . Lubricate moving parts with type lubrication recommended by the manufacturer.

B. All hardware shall be left clean and in good operation. Hardware found to be disfigured, defective, or inoperative shall be repaired or replaced.

3.5 HARDWARE SCHEDULE

A. The following schedule of hardware groups are intended to describe opening function. The hardware supplier is cautioned to refer to the preamble of this specification for a complete description of all materials and services to be furnished under this section.

Hardware – Aluminum Doors – by Aluminum Door provider.
See Electrical for Card Reader information

Hardware Group 01 – Doors 101
Exterior doors - Aluminum
1. Hinges
2. Rim Exit Device – Dogging required
3. Lever Handle
4. Sweep
5. Threshold
6. Weatherstripping
7. Closer
8. Overhead Stop

Hardware Group 01A – Doors 108
Exterior doors - Aluminum
1. Hinges
2. Rim Exit Device
3. Lever Handle
4. Sweep
5. Threshold
6. Weatherstripping
7. Closer
8. Overhead Stop
9. Card Reader – See Elec

Hardware Group 02 – Doors 102, 119, 120, 123B 127, 132, 134A, 135, 201, 202
Storage, Mech rooms
1. Hinges
2. Lever Handle – Classroom
3. Wall Stop
4. Overhead Stop (doors 132, 134A, 134B)

Hardware Group 03 – Doors 103

Interior Vestibule

1. Hinges
2. Rim Exit Device
3. Lever Handle
4. Sweep
5. Weatherstripping
6. Closer
7. Overhead Stop
8. Card Reader – See Elec

Hardware Group 03A – Doors 128C, 128G, 128H,128L

Exterior doors – non Alum.

9. Hinges
10. Exit Device
11. Lever Handle
12. Sweep
13. Threshold
14. Weatherstripping
15. Closer
16. Overhead Stop
17. Card Reader – See Elec

Hardware Group 04 – Doors 104, 123, 125B

18. Hinges
19. Lever Handle – Passage
20. Wall Stop

Hardware Group 04A – Doors 114, 122, 128A, 128B

21. Hinges
22. Lever Handle – Passage
23. Overhead Stop / Hold open

Hardware Group 05 – Doors 105A, 105B, 106, 110, 112, 115, 117

Bedroom

24. Hinges
25. Lever Handle – Office
26. Wall Stop

Hardware Group 06 – Doors 107, 111, 113, 116, 118

Bathrooms

27. Hinges
28. Lever Handle – Bath/Bedroom Privacy Lock
29. Wall Stop

Hardware Group 07 – Doors 123A, 125A

Fire rated doors

1. Hinges
2. Rim Exit Device
3. Lever Handle
4. Smoke Gasket
5. Closer
6. Overhead Stop

Hardware Group 08 – Doors 126, 124

Toilet, Shower

7. Hinges
8. Lever Handle – Bath/Bedroom Privacy Lock
9. Wall Stop

Hardware Group 09 – Doors 133

Fitness Double door

10. Hinges
11. Lever Handle – Passage
12. Overhead Stops / Hold open
13. Smoke Gasket
14. Astragal

END OF SECTION 08 7100

SECTION 08 7113 - POWER DOOR OPERATORS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Operators for swinging doors.

B. Controllers, actuators, and safety devices.

C. Maintenance.

1.2 RELATED REQUIREMENTS

A. Section 08 7100 - Door Hardware: Balance of door hardware.

1.3 REFERENCE STANDARDS

A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.

B. BHMA A156.10 - Power Operated Pedestrian Doors; 2024.

C. BHMA A156.19 - Power Assist and Low Energy Power Operated Swinging Doors; 2019.

D. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

E. NFPA 101 - Life Safety Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.4 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Shop Drawings:
   1. Indicate layout and dimensions; head, jamb, and sill conditions; elevations; components, anchorage, recesses, materials, and finishes, electrical characteristics and connection requirements.

C. Product Data: Provide data on system components, sizes, features, and finishes.

D. Maintenance Data: Include manufacturer's parts list and maintenance instructions for each type of hardware and operating component.

E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. Wrenches and other tools required for maintenance of equipment.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years documented experience and approved by manufacturer.

1.6 WARRANTY

A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.

B. Manufacturer Warranty: Provide 2-year manufacturer warranty for components of power door operators. Complete forms in Owner's name and register with manufacturer.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Operators for Swinging Doors:
1. ASSA ABLOY Entrance Solutions: www.besam-usa.com/#sle.
2. BEST, dormakaba Group: www.bestaccess.com/#sle.
3. LCN, an Allegion brand: www.allegion.com/us/#sle.
4. Horton Automatics: www.hortondoors.com/#sle.
5. NABCO Entrances Inc: www.nabcoentrances.com/#sle.
6. Portalp USA: www.portalpusa.com/#sle.
7. Stanley Access Technologies; Magic Force LE (Low Energy): www.stanleyaccess.com/#sle.
8. Substitutions: See Section 01 6000 - Product Requirements.

2.2 POWER DOOR OPERATORS - GENERAL

A. Electrically Operated or Controlled Hardware: Provide necessary power supplies, relays, and interfaces as required for proper operation; provide wiring between control components and to building power connection in compliance with NFPA 70.

B. Comply with ADA Standards for egress requirements.

C. Comply with NFPA 101 and requirements of authorities having jurisdiction; provide units selected for actual door weight and for light pedestrian traffic unless otherwise indicated.

D. Exterior Doors: Provide units capable of operating, closing, and holding doors closed under positive and negative differential pressure; if necessary, provide power closing.

E. System Integration: Integrate operator functionality with other systems as required for a complete working installation.
1. Provide controller output signals at the door closed or door open positions to facilitate interaction with security and access control systems.

2.3 OPERATORS FOR SWINGING DOORS

A. Basis of Design: Stanley; Magic Force Low Energy, or an equivalent product of one of the manufacturers listed above.

B. Door Operator: Electromechanical.
1. Applications: Include operators for single doors.
2. Electromechanical Operators: 3/16 hp minimum, self-contained, gear driven, with release clutch.
3. Speed Control: Variable, field-adjustable opening and closing cycles.
4. Functionality: Low-energy power open, spring close operation.
a. Low-Energy Power Operators: Comply with BHMA A156.19; operator activated by pushing or pulling the door or by manual actuator, not a sensor; safeties not required.
1) Force Required to Prevent Stopped Door From Opening or Closing: 15 lbf, maximum, measured at 1 inch from the latch edge of the door at any point in the swing cycle.
2) Force Required to Release Latch When Unpowered: 15 lbf, maximum, measured at 1 inch from the latch edge of the door at any point in the swing cycle.
3) Force Required to Set Door in Motion When Unpowered: 30 lbf, maximum, measured at 1 inch from the latch edge of the door at any point in the closing cycle.
4) Force Required to Fully Open Door When Unpowered: 15 lbf, maximum, measured at 1 inch from the latch edge of the door at any point in the closing cycle.
5) Signage: Provide signage in accordance with BHMA A156.19.
5. Components:
a. Header Case: Manufacturer's standard extruded aluminum profile containing door operator and door mounting components.
b. Motor and Gearbox Assembly: Manufacturer's standard sealed motor, gearbox, and drive belt.
6. Power Supply Units: Self-contained, electrically operated, and independent of door operator.
7. Actuators: Manufacturer's standard.
a. Actuator, both sides: Push plate, round, with accessibility symbol and "PUSH TO OPEN".
b. Actuator, pull-side: Push plate, round, with accessibility symbol and "PUSH TO OPEN".
8. Pull-Side Safety: Door mounted.

2.4 CONTROLLERS, ACTUATORS, AND SAFETY DEVICES

A. Controllers: Manufacturer's standard for products specified.
1. Provide microprocessor operated controller for each door.

B. Actuators: Manufacturer's standard for products specified and as specified below.
1. Comply with BHMA A156.10 for actuator and safety types and zones.
2. Push Plate Actuator: Standard, wall mounted, surface mounted, momentary contact type; satin stainless steel plate; 4-1/2 inches diameter; labeled with the international symbol for accessibility and "PUSH TO OPEN" engraved on the surface.

C. Safety Devices: Manufacturer's standard units recommended for project applications and conditions.

1. Comply with BHMA A156.10 for actuator and safety types and zones.

2.5 ELECTRICAL CHARACTERISTICS AND COMPONENTS

A. Electrical Characteristics:
1. 5 rated load amperes.
2. 120 volts, single phase, 60 Hz.

B. Wiring Terminations: Provide terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Enclose terminal lugs in terminal box sized to NFPA 70.

C. Disconnect Switch: Factory mount disconnect switch in control panel.

2.6 FINISHES

A. Aluminum Finishes: Manufacturer's standard.
1. Anodized finish to match door system.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify installation conditions including, but not limited to the following: opening sizes, floor conditions, plumb and level mounting surfaces.

B. Verify that surfaces are ready to receive work and dimensions are as indicated on shop drawings.

C. Verify that electric power is available, in the correct location, and of the correct characteristics. Verify that required electrical conduits, boxes, and raceways are installed and in correct location.

3.2 INSTALLATION

A. Coordinate installation of components with related and adjacent work.

B. Install equipment in accordance with manufacturer's instructions.

3.3 ADJUSTING

A. Adjust door equipment for correct function and smooth operation.

3.4 CLEANING

A. Remove temporary protection, clean exposed surfaces.

3.5 CLOSEOUT ACTIVITIES

A. Demonstrate to Owner's representative equipment operation, operating components, adjustment features, and lubrication requirements.

END OF SECTION 08 7113

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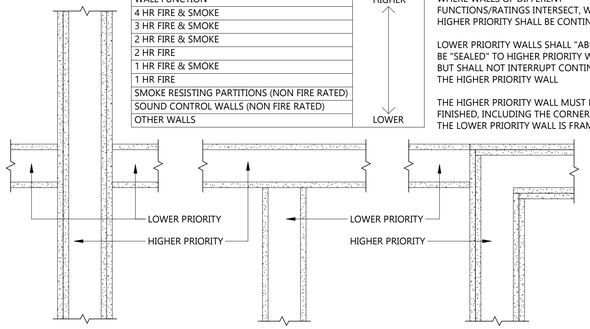
WALL PRIORITY LEGEND	
WALL FUNCTION	HIGHER
4 HR FIRE & SMOKE	
3 HR FIRE & SMOKE	
2 HR FIRE & SMOKE	
2 HR FIRE	
1 HR FIRE & SMOKE	
1 HR FIRE	
SMOKE RESISTING PARTITIONS (NON FIRE RATED)	
SOUND CONTROL WALLS (NON FIRE RATED)	
OTHER WALLS	LOWER

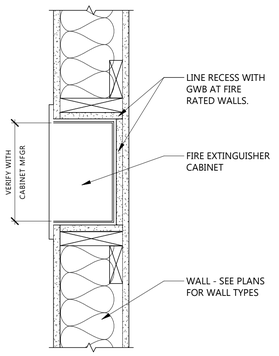
NOTES:
WHERE WALLS OF DIFFERENT FUNCTIONS/RATINGS INTERSECT, WALLS OF HIGHER PRIORITY SHALL BE CONTINUOUS

LOWER PRIORITY WALLS SHALL "ABUT" AND BE "SEALED" TO HIGHER PRIORITY WALLS, BUT SHALL NOT INTERRUPT CONTINUITY OF THE HIGHER PRIORITY WALL

THE HIGHER PRIORITY WALL MUST BE FINISHED, INCLUDING THE CORNER, BEFORE THE LOWER PRIORITY WALL IS FRAME TO IT

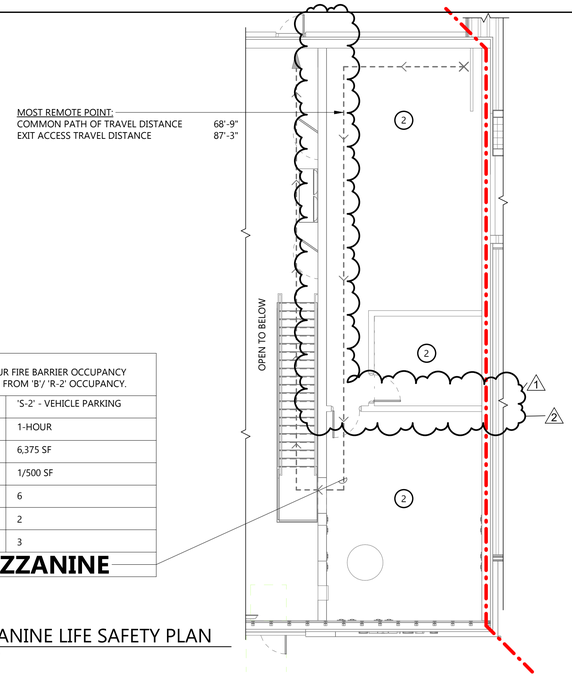


3 G101 WALL PRIORITY LEGEND
1 1/2" = 1'-0"



4 G101 RECESSED FEC
1/4" = 1'-0"

MOST REMOTE POINT:
COMMON PATH OF TRAVEL DISTANCE 68'-9"
EXIT ACCESS TRAVEL DISTANCE 87'-3"



NOTE: 1-HOUR FIRE BARRIER OCCUPANCY SEPARATION FROM 'B'/ 'R-2' OCCUPANCY.	
OCCUPANCY	'S-2' - VEHICLE PARKING
SEPARATION	1-HOUR
AREA	6,375 SF
OCC. LOAD FCTR	1/500 SF
OCC. LOAD	6
EXISTS REQ'D	2
EXITS PROV'D	3

MEZZANINE

2 G101 MEZZANINE LIFE SAFETY PLAN
1/8" = 1'-0"

NOTE: 1-HOUR FIRE BARRIER OCCUPANCY SEPARATION FROM 'B'/ 'R-2' OCCUPANCY.	
OCCUPANCY	'S-2' - VEHICLE PARKING
SEPARATION	1-HOUR
AREA	6,375 SF
OCC. LOAD FCTR	1/500 SF
OCC. LOAD	13
EXISTS REQ'D	2
EXITS PROV'D	3

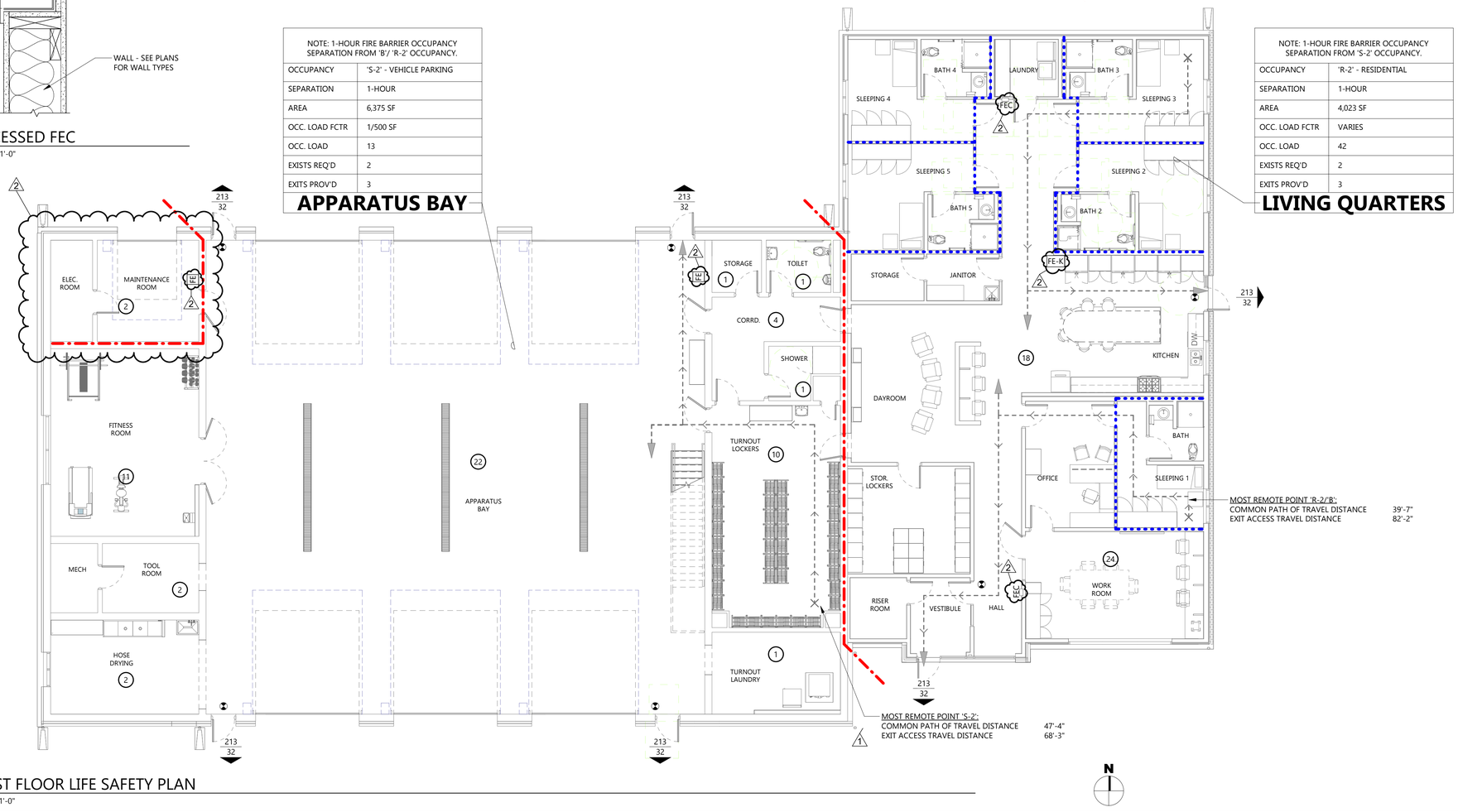
APPARATUS BAY

NOTE: 1-HOUR FIRE BARRIER OCCUPANCY SEPARATION FROM 'S-2' OCCUPANCY.	
OCCUPANCY	'R-2' - RESIDENTIAL
SEPARATION	1-HOUR
AREA	4,023 SF
OCC. LOAD FCTR	VARIES
OCC. LOAD	42
EXISTS REQ'D	2
EXITS PROV'D	3

LIVING QUARTERS

MOST REMOTE POINT 'S-2':
COMMON PATH OF TRAVEL DISTANCE 47'-4"
EXIT ACCESS TRAVEL DISTANCE 68'-3"

MOST REMOTE POINT 'R-2/B':
COMMON PATH OF TRAVEL DISTANCE 39'-7"
EXIT ACCESS TRAVEL DISTANCE 82'-2"



1 G101 FIRST FLOOR LIFE SAFETY PLAN
1/8" = 1'-0"

KEYNOTE LEGEND:

< < < INDICATES KEYNOTE ON PLAN

KEYNOTE LEGEND:

< < <	INDICATES KEYNOTE ON PLAN
01	1 HOUR SMOKE BARRIER COMPARTMENT SEPARATION
02	1 HOUR FIRE BARRIER OCCUPANCY SEPARATION
03	NO RATING REQUIRED CORRIDOR WALLS IN SPRINKLERED B OCCUPANCY
04	NFPA 13 AUTOMATIC FIRE SPRINKLER SYSTEM

LIFE SAFETY LEGEND

- 1 HOUR FIRE BARRIER
- 1 HOUR FIRE PARTITION
- 1/2 HOUR FIRE PARTITION
- EXIT/EXIT DISCHARGE — CLEAR WIDTH IN INCHES / OCCUPANT CAPACITY
- EXIT ACCESS — CLEAR WIDTH IN INCHES / OCCUPANT CAPACITY
- ILLUMINATED EXIT SIGN
- COMMON PATH TRAVEL DISTANCE (CPTD) / EXIT ACCESS (EXA) / TRAVEL DISTANCE TO EXIT (TDX)
- HAZARDOUS AREAS
- (X) OCCUPANT LOAD IN A GIVEN ROOM OR AREA
- FEC FIRE EXTINGUISHER CABINET
- FE FIRE EXTINGUISHER

CODE ANALYSIS

BUILDING DESCRIPTION
PROPOSED NEW SINGLE STORY W/ AN OCCUPIED MEZZANINE, FULLY FIRE-SPRINKLERED 11,367 SF MIXED OCCUPANCY. CONSISTING OF THREE (3) BAY APPARATUS GARAGE, AN EXERCISE ROOM, LIVE/WORK QUARTERS, AND TRAINING SPACE.

REFERENCE CODES

IBC	INTERNATIONAL BUILDING CODE W/ AMENDMENTS	2021
IFC	INTERNATIONAL FIRE CODE	2021
IMC	INTERNATIONAL MECHANICAL CODE	2021
IECC	INTERNATIONAL ENERGY CONSERVATION CODE	2021
ACC	ICC ANSI A117.1 2017	2017
NEC	NATIONAL ELECTRICAL CODE, ND STATE WIRING STANDARDS	2026
UPC	UNIFORM PLUMBING CODE, ND STATE PLUMBING STANDARDS	2018

OCCUPANCY

GROUP B - BUSINESS OFFICE/ TRAINING/ KITCHEN		IBC 303.1
GROUP R - RESIDENTIAL 'R-2' LIVING/SLEEPING QUARTERS/ ASSOCIATED AREAS		IBC 310.3
GROUP S - LOW-HAZARD 'S-2' APP. BAY/TURNOUT GEAR/ASSOCIATED AREAS		IBC 311.3
NONSEPARATED MIXED - B&R		IBC 508.3
SEPARATED MIXED-USE - B&R/S-2		IBC 508.4

CONSTRUCTION TYPE
TYPE VB - NON-COMBUSTIBLE & COMBUSTIBLE NO FIRE-RESISTANCE FOR BUILDING ELEMENTS REQUIRED. — IBC 602.5, IBC TAB. 601

ALLOWABLES — SINGLE STORY/ SPRINKLERED/ SEPARATED OCCUPANCY

MAXIMUM BUILDING HEIGHT		IBC TAB 504.3
ALLOWED: 60'-0"	ACTUAL: 31'-5"	
MAXIMUM NUMBER OF STORIES		IBC TAB 504.4
ALLOWED: 3	ACTUAL: 1	
MAXIMUM BUILDING AREA		IBC TAB 506.2
ALLOWED: 28,000 SF ('R-2')	ACTUAL: 3,91X SF	
54,000 SF ('S-2')	6,82X SF	
(3,91X / 28,000) + (3,82X / 54, 000)	< 1.0	IBC 506.2.2
0.139 + 0.07 = 0.21	< 1.0 COMPLIES	
MEZZANINE IS CONSIDERED A PORTION OF THE STORY BELOW AND SHALL NOT CONTRIBUTE TO EITHER THE BUILDING AREA OR NUMBER OF STORIES. THE CLEAR HEIGHT ABOVE OR BELOW SHALL NOT BE LESS THAN 7 FEET.		IBC 505.2

FIRE RESISTANCE

1-HOUR FIRE BARRIER	
OCCUPANCY SEPARATION	IBC 707.3.9
INCIDENTAL USE/ HAZARDOUS AREA	IBC 707.3.7
1/2-HOUR FIRE PARTITIONS	
SLEEPING UNIT SEPARATION - EXCEPTION 2	IBC 708.3

FIRE PROTECTION
NFPA 13 AUTOMATIC FIRE SPRINKLER SYSTEMS — IBC 903.3.1.1

EGRESS
SEE PLANS ON THIS SHEET FOR EGRESS FROM MEZZANINE AND SEPARATED OCCUPANCIES.

BUILDING EGRESS	
AREA	11,85X SF
OCCUPANT LOAD	112 OCC.
EXITS	
REQUIRED	2
PROVIDED	6
MAX. COMMON PATH TRAVEL DISTANCE	
ALLOWED	100'-0"
PROVIDED	SEE PLAN
MAX. EXIT ACCESS TRAVEL DISTANCE	
ALLOWED	125' ('R-2')/100' ('S-2'
PROVIDED	SEE PLAN
MIN. REQUIRED EXIT WIDTH	
DOORS	SEE PLAN

ACCESSIBILITY
THIS FACILITY IS DESIGNED TO COMPLY WITH ANSI/ICC A117.1 2017 AS A VISITABLE SPACE TO PUBLIC, HOWEVER NON-PUBLIC PORTIONS OF THE FACILITY ARE NOT INTENDED FOR FULLY ACCESSIBLE PLUMBING FIXTURE.

PLUMBING FIXTURES

R-2 OCCUPANCY - 42 OCC			
FIXTURE TYPE	REQ'D	PRVD	IBC TAB 2902.1
WATER CLOSET - 1/10	4	5	
LAVATORIES - 1/10	4	5	
DRINKING FNTS - 1/100	1	1	
OTHER - SERV SINK	1	1	

R-2 OCCUPANCY - 13 OCC			
FIXTURE TYPE	REQ'D	PRVD	IBC TAB 2902.1
WATER CLOSET - 1/100	1	1	
LAVATORIES - 1/100	4	1	
DRINKING FNTS - 1/1000	1	-	
OTHER - SERV SINK	1	1	

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Interior Design | Industrial
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www.eapc.net

CONSULTANTS

CLIENT
BISMARCK FIRE DEPARTMENT

PROJECT DESCRIPTION
FIRE STATION 6

CITY BISMARCK
STATE ND

ISSUE DATES

MARK	DESCRIPTION	DATE
2	ADDENDUM #2	11/13/2026
1	ADDENDUM #1	11/05/2026
CD	100% CONSTRUCTION DOCUMENTS	10/29/2026

PROJECT NO: 20253510
DRAWN BY: AS
CHECKED BY: BD

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STAMP

DRAWING TITLE
FIRST FLOOR CODE PLAN

G101

Revit Version: 2025
Print Date: 11/13/2026 12:33:48 PM

GENERAL REQUIREMENTS:

1. DESIGN AND CONSTRUCTION OF THIS PROJECT IS PER THE 2024 INTERNATIONAL BUILDING CODE (IBC) INCLUDING REFERENCED STANDARDS AND LOCAL/STATE AMENDMENTS OR BUILDING CODES.
2. THIS PROJECT IS SUBJECT TO SPECIAL INSPECTIONS AS DESCRIBED IN CHAPTER 17 OF THE IBC AND SHALL BE PROVIDED BY AN INDEPENDENT AGENCY.
3. GENERAL CONTRACTOR, CONTRACTOR, CONSTRUCTION MANAGER/AGENCY OR OTHER SIMILAR ENTITY OR REFERENCE ARE SYNONYMOUS AS IT RELATES TO USE OF AND RESPONSIBILITIES ASSIGNED BY THE CONTRACTOR DOCUMENTS.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF STRUCTURAL SYSTEMS WITH OTHER TRADES AND CONTRACT DOCUMENTS, NOTIFY THE EOR OF ANY DISCREPANCIES.
5. CONTRACTOR SHALL PROVIDE VERIFICATION OF QUANTITIES AND DIMENSIONS, MEANS AND METHODS OF CONSTRUCTION, SAFE AND SECURE PERFORMANCE OF THE WORK, AND TO NOT ALTER OR CUT ANY STRUCTURAL MEMBER WITHOUT APPROVAL FROM THE EOR.
6. THE STRUCTURAL DESIGN REPRESENTS THE COMPLETED STATE ANY TEMPORARY BRACING OR SHORING REQUIRED TO MAINTAIN STABILITY DURING CONSTRUCTION SHALL BE DESIGNED, FURNISHED, AND INSTALLED BY THE CONTRACTOR.
7. EXACT LOCATION AND SIZE OF ROOF/FLOOR/WALL OPENINGS, SLEEVES, OR MECHANICAL PENETRATIONS TO BE COORDINATED BY THE CONTRACTOR; SIMILAR FOR HOUSEKEEPING PADS, INSERTS AND EMBEDS, DEPRESSIONS, BOX-OUTS, SLOPES, DOORS AND WINDOWS, NON-BEARING WALLS, STAIRS, FINISHES, WATERPROOFING, RAILINGS, MECHANICAL EQUIPMENT LOCATIONS, LEDGES, INSULATION AND OTHER NON-STRUCTURAL ITEMS NECESSARY TO COMPLETE THE WORK.
8. CONTRACTOR SHALL PROVIDE CONTRACTOR APPROVED AND STAMPED SHOP DRAWINGS AND PRODUCT DATA FOR REVIEW WITH GENERAL CONFORMANCE TO THE CONTRACTOR DOCUMENTS.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION AND COORDINATION WITH TESTING AND INSPECTION AGENCIES DURING CONSTRUCTION OR WHOEVER REMAINS RESPONSIBLE FOR PERFORMING WORK IN COMPLIANCE WITH THE CONTRACT DOCUMENTS.
10. CONSTRUCTION OBSERVATION BY THE STRUCTURAL ENGINEER IS FOR GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS ONLY.
11. DEFERRED SUBMITTAL ITEMS REQUIRE SHOP DRAWINGS AND CALCULATIONS STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER IN THE STATE WHERE THE PROJECT IS LOCATED AS FOLLOWS:
    A. METAL STAIRS AND CONNECTION TO STRUCTURE
    B. METAL RAILINGS/GUARDRAIL AND CONNECTION TO STRUCTURE
    C. STOREFRONT AND WINDOW SYSTEMS
    D. STRUCTURAL STEEL CONNECTIONS

SPECIAL INSPECTION AND TESTING:

1. OWNER SHALL EMPLOY SERVICES OF AN INDEPENDENT TESTING AGENCY TO PERFORM SPECIFIED SPECIAL INSPECTION AND TESTING AS REQUIRED BY THE IBC OR AS SPECIFICALLY NOTED.
2. SPECIAL INSPECTION AND TESTING SHALL BE COMPLETED IN ACCORDANCE WITH CHAPTER 17 OF THE IBC AND AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
3. CONTRACTOR SHALL PROVIDE SPECIAL INSPECTOR WITH SUFFICIENT NOTICE AND ACCESS TO THE SITE.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF RETESTING OR ADDITIONAL INSPECTION NEEDED AS A RESULT OF UNINSPECTED WORK, FAILED TESTS, OR REJECTED WORK.
5. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:
    A. OBSERVE THE WORK ASSIGNED FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS.
    B. FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL AND PROJECT TEAM.
    C. IMMEDIATELY NOTIFY THE CONTRACTOR AND ARCHITECT/EOR OF ANY DISCREPANCIES, DEVIATIONS, OR FAILED TEST FOR CORRECTIVE ACTION.

EARTHWORK AND SUBGRADE PREPARATION:

1. COMPLETE EARTHWORK ACTIVITIES AND SITE PREPARATION IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT PREPARED BY TERRACON (#XXXXXX). 2
2. NOTIFY EOR IMMEDIATELY IF ANY QUESTIONABLE SOIL CONDITIONS ARE ENCOUNTERED DURING EXCAVATION; FOUNDATION ELEVATIONS AND SUBGRADE PREPARATION ARE SUBJECT TO CHANGE DEPENDING ON CONDITIONS ENCOUNTERED.
3. PROJECT GEOTECHNICAL ENGINEER SHALL TEST TO VERIFY DESIGN BEARING PRESSURE AND INSPECT SUBGRADE EXCAVATION AND PREPARATION PRIOR TO PROCEEDING WITH PLACEMENT OF FOUNDATIONS AND SLABS.
4. FOUNDATION AND SLABS SHALL BEAR ON UNDISTURBED SOIL OR APPROVED FILL MATERIAL COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR UNLESS OTHERWISE NOTED OR SPECIFIED BY THE PROJECT GEOTECHNICAL ENGINEER.
5. PROTECT EXCAVATIONS AND FOOTINGS FROM THE ACTION OF WATER OR FREEZING AND SHALL NOT BE EARTH FORMED WITHOUT APPROVAL BY THE EOR.
6. CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AS REQUIRED TO COMPLY WITH OSHA STANDARDS.
7. MATERIAL FOR BACKFILL SHALL BE CLEAN, FREE OF WOOD SCRAPS OR OTHER DELETERIOUS SUBSTANCES AND PLACED IN 12" COMPACTED LIFTS, UNLESS NOTED OR SPECIFIED BY THE PROJECT GEOTECHNICAL ENGINEER.
8. BACKFILL AGAINST FOUNDATION WALL CAREFULLY TO AVOID DAMAGE TO THE WALL AND OTHER CONSTRUCTION; NO UNBALANCED BACKFILL SHALL BE PLACED UNLESS WALLS ARE SECURELY BRACED AGAINST OVERTURNING, EITHER BY TEMPORARY CONSTRUCTION BRACING OR PERMANENT CONSTRUCTION, OR DESIGNED TO RETAIN EARTH.
9. EXISTING ON-SITE SUITABLE SOILS ARE ACCEPTABLE BACKFILL MATERIAL PROVIDED THEY CAN BE CONDITIONED AND PLACED TO THE SPECIFIED WATER CONTENT, MEET COMPACTION REQUIREMENTS, AND ARE APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER.
10. GRANULAR FILL SHALL HAVE 100% PASSING THE 1", LESS THAN 50% PASSING THE #40, AND LESS THAN 12% PASSING THE #200 SIEVES UNLESS NOTED OR SPECIFIED BY THE PROJECT GEOTECHNICAL ENGINEER.
11. PROVIDE A MINIMUM 6" THICK DRAINAGE COURSE BELOW ALL INTERIOR FLOOR SLABS ON GRADE UNLESS NOTED OTHERWISE. DRAINAGE COURSE SHALL HAVE 100% PASSING THE 1", LESS THAN 50% PASSING #40, AND LESS THAN 5% PASSING THE #200 SIEVES, UNLESS NOTED OR SPECIFIED BY THE PROJECT GEOTECHNICAL ENGINEER. PROVIDE A 10 MIL VAPOR BARRIER BETWEEN THE DRAINAGE COURSE AND UNDERSIDE OF CONCRETE SLAB.

CAST-IN-PLACE CONCRETE:

1. CONTRACTOR WORK SHALL CONFORM WITH REQUIREMENTS OF ACI 301 AND ACI 318 OR ACI 350, ALONG WITH ACI 305 AND ACI 306 WHEN WEATHER CONDITIONS DICTATE HOT OR COLD WEATHER PROVISIONS.
2. CONCRETE SHALL BE A REDI-MIXED PRODUCT IN CONFORMANCE WITH APPROVED MIX DESIGN SUBMITTALS FOR EACH COMBINATION OF STRENGTH OR APPLICATION AS PREPARED BY THE SUPPLIER OR AND INDEPENDENT TESTING AGENCY.
3. DO NOT USE ADMIXTURES OR CURING ACCELERATORS CONTAINING CALCIUM CHLORIDE.
4. TOLERANCES AND FORMWORK SHALL BE DESIGNED, ERECTED, SUPPORTED, BRACED, AND MAINTAINED TO CONFORM WITH REQUIREMENTS OF ACI 114 AND ACI 347.
5. CHAMFER EXPOSED EDGES OF CONCRETE 3/4" WHERE NOT SPECIFICALLY SHOWN OR NOTED ON STRUCTURAL OR ARCHITECTURAL DRAWINGS.
6. SEE CONCRETE REINFORCING NOTES SECTION, STANDARD DETAILS AND TABLES FOR ADDITIONAL REINFORCING AND LAYOUT REQUIREMENTS.
7. ALL FOOTINGS, FOUNDATIONS, PIERS, COLUMNS, AND FRAMING MEMBERS SHALL BE CENTERED UNLESS NOTED OTHERWISE.
8. FOOTING STEPS SHALL BE GENERALLY LOCATED WHERE INDICATED ON THE FOUNDATION PLANS.
9. PROVIDE DOWEL BARS BETWEEN MEMBERS WITH STANDARD HOOKS TO SUPPORT MEMBER AND LAP SPLICED WITH PRIMARY REINFORCING; DOWELS SHALL BE SAME SIZE AND SPACED TO MATCH PRIMARY REINFORCING UNLESS NOTED OTHERWISE.
10. INSERTS, SLEEVES, OPENINGS, AND OTHER EMBEDDED ITEMS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE LOCATED AND VERIFIED BY THE CONTRACTOR; THOSE NOT SHOWN SHALL BE INSTALLED ONLY AFTER APPROVAL BY THE EOR.
11. CONTRACTOR TO LAY OUT AND SUBMIT LOCATION OF CONSTRUCTION JOINTS AND CONCRETE CONSTRUCTION FOR REVIEW AND APPROVAL. SEE STANDARD DETAILS FOR SLAB ON GRADE CONSTRUCTION, CUT JOINTS WITHIN 24 HOURS OF CONCRETE PLACEMENT, SPACED NOT MORE THAN 36 TIMES THE SLAB THICKNESS, AND AN ASPECT RATIO NOT EXCEEDING 1.5.
12. UNLESS SPECIFICALLY DETAILED OR SHOWN ON THE STRUCTURAL DRAWINGS, PENETRATIONS OR OPENINGS IN SLABS AND WALL SHALL:
    A. NOT EXCEED 12 INCHES IN ANY DIMENSION.
    B. NOT BE LOCATED WITHIN 6 INCHES FROM AN EDGE.
    C. NOT BE LOCATED WITHIN A BEAM OR COLUMN.
    D. NOT BE CLOSER THAN 10 TIMES THE SLAB THICKNESS FROM A CONCENTRATED LOAD EXCEEDING 2,000 LBS.
    E. WHEN PLACED IN GROUPS, SHALL BE PLACED WITH NO LESS THAN ONE PENETRATION OF OPENING DIAMETER CLEAR BETWEEN THEM.

CONCRETE REINFORCEMENT:

1. CONCRETE REINFORCEMENT DETAILING AND PLACEMENT SHALL CONFORM WITH REQUIREMENTS OF ACI 315 AND CRSI MANUAL.
2. SEE STANDARD DETAILS AND TABLES FOR ADDITIONAL INFORMATION RELATED TO STEEL REINFORCING COVER, LAPS, AND MISCELLANEOUS DETAILING.
3. REINFORCING STEEL SHALL BE TIED, ACCURATELY PLACED, AND SUPPORTED BY STANDARD ACCESSORIES. ACCESSORY LEGS EXPOSED TO VIEW SHALL BE STAINLESS STEEL.
4. REINFORCING STEEL AND EMBEDDED ITEMS SHALL BE LOCATED AND HELD IN PLACE PRIOR TO CONCRETE PLACEMENT; PLACEMENT OR PUSHING ("WET STICKING") INTO CONCRETE IS NOT ALLOWED.
5. REINFORCEMENT LAP SPLICES SHALL BE CLASS B PLUS 6" AT NON-CONTACT SLICES, UNLESS NOTED OTHERWISE, AND SPLICED AT LOCATIONS SHOWN OR NOTED WITHIN THE STRUCTURAL DOCUMENTS; EXCEPTION REINFORCEMENT NOTED AS "CONTINUOUS" MAY BE SPLICED AT LOCATIONS DETERMINED BY THE CONTRACTOR.
6. PROVIDE (2) #5'S, ONE EACH FACE, AROUND ALL OPENINGS GREATER THAN 12"x12", AND EXTENDING 2'-0" BEYOND OPENING IN BOTH DIRECTIONS; AT CORNERS, SIMILARLY PROVIDE (2) #5x4'-0" BARS DIAGONALLY.

CONCRETE MASONRY:

1. MASONRY CONSTRUCTION SHALL CONFORM TO ACI 530 AND THE NATIONAL CONCRETE MASONRY ASSOCIATION AND BRICK INSTITUTE OF AMERICA STANDARDS.
2. CONCRETE BLOCK SHALL BE HOLLOW, NORMAL WEIGHT UNITS CONFORMING TO ASTM C90 WITH A MINIMUM AVERAGE NET AREA COMPRESSIVE STRENGTH OF 2,150 PSI.
3. MORTAR SHALL COMPLY WITH ASTM C270, TYPE M OR S; MINIMUM COMPRESSING STRENGTH SHALL BE 1,800 PSI FOR TYPE S AND 2,500 PSI FOR TYPE M.
4. GROUT SHALL COMPLY WITH ASTM C476 WITH MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.
5. GROUT SOLID ALL BOND BEAMS, REINFORCED CORES, BELOW GRADE MASONRY, AND CORE WITH EMBEDDED ITEMS OR FASTENERS.
6. PROVIDE GROUT IN VERTICAL LIFTS NOT EXCEEDING 5'-4" OR PROVIDE CLEANOUTS PER ACI 530.1.
7. LAP CONTINUOUS REINFORCING STEEL 48 BAR DIAMETERS; INCREASE TO 62 BAR DIAMETERS WHEN MINIMUM COVER IS LESS THAN 5 BAR DIAMETERS OR WHEN ADJACENT SPLICES ARE SEPARATED BY LESS THEN 3 INCHES.
8. PROVIDE DOWEL BARS BETWEEN MEMBERS WITH STANDARD HOOKS TO SUPPORT MEMBER AND LAP SPLICED WITH PRIMARY REINFORCING; DOWELS SHALL BE SIZED AND SPACED TO MATCH PRIMARY REINFORCING UNLESS NOTED OTHERWISE.
9. REINFORCE BOND BEAMS WITH (2) #4 BARS CONTINUOUS WITH 2'-0" BENDS AT CORNERS OR PROVIDE 4'-0" CORNER BARS, UNLESS NOTED OTHERWISE.
10. PROVIDE GALVANIZED STANDARD 9 GAGE LADDER TYPE HORIZONTAL JOINT REINFORCING AT 16 INCHES ON CENTER AND IN TWO JOINTS IMMEDIATELY ABOVE AND BELOW ALL OPENINGS, EXTENDING 2'-0" MINIMUM BEYOND JAMBS.
11. PROVIDE VERTICAL CONTROL JOINTS PER ARCHITECTURAL PLANS AND ELEVATIONS OR AS REFERENCED BY THE NCMA; DO NOT LOCATE WITHIN OPENINGS OR JAMBS. BOND BEAM REINFORCING TO BE CONTINUOUS THRU JOINTS HOWEVER HORIZONTAL JOINT REINFORCEMENT SHALL BE DISCONTINUOUS. INSTALL BACKING AND CAULK PER ARCHITECTURAL DETAILING.
12. REINFORCE EACH SIDE OF ALL OPENINGS, CORNERS, AND EACH SIDE OF CONTROL JOINTS (2) TYPICAL VERTICAL BARS FULL HEIGHT.
13. MASONRY WALL SHALL BE BRACED BY INTERSECTING WALLS OR BY BRACING TO THE STRUCTURE ABOVE.
14. PROVIDE VERTICAL REINFORCEMENT WITH (1) #5 AT 48" O/C AT BEARING OR EXTERIOR WALLS AND AT 8'-0" O/C INTERIOR NON-BEARING WALLS, UNLESS NOTED OTHERWISE.
15. PROVIDE 16" DEEP MINIMUM SOLID GROUTING BELOW LINTELS AND BEARING SEATS. STEEL BEAM BEARING LENGTHS SHALL BE AT LEAST 6 INCHES WHEN PERPENDICULAR AND 8 INCHES WHEN PARALLEL TO THE WALL.
16. OPENINGS IN NON-BEARING MASONRY WALLS SHALL HAVE LINTELS AS FOLLOWS: <12" NON REQUIRED, 1'-0" TO 3'-4" PROVIDE 8" DEEP MASONRY LINTEL AND (2) #5, 3'-4" TO 6'-4" PROVIDE W8x10 WITH 1/4" CONT BOTTOM PLATE, AND >6'-4" CONSULT EOR.

STRUCTURAL STEEL:

1. STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST AISC CODE WITH WELDING BY CERTIFIED WELDERS PER AWS D1.1.
2. PROVIDE STIFFENER PLATES ON BOTH SIDES OF BEAM WEBS AT POINTS OF CONCENTRATED LOADS OR BEARING; UNLESS NOTED OTHERWISE, MINIMUM PLATE THICKNESS SHALL BE 3/8" OR COLUMN FLANGE THICKNESS OR BEAM WEB THICKNESS WHICHEVER IS GREATER.
3. COLUMN CAP PLATES SHALL BE 1/2 INCH THICK, UNLESS NOTED OTHERWISE.
4. STRUCTURAL STEEL CONNECTIONS NOT SPECIFICALLY DETAILED OR MODIFIED SHALL BE DESIGNED BY THE FABRICATOR FOR THE SERVICE LOADS SHOWN (##k), UNLESS NOTED OTHERWISE. WHERE NO LOAD IS GIVEN, DESIGN FOR 1/2 OF THE TOTAL ALLOWABLE UNIFORM LOAD PER AISC BEAM TABLES BASED ON SIZE AND SPAN OF BEAM. FABRICATOR TO SELECT AISC SIMPLE SHEAR CONNECTION TO MEET REQUIREMENTS AND ERECTOR PREFERENCE.
5. USE 3/4" DIA (MIN) A325-N HIGH STRENGTH BOLTS AT ALL CONNECTIONS UNLESS HIGHER STRENGTH IS REQUIRED BY DESIGN, COORDINATE WITH EOR.
6. STEEL SHALL BE SHOP PRIMED WITH FABRICATOR'S STANDARD RUST-INHIBITING PRIMER COMPATIBLE WITH TOP COATING, COORDINATE WITH ARCHITECTURAL, EXCEPT AT SURFACES ENCASED IN CONCRETE, TO BE WELDED, OR TO RECEIVE FIREPROOFING.
7. EXTERIOR STEEL OR LINTELS SHALL BE HOT DIPPED GALVANIZED, UNLESS NOTED OTHERWISE.
8. ERECT BEAMS AND COLUMNS TRUE AND PLUMB WITHIN AISC TOLERANCE AND PROVIDE TEMPORARY BRACING AS REQUIRED.
9. BEAM BEARING PLATES AND COLUMN BASE PLATES SHALL BE DRY PACKED WITH GROUT.
10. CONTINUOUS MEMBERS SHALL BE FULL PENETRATION FIELD WELDED AT ALL BUTT SPLICES OR OTHERWISE DETAILED TO PROVIDE CONTINUITY.
11. DO NOT FIELD CUT, WELD OR MODIFY STRUCTURAL STEEL MEMBERS WITHOUT APPROVAL OF THE EOR.

METAL DECKING:

1. METAL DECK SHALL BE MANUFACTURED AND ERECTED PER SDI SPECIFICATIONS.
2. METAL DECK SHALL BE DESIGNED TO COVER AT LEAST TWO SPANS, SINGLE SPAN CONDITIONS ARE NOT ALLOWED UNLESS APPROVED BY THE EOR.
3. RIDGE AND VALLEY PLATES AND FLAT PLATES AT CHANGES IN DECK DIRECTION SHALL BE PROVIDED BY SUPPLIER.
4. CONTRACTOR SHALL VERIFY, LOCATE AND COORDINATE METAL DECK OPENINGS WITH SUPPLIER AND TRADES INVOLVED. OPENINGS LARGER THAN 12 INCHES REQUIRE SUPPLEMENTAL SUPPORT, SEE DETAILS AND WELDED ANGLE FRAME REQUIREMENTS.
5. ALTERNATIVE DECK FASTENING MAY BE SUBMITTED FOR REVIEW & APPROVAL W/ DOCUMENTATION SHOWING THAT EQUIVALENT DIAPHRAGM CAPACITY IS ACHIEVED.
6. METAL DECKING SHALL BE FASTENED TO SUPPORTING ELEMENTS WITH THE FOLLOWING PATTERNS & SIDELAPS UNLESS OTHERWISE NOTED:
    A. ROOF DECK: HILTI X-HSN24 FASTENERS IN A 36/5 PATTERN W/ HILTI S-SLC 02 M HWH SIDE LAP SCREWS @ 12" O/C AT SIDE LAPS.
    B. FLOOR DECK (MEZZANINE): HILTI X-ENP19 PAF IN A 36/5 PATTERN (OR EQUIVALENT) W/ BUTTON PUNCH CONNECTIONS @ 24" O/C.

WOOD FRAMING:

1. WOOD FRAMING AND CONSTRUCTION SHALL COMPLY WITH CONSTRUCTION DOCUMENTS, APA, AND/OR TPI STANDARD. GLULAM FABRICATOR SHALL BE AITC OR APA MEMBER AND FOLLOW APPEARANCE AND GRADE SPECIFICATIONS NOTED.
2. PROVIDE WOOD FRAMING FASTENING PER THE IBC FASTENING SCHEDULE, COMMON NAILS, UNLESS NOTED OTHERWISE OR RECOMMENDED BY ENGINEERED WOOD SUPPLIER. MULTI PLY MEMBERS SHALL BE FASTENED WITH (2) ROWS OF 16d NAILS AT 12" O/C; FOR MEMBERS DEEPER THAN 12", PROVIDE (3) ROWS.
3. FASTENERS TO BE STAGGERED TO PREVENT SPLITTING OF WOOD FRAMING. DRILLED BOLT HOLES SHALL BE A MINIMUM OF 1/32" TO A MAXIMUM OF 1/16" LARGER THAN THE BOLT DIAMETER. CUT WASHERS SHALL BE USED WHERE BOLT HEADS, NUTS, AND LAG SCREW HEADS BEAR ON WOOD. DO NOT NOTCH OR DRILL STRUCTURAL WOOD FRAMING EXCEPT AS ALLOWED BY THE IBC.
4. TOP PLATE SPLICES SHALL BE STAGGERED 48 INCHES MINIMUM AND FASTENED PLIES WITH (12) 16d COMMON NAILS EACH SIDE OF SPLICE 2
5. SILL PLATES SHALL BE ANCHORED TO FOUNDATIONS WITH 5/8" DIAMETER BY 7" EMBEDMENT GALVANIZED ANCHOR RODS OR 5/8" DIAMETER x 10" EMBEDMENT SIMPSON TITEN HD SCREW ANCHORS AT 48" O/C, UNLESS NOTED OTHERWISE. PROVIDE A MINIMUM 3"x3"x 0.229" PLATE WASHER ON ALL SILL PLATE ANCHOR BOLTS. THERE SHALL BE AT LEAST (2) ANCHOR BOLTS PER PIECE SPACED NOT MORE THAN 6 FEET APART , WITH (1) BOLT LOCATED NOT MORE THAN 12" OR LESS THAN 4" FROM EACH END OF EACH PIECE. (REVIEW EMBED & WASHER SIZES)
6. WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED AND PROTECTED, OR NATURALLY RESISTANT TO DECAY
7. BRACE INTERIOR NON-BEARING WALLS TO BLOCKING OR FRAMING ABOVE PROVIDING CLIPS ALLOWING FOR VERTICAL MOVEMENT OF THE STRUCTURE.
8. PROVIDE 2x FULL HEIGHT JAMB AND KING STUDS EACH SIDE OF WALL OPENINGS EQUAL TO THE NUMBER OF HEADER PLIES UNLESS OTHERWISE NOTED.
9. PROVIDE 2x FULL HEIGHT JAMB STUDS DIRECTLY BELOW GIRDER TRUSS BEARING IN ADDITION TO SOLID BLOCKING AT JOIST/TRUSS CAVITIES. NUMBER OF STUDS SHALL EQUAL THE NUMBER OF GIRDER PLIES, UNLESS OTHERWISE NOTED
10. PROVIDE SOLID BLOCKING EQUAL IN SIZE/NUMBER/WIDTH OF JAMBS AT JOIST/TRUSS CAVITIES BELOW BEAM/HEADER/GIRDER BEARING LOCATIONS.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF PANELIZED WALL CONSTRICTION. EOR TO REVIEW SUBMITTED FRAMING FOR GENERAL CONFORMANCE AND DESIGN INTENT, NOT FOR ACTUAL ENGINEERING OF PANEL OR COMPONENTS.
12. SHEATHING AND/OR BRACING SHALL BE INSTALLED PRIOR TO CONSTRUCTION OF THE FLOOR OR ROOF ABOVE.
13. SEE SHEAR WALL SCHEDULE AND DETAILS FOR ADDITIONAL ANCHOR ROD, HOLDOWN, AND OTHER ANCHORAGE/FASTENING REQUIREMENTS.
14. SHEATHING SHEET SIZES SHALL BE 4'-0"x8'-0" (MIN) EXCEPT AT BOUNDARIES. INSTALL SHEETS WITH THE LONG DIMENSION OR STRENGTH AXIS OF THE PANEL PERPENDICULAR TO SUPPORTS AND CONTINUOUS OVER TWO OR MORE SPANS. STAGGER END JOINTS OF ADJACENT SHEETS.
15. FASTEN SHEATHING TO SUPPORTING MEMBERS AS FOLLOWS:
    - EXTERIOR WALL SHEATHING (UNBLOCKED): 8d COMMON NAILS AT 6" O/C AT PANEL EDGES AND 12" O/C AT INTERMEDIATE SUPPORTS.
    - SHEAR WALL SHEATHING: SEE SHEAR WALL SCHEDULE
    - ROOF SHEATHING (UNBLOCKED): 10d COMMON NAILS AT 6" O/C AT SUPPORTED PANEL EDGES AND AT DIAPHRAGM BOUNDARIES AND 12" O/C AT INTERMEDIATE SUPPORT
16. WOOD TRUSSES SHALL BE DESIGNED FOR THE LOADS INDICATED ON THE PLAN BY THE TRUSS FABRICATOR AND IN ACCORDANCE WITH THE TPI AND NFPA FOR METAL PLATE CONNECTED WOOD TRUSSES.
17. WOOD NAILERS SHALL BE BOLTED TO STEEL FRAMING WITH (2) ROWS OF 1/2" DIAMETER A307 BOLTS SPACED 32" O/C, STAGGERED ROWS BY ONE HALF SPACING.
18. ROOF DIAPHRAGM (BLOCKED OR UNBLOCKED) USE 15/32" SHEATHING WITH A 32/16 SPAN RATING. 2

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CONSULTANTS

CLIENT
BISMARCK FIRE DEPARTMENT

PROJECT DESCRIPTION
FIRE STATION 6

CITY BISMARCK
STATE ND

ISSUE DATES

MARK	DESCRIPTION	DATE
2	ADDENDUM #2	11/13/2026
1	ADDENDUM #1	11/06/2026
CD	100% CONSTRUCTION DOCUMENTS	10/29/2026

PROJECT NO: 20253510
DRAWN BY: JEB
CHECKED BY: MMB

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STAMP

REGISTERED PROFESSIONAL ENGINEER
SAMUEL J. WILKE
PE-6697
DATE 10/29/2026
NORTH DAKOTA

DRAWING TITLE
STRUCTURAL GENERAL NOTES

S001

Revit Version: 2025
Plot Date: 11/13/2026 12:18:19 PM

DESIGN CRITERIA AND LOADS
(IN ADDITION TO THOSE INDICATED ON PLANS & DETAILS)

OCCUPANCY	BUILDING RISK CATEGORY		IV
DEAD LOADS	(SUPERIMPOSED)		
	ROOF (AT WOOD ROOF TRUSSES)		20 PSF (10 TC/10 BC)
	MEZZANINE		15 PSF 2
LIVE LOADS			
	STAIRWAYS		100 PSF
	MECHANICAL ROOMS		150 PSF
	STORAGE AREAS		125 PSF
	ROOF (REDUCIBLE)		20 PSF
SNOW LOAD			
	GROUND SNOW LOAD	Pg	106 PSF
	WINTER WIND PARAMETER	W2	0.45
	SNOW EXPOSURE FACTOR	Ce	0.9
	THERMAL FACTOR (HEATED)	Ct	1.10
	FLAT ROOF SNOW LOAD (HEATED)	Pf	82 PSF
	SNOW DRIFT LOAD (ADDITIVE)		SEE PLAN
	SLOPE FACTOR	Cs	1.00
	SLOPED ROOF SNOW LOAD	Ps	82 PSF
	UNBALANCED SNOW (ULTIMATE)		PER ASCE 7
WIND DESIGN	(STRENGTH LEVEL UON)		
MAIN WIND FORCE RESISTING SYSTEM	BASIC WIND SPEED	V	125 MPH
	EXPOSURE CATEGORY		C
	BUILDING TYPE		ENCLOSED
	INTERNAL PRESSURE COEFFICIENT	GCpi	+/-0.18
	NET UPLIFT		20 PSF

COMPONENTS AND CLADDING DESIGN PRESSURE (APPARATUS)

	Ae≤ 10 SQFT	Ae≥ 500 SQFT
ZONE 1	25.3/-71.0 PSF	16.0/-22.1 PSF
ZONE 2	25.3/-94.0 PSF	16.0/-38.3 PSF
ZONE 3	25.3/-123.0 PSF	16.0/-64.3 PSF
ZONE 4	38.3/-42.0 PSF	28.6/-31.8 PSF
ZONE 5	38.3/-51.3 PSF	28.6/-31.8 PSF
ZONE 1 OHS	16.0/-103.2 PSF	16.0/-44.8 PSF
ZONE 2 OHS	16.0/-126.0 PSF	16.0/-61.0 PSF
ZONE 3 OHS	16.0/-155.1 PSF	16.0/-87.0 PSF

a = 6'-9"

Ae = EFFECTIVE AREA FOR C

COMPONENTS AND CLADDING DESIGN PRESSURE (LIVING QUARTERS)

	Ae≤ 10 SQFT	Ae≥ 500 SQFT
ZONE 1	23.4/-65.2 PSF	16.0/-20.4 PSF
ZONE 2	23.4/-86.2 PSF	16.0/-35.3 PSF
ZONE 3	23.4/-113.1 PSF	16.0/-59.3 PSF
ZONE 4	35.3/-38.3 PSF	62.4/-30.0 PSF
ZONE 5	35.3/-47.3 PSF	62.4/-30.0 PSF
ZONE 1 OHS	16.0/-95.2 PSF	16.0/-41.3 PSF
ZONE 2 OHS	16.0/-116.1 PSF	16.0/-56.3 PSF
ZONE 3 OHS	16.0/-143.0 PSF	16.0/-80.2 PSF

a = 4'-10"

Ae = EFFECTIVE AREA FOR A

SEISMIC DESIGN			
	SEISMIC DESIGN CATEGORY		A
	IMPORTANCE FACTOR	Ie	1.5
	SITE CLASS		D
	SPECTRAL RESPONSE ACCELERATION	Ss	0.058g
		S1	0.018g
	SPECTRAL DESIGN RESPONSE COEFFICIENT	Sds	0.052g
		Sd1	0.026g
GEOTECHNICAL			
	ALLOWABLE SOIL BEARING PRESSURE	fbrg	1500 PSF (ASSUMED)

MATERIAL STRENGTHS

CONCRETE		
	28 DAY COMPRESSIVE STRENGTH	f'c
	FOOTINGS	4,000 PSI
	FOUNDATION WALLS/ WALLS/ SLABS	4,000 PSI
	SLAB ON METAL DECK	4,000 PSI
	GROUT (NON-SHRINK / NON-METALLIC)	5,000 PSI (MIN)
	PROVIDE 6% (+/- 1.5%) ENTRAINED AIR IF EXTERIOR CONCRETE	
REINFORCING STEEL		
	REINFORCING BARS	ASTM A615 GR 60, DEFORMED
MASONRY		
	COMPRESSIVE STRENGTH f'm	1,500 PSI
STRUCTURAL STEEL		
STRUCTURAL MEMBERS	WIDE FLANGE (W) & TEE (WT)	ASTM A992, Fy=50 KSI
	CHANNEL (C&MC) & ANGLE (L)	ASTM A36, Fy=36 KSI
	STRUCTURAL BARS & PLATES	ASTM A36, Fy=36 KSI
FASTENERS	HIGH STRENGTH BOLTS	ASTM A325-N
	ANCHOR RODS	ASTM F-1554, GRADE 36
	THREADED RODS	ASTM A36
	COMMON BOLTS	ASTM A307
	SHEAR STUD CONNECTORS	ASTM A108, TYPE B (Fu=65 KSI)
WELDS	WELD ELECTRODES	E70XX
COLD FORMED METAL FRAMING		
	SHEET STEEL	ASTM A1003, STRUCTURAL GRADE, TYPE H, METALLIC COATED G60 MIN
	SHEET STEEL FOR CLIPS	ASTM A653, STRUCTURAL STEEL ZINC COATED G60 MIN, GRADE 50
WOOD		2
SAWN LUMBER	BEAMS, LEDGERS AND STRINGERS	DFL No. 2
	STUD WALLS (BEARING)	SPF STUD GRADE
	TOP PLATE (BEARING WALLS)	DFL No. 2
	BOTTOM PLATE (BEARING WALLS)	SOUTHERN PINE No. 2, TREATED
	MISCELLANEOUS FRAMING AND BLOCKING	SPF STUD GRADE
LAMINATED VENEER LUMBER	BEAMS	MICROLLAM 2.0E-2600Fb
SHEATHING	WALL (SEE SHEAR WALL SCHEDULE FOR ADDITIONAL REQUIREMENTS)	7/16" APA RATED, EXPOSURE 1, 24/16 SPAN RATING
	ROOF (UNBLOCKED)	15/32" APA RATED, EXPOSURE 1, 32/16 SPAN RATING 2
SILL PLATE	ANCHORS	1/2"Ø SIMPSON TITEN HD SCREW ANCHORS (GALV)

POST INSTALLED ANCHORS**		
ADHESIVE ANCHORS	HILTI HIT-HY200	ANCHORAGE TO CONCRETE
EXPANSION ANCHORS	HILTI KWIK BOLT 3	ANCHORAGE TO CONCRETE
SCREW ANCHORS	HILTI KWIK HUS-EZ	ANCHORAGE TO CONCRETE
CONCRETE ANCHORS	HILTI KWIK CON II	ANCHORAGE TO CONCRETE & MASONRY
ADHESIVE ANCHORS	HILTI HIT-HY100	ANCHORAGE TO MASONRY
POWDER ACTUATED FASTENERS	HILTI X-U	ANCHORAGE TO CONCRETE, MASONRY, & STEEL
STEEL DECK FASTENERS	HILTI-HS OR HILTI X-ENP	STEEL DECK FASTENING
	**OR APPROVED EQUALS	

CAST IN PLACE CONCRETE (NON-PRESTRESSED) COVER

ACI 318 - STRUCTURAL CONCRETE

UNLESS NOTED OTHERWISE ON DRAWINGS		COVER (INCHES)
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH		3
EXPOSED TO EARTH OR WEATHER		
	#6 THROUGH #18 BARS	2
	#5 AND SMALLER	1 1/2
NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND		
SLABS, WALLS, JOISTS	#14 & #18 BARS	1 1/2
	#11 BARS AND SMALLER	3/4
BEAMS, COLUMNS	PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS	1 1/2
	SLAB ON GRADE / SLAB ON METAL DECK	CENTERED

CONCRETE REINFORCING STEEL LAP SPLICE & DEVELOPMENT LENGTH SCHEDULE

	MINIMUM LAP SPLICE LENGTHS (Ls)		MINIMUM DEVELOPMENT LENGTH (Ld)	
BAR SIZE	TOP BARS[1]	OTHER BARS	TOP BARS[1]	OTHER BARS
#3	2'-0"	1'-7"	1'-7"	1'-3"
#4	2'-8"	2'-1"	2'-1"	1'-7"
#5	3'-4"	2'-7"	2'-7"	2'-0"
#6	4'-0"	3'-1"	3'-1"	2'-5"
#7	5'-10"	4'-6"	4'-6"	3'-6"
#8	6'-8"	5'-2"	5'-2"	3'-11"
#9	7'-7"	5'-10"	5'-10"	4'-6"

1. HORIZONTAL BARS WITH MORE THAN 12" DEPTH OF CONCRETE CAST BELOW THEM.

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PROJECT DESCRIPTION
FIRE STATION 6

CITY BISMARCK
STATE ND

ISSUE DATES

MARK	DESCRIPTION	DATE
2	ADDENDUM #2	11/13/2026
1	ADDENDUM #1	11/06/2026
CD	100% CONSTRUCTION DOCUMENTS	10/29/2026

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DRAWING TITLE
STRUCTURAL LOADS & MATERIAL NOTE TABLES

S002

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CONCRETE PIER SCHEDULE

MARK	PIER SIZE	REINFORCING		REMARKS
		VERTICAL	TIE SIZE/SPACING	
CP-1	16" x 16"	(4) #8's	(3) #3's @ 2" O/C AT TOP, REMAINDER @ 8" O/C	SEE 12/S601

NOTES:
1. CIP CONCRETE PIER CAST MONOLITHICALLY WITH FOUNDATION WALL WHERE APPLICABLE.
2. TYPICAL HORIZONTAL WALL REINFORCING TO RUN CONTINUOUS THROUGH PIER WHERE APPLICABLE.
3. PLACE PIER SUCH THAT COLUMN ANCHOR RODS & REINF ARE CONTAINED WITHIN PIER TIES.
4. CONTRACTOR TO COORD PIER DIM'S W/ PEMB SUPPLIER ANCHOR ROD LAYOUT.
5. BLOCKOUT FOUNDATION WALL AS REQUIRED FOR INSTALLATION OF STEEL BASE PLATE/COLUMN CONTRACTOR TO COORDINATE LAYOUTS.
6. PROVIDE SHEAR LUG BLOCKOUT AT TOP OF PIER AS SHOWN IN DETAIL, AS REQUIRED. PROVIDE 1 1/4" CLEAR BETWEEN BLOCKOUT AND SHEAR LUG AT ALL SIDES. UON.

SPREAD FOOTING SCHEDULE

MARK	FOOTING		REINFORCING	REMARKS
	SIZE	THICKNESS		
F-1	6'-0" x 6'-0"	12"	(6) #5's EA. WAY, BTM	
F-2	7'-0" x 7'-0"	14"	(8) #5's EA. WAY, BTM	
F-3	7'-0" x 9'-0"	18"	(8) #5's x (12) #5's TOP & BTM	
F-4	12'-0" x 12'-0"	24"	(12) #7's EA. WAY TOP & BTM	

FOUNDATION WALL SCHEDULE

MARK	WIDTH	MATERIAL	REINFORCING		REMARKS
			VERTICAL	HORIZONTAL	
W-1	8"	CONC	#5 @ 18" O/C	#5 @ 12" O/C	
W-2	1'-0"	CONC	#5 @ 18" O/C EA. FACE	#5 @ 18" O/C EA. FACE	
W-3	1'-2"	CONC	#5 @ 18" O/C EA. FACE	#5 @ 18" O/C EA. FACE	
W-4	1'-8"	CONC	#5 @ 14" O/C EA. FACE	#5 @ 14" O/C EA. FACE	SEE 7/S601

CONTINUOUS FOOTING SCHEDULE

MARK	FOOTING SIZE		REINFORCING		REMARKS
	WIDTH	THICKNESS	LONGITUDINAL	TRANSVERSE	
WF-1	1'-6"	12"	(2) #5 CONT	NA	
WF-2	2'-6"	12"	(3) #5 CONT	NA	
WF-3	3'-0"	12"	(3) #5 CONT	NA	
WF-4	4'-0"	12"	(4) #5 CONT	#5 @ 12" O/C	

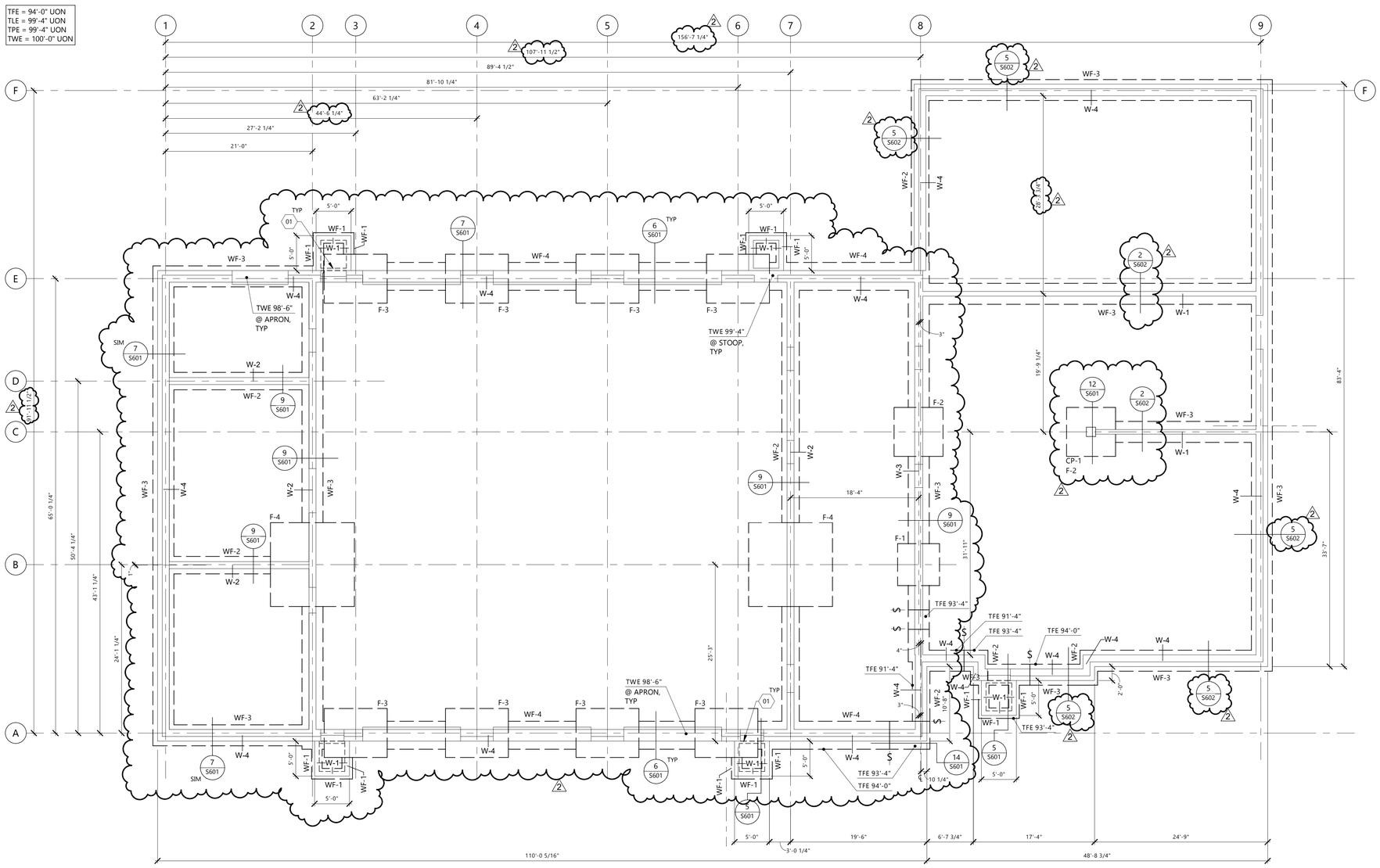
KEYNOTE LEGEND:

< < < INDICATES KEYNOTE ON PLAN

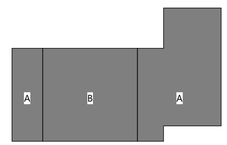
01 PROVIDE 4" THICKENED WALL AT STOOP WITH DROPPED TOP OF CONCRETE FNDN WALL (-8" UON) AT EXTERIOR FACE, AND WIDEN CONT FOOTING BY 4" WITHIN STOOP SLAB TO PROVIDE BEARING LEDGE.

02 EXTERIOR GRID LINES LOCATED AT CENTER OF WALLS, UON.

TFE = 94'-0" UON
TLE = 99'-4" UON
TPE = 99'-4" UON
TWE = 100'-0" UON



1 S200 FOUNDATION PLAN
1/8" = 1'-0"



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FOUNDATION PLAN

S200

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STEEL COLUMN SCHEDULE

MARK	SIZE	BASEPLATE				ANCHOR RODS				REMARKS
		TYPE	L	W	T	NUM.	DIA.	EMBED	GRADE	
C-1	HSS3x3x3/16	A	6"	8"	1/2"	4	1/2"	9"	36	SEE 11/S601
C-2	HSS5x5x3/8	B	10"	6"	3/4"	4	3/4"	16"	36	SEE 11/S601

THICKENED SLAB SCHEDULE

MARK	THICKENED SLAB SIZE		REINFORCING	REMARKS
	WIDTH	THICKNESS		
TS-1	1'-6"	12"	(2) #5 CONT @ BTM	
TS-2	2'-0"	12"	(2) #5 CONT @ BTM	

THICKENED SLAB EDGE SCHEDULE

MARK	THICKENED SLAB SIZE		REINFORCING	REMARKS
	WIDTH	THICKNESS		
TSE-1	1'-6"	12"	(2) #5 CONT @ BTM	

MASONRY PIER SCHEDULE

MARK	PIER SIZE	REINFORCING		REMARKS
		VERTICAL	TIE SIZE/SPACING	
P-1	12" x 16"	(4) #5's	#3 @ 8" O/C	
P-2	12" x 24"	(6) #5's	#3 @ 8" O/C	
P-3	12" x 48"	(12) #5's	#3 @ 8" O/C	

KEYNOTE LEGEND:

< < < INDICATES KEYNOTE ON PLAN

01 4" THICK CONCRETE SLAB ON GRADE W/ IN-FLOOR HEAT (SEE MECH) REINFORCE W/ #3 BARS @ 16" O/C EA WAY OVER 10 MIL VAPOR BARRIER OVER 6" DRAINAGE COURSE

02 6" THICK CONCRETE SLAB ON GRADE W/ IN-FLOOR HEAT (SEE MECH) REINFORCE W/ #4 BARS @ 12" O/C EA WAY. PLACE SLAB OVER 2" RIGID INSULATION OVER 10 MIL VAPOR BARRIER OVER 6" DRAINAGE COURSE

03 TRENCH DRAIN, COORDINATE SLOPE OF SLAB AND LOCATION OF GRATE ELEVATION W/ ARCH & MECH -SEE DETAIL 3/S601

04 CONCRETE APRON @ OVERHEAD DOORS (VERIFY FINAL SIZE & LOCATION W/ ARCH), AND PROVIDE 4" THICKENED WALL TO INTERIOR FACE OF FNDN. SEE 6/S601.

05 BOLLARD -SEE CIVIL/ARCH. & DETAIL 10/S601

06 CMU WALL, SEE S301 FOR MORE INFO

07 (2) #3 x 3'-0" BARS CENTERED IN SLAB @ EACH CORNER OF TRENCH DRAIN

08 8" THICKENED SLAB EXTRACTOR PAD. VERIFY FINAL SIZE, LOCATION, AND TOP ELEVATION W/ ARCH & MECH. PROVIDE #5 @ 12" O/C EA WAY @ BTM (3" CLR)

09 FLOOR DRAIN. CONFIRM LOCATION, FLOOR SLOPE, DRAIN DEPTH AND SIZE WITH ARCH & MECH.

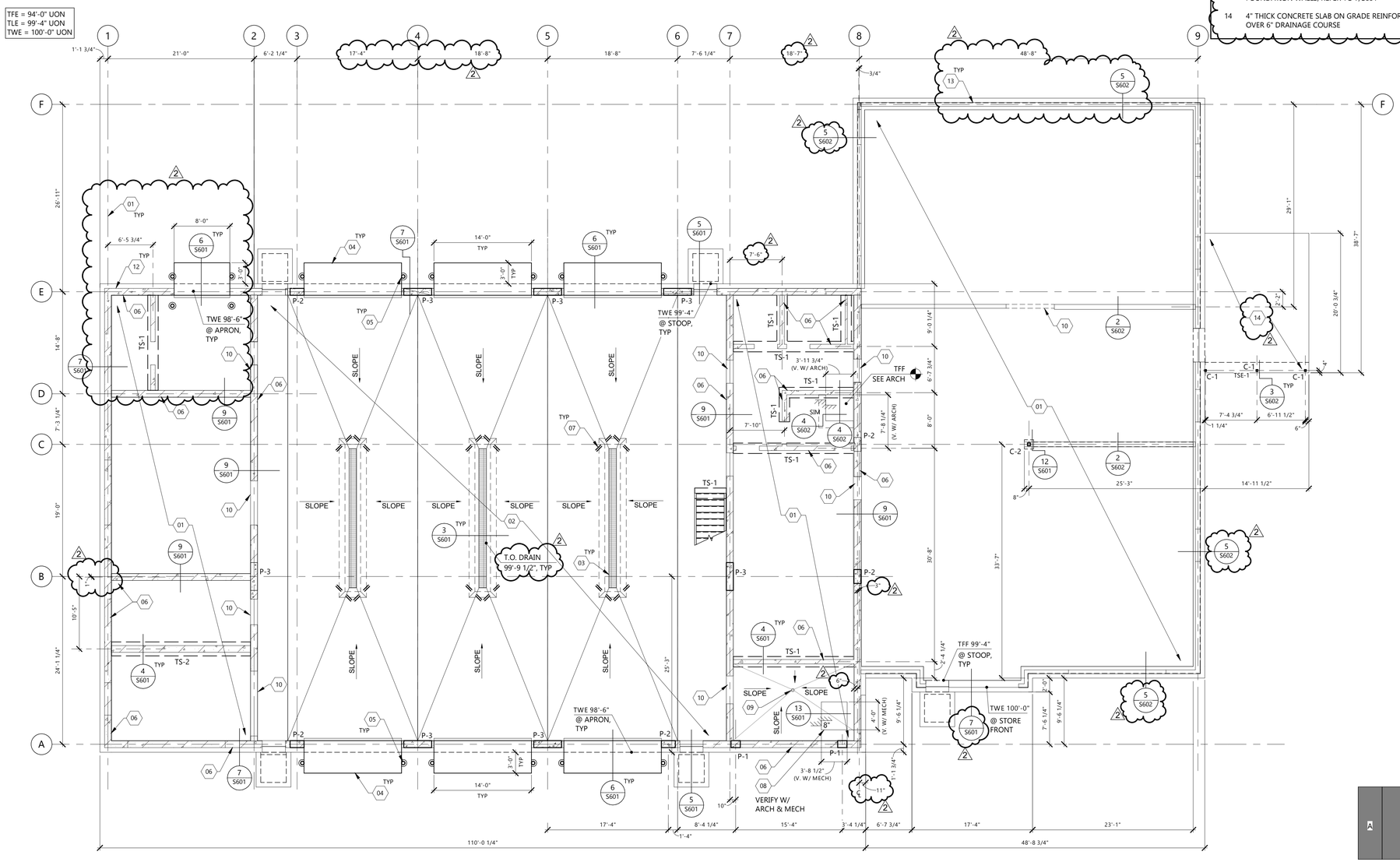
10 CUT DOWN FOUNDATION WALL 8" @ DOOR OPENINGS

11 EXTERIOR GRID LINES LOCATED AT CENTER OF WALLS, UON

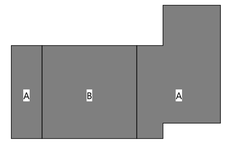
12 EXTERIOR FACE OF STUD WALL TO ALIGN WITH EXTERIOR FACE OF FOUNDATION WALL LEDGE. REFER TO 7/S601

13 BRICK LEDGE FACE TO ALIGN WITH EXTERIOR FACE OF STUD WALL AT APPLICABLE FOUNDATION WALLS, REFER TO 7/S601

14 4" THICK CONCRETE SLAB ON GRADE REINFORCE W/ #3 BARS @ 16" O/C EA WAY OVER 6" DRAINAGE COURSE



1 / S201 SLAB PLAN
1/8" = 1'-0"



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DRAWING TITLE
SLAB PLAN

S201

Revit Version: 2025
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WOOD HEADER SCHEDULE

MARK	SIZE	MATERIAL	JAMB STUDS		REMARKS
			AT BEARING	FULL HEIGHT	
H-1	(2) 2x8	DF-L No.2	2	2	
H-2	(3) 1 3/4" x 16"	MICROLLAM LVL	3	3	

NOTES:
1. ALL STUD MATERIAL USED FOR HEADERS SHALL BE UNPUNCHED

MASONRY LINTEL SCHEDULE

MARK	LINTEL SIZE	REINFORCING		REMARKS
		BOND BEAM	SHEAR	
ML-1	8"x16"	(2) #5 BOTTOM		SEE 1/S702
ML-2	12"x16"	(2) #5 BOTTOM		SEE 1/S702

LINTEL SCHEDULE

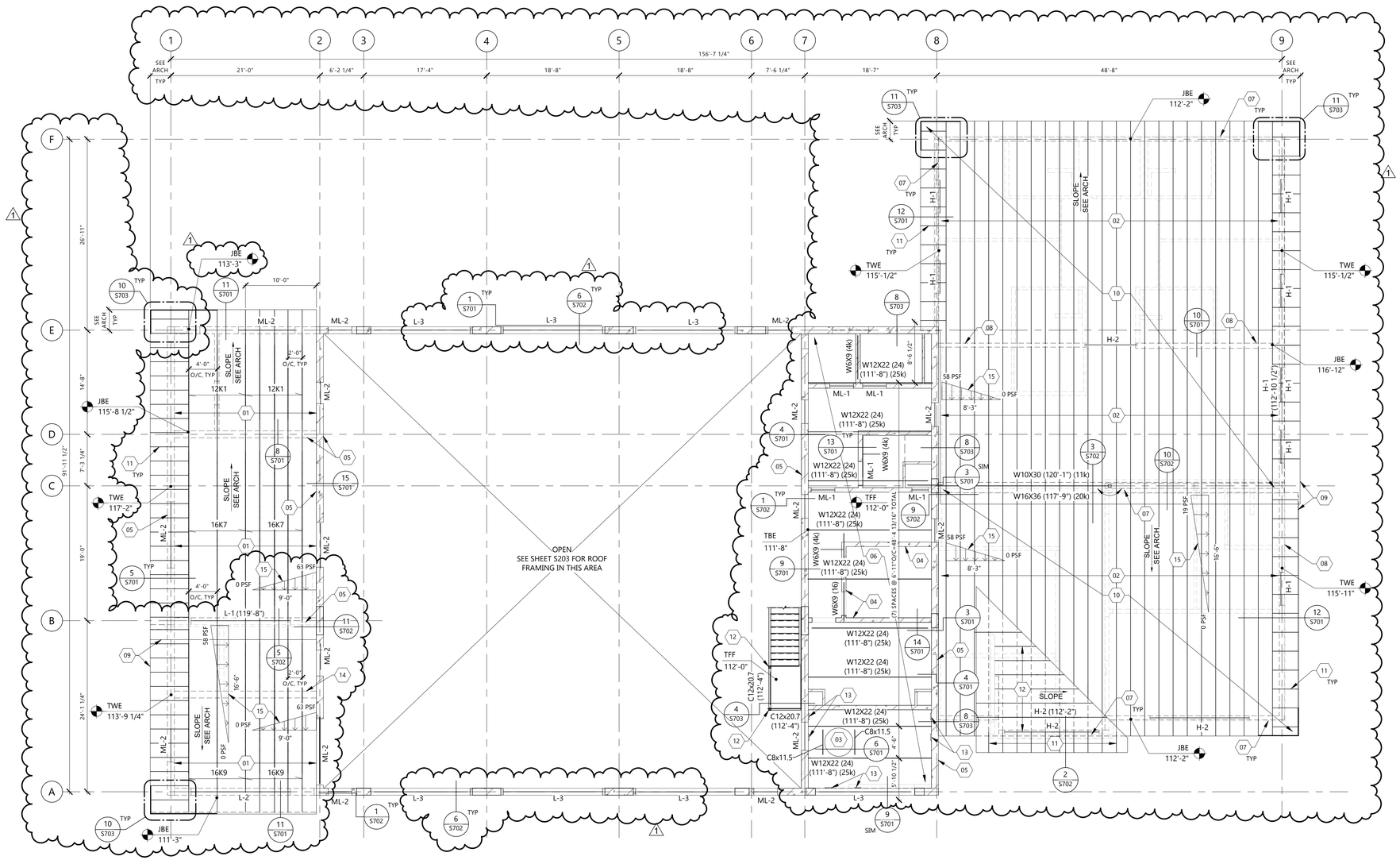
MARK	SIZE	BEARING	REMARKS
L-1	W8x21	11"x1/2"x11" EMBED PLATE W/ (2) 5/8" Ø x 6" HWS	SEE 6/S702
L-2	W14x30	11"x1/2"x11" EMBED PLATE W/ (2) 5/8" Ø x 6" HWS	SEE 6/S702
L-3	W16x36	11"x1/2"x11" EMBED PLATE W/ (2) 5/8" Ø x 6" HWS	SEE 6/S702

NOTES:
1. PROVIDE CONT 3/8" THICK BOTTOM PLATE BELOW LINTEL TO SUPPORT MASONRY INFILL

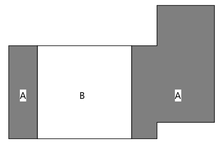
KEYNOTE LEGEND:

<x> INDICATES KEYNOTE ON PLAN

01	20GA 1.5 B-36 GRADE 50 METAL ROOF DECK. PROVIDE 3 SPAN CONDITION-MIN. WHERE POSSIBLE. SEE ARCH FOR ROOFING SYSTEM ABOVE
02	PRE-ENGINEERED WOOD ROOF TRUSSES @ 2'-0" O/C BY TRUSS SUPPLIER
03	SIMULATION MANHOLE SLAB OPENING -COORD LOCATION W/ ARCH
04	8" CMU NON-BEARING WALL ABOVE, REINFORCE W/ #5's @ 32" O/C
05	12" CMU BEARING WALL -SEE 301 FOR SCHEDULE
06	4" TOTAL THICKNESS CONCRETE SLAB OVER 20 GA 1.5VLI-36 GRADE 50 COMPOSITE METAL DECK REINFORCED W/ #3 @ 12" O/C EACH WAY
07	BEARING STUD WALL, BELOW W/ 2x6 SP-F STUDS @ 16" O/C
08	BEARING STUD WALL, BELOW W/ 2x8 SP-F STUDS @ 8" O/C
09	METAL ROOF EDGE, SEE 12 AND 16/S701 FOR SUPPORT DETAILS
10	ROOF SHEATHING (UNBLOCKED). APPLY PANEL W/ STRONG AXIS PERPENDICULAR TO ROOF FRAMING. SEE SHEET S001 FOR NAIL SIZE AND PATTERN
11	HSS4x2x1/4" OUTRIGGERS @ 3'-6" MAX
12	HSS3x3x1/4 HANGER TO SUPPORT STAIR ASSEMBLY
13	TIE-OFF POINT PLATE. CONFIRM INSTALLATION HEIGHT W/ ARCH. SOLID GROUT CORES AT INSTALL LOCATION -SEE 7/S702
14	12" CMU NON-BEARING WALL -SEE S301 FOR SCHEDULE
15	SNOW DRIFT LOADING TO BE ADDED IN ADDITION TO ROOF UNIFORM SNOW LOAD.



1 S202 LOW ROOF AND MEZZANINE FRAMING PLAN
1/8" = 1'-0"



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LOW ROOF AND MEZZANINE FRAMING PLAN

S202

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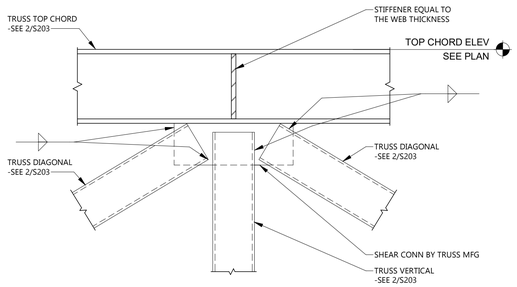
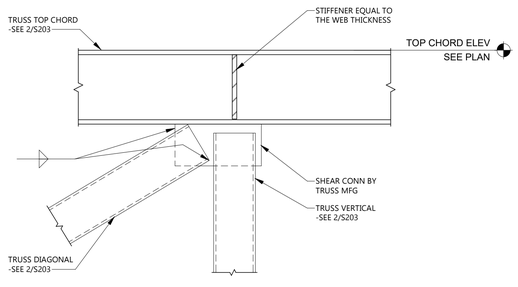
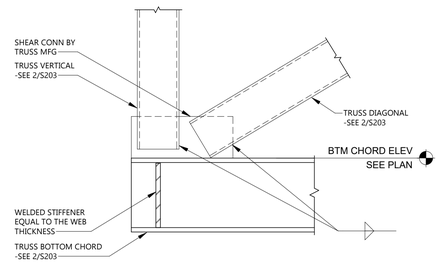


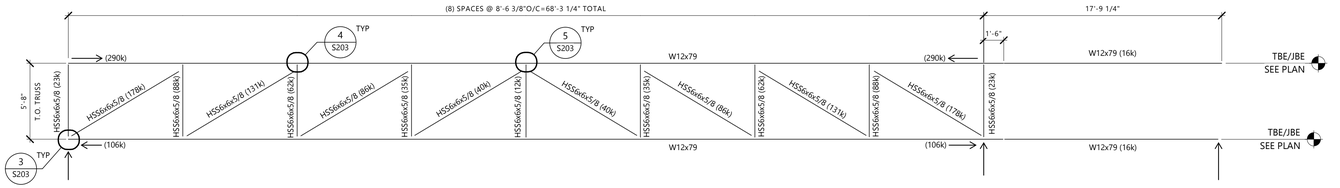
5 S203 TRUSS TOP CHORD CONNECTION 2
1" = 1'-0"



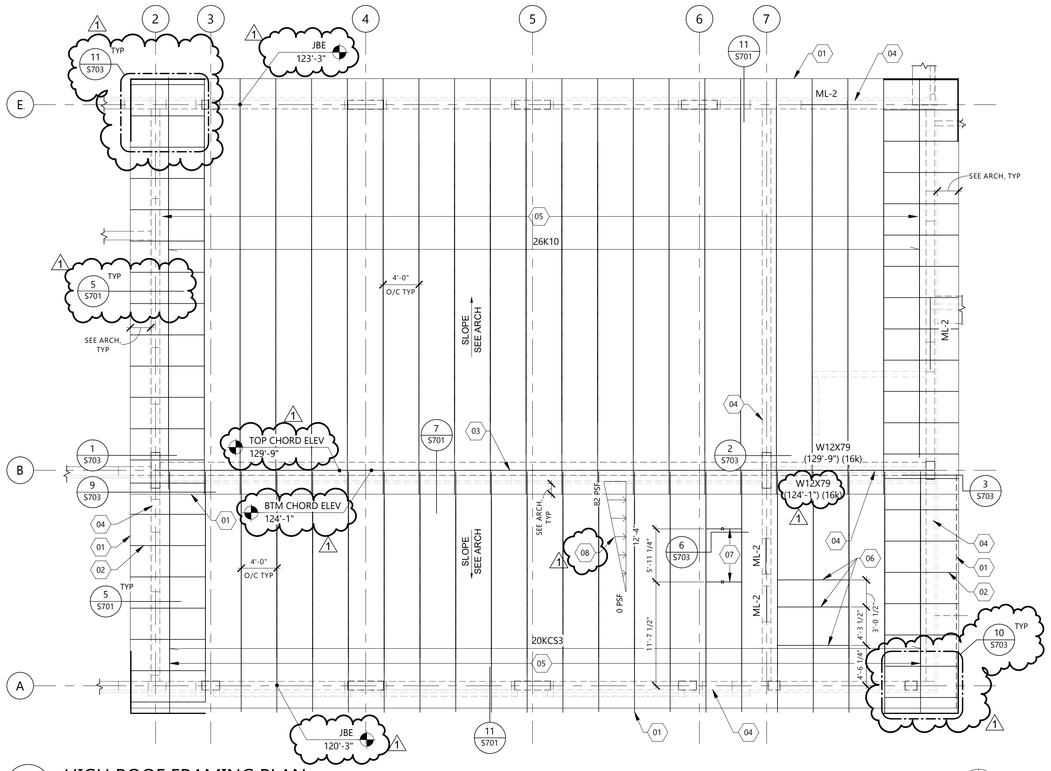
4 S203 TRUSS TOP CHORD CONNECTION 1
1" = 1'-0"



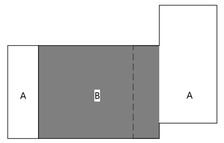
3 S203 TRUSS END BOTTOM CHORD CONNECTION
1" = 1'-0"



2 S203 TRUSS DIAGRAM - CLERESTORY WINDOWS @ APPARATUS BAY
3/16" = 1'-0"



1 S203 HIGH ROOF FRAMING PLAN
1/8" = 1'-0"



KEY PLAN

KEYNOTE LEGEND:

< > INDICATES KEYNOTE ON PLAN

01	METAL ROOF EDGE, SEE 16/S701 FOR SUPPORT DETAILS
02	HSS4x2x1/4" OUTRIGGERS @ 3'-6" MAX
03	STRUCTURAL STEEL GIRDER TRUSS, SEE 2/S203
04	CMU WALL, BELOW -SEE S301 FOR SCHEDULE
05	20GA 1.5 B-36 GRADE 50 METAL ROOF DECK. PROVIDE 3 SPAN CONDITION-MIN. SEE ARCH FOR ROOFING SYSTEM ABOVE
06	HSS5x5x1/4" HOIST RING FRAMING -SEE 4/S702
07	HSS5x3x1/4" STAIR HANGER SUPPORT FRAMING -SEE 6/S703
08	SNOW DRIFT LOADING TO BE ADDED IN ADDITION TO ROOF UNIFORM SNOW LOAD

MASONRY LINTEL SCHEDULE

MARK	LINTEL SIZE	REINFORCING		REMARKS
		BOND BEAM	SHEAR	
ML-2	12"x16"	(2) #5 BOTTOM		SEE 1/S702

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UPPER ROOF FRAMING PLAN

S203

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SHEARWALL SCHEDULE

MARK	WALL SHEATHING	NAILING (SIZING & SPACING) EDGE	NAILING (SIZING & SPACING) INTERMEDIATE	MEMBER REQUIREMENTS AT END OF SHEARWALLS	HOLD-DOWN & ANCHOR ROD AT EACH END	SILL PLATE FASTENING
SW-1	TYPICAL, UNBLOCKED	8d @ 4" O/C	8d @ 12" O/C	(2) 2x6 SPF STUDS	NONE REQUIRED	TYP
SW-2	TYPICAL, BLOCKED	8d @ 6" O/C	8d @ 12" O/C	(2) 2x8 SPF STUDS	SIMPSON DTT2Z W/ 1/2" DIA THREADED ROD EMBEDDED 10" INTO CONCRETE STEM WALL	TYP
SW-3	TYPICAL, BLOCKED	8d @ 4" O/C	8d @ 12" O/C	(2) 2x6 SPF STUDS	SIMPSON DTT2Z W/ 1/2" DIA THREADED ROD EMBEDDED 10" INTO CONCRETE STEM WALL	TYP
SW-4	TYPICAL, BLOCKED	8d @ 4" O/C	8d @ 8" O/C	(2) 2x6 SPF STUDS	SIMPSON DTT2Z W/ 1/2" DIA THREADED ROD EMBEDDED 10" INTO CONCRETE STEM WALL	TYP
SW-5	TYPICAL, BLOCKED	8d @ 4" O/C	8d @ 12" O/C	(2) 2x8 SPF STUDS	NONE REQUIRED	TYP
SW-6	TYPICAL, BLOCKED	8d @ 6" O/C	8d @ 12" O/C	(2) 2x6 SPF STUDS	NONE REQUIRED	TYP

NOTES:
1. SHEATHING TO BE FASTENED TO END MEMBERS WITH EDGE NAILING PATTERN.
2. FASTEN DOUBLE 2x MEMBERS W/ (2) ROWS 10d NAILS @ 8" O/C.
3. AT OPENING IN SHEARWALLS, FASTEN SHEATHING AROUND OPENING WITH EDGE NAILING NOTED IN SHEARWALL SCHEDULE.

MASONRY WALL SCHEDULE

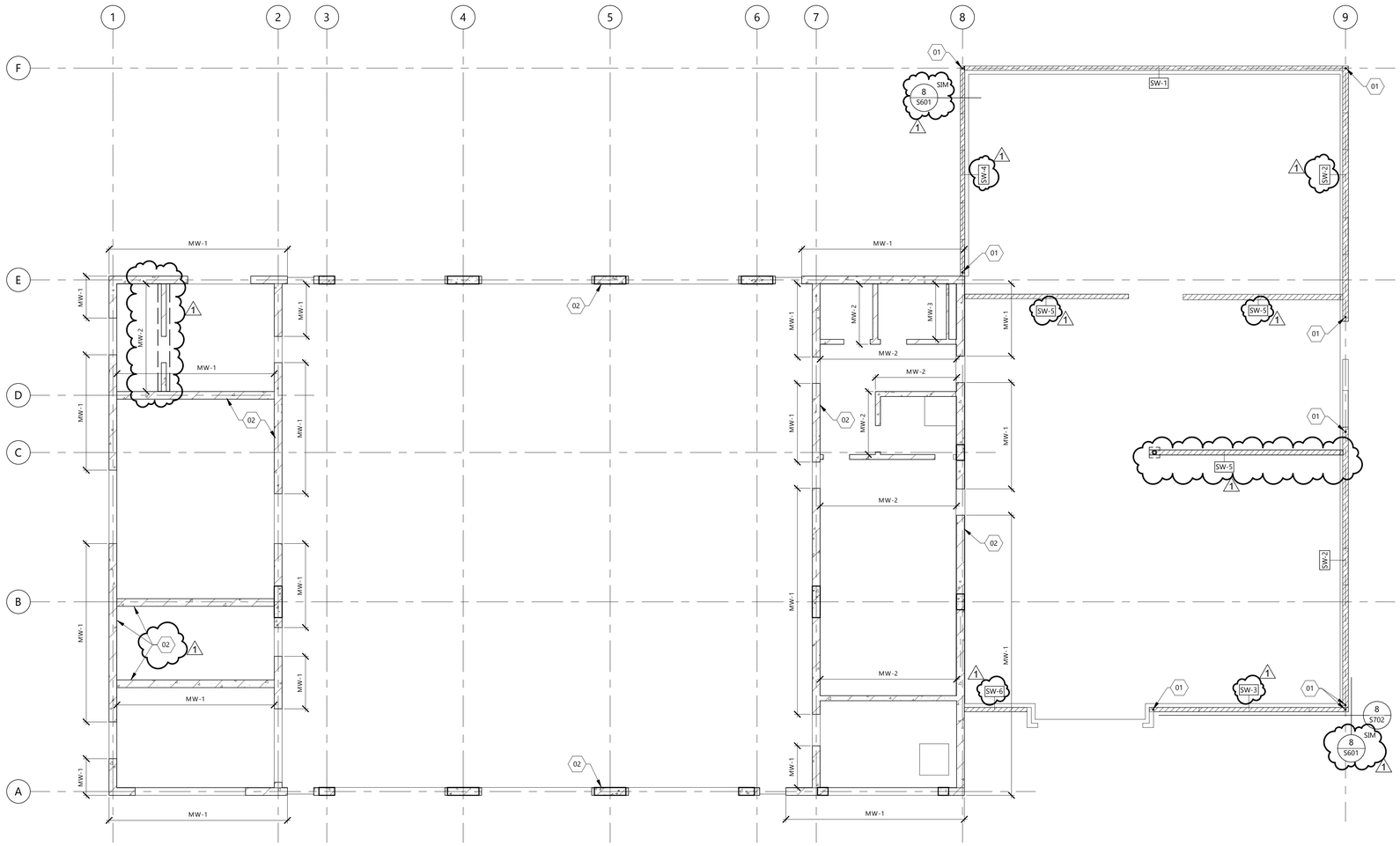
MARK	WIDTH	REINFORCING VERTICAL	REINFORCING HORIZONTAL	CHORD CELL	REMARKS
MW-1	11 5/8"	(1) #5 @ 32" O/C	(2) #4 IN BOND BEAM @ 48" O/C	(2) CELLS W/ (1) #5 IN EA CELL	-
MW-2	7 5/8"	(1) #5 @ 32" O/C	(2) #4 IN BOND BEAM @ 48" O/C	NONE	-
MW-3	3 5/8"	(1) #5 @ 32" O/C	(1) #4 IN BOND BEAM @ 48" O/C	NONE	-

KEYNOTE LEGEND:

< < < INDICATES KEYNOTE ON PLAN

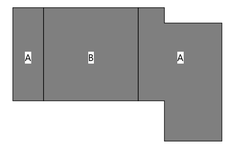
01 APPROXIMATE LOCATION OF SHEARWALL HOLD-DOWN, SEE DETAIL 8/S601

02 CMU WALL, SEE SCHEDULE



1 S301 SHEARWALL AND MASONRY WALL PLANS

1/8" = 1'-0"



KEY PLAN

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PROJECT DESCRIPTION
FIRE STATION 6

CITY BISMARCK
STATE ND

ISSUE DATES

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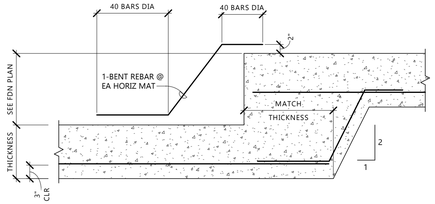
NORTH DAKOTA

DRAWING TITLE
SHEARWALL & MASONRY WALL PLANS

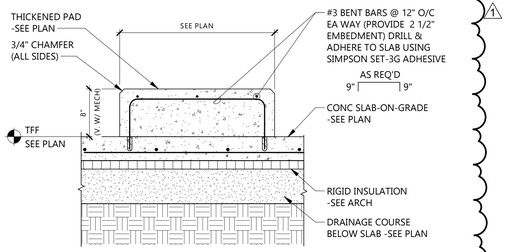
S301

Revit Version 2025
Plot Date: 11/13/2026 12:18:31 PM



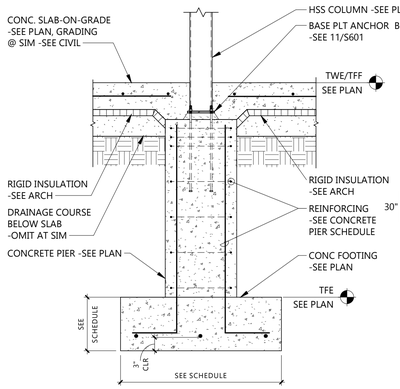
14 S601 TYPICAL STEP FOOTING

3/4" = 1'-0"



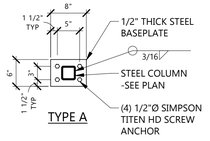
13 S601 THICKENED PAD SECTION

1" = 1'-0"



12 S601 STEEL COLUMN @ INTERIOR CONC PIER

3/4" = 1'-0"



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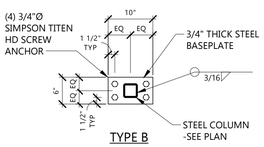

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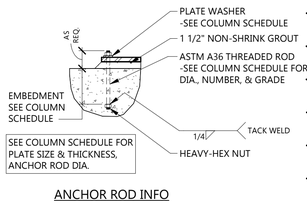
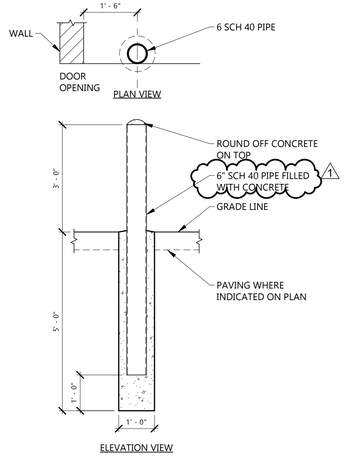


ANCHOR ROD INFO

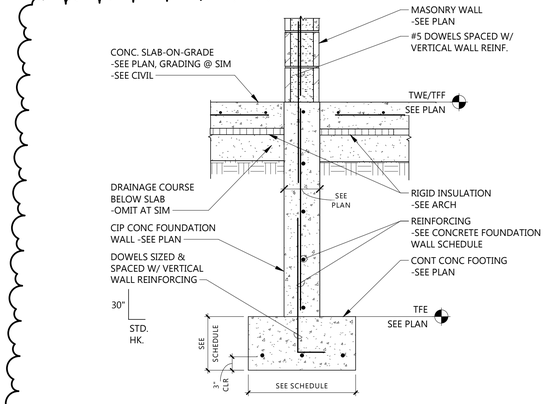
11 S601 BASE PLATE DETAIL

3/4" = 1'-0"



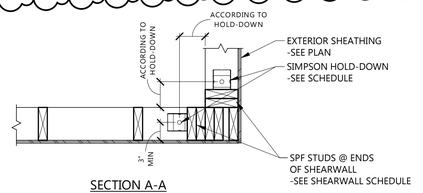
10 S601 BOLLARD DETAIL

1/2" = 1'-0"

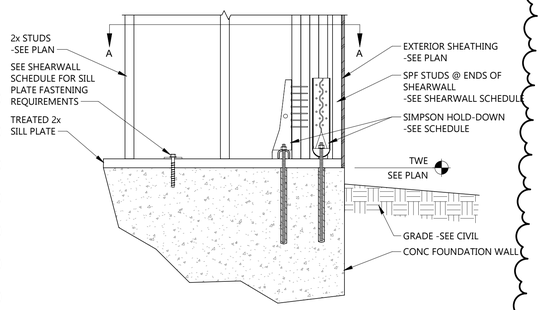


9 S601 FOUNDATION WALL/FOOTING @ CMU

3/4" = 1'-0"

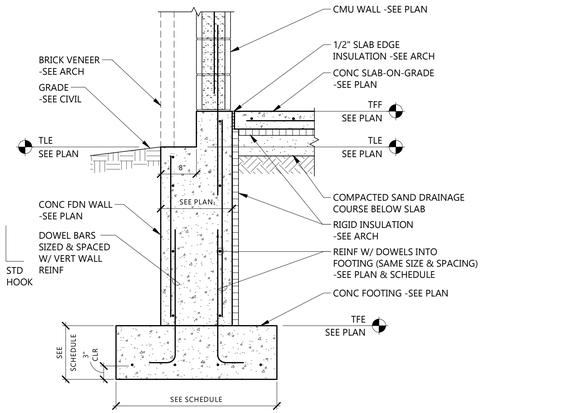


SECTION A-A



8 S601 SHEARWALL DETAIL AT HOLD-DOWN

1" = 1'-0"

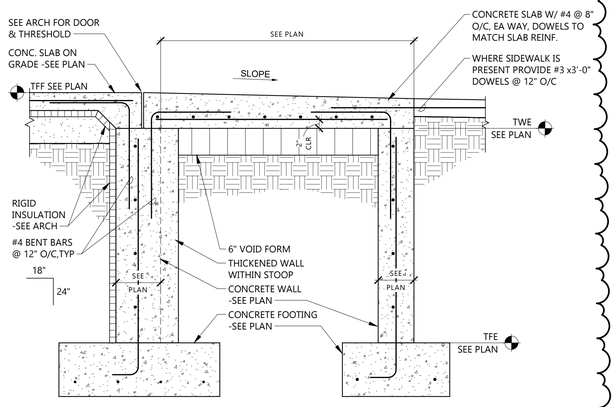


7 S601 EXT FOUNDATION WALL @ CMU WALL

3/4" = 1'-0"

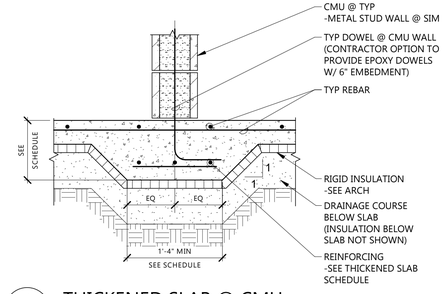
6 S601 SECTION @ OVERHEAD DOORS

3/4" = 1'-0"



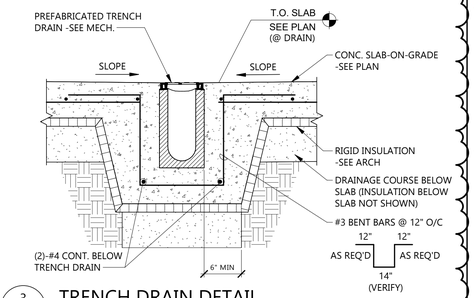
5 S601 TYPICAL STOOP DETAIL

3/4" = 1'-0"



4 S601 THICKENED SLAB @ CMU

1" = 1'-0"

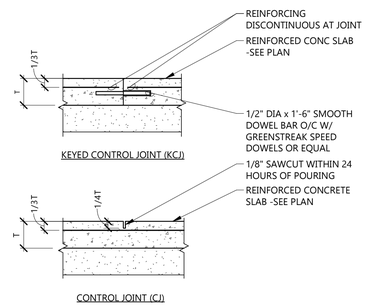


3 S601 TRENCH DRAIN DETAIL

1" = 1'-0"

2 S601 TYPICAL FDN CORNERS

3/4" = 1'-0"



1 S601 SLAB CONTROL JOINTS

3/4" = 1'-0"

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S601

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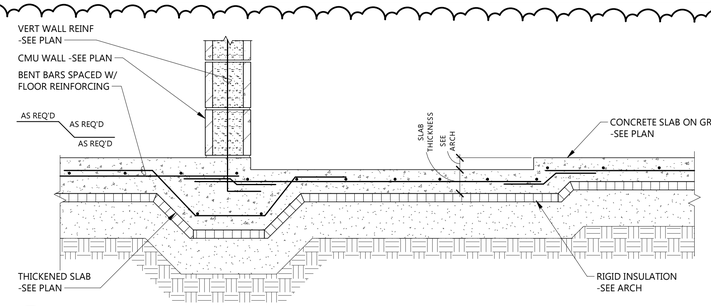
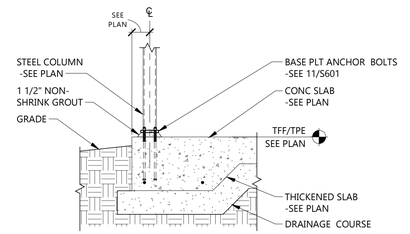
Plot Date: 11/13/2026 12:18:34 PM



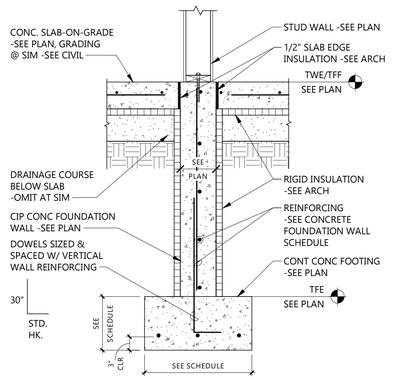
4 S602 STEPPED FLOOR SLAB

1" = 1'-0"



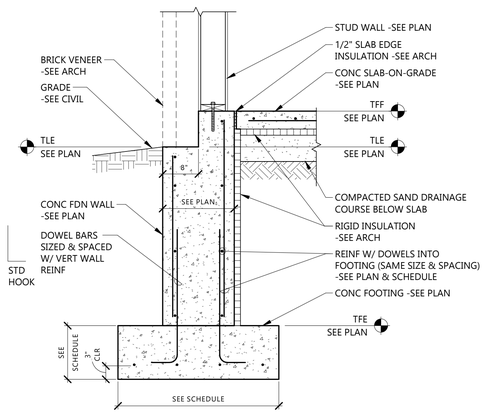
3 S602 STEEL COLUMN @ THICKENED SLAB EDGE

3/4" = 1'-0"



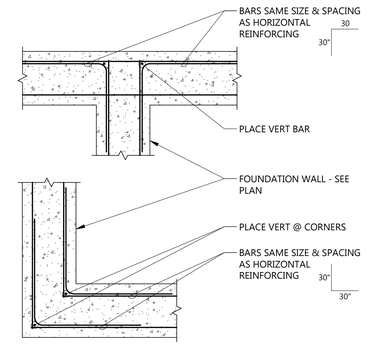
2 S602 STUD WALL @ INTERIOR FNDN WALL

3/4" = 1'-0"



5 S602 EXT FNDN WALL @ WOOD FRAMED WALL

3/4" = 1'-0"



1 S602 TYPICAL FDN CORNERS-DOUBLE

3/4" = 1'-0"

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S602

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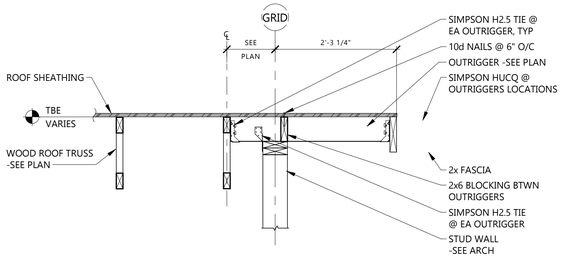
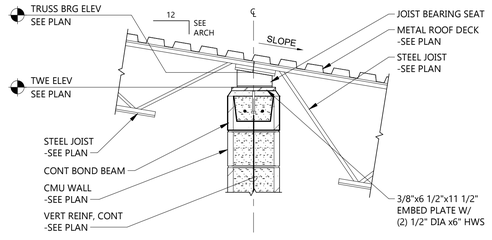


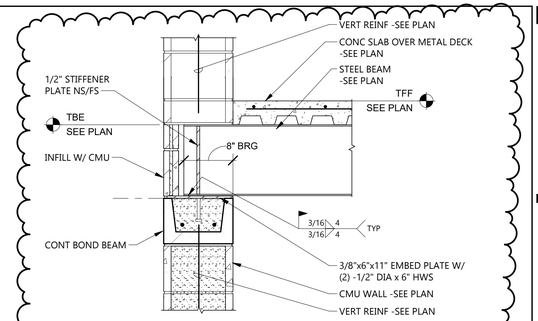
12 S701 ROOF EDGE DETAIL @ STUD WALL

3/4" = 1'-0"



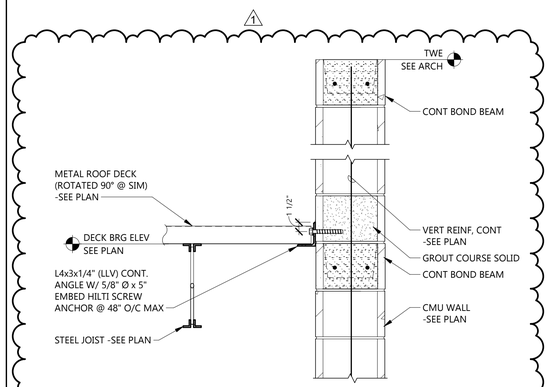
8 S701 JOISTS @ CMU WALL DETAIL

3/4" = 1'-0"



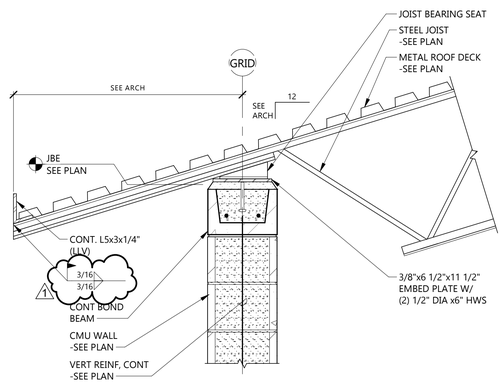
4 S701 BEAM BEARING @ CMU

1" = 1'-0"



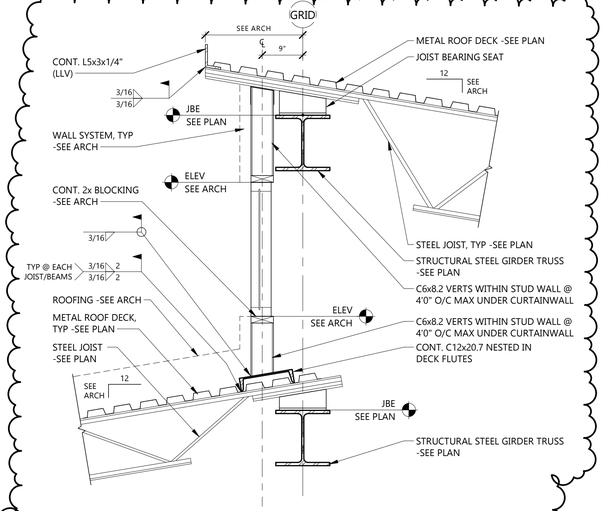
15 S701 METAL ROOF DECK TO CMU WALL

1" = 1'-0"



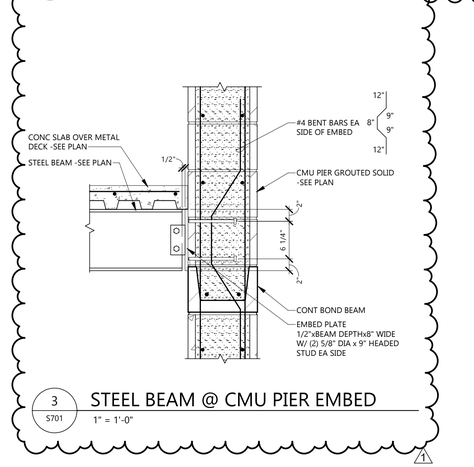
11 S701 JOIST BRG @ CMU WALL

1" = 1'-0"



7 S701 FRAMING @ APPARATUS CLERESTORY

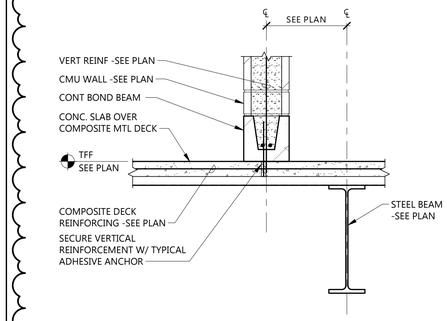
3/4" = 1'-0"



3 S701 STEEL BEAM @ CMU PIER EMBED

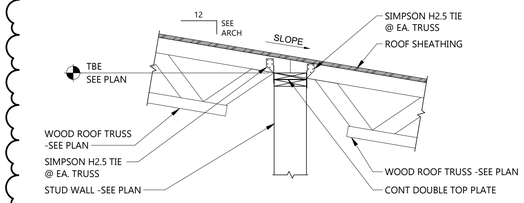
1" = 1'-0"

JOIST CHORDS ARE NOT DESIGNED FOR CONCENTRATED LOADS. EITHER PLACE LOADS WITHIN 4" OF PANEL POINTS OR FIELD WELD (2) EXTRA MEMBERS FROM THE POINT OF THE LOAD TO THE NEAREST PANEL POINT ON THE OPPOSITE CHORD.



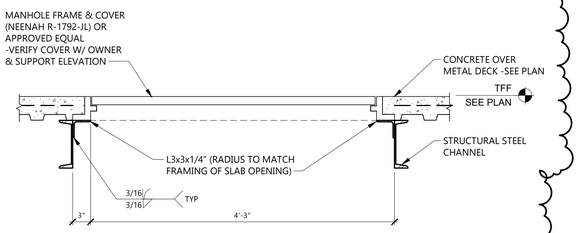
14 S701 CMU WALL @ MEZZANINE DECK

1" = 1'-0"



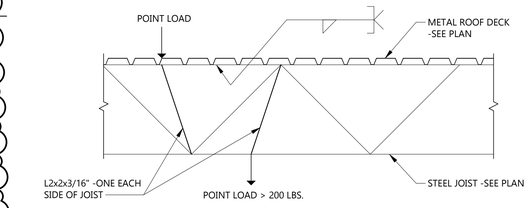
10 S701 JOISTS @ STUD WALL DETAIL

3/4" = 1'-0"



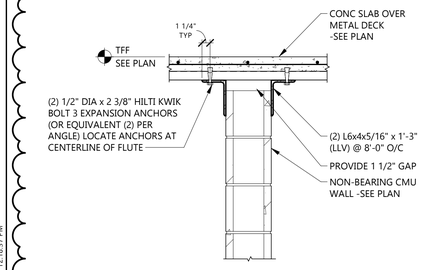
6 S701 MANHOLE THRU MEZZANINE SLAB OPENING

1" = 1'-0"



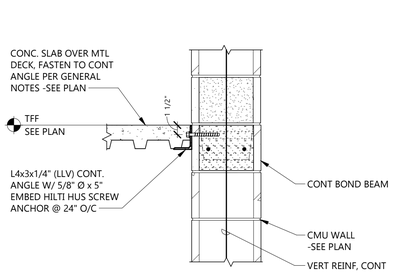
2 S701 JOIST REINFORCING DETAIL

3/4" = 1'-0"



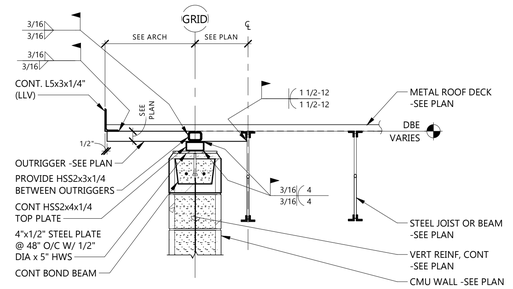
13 S701 LATERAL BRACE @ NON-BEARING CMU WALL

1" = 1'-0"



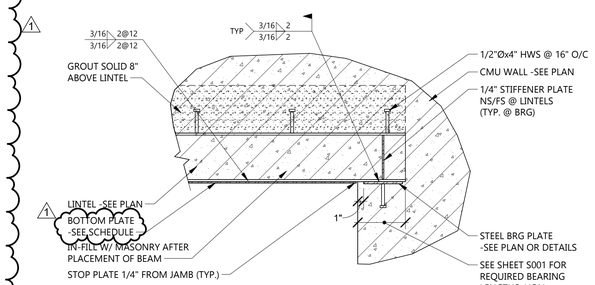
9 S701 FLOOR DECK PARALLEL @ CMU WALL

1" = 1'-0"



5 S701 ROOF EDGE DETAIL @ CMU WALL

3/4" = 1'-0"



1 S701 TYPICAL LINTEL BEARING DETAIL

1" = 1'-0"

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FRAMING DETAILS

S701

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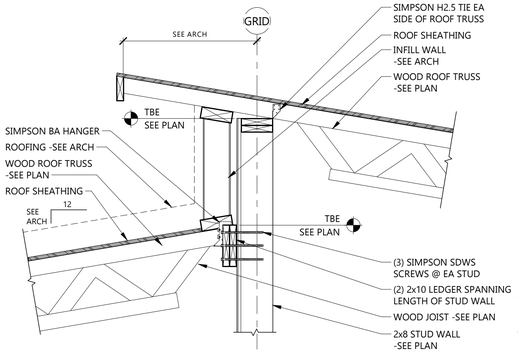
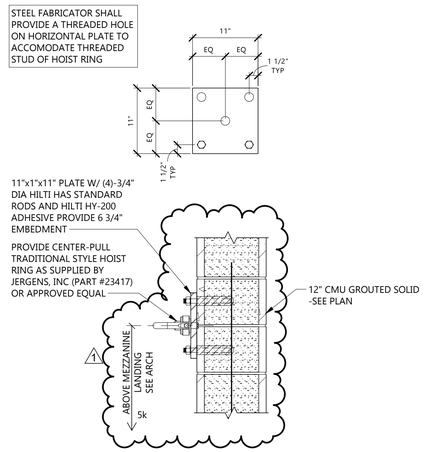
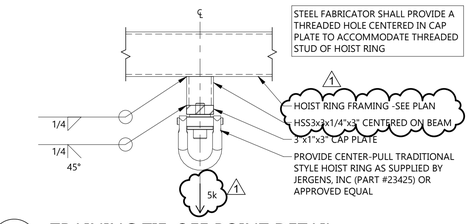


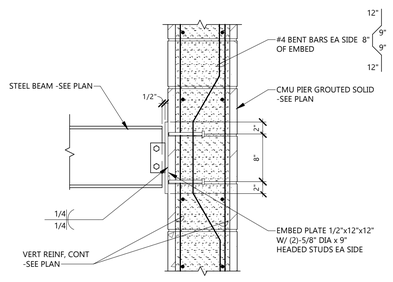
10 S702 STUD WALL @ LIVING QUARTERS CLERESTORY
3/4" = 1'-0"



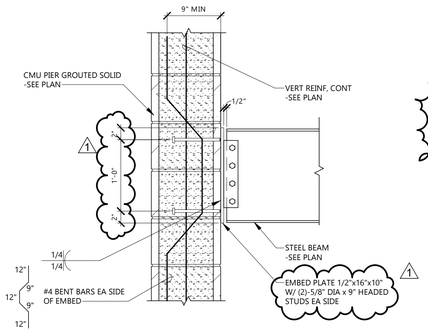
7 S702 TRAINING TIE-OFF ATTACHMENT @ INTERIOR WALL
1" = 1'-0"



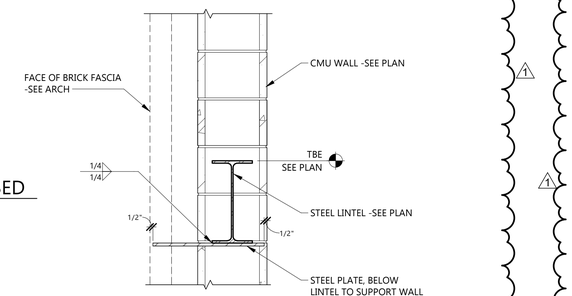
4 S702 TRAINING TIE-OFF POINT DETAIL
1 1/2" = 1'-0"



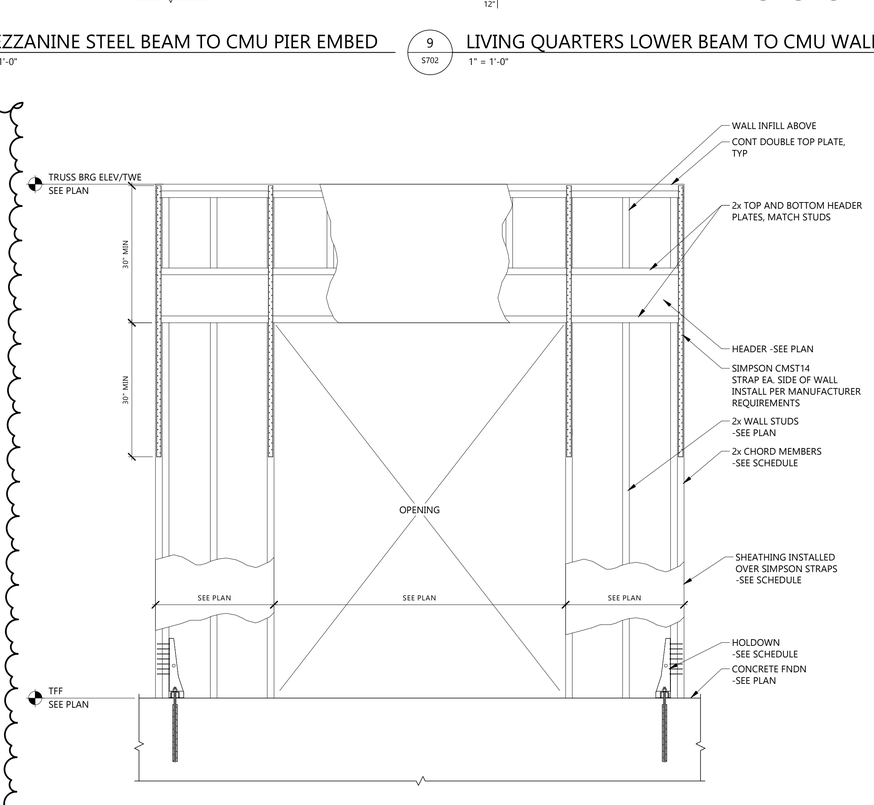
11 S702 MEZZANINE STEEL BEAM TO CMU PIER EMBED
1" = 1'-0"



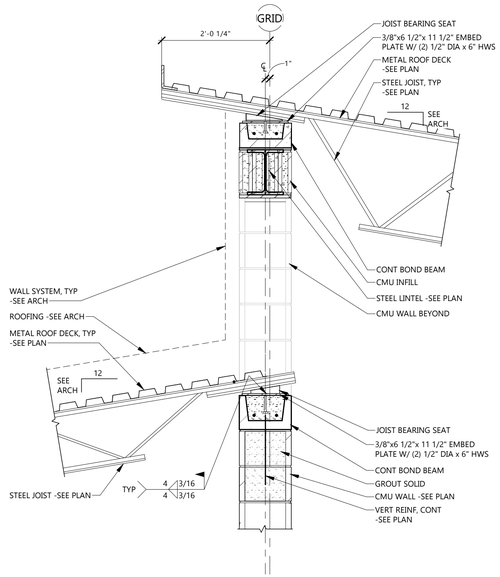
9 S702 LIVING QUARTERS LOWER BEAM TO CMU WALL EMBED
1" = 1'-0"



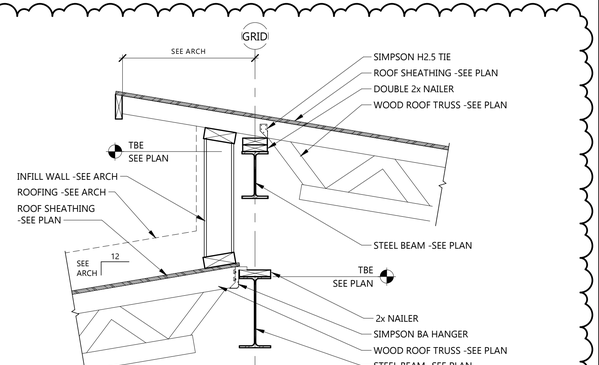
6 S702 STEEL LINTEL @ CMU WALL
1" = 1'-0"



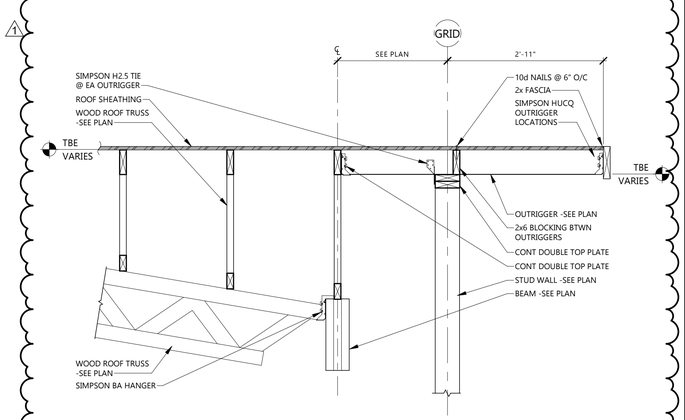
8 S702 TYP PORTAL FRAME ELEVATION
3/4" = 1'-0"



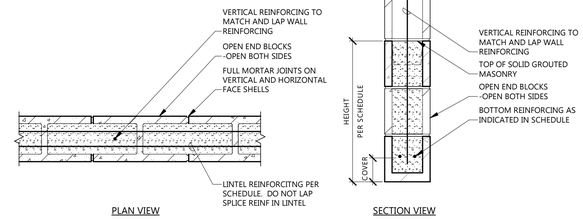
5 S702 FRAMING @ CLERESTORY
3/4" = 1'-0"



3 S702 STRUCTURAL STEEL @ LIVING QUARTERS CLERESTORY
3/4" = 1'-0"



2 S702 SECTION @ LIVING SPACE ENTRANCE
3/4" = 1'-0"



1 S702 MASONRY LINTEL (ML) DETAILS
1" = 1'-0"

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BISMARCK FIRE DEPARTMENT

PROJECT DESCRIPTION
FIRE STATION 6

CITY BISMARCK
STATE ND

ISSUE DATES

MARK	DESCRIPTION	DATE
1	ADDENDUM #2	11/13/2026
CD	100% CONSTRUCTION DOCUMENTS	10/29/2026

PROJECT NO: 20253510
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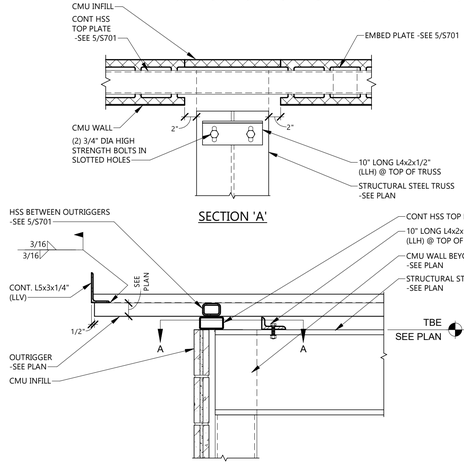
REGISTERED PROFESSIONAL ENGINEER
SAMUEL J. WILKE
PE-6697
DATE 10/29/2026
NORTH DAKOTA

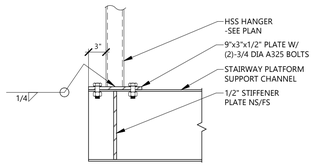
DRAWING TITLE
FRAMING DETAILS

S702

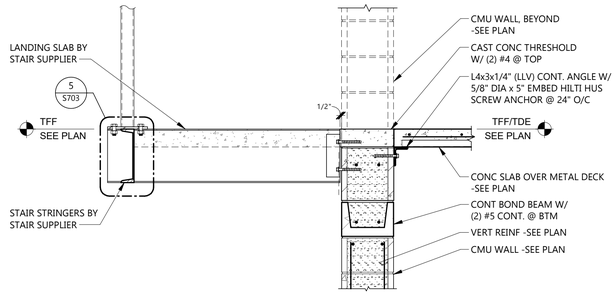
Revit Version: 2025
Plot Date: 11/13/2026 12:18:39 PM



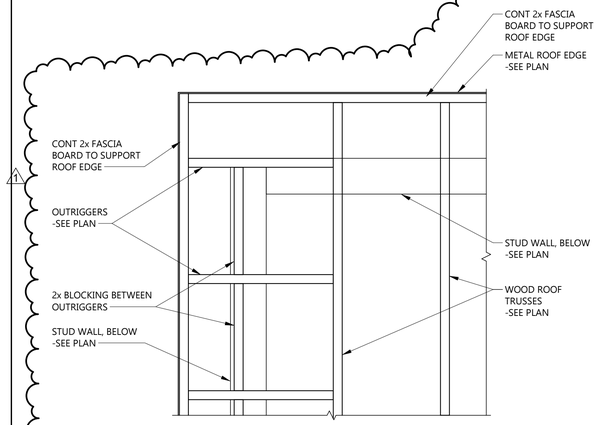
9 S703 TOP OF TRUSS CONNECTION
1" = 1'-0"



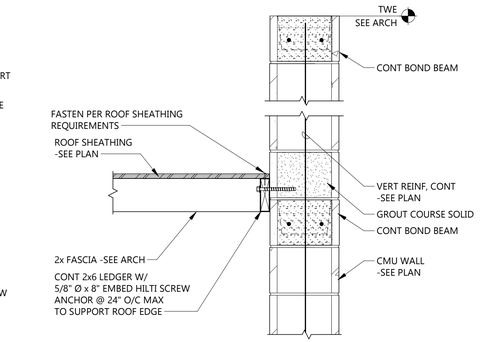
5 S703 STAIR HANGER/BEAM CONNECTION
1" = 1'-0"



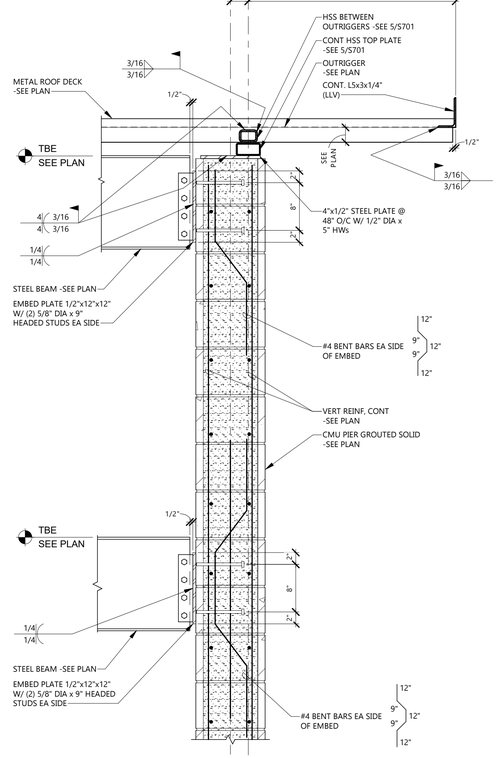
4 S703 ROOF EDGE DETAIL @ CMU WALL
3/4" = 1'-0"



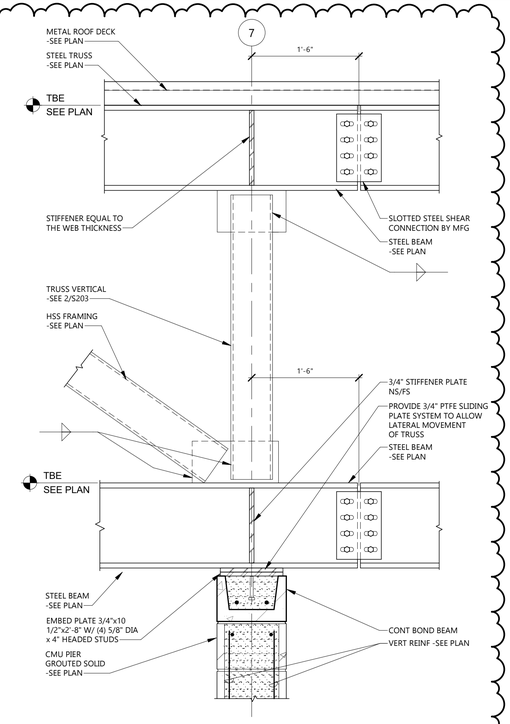
11 S703 ROOF EDGE SUPPORT @ WOOD CONSTRUCTION
3/4" = 1'-0"



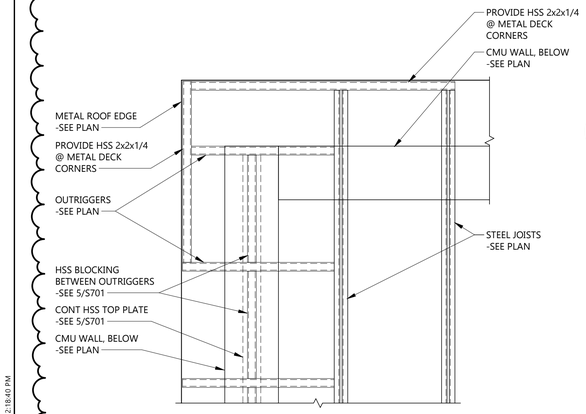
8 S703 WOOD ROOF DECK EDGE TO CMU WALL
1" = 1'-0"



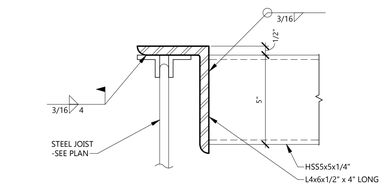
3 S703 APPARATUS BEAM ATTACHMENT DETAIL
1" = 1'-0"



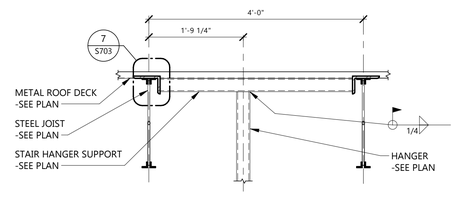
2 S703 APPARATUS TRUSS TO BEAM ATTACHMENT DETAIL
1" = 1'-0"



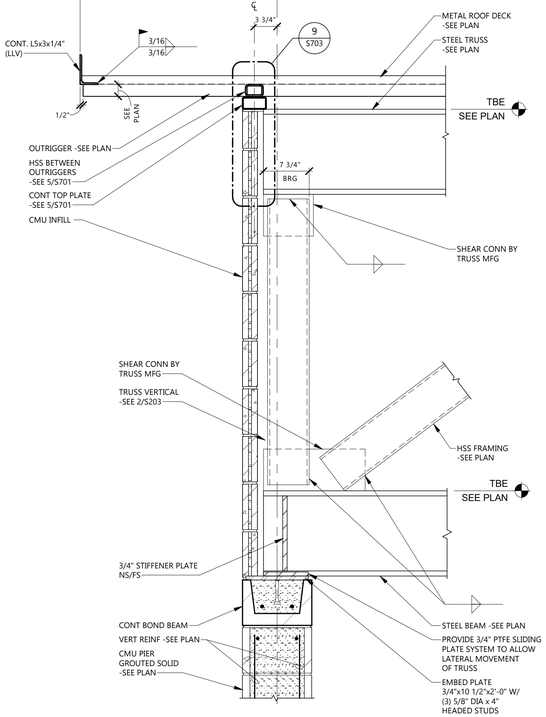
10 S703 ROOF EDGE SUPPORT @ CMU CONSTRUCTION
3/4" = 1'-0"



7 S703 TRAINING TIE-OFF POINT/STAIR SUPPORT
3" = 1'-0"



6 S703 STAIR HANGER ANCHORAGE @ ROOF
3/4" = 1'-0"



1 S703 APPARATUS TRUSS ATTACHMENT DETAIL
1" = 1'-0"

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CITY BISMARCK
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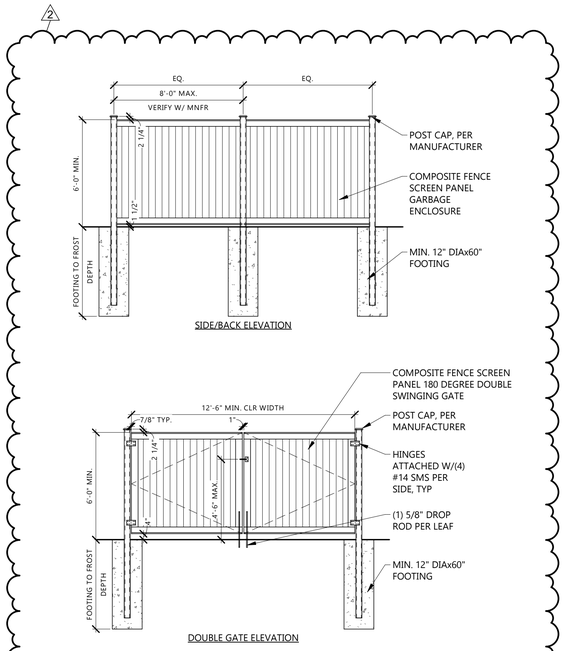
PE-6697
DATE 10/29/2026
NORTH DAKOTA

DRAWING TITLE
FRAMING DETAILS

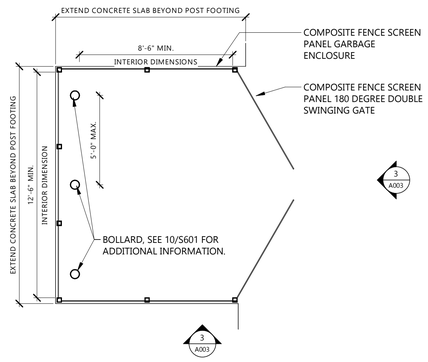
S703

Revit Version: 2026
Plot Date: 1/12/2026 12:18:40 PM



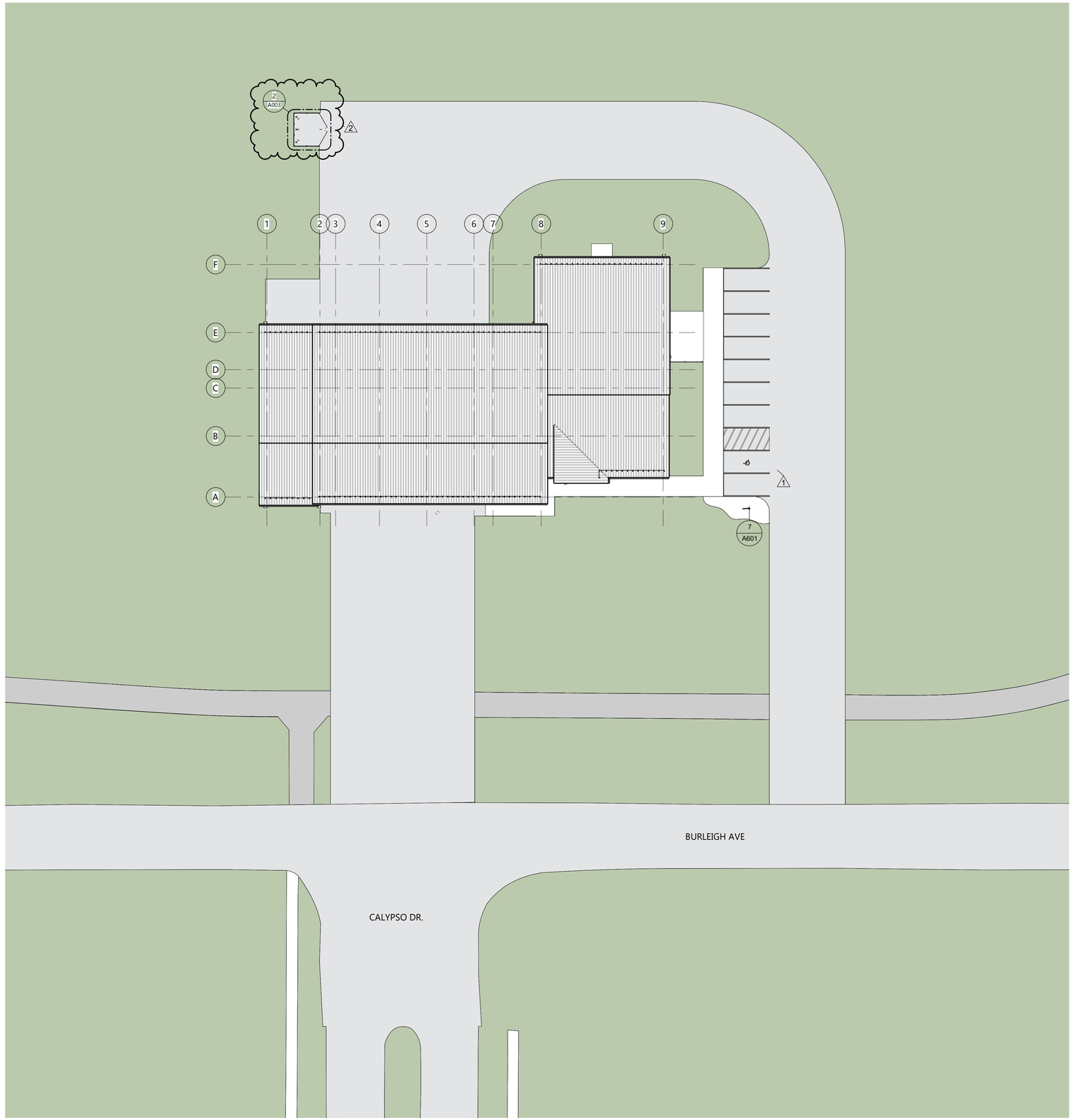
3 A003 FENCE SCREENING

1/4" = 1'-0"



2 A003 TRASH ENCLOSURE PLAN

1/4" = 1'-0"



1 A003 SITE

1" = 20'-0"

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ISSUE DATES

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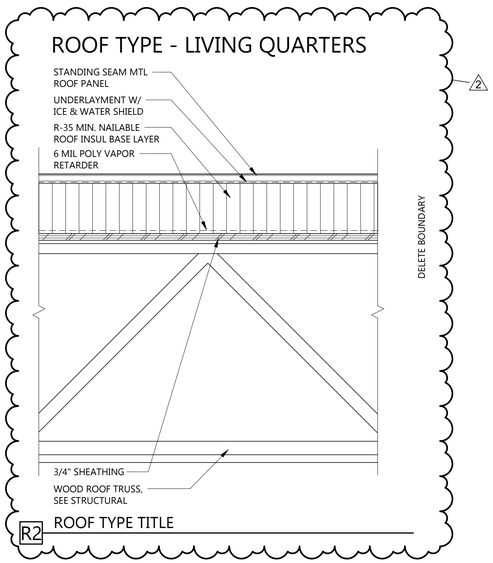
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Architect under the laws of the State of North Dakota.
Signature:
Date: 10/29/2026 REG. NO. : 1718

DRAWING TITLE
SITE PLAN

A003

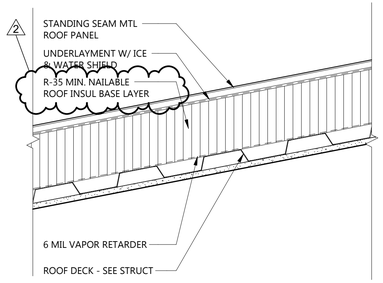
Revit Version: 2025
Plot Date: 11/13/2026 12:33:50 PM

ROOF TYPE - LIVING QUARTERS

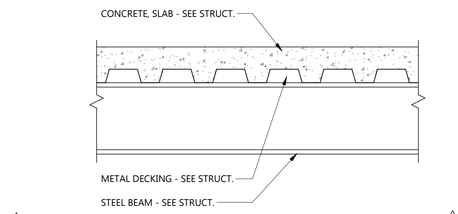


R2 ROOF TYPE TITLE

ROOF TYPE x

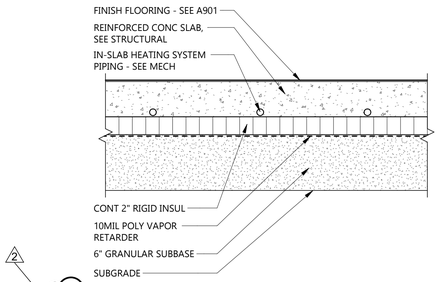


R1 ROOF TYPE



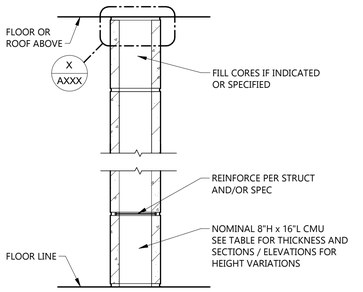
F2 FLOOR ASSEMBLY TYPE R2

(TYPICAL AT MEZZANINE)



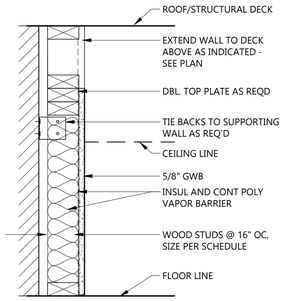
F1 FLOOR ASSEMBLY TYPE R1

(TYPICAL AT HEATED SLAB AREAS)



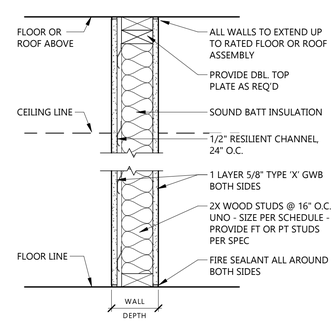
TYPE MARK	STUD SIZE	WALL DEPTH	FIRE RATING	FIRE TEST	SOUND ATTENUATION			NOTES
					SAB	STC	TEST	
M4		3 5/8"						
M8		7 5/8"	1-HR	U906				
MC		11 5/8"	1-HR	U906				

M MASONRY PARTITION (SINGLE WYTHE CMU)



TYPE MARK	STUD SIZE	WALL DEPTH	FIRE RATING	FIRE TEST	SOUND ATTENUATION			NOTES
					SAB	STC	TEST	
K4	3 1/2"	4 1/8"	NR					
K6	5 1/2"	6 1/8"	NR					

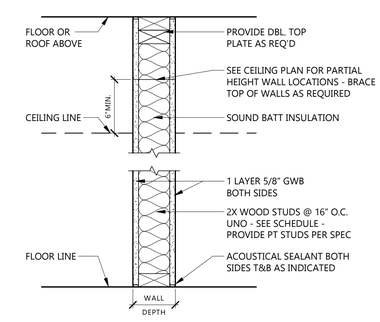
K NON-RATED WOOD STUD FURRED WALL



TYPE MARK	STUD SIZE	WALL DEPTH	FIRE RATING	FIRE TEST	SOUND ATTENUATION			NOTES
					SAB	STC	TEST	
D5	3 1/2"	4 3/4"	1-HR FB	UL U305	-	-	-	2X4
D7	5 1/2"	6 3/4"	1-HR FB	UL U305	-	-	-	2X6
D9	7 1/4"	8 1/2"	1-HR FB	UL U305	-	-	-	2X8

SEE LIFE SAFETY PLAN FOR 1/2-HOUR F.R. ASSEMBLY TYPES AND LOCATIONS

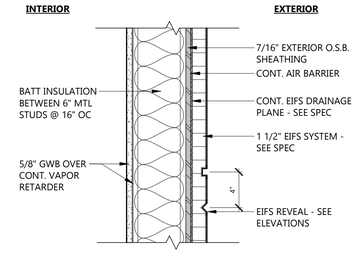
D 1/2-HOUR RATED GWB ON WOOD STUDS



TYPE MARK	STUD SIZE	WALL DEPTH	FIRE RATING	FIRE TEST	SOUND ATTENUATION			NOTES
					SAB	STC	TEST	
B5	3 1/2"	4 3/4"	NR	-	3 1/2"	-	-	2x4
B7	5 1/2"	6 3/4"	NR	-	5 1/2"	-	-	2x6
B9	7 1/4"	8 1/2"	NR	-	5 1/2"	-	-	2x8

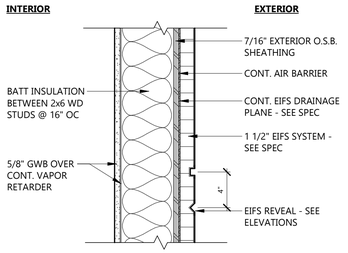
SEE LIFE SAFETY PLAN FOR N.R. SMOKE-RESISTIVE WALL LOCATIONS

B NON-RATED GWB ON WOOD STUDS



SEE ELEVATIONS FOR EIFS REVEALS AND JOINTS

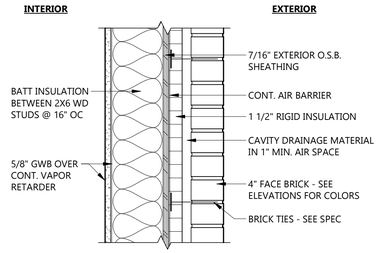
E5 EIFS ON MTL STUD BACKUP



SEE ELEVATIONS FOR EIFS REVEALS AND JOINTS

E4.2 - BATT INSULATION BETWEEN 2X8 WD STUDS @ 16" OC

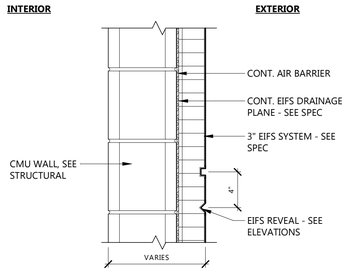
E4.1 EIFS ON WOOD STUD BACKUP



SEE ELEVATIONS AND SECTIONS FOR BRICK COURSING

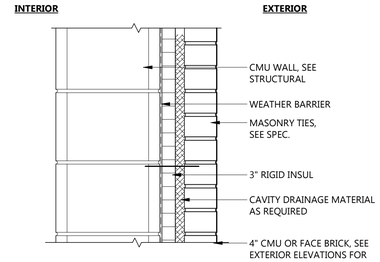
E3.2 - BATT INSULATION BETWEEN 2X8 WD STUDS @ 16" OC

E3.1 EXTERIOR BRICK ON WD STUD BACKUP



SEE ELEVATIONS FOR EIFS REVEALS AND JOINTS

E2 EIFS ON CMU BACKUP



SEE EXTERIOR ELEVATIONS AND SECTIONS FOR COURSING

E1 EXTERIOR BRICK ON CMU BACKUP

GENERAL INTERIOR PARTITION NOTES

1. SEE FLOOR PLANS FOR EXTENT OF EACH WALL
2. ON ALL RESTROOM WALLS AND OTHER AREAS SCHEDULED TO RECEIVE FRP OR TILE FINISH, PROVIDE A MINIMUM OF MOISTURE-RESISTANT GYPSUM BOARD.
3. ALL PARTITIONS CONTAINING PLUMBING OR HAVING AN EXTERIOR FACE SHALL BE INSULATED.
4. WHERE GYPSUM BOARD EXTENDS TO UNDERSIDE OF STRUCTURE ABOVE, STOP GYPSUM BOARD 1/2" BELOW LINE OF STRUCTURE AND SEAL AS REQUIRED.
5. REFERENCE FLOOR FINISH PLANS AND WALL FINISH PLANS FOR ADDITIONAL FINISHES NOT INDICATED ON PARTITION TYPES.
6. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATIONS OF WALL PENETRATIONS. SEAL ALL OPENINGS WITH ACOUSTICAL SEALANT.
7. PROVIDE FIRE-TREATED WOOD OR STEEL BACKING FOR ALL WALL-MOUNTED FINISH CARPENTRY, ARCHITECTURAL WOODWORK, TOILET PARTITIONS, ACCESSORIES AND OTHER SIMILAR ITEMS.

FIRE-RATED PARTITION NOTES:

1. ALL PARTITIONS NOTED TO BE FIRE-RESISTANCE RATED SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH THE FIRE RESISTANCE TESTS.
2. FIRE-RATED PARTITIONS SHALL BE CONSTRUCTED BEFORE NON-RATED PARTITIONS.
3. ALL FIRE-RATED PARTITIONS TO EXTEND FROM TOP OF UNFINISHED FLOOR TO UNDERSIDE OF STRUCTURE ABOVE. SEAL TOP, BOTTOM AND ALL PENETRATIONS WITH FIRE-RATED SEALANT.
4. ALL PENETRATIONS IN FIRE-RATED PARTITIONS SHALL BE SEALED WITH MATERIALS, SEALANTS AND/OR ASSEMBLIES WHICH MAINTAIN THE FIRE-RESISTANCE RATING OF THE PARTITION

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PROJECT DESCRIPTION
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CITY BISMARCK
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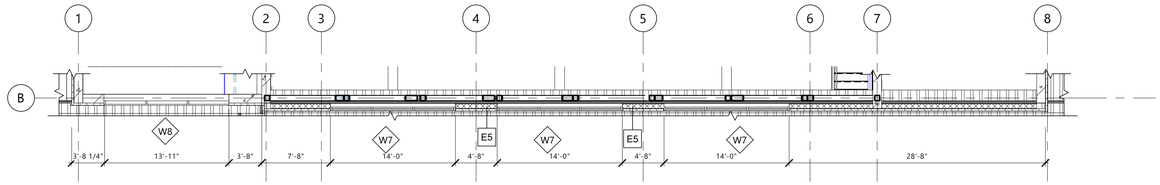
Date: 10/29/2026 REG. NO. : 1718

DRAWING TITLE
WALL, FLOOR AND ROOF TYPES

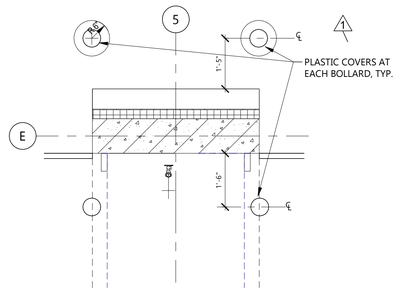
A021

Revit Version: 2025
Plot Date: 11/13/2026 12:33:50 PM



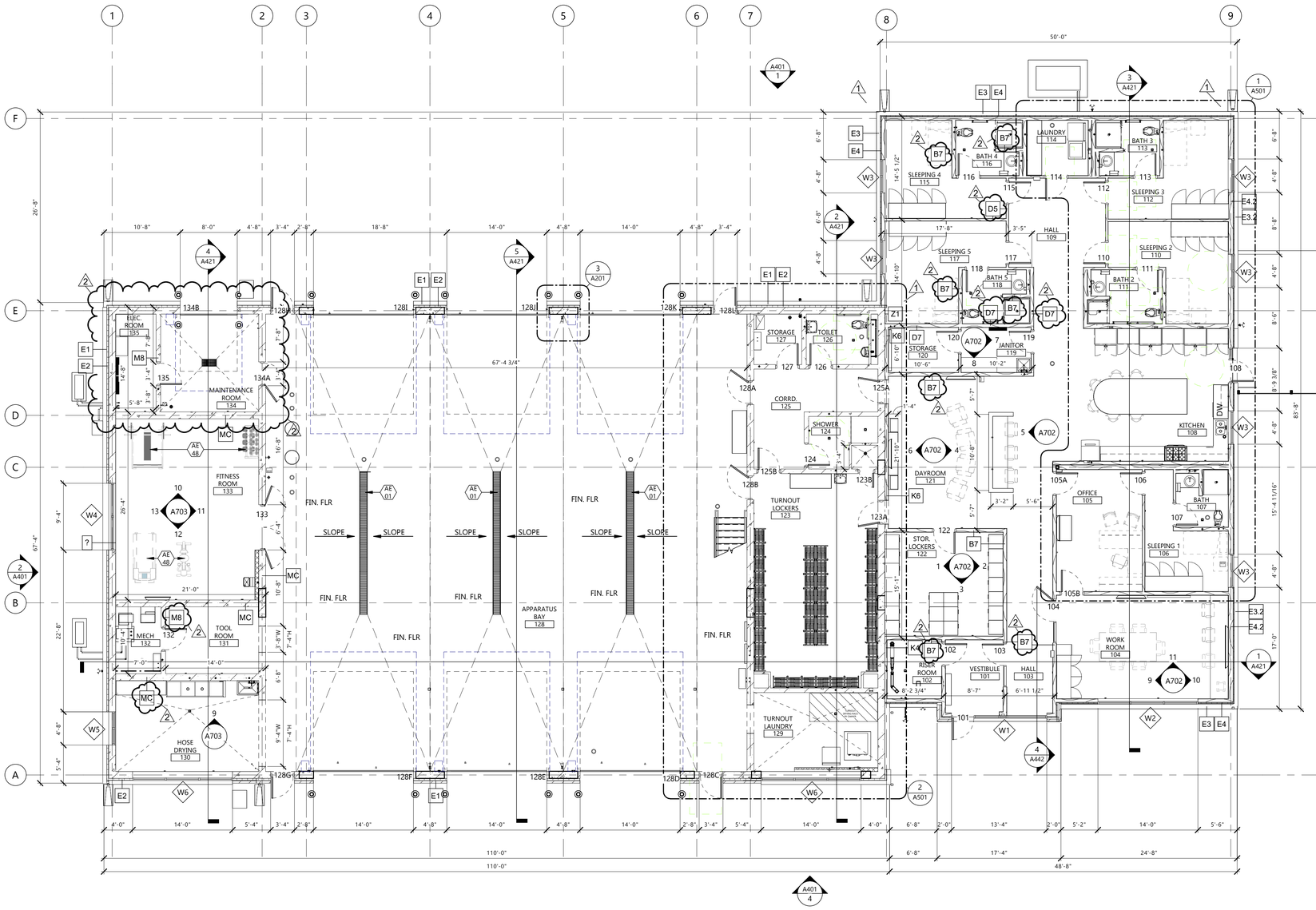
4 A201 APPARTUS CLERESTORY - RIBBON WINDOW PLAN

1/8" = 1'-0"



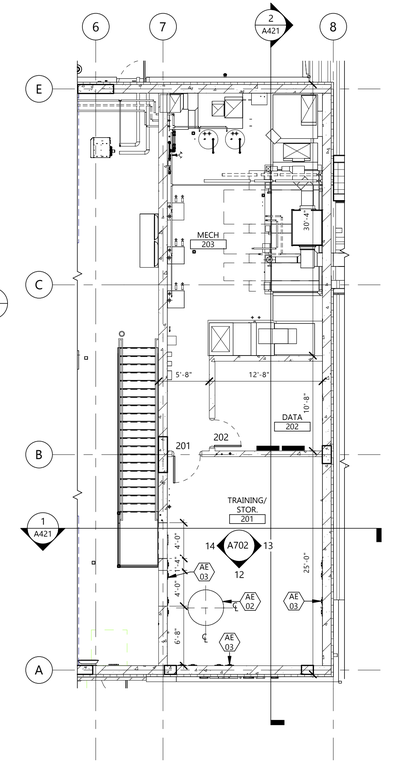
3 A201 TYP. BOLLARD PLAN DETAIL

1/2" = 1'-0"



2 A201 FIRST FLOOR PLAN

1/8" = 1'-0"



1 A201 MEZZANINE FLOOR PLAN

1/8" = 1'-0"

GENERAL NOTES

1. GENERAL NOTES APPLY TO ALL DRAWING SETS
2. SUBCONTRACTORS FOR EACH TRADE ARE ADVISED THAT INFORMATION PERTINENT TO THEIR WORK MAY OCCUR IN OTHER PORTIONS OF THE CONTRACT DOCUMENTS. ALL NOTES ARE TO BE REVIEWED AND APPLIED TO RELATED BUILDINGS DOCUMENTS.
3. CROSS REFERENCES SHOWN ON DRAWINGS DO NOT NECESSARILY INDICATE ALL LIKE CONDITIONS AND DO NOT LIMIT APPLICATION OF ANY DRAWING OF DETAIL WHERE SPECIFIC DIMENSIONS, DETAILS, OR DESIGN INTENT CANNOT BE DETERMINED, CONSULT THE ARCHITECT PRIOR TO PROCEEDING WITH WORK.
4. REVIEW SPECIFICATIONS FOR INSTRUCTIONS NOT SHOWN ON DRAWINGS. INFORMATION COMMON TO SEVERAL DRAWINGS MAY BE NOTED ON ONLY ONE. CONTRACTOR IS RESPONSIBLE FOR ENTIRE SET OF DOCUMENTS.
5. DIMENSIONS AT INTERIOR CMU BLOCK PARTITIONS ARE TO FACE OF WALL TO FACE OF WALL. DIMENSIONS AT INTERIOR STUD PARTITIONS ARE TO THE CENTER OF THE WALL UNLESS NOTED OTHERWISE.
6. DRAWINGS ARE NOT TO BE SCALED. CONTRACTOR TO VERIFY ALL DIMENSIONS & FIELD CONDITIONS PRIOR TO COMMENCING THE WORK.
7. REFER TO INTERIORS SHEET A901 FOR CORNER GUARD LOCATIONS AND DETAILS, FOR WALL PROTECTION AND HAND RAIL LOCATIONS AND DETAILS.
8. CAULK ALL COUNTERTOPS, BACKSPLASHES & CABINETS AT LOCATIONS WHERE THEY MEET WALL. SEAL ALL CUT-OUTS IN COUNTERTOPS.
9. ALL PIPING, CONDUITS, &RELATED MECHANICAL & ELECTRICAL ITEMS SHALL BE CONCEALED WITHIN DRYWALL AND/OR PLASTER FURRING AS REQUIRED IN FINISHED AREAS WHETHER SHOWN ON DRAWINGS OR NOT UNLESS OTHERWISE NOTED.
10. SEAL AROUND ALL MECHANICAL & ELECTRICAL EQUIPMENT PENETRATIONS AT RATED WALLS, ABOVE & BELOW CEILINGS, WITH A UL APPROVED FIRE-STOPPING MATERIAL - SEE SPECIFICATIONS.
11. WHEN WALL PARTITIONS OF DIFFERENT RATING INTERSECT, THE HIGHEST RATED PARTITIONS TAKE PRECEDENT.
12. ALL FURNITURE FOR REFERENCE ONLY (SHOWN DASHED) WILL BE OWNER FURNISHED & OWNER INSTALLED.
13. RADIUS EXPOSED COUNTERTOP CORNERS 2" RADIUS TYPICALLY. (2" WHERE 3MM EDGE BANDING, 1" RADIUS AT SSF EDGES.) U.N.O.
14. WALLS ARE TYPE 'B5' WALL PARTITIONS WITHIN THE OFFICE AREA AND LIVING QUARTERS; 'M8' WITHIN APPARATUS, TURNOUT, AND GEAR STORAGE UNLESS NOTED OTHERWISE. SEE WALL TYPES SHEET A021.
15. REFER TO LIFE SAFETY PLANS AND FLOOR PLANS FOR LOCATION OF REQUIRED FIRE WALLS.
16. REFER TO ELEVATIONS FOR WALL MOUNTED EQUIPMENT. PROVIDE IN-WALL BLOCKING AS REQUIRED
17. FLOOR ELEVATION 100'-0" = 39.50 ON CIVIL DRAWINGS.

KEYNOTE LEGEND:

< < < INDICATES KEYNOTE ON PLAN

AE 01 TRENCH DRAIN, SEE P201, P501, AND P801 FOR ADDITIONAL INFORMATION.

AE 02 MANHOLE (NEENAH R-1792-JL) IN MEZZANINE FLOOR, SEE 6/A701 FOR ADDITIONAL INFORMATION.

AE 03 TRAINING TIE-OFF ATTACHMENT, SEE 7/S702 FOR ADDITIONAL INFORMATION COODINATE FINAL LOCATION WITH OWNER AND MANHOLE LOCATION.

AE 48 FITNESS ROOM EQUIPMENT, OWNER PROVIDED CONTRACTOR INSTALLED.

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2	ADDENDUM #2	11/13/2026
1	ADDENDUM #1	11/05/2026
CD	100% CONSTRUCTION DOCUMENTS	10/29/2026
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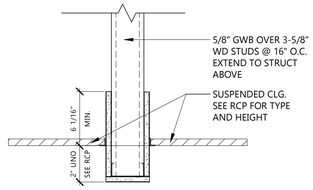
DRAWING TITLE
FLOOR PLANS

A201

Revit Version: 2025
Plot Date: 11/5/2026 12:33:55 PM



3 A301 — CEILING DETAIL - BULKHEAD TYP.

1 1/2" = 1'-0"

GENERAL CEILING NOTES

1. PROVIDE GYPSUM WALL BOARD AND WOOD STUD BULK HEADS WHERE CEILINGS OF DIFFERENT HEIGHTS ABUT. DO NOT BUILD BULKHEADS OF ACOUSTICAL CEILING MATERIALS UNLESS SPECIFICALLY DETAILED.
2. REFER TO MECHANICAL DRAWINGS FOR QUANTITY AND TYPE OF DIFFUSERS, RETURN GRILLES AND EXHAUST GRILLES, ETC. SCRIBE CEILING MATERIALS FOR A TIGHT FIT.
3. REFER TO ELECTRICAL DRAWINGS FOR QUANTITY AND TYPE OF LIGHTS, SPEAKERS, DETECTORS, POWER OUTLETS, ETC. SCRIBE CEILING MATERIALS FOR A TIGHT FIT. WHERE DEVICES ARE NOT SHOWN ON PLAN, FIELD VERIFY LOCATION AND QUANTITY PRIOR TO REMOVAL. THESE DEVICES WILL BE RELOCATED INTO NEW PLAN.
4. FIRE SPRINKLER CONTRACTOR IS REQUIRED TO PROVIDE FINAL DESIGN OF ENTIRE SPRINKLER SYSTEM FOR THE PROJECT AREA. SPRINKLER CONTRACTOR IS REQUIRED TO SUBMIT ALL REQUIRED INFORMATION TO REVIEW AGENCIES FOR APPROVAL AND PERMITS.
5. WHERE CEILINGS ARE INDICATED TO BE EXPOSED TO STRUCTURE, PAINT ALL UNFINISHED MATERIALS OVERHEAD. INCLUDING, BUT NOT LIMITED TO; ROOF DECKING, JOISTS, DUCTS, PIPING, CONDUIT, ETC. SEE FINISHES SHEET FOR PAINT
6. GENERAL CONTRACTOR TO COORDINATE CEILING MOUNTED EQUIPMENT SUPPORT REQUIREMENTS, LOCATIONS, DIMENSIONS, ETC. WITH EQUIPMENT SUPPLER AND OWNER PRIOR TO INSTALLATION.
7. CEILING MOUNTED ITEMS SUCH AS LIGHT FIXTURES, GRILLES, DIFFUSERS, SPEAKERS, EXIT LIGHTS, ETC. SHALL BE LOCATED IN THE CENTER OF CEILING PANELS, GYPSUM BOARD SOFFITS, AND/OR PLASTER SOFFIT BAYS UNLESS NOTED OTHERWISE. COORDINATE WITH MECHANICAL AND ELECTRICAL DRAWINGS.
8. FINISHED GYPSUM BOARD SOFFITS SHALL EXTEND 1" BEYOND FACE AND EXPOSED ENDS OF WALL CABINETS, FULL-HEIGHT CABINETS, ETC. UNLESS NOTED OTHERWISE. COORDINATE CABINET DIMENSIONS WITH SUPPLIER GYPSUM BOARD FASCIA/SOFFIT DETAILS ARE REFERENCED FROM THE REFLECTED CEILING PLAN.
9. VERTICAL FACE OF SOFFITS THAT ALIGN WITH WALL TO RECEIVE ADJACENT WALL FINISH UNLESS NOTED OTHERWISE.
10. ACCESS PANELS SIZE, LOCATION AND QUANTITY COORDINATE WITH MECHANICAL
11. TYPICAL CEILING HEIGHT TO BE 9'-0" UNO.

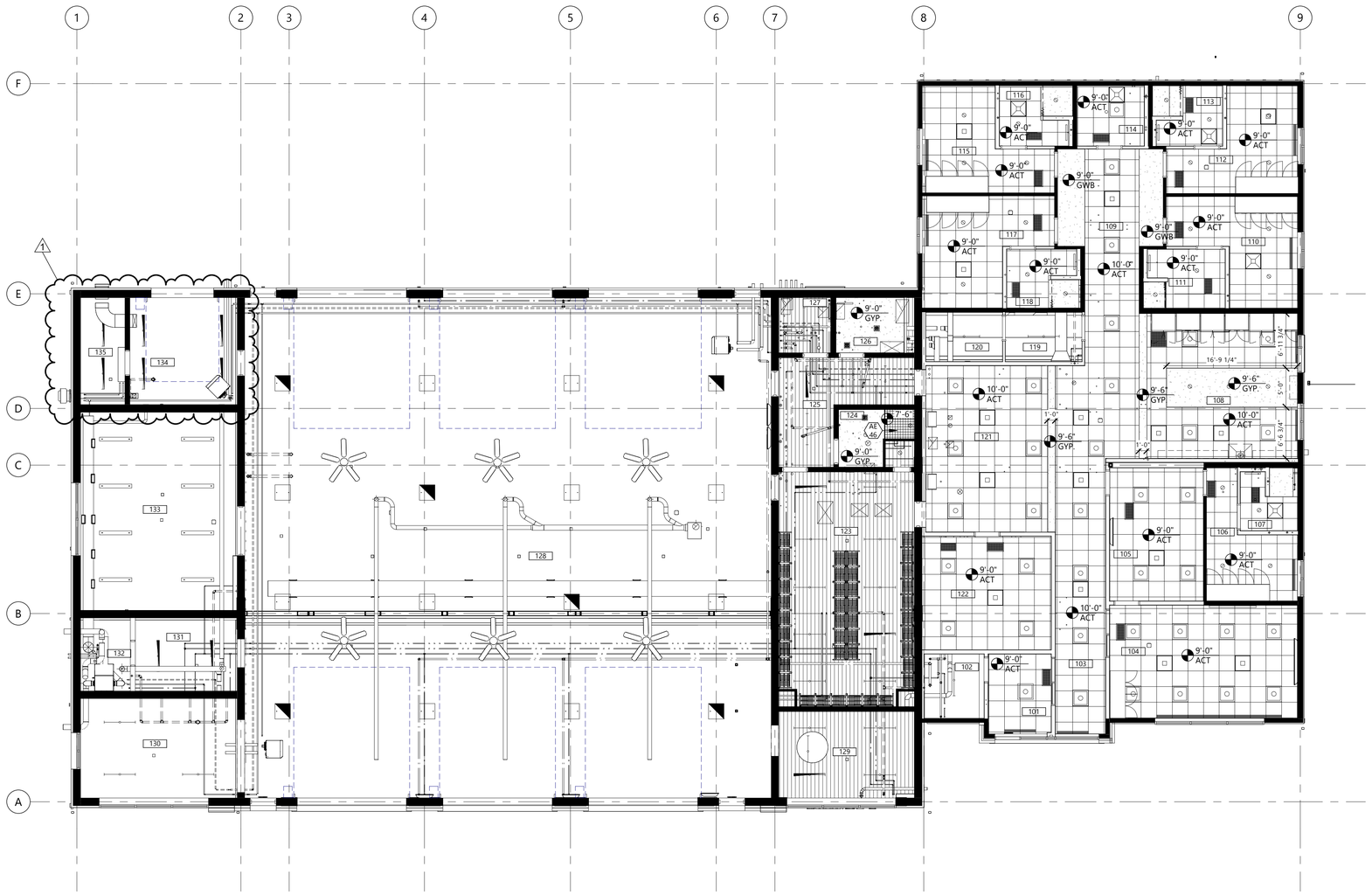
CEILING PLAN SYMBOLS

	AIR DISTRIBUTION SYMBOLS		TYPICAL SUSPENDED CEILING GRID
	DIFFUSER SUPPLY		24" x 24" GRID SHOWN
	DIFFUSER RETURN		GYPSUM WALL BOARD OR PLASTER
	ACCESS PANEL		
	SLOT OR LINEAR DIFFUSER OR RETURN		LIGHT FIXTURES
	CEILING FAN		2x4 LAY-IN
	MISCELLANEOUS		2x2 LAY-IN
	PUBLIC ADDRESS OR AS SHOWN		1x4 LAY-IN
	SMOKE DETECTOR		RECESSED INCANDESCENT
	VENT		EXIT LIGHT
	WALL HEIGHT		
	WALL TO EXTEND FULL HEIGHT TO STRUCTURE ABOVE		
	GWB TO EXTEND 6" ABOVE CEILING HEIGHT		

KEYNOTE LEGEND:

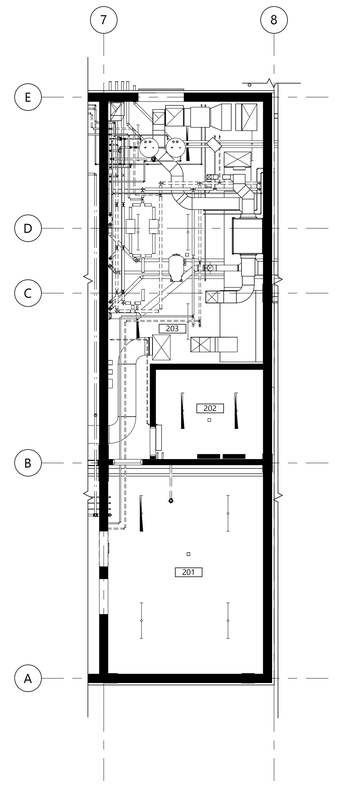
< < < INDICATES KEYNOTE ON PLAN

AE 46 CEMENT BOARD SOFFIT WITH CERAMIC TILE CEILING, SLOPE TO BACK WALL.



2 A301 — FIRST FLOOR REFLECTED CEILING PLAN

1/8" = 1'-0"



1 A301 — MEZZANINE CEILING PLAN

1/8" = 1'-0"

N

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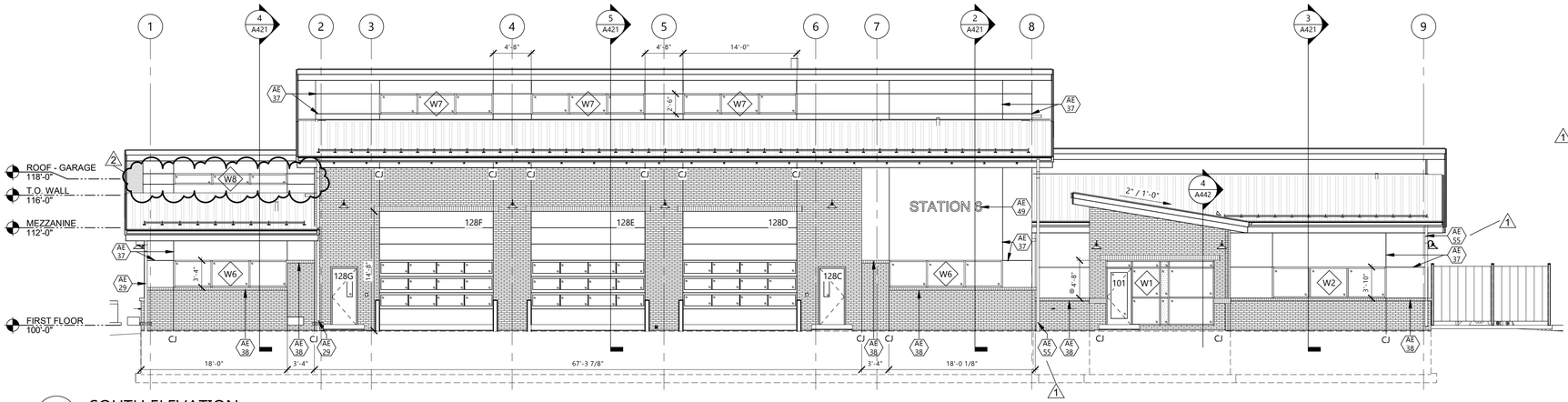
DRAWING TITLE
REFLECTED CEILING PLAN

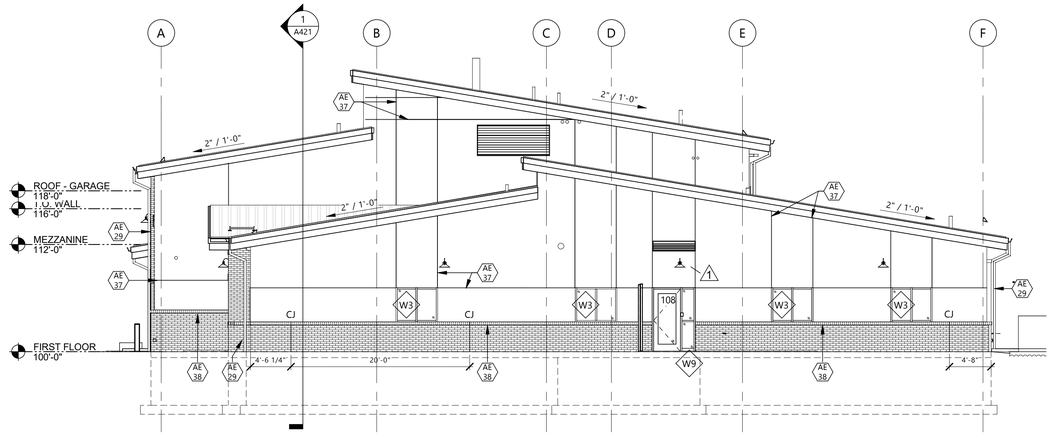
A301

Revit Version: 2025
Plot Date: 11/13/2026 12:34:00 PM



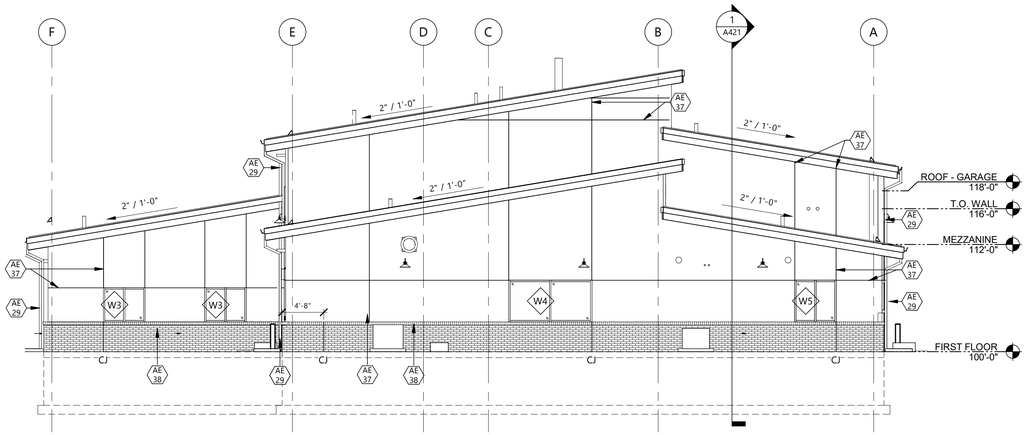
4 A401 SOUTH ELEVATION

1/8" = 1'-0"



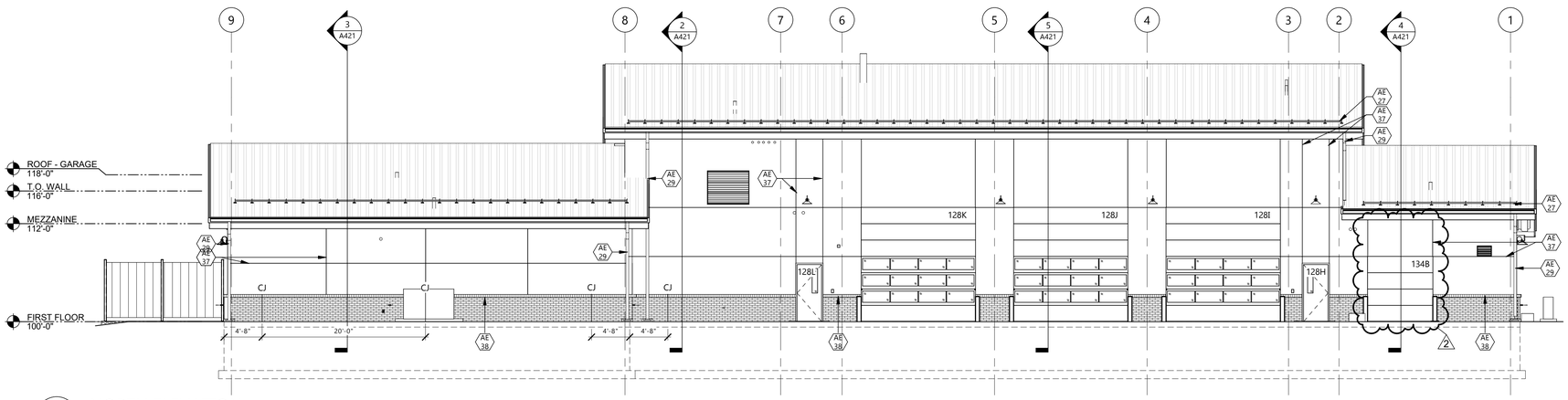
3 A401 EAST ELEVATION

1/8" = 1'-0"



2 A401 WEST ELEVATION

1/8" = 1'-0"



1 A401 NORTH ELEVATION

1/8" = 1'-0"

KEYNOTE LEGEND:

< < < INDICATES KEYNOTE ON PLAN

AE 27 SNOW GUARDS, SEE SPECS FOR ADDITIONAL INFO.

AE 29 PRE-FINISHED DOWNSPOUT AND CONCRETE SPLASHBLOCK.

AE 37 1"w X 1/2"d RECESSED 'V' REVEAL.

AE 38 BRICK ROWLOCK CAP.

AE 49 15" TALL LETTERS, BLACK.

1 AE 55 PRE-FINISHED DOWNSPOUT. COORD. WITH CIVIL TO CONNECT WITH TRENCH DRAIN.

MATERIALS LEGEND

	COMMON	SOLDIER	STACKED	HEADER
UTILITY BRICK - HEBRON, SEE AREAS FOR COLORS				
CONCRETE				
PANEL 1				
EIFS				

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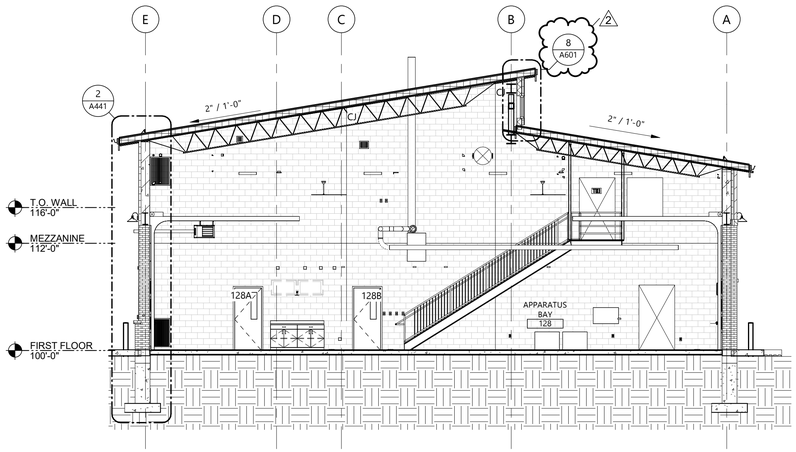
DRAWING TITLE
BUILDING ELEVATIONS

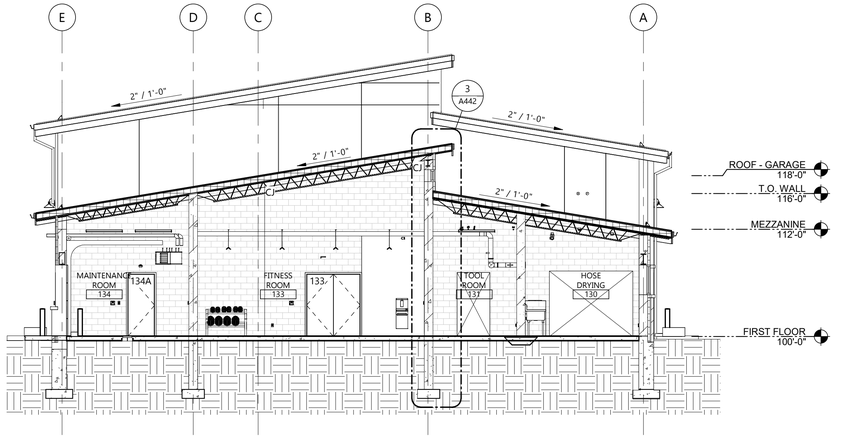
A401

Revit Version: 2025
Print Date: 11/13/2026 12:24:07 PM



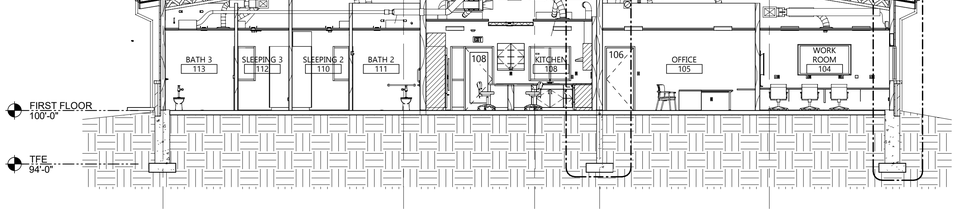
5 A421 N-S SECTION

1/8" = 1'-0"



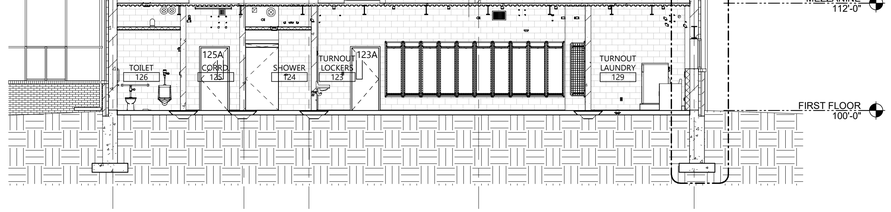
4 A421 N-S SECTION

1/8" = 1'-0"



3 A421 N-S SECTION

1/8" = 1'-0"



2 A421 N-S SECTION

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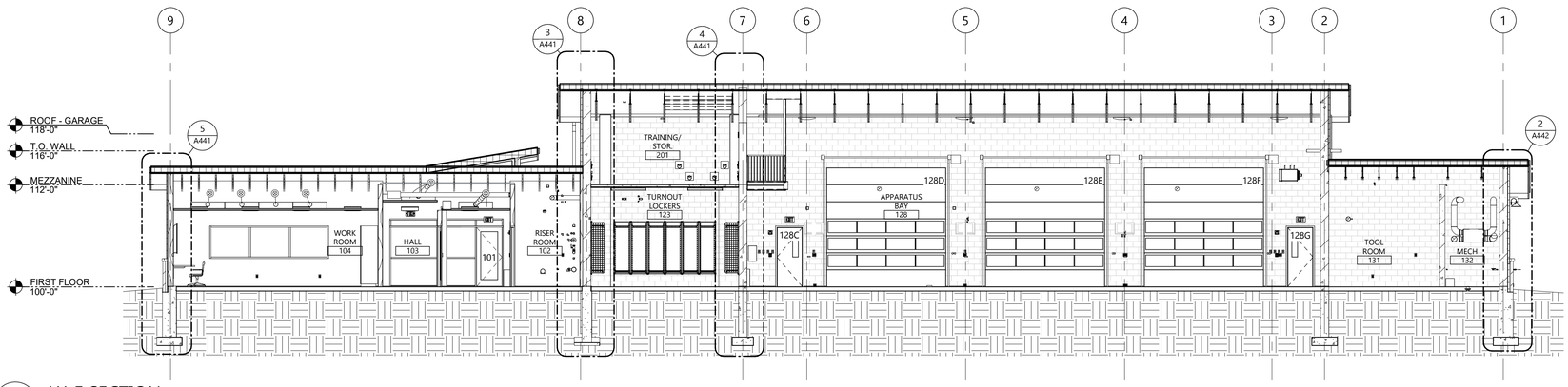

1 A421 W-E SECTION

1/8" = 1'-0"

Revit Version: 2025
Plot Date: 11/13/2026 1:34:10 PM

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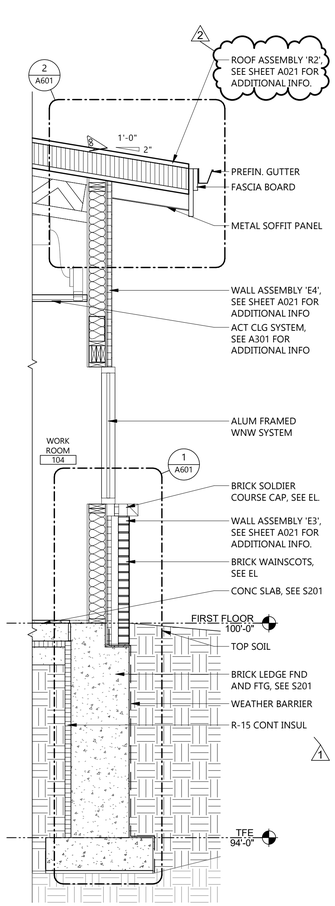
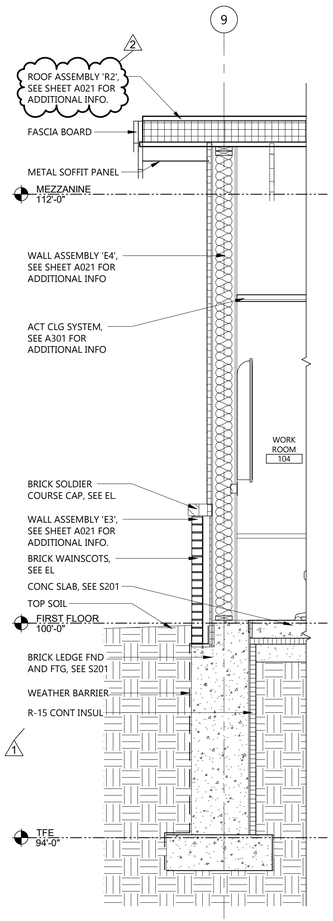
DRAWING TITLE
BUILDING SECTIONS

A421



6 A441 WALL SECTION
1/2" = 1'-0"



5 A441 WALL SECTION
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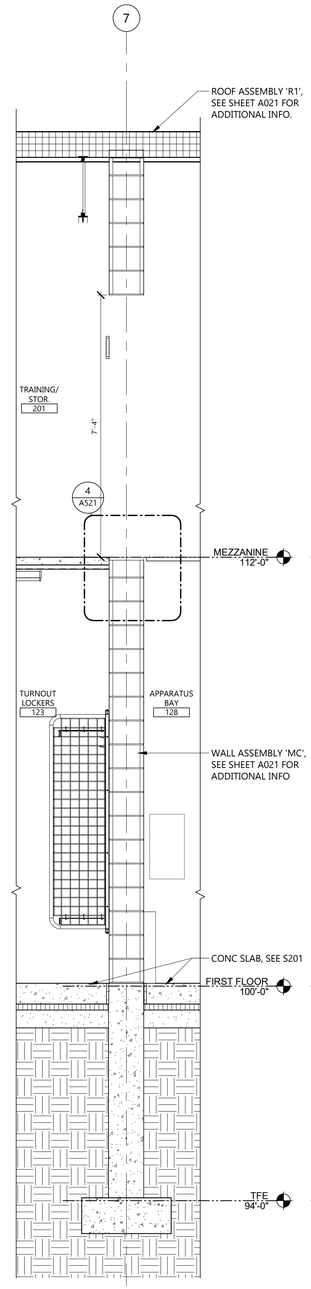
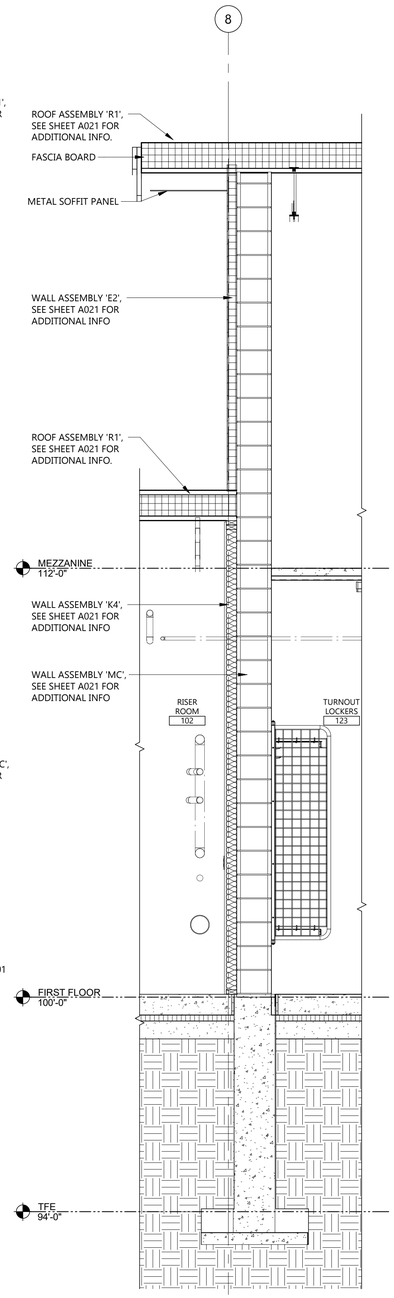


4 A441 WALL SECTION
1/2" = 1'-0"



3 A441 WALL SECTION
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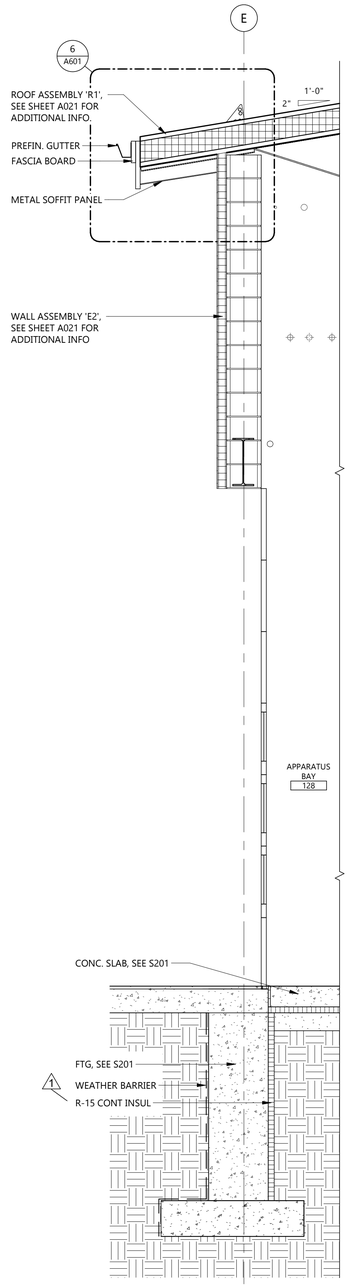

2 A441 WALL SECTION
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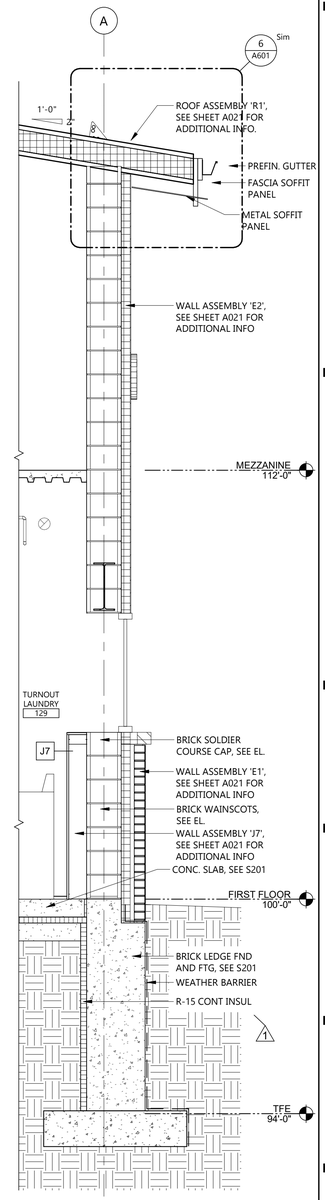

1 A441 WALL SECTION
1/2" = 1'-0"

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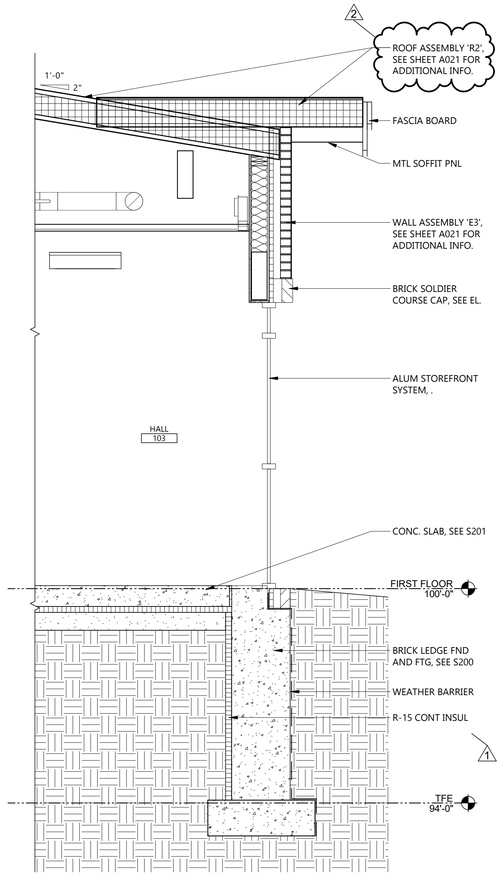
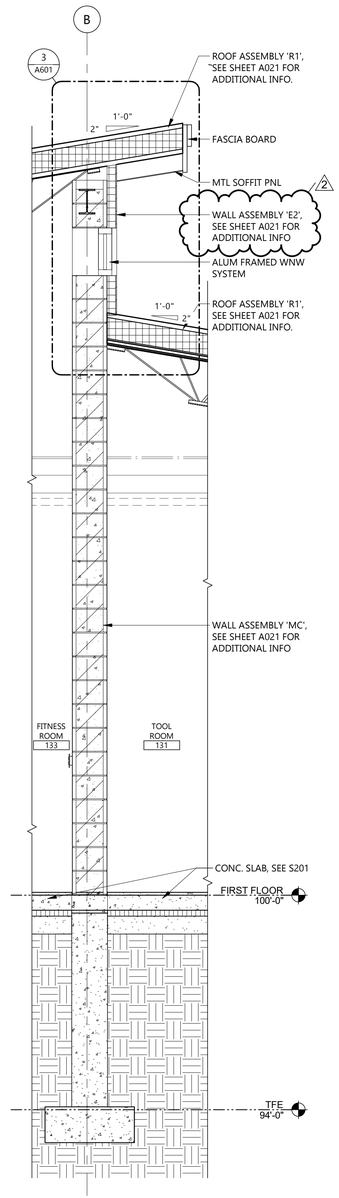
DRAWING TITLE
WALL SECTIONS

A441



4 A442 WALL SECTION
1/2" = 1'-0"



3 A442 WALL SECTION
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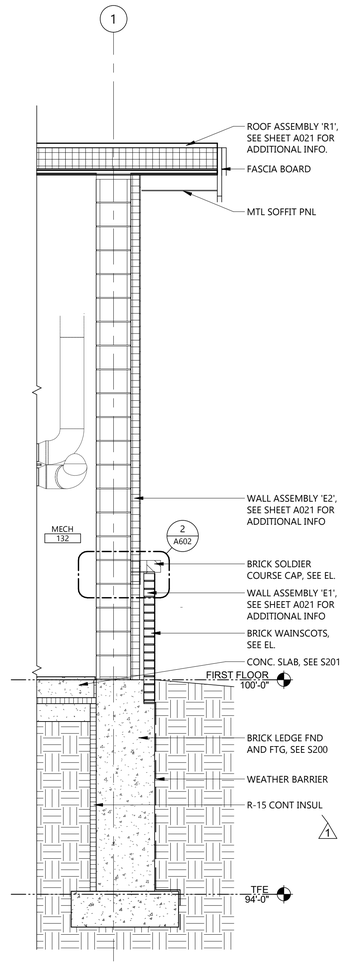

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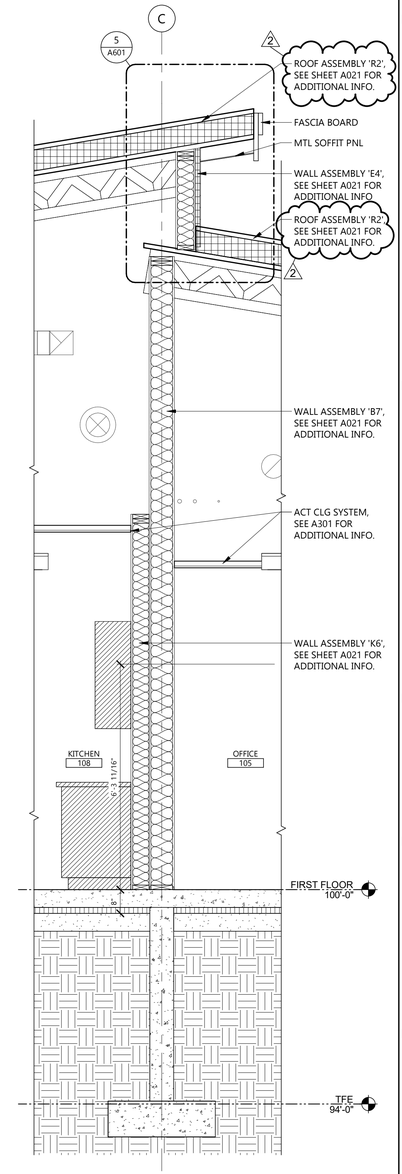
1/2" = 1'-0"



1 A442 WALL SECTION
1/2" = 1'-0"

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BISMARCK FIRE DEPARTMENT

PROJECT DESCRIPTION
FIRE STATION 6

CITY BISMARCK
STATE ND

ISSUE DATES

MARK	DESCRIPTION	DATE
2	ADDENDUM #2	11/13/2026
1	ADDENDUM #1	11/05/2026
CD	100% CONSTRUCTION DOCUMENTS	10/29/2026

PROJECT NO: 20253510
DRAWN BY: MS
CHECKED BY: BD

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Signature:
Date: 10/29/2026 REG. NO. : 1718

DRAWING TITLE
WALL SECTIONS

A442

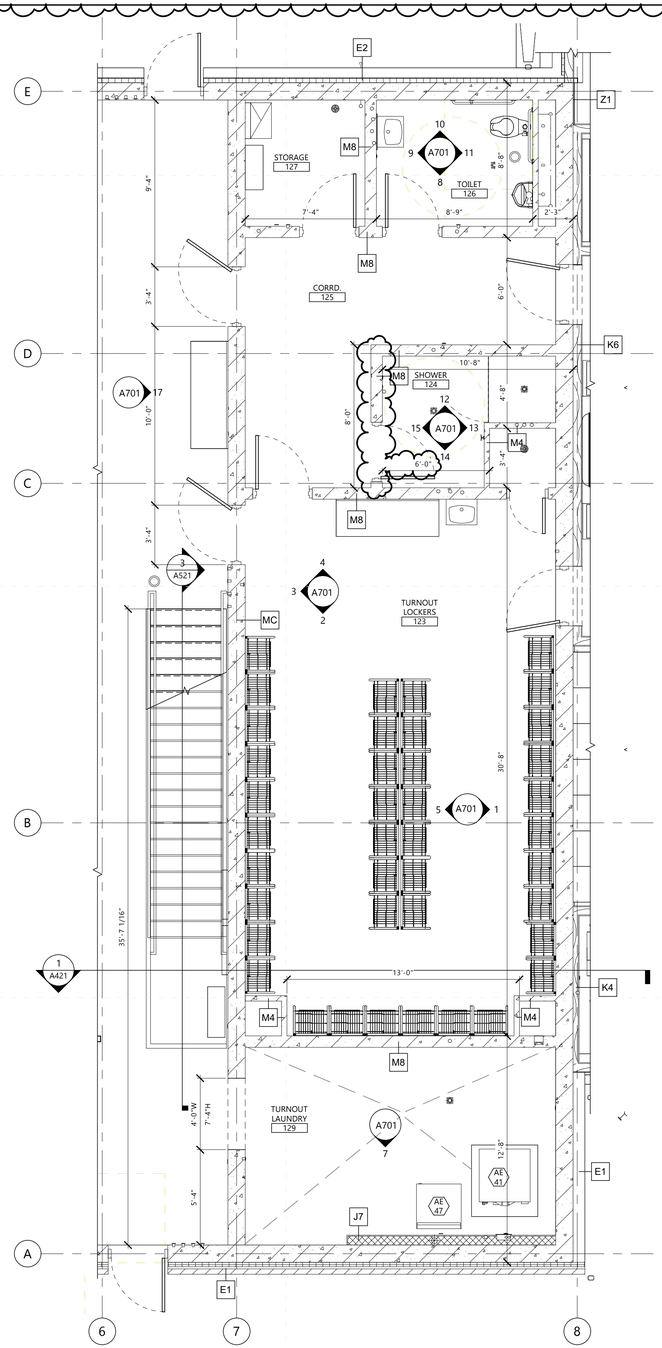
Revit Version: 2025
Plot Date: 11/12/2026 12:34:11 PM

GENERAL NOTES

1. GENERAL NOTES APPLY TO ALL DRAWING SETS
2. SUBCONTRACTORS FOR EACH TRADE ARE ADVISED THAT INFORMATION PERTINENT TO THEIR WORK MAY OCCUR IN OTHER PORTIONS OF THE CONTRACT DOCUMENTS. ALL NOTES ARE TO BE REVIEWED AND APPLIED TO RELATED BUILDINGS DOCUMENTS.
3. CROSS REFERENCES SHOWN ON DRAWINGS DO NOT NECESSARILY INDICATE ALL LIKE CONDITIONS AND DO NOT LIMIT APPLICATION OF ANY DRAWING OF DETAIL WHERE SPECIFIC DIMENSIONS, DETAILS, OR DESIGN INTENT CANNOT BE DETERMINED, CONSULT THE ARCHITECT PRIOR TO PROCEEDING WITH WORK.
4. REVIEW SPECIFICATIONS FOR INSTRUCTIONS NOT SHOWN ON DRAWINGS. INFORMATION COMMON TO SEVERAL DRAWINGS MAY BE NOTED ON ONLY ONE. CONTRACTOR IS RESPONSIBLE FOR ENTIRE SET OF DOCUMENTS.
5. DIMENSIONS AT INTERIOR CMU BLOCK PARTITIONS ARE TO FACE OF WALL TO FACE OF WALL. DIMENSIONS AT INTERIOR STUD PARTITIONS ARE TO THE CENTER OF THE WALL UNLESS NOTED OTHERWISE.
6. DRAWINGS ARE NOT TO BE SCALED. CONTRACTOR TO VERIFY ALL DIMENSIONS & FIELD CONDITIONS PRIOR TO COMMENCING THE WORK.
5. REFER TO INTERIORS SHEET A901 FOR CORNER GUARD LOCATIONS AND DETAILS, FOR WALL PROTECTION AND HAND RAIL LOCATIONS AND DETAILS.
6. CAULK ALL COUNTERTOPS, BACKSPLASHES & CABINETS AT LOCATIONS WHERE THEY MEET WALL. SEAL ALL CUT-OUTS IN COUNTERTOPS.
7. ALL PIPING, CONDUITS, &RELATED MECHANICAL & ELECTRICAL ITEMS SHALL BE CONCEALED WITHIN DRYWALL AND/OR PLASTER FURRING AS REQUIRED IN FINISHED AREAS WHETHER SHOWN ON DRAWINGS OR NOT UNLESS OTHERWISE NOTED.
8. SEAL AROUND ALL MECHANICAL & ELECTRICAL EQUIPMENT PENETRATIONS AT RATED WALLS, ABOVE & BELOW CEILINGS, WITH A UL APPROVED FIRE-STOPPING MATERIAL - SEE SPECIFICATIONS.
9. WHEN WALL PARTITIONS OF DIFFERENT RATING INTERSECT, THE HIGHEST RATED PARTITIONS TAKE PRECEDENT.
10. ALL FURNITURE FOR REFERENCE ONLY (SHOWN DASHED) WILL BE OWNER FURNISHED & OWNER INSTALLED.
11. RADIUS EXPOSED COUNTERTOP CORNERS 2" RADIUS TYPICALLY. (2" WHERE 3MM EDGE BANDING, 1" RADIUS AT SSF EDGES.) U.N.O.
12. WALLS ARE TYPE 'B5' WALL PARTITIONS WITHIN THE OFFICE AREA AND LIVING QUARTERS; 'M8' WITHIN APPARATUS, TURNOUT, AND GEAR STORAGE UNLESS NOTED OTHERWISE. SEE WALL TYPES SHEET A021.
13. REFER TO LIFE SAFETY PLANS AND FLOOR PLANS FOR LOCATION OF REQUIRED FIRE WALLS.
14. REFER TO ELEVATIONS FOR WALL MOUNTED EQUIPMENT. PROVIDE IN-WALL BLOCKING AS REQUIRED

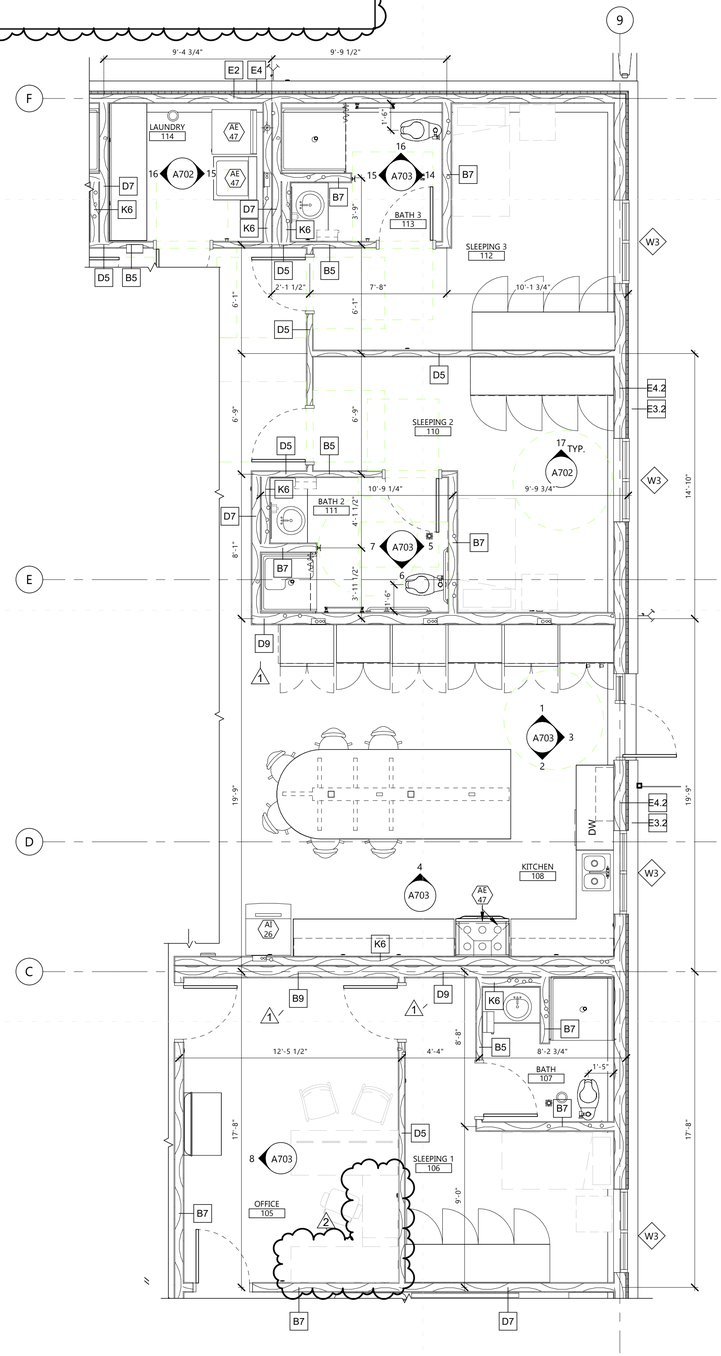
KEYNOTE LEGEND:

< < <	INDICATES KEYNOTE ON PLAN
AE 41	EXTRACTOR PROVIDED BY OWNER, INSTALLED BY GC ON CONCRETE HOUSE KEEPING PAD, SEE 13/S601 AND P201 FOR ADDITIONAL INFORMATION.
AE 47	RESIDENTIAL APPLIANCE.
AI 26	ICE MACHINE - BY OWNER



2 A501 FIRST FLOOR PLAN - TURNOUT AREA

1/4" = 1'-0"



1 A501 FIRST FLOOR PLAN - LIVING QUARTERS

1/4" = 1'-0"

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PROJECT DESCRIPTION
FIRE STATION 6

CITY BISMARCK
STATE ND

ISSUE DATES

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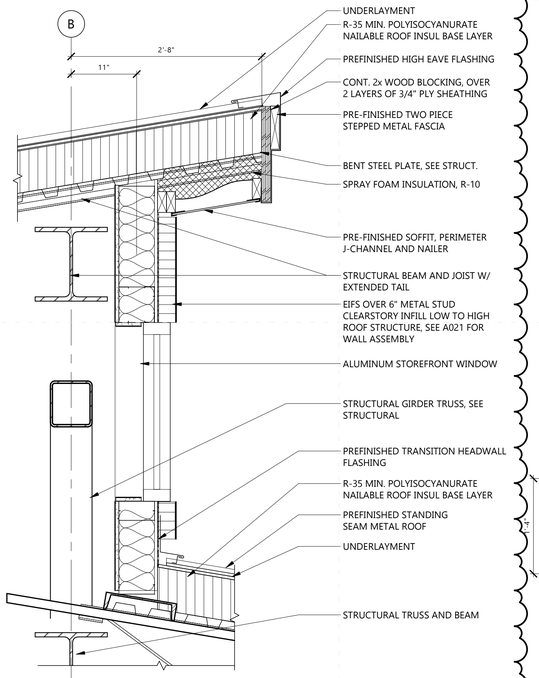
Signature:

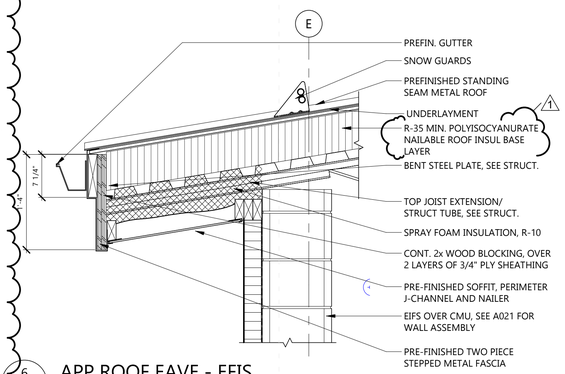
Date: 10/29/2026 REG. NO.: 1718

DRAWING TITLE
ENLARGED FLOOR PLANS

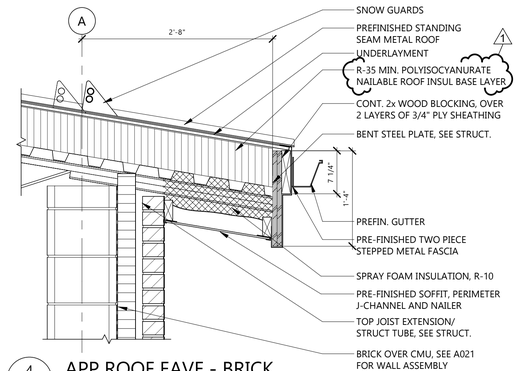
A501



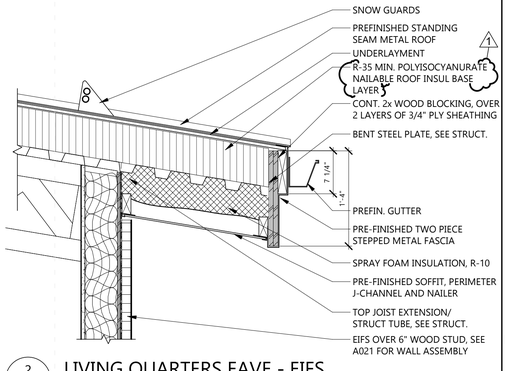
8 A601 HIGH APP BAY CLEARSTORY - TYP DETAIL
1" = 1'-0"



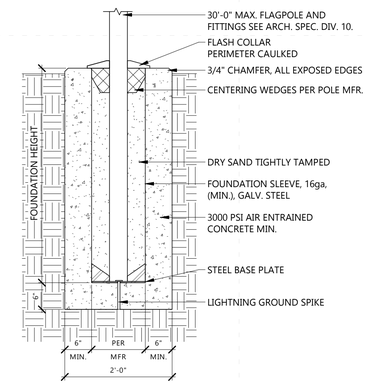
6 A601 APP ROOF EAVE - EFIS
1" = 1'-0"



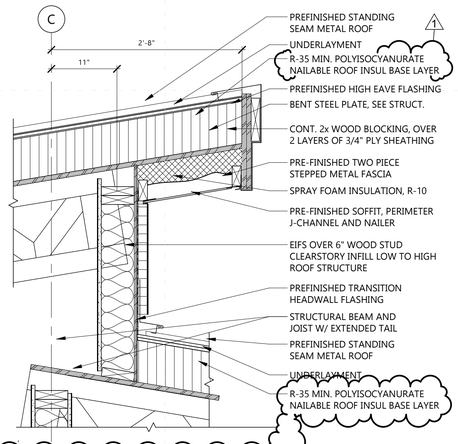
4 A601 APP ROOF EAVE - BRICK
1" = 1'-0"



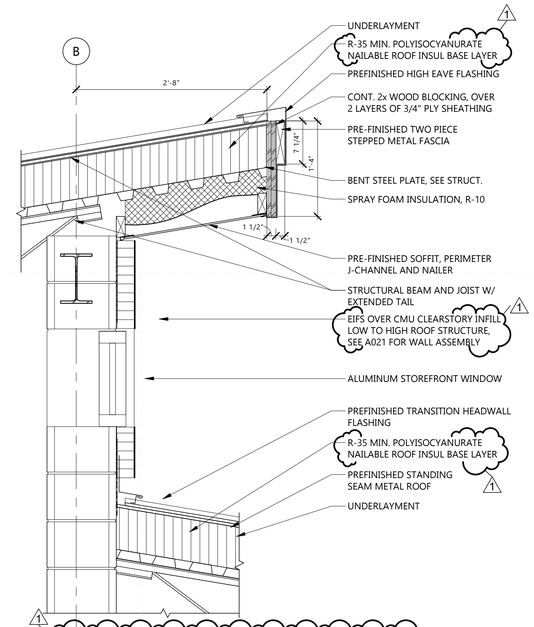
2 A601 LIVING QUARTERS EAVE - EIFS
1" = 1'-0"



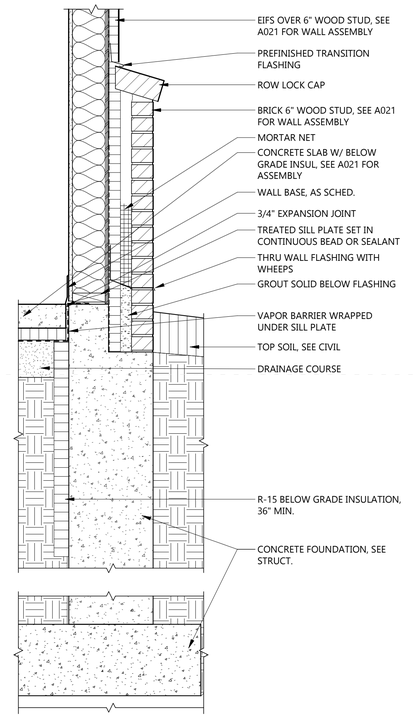
7 A601 FLAGPOLE FOUNDATION
3/4" = 1'-0"



5 A601 LIVING QUARTERS CLEARSTORY DETAIL
1" = 1'-0"



3 A601 LOW APP BAY CLEARSTORY TYP DETAIL
1" = 1'-0"



1 A601 LIVING QUARTERS TYPICAL BASE OF WALL DETAIL
1" = 1'-0"

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CITY BISMARCK
STATE ND

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DRAWING TITLE
DETAILS

A601

Revit Version: 2025
Plot Date: 11/12/2026 1:23:47 PM

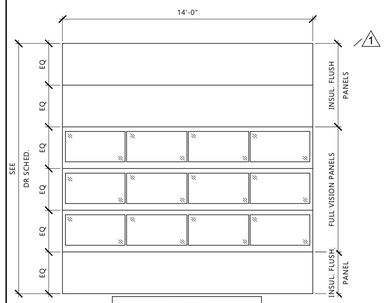
DOOR SCHEDULE

DR #	ROOM NAME	DOOR PANEL(S) OPENING SIZE	MTRL	TYPE	DOOR FRAME MTRL	TYPE	DETAILS - SEE SHEET A801 HEAD	JAMB	SILL	FIRE RATING	HDWE GROUP	NOTES
101	VESTIBULE	3'-0" x 7'-0"	AL	FG	AL	AL3.1	20/A821	21/A821	10/A821		1	2, 3. 4
102	RISER ROOM	3'-0" x 7'-0"	WD	F	HM	HM-00	1/A821	2/A821	-		2	
103	VESTIBULE	3'-0" x 7'-0"	WD	FG	HM	HM-02	1/A821	2/A821	-		3	2, 5
104	HALL	3'-0" x 7'-0"	WD	FG	HM	HM-02	1/A821	2/A821	-		4	
105A	DAYROOM	3'-0" x 7'-0"	WD	F	HM	HM-00	1/A821	2/A821	-		5	
105B	WORK ROOM	3'-0" x 7'-0"	WD	NV	HM	HM-00	1/A821	2/A821	-		5	
106	OFFICE	3'-0" x 7'-0"	WD	F	HM	HM-00	1/A821	2/A821	-	20 MIN	5	
107	BATH	3'-0" x 7'-0"	WD	F	HM	HM-00	1/A821	2/A821	-		6	
108	KITCHEN	3'-0" x 7'-0"	AL	FG	AL	AL3.3	11/A821	12/A821 & 13/A821	10/A821		1A	3, 4, 5
110	HALL	3'-0" x 7'-0"	WD	F	HM	HM-00	1/A821	2/A821	-	20 MIN	5	
111	SLEEPING 2	3'-0" x 7'-0"	WD	F	HM	HM-00	1/A821	2/A821	-		6	
112	HALL	3'-0" x 7'-0"	WD	F	HM	HM-00	1/A821	2/A821	-	20 MIN	5	
113	SLEEPING 3	3'-0" x 7'-0"	WD	F	HM	HM-00	1/A821	2/A821	-		6	
114	HALL	3'-0" x 7'-0"	WD	F	HM	HM-00	1/A821	2/A821	-		4A	
115	HALL	3'-0" x 7'-0"	WD	F	HM	HM-00	1/A821	2/A821	-	20 MIN	5	
116	SLEEPING 4	3'-0" x 7'-0"	WD	F	HM	HM-00	1/A821	2/A821	-		6	
117	HALL	3'-0" x 7'-0"	WD	F	HM	HM-00	1/A821	2/A821	-	20 MIN	5	
118	SLEEPING 5	3'-0" x 7'-0"	WD	F	HM	HM-00	1/A821	2/A821	-		6	
119	HALL	3'-0" x 7'-0"	WD	F	HM	HM-00	1/A821	2/A821	-		2	
120	JANITOR	3'-0" x 7'-0"	WD	F	HM	HM-00	1/A821	2/A821	-		2	
122	DAYROOM	3'-0" x 7'-0"	WD	F	HM	HM-00	1/A821	2/A821			4A	
123A	TURNOUT LOCKERS	3'-0" x 7'-0"	HM	NV	HM	HM-00m	3/A821	4/A821	-	1 HR	7	
123B	TURNOUT LOCKERS	2'-0" x 7'-0"	HM	F	HM	HM-00	3/A821	4/A821	-		2	
124	CORRD.	3'-0" x 7'-0"	HM	F	HM	HM-00m	3/A821	4/A821	-		8	
125A	CORRD.	3'-0" x 7'-0"	HM	NV	HM	HM-00m	3/A821	4/A821	-	1 HR	7	
125B	CORRD.	3'-0" x 7'-0"	HM	NV	HM	HM-00m	3/A821	4/A821	-		4	
126	CORRD.	3'-0" x 7'-0"	HM	F	HM	HM-00m	3/A821	4/A821	-		8	
127	CORRD.	3'-0" x 7'-0"	HM	F	HM	HM-00m	3/A821	4/A821	-		2	
128A	CORRD.	3'-0" x 7'-0"	HM	NV	HM	HM-00m	3/A821	4/A821	-		4A	
128B	TURNOUT LOCKERS	3'-0" x 7'-0"	HM	NV	HM	HM-00m	3/A821	4/A821	-		4A	
128C	APPARATUS BAY	3'-0" x 7'-0"	HM	NV	INSUL-HM	HM-00	7/A821	5/A821	6/A821		3A	4,5
128D	APPARATUS BAY	14'-0" x 14'-0"		OHS-SG	INSUL STL/AL	OHS	15/A821	16/A821	14/A821			7
128E	APPARATUS BAY	14'-0" x 14'-0"		OHS-SG	INSUL STL/AL	OHS	15/A821	16/A821	14/A821			7
128F	APPARATUS BAY	14'-0" x 14'-0"		OHS-SG	INSUL STL/AL	OHS	15/A821	16/A821	14/A821			7
128G	APPARATUS BAY	3'-0" x 7'-0"	INSUL-HM	NV	INSUL-HM	HM-00	7/A821	5/A821	6/A821		3A	4,5
128H	APPARATUS BAY	3'-0" x 7'-0"	INSUL-HM	NV	INSUL-HM	HM-00	8/A821	5/A821 & 9/A821	6/A821		3A	4,5
128I	APPARATUS BAY	14'-0" x 14'-0"		OHS-SG	INSUL STL/AL	OHS	15/A821	16/A821	14/A821			8
128J	APPARATUS BAY	14'-0" x 14'-0"		OHS-SG	INSUL STL/AL	OHS	15/A821	16/A821	14/A821			8
128K	APPARATUS BAY	14'-0" x 14'-0"		OHS-SG	INSUL STL/AL	OHS	15/A821	16/A821	14/A821			8
128L	APPARATUS BAY	3'-0" x 7'-0"	INSUL-HM	NV	INSUL-HM	HM-00	8/A821	5/A821 & 9/A821	6/A821		3A	4,5
132	MECH	3'-0" x 7'-0"	HM	F	HM	HM-00					2	
133	APPARATUS BAY	6'-0" x 7'-0"	HM	F	HM	HM-00	3/A821	4/A821	-		9	1
134A	APPARATUS BAY	3'-0" x 7'-0"	HM	F	HM	HM-00	3/A821	4/A821	-		2	
134B	MAINTENANCE ROOM	8'-0" x 8'-0"	INSUL-HM	F	INSUL. STL	OHS						8
135	ELEC. ROOM	3'-0" x 7'-0"	HM	F	HM	HM-00					2	
201	TRAINING/ STOR.	3'-0" x 7'-0"	HM	F	HM	HM-00	3/A821	4/A821	-		2	
202	DATA	3'-0" x 7'-0"	HM	F	HM	HM-00	3/A821	4/A821	-		2	

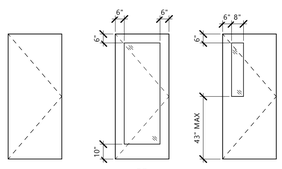
DOOR NOTES

1. DOUBLE DOOR
2. AUTOMATIC DOOR OPERATOR
3. THERMALLY-BROKEN ASSEMBLY WITH INSULATED GLASS
4. INSULATED GLASS AND HARDWARE BY DOOR MANUFACTURE
5. CARD READER
6. SPANDREL GLAZING
7. HIGH PERFORMANCE ELECTRIC OPERATOR.
8. STANDARD PERFORMANCE ELECTRIC OPERATOR.

OHS-F

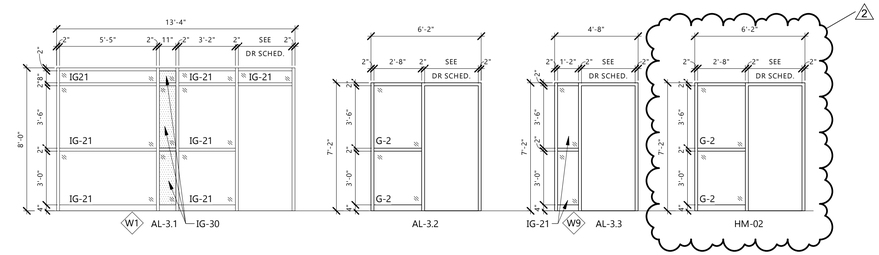


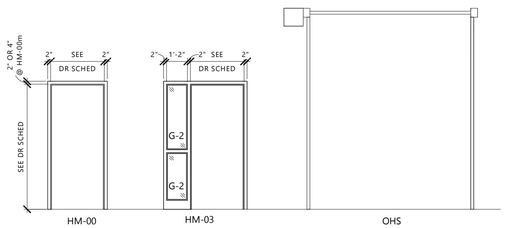
OHS-SG
INSUL. GLAZING BY DR SUPPLIER



F FG NV

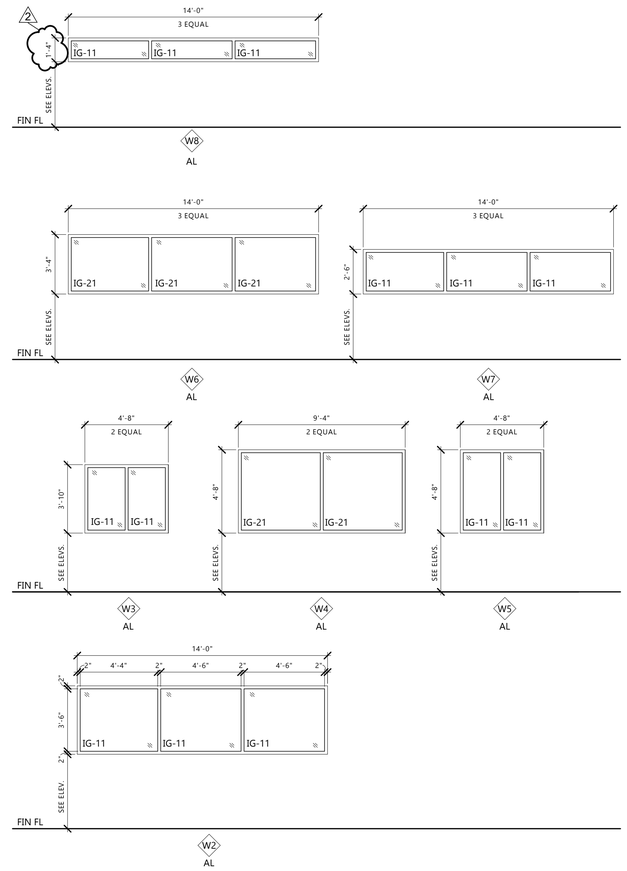
X A801 DOOR PANEL TYPES
1/4" = 1'-0"



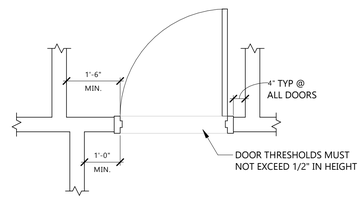


HM-00 HM-03 OHS

X A801 DOOR FRAME TYPES
1/4" = 1'-0"



X A801 WINDOW TYPES
1/4" = 1'-0"



1 A801 ADA DOOR CLEARANCES
1/2" = 1'-0"

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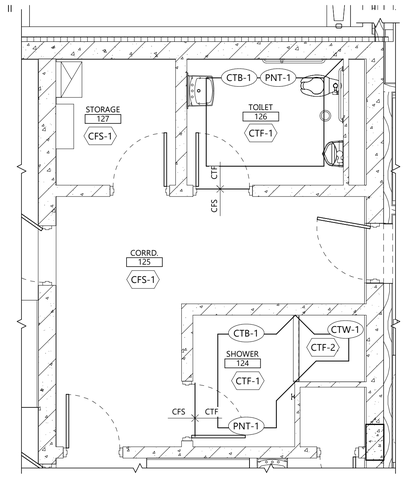
DRAWING TITLE
DOOR SCHEDULE, DOOR AND WINDOW ELEVATIONS

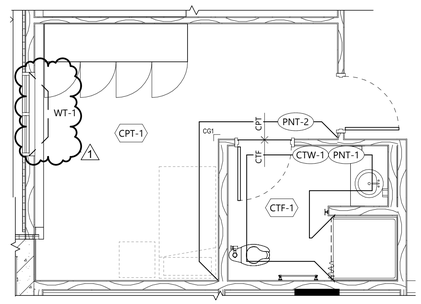
A801

Revit Version: 2025
Plot Date: 11/13/2026 12:34:23 PM



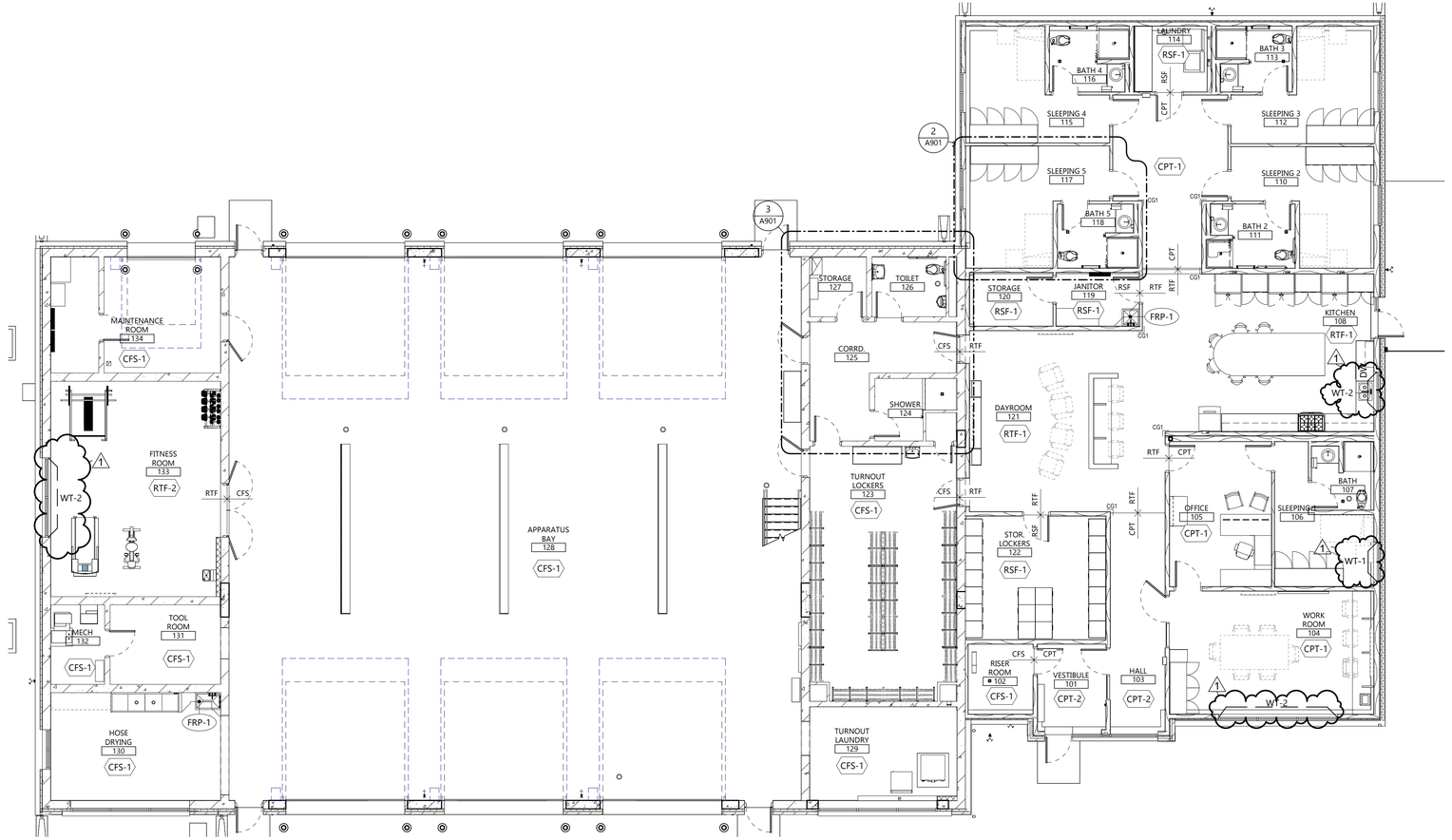
3 A901 ENLARGED DECON SHOWER/ TOILET FINISH PLAN

1/4" = 1'-0"



2 A901 SLEEPING ROOMS ENLARGED FINISH PLAN TYP.

1/4" = 1'-0"



1 A901 FIRST FLOOR FINISH PLAN

1/8" = 1'-0"

FINISH LEGEND

- PNT-X WALL FINISH SYMBOL
- CTF-X FLOOR FINISH SYMBOL
- EXG EXISTING FLOOR FINISH TO REMAIN

GENERAL FINISH NOTES

1. REFER TO FINISH PLANS, INTERIOR ELEVATIONS, AND REFLECTED CEILING PLANS FOR ADDITIONAL FINISH LOCATIONS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALLOWING FOR DELIVERY LEAD TIMES FOR ALL FINISHES SPECIFIED WITHIN THE CONSTRUCTION SCHEDULE. ALL DELIVERY TIMES MUST BE CONFIRMED, AND ANY EXCESSIVE LEAD TIME MUST BE BROUGHT TO THE ARCHITECT'S ATTENTION IMMEDIATELY TO ALLOW FOR RE-SPECIFICATION IF NECESSARY.
3. CONTRACTOR SHALL FOLLOW MANUFACTURER'S SPECIFICATIONS FOR INSTALLATION OF ALL MATERIALS.
4. WHERE WALL FINISH CHANGES OCCUR, TERMINATE AT INSIDE CORNERS, UNO.
5. ALL WALLS TO RECEIVE (PNT-1), UNO. REFER TO FINISH PLANS FOR MORE INFORMATION.
6. ALL TRANSITIONS OF FLOOR FINISH MATERIALS SHALL BE LOCATED DIRECTLY UNDER CENTER OF DOOR, WHERE OCCURS, UNO. AT SLIDING DOORS, TRANSITIONS SHALL BE LOCATED ON THE INSIDE FACE OF DOOR, UNO.
7. ALL CRACKS, HOLES, IMPERFECTIONS IN EXISTING WALLS, PARTITIONS OR GYP BOARD SHALL BE FILLED WITH PATCHING PLASTER AND SMOOTHED OFF TO MATCH ADJOINING SURFACES.
8. ALL SEALANTS TO MATCH SURFACE IN WHICH THEY OCCUR.
9. JOINTS IN RESILIENT BASE SHALL NOT OCCUR CLOSER THAN 6" FROM CORNER AND SHALL BE BUTTED TIGHTLY TOGETHER.
10. ALL MISCELLANEOUS ITEMS SCHEDULED TO BE PAINTED, INCLUDING MECHANICAL AND ELECTRICAL, PAINT TO MATCH ADJACENT SURFACE.
11. UPON COMPLETION, REMOVE ALL PAINT FROM WHERE IT HAS SPILLED, SPLASHED OR SPLATTERED ON EXPOSED SURFACES.
12. EXAMINE ALL FINISH SURFACES AFTER COMPLETION OF WORK AND PROCEED WITH "TOUCH-UP" AS REQUIRED.
13. UNDERSIDE OF SOFFITS (WHERE OCCURS) TO RECEIVE A FINISH TO MATCH THE ADJACENT SOFFIT VERTICAL FINISH, UNO.
14. ALL VERTICAL SURFACES SHALL RECEIVE WALL BASE (RB-1), UNO. EXCEPT THE FOLLOWING ROOMS 123, 128, 129, 130, 130, 132, 134, 201, 202, 203.
15. ROOM 114 AND 119 TO RECEIVE INTEGRAL BASE WITH RSF-1 6" UP THE WALL.
16. PAINT CEILING ACCESS PANELS WHERE THEY OCCUR TO MATCH ADJACENT CEILING FINISH.
17. STAINED AND PAINTED SURFACES SHALL BE FINISHED SUCH THAT JOINTS ARE NOT VISIBLE WHEN VIEWED FROM ANY ANGLE AS DETERMINED BY THE ARCHITECT.
18. ALL GYP BOARD CEILINGS AND SOFFITS TO BE (PNT-4), UNO. REFER TO REFLECTED CEILING PLAN AND CEILING DETAILS FOR MORE FINISH INFORMATION.
19. PROVIDE CORNER GUARDS AT OUTSIDE CORNERS AS INDICATED, UNO.
20. HOLLOW METAL DOORS AND HOLLOW METAL FRAMES SHALL BE PAINTED TO MATCH (PNT-3) WHERE NEW WORK IS INDICATED.
21. CONTRACTOR TO PROVIDE FLOOR SEAMING DIAGRAM TO ARCHITECT FOR APPROVAL PRIOR TO FABRICATION AND INSTALLATION.
22. ALL EXPOSED CEILINGS TO RECEIVE DRYFALL PAINT, UNO. COLOR TO MATCH (PNT-4).
23. ALL AREAS OF CONCRETE SLAB RECEIVING A FLOOR COVERING TO UNDERGO MOISTURE TESTING IN ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTION.
24. ALL RAILING OR GUARD RAILS TO BE PAINTED FIELD COLOR (PNT-1), UNO.
25. ALL WALLS RECEIVING CERAMIC TILE TO HAVE CEMENT BOARD SUBSTRATE.
26. ALL OUTSIDE CORNERS OF TILE INSTALLATIONS TO RECEIVE (TS-X). ALL INTERIOR CORNERS TO RECEIVE SILICONE SEALANT COLOR MATCHED TO GROUT.
27. ALL EXPOSED METAL SHALL RECEIVE DTM ACRYLIC COATING MATCHING (PT-1), UNO.
28. ALL WINDOWS IN MASONRY AND WOOD STUD WALLS TO HAVE SSF-1 SILLS.
29. ALL LINTELS TO BE PAINTED TO MATCH EXTERIOR SURFACE, UNO.

KEYNOTE LEGEND:

- < < < INDICATES KEYNOTE ON PLAN

MATERIAL IDENTIFICATION CODES

06 4100	PLAM	ARCHITECTURAL WOOD
	PL-2	FORMICA, CASCARA TEAKWOOD 08909-NG
06 8316	FRP	FIBERGLASS REINFORCED PANELING
	FRP-1	MARLITE, STANDARD PEBBLED FRP, LIGHT GREY P151
09 3000	CTW, CTF, CTB	TILING
	CTW-1	CAESAR USA, RUN, SALT 12x24
	CTW-2	CAESAR USA, RUN, SALT 6x24
	CTW-3	EXPRESSION DAYLIGHT, GLOSS 4"X12"X1/4" INSTALL: REF ELEVATION GROUT: TEC, DELOREAN GRAY 934
	CTF-1	CAESAR USA, RUN, CLAY 12x24
	CTF-2	CAESAR USA, RUN, CLAY 2x2 MOSAIC
	CTB-1	CAESAR USA, RUN, SALT 6x12 COVE BASE
	CTC-1	CAESAR USA, RUN, CLAY 2X2
09 5100	ACT	ACOUSTICAL CEILINGS
	ACT-1	ARMSTRONG CEILINGS, DUNE 9/16" BEVELED TEGULAR, 1775. SUPRAFINE 9/16"
09 6513	RB	RESILIENT BASE AND ACCESSORIES
	RB-1	TARKETT JOHNSONITE, 4" TRADITIONAL WALLBASE, BURNT UMBER 63
09 6516	RSF	RESILIENT SHEET FLOORING
	RSF-1	MANNINGTON COMMERCIAL, ASSURANCE III 16349.
09 6519	RTF	RESILIENT TILE FLOORING
	RTF-1	MANNINGTON, SPACIA WOOD, NOBLE OAK SS5W3030
09 6566	RTF	RESILIENT ATHLETIC FLOORING
	RTF-2	ECORE ECOFIT, 48" ROLLS - 8.2 MM THICKNESS MRS. DOUBTFIRE PLACE 1209.
09 6813	CPT	TILE CARPETING
	CPT-1	PATCRAFT, STUDIO, BURLAP BAG
	CPT-2	PATCRAFT, PRADO 10317, JASPER 00750
09 9000	CFS, PNT	INTERIOR PAINTING AND COATING
	CFS-1	CONCRETE FINISHING SYSTEM, SHERWIN WILLIAMS, H&C CLARISHIELD WATER-BASED WET-LOOK CONCRETE SEALER
	PNT-1	SHERWIN WILLIAMS, TAUPE TONE SW 7633
	PNT-2	SHERWIN WILLIAMS, COLONNADE GRAY SW 7641
	PNT-3	SHERWIN WILLIAMS, URBANE BRONZE SW 7048
	PNT-4	SHERWIN WILLIAMS, EXTRA WHITE SW 7006
10 2600	VARIES	WALL AND DOOR PROTECTION
	CG-1	INPRO, SURFACE MOUNT STAINLESS STEEL CORNER GUARD, 2"X2"X96"X1/8" RADIUS, SCREW-ON 304 STAINLESS STEEL, 16 GA
12 2400	WT	WINDOW SHADES
	WT-1	MECHOSHADE, MECHO/5, CHELSEA 0250, NAPA 0258
	WT-2	MECHOSHADE, MECHO/5, THERMOVEIL DENSE 1500, BEIGE 1502
12 3661.16	SSF	SOLID SURFACE FABRICATION
	SSF-1	CORIAN, SILT
12 3623.13	PLAM	PLASTIC-LAMINATE-CLAD COUNTERTOPS
	PL-1	FORMICA, WHITE ICE GRANITE 09476-43
12 3661.19	QTZ	QUARTZ AGGLOMERATE FABRICATION
	QTZ-1	WILSONART, GREY LAKE Q1009

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FIRE STATION 6

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STATE ND

ISSUE DATES

MARK	DESCRIPTION	DATE
1	ADDENDUM #2	11/13/2026
CD	100% CONSTRUCTION DOCUMENTS	10/29/2026

PROJECT NO: 20253510
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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Architect under the laws of the State of North Dakota.
Signature:
Date: 10/29/2026 REG. NO. : 1718

DRAWING TITLE
FIRST FLOOR FINISH PLAN

A901

Revit Version: 2025
Plot Date: 11/13/2026 12:34:27 PM

KEYNOTE LEGEND:

< < < INDICATES KEYNOTE ON PLAN

FP 01 ORDINARY HAZARD 1

FP 02 ORDINARY HAZARD 2

GENERAL NOTES

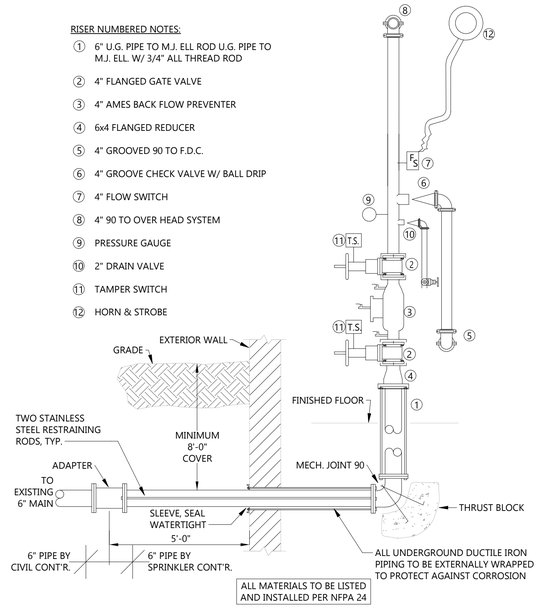
1. SPRINKLERS PENETRATING FIRE WALLS SHALL BE SEALED WITH FIRE CAULKING.
2. ONLY NEW SPRINKLERS SHALL BE EMPLOYED IN THE INSTALLATION OF THE SPRINKLER SYSTEM. SPRINKLER HEADS TO BE CENTERED IN CEILING TILE.
3. THE SYSTEM SHALL ONLY EMPLOY THE USE OF APPROVED MATERIALS AND DEVICES.
4. SPRINKLER PLANS SHALL BE APPROVED PRIOR TO THE INSTALLATION OF ANY PIPE. A SET OF APPROVED PLANS SHALL BE MAINTAINED AT ALL TIMES ON THE JOBSITE.
5. AN APPOINTMENT SHALL BE MADE A MINIMUM OF TWO WORKING DAYS IN ADVANCE WITH THE APPROPRIATE FIRE PREVENTION OFFICE FOR ALL INSPECTIONS AND TESTS.
6. ALL SYSTEM PIPING SHALL BE HYDROSTATICALLY TESTED AT 200 PSI FOR TWO HOURS OR AT 50 PSI ABOVE STATIC PRESSURE IN EXCESS OF 150 PSI.
7. FIRE DEPARTMENT CONNECTIONS SHALL BE VISIBLE, ACCESSIBLE, HAVE NST FEMALE OUTLETS, HAVE PROTECTIVE CAPS, AND AN APPROVED CHECK VALVE LOCATED IN THE MAIN LINE. (AS CLOSE TO THE FIRE DEPARTMENT CONNECTION AS POSSIBLE) FOR COMMERCIAL SYSTEMS ONLY.
8. ALL VALVES SHALL HAVE A PERMANENTLY AFFIXED SIGN INDICATING ITS FUNCTION.
9. A STOCK OF SPARE SPRINKLERS OF EACH STYLE, TYPE, AND TEMPERATURE RATING ALONG WITH A SPRINKLER WRENCH SHALL BE LOCATED AT THE SPRINKLER RISER.
10. ANY PORTION OF THIS SPRINKLER SYSTEM WHICH IS EXPOSED TO FREEZING SHALL BE ADEQUATELY PROTECTED AGAINST THIS EXPOSURE.
11. FITTINGS TO BE CAST IRON OR DUCTILE.
12. THREADS TO MEET ANSI/ASME STANDARDS.

GENERAL NOTES

13. ALL MATERIALS AND INSTALLATION TO CONFORM WITH NFPA #13 STANDARDS.
14. COORDINATE BETWEEN MECHANICAL AND ELECTRICAL LAYOUTS.
15. ADD SPRINKLERS UNDER ALL DUCTWORK OVER 48" WHEN STRUCTURE IS EXPOSED.
16. THE SPRINKLER CONTRACTOR WILL SUPPLY THE OWNER WITH THE NECESSARY INSTRUCTION MANUALS FOR THE UPKEEP OF THE SYSTEM.
17. SPRINKLER PLAN TO MEET ALL STATE AND LOCAL BUILDING CODES. A SET OF FIRE PROTECTION PLANS ARE TO BE SUBMITTED TO THE STATE FIRE MARSHALS OFFICE OR ANY OTHER GOVERNING BODIES FOR REVIEW. SPRINKLER PLANS NEED APPROVAL PRIOR TO INSTALLATION OF ANY PIPING.
18. SPRINKLER SYSTEM LAYOUT IS GENERAL & DIAGRAMMATIC. ADDITIONAL HEADS AND/OR PIPING NEEDED TO CONFORM WITH NFPA SHALL BE PROVIDED BY THE FIRE SPRINKLER CONTRACTOR WITH NO ADDITIONAL COST TO THE OWNER.
19. SPRINKLER PIPING
    A. SCHEDULE 40: ASTM A53, UL LISTED, FM APPROVED FOR 1" PIPING.
    B. SCHEDULE 10: ASTM A135, UL LISTED, FM APPROVED FOR PIPING 1 1/2" & LARGER.
20. ADD SIDEWALL SPRINKLER HEADS TO PROVIDE COVERAGE UNDER OPEN GARAGE DOORS AS REQUIRED.
21. ALL AREAS SHOWN SHALL BE PROTECTED AS LIGHT HAZARDS UNLESS OTHERWISE NOTED.
22. SEMI RECESSED HEADS SHALL BE CHROME UNLESS ARCHITECTURAL CEILING IS WOOD OR DIFFERENT COLOR, PROVIDE CUSTOM COLOR HEADS IN THE AREAS WITH CUSTOM COLORS, REFER TO ARCHITECTURAL ROOM FINISH SCHEDULES.
23. ADD FIRE PROTECTION TO ALL CONCEALED COMBUSTIBLE SPACES PER NFPA 13 STANDARDS.

RISER NUMBERED NOTES:

1. 6" U.G. PIPE TO M.J. ELL ROD U.G. PIPE TO M.J. ELL. W/ 3/4" ALL THREAD ROD
2. 4" FLANGED GATE VALVE
3. 4" AMES BACK FLOW PREVENTER
4. 6x4 FLANGED REDUCER
5. 4" GROOVED 90 TO F.D.C.
6. 4" GROOVE CHECK VALVE W/ BALL DRIP
7. 4" FLOW SWITCH
8. 4" 90 TO OVER HEAD SYSTEM
9. PRESSURE GAUGE
10. 2" DRAIN VALVE
11. TAMPER SWITCH
12. HORN & STROBE



2 / F201 RISER DETAIL
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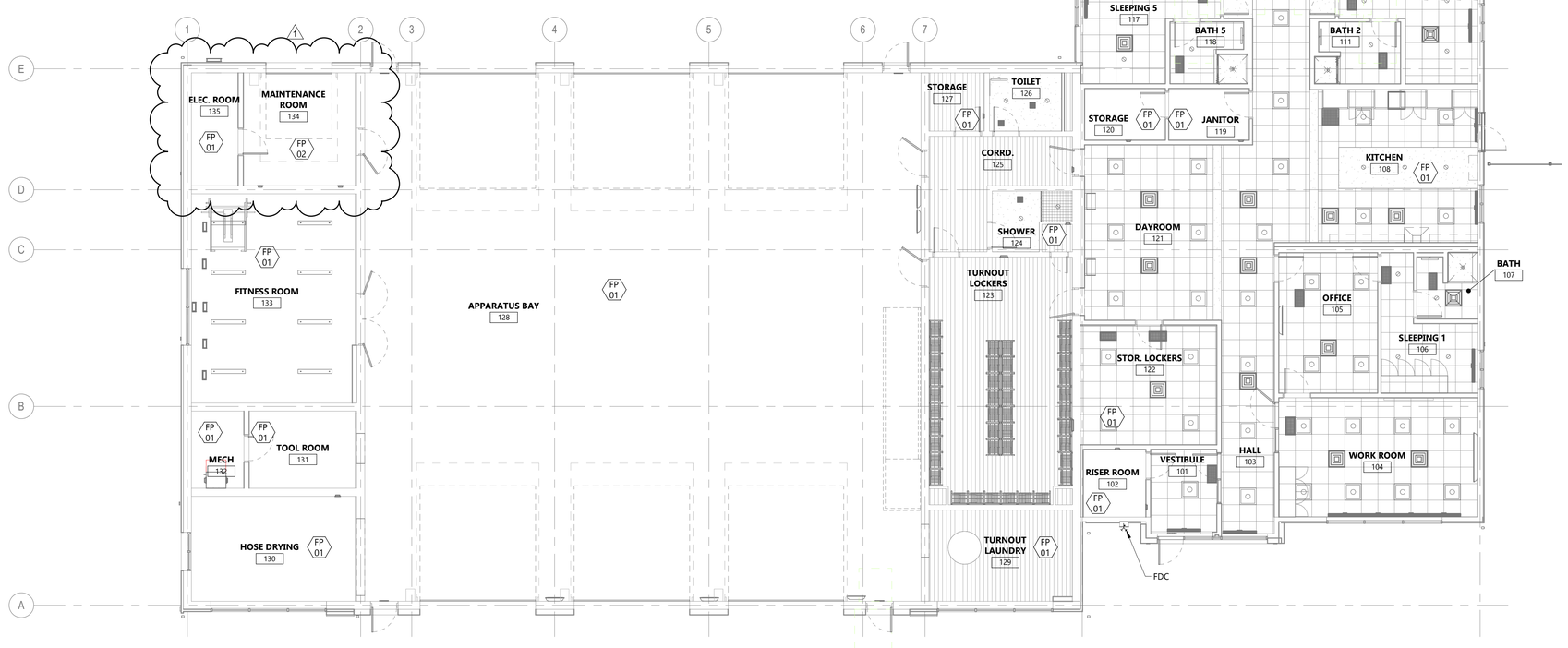

1 / F201 FIRST FLOOR FIRE PROTECTION PLAN
1/8" = 1'-0"

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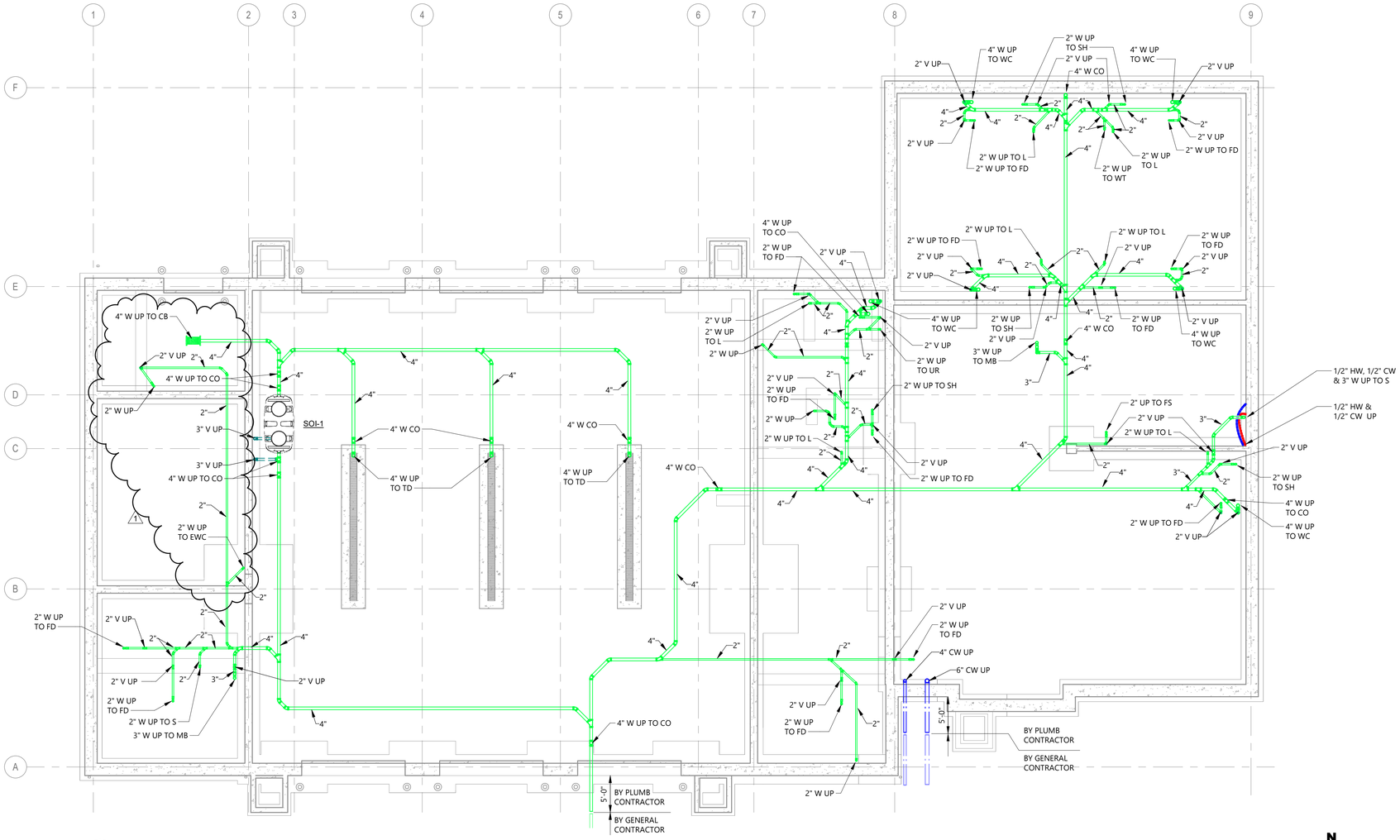
DRAWING TITLE
FIRST FLOOR FIRE PROTECTION PLAN

F201



1 P200 UNDERGROUND PLUMBING PLAN

1/8" = 1'-0"

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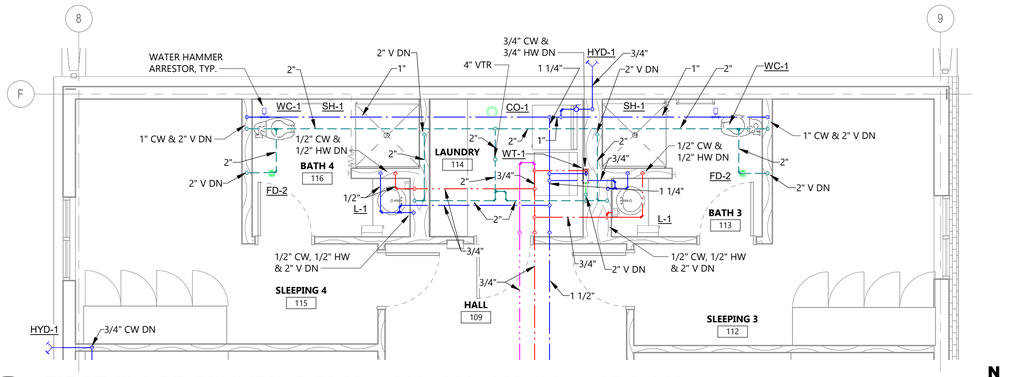
DRAWING TITLE
UNDERGROUND PLUMBING PLAN

P200



2 P201

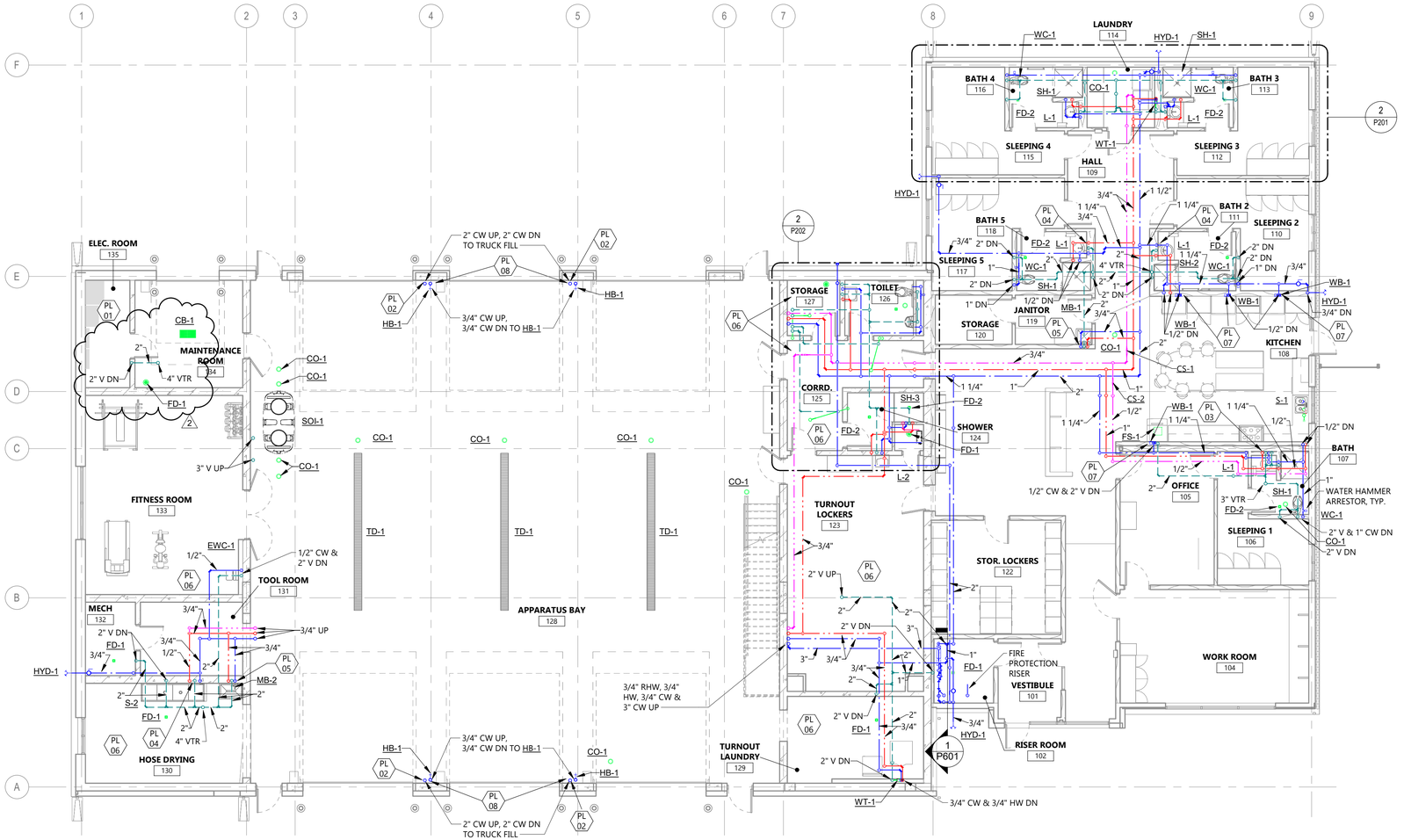
FIRST FLOOR PLUMBING PLAN - 109, 112, 113, 114, 115 & 116

1/4" = 1'-0"

KEYNOTE LEGEND:

< < < INDICATES KEYNOTE ON PLAN

PL 01	NO PIPING ALLOWED ABOVE ELECTRICAL PANELS.
PL 02	2" MANUAL TRUCK FILL, PROVIDE ADAPTOR TO FIRE DEPARTMENT HOSE THREAD. VERIFY STYLE WITH FIRE DEPARTMENT PRIOR TO INSTALLATION INSTALL FILL CONNECTION AND VALVE AT 48" AFF (VERIFY WITH FIRE DEPARTMENT).
PL 03	1/2" HW, 2" V, 1/2" CW & 2" V DN.
PL 04	1/2" HW, 2" V & 1/2" CW DN.
PL 05	3/4" HW, 2" V & 3/4" CW DN.
PL 06	ROUTE ALL PLUMBING PIPING AS HIGH AS POSSIBLE AND TIGHT TO STRUCTURE. COORDINATE WITH ALL TRADES TO MAXIMIZE AVAILABLE CEILING SPACE AND AVOID CONFLICTS WITH STRUCTURAL AND BUILDING SYSTEMS.
PL 07	FINAL CONNECTION WILL BE PROVIDED WITH BACKFLOW PREVENTION AND BY PLUMBING CONTRACTOR.
PL 08	COORDINATE PIPING LOCATION WITH GC FOR OVERHEAD DOOR OPERATORS.



FIRST FLOOR PLUMBING PLAN

1/8" = 1'-0"

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1	ADDENDUM #1	11/06/2026
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FIRST FLOOR PLUMBING PLAN

P201

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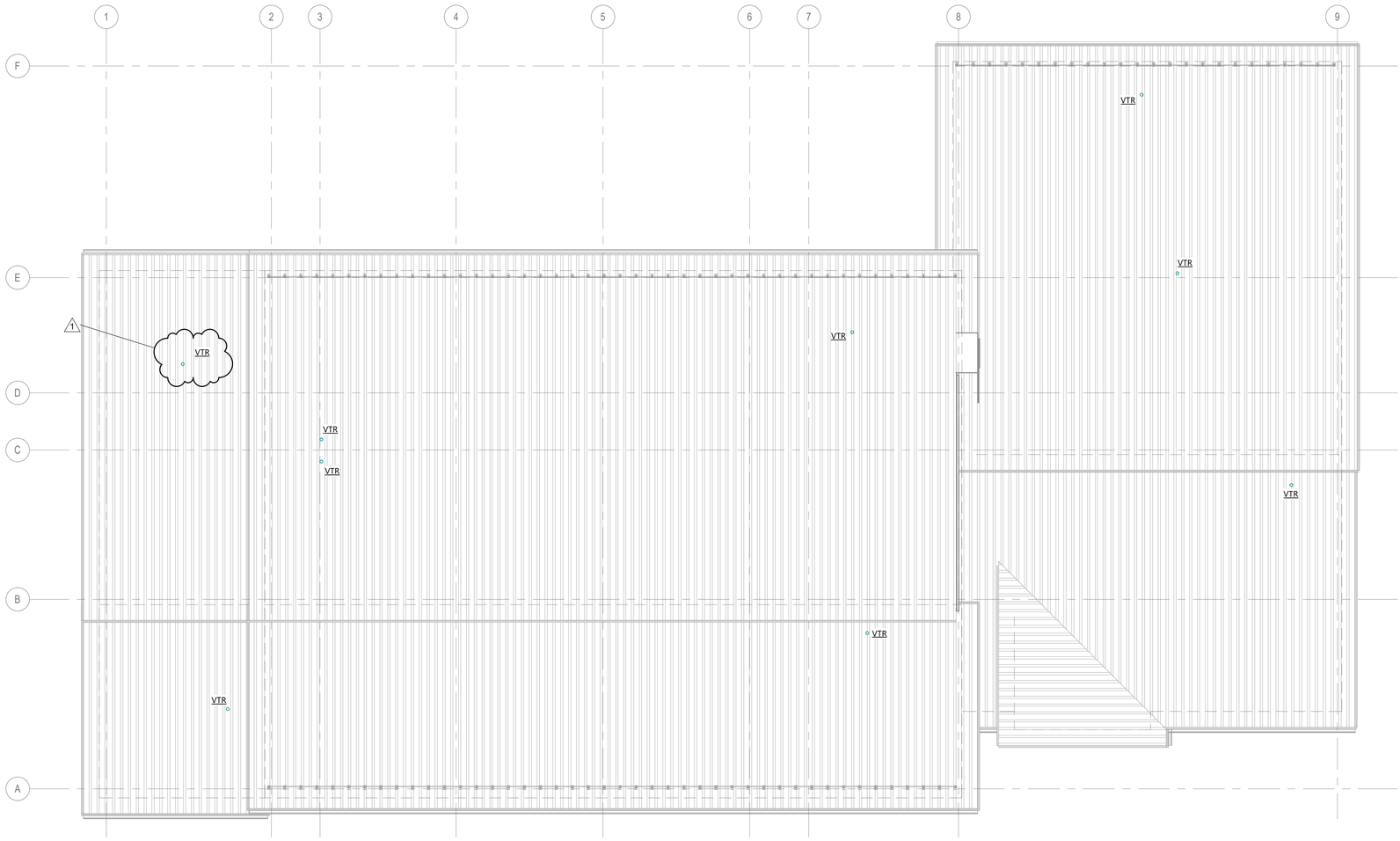

1 P203 ROOF PLUMBING PLAN

1/8" = 1'-0"

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DRAWING TITLE
ROOF PLUMBING PLAN

P203

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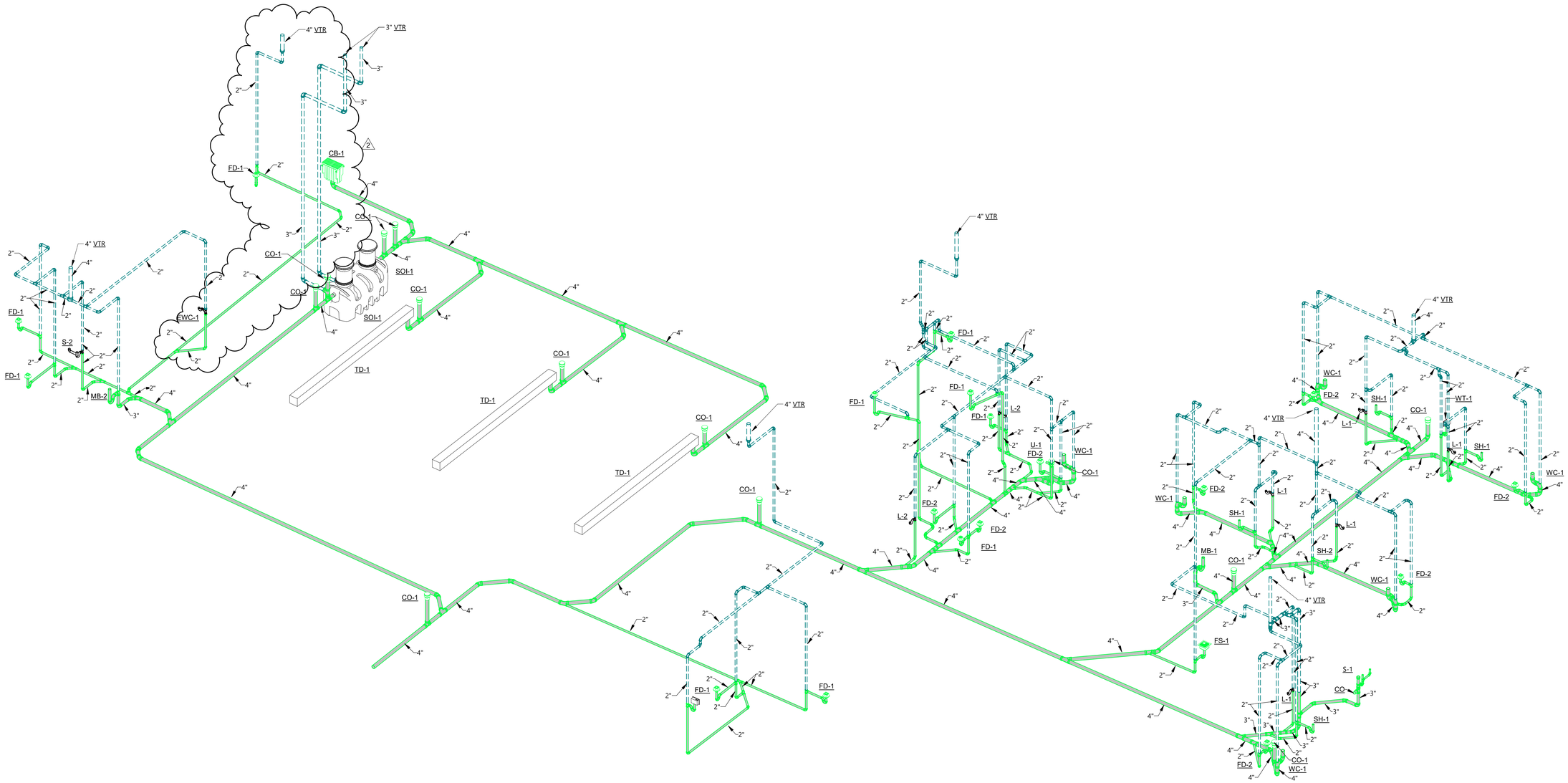

1 P501 SANITARY WASTE & VENT RISER

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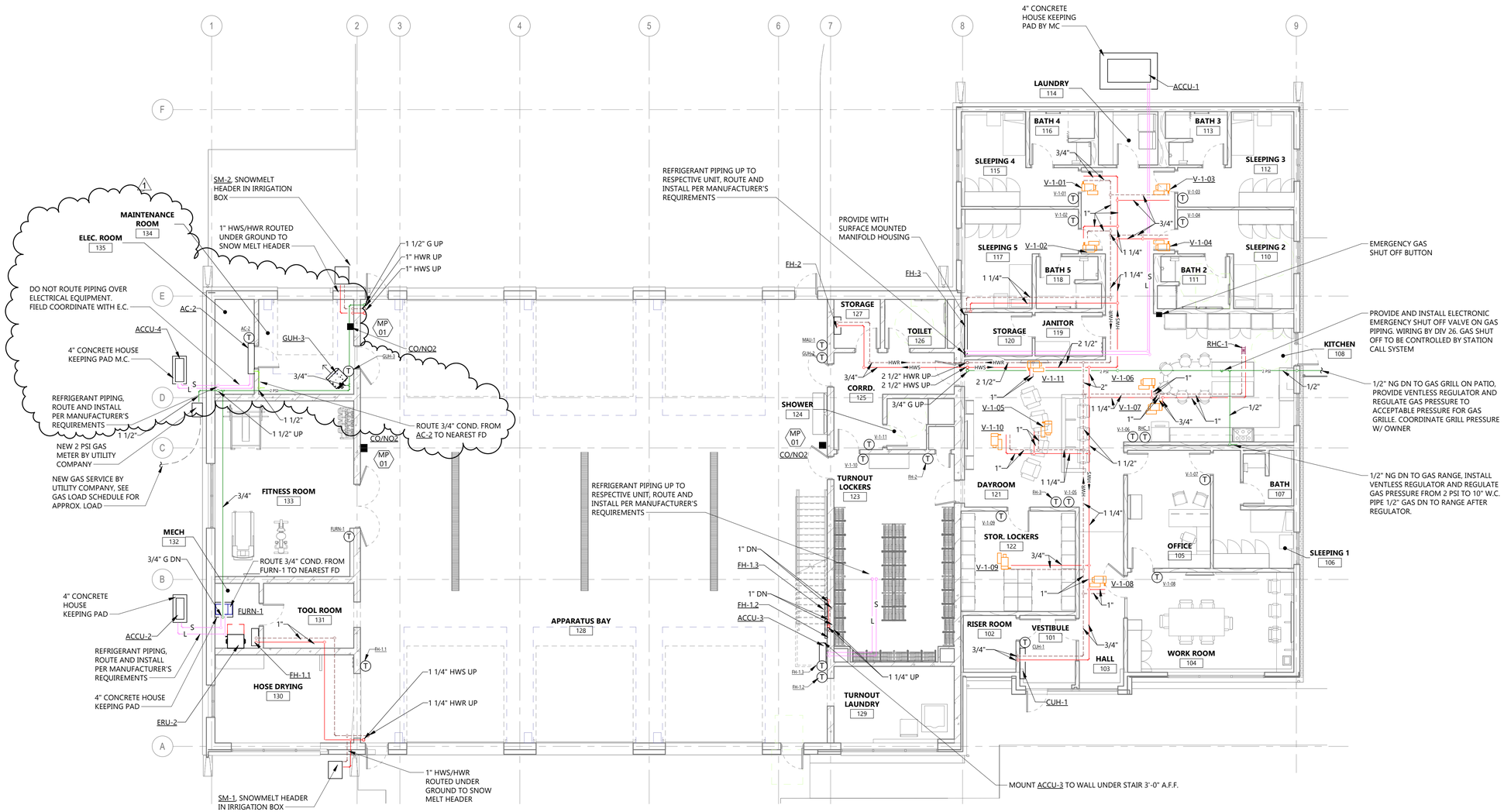
NORTH DAKOTA

DRAWING TITLE
SANITARY WASTE & VENT RISER

P501

KEYNOTE LEGEND:

⬡	< < < INDICATES KEYNOTE ON PLAN
MP 01	CO SENSOR AND CONTROL PANEL MOUNTED 5'-0" A.F.F. NO2 SENSOR MOUNTED JUST BELOW STRUCTURE. CONTROL PANELS AND SENSORS PROVIDED AND INSTALLED BY M.C. WIRING BY DIV. 26



1 M201 FIRST FLOOR HYDRONICS PLAN

1/8" = 1'-0"

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DRAWING TITLE

FIRST FLOOR HYDRONICS PLAN

M201

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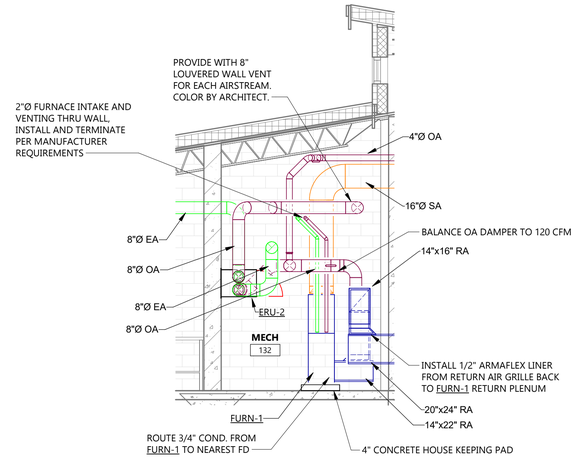
Print Date: 11/12/2026 4:02:20 PM

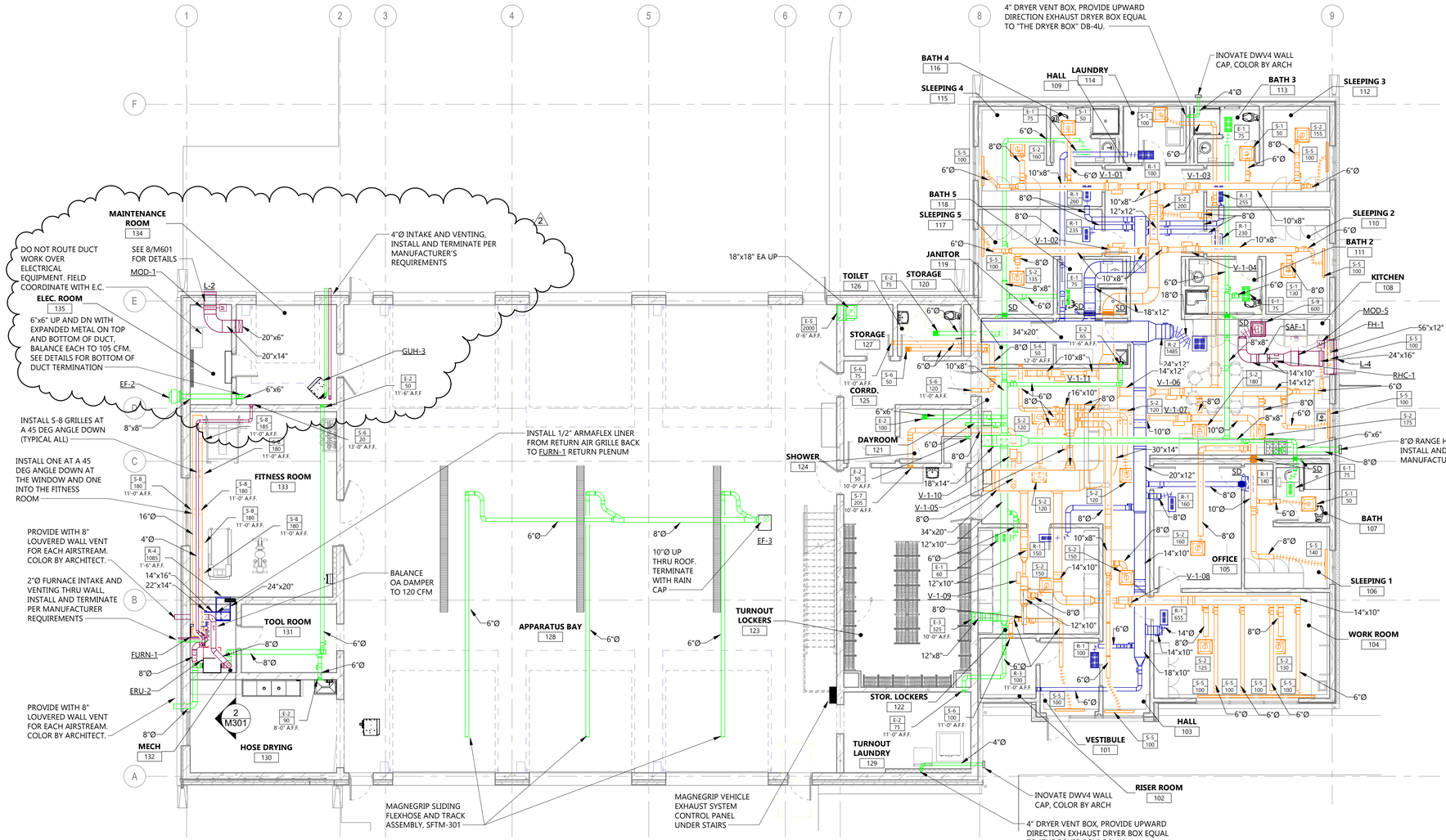
GENERAL NOTES

ALL GRILLES TO BE PRIMED AND FIELD PAINTED, ALL DUCTWORK TO BE FIELD PAINTABLE BY G.C. IN NON SLEEPING AREAS.



2 M301 — FURN-1 SECTION

1/4" = 1'-0"



1 M301 — FIRST FLOOR VENTILATION PLAN

1/8" = 1'-0"

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REGISTERED PROFESSIONAL ENGINEER
TYLER COULOMBE
PE-7492
DATE 11/13/2026
NORTH DAKOTA

DRAWING TITLE
FIRST FLOOR VENTILATION PLAN

M301

GAS LOAD SCHEDULE

ROOM	TAG	CFH
APP BAY	GUH-1	60
APP BAY	GUH-2	60
MAINTENANCE ROOM	GUH-3	45
UPPER MECHANICAL	B-1	399
UPPER MECHANICAL	B-2	399
UPPER MECHANICAL	B-3	399
UPPER MECHANICAL	WATER HEATER	75
UPPER MECHANICAL	WATER HEATER	75
KITCHEN	RANGE	120
PATIO	GRILLE	70
LOWER MECHANICAL	FURN-1	60
	TOTAL CFH =	1,762

PUMP SCHEDULE

NUMBER	SERVICE	MFGR.	MODEL	PUMP TYPE	GPM	TOTAL HEAD	MOTOR CHARACTERISTICS RPM	BHP	HP	V / PH	NOTES:
P-1	HEATING WATER PUMP	BELL & GOSSETT	e-80 3x3x7C	INLINE	108	40	1,800	1.7	3	208 / 3	1, 2, 3
P-2	HEATING WATER PUMP	BELL & GOSSETT	e-80 3x3x7C	INLINE	108	40	1,800	1.7	3	208 / 3	1, 2, 3
BP-1	BOILER PUMP	BELL & GOSSETT	ECOCIRC XL 15-75	INLINE	35	10	2,325	-	0.167	115 / 1	3
BP-2	BOILER PUMP	BELL & GOSSETT	ECOCIRC XL 15-75	INLINE	35	10	2,325	-	0.167	115 / 1	3
BP-3	BOILER PUMP	BELL & GOSSETT	ECOCIRC XL 15-75	INLINE	35	10	2,325	-	0.167	115 / 1	3

1. PUMPS TO OPERATE IN LEAD LAG OPERATION.
2. VFD BY SECTION 230923.30. PROVIDE SHAFT GROUNDING KITS FOR PUMPS W/ VFD'S
3. FLUID IS 40% PROPYLENE GLYCOL.

HYDRONIC SPECIALTIES SCHEDULE

HVAC SYSTEM	DESCRIPTION	MANUFACTURER	MODEL NUMBER	DESIGN CAPACITY	NOTES:
HEATING WATER	AIR SEPARATOR	ITT BELL & GOSSETT	RL-3F	190 GPM	1
HEATING WATER	EXPANSION TANK	ITT BELL & GOSSETT	B-130	34 TANK VOLUME (GAL) 34 ACCEPT. VOLUME (GAL)	5
HEATING WATER	HIGH CAPACITY AUTO AIR VENT	ITT BELL & GOSSETT	NO. 107A	150 PSI	2
HEATING WATER	AUTO AIR VENT	ITT BELL & GOSSETT	NO. 87	150 PSI	
HEATING WATER	SIDE STREAM FILTER	SHELCO FILTERS	RHB-786-GP4I/O-V	7 GPM	3
HEATING WATER	VARIABLE AREA FLOWMETER	DWYER	HFB-3-15	2/15 GPM 3/4" N.P.T. CONNECTIONS	4
HEATING WATER	GLYCOL MAKE-UP UNIT	AXIOM	DMF300	1 GPM @ FREE FLOW 17 GAL TANK	6
HEATING WATER	INLINE MAGNETIC FILTER	ADEY	MAGNACLEAN COMMERCIAL	3"	

1. PROVIDE WITH BLOW DOWN VALVE.
2. PIPE DISCHARGE TO GLYCOL STORAGE TANK.
3. PROVIDE 6 REPLACEMENT 5 MICRON FILTERS.
4. PROVIDE BRASS END FITTINGS.
5. PROVIDE ASME CONSTRUCTION AND REPLACEABLE BLADDER. 20 PSIG SET PRESSURE. UNIT TO BE INSTALLED HORIZONTAL
6. PROVIDE WITH LOW LEVEL SAFETY SHUTDOWN SWITCH WITH REMOTE ALARM CONTACT AND INDICATOR LIGHT.

REGISTER-GRILLE-DIFFUSER SCHEDULE

						1 = STEEL 2 = ALUM. 3= S. STEEL	1 = OFFWHITE 2 = CLEAR-ALUM 3 = #84 BLACK	MANUF. UNLESS NOTED OTHERWISE	
TAG	TYPE	FACE	NECK SIZE	FRAME	CFM	MATERIAL	FINISH	PRICE MODEL	NOTES:
S-1	S	SQUARE CONE / LAY-IN	6"Ø	24"x 24"	0-125	1	1	SCD	1, 2
S-2	S	SQUARE CONE / LAY-IN	8"Ø	24"x 24"	126-250	1	1	SCD	1, 2
S-3	S	SQUARE CONE / LAY-IN	10"Ø	24"x 24"	251-450	1	1	SCD	1, 2
S-4	S	24"Ø SPIRAL DUCT GRILLE	12"x 8"	13-3/4"x 9-3/4"	SEE PLAN	2	SEE NOTE 6	SDGE	5, 6
S-5	S	SLOT DIFFUSER (2) 1 1/2" SLOTS	6"Ø	3"x48"	SEE PLAN	1	1	SDS150	1, 2, 4
S-6	S	FIXED GRILLE	6"x6"	7-3/4"x 7-3/4"	SEE PLAN	1	SEE NOTE 6	510	3, 6
S-7	S	FIXED GRILLE	10"x6"	11-3/4"x 7-3/4"	SEE PLAN	1	SEE NOTE 6	510	3, 6
S-8	S	16"Ø SPIRAL DUCT GRILLE	12"x 6"	13-3/4"x 7-3/4"	SEE PLAN	2	SEE NOTE 6	SDGE	5, 6
S-9	S	PERFORATED DIFFUSER	12"Ø	24"x 24"	SEE PLAN	1	1	PDDR	1, 2
R-1	R	EGG CRATE / LAY-IN	-	12"x 24"	0-1000	1	1	80	1, 2
R-2	R	EGG CRATE / LAY-IN	-	24"x 24"	1001-2000	1	1	80	1, 2
R-3	R	FIXED GRILLE	6"x6"	7-3/4"x 7-3/4"	SEE PLAN	1	SEE NOTE 6	530	3, 6
R-4	R	FIXED GRILLE	28"x20"	29-3/4"x 21-3/4"	SEE PLAN	1	SEE NOTE 6	530	3, 6
E-1	E	EGG CRATE / LAY-IN	-	12"x 24"	0-1000	2	1	80	1, 2
E-2	E	FIXED GRILLE	6"x6"	7-3/4"x 7-3/4"	SEE PLAN	1	SEE NOTE 6	530	3, 6
E-3	E	FIXED GRILLE	16"x10"	17-3/4"x 11-3/4"	SEE PLAN	1	SEE NOTE 6	530	3, 6
E-4	E	FIXED GRILLE	10"x8"	11-3/4"x 9-3/4"	SEE PLAN	1	SEE NOTE 6	530	3, 6
E-5	E	FIXED GRILLE	24"x36"	225-3/4"x 37-3/4"	SEE PLAN	1	SEE NOTE 6	630	3, 6

1. LAY-IN CEILING, VERIFY TYPE WITH ARCHITECTURAL PLANS.
2. FLEXIBLE DUCT SIZE SHALL MATCH DIFFUSER NECK SIZE.
3. CAULK DIFFUSERS AND GRILLE TO WALLS AND CEILINGS FOR AIR TIGHT SEAL.
4. PROVIDE WITH INSULATED SDB PLENUM
5. GRILLE SHALL BE DUCT MOUNTED. PROVIDE WITH OPTIONAL AIR SCOOP.
6. FIXED GRILLES IN ROOMS: 102, 119, 120, 122, 123, 125, 128, 130, 133, 134 TO BE PRIMED AND FIELD PAINTED. ALL FIXED GRILLES IN ROOMS 124 AND 126 TO BE WHITE

UNIT HEATER SCHEDULE - HOT WATER

TAG	ROOM NUMBER	TYPE	MANUFACTURER & MODEL #	PRESSURE GPM	PRESSURE DROP	OUTPUT MBH	CFM	FAN MOTOR HP	FAN MOTOR V / PH	FAN MOTOR FLA (A)	NOTES:
UH-1	MECH 203	HORIZONTAL SUSPENDED	RITTLING RH-24	1.0	0.3	7.6	450	1/30	115 / 1	0.70	1, 2

1. SELECTIONS BASED ON 140° F EWT, 70° F EAT & 30° F WTD. FLUID IS 40% PROPYLENE GLYCOL & WATER SOLUTION
2. PROVIDE WITH FACTORY WIRED & MOUNTED DISCONNECT

HEATING COIL SCHEDULE

TAG	CFM	COIL CAP. (BTU) HEATING	HEATING AIR °F ENT	HEATING AIR °F LVG	COIL SIZE (W"x H")	CIRCULATING WATER (HEATING) TEMP. IN °F	CIRCULATING WATER (HEATING) TEMP. OUT °F	GPM	MAX PRESSURE DROP WATER	MAX PRESSURE DROP AIR	NOTES:
RHC-1	600	66,113	-30	70	14"x12"	140	110	4.70	3.4'	0.4"	1, 2

1. MAXIMUM FACE VELOCITY = 550 FPM
2. COIL SELECTION BASED ON DAIKIN

AIR FILTER RACK SCHEDULE

TAG	CFM	FILTER HOUSING FLANDERS MODEL #	HEIGHT	WIDTH	LENGTH	FILTER QUAN.	FILTER SIZE	FILTER EFFICIENCY	NOTES:
FH-1	600	SP2/4-05H10W	15"	24"	12"	1	12"x24"	MERV 8	1

1. PROVIDE WITH MAGNEHELIC DIFFERENTIAL PRESSURE GAGE.
2. PROVIDE A 4" FILTER. CLEAN FILTER PRESSURE DROP SHALL BE < 0.2" w.g.

RADIANT HEAT LOOP SCHEDULE

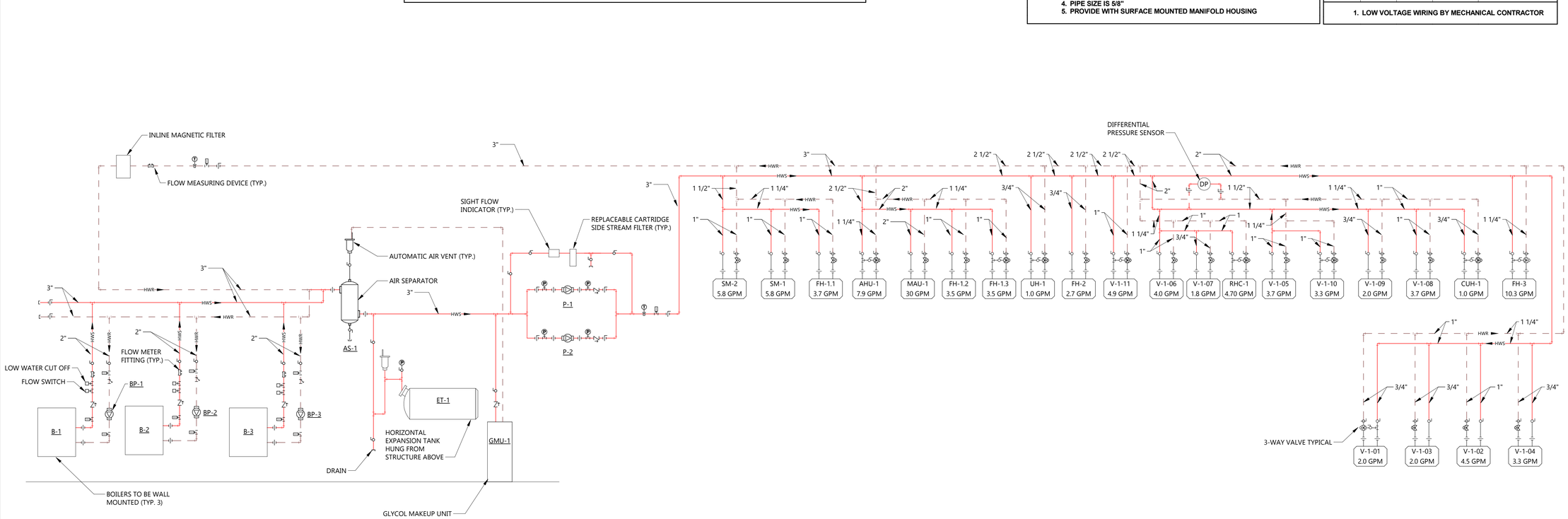
HEADER TAG	AREA SERVED	NUMBER OF LOOPS	AVG. LOOP LENGTH (FT.)	HEADER GPM	NOTES:
FH-1.1	APP BAY	6	312	3.7	1, 3, 4
FH-1.2	APP BAY	6	295	3.5	1, 3, 4
FH-1.3	APP BAY	6	295	3.5	1, 3, 4
FH-2	TURNDOWN SPACE	4	297	2.7	1, 3, 4
FH-3	LIVING SPACES	14	330	10.3	1, 3, 4, 5
SM-1	NORTH SIDE WALK	3	320	5.8	1, 2, 4
SM-2	SOUTH SIDE WALK	3	322	5.8	1, 2, 4

1. FLUID IS 40% PROPYLENE GLYCOL.
2. PIPE SPACING SHALL BE 6" ON CENTER
3. PIPE SPACING SHALL BE 12" ON CENTER
4. PIPE SIZE IS 5/8"
5. PROVIDE WITH SURFACE MOUNTED MANIFOLD HOUSING

MOTORIZED DAMPER SCHEDULE

TAG	SIZE WIDTH	SIZE HEIGHT	DAMPER ACTUATOR	NOTES:
MOD-1	20"	14"	24V	1
MOD-2	36"	20"	24V	1
MOD-3	36"	20"	24V	1
MOD-4	60"	20"	24V	1
MOD-5	24"	16"	24V	1
MOD-6	20"	26"	24V	1

1. LOW VOLTAGE WIRING BY MECHANICAL CONTRACTOR



1 M801 MECHANICAL FLOW DIAGRAM
NOT TO SCALE

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CLIENT
BISMARCK FIRE DEPARTMENT

PROJECT DESCRIPTION
FIRE STATION 6

CITY BISMARCK
STATE ND

ISSUE DATES

MARK	DESCRIPTION	DATE
2	ADDENDUM #2	11/13/2026
1	ADDENDUM #1	11/06/2026
CD	100% CONSTRUCTION DOCUMENTS	10/29/2026

PROJECT NO: 20253510
DRAWN BY: SR
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TYLER COULOMBE
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DATE 11/13/2026
NORTH DAKOTA

DRAWING TITLE
MECHANICAL FLOW DIAGRAM AND SCHEDULES

M801

AIR HANDLING UNIT SCHEDULE

TAG	AREA SERVED	CFM	SUPPLY FAN E.S.P.	SUPPLY FAN QUANTITY/BHP/HP BLOWER TYPE	CFM OUTSIDE AIR	HEATING CAPACITY					COOLING CAPACITY					MAXIMUM ALLOWABLE REFRIGERANT CHARGE DESIGN CRITERIA			UNIT SIZE	DAIKIN MODEL	ELECTRICAL					NOTES:
						MBH	EAT dB °F	LAT dB °F	MAX WPD	GPM	MBH	EAT dB °F	EAT wB °F	LAT dB °F	LAT wB °F	ROOM VOLUME (CUFT)	REF. TYPE	ALLOWABLE CHARGE (LBS PER CIRCUIT)	SYSTEM CHARGE (LBS PER CIRCUIT)			V / PH	FLA (A)	MCA (A)	MOP (A)	SCCR (kA)	
AHU-1	LIVING SPACE	5,000	1.5	2 / 2.59 BHP / 5 HP PLENUM FAN	1,225	111.23	40	60	5	7.9	138.9	80	67	55	54	7910	R454B	37.8	5.2	10	CAH010GDGC	208 / 3	14.5	32.6	45	65	1, 2, 3, 4, 5

1. AIR HANDLING UNIT SELECTION BASED ON DAIKIN
2. HEATING COIL ENTERING WATER TEMPERATURE IS 140° & 110° LEAVING WATER TEMPERATURE
3. REFRIGERANT IS R454B
4. HEATING FLUID IS 40% PROPYLENE GLYCOL / WATER SOLUTION
5. UNIT SHALL HAVE MOTORIZED IMPELLER FAN WITH 0-10 VOLT SPEED CONTROL

HUMIDIFIER SCHEDULE

TAG	UNIT SERVED	Steam Generator									NOTES
		MANUFACTURER	MODEL	MAX CAPACITY LBS/HR	DIMENSIONS H x W x D	ELECTRICAL					
						VOLTS/ PHASE	UNIT KW	FLA	MCA	MOCP	
H-1	AHU-1	CONDAIR	EL 75	70.9	30.7"x20.9"x15.7"	208/3	28.1	78	77.9	100	1, 2, 3, 4

1. INSTALL PER MANUFACTURER'S RECOMMENDATIONS
2. UNIT IS ELECTRIC
3. PROVIDE WITH DRAIN TEMPERING KIT
4. PROVIDE WITH SCALTROL DOMESTIC WATER CONNECTION TO UNIT

SPLIT SYSTEM HEAT PUMP SCHEDULE

TAG	ROOM	MANUFACTURER	MODEL #	UNIT TYPE	OUTDOOR UNIT	CFM	COOLING MBH (TOTAL)	HEATING (MBH)	SEER2	MAXIMUM ALLOWABLE REFRIGERANT CHARGE DESIGN CRITERIA				ELECTRICAL				SYSTEM TYPE	NOTES:
										ROOM VOLUME (CUFT)	REF. TYPE	ALLOWABLE CHARGE (LBS PER CIRCUIT)	SYSTEM CHARGE (LBS PER CIRCUIT)	V / PH	MOP (A)	MCA (A)	FLA (A)		
AC-1	ELEC / DATA	HAIER	QS09WB2BEA	INDOOR	ACCU-3	360	9,000	10,000.0	-	2,100.0	R-454B	37.8	2.3	208 / 1	-	-		MINI-SPLIT	1, 2, 3
AC-2	ELEC ROOM	HAIER	QS30WB2BEA	INDOOR	ACCU-4	800	28,400	31,000.0	-	1,155.0	R-454B	20.8	5.5	208 / 1	-	-		MINI-SPLIT	1, 2, 3
ACCU-3	-	HAIER	1Q09TE2BEA	OUTDOOR	-	-	9,000	-	20.0	-	-	-	-	208 / 1	15.0	12.0		MINI-SPLIT	1, 4, 5
ACCU-4	-	HAIER	1Q3036FF2BEA	OUTDOOR	-	-			18.0					208 / 1	35.0	25.0		MINI-SPLIT	1, 4, 6

1. REFRIGERANT IS R-454B, INSTALL PER MANUFACTURERS RECOMMENDATIONS.
2. PROVIDE UNITS COMPLETE WITH WIRELESS REMOTE THERMOSTAT
3. PROVIDE UNIT WITH OPTIONAL REFRIGERANT LEAK SENSOR UALS01A
4. INSTALL OUTDOOR UNITS PER MANUFACTURER'S REQUIREMENTS FOR SERVICE & OPERATING CLEARANCES.
5. PROVIDE WITH WALL MOUNTING KIT
6. PROVIDE UNIT WITH ALL ACCESSORIES FOR LOW AMBIENT CONTROL FOR COOLING OPERATING RANGE -40 DEG F AND HEAT OPERATING RANGE -15 DEG F

LOUVER SCHEDULE

TAG	MANUFACTURER & MODEL #	CFM	FREE AREA (FT2)	VELOCITY (FT/MIN)	PRESSURE DROP (IN W.C.)	LOUVER SIZE			FINISH	MATERIAL	NOTES:
						WIDTH	HEIGHT	DEPTH			
L-1	GREENHECK ESD-435	6,100	14.6	419	0.03	96"	40"	4"	COLOR SELECTION BY ARCHITECT	ALUMINUM	1, 2, 3
L-2	GREENHECK ESD-435	210	0.7	318	0.02	20"	14"	4"	COLOR SELECTION BY ARCHITECT	ALUMINUM	1, 2, 3
L-3	GREENHECK ESD-435	10,345	11.0	941	0.12	60"	48"	4"	COLOR SELECTION BY ARCHITECT	ALUMINUM	1, 2, 3
L-4	GREENHECK ESD-435	600	1.7	365	0.02	56"	12"	4"	COLOR SELECTION BY ARCHITECT	ALUMINUM	1, 2, 3

1. MANUFACTURER TO PROVIDE LOUVER WITH 1/2"x 1/2" BIRDSCREEN
2. COLOR SELECTION BY ARCHITECT.
3. INSTALLED BY M.C.

ENERGY RECOVERY SCHEDULE

TAG	MANUFACTURER MODEL	AREA SERVED	SA CFM	EA CFM	SA E.S.P. " W.G.	EA E.S.P. " W.G.	SA FAN WATTS	EA FAN WATTS	ENERGY RECOVERY								ELECTRICAL				NOTES:
									EFFECTIVENESS %			WINTER		SUMMER		ROOM CONDITIONS		V / PH	MCA (A)	MOP (A)	FLA (A) (PER MOTOR)	
									SENSIBLE	WINTER	SUMMER	EAT	LAT	EAT	LAT	WINTER	SUMMER					
ERU-1	RENEWAIRE HE15INV	AHU-1	1,345	1,345	0.75"	1.25"	770	770	67.5%	67.4%	57.6%	-30	37.5	93.9 / 69.6	81.1 / 65.5	70 / 51	75 / 63	208 / 1	7.7	15.0	3.4	1, 2, 3, 4, 5
ERU-2	RENEWAIRE EV200	FURN-1	140	140	0.5"	0.5"	135		79.9%	77.7%	74.0%	-30	49.9	93.9 / 69.6	78.8 / 64.3	70 / 51	75 / 63	120 / 1	10.0	15.0	1.5	1, 5, 6, 7

1. PROVIDE FLEXIBLE CONNECTIONS ON ALL DUCTWORK CONNECTIONS TO UNIT.
2. PROVIDE SINGLE POINT POWER CONNECTION WITH FUSED DISCONNECT.
3. UNIT SHALL HAV EC MOTORS.
4. UNIT SHALL HAVE INTERNAL BYPASS WITH MOTORIZED DAMPERS.
5. PROVIDE UNIT WITH MOD ISOLATION DAMPERS ON BOTH AIRSTREAMS.
6. UNIT SHALL HAVE LINE-CORD PLUG IN POWER.
7. PROVIDE WITH 8" LOUVERED WALL VENT FOR EACH AIRSTREAM. COLOR BY ARCHITECT.

CABINET UNIT HEATER SCHEDULE

TAG	ROOM NUMBER	TYPE	MANUFACTURER & MODEL #	GPM	PRESSURE DROP	OUTPUT MBH	CFM	FAN MOTOR			NOTES:
								HP	V / PH	FLA (A)	
CUH-1	VESTIBULE 101	WALL MOUNTED	RITTLING RCW-400-06	1.0	0.2	9.0	403	1 / 15	120 / 1	1.13	1, 2, 3, 4

1. SELECTIONS BASED ON 140° F EWT, 70° F EAT & 30° F WTD. FLUID IS 40% PROPYLENE GLYCOL & WATER SOLUTION
2. PROVIDE WITH FACTORY WIRED & MOUNTED DISCONNECT
3. COLOR SELECTION BY ARCHITECT
4. PROVIDE WITH 120V FAN CONTROL PACKAGE.

MAKE-UP AIR UNIT SCHEDULE

NO.	AREA SERVED	CFM	E.S.P. SAF	SA BHP	SA HP	% OUTSIDE AIR	HEATING CAPACITY					MANUFACTURER MODEL	ELECTRICAL				NOTES:
							OUTPUT MBH	EAT Db F	LAT dB F	MAX WPD	GPM		V / PH	MCA (A)	MOP (A)	SCCR (kA)	
MAU-1	APP BAY	4,000	0.5	1.19	1.50	100%	436.1	-30	70.7	2.371	30	GREENHECK MSX-P122-H22-D1	208 / 3	8.7	15.0	5	1, 2, 3, 4, 5, 6

1. INCLUDE FILTER RACK WITH 2" MERV 8 PLEATED FILTERS.
2. UNIT SHALL HAVE HORIZONTAL ORIENTATION WITH END INTAKE AND TOP DISCHARGE
3. INTERLOCK UNIT WITH CO/NO2 CONTROL SYSTEM AND VEHICLE EXHAUST SYSTEM.
4. PROVIDE WITH FACTORY SUPPLIED DISCONNECT AND AUX. SUPPLY STARTER CONTACT.
5. UNIT WEIGHT: 1016 #
6. HEATING FLUID SHALL BE 40% PROPYLENE GLYCOL WATER MIXTURE WITH 140 EWT AND 110 LWT

VARIABLE AIR VOLUME UNIT SCHEDULE

TAG	ROOM #	OUTLET SIZE	CFM			TOTAL					NOTES
			HEAT MIN	HEAT MAX	COOL MAX	EAT	LAT	BTU	EWT	LWT	GPM	
V-1-01	115, 116	5"	275	300	310	55	97	13,608	140	110	2.00	1, 2, 3, 4
V-1-02	117, 118	6"	210	220	235	55	95	9,504	140	110	4.50	1, 2, 3, 4
V-1-03	112, 113	5"	295	305	305	55	97	13,835	140	110	2.00	1, 2, 3, 4
V-1-04	110, 111	5"	195	200	230	55	97	9,072	140	110	3.30	1, 2, 3, 4
V-1-05	103, 120, 121, 119	10"	720	750	780	55	85	24,300	140	110	3.70	1, 2, 3, 4
V-1-06	108, 109, 114	12"	785	800	855	55	90	30,240	140	110	4.00	1, 2, 3, 4
V-1-07	105, 106, 107	6"	265	325	350	55	97	14,742	140	110	1.80	1, 2, 3, 4
V-1-08	104	10"	510	590	655	55	90	22,302	140	110	3.70	1, 2, 3, 4
V-1-09	101, 102, 122	5"	260	300	350	55	97	13,608	140	110	2.00	1, 2, 3, 4
V-1-10	123	5"	205	205	205	55	97	9,299	140	110	3.30	1, 2, 3, 4
V-1-11	124, 125, 126, 127	5"	200	225	250	55	97	10,206	140	110	4.90	1, 2, 3, 4

1. VAV SELECTIONS BASED ON DAIKIN
2. AIR PRESSURE DROP TO BE LESS THAN 0.3" W.G.
3. SELECTIONS BASED ON 40% PROPYLENE GLYCOL & WATER SOLUTION
4. OUTLET SIZE IS FOR A STARTING POINT, VAV SHALL MEET AIR PRESSURE DROP AND PERFORMANCES ON...

BOILER SCHEDULE

TAG	MANUFACTURER	MODEL #	GPM	PD FT	EWT °F	LWT °F	GROSS INPUT BTU/HR	GROSS OUTPUT BTU/HR	FUEL	V / PH	FLA (A)	NOTES:
B-1	US BOILER COMPANY	ASPEN LT 399	30	1.6	115	140	399,000	379,000	NAT. GAS	120 / 1	<15	1, 2, 3, 4, 5, 6, 7, 8, 9
B-2	US BOILER COMPANY	ASPEN LT 399	30	1.6	115	140	399,000	379,000	NAT. GAS	120 / 1	<15	1, 2, 3, 4, 5, 6, 7, 8, 9
B-3	US BOILER COMPANY	ASPEN LT 399	30	1.6	115	140	399,000	379,000	NAT. GAS	120 / 1	<15	1, 2, 3, 4, 5, 6, 7, 8, 9

1. BOILER SHALL BE CONDENSING TYPE
2. BOILER INTAKE PIPING SHALL BE 4"Ø PVC. BOILER FLUE SHALL BE 4"Ø POLYPROPYLENE
3. ALL CONTROL WIRING SHALL BE BY CONTROL CONTRACTOR
4. PROVIDE WITH 30 PSIG RELIEF VALVE
5. PROVIDE WITH CONDENSATE NEUTRALIZER KIT
6. FLUID IS 40% PROPYLENE GLYCOL & WATER SOLUTION
7. DISCONNECT SWITCH PROVIDED BY DIV. 26.
8. EMERGENCY SHUTDOWN MUSHROOM BUTTON FOR BOILERS BY PROVIDED BY DIV. 26.
9. BOILERS SHALL BE WALL MOUNTED

FAN SCHEDULE

TAG	CFM	E.S.P.	MOTOR SIZE		V / PH	AMPS	RPM	FRPM	DRIVE	MANUFACTURER	MODEL	SOUND DATA (INLET)					SONES	NOTES:
			BHP	HP								62.5	125	250	500	dBA		
EF-1	4,000	1.00	1.56	2.00	208 / 3	6.5	1,650	1,643	DIRECT	GREENHECK	SQ-160-VG	80	79	87	85	74	22.0	1, 2, 3, 5, 12, 13
EF-2	210	0.50	0.05	0.10	115 / 1	1.5	1,725	1,535	DIRECT	GREENHECK	CUE-80-VG	71	74	68	62	55	7.5	1, 2, 3, 4, 12
EF-3	2,100	6.00	-	3.00	208 / 3	8.0	3,450	-	DIRECT	MAGNEGRIP	CF363-3	-	-	-	-	-	-	6, 7, 8, 9, 10
SAF-1	600	1.00	0.23	3/4	115 / 1	10.5	1,950	1,504	DIRECT	GREENHECK	SQ-130HP-VG	75	77	76	66	60	10.5	1, 2, 3, 5, 11
RAF-1	5,000	1.00	1.45	2.00	208 / 3	3.2	1,750	1,733	DIRECT	GREENHECK	SQ-16-VG	75	81	76	74	68	18.2	1, 2, 3, 5, 11

1. FAN SHALL BE UL LISTED
2. PROVIDE WITH FACTORY SUPPLIED DISCONNECT
3. PROVIDE WITH BACKDRAFT DAMPER
4. FAN TO BE WALL MOUNTED
5. UNIT SHALL BE INLINE ORIENTATION
6. UNIT IS PART OF VEHICLE EXHAUST SYSTEM PROVIDED AND INSTALLED BY MAGNEGRIP
7. UNIT SHALL HAVE CLASS II WHEEL CONSTRUCTION WITH TEFLON SHAFT SEAL
8. UNIT SHALL CARRY AMCA "C" CONSTRUCTION RATING
9. FAN OPERATION SHALL BE CONTROLLED BY BRAKE PEDAL, WHEN BRAKE IS DEPRESSED, FAN WILL START.
10. PROVIDE FAN VIBRATION ISOLATION PER MANUFACTURER'S REQUIREMENTS.
11. FAN SHALL BE ABLE TO TAKE A SPEED SIGNAL
12. FAN SHALL HAVE SPEED DIAL FOR BALANCING
13. UNIT SHALL HAVE LEFT SIDE DISCHARGE

FURNACE SCHEDULE

TAG	CFM	O.A.	ESP.	INPUT MBH	OUTPUT MBH	BLOWER DRIVE	MANUFACTURER MODEL	AFUE	ELECTRICAL				NOTES:
									V / PH	MOP (A)	MCA (A)	FLA (A)	
FURN-1	1,085	120 CFM	0.5	60.0	58.2	DIRECT 1/2 HP	DAIKIN DR96TN0603BN	96.0%	115 / 1	15.0	7.7	-	1, 2, 3, 4, 5

1. FUEL IS NATURAL GAS, UNIT SHALL HAVE TWO STAGE HEAT.
2. PROVIDE WITH AUTOMATIC SWITCHOVER, AUX DAMPER CONTROL, 7-DAY PROGRAMMABLE OCCUPIED/UNOCCUPIED THERMOSTAT
3. LOW VOLTAGE WIRING BY MECHANICAL CONTRACTOR
4. DX COIL SHALL BE MATCHED WITH CORRESPONDING CONDENSING UNIT. PROVIDE UNIT WITH DX CASED A-COIL.
5. UNIT SHALL BE UPFLOW ORIENTATION.

UNIT HEATER SCHEDULE - GAS

TAG	TYPE	LOCATION	MANUFACTURER & MODEL #	INPUT MBH	OUTPUT MBH	CFM	FLUE OUTLET	MOUNTING HEIGHT A.F.F.	GAS TYPE	FLA	FAN MOTOR		NOTES:
											HP	V / PH	
GUH-1	SUSPENDED HORIZONTAL	APP BAY	REZNOR UDXC 60	60	49.8	769	4	12'-6"	NATURAL	2.4	0.06	115 / 1	1, 2, 3, 4, 5
GUH-2	SUSPENDED HORIZONTAL	APP BAY	REZNOR UDXC 60	60	49.8	769	4	12'-6"	NATURAL	2.4	0.06	115 / 1	1, 2, 3, 4, 5
GUH-3	SUSPENDED HORIZONTAL	MAINTENANCE ROOM	REZNOR UDXC 45	45	37.35	629	4	8'-6"	NATURAL	2.4	0.06	115 / 1	1, 2, 3, 4

1. PROVIDE DISCONNECT SWITCH, GAS REGULATOR AT UNIT.
2. PROVIDE REMOTE MOUNTED THERMOSTAT.
3. SUPPORT UNIT AS PER MANUFACTURER'S RECOMMENDATIONS.
4. LOW VOLTAGE WIRING BY MECHANICAL CONTRACTOR.
5. UNIT TO HAVE TWO STAGE HEATING

AIR COOLED CONDENSING UNIT

TAG	CONTROLLED BY	COOLING BTUH (NOMINAL)	SEER2	EER	ELECTRICAL			SCCR (kA)	MANUFACTURER / MODEL #	NOTES:
					V / PH	MCA (A)	MOP (A)			
ACCU-1	AHU-1	163,800	-	11.0	208 / 3	61.0	80.0	5.0	RHEEM RACY2150CAZ	1, 2, 5, 6, 8
ACCU-2	FURN-1	60,000	16.6	-	208 / 1	22.4	25.0	5.0	DAIKIN DC6VSS3610	1, 2, 3, 4, 6, 7

MCA - MINIMUM CIRCUIT AMPACITY

1. 4" CONCRETE HOUSEKEEPING PAD FOR AIR COOLED CONDENSING UNITS BY MECHANICAL CONTRACTOR
2. DISCONNECT BY DIV. 26
3. UNIT SHALL BE CAPABLE OF COOLING DOWN TO 0 DEG F
4. REFRIGERANT IS R-32, INSTALL PER MANUFACTURERS RECOMMENDATIONS
5. REFRIGERANT IS R-454B, INSTALL PER MANUFACTURERS RECOMMENDATIONS
6. INSTALL OUTDOOR UNIT PER MANUFACTURER'S REQUIREMENTS FOR SERVICE AND OPERATING CLEARANCES
7. UNIT SHALL HAVE VARIABLE SPEED INVERTER TYPE COMPRESSORS
8. UNIT SHALL HAVE 2 STAGE COOLING

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BISMARCK FIRE DEPARTMENT

PROJECT DESCRIPTION
FIRE STATION 6

CITY BISMARCK
STATE ND

ISSUE DATES

2	ADDENDUM #2	11/13/2026
1	ADDENDUM #1	11/06/2026
CD	100% CONSTRUCTION DOCUMENTS	10/29/2026
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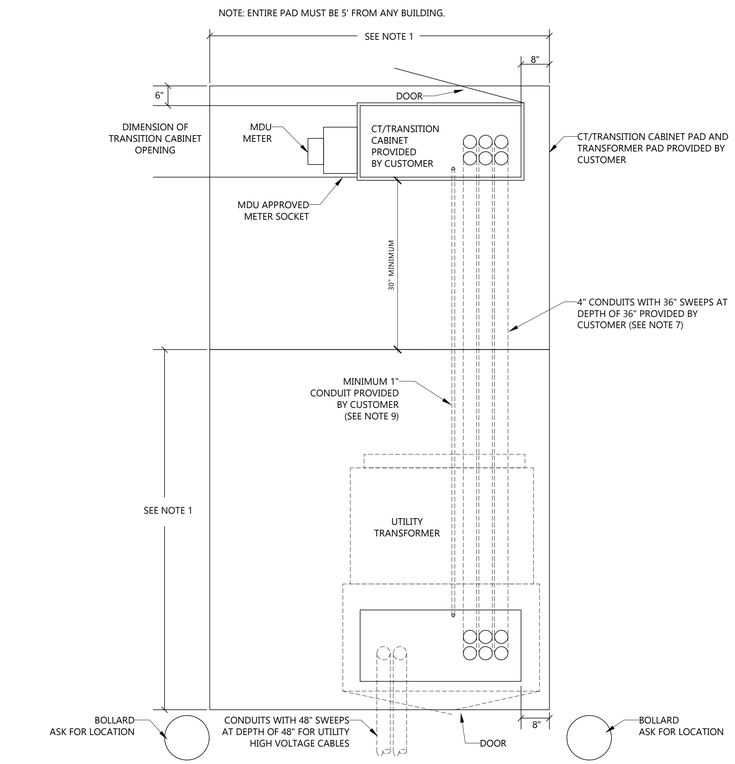
TYLER COULOMBE
PE-7492
DATE 11/13/2026
NORTH DAKOTA

DRAWING TITLE
MECHANICAL SCHEDULES

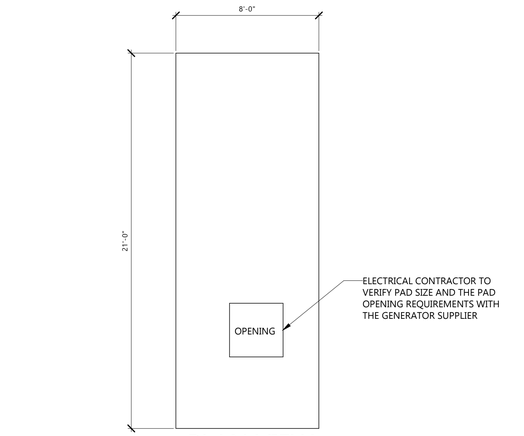
M802

Revit Version: 2025
Revit Model: 11/12/2026 4:02:27 PM

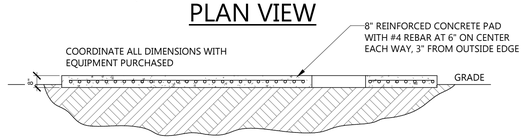


NOTES:
1. REFER TO 19-803 OR 19-804 FOR THIS DIMENSION.
2. ALL OIL-FILLED PADMOUNTED TRANSFORMERS MUST BE INSTALLED SO ANY FLOW OF OIL RESULTING FROM A FAILURE OF THE TRANSFORMER WILL FLOW AWAY FROM ANY STRUCTURE.
3. A TRANSFORMER SHOULD BE LOCATED AWAY FROM TRAFFIC AREAS OR PROTECTED WITH BOLLARDS SUCH AS CONCRETE FILLED PIPES OR STEEL BUMPER POSTS, PROVIDED BY THE CUSTOMER.
4. WHEN LOCATING PAD, CONSIDER OVERHEAD CLEARANCE FOR POSSIBLE TRANSFORMER REPLACEMENT.
5. COMPACT SOIL TO AVOID TILTING AND SETTLING. COLUMNS REQUIRED EXCEPT ON UNDISTURBED SOIL.
6. TRANSITION CABINET MUST BE SECURELY FASTENED TO THE CONCRETE.
7. CUSTOMER WILL SUPPLY CONDUITS THAT ARE 4" IN SIZE AND WILL CONSULT WITH COMPANY ON THE NUMBER OF CONDUITS REQUIRED.
8. TRANSITION CABINET SHALL BE APPROVED BY UTILITY METER DEPT. PRIOR TO INSTALLATION.
9. GROUNDING CONDUCTOR REQUIRED IF TRANSITION CABINET IS WITHIN 6' OF UTILITIES TRANSFORMER. CUSTOMER MUST BOND EQUIPMENT TO UTILITY INSTALLED GROUND ROD. GROUNDING CONDUCTOR WILL BE #4 CU; NEC 250.66A.

5 / E100 TRANSFORMER/CT CABINET DETAIL (MDU)
1/8" = 1'-0"



PLAN VIEW



SECTION VIEW

NOTE: PROVIDE ENGINEERED FILL DOWN TO 12" BELOW SLAB OR TO UNDISTURBED SOIL WHICHEVER IS GREATER.

4 / E100 GENERATOR PAD DETAIL
NOT TO SCALE

GENERAL NOTES

UTILITY COORDINATION NOTES:

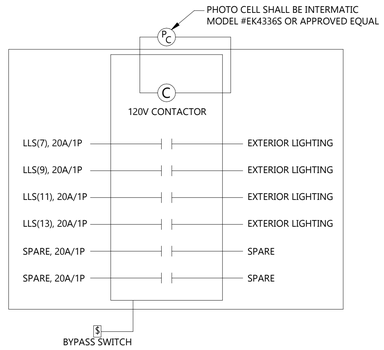
COORDINATE WITH MONTANA-DAKOTA UTILITIES ELECTRIC UTILITY ON SERVICE REQUIREMENTS. EC SHALL COVER ALL INSTALLATION COSTS FROM UTILITY IN BASE BID.

- CAPITAL ELECTRIC COOPERATIVE, INC:
  1. GREG OWENS - (701) 712-7908

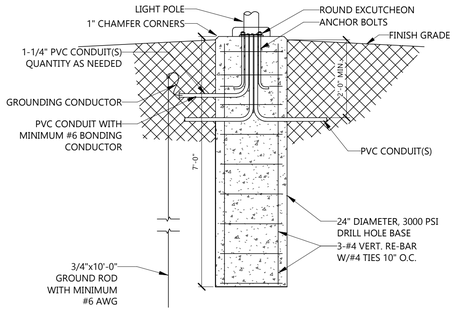
KEYNOTE LEGEND:

⬡ < < < INDICATES KEYNOTE ON PLAN

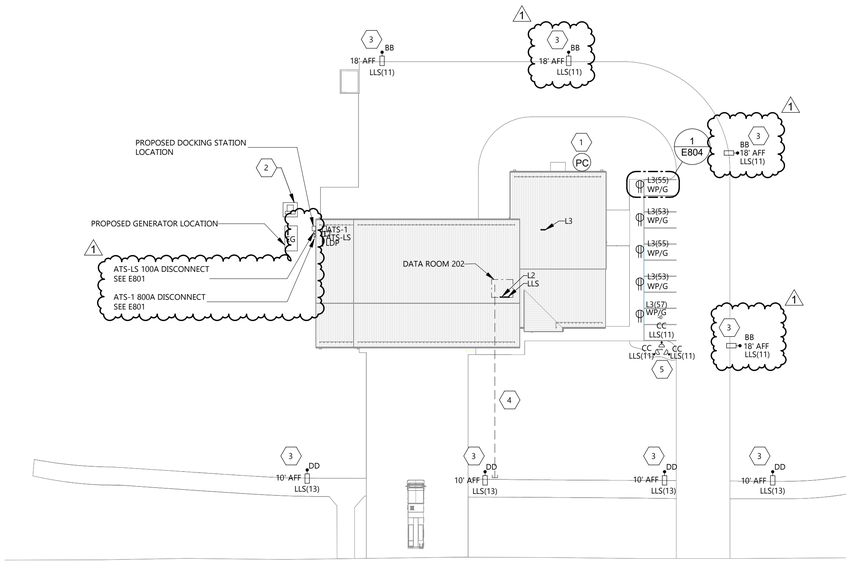
1. PHOTOCELL SHALL BE MOUNTED OFF NORTH SIDE OF ROOF AND CONNECT TO THE LIGHTING CONTACTOR.
2. UTILITY TRANSFORMER AND CT CABINET LOCATION. SEE DETAIL 6/E100. COORDINATE WITH MONTANA-DAKOTA UTILITIES.
3. SEE 2/E100 FOR FOUNDATION DETAIL. ROUTE LIGHTING CIRCUITRY THROUGH LIGHTING CONTACTOR.
4. PROVIDE (2) 2" CONDUITS WITH PULL STRING FROM THE MAIN DATA ROOM TO PROPERTY LINE. COORDINATE WITH TELECOM UTILITY ON FINAL LOCATION PRIOR TO ROUGH-IN.
5. FLOOD LIGHT CONFIGURATION SHALL ILLUMINATE FLAGPOLE FROM ALL SIDES. VERIFY LOCATION, DIRECTION, AND ANGLE WITH ARCHITECTURE PRIOR TO INSTALLATION.



3 / E100 EXTERIOR LIGHTING CONTROL DETAIL
NOT TO SCALE



2 / E100 LIGHT POLE BASE DETAIL
NOT TO SCALE



1 / E100 ELECTRICAL SITE PLAN
1" = 40'-0"

N

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PROJECT DESCRIPTION
FIRE STATION 6

CITY BISMARCK
STATE ND

ISSUE DATES

MARK	DESCRIPTION	DATE
1	ADDENDUM 2	11/13/2026
CD	100% CONSTRUCTION DOCUMENTS	10/29/2025

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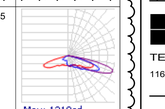
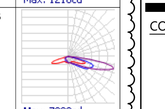
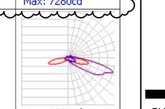
ELECTRICAL SITE PLAN

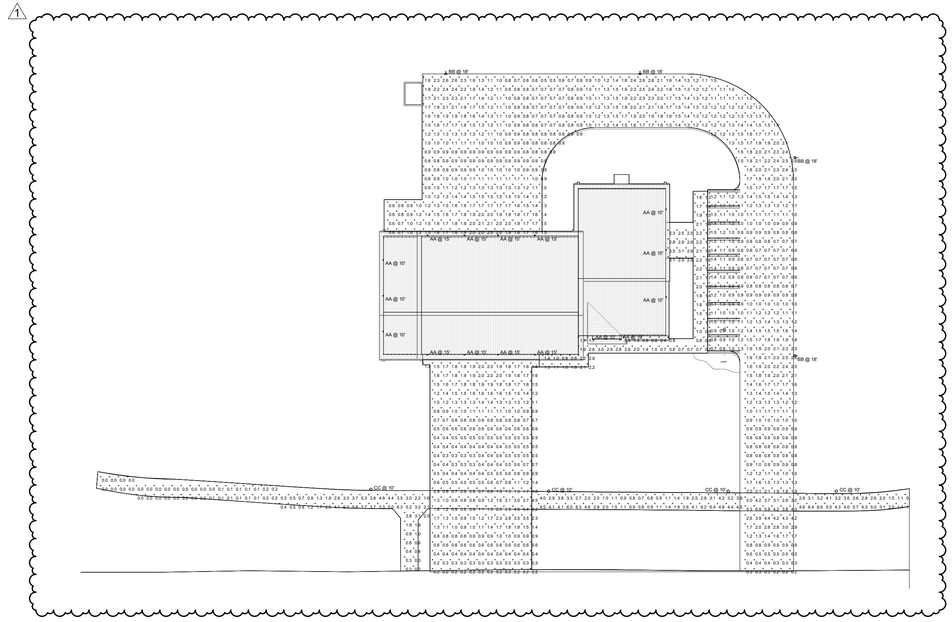
E100

Schedule

Symbol	Label	Image	QTY	Catalog Number	Description	Lamp	Number Lamps	Lumens per Lamp	LLF	Wattage	Polar Plot
	AA		16	WDGE2 LED P2 50K 80CRI T4M	WDGE2 LED WITH P2 - PERFORMANCE PACKAGE, 5000K, 80CRI, TYPE 4 MEDIUM OPTIC		1	1994	0.9	18.9815	 Max: 1218cd
	BB		4	DSX0 LED P3 50K 70CRI T4M	D-Series Size 0 Area Luminaire P3 Performance Package 5000K CCT 70 CRI Type 4 Medium		1	9100	0.9	68.95	 Max: 7280cd
	CC		4	WAES P30 50K GLS BD	Washington Glass LED Wall Pod LED Performance Package, 5000K CCT, Type III, Bud Finial		1	13585	0.9	95	 Max: 9704cd

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
PARKING/DRIVEWAY	+	1.2 fc	6.9 fc	0.2 fc	34.5:1	6.0:1
SIDEWALK BUILDING	+	1.7 fc	3.5 fc	0.4 fc	8.8:1	4.3:1
SIDEWALK ROAD	+	2.1 fc	6.6 fc	0.0 fc	N/A	N/A



1 E100A ELECTRICAL SITE PHOTOMETRICS

1" = 40'-0"

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BRIAN J. WENTLAND
PE-27191
DATE 11/13/2026
NORTH DAKOTA

DRAWING TITLE
ELECTRICAL SITE LIGHTING CALCULATIONS

E100A

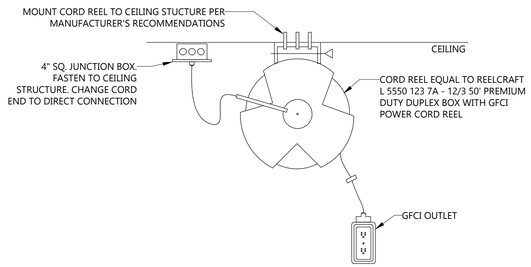
Revit Version: 2025
Plot Date: 11/17/2026 3:28:59 PM

FLOOR BOX SCHEDULE

TYPE	MANUFACTURER	CATALOG NUMBER	SHAPE	SIZE	POWER	COMMUNICATIONS	A/V	NOTES
A	WIREMOLD	RFB-SERIES	RECTANGLE	4 GANG	TWO (2) DUPLEX RECEPTACLES	ONE (1) DATA WITH 2 KEYSTONE JACKS		1,2

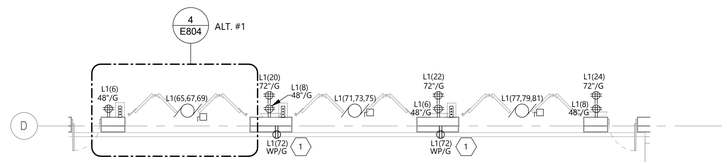
NOTES:

1. WIRE FLOOR BOX PER MANUFACTURERS INSTRUCTIONS
2. COLOR SELECTED BY ARCHITECT



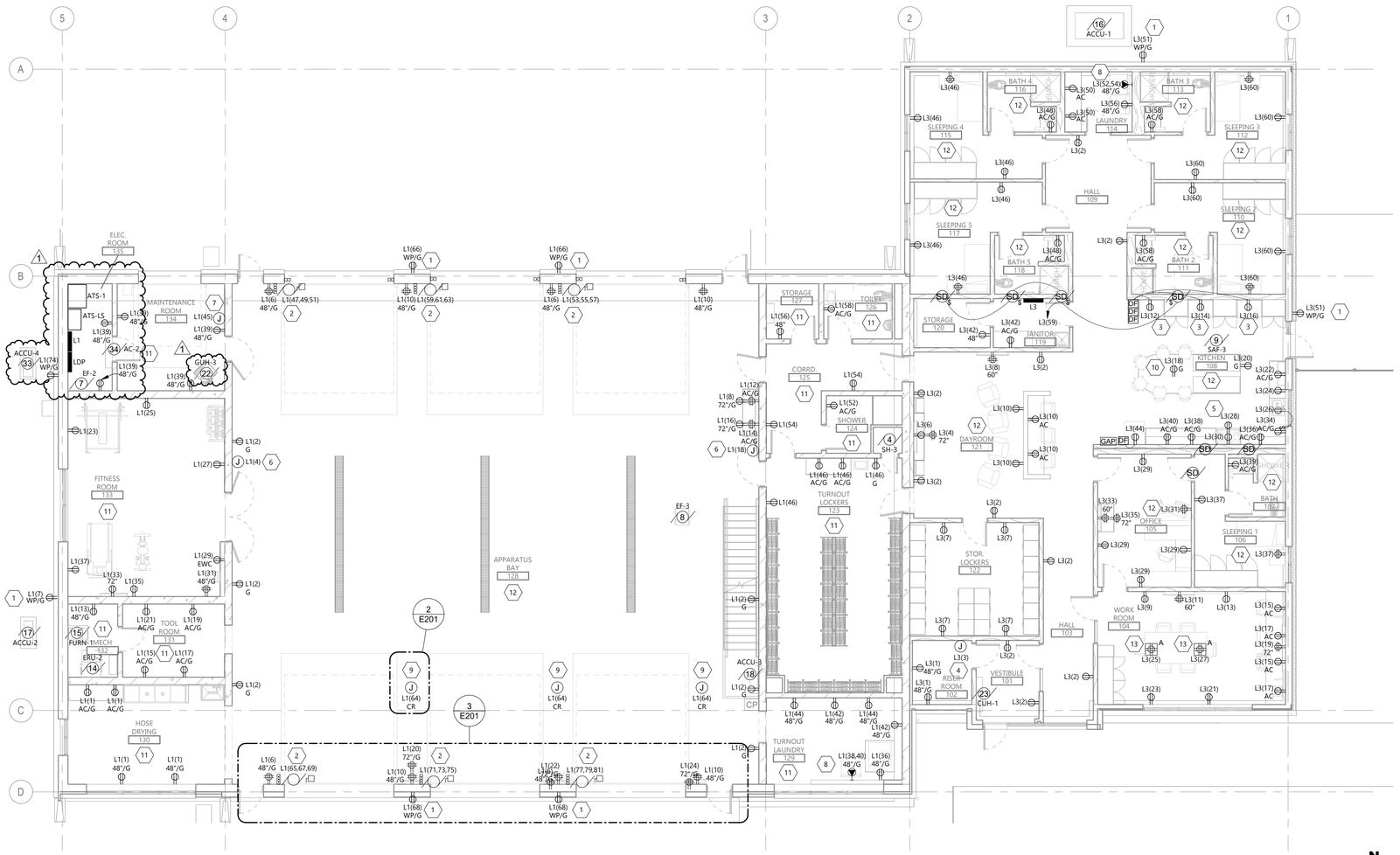
2 E201 CORD REEL INSTALLATION DETAIL

3/16" = 1'-0"



3 E201 FIRST FLOOR POWER PLAN ALTERNATE #1

1/8" = 1'-0"



1 E201 FIRST FLOOR POWER PLAN

1/8" = 1'-0"

GENERAL NOTES

A. LABEL ALL JUNCTION BOXES ABOVE ACCESSIBLE CEILING WITH INDELIBLE INK TO INDICATE PANEL AND CIRCUIT.

B. LABEL ALL HOMERUNS WITH INDELIBLE INK TO INDICATE PANEL AND CIRCUIT.

C. PROVIDE APPROVED FIRE PROOFING MATERIALS / METHODS FOR CABLE PASSING THROUGH FIRE WALLS AND FLOORS.

D. LABEL ALL DEVICES, INCLUDING SWITCHES, TO INDICATE PANEL AND CIRCUIT. USE ADHESIVE MYLAR TAPE.

E. PROVIDE #10 CONDUCTORS THROUGHOUT ALL 120V, 20A BRANCH CIRCUIT OF 100'-0" OR GREATER IN LENGTH.

F. PROVIDE ALL DEVICES AND ASSOCIATED WIRING AS SHOWN.

G. ALL CONDUIT, WIRE, AND BOXES SHALL BE CONCEALED UNLESS NOTED OTHERWISE.

H. GFCI RECEPTACLES SHALL ONLY PROTECT THE INDIVIDUAL DEVICE.

I. MULTI-BRANCH CIRCUITING SHALL NOT BE ALLOWED UNLESS NOTED OTHERWISE. PROVIDE A SEPARATE NEUTRAL FOR EACH CIRCUIT.

J. SEE ARCHITECTURAL DRAWINGS FOR ALL MOUNTING HEIGHTS AND LOCATIONS.

K. USE TAMPER PROOF RECEPTACLES IN ALL AREAS BETWEEN GRID LINES 1 & 2.

KEYNOTE LEGEND:

< < < INDICATES KEYNOTE ON PLAN

1. PROVIDE A GFCI/WP IN-USE RECEPTACLE OUTLET WITH DIECAST COVER AS MANUFACTURED BY INTERMATIC MODEL WP1250MVXD OR EQUAL.
2. PROVIDE 3#12 & 1#12G IN 3/4" C TO OVERHEAD DOOR MOTOR. WIRE OVERHEAD DOOR MOTOR THROUGH PUSH BUTTON STATION. WIRE SAFETY DEVICES ASSOCIATED WITH DOOR AT BOTTOM AND/OR SIDE OF DOOR. PROVIDE NEMA 3R NON-FUSED 30A/3P DISCONNECT.
3. PROVIDE A DUPLEX RECEPTACLE MOUNTED 36" BEHIND REFRIGERATOR AND ONE DEAD FRONT GFCI DEVICE ABOVE COUNTER. WIRE REFRIGERATOR RECEPTACLE OUTLET TO LOAD SIDE OF DEAD FRONT GFCI DEVICE.
4. PROVIDE 120V CONNECTION TO FIRE ALARM CONTROL PANEL. COORDINATE EXACT LOCATION WITH MC PRIOR TO ROUGH-IN.
5. CONNECT RANGE HOOD MOUNTED IN MILWORK ABOVE RANGE.
6. CONNECT CO/NO2 CONTROL PANEL AND PROVIDE SWITCH. PROVIDE WIRE TO ALL SENSORS USE 1/2" C AND WIRING HEIGHTS AS REQUIRED BY MC. WIRE TO TURN ON EF-3 (#9) UPON ALARM. PROVIDE RELAYS AS REQUIRED. SEE MECHANICAL DRAWINGS.
7. CONNECT CO/NO2 CONTROL PANEL AND PROVIDE SWITCH. PROVIDE WIRE TO ALL SENSORS USE 1/2" C AND WIRING HEIGHTS AS REQUIRED BY MC. WIRE TO TURN ON EF-2 (#8) UPON ALARM. PROVIDE RELAYS AS REQUIRED.
8. PROVIDE A 208/1 VOLT, 30 AMP RECEPTACLE AT 42" ABOVE FINISHED FLOOR FOR DRYER. PROVIDE NEMA 14-30 PLUG AND ROUTE 3#10 #10G IN 1" C TO PANEL SHOWN. COORDINATE EXACT PLUG TYPE WITH APPLIANCE.
9. COORDINATE DROP REEL LOCATION WITH OWNER PRIOR TO INSTALLATION. PROVIDE CORD REEL AS SHOWN IN DETAIL 2/E201
10. PROVIDE A LEVITON PFTR2-BN POP-UP RECEPTACLE AND A 120V CONNECTION WITH 2 # 12 & #12G IN 3/4" C.
11. CONDUIT SHALL BE SURFACE MOUNTED IN ROOM.
12. ALL 120 VOLT RECEPTACLES SHALL HAVE AFCI PROTECTION IN ROOM
13. VERIFY WITH OWNER ON FINAL FLOOR BOX LOCATION.

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PROJECT DESCRIPTION

FIRE STATION 6

CITY BISMARCK

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ISSUE DATES

MARK	DESCRIPTION	DATE
1	ADDENDUM 2	11/13/2026
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NORTH DAKOTA

DRAWING TITLE

FIRST FLOOR POWER PLAN

E201

Revit Version: 2025
Print Date: 11/13/2026 3:28:53 PM

GENERAL NOTES

A. LIGHTING ALL JUNCTION BOXES ABOVE ACCESSIBLE CEILING WITH INDELIBLE INK TO INICATE PANEL AND CIRCUIT.

B. LABEL ALL HOME RUNS WITH INDELIBLE INK TO INDICATE PANEL AND CIRCUIT.

C. PROVIDE APPROVED FIRE PROOFING MATERIALS / METHODS FOR CABLE PASSING THROUGH FIRE WALLS AND FLOORS.

D. LABEL ALL DEVICES INCLUDING SWITCHES, TO INDICATE PANEL AND CIRCUIT. USE ADHESIVE MYLAR TYPE.

E. PROVIDE #10 CONDUCTORS THROUGHOUT ALL 120V, 20A BRANCH CIRCUIT OF 100'-0" OR GREATER IN LENGTH.

F. PROVIDE ALL DEVICES AND ASSOCIATED WIRING AS SHOWN.

G. EMERGENCY POWER CIRCUITS SHALL BE RUN IN A SEPARATE CONDUIT FROM NORMAL POWER CIRCUITS. EMERGENCY POWER CIRCUITS SHALL NOT SHARE CONDUIT WITH NORMAL POWER CIRCUITS.

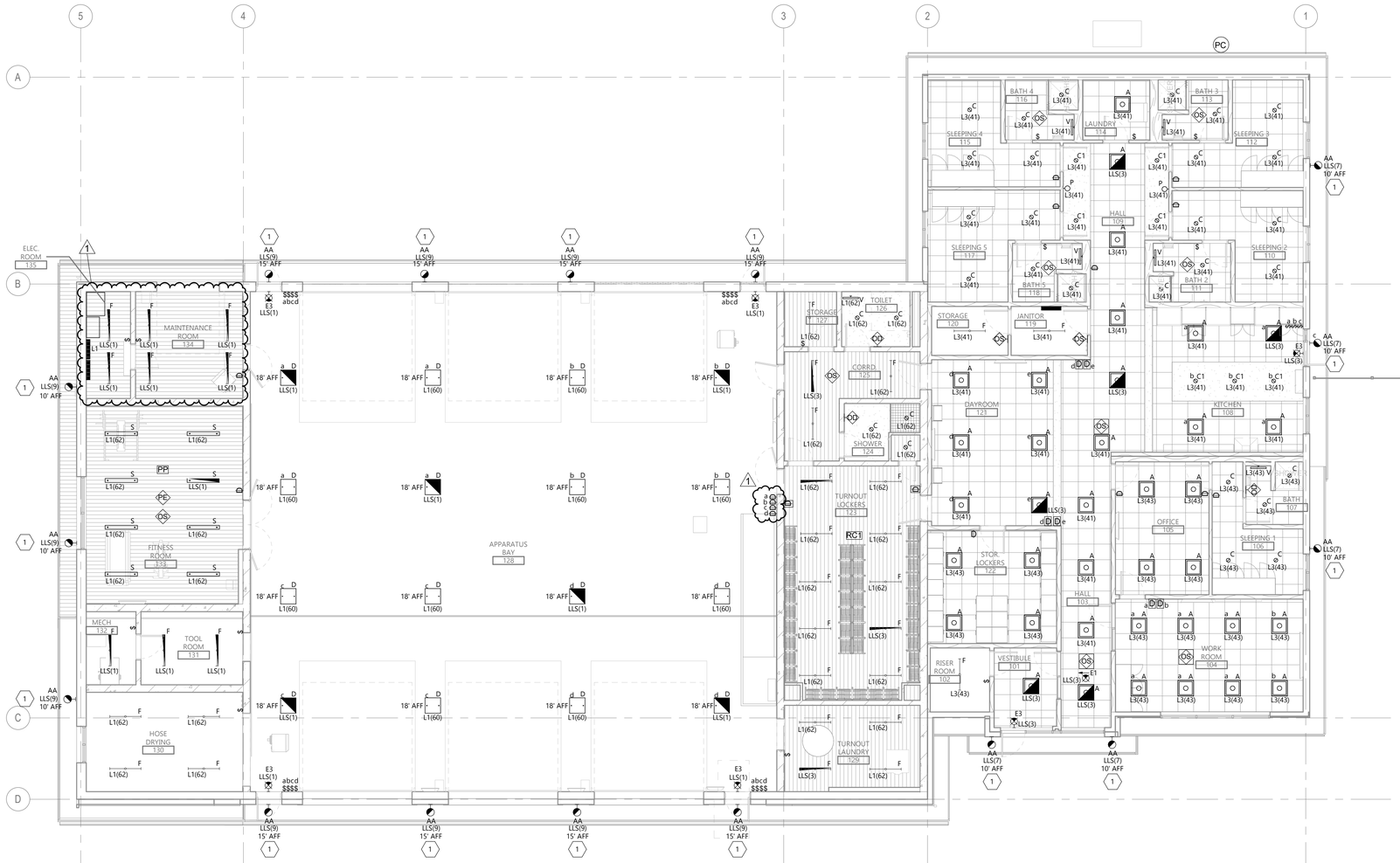
H. MC CABLE SHALL BE USED IN WALLS FOR SINGLE CIRCUIT RUNS AND SWITCH LEGS. SWITCH LEGS SHALL CONTAIN ONE EXTRA CONDUCTOR. MC CABLE MAY NOT BE USED ABOVE CEILING IN ANY INSTANCE, AND MAY NOT BE USED IN WALLS OF ROOMS THAT DO NOT HAVE ACCESSIBLE CEILING. DO NOT USE THROUGH SMOKE / FIRE WALLS.

I. OCCUPANCY SENSORS ARE SHOWN FOR INTENT PURPOSES ONLY. LOCATION, SPACING, AND QUANTITY WILL DEPEND ON SELECTED MANUFACTURER.

KEYNOTE LEGEND:

< < < INDICATES KEYNOTE ON PLAN

1. ROUTE LIGHTING CIRCUITRY THROUGH LIGHTING CONTROL RELAY. SEE 4/E100



1 E301 FIRST FLOOR LIGHTING PLAN

1/8" = 1'-0"

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Plot Date: 11/17/2026 3:28:53 PM

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CITY BISMARK
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PE-27191
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NORTH DAKOTA

DRAWING TITLE
FIRST FLOOR LIGHTING PLAN

E301

GENERAL NOTES

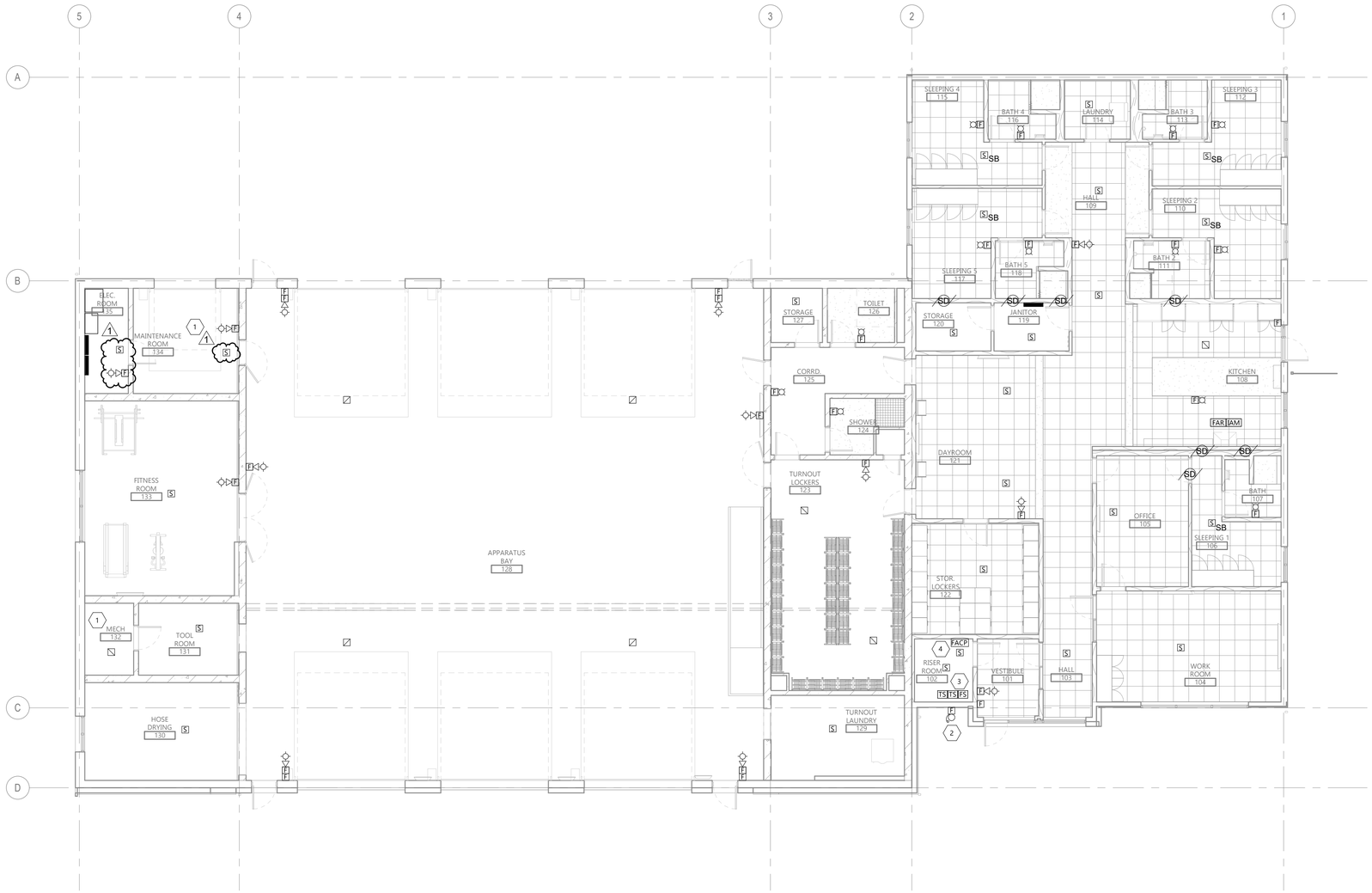
A. SEAL ALL NEW ELECTRICAL PENETRATIONS THROUGH RATED WALL AND CEILING WITH FIRE CAULKING TO MAINTAIN RATING.

B. ALL FIRE ALARM CONDUITS AND BOXES SHALL BE RED. ALL FIRE ALARM WIRING SHALL BE ROUTED IN CONDUIT.

KEYNOTE LEGEND:

< < < INDICATES KEYNOTE ON PLAN

1. COORDINATE EXACT SMOKE DETECTOR LOCATION WITH MECHANICAL EQUIPMENT IN THIS ROOM PRIOR TO ROUGH-IN.
2. ELECTRICAL CONTRACTOR SHALL ALLOW IN BID TO WIRE SPRINKLER FLOW ALARM BELL FURNISHED AND INSTALLED ON BUILDING EXTERIOR BY SPRINKLER CONTRACTOR. PROVIDE LOW VOLTAGE TRANSFOMER (IF REQUIRED) AND EXTEND 120V POWER FROM NEAREST CONTINUOUS SOURCE.
3. SPRINKLER SYSTEM FLOW SWITCH AND TAMPER SWITCHES TO BE CONNECTED TO THE FIRE ALARM SYSTEM. VERIFY THE QUANTITY OF TAMPER SWITCHES. PROVIDE SEPARATE IAM FOR EACH FLOW SWITCH AS REQUIRED.
4. PROVIDE 120V CONNECTION TO FIRE ALARM CONTROL PANEL. COORDINATE EXACT LOCATION WITH MC PRIOR TO ROUGH-IN. FIRE ALARM PANEL SHALL COME WITH RADIO COMMUNICATION TO MATCH OTHER FIRE STATION IN BISMARCK.



1 / E501 FIRST FLOOR FIRE ALARM PLAN

1/8" = 1'-0"

N

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Plot Date: 11/13/2026 3:28:54 PM

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PROJECT DESCRIPTION
FIRE STATION 6

CITY BISMARK
STATE ND

ISSUE DATES

MARK	DESCRIPTION	DATE
1	ADDENDUM 2	11/13/2026
CD	100% CONSTRUCTION DOCUMENTS	10/29/2025

PROJECT NO: 20253510
DRAWN BY: TA
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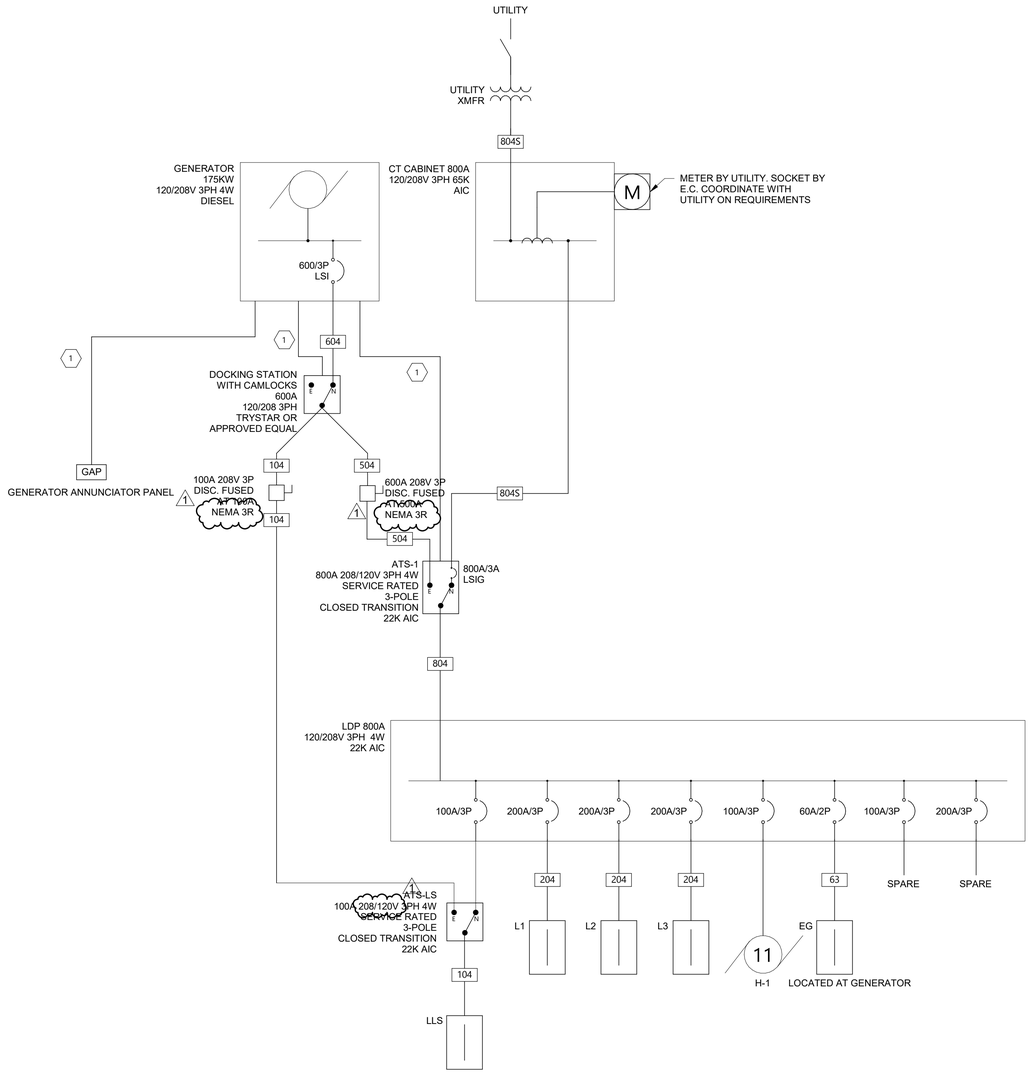
BRIAN VENTLAND
PE-27191
DATE 11/13/2026
NORTH DAKOTA

DRAWING TITLE
FIRST FLOOR FIRE ALARM PLAN

E501



1 E801 REVISED ONE-LINE DIAGRAM

NOT TO SCALE

FEEDER SCHEDULE COPPER		
AMPACITY	FEEDER TAG	CONDUIT & THHN WIRE 75°C
20	22	3/4" C - 2 #12 & 1 #12 GND
20	23	3/4" C - 3 #12 & 1 #12 GND
30	32	3/4" C - 2 #10 & 1 #10 GND
30	33	3/4" C - 3 #10 & 1 #10 GND
40	42	3/4" C - 2 #8 & 1 #10 GND
40	43	1" C - 3 #8 & 1 #10 GND
60	62	1" C - 2 #4 & 1 #10 GND
60	63	1 1/4" C - 3 #4 & 1 #10 GND
80	83	1 1/4" C - 3 #4 & 1 #4 GND
100	104	1 1/2" C - 4 #2 & 1 #8 GND
200	204	2 1/2" C - 4 #3/0 & 1 #6 GND
500	504	(2) 3" C - 4 #250KCMIL & 1 #2 GND
600	604	(2)3" C - 4#350KCMIL & 1 #1 GND
800	804	(2) 4" C - 4 #500KCMIL & 1 #1/0 GND
800	804S	(2) 4" C - 4 #500KCMIL

SHEET NOTES

1. FOR BIDDING PURPOSES PROVIDE 4#14 IN 3/4" CONDUIT FOR COMMUNICATIONS BETWEEN GENERATOR AND EQUIPMENT. COORDINATE WITH MANUFACTURER ON ALL COMMUNICATION REQUIREMENTS.

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CITY BISMARK
STATE ND

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PE-27191
DATE 11/13/2026
NORTH DAKOTA

DRAWING TITLE
ONE-LINE DIAGRAM

E801

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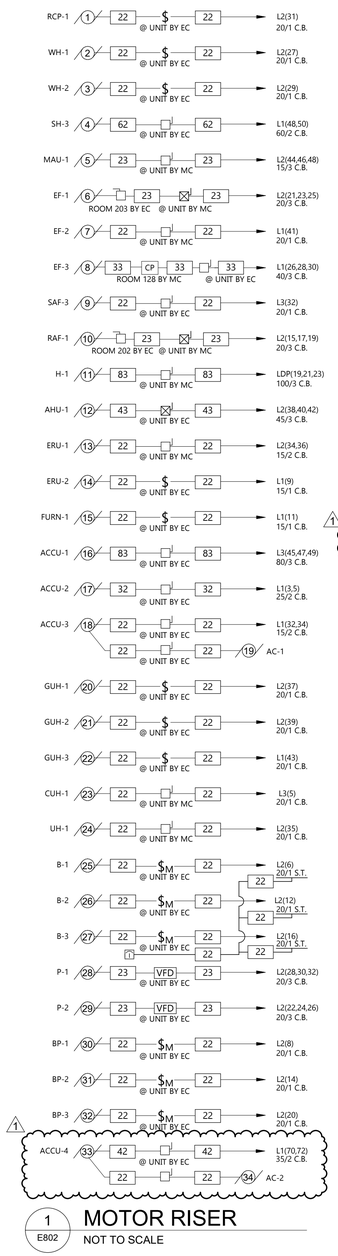
FEEDER SCHEDULE COPPER

AMPACITY	FEEDER TAG	CONDUIT & THHN WIRE 75°C
20	22	3/4" C - 2 #12 & 1 #12 GND
20	23	3/4" C - 3 #12 & 1 #12 GND
30	32	3/4" C - 2 #10 & 1 #10 GND
30	33	3/4" C - 3 #10 & 1 #10 GND
40	42	3/4" C - 2 #8 & 1 #10 GND
40	43	1" C - 3 #8 & 1 #10 GND
60	62	1" C - 2 #4 & 1 #10 GND
60	63	1 1/4" C - 3 #4 & 1 #10 GND
80	83	1 1/4" C - 3 #4 & 1 #4 GND
100	104	1 1/2" C - 4 #2 & 1 #8 GND
200	204	2 1/2" C - 4 #3/0 & 1 #6 GND
500	504	(2) 3" C - 4 #250KCMIL & 1 #2 GND
600	604	(2)3" C - 4#350KCMIL & 1 #1 GND
800	804	(2) 4" C - 4 #500KCMIL & 1 #1/0 GND

FEEDER SCHEDULE ALUMINUM

AMPACITY	FEEDER TAG	CONDUIT & THHN WIRE 75°C
40	43A	1" C - 3 #6 & 1 #8 GND
200	204A	3" C - 4 #250KCMIL & 1 #4 GND



1 MOTOR RISER
E802
NOT TO SCALE

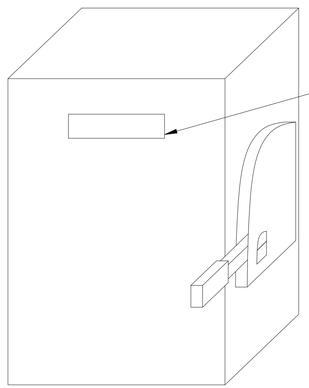
MOTOR AND EQUIPMENT SCHEDULE

LEGEND:

CM - COMBINATION
CB - CIRCUIT BREAKER
EC - ELECTRICAL CONTRACTOR
EX - EXISTING
F - FUSED
M2 - MAGNETIC TWO SPEED
M - MAGNETIC
MC - MECHANICAL CONTRACTOR
MM - MANUAL
NA - NOT APPLICABLE
NF - NON FUSED
OW - OWNER
TC - TEMPERATURE CONTRACTOR
RF - ROOF
RM - ROOM
RPB - REMOTE PUSHBUTTON
SC - SELF CONTAINED
VC - VENTILATION CONTRACTOR
WP - WEATHERPROOFED

DESCRIPTION	MOTOR #	FURN BY	LOCATION ROOM #	HP	KW	MCA	FLA	MOP	VOLTAGE	PH (Ø)	STARTER			CONTROL		POWER WIRING	INTERLOCKS		DISCONNECT			NOTES
											TYPE	SIZE	BY	BY	WIRING		BY	TO	BY	SIZE/TYPE	NEMA	
RCP-1	1			1/15					120 V	1									EC	TOGGLE		
WH-1	2								120 V	1									EC	TOGGLE		
WH-2	3								120 V	1									EC	TOGGLE		
SH-3	4				9			60	208 V	1									EC	60/2/NF	1	
MAU-1	5					8.7		15	208 V	3			MC				EC	FA	MC			
EF-1	6			2			6.5		208 V	3	CM	1	EC						MC			
EF-2	7			.1			1.5		120 V	1									MC			
EF-3	8			3			8		208 V	3									EC	60/3/NF	1	
SAF-3	9			3/4			10.5		120 V	1	MM		EC						MC			
RAF-1	10			2			3.2		208 V	3	CM	1	EC						MC			
H-1	11				28.1		77.9	100	208 V	3									EC	100/3/NF	1	
AHU-1	12					32.6	14.5	45	208 V	3	CM	1	EC				EC	FA	EC	60/2/NF	1	
ERU-1	13					7.7	3.4	15	208 V	1									MC			
ERU-2	14					10	1.5	15	120 V	1									EC	TOGGLE		
FURN-1	15					7.7		15	120 V	1									EC	TOGGLE		
ACCU-1	16					61		80	208 V	3									EC	100/3/NF	3R	
ACCU-2	17					22.4		25	208 V	1									EC	30/2/NF	3R	
ACCU-3	18					12		15	208 V	1									EC	30/2/NF	3R	
AC-1	19								208 V	1									EC	30/2/NF	1	
GUH-1	20			.06			2.4		120 V	1									EC	TOGGLE		
GUH-2	21			.06			2.4		120 V	1									EC	TOGGLE		
GUH-3	22			.06			2.4		120 V	1									EC	TOGGLE		
CUH-1	23			1/15			1.13		120 V	1									MC			
UH-1	24			1/30			0.7		120 V	1									MC			
B-1	25						6.3		120 V	1									EC	TOGGLE		
B-2	26						6.3		120 V	1									EC	TOGGLE		
B-3	27						6.3		120 V	1									EC	TOGGLE		
P-1	28			3					208 V	3	VFD		MC						EC	30/3/NF	1	
P-2	29			3					208 V	3	VFD		MC						EC	30/3/NF	1	
BP-1	30			0.167					120 V	1									EC	TOGGLE		
BP-2	31			0.167					120 V	1									EC	TOGGLE		
BP-3	32			0.167					120 V	1									EC	TOGGLE		
ACCU-4	33					25		35	208 V	1									EC	60/2/NF	3R	
AC-2	34								208 V	1									EC	30/2/NF	1	

NOTES:
1. NOTE
2. NOTE
3. NOTE



PROVIDE PLASTIC ENGRAVED NAMEPLATE WITH WHITE LETTERING AND BLACK BACKGROUND. EQUIPMENT FED FROM EMERGENCY POWER SHALL HAVE RED BACKGROUND WITH WHITE LETTERING. NAMEPLATE SHALL BE MOUNTED WITH STAINLESS STEEL HARDWARE. LABEL SHALL CONTAIN THE FOLLOWING. PROVIDE LABELS FOR ALL MCC, SWITCHBOARDS, SWITCHGEAR, PANEL BOARDS, TRANSFORMERS, DISCONNECT, VFD'S AND ELECTRICAL ENCLOSURES HOUSING PROTECTIVE BREAKERS.

"EQUIPMENT NAME"
"EQUIPMENT VOLTAGE"
"EQUIPMENT AMPERAGE/POLES"
"EQUIPMENT FED FROM"
"FAULT CURRENT"

EXAMPLE

DISCONNECT P-1
480V
100A/3P
FED FROM HP-1
FAULT CURRENT - 6,541 A

2 EQUIPMENT NAMEPLATE DETAIL
E802
NOT TO SCALE

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PROJECT DESCRIPTION
FIRE STATION 6

CITY BISMARK
STATE ND

ISSUE DATES

MARK	DESCRIPTION	DATE
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CD	100% CONSTRUCTION DOCUMENTS	10/29/2025

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BRIAN WENTLANDT
PE-27191
DATE 11/13/2026
NORTH DAKOTA

DRAWING TITLE
MOTOR & EQUIPMENT SCHEDULE & RISER

E802

Revit Version: 2025
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LIGHTING CONTROL SCHEDULE

SYMBOL	MANUFACTURER	CATALOG NAME	MOUNTING			VOLTAGE		TYPE			NOTES	DESCRIPTION
			WALL	CLING	ABV. CLG	LINE	LOW	OCCUPANCY	VACANCY	OTHER		
RC#	NLIGHT	NPP16 D			X	X				X	1	DIGITAL DIMMER ROOM CONTROLLER, # INDICATES NUMBER OF RELAYS (CAT6)
OS	SENSOR SWITCH	CM PDT 9/10 R D		X			X	X			5	CEILING MOUNTED SENSOR, DUAL TECHNOLOGY, SMALL OR LARGE MOTION TO BE DETERMINED BY MANUFACTURER, LOW VOLTAGE RELAY, DIMMING OPTION
PE	IOTA	ETS -20			x	x				x		DEVICE SHALL TURN EMERGENCY LIGHTS ON TO 100% OUTPUT UPON LOSS OF POWER.
OD	SENSOR SWITCH	WSX PDT D	X			X		X				WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR WITH INTEGRAL 0-10V DIMMING WITH ON/OFF BUTTON
OS	SENSOR SWITCH	WSX PDT	X			X		X				WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR WITH ON/OFF SWITCH
D	NLIGHT	NPODMA DX	X				X					DIMMER SWITCH SHALL BE MINIMUM ON/OFF BUTTON WITH SEPERATE BUTTONS FOR DIMMING UP AND DIMMING DOWN UNLESS NOTED OTHERWISE ON DRAWINGS. CAT 6 CONNECTION BETWEEN DEVICE AND POWER PACK
#	NLIGHT	NPODMA	X				X					WALL MOUNTED MULTI-BUTTON SWITCH, # TO INDICATE NUMBER OF BUTTONS (CAT6)
OS	NLIGHT	NCM PDT		X			X	X				CEILING MOUNTED DIGITAL DUAL TECHNOLOGY OCCUPANCY SENSOR (CAT6)
PP	SENSOR SWITCH	PP 20			X							NON-DIMMING POWER PACK
ϕ	LUTRON OR EQUAL	DIVA	X								4	120/277V 20A ROCKER SWITCH WITH 0-10V DIMMING. MULTI-WAY SWITCHING TO BE DETERMINED BY THE ELECTRICAL CONTRACTOR FOR SPACE REQUIREMENTS.
$	LUTRON OR EQUAL	20A TOGGLE SWITCH	X								3	120/277V 20A TOGGLE SWITCH. MULTI-WAY SWITCHING TO BE DETERMINED BY THE ELECTRICAL CONTRACTOR FOR SPACE REQUIREMENTS.

GENERAL NOTES:

A. ALL SENSORS ARE SHOWN FOR CONTROL PURPOSE ONLY; ADDITIONAL DEVICE/POWER MAY BE REQUIRED FOR A COMPLEX SYSTEM. VERIFY REQUIRED DEVICES WITH SYSTEM PROVIDER AND INSTALL COMPLETE SYSTEM.
B. WIRE LIGHTING CONTROL COMPONENTS PER MANUFACTURERS INSTRUCTIONS.
C. APPROVED MANUFACTURERS: WATTSTOPPER, CRESTRON, ACUITY BRANDS.
D. SEE SPECICICATION SECTION 262726 OR ON DRAWINGS SPECIFICATIONS FOR FACEPLATE AND DEVICE COLOR.

NOTES:

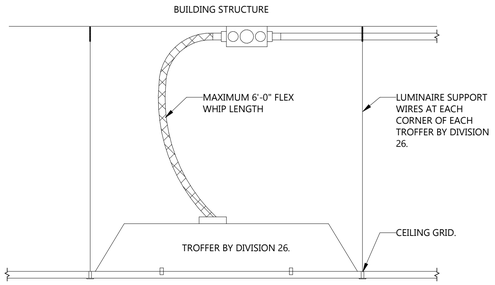
1. NUMBER REPRESENTS QUANTITY OF RELAYS PER DEVICE. SEE LIGHTING SHEETS FOR NUMBER OF RELAYS AND CONTROL ZONES. MULTI-RELAY ROOM CONTROLLERS MAY BE USED IN LIEU OF SINGLE RELAY ROOM CONTROLLERS.
2. SEE SWITCH DETAILS FOR MORE INFORMATION ON SPECIFIC TIMECLOCK SWITCHES/DIMMERS BUTTON LAYOUT AND ENGRAVING.
3. FOR USE AT BACK OF HOUSE, UNFINISHED SPACES, AND 120V 20A MOTOR DISCONNECTS SHALL BE STANDARD TOGGLE SWITCHES. SEE SPECIFICATION SECTION 262726 OR ON DRAWINGS SPECICICATION FOR ADDITIONAL INFORMATION.
4. A LINE VOLTAGE DIMMER SHALL ONLY BE USED IN RESIDENTAL INSTALLATIONS OR WHERE THE LUMINAIRE SUPPORTS ONLY LINE VOLTAGE DIMMING.
5. MANUFACTURER SHALL DETERMINE IF SENSOR SHALL COME WITH INTEGRAL PHOTOCELL IN LIEU OF STAND ALONG DEVICE AS NEEDED FOR DEVICE.

LUMINAIRE SCHEDULE

TYPE	MANUFACTURER	CATALOG NUMBER	LAMP	MOUNTING	LOCATION	VOLTAGE	CCT	LUMENS	WATTS	NOTES	DESCRIPTION
A	LITHONIA	2BLT2 40L ADSM EZ1 LP840	LED	RECESSED	ACT	MVOLT	4000	4000	31 W		2X2 TROFFER
C	LITHONIA	EVO6 40/20 AR LSS WD MVOLT GZ1	LED	RECESSED	ACT	MVOLT	4000	2000	20 W		6" LED CAN LIGHT WET LOCATION
C1	LITHONIA	EVO6 40/10 AR LSS MWD MVOLT GZ1	LED	RECESSED	ACT	MVOLT	4000	1000	10 W		6" LED CAN LIGHT WET LOCATION
D	LITHONIA	CPHB ALO16 SWW9 80CRI	LED	CEILING	CEILING	MVOLT	4000	24000	159 W		LED HIGH BAY LIGHT
E1	LITHONIA	LE S 1 R EL N SD	LED	SURFACE	WALL	MVOLT	-	-	1		SINGLE FACED CEILING MOUNTED EMERGENCY EXIT SIGN
E2	LITHONIA	LE S 2 R EL N SD	LED	SURFACE	CEILING	MVOLT	-	-	1		DOUBLE FACED CEILING MOUNTED EMERGENCY EXIT SIGN
E3	LITHONIA	LE S 1 R EL N SD	LED	SURFACE	CEILING	MVOLT	-	-	1		SINGLE FACED WALL MOUNTED EMERGENCY EXIT SIGN
F	LITHONIA	CLX L48 3000LM SSEF L/LENS MVOLT	LED	SURFACE	CEILING	MVOLT	4000	3000	30 W		4' LED STRIP LIGHT
S	MARK ARCHITECTURAL LIGHTING	SPID 4FT 80RI 40K 1000LMF I400LMF	LED	PENDANT	CEILING	MVOLT	4000	1000LM/FT	42 W		PENDANT MOUNTED LINEAR LIGHT
V	LITHONIA	FMVCALS 24IN MVOLT 40K 90CRI BN	LED	SURFACE	WALL	MVOLT	4000	1700	18 W		24" VANITY LIGHT
AA	LITHONIA	WDGE2 LED P2 50K 80CRI T4M	LED	SURFACE	SITE	MVOLT	5000	2000	19 W		EXTERIOR WALL MOUNTED WEDGE LIGHT
BB	LITHONIA	DSX0 LED P3 50K 70CRI T4M	LED	POLE	SITE	MVOLT	5000	9100	69 W		EXTERIOR POLE MOUNTED SITE LIGHT, SEE DRAWINGS FOR MOUNTING HEIGHTH
CC	HYDREL	SAF7 P1 50K KM CSM48	LED	PEDASTEL	SITE	MVOLT	5000	3000	33 W		EXTERIOR PEDASTEL MOUNTED FLOOD LIGHT. PROVIDE 2' STANCHION MOUNT CSM48 AND THREADED KNUCKLE, PROVIDE CYLINDRICAL CONCRETE BASE INGROUND, PROVIDE (2) PVC CONDUITS
DD	HOLOPHANE	WAE3 P50 50K GL3 BD	LED	POLE	SITE	MVOLT	5000	13585	95 W		EXTERIOR POLE MOUNTED SITE LIGHT, SEE DRAWINGS FOR MOUNTING HEIGHTH

NOTES:

1.
2.
3.

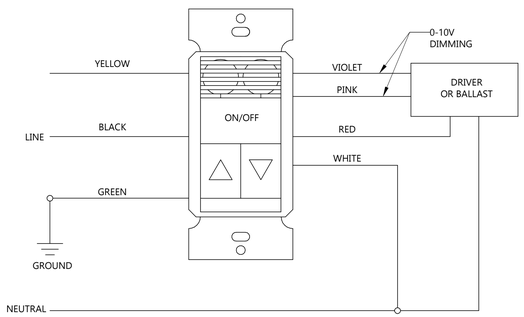


NOTE:

1. DO NOT LOOP FLEX WHIPS FIXTURE-TO- FIXTURE. PROVIDE JUNCTION BOX AS SHOWN.
2. FLEX WHIP SHALL NOT REST ON CEILING GRID. PROVIDE ADDITIONAL SUPPORTS AS NEEDED.

2 / E803 TROFFER INSTALLATION DETAIL

NOT TO SCALE



NOTE: REQUIRES CLASS 1 WIRING FOR 0-10V DIMMING

1 / E803 DUAL TECH SENSOR SWITCH OD WIRING DETAIL

NOT TO SCALE

Revit Version: 2025
Plot Date: 11/17/2026 3:28:56 PM

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BRIAN WENTLAND
PE-27191
DATE 11/13/2026
NORTH DAKOTA

DRAWING TITLE
LIGHTING SCHEDULES & DETAILS

E803

NEW PANEL: L1

LOCATION: ELEC. ROOM 135
SUPPLY FROM: LDP
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTS: 120/208 Wye
PHASING: 3
WIRES: 4

A.I.C. RATING: 14 kA
CALULATED A.I.C.: 15,138 A
MAINS TYPE: MLO
MAINS RATING: 200 A
BUS RATING: 200 A

CKT	CIRCUIT DESCRIPTION	CODES	TRIP	POLES	A		B		C		POLES	TRIP	CODES	CIRCUIT DESCRIPTION	CKT
1	RECEPT RM 130		20 A	1	720 VA	1080 VA					1	20 A		RECEPT RM 128	2
3	ACCU-2 (#17)		25 A	2			2330 VA	500 VA			1	20 A		CO/NO2 CONTROL PANEL	4
5									2330 VA	1440 VA	1	20 A		RECEPT RM 128	6
7	RECEPT EXT WEST		20 A	1	180 VA	180 VA					1	20 A		RECEPT RM 128 TV	8
9	ERU-2 (#14)		15 A	1			180 VA	1440 VA			1	20 A		RECEPT RM 128	10
11	FURN-1 (#15)		15 A	1					924 VA	360 VA	1	20 A		RECEPT RM 128	12
13	RECEPT RM 132		20 A	1	180 VA	360 VA					1	20 A		RECEPT RM 128	14
15	RECEPT RM 131		20 A	1			180 VA	180 VA			1	20 A		RECEPT RM 128 TV	16
17	RECEPT RM 131		20 A	1					180 VA	500 VA	1	20 A		CO/NO2 CONTROL PANEL	18
19	RECEPT RM 131		20 A	1	180 VA	360 VA					1	20 A		RECEPT RM 128 TV	20
21	RECEPT RM 131		20 A	1			180 VA	360 VA			1	20 A		RECEPT RM 128 TV	22
23	RECEPT RM 133		20 A	1					180 VA	360 VA	1	20 A		RECEPT RM 128 TV	24
25	RECEPT RM 133		20 A	1	180 VA	961 VA									26
27	RECEPT RM 133		20 A	1			180 VA	961 VA			3	40 A		EF-3 (#8)	28
29	RECEPT EWC		20 A	1					180 VA	961 VA					30
31	RECEPT RM 133		20 A	1	360 VA	1248 VA									32
33	RECEPT RM 133 TV		20 A	1			180 VA	1248 VA			2	15 A		ACCU-3 (#18)	34
35	RECEPT RM 133		20 A	1					180 VA	180 VA	1	20 A		J-BOX EXTRACTOR	36
37	RECEPT RM 133		20 A	1	180 VA	2500 VA					2	30 A		RECEPT RM 129 DRYER	38
39	RECEPT RM 134		20 A	1			900 VA	2500 VA							40
41	EF-2 (#7)		20 A	1					180 VA	360 VA	1	20 A		RECEPT RM 129	42
43	GUH-3 (#22)		20 A	1	288 VA	360 VA					1	20 A		RECEPT RM 129	44
45	CO/NO2 CONTROL PANEL		20 A	1			500 VA	720 VA			1	20 A		RECEPT RM 123	46
47									300 VA	4500 VA	2	60 A		SH-3 (#4)	48
49	OVERHEAD DOOR		20 A	3	300 VA	4500 VA									50
51							300 VA	180 VA			1	20 A		RECEPT RM 124	52
53									300 VA	360 VA	1	20 A		RECEPT RM 125	54
55	OVERHEAD DOOR		20 A	3	300 VA	180 VA					1	20 A		RECEPT RM 127	56
57							300 VA	180 VA			1	20 A		RECEPT RM 126	58
59									300 VA	1980 VA	1	20 A		LITES BAY 128	60
61	OVERHEAD DOOR		20 A	3	300 VA	987 VA					1	20 A		LITES TURNOUT AND WEST RMS	62
63							300 VA	540 VA			1	20 A		RECEPT RM 128 CORD REEL	64
65									693 VA	360 VA	1	20 A		RECEPT EXT	66
67	OVERHEAD DOOR		20 A	3	693 VA	360 VA					1	20 A		RECEPT EXT	68
69							693 VA	2600 VA			2	35 A		ACCU-4 (#33)	70
71									693 VA	2600 VA					72
73	OVERHEAD DOOR		20 A	3	693 VA	180 VA					1	20 A		RECEPT EXT WEST	74
75							693 VA	0 VA			1	20 A		SPARE	76
77									693 VA	0 VA	1	20 A		SPARE	78
79	OVERHEAD DOOR		20 A	3	693 VA	0 VA					1	20 A		SPARE	80
81							693 VA	0 VA			1	20 A		SPARE	82
83	SPARE		20 A	1					0 VA	0 VA	1	20 A		SPARE	84
					CONNECTED LOAD:	18504 VA		19018 VA		21094 VA					
					EXISTING LOAD:	0 VA		0 VA		0 VA					
					TOTAL LOAD:	18504 VA		19018 VA		21094 VA	**HIGH PHASE**				
					FEED THRU AMPS:	0 A		0 A		0 A	21094 VA				
					TOTAL AMPS:	154 A		159 A		176 A					

1

CODES:

1	SEE DRAWINGS FOR CONDUIT & CONDUCTORS	6	EXISTING BREAKER ON, VERIFY SPARE	11	LSI TRIP UNIT
2	EXISTING BREAKER AND LOAD TO REMAIN	7	NEW BREAKER AND LOAD	12	PROVIDE LOCK ON DEVICE
3	EXISTING BREAKER AND NEW LOAD	8	GFCI BREAKER	13	AFCI BREAKER
4	EXISTING BREAKER TO BECOME SPARE	9	DEDICATED BREAKER		
5	EXISTING BREAKER OFF, VERIFY SPARE	10	HANDLE TIED BREAKER		

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
Lighting	2967 VA	125.00%	3709 VA		
Motor	34749 VA	100.00%	34749 VA	**TOTAL CONN. LOAD:**	58616 VA
Power	7040 VA	100.00%	7040 VA	**TOTAL EST. DEMAND:**	57428 VA
Receptacle	13860 VA	86.08%	11930 VA	**TOTAL CONN.:**	163 A
				TOTAL EST. DEMAND:	159 A

NOTES:

NEW PANEL: L2

LOCATION: DATA 202
SUPPLY FROM: LDP
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTS: 120/208 Wye
PHASING: 3
WIRES: 4

A.I.C. RATING: 10 kA
CALULATED A.I.C.: 5,842 A
MAINS TYPE: MLO
MAINS RATING: 200 A
BUS RATING: 200 A

CKT	CIRCUIT DESCRIPTION	CODES	TRIP	POLES	A		B		C		POLES	TRIP	CODES	CIRCUIT DESCRIPTION	CKT
1	RECEPT STOR/TRAINING RM 201		20 A	1	720 VA	303 VA					1	20 A		LIGHTS 2ND FLOOR	2
3	RECEPT DATA RM 202		20 A	1			360 VA	0 VA			1	20 A		SHUNT TRIP	4
5	RECEPT DATA RM 202		20 A	1					540 VA	756 VA	1	20 A		B-1 (#25)	6
7	RECEPT DATA RACK RM 202		20 A	1	180 VA	528 VA					1	20 A		BP-1 (#30)	8
9	RECEPT DATA RACK RM 202		20 A	1			360 VA	0 VA			1	20 A		SHUNT TRIP	10
11	RECEPT MECH ROOM 203		20 A	1					1260 VA	756 VA	1	20 A		B-2 (#26)	12
13	RECEPT UNIT HEATER		20 A	1	180 VA	528 VA					1	20 A		BP-2 (#31)	14
15							384 VA	756 VA			1	20 A		B-3 (#27)	16
17	RAF-1 (#10)		20 A	3					384 VA	0 VA	1	20 A		SHUNT TRIP	18
19					384 VA	528 VA					1	20 A		BP-3 (#32)	20
21							781 VA	4083 VA							22
23	EF-1 (#6)		20 A	3					781 VA	4083 VA	3	20 A		P-2 (#29)	24
25					781 VA	4083 VA									26
27	WH-1 (#2)		20 A	1			180 VA	4083 VA							28
29	WH-2 (#3)		20 A	1					180 VA	4083 VA	3	20 A		P-1 (#28)	30
31	RCP-1 (#1)		20 A	1	180 VA	4083 VA									32
33	RECEPT MV-1		20 A	1			180 VA	354 VA			2	15 A		ERU-1 (#13)	34
35	UH-1 (#24)		20 A	1					84 VA	354 VA					36
37	GUH-1 (#20)		20 A	1	288 VA	1741 VA									38
39	GUH-2 (#21)		20 A	1			288 VA	1741 VA			3	30 A		AHU-1 (#12)	40
41	CEILING FAN J BOX		20 A	1					360 VA	1741 VA					42
43	CEILING FAN J BOX		20 A	1	360 VA	1045 VA									44
45	SPARE		20 A	1			0 VA	1045 VA			3	15 A		MAU-1 (#5)	46
47	SPARE		20 A	1					0 VA	1045 VA					48
49	SPARE		20 A	1	0 VA	0 VA					1	20 A		SPARE	50
51	SPARE		20 A	1			0 VA	0 VA			1	20 A		SPARE	52
53	SPARE		20 A	1					0 VA	0 VA	1	20 A		SPARE	54
55	SPARE		20 A	1	0 VA	0 VA					1	20 A		SPARE	56
57	SPARE		20 A	1			0 VA	0 VA			1	20 A		SPARE	58
59	SPARE		20 A	1					0 VA	0 VA	1	20 A		SPARE	60
					CONNECTED LOAD:	15912 VA		14595 VA		16407 VA					
					EXISTING LOAD:	0 VA		0 VA		0 VA					
					TOTAL LOAD:	15912 VA		14595 VA		16407 VA	**HIGH PHASE**				
					FEED THRU AMPS:	0 A		0 A		0 A	16407 VA				
					TOTAL AMPS:	134 A		122 A		138 A					

CODES:

1	SEE DRAWINGS FOR CONDUIT & CONDUCTORS	6	EXISTING BREAKER ON, VERIFY SPARE	11	LSI TRIP UNIT
2	EXISTING BREAKER AND LOAD TO REMAIN	7	NEW BREAKER AND LOAD	12	PROVIDE LOCK ON DEVICE
3	EXISTING BREAKER AND NEW LOAD	8	GFCI BREAKER	13	AFCI BREAKER
4	EXISTING BREAKER TO BECOME SPARE	9	DEDICATED BREAKER		
5	EXISTING BREAKER OFF, VERIFY SPARE	10	HANDLE TIED BREAKER		

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
Lighting	303 VA	125.00%	379 VA		
Motor	42830 VA	100.00%	42830 VA	**TOTAL CONN. LOAD:**	46913 VA
Receptacle	3780 VA	100.00%	3780 VA	**TOTAL EST. DEMAND:**	46989 VA
				TOTAL CONN.:	130 A
				TOTAL EST. DEMAND:	130 A

NOTES:

PANEL INDEX E901

L1	L2

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Architecture | Engineering
Interior Design | Industrial
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CONSULTANTS

CLIENT
BISMARCK FIRE DEPARTMENT

PROJECT DESCRIPTION
FIRE STATION 6

CITY BISMARK
STATE ND

ISSUE DATES

MARK	DESCRIPTION	DATE
1	ADDENDUM 2	11/13/2026
CD	100% CONSTRUCTION DOCUMENTS	10/29/2025

PROJECT NO: 20253510
DRAWN BY: TA
CHECKED BY: BW

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STAMP

REGISTERED PROFESSIONAL ENGINEER
BRIAN WENTLAND
PE-27191
DATE 11/13/2026
NORTH DAKOTA

DRAWING TITLE
SCHEDULES

E901

Revit Version: 2025
Plot Date: 11/17/2026 3:28:56 PM