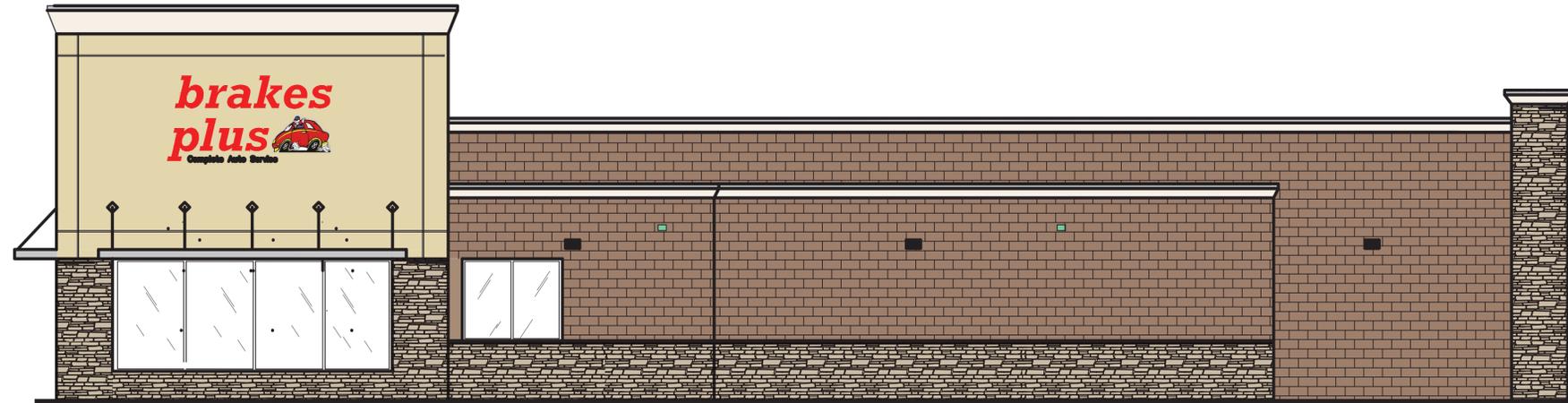


brakes plus

NORMAN, OKLAHOMA



GENERAL NOTES

- WE CERTIFY THAT TO THE BEST OF OUR KNOWLEDGE AND INFORMATION, AND IN ACCORDANCE WITH ACCEPTED PROFESSIONAL STANDARDS, WE HAVE COMPLIED WITH APPLICABLE PORTIONS OF ANSI A117.1 2003 EDITION PERTAINING TO BUILDING ACCESSIBILITY FOR THE PHYSICALLY HANDICAPPED (AR534-401 THROUGH 34-411), IBC CHAPTER STANDARDS AND 1990 AMERICANS WITH DISABILITIES ACT (ADA) TITLE III ACCESSIBILITY GUIDELINES FOR BUILDING AND FACILITIES.
- ALL DIMENSIONS ARE TO THE FACE OF STUD AT FRAME WALLS AND TO THE FACE OF MASONRY WALLS AS SHOWN, UNLESS NOTED OTHERWISE.
- INSTALL SEALANT AT ALL INTERIOR AND EXTERIOR JOINTS, SEAMS, CONNECTIONS OF OPENINGS WHICH WOULD ALLOW WATER OR AIR INFILTRATION EXCEPT AS NOTED OTHERWISE. SEALANT COLOR TO MATCH ADJACENT SURFACE. COLOR REQUIRES ARCHITECTS APPROVAL.
- DOOR OPENINGS IN FRAME CONSTRUCTION WHICH ARE NOT DIMENSIONED ARE EITHER CENTERED IN THE WALL OR LOCATED 5" FROM THE FACE OF STUD TO FINISH JAMB
- ALL HANDICAPPED FACILITIES SHALL BE IDENTIFIED WITH APPROVED SIGNAGE.
- THE CONTRACTOR IS RESPONSIBLE FOR PRODUCING A WEATHER TIGHT BUILDING - - DETAILS AND OMISSIONS TO DRAWINGS NOTWITHSTANDING. ALL DRAWING CONFLICTS WHICH MAY NOT ALLOW THIS ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF TH ARCHITECT.
- DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND PLANS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT.
- ALL FLOORS WITH DRAINS ARE SLOPED MINIMUM 1/8" PER FOOT TO DRAIN UNLESS NOTED OTHERWISE.
- LOCATION OF EXISTING UTILITIES ARE SHOWN TO THE BEST OF OUR KNOWLEDGE. CONTRACTOR SHALL HAVE THE RESPONSIBILITY OF VERIFYING IN THE FIELD BEFORE CONSTRUCTION STARTS, AND COORDINATING ALL NEW UTILITY LOCATIONS, CONNECTIONS, AND PENETRATIONS W/ CIVIL ENGINEER.
- ALL REQUIRED EXITS SHALL BE OPERABLE FROM THE INSIDE WITHOUT SPECIAL KNOWLEDGE OR THE USE OF A KEY.
- PROVIDE FULL 2X6 WOOD BLOCKING AS REQUIRED TO SECURELY ANCHOR ALL WALL MOUNTED EQUIPMENT(E.G., CABINETS, TOILET ROOM, ACCESSORIES, HARDWARE, ETC.). BLOCKING SHALL PROVIDED A RIGID CONNECTION CAPABLE OF SUPPORTING LOADS AS DETERMINED BY MANUFACTURER. PROVIDE SOLID 2X6 WOOD BLOCKING SECURED TO 2 MAIN WALL STUDS TO SECURELY SUPPORT ALL WALL STOPS (DOOR BUMPER).
- THE GENERAL CONTRACTOR SHALL VERIFY AND COORDINATE WITH ALL TRADES, SIZES AND LOCATIONS OF ALL OPENINGS OF MECHANICAL AND ELECTRICAL EQUIPMENT, EQUIPMENT PADS, AS WELL AS POWER, WATER, AND DRAIN INSTALLATIONS. BEFORE PROCEEDING WITH WORK, ANY CONCERNS OF STRUCTURAL CONFLICTS, SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. A REASONABLE RESPONSE TIME SHALL BE ALLOWED.
- ALL FLOOR OR WALL OPENINGS REQUIRED FOR PIPES, DUCTS, CONDUITS, ETC. SHALL BE SEALED IN A MANNER APPROVED BY THE ARCHITECT.
- ROOMS ENCLOSED WITH 1-HOUR RATED WALLS REQUIRE RATED DOORS, 1-HOUR PARTITIONS PENETRATING THROUGH AND ABOVE ROOF SURFACE AND STRUCTURE ABOVE. ANY DUCTS PASSING THROUGH WALLS REQUIRE FIRE DAMPERS. ANY CONDUIT OF PIPING REQUIRES RATED SEALANT.
- STRUCTURAL NOTES SHALL GOVERN TYPICAL CONDITIONS WHETHER OR NOT SPECIFICALLY DETAILED OR NOTED.
- CONTROL JOINTS SHALL BE PROVIDED IN CONCRETE FLOOR SLABS AND MASONRY WALLS WHETHER OF NOT SPECIFICALLY REFERENCED ON PLANS. THE MAXIMUM AREA PERMITTED BETWEEN JOINTS SHALL BE 650 SQUARE FEET FOR REINFORCED CONCRETE SLABS, 250 SQUARE FEET FOR NON-REINFORCED SLABS AND 400 SQUARE FEET FOR MASONRY UNLESS SHOWN OTHERWISE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY ELECTRIC CONNECTIONS, METERS, TRANSFORMERS AND GENERATORS.
- IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ELECTRICAL RECEPTACLES AND SWITCHES TO AVOID CASEWORK, DOORS, ETC.
- CAULK ALL INTERIOR AND EXTERIOR JOINTS.
- FOLLOW ALL RECOMMENDATIONS OF THE SOILS REPORT BY OLSSON, PROJECT #024-03804, DATED AUGUST, 2024

PROJECT TEAM

OWNER:	EXPRESS OIL 1880 SOUTHPARK DRIVE BIRMINGHAM, AL 35244 ANDY GOLDEN 205943-5770
ARCHITECT:	NORMAN L. HERMAN 5265 RIO GRANDE # 202 LITTLETON, COLORADO 80120 (303)385-1203 ATTN: NORMHERMAN@ARCODEV.COM
STRUCTURAL ENGINEER:	PERFORMANCE ENGINEERING 7400 EAST ORCHARD ROAD, # 240 ENGLEWOOD, COLORADO 80111 (303)721-3322 ATTN: TOM SCHOTT
MECHANICAL PLUMBING ELECTRICAL ENGINEER	LOREN PRIEST 12005 ANTELOPE TRAIL, PARKER, COLORADO 80138 (303)748-1189 ATTN: LOREN@EEPARKER.COM
CIVIL ENGINEER	OLSSON ENGINEERING 601 P STREET, SUITE 200 LINCOLN, NE. 68508 ATTN: RYAN KUBERT 402-474-5311

SHEET INDEX

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A2-4	ROOF PLAN
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LOCATION-LEGAL DESCRIPTION

3301 104TH STREET
OKLAHOMA CITY, OKLAHOMA

CODE INFORMATION

APPLICABLE CODES

2018 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL PLUMBING CODE
2018 NATIONAL MECHANICAL CODE
2020 NATIONAL ELECTRICAL CODE
2009 IECC
2018 INTERNATIONAL FIRE CODE

TYPE OF CONSTRUCTION

TYPE V-B

MAXIMUM BUILDING HEIGHT

1 STORY

ALLOWABLE BUILDING AREA

9,000 S.F.

ACTUAL BUILDING AREA

4,897 S.F.

OCCUPANCY

M AND S-1
(MOTOR VEHICLE REPAIR GARAGE) NON-SEPARATED USES

OCCUPANT LOAD COUNT

SALES / WAITING AREA - 607 SF/ 60 OLF = 11 OCCUPANTS
BREAK ROOM - 125 SF/15 = 9 OCCUPANTS
ADMIN / OFFICE - 116 SF / 100 OLF = 2 OCCUPANTS
INVENTORY - 504 SF / 300 OLF = 2 OCCUPANTS
SERVICE BAYS - 3,221 SF / 200 = 16 OCCUPANTS
RESTROOMS - 148F /100 2 OCCUPANTS

TOTAL OCCUPANT LOAD = 42 OCCUPANTS

FIRE PROTECTION

BUILDING IS NON SPRINKLED

ROOFING MATERIALS

REQUIRED: CLASS "C" (CAN BE CLASS A OR B PER CODE)
PROVIDED: CLASS "A" ROOF

ROOF INSULATION REQUIREMENT: MEETS ASTM C 1289
ROOF INSULATION PROVIDED: MEETS ASTM C 1289

NUMBER OF EXITS REQUIRED:
2 REQUIRED.....2 PROVIDED

FIRE RESISTANCE OF EXTERIOR WALLS:
NONE REQUIRED.....DISTANCE GREATER THAN 30 FEET AND TYPE 5 CONSTRUCTION HAS NO REQUIREMENTS

FIRE RESISTANCE OF ELEMENTS:
TYPE 5B CONSTRUCTION HAS NO REQUIREMENTS

OPENING PROTECTION REQUIREMENTS:
NO REQUIREMENTS - FIRE SEPARATION DISTANCE EXCEEDS 30 FEET

PLUMBING FIXTURES

2 RR. REQ.
2 RR. PROVIDED

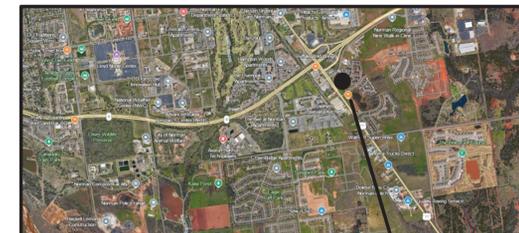
NUMBER OF EXITS

2 REQ.
2 PROVIDED

EXIT WIDTH

42 x 0.2 = 9" REQ.
36" PROVIDED

VICINITY MAP



BRAKES PLUS
LOCATION

VICINITY PLAN

HAZARDOUS GLAZING REQUIREMENTS:
THESE REQUIREMENTS HAVE BEEN MET....SEE SHEET A6-1

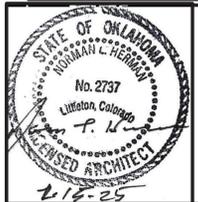
PARAPET REQUIREMENTS - PARAPETS MEET REQUIREMENTS. THEY EXCEED 30" IN HEIGHT HAD HAVE NO REQUIREMENT FOR FIRE RESISTANCE (SEE EXT. WALLS ABOVE)

REQUIRED PLUMBING FIXTURES:
- 2 RESTROOMS REQUIRED AND TWO PROVIDED
- 2 WATER CLOSETS REQUIRED AND TWO PROVIDED
- 2 LAVATORIES REQUIRED AND TWO PROVIDED
- HANDICAP WATER FOUNTAIN REQUIRED AND 1 PROVIDED
- 1 SERVICE SINK REQUIRED AND ONE PROVIDED.

ROOF DRAINAGE REQUIREMENTS:
ROOF DRAINAGE HAS BEEN PROVIDED PER #1503. SEE SUBMITTAL DWG A2-4 AND PLUMBING DRAWINGS

BRAKES PLUS

3301 CLASSEN BLVD
NORMAN, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
1	01.17.25	RESPONSE 1 TO COMMENTS FOR BIDDING
	02.15.25	

ARCOCODE JOB #: --
CLIENT JOB #: --
DRAWN BY: NLH
CHECKED BY: NLH

DATE OF ISSUE: 11.15.24



45 SPYGLASS DRIVE
LITTLETON, CO 80123
VOICE: 303.881-8925

ARCOCODE

SHEET

A0

COVER SHEET

<p>DOORS</p>	<ol style="list-style-type: none"> Doors, doorways, and gates that are part of an accessible route shall comply with 404. Door openings shall provide a clear width of 32 inches, unless the opening is more than 24 inches deep, in which case the clear width of the opening shall be 36 inches. For swinging doors, the clear width shall be measured between the face of the door and the stop, with the door open 90 degrees. There shall be no projections into the clear opening lower than 34 inches. Projections into the clear opening between 34 inches and 80 inches shall not exceed 4 inches. In accordance with 404.2.3 exception 2, door closers and stops shall be permitted to be a minimum of 78 inches above the floor or ground. Minimum maneuvering clearances at swinging doors shall comply with ICC A117.1-2017 Section 404.2.3, Table 404.2.3.2 and Figure 404.2.3.2. Fire doors shall have a minimum opening force allowable by the appropriate administrative authority. Hinged doors other than fire doors shall have an opening force of 5 pounds maximum. Sliding doors shall have an opening force of 5 pounds maximum. Door and gate surfaces shall comply with 404.2.10. Doors shall be permitted to swing into turning spaces, per 304.4. Two doors in a series shall comply with ICC A117.1-2017 Section 404.2.5 and Figure 404.2.5. 	<p>NOTE: Y = 54" MIN. if door has a closer</p> <p>NOTE: Y = 52" MIN. if door has both a closer and a latch</p> <p>NOTE: X = 12" MIN. if door has both a closer and a latch</p> <p>NOTE: Y = 48" MIN. if door has a closer</p> <p>NOTE: X = 12" MIN. if door has both a closer and a latch</p>	<p>Doors in Series and Gates in Series</p>								
<p>RESTROOMS & DRINKING FOUNTAINS</p>	<ol style="list-style-type: none"> Where toilet rooms are provided, each toilet room shall comply with 603. Where toilet compartments are provided, at least one toilet compartment shall comply with 604.8.1. In addition to the compartment required to comply with 604.8.1, at least one compartment shall comply with 604.8.2 where six or more toilet compartments are provided, or where the combination of urinals and water closets totals six or more fixtures. Mirrors located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 40 inches maximum above finish floor or ground. Mirrors not located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 35 inches maximum above the finish floor or ground. Coat hooks shall be located within one of the reach ranges specified in 308. Shelves shall be located 40 inches minimum and 48 inches maximum above the finish floor. Water closets shall comply with 604.2 through 604.8. 	<ol style="list-style-type: none"> Toilet paper dispensers shall comply with ICC A117.1-2017, Chapter 6, Section 604.7 and shall not be located behind grab bars. Dispensers shall not be of a type that controls delivery or that does not allow continuous paper flow. Grab bars shall be provided at water closets and shall comply with ICC A117.1-2017, Chapter 6, Figure 604.5. Urinals shall comply with 605 and shall be either wall-hung or stall type urinals. Lavatories shall comply with 606. Faucets for lavatories shall comply with 606.4. Exposed pipes under lavatories shall be insulated or otherwise protected to prevent against contact. Drinking Fountains shall comply with ICC A117.1-2017, Chapter 6, Section 602.2. Toilet paper dispensers shall comply with ICC A117.1-2017, Chapter 6, Figure 604.9.2. Fixed side wall grab bars shall comply with ICC A117.1-2017, Chapter 6, Section 604.5.1. 	<p>REACH RANGES, CONTROLS & OPERATING MECHANISMS</p> <ol style="list-style-type: none"> Reach ranges shall comply with 308. Operable parts shall comply with 309 and shall be placed within one or more of the reach ranges specified in 308. In accordance with 309.4, operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5 pounds maximum. <p>Obstructed Forward Reach</p> <p>Obstructed Side Reach</p> <p>Unobstructed Forward Reach</p> <p>Unobstructed Side Reach</p>								
<p>RESTROOMS & DRINKING FOUNTAINS</p>	<p>Clearances & Heights at Lavatory</p> <p>Stall Compartment Toe Clearance</p>	<p>Drinking Fountain Clearance and Spout Location</p>	<p>PATH OF TRAVEL</p> <ol style="list-style-type: none"> The running slopes of walking surfaces that are part of an accessible route shall not be steeper than 1:20 with a cross slope that is not steeper than 1:48. Changes in level shall comply with ICC A117.1-2017 Section 303. The clear width of walking surfaces shall comply with 403.5.1. The clear width at turns along an accessible route shall comply with 403.5.2. In accordance with 403.5.3, an accessible route with a clear width of less than 60 inches shall provide passing spaces at intervals of 200 feet. <p>Clear Width of an Accessible Route</p> <p>Changes in Level</p> <p>Walking Parallel To A Wall</p>								
<p>RESTROOMS & DRINKING FOUNTAINS</p>	<p>Lavatory Clearance</p> <p>Standard Stall</p> <p>Clear Floor Space and Water Closet Location</p>	<p>Recessed Toilet Paper Dispenser Location</p> <p>Protruding Toilet Paper Dispenser Location</p> <p>Height and Depth of Urinal</p> <p>Grab Bars at Water Closets</p>	<p>SEATING AT TABLES & COUNTERS</p> <ol style="list-style-type: none"> Where dining surfaces are provided for the consumption of food and drink, at least 5 percent of the seating spaces and standing spaces at the dining surfaces shall comply with 902. In addition, where work surfaces are provided for use by other than employees, at least 5 percent shall comply with 902. Confirm actual seat counts with Table 221.2.1 Dining surfaces and work surfaces required to comply with 902 shall be dispersed throughout the space or facility containing dining surfaces and work surfaces. Dining surfaces and work surfaces shall comply with 902.2 and 903.3. <p>Toe and Knee Clearances</p>								
<p>RESTROOMS & DRINKING FOUNTAINS</p>	<p>Parallel Approach at Sales & Service Counters</p>	<p>Area of Refuge</p>	<p>STAIRS AND RAMPS</p> <ol style="list-style-type: none"> Ramps on accessible routes shall comply with 405. Ramp runs shall have a running slope not steeper than 1:12 with a cross slope not steeper than 1:48. The clear width of a ramp run or (where handrails are provided) the clear width between handrails shall be 36 inches minimum. The rise for any ramp run shall be 30 inches maximum. Ramps shall have landings at the top and the bottom of each ramp run complying with 405.7. Ramps with a rise greater than 6 inches shall have handrails complying with 505. Edge protection complying with 405.9.1 or 405.9.2, shall be provided on each side of ramp runs and each side of ramp landings. Stairs that are part of a means of egress shall comply with 504. All steps on a flight of accessible stairs shall have uniform riser heights and uniform tread depths. Riser shall be between 4 inches and 7 inches in height. Treads shall be 11 inches deep minimum. Open risers are not permitted. Nosings in steps shall comply with 504.5. Stairway handrails shall comply with 505. <p>Handrail Location with Barrier Edge Protection</p> <p>Handrail Location with Alternate Edge Protection</p> <p>Handrail Location</p> <p>Stair Nosings</p> <table border="1"> <thead> <tr> <th>SLOPE</th> <th>MAX. RISE</th> </tr> </thead> <tbody> <tr> <td>1:12 MIN.</td> <td>30"</td> </tr> <tr> <td>1:12 to 1:10</td> <td>6"</td> </tr> <tr> <td>1:10 to 1:08 MAX.</td> <td>3"</td> </tr> </tbody> </table> <p>*Only for Existing Sites, Buildings and Facilities</p>	SLOPE	MAX. RISE	1:12 MIN.	30"	1:12 to 1:10	6"	1:10 to 1:08 MAX.	3"
SLOPE	MAX. RISE										
1:12 MIN.	30"										
1:12 to 1:10	6"										
1:10 to 1:08 MAX.	3"										

BRAKES PLUS
3301 CLASSEN BLVD.
NORMAN, OKLAHOMA

STATE OF OKLAHOMA
LITTLETON, COLORADO
No. 2737
P. L.
LICENSED ARCHITECT
2.15.25
ARCHITECT OF RECORD

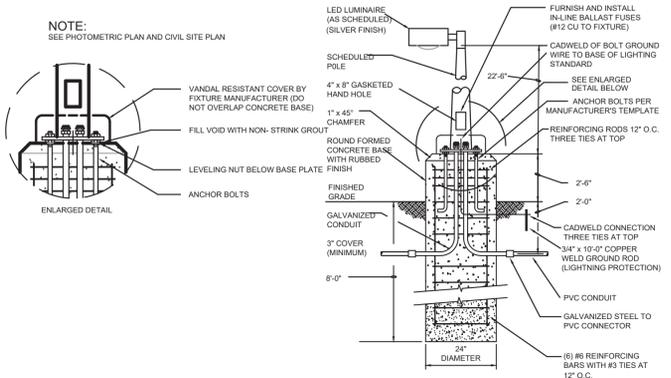
REVISION	DATE	COMMENTS
	02.15.25	FOR BIDDING

ARCOCODEV JOB #:
CLIENTJOB #:
DRAWN BY: NLH
CHECKED BY: NLH
DATE OF ISSUE: 11.15.24

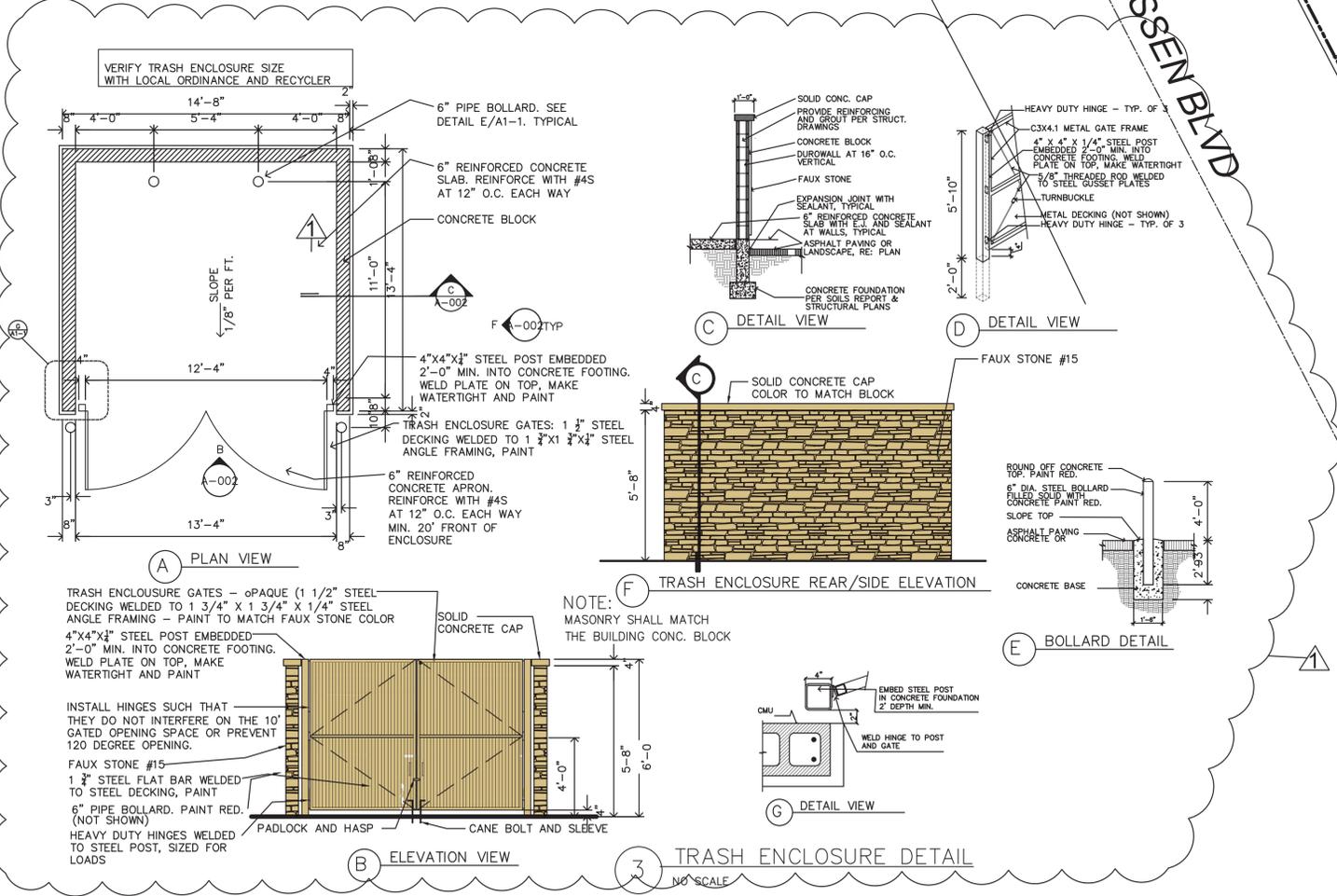
45 SPIGLASS DRIVE
LITTLETON, CO 80123
VOICE: 303.881-8925

ARCHITECT

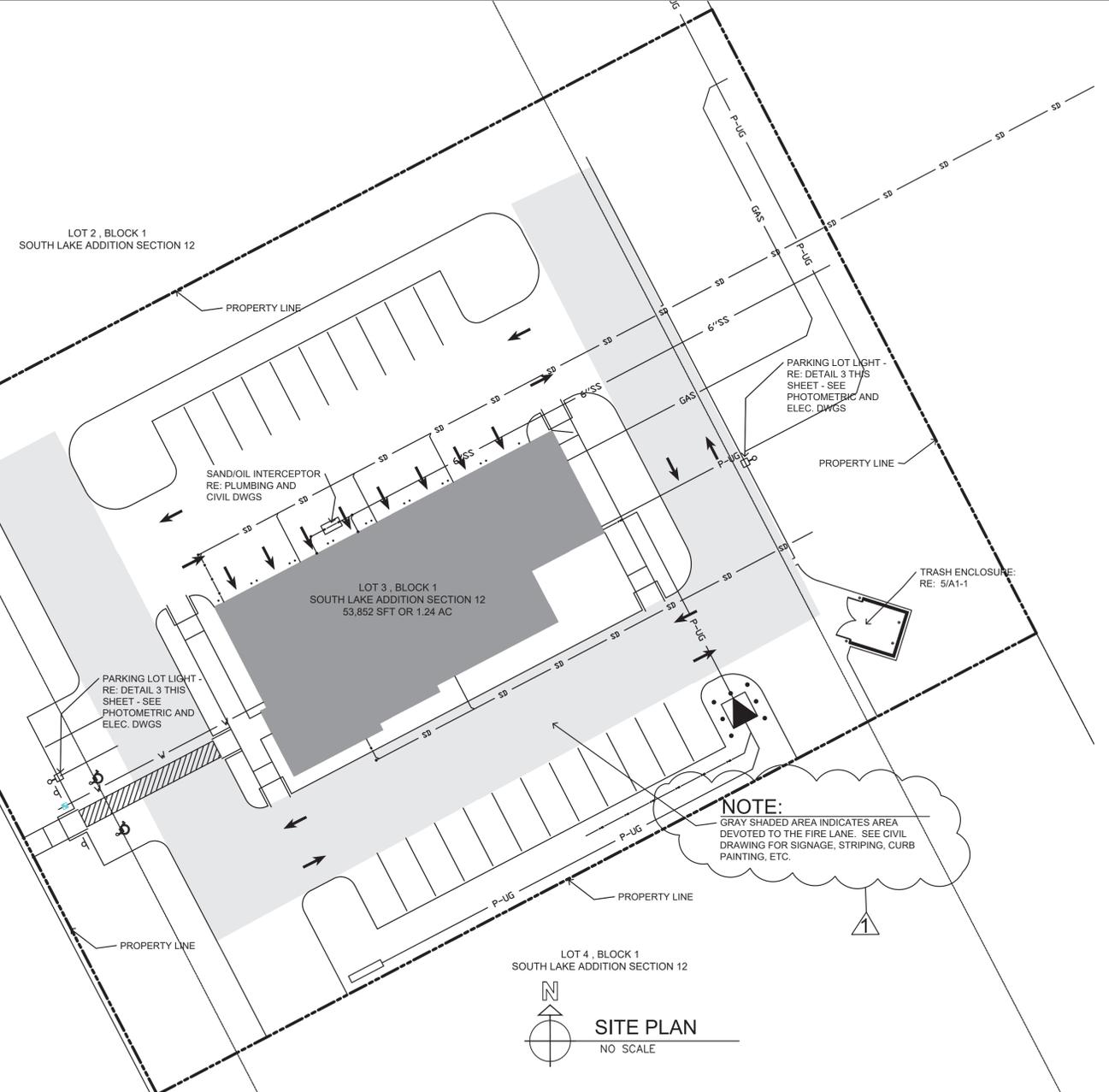
A0.1
ACCESSIBLE DETAILS



3 TRASH ENCLOSURE DETAIL
A1-1 NO SCALE

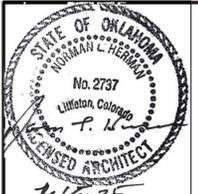


3 TRASH ENCLOSURE DETAIL
NO SCALE



SITE PLAN
NO SCALE

BRAKES PLUS
3301 CLASSEN BLVD.
NORMAN, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
1	09/24/25	REWORKING COMMENTS

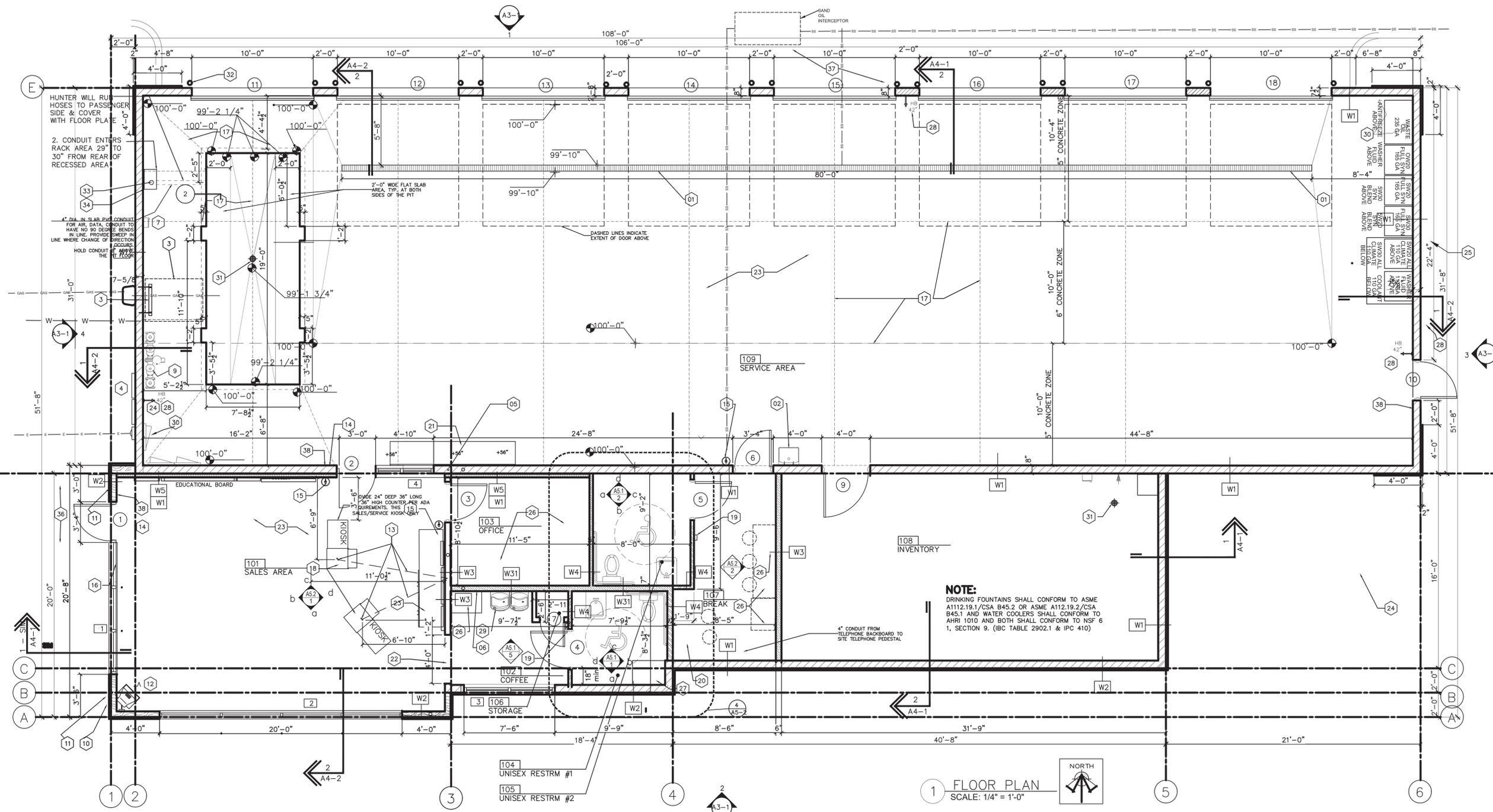
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LITTLETON, CO 80123
PHONE: 303.881-8925

A SHEET

A1-1
SITE PLAN AND DETAILS



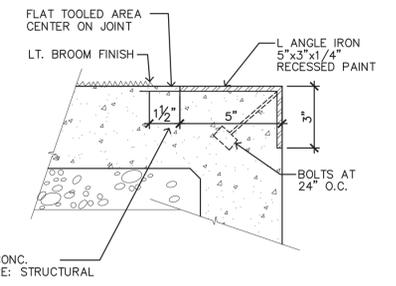
1 FLOOR PLAN
SCALE: 1/4" = 1'-0"

NOT USED

ID	WALL TYPE / SYMBOL	DESCRIPTION	FIRE RATING	UL LISTING
W1	8" NOM. CONCRETE BLOCK FULL HEIGHT / DECK	NOMINAL (SEE PLAN) LIGHT WEIGHT CONCRETE BLOCK CORE-FILL INSULATION BY TALORED CHEMICAL PRODUCTS (OR EQUAL) HIGHORY F.C. MIN COMPOSITE R VALUE OF 10.	500	-
W2	NEW WOOD STUD WALL	3/4" GYP BD EACH SIDE OVER 2X6 WOOD STUDS @ 16" O.C. TO ELEVATION NOTED ON DRAWINGS. PROVIDE MOISTURE RESISTANT SURFACES. PROVIDE MIN. FULL BATT R-19 INSULATION W/ VAPOR BARRIER (450 WRATT PAPER OF EQUAL CLASS III VAPOR BARRIER). PROVIDE WATER BARRIER GREENGUARD MAX BUILDING WRAP. PROVIDE DRAINAGE PER IBC SECTION 1404.2 & INSTALLED PER 1405.	-	-
W3	3/4" GYP BD EACH SIDE OVER 2X6 WOOD STUDS @ 16" O.C. TO UNDERSIDE OF STRUCTURE ABOVE.		-	-
W31	3/4" GYP BD. EACH SIDE OVER 2X6 WOOD STUDS AT 16" O.C. 12'-0" AFF. PROVIDE MOISTURE RESISTANT GYP BD AT WEI LOCATIONS IN RESTROOM. PROVIDE FULL BATT SOUND INSULATION.		-	-
W4	NEW WOOD STUD WALL	3/4" GYP BD EACH SIDE OVER 2X4 WOOD STUDS @ O.C. @ 12'-0" AFF PROVIDE FULL BATT SOUND INSULATION.	-	-
W5	NEW FURRING	3/4" GYP BD OVER 2X2 WOOD FURRING STUDS @ 16" O.C. TO 6" AFF. PROVIDE FULL BATT INSULATION IN FURRED CAVITY ABOVE CEILING. PROVIDE FULL BATT INSULATION IN FURRED CAVITY ABOVE CEILING.	-	-
W6	NOT USED	NOT USED	-	-

GENERAL WALL CONSTRUCTION NOTES:
PROVIDE SLIP TRACK HEAD RECEPTOR WHERE REQUIRED. ALL WALLS AROUND RESTROOMS TO RECEIVE R-19 BATT INSULATION. ALL RESTROOM CEILINGS TO RECEIVE R-19 BATT INSULATION.

2 1/2" MTL. AT RECESSED SLAB TYP.
SCALE: 1/4" = 1'-0"



- FLOOR PLAN KEYNOTES:
- 6" WIDE CONTINUOUS PRE-FORMED TRENCH DRAIN. MAX OPENING = 3/4". SEE PLUMBING DRAWINGS AND DRAIN SPEC. BEHIND SINK.
 - DEEP-BASIN SERVICE SINK. RE: MECHANICAL DRAWINGS. PROVIDE 48" HIGH X 36" WIDE STAINLESS STEEL PANEL ON WALL.
 - ROOF LADDER (HATCH ABOVE) - RE: 2/A2-4 - COORDINATE EXACT LOCATION WITH BAR JOIST LOCATIONS.
 - ELECTRICAL ENTRY EQUIPMENT. REFER TO ELECTRICAL DRAWINGS.
 - PROVIDE ELECTRICAL CONDUIT FROM 18" AFF TO ABOVE CEILING AND PENETRATE THROUGH MASONRY WALL TO OFFICE.
 - COLD WATER LINE FOR COFFEE MACHINE. RE: PLUMBING DRAWINGS.
 - PROVIDE DISCONNECT FOR A LIFT AT THIS LOCATION.
 - NOT USED.
 - BACK FLOW PREVENTER. SEE CIVIL DRAWINGS. REFER TO PLUMBING DRAWINGS.
 - PROVIDE KEY DROP BOX. MODEL NO. DSF2014K AS MANUFACTURED BY AMSEC. INSTALLED BY CONTRACTOR.
 - KNOX BOX OBTAINED FROM LOCAL FIRE DEPARTMENT AND INSTALLED BY CONTRACTOR. VERIFY LOCATION WITH FIRE DEPARTMENT PRIOR TO INSTALLATION.
 - PROVIDE BRACKING AS REQUIRED TO SUPPORT TV MOUNTING BRACKET. COORDINATE WITH OWNER.
 - TWO 1" ELECTRICAL CONDUITS FROM WALL TO EACH KIOSK & SERVICE COUNTER. CONDUIT #1 SHALL BE 7" FROM REAR WALL & 2'-6" FROM CENTERLINE OF FRONT DOOR (UP TO ABOVE CEILING). CONDUIT #2 WILL BE TO THE OUTSIDE OF #1 AND SLIGHTLY BACK TO ALLOW FOR ANGLE MOUNTING OF KIOSK.
 - PROVIDE SIGN AT EXIT "MAXIMUM NUMBER OF OCCUPANTS"
 - PROVIDE FIRE EXTINGUISHER AS DIRECTED BY LOCAL FIRE DEPARTMENT
 - NOT USED.
 - CONTROL JOINTS TYP.
 - KIOSK AND PRINTER CABINET PROVIDED AND INSTALLED BY G.C.
 - PROVIDE ACCESSIBLE SIGNAGE AT RESTROOM AS REQUIRED PER CODE
 - LOCKERS PROVIDED AND INSTALLED BY GENERAL CONTRACTOR.
 - SERVICE COUNTER PROVIDED AND INSTALLED BY G.C.
 - 4'-0" W X 7'-4" H OPENING
 - CONCRETE SLAB - RE: STRUCTURAL DRAWINGS.
 - PROVIDE CONDUIT FOR CONTROLS AND PIPING TO LANDSCAPE MANFOLD
 - GAS METER
 - MILKWORK PROVIDED AND INSTALLED BY G.C.
 - NOT USED.
 - HOSE BIB. REFER TO PLUMBING DRAWINGS.
 - WATER-COOLER : (DEEP-ROCK WATER 303 292 2020; OR EQUAL).
 - ELECTRICAL CIRCUIT PANELS
 - FLOOR DRAIN
 - CONCRETE FILLED 4" DIA. STEEL BOLLARD 36" HIGH - PAINT RED
 - CONDUIT CENTER IS 6" FROM THE CENTER.
 - CONDUIT FROM CONTROL BOX TO BACK CONTROL BOX.
 - NOT USED.
 - ACCESSIBLE ENTRY SIDEWALK.
 - PROVIDE 10" WIDE CONC. APRON IN FRONT OF OVERHEAD DOORS (6" DEEP WITH #4'S 16" O.C. EACH WAY IN CENTER OF SLAB)
 - PROVIDE EXIT SIGN AS SHOWN ON DETAIL 10 ON SHEET A4-5 INCLUDING TACTILE REQUIREMENTS.

- GENERAL NOTES:
- PAINT EXPOSED UNFINISHED METALS PER SPECIFICATIONS. COLOR TO MATCH ADJACENT SURFACE IF NOT SPECIFIED.
 - MAKE SURE TO HAVE A MINIMUM OF 6" CONCRETE UNDER HEAVY EQUIPMENT
 - KEEP ALL EXPOSED PLUMBING AND CONDUIT LINES AT LEAST 6" ABOVE F.F.
 - PROVIDE ANCHORS, BOLT AND OTHER NECESSARY FASTENERS AND BLOCKING AS REQUIRED AND ATTACH ACCESSORIES SECURELY TO WALLS AND PARTITIONS IN LOCATIONS AS SHOWN AS REQUIRED.
 - PROVIDE FIRE EXTINGUISHERS AS REQUIRED BY LOCAL FIRE MARSHALL. CONTRACTOR IS REQUIRED TO CONTACT FIRE DEPARTMENT FOR FIRE EXTINGUISHER TYPE AND EXACT MOUNTING LOCATIONS.
 - ALL ELECTRICAL DEVICES SHALL BE EXPOSED SURFACE MOUNTED IN INSTALLATION BAYS. ALL DEVICES IN PUBLIC AREAS SHALL BE CONCEALED IN WALLS.
 - CONVENIENCE POWER IS INDICATED ON THIS DRAWING FOR REFERENCE. PROVIDE POWER PER EQUIPMENT AND ALL ASSEMBLIES NOTED AS WELL.
 - FOLLOW ALL RECOMMENDATIONS OF THE SOILS REPORT BY OLSSON, PROJECT #023-0304 DATED AUGUST 2024.
 - N/A
 - ALL DIMENSIONS OF FACE OF STUDS AND FACE OF CMU BLOCKS

BRAKES PLUS
3301 CLASSEN BLVD.
NORMAN, OKLAHOMA

STATE OF OKLAHOMA
NORMAN L. HERBERT
No. 2737
Littleton, Colorado
REGISTERED ARCHITECT
2.16.25

ARCHITECT OF RECORD

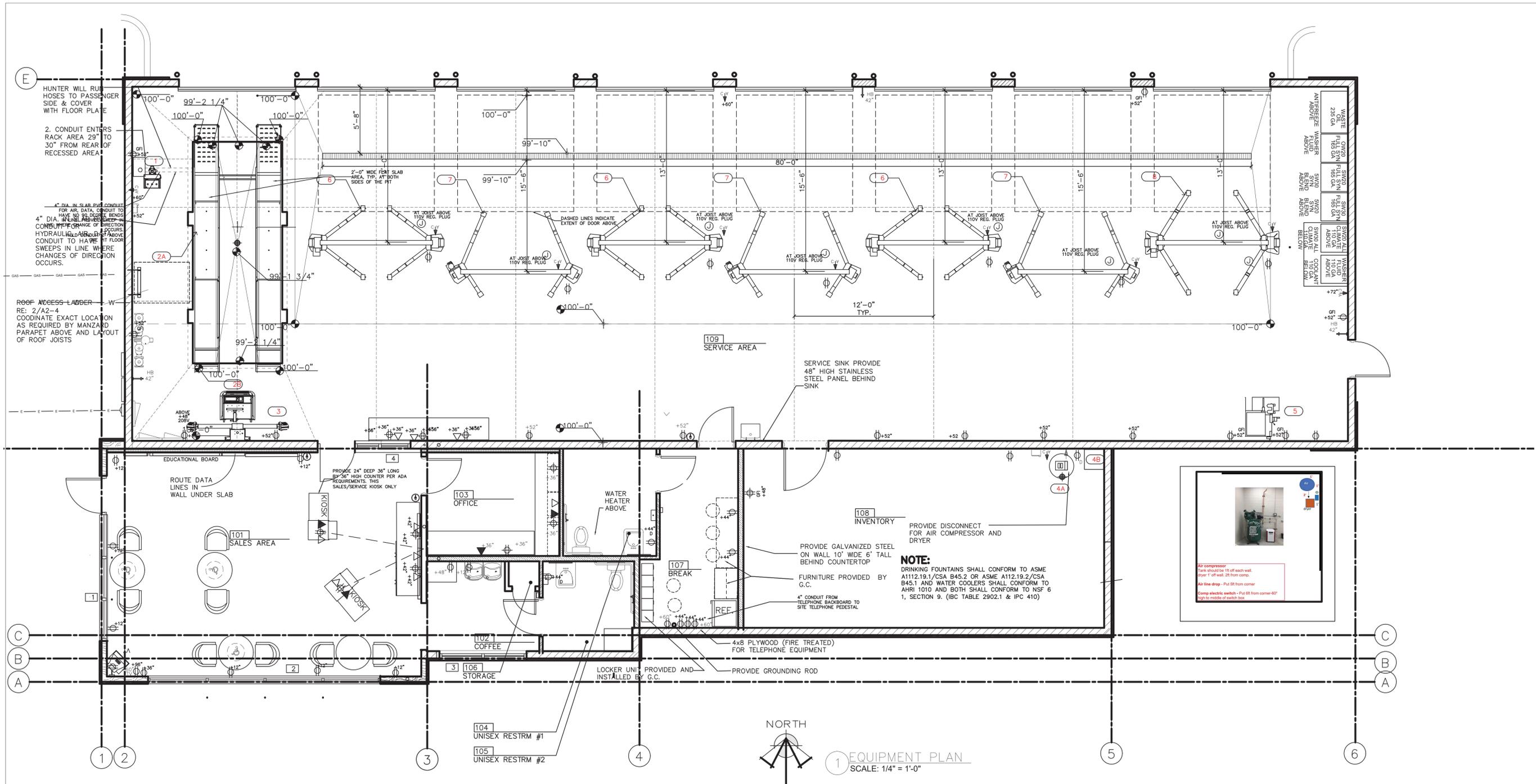
REVISION	DATE	COMMENTS
	02.15.25	FOR BIDDING

ARCOCODE JOB #:
CLIENT/JOB #:
DRAWN BY: NLH
CHECKED BY: NLH
DATE OF ISSUE: 11.15.24

ARCOCODE
SHEET

45 SPYGLASS DRIVE
LITTLETON, CO 80123
VOICE: 303.881-8925

A2-1
FLOOR PLAN



ID	DESCRIPTION	MANUFACTURER	MODEL NUMBER	LENGTH	DEPTH	HEIGHT	HP	VOLTAGE	AMPS	PHASE	NOTES
1	ALIGNMENT RACK - CONTROL BOX	HUNTER	RXTOLT-IS	19"	7'-4 1/2"	6"	-	208-230	28A	1	DEDICATED CIRCUIT
2	ALIGNMENT MACHINE	HUNTER	WA443	36"	2'-6"	5'-8"	-	115	15A	1	DEDICATED CIRCUIT
3	ALIGNMENT SENSORS	HUNTER	HE421	8'-9"	1'-3"	10'-3"	-	120	15A	1	DEDICATED CIRCUIT
4A	AIR COMPRESSOR	CHAMPION	HR50-12	5'-10"	2'-4"	4'-8"	5	208	30A	3	DEDICATED CIRCUIT 30 AMP, WITH DISCONNECT
4B	AIR COMPRESSOR - DRYER	CHAMPION	HR50-12	5'-10"	2'-4"	4'-8"	5	208	30A	3	DEDICATED CIRCUIT 30 AMP, WITH DISCONNECT
5	BRAKE LATHE	HUNTER	BL500	44 1/2"	35 1/2"	-	1.5	115	15A	1	DEDICATED CIRCUIT (115V, 15 AMP)
6	ABOVE-GROUND 10K TWIN POST LIFT	ROTARY	SP010	11'-6"	-	12'-5"	5	110	-	1	WITH SHOCKWAVE, NON-DEDICATED CIRCUIT
7	ABOVE-GROUND 10K A-TWIN POST LIFT	ROTARY	SP0A10	11'-6"	-	12'-5"	5	110	-	1	WITH SHOCKWAVE, NON-DEDICATED CIRCUIT
8	ABOVE-GROUND 12K TWIN POST LIFT	ROTARY	SP0A12RA	11'-6"	-	13'-8"	5	110	-	1	WITH SHOCKWAVE, NON-DEDICATED CIRCUIT
9	NEW OIL TANK	VALVOLINE	-	-	-	-	-	-	-	-	STACKABLE
10	USED OIL TANK	-	-	3'	4'	-	-	-	-	-	STACKABLE
11	WASHER/COOLANT TANK	-	-	3'	3'	5'-1"	-	-	-	-	DBL WALL- UL LISTED
12	OIL DISPENSER	EP16	-	-	-	-	-	-	-	-	DBL WALL- UL LISTED
13											
14											
15											
16											
17											
18											
19											

ELECTRICAL LEGEND:	
⊕	DUPLEX OUTLET
⊕	DEDICATED DUPLEX OUTLET
⊕	AUTOCLAVE RECEPTACLE
⊕	FOUR-PLEX OUTLET
⊕	220-VOLT OUTLET
⊕	FLOOR OUTLET
⊕	TELEPHONE JACK
⊕	TELEPHONE JACK +60"
⊕	DATA JACK
⊕	PLUGMODE
AC	ABOVE COUNTER
⊕	LIGHT SWITCH @ 56" AFF
⊕	THREE-WAY LIGHT SWITCH @ 56" AFF
⊕	TELEPHONE BACKBOARD W/ OUTLET
⊕	ELECTRICAL PANEL
⊕	TIME CLOCK
⊕	SIGN OUTLET
⊕	JUNCTION BOX
⊕	THERMOSTAT

GENERAL NOTES:

- VERIFY ALL EQUIPMENT LOCATIONS WITH OWNER PRIOR TO INSTALLATION.
- COORDINATE INSTALLATION OF EQUIPMENT ITEMS SUPPLIED BY OWNER.
- TELEPHONE SYSTEM PROVIDED BY VENDORS. COORDINATE SCHEDULE WITH GENERAL CONTRACTOR.
- COMPRESSED AIR LINE DROPS TO 48" AFF UNLESS NOTED OTHERWISE. REFER TO PLUMBING PLAN FOR COMPRESSED AIR LINE SIZES.

BRAKES PLUS
3301 CLASSEN BLVD.
NORMAN, OKLAHOMA

STATE OF OKLAHOMA
MORRIS C. HERMAN
No. 2737
Littleton, Colorado
LICENSED ARCHITECT
2/15/25

ARCHITECT OF RECORD

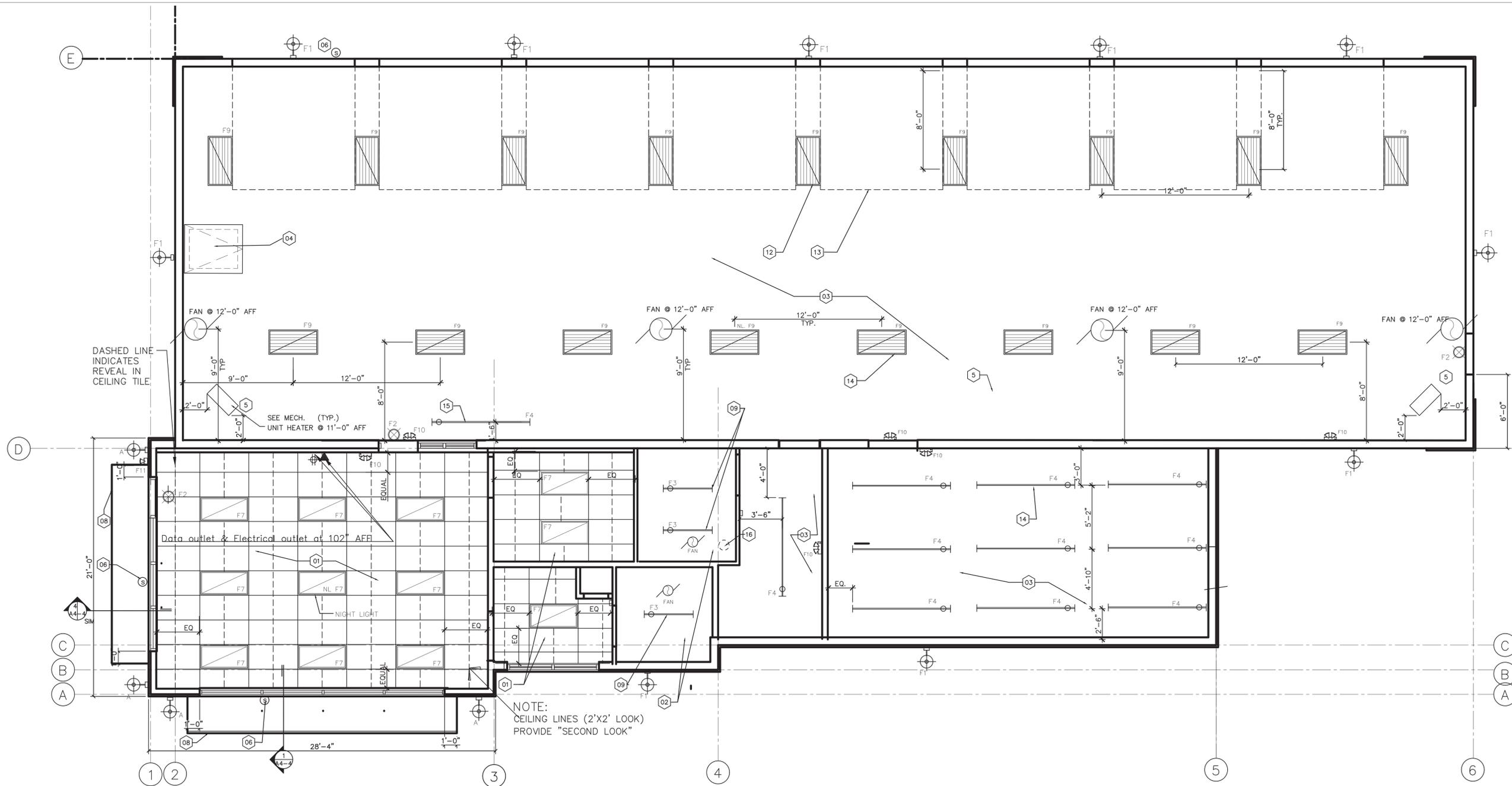
REVISION	DATE	COMMENTS
	02.15.25	FOR BIDDING

ARCODEV JOB #:
CLIENTJOB #:
DRAWN BY: NLH
CHECKED BY: NLH
DATE OF ISSUE: 11.15.24

ARCODEV
45 SPYGLASS DRIVE
LITTLETON, CO 80123
VOICE: 303.881-8925

A SHEET

A2-2
EQUIPMENT PLAN



1 REFLECTIVE CEILING PLAN
SCALE: 1/4" = 1'-0"

- CEILING PLAN KEYNOTES:**
- 2x4 ACOUSTICAL TILE CEILING GRID WITH ARMSTRONG "DUNE - FINE FISURED SECOND LOOK 1" CEILING TILES. RE: ROOM FINISH SCHEDULE.
 - GYP BD CEILING OVER WOOD STUD FRAMING. PAINT. RE: ROOM FINISH SCHEDULE
 - OPEN TO STRUCTURE ABOVE. PAINT. RE: ROOM FINISH SCHEDULE
 - ROOF LADDER AND HATCH ABOVE- COORDINATE EXACT LOCATION WITH ROOF FRAMING.
 - UNIT HEATER @ 11'-0" AFF TO BOTTOM - RE: MECH. DWGS.
 - JUNCTION BOX FOR EXTERIOR WALL SIGNS
 - NOT USED
 - LINE OF METAL AWNING
 - CENTER LIGHT FIXTURE IN ROOM
 - N.A.
 - N.A.
 - CENTER LIGHT FIXTURES BETWEEN OVERHEAD DOOR. MOUNT BOTTOM OF FIXTURE 2" BELOW BOTTOM OF OVERHEAD DOOR TRACK. TYPICAL.
 - LINE OF OVERHEAD DOOR
 - MOUNT FIXTURES TIGHT TO STRUCTURE ABOVE. TYPICAL
 - CENTER FIXTURE OVER SERVICE DESK BELOW
 - DECK MOUNTED WATER HEATER. RE: PLUMBING DRAWINGS.

LIGHT FIXTURE SCHEDULE ALL FIXTURES FURNISHED AND INSTALLED BY GENERAL CONTRACTOR

SYMBOL	MARK	QUANTITY	DESCRIPTION	MANUF.	CAT. NO.	LAMP	MOUNTING	VOLTAGE	REMARKS
	A	4	EXTERIOR DECORATIVE LIGHT FIXTURE	COOPER LIGHTING	303-W1-LEDB2-3000-UNV-T4-DIM10	16W LED	WALL	120	REFER TO ELEVATIONS FOR MOUNTING LOCATIONS
	F1	8	EXTERIOR DECORATIVE LIGHT FIXTURE	MCGRAW EDISON	1ST-SA1F-730-U-T4FT	25W LED	WALL	120	
	F2	3	EXIT SIGN	COOPER LIGHTING	APC7 G	LED	WALL/CENTER ON DOOR	120	PROVIDE EMERGENCY BATTERY PACK (90 MINUTE MIN.)
	F3	3	4'-0" STRIP LED	COOPER LIGHTING	4SNLED LD5 UNV	LED	UNIVERSAL	120	MOUNT AT 12'-0" AFF
	F4	11	8'-0" STRIP LED	COOPER LIGHTING	8TSNLED LD5 UNV	LED	UNIVERSAL	120	MOUNT AT 12'-0" AFF
	F7	12	2x4 RECESSED LED TROFFER	COOPER LIGHTING	24CGT 4540C	LED	GRID MOUNT	120	
	F9	17	4' - LED HIGHBAY	COOPER LIGHTING	LHB 18 UNV	LED	HUNG FROM STRUCT.	120	
	F10	6	EMERGENCY LIGHT W/ BATTERY BACKUP	COOPER LIGHTING	SEL 25	LED	WALL MOUNTED	120	PROVIDE EMERGENCY BATTERY PACK (90 MINUTE MIN.) AND TIME DELAY RELAY
	F11	2	EMERGENCY EGRESS LIGHT - EXTERIOR	COOPER LIGHTING	AEL 246	LED	SURFACE	120	PROVIDE EMERGENCY BATTERY PACK (90 MINUTE MIN.)

BRAKES PLUS
3301 CLASSEN BLVD.
NORMAN, OKLAHOMA

STATE OF OKLAHOMA
NORMAN L. HERMAN
No. 2737
Littleton, Colorado
P. L.
LICENSED ARCHITECT
2.16.25
ARCHITECT OF RECORD

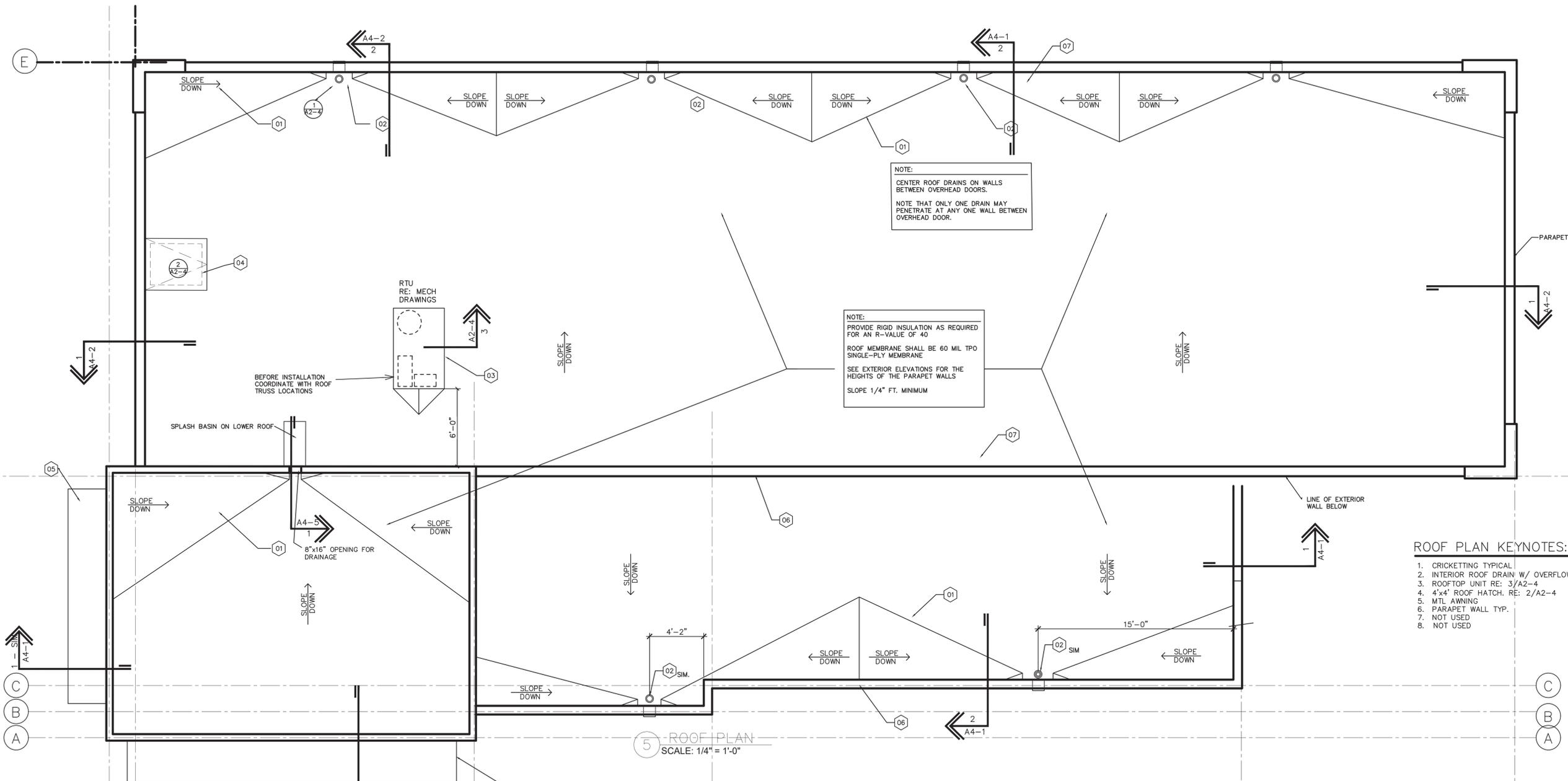
REVISION	DATE	COMMENTS
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ARCODEV JOB #: _____
CLIENTJOB #: _____
DRAWN BY: NLH
CHECKED BY: NLH
DATE OF ISSUE: 11.15.24

45 SPYGLASS DRIVE
LITTLETON, CO 80123
VOICE: 303.681-8925

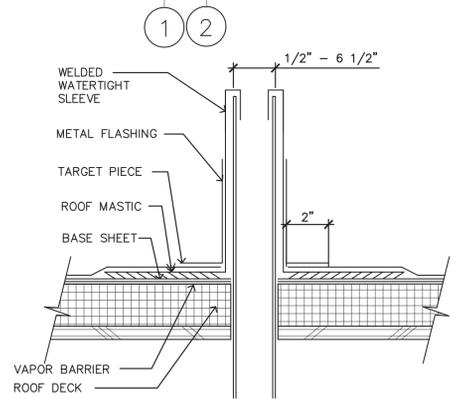
SHEET

A2-3
CEILING PLAN

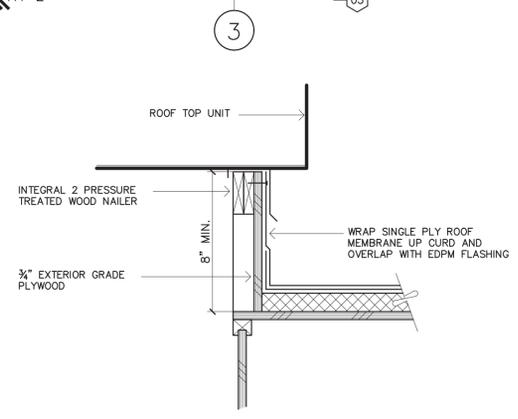


- ROOF PLAN KEYNOTES:**
1. CRICKETING TYPICAL
 2. INTERIOR ROOF DRAIN W/ OVERFLOW RE: 1/A2-4. TYPICAL
 3. ROOFTOP UNIT RE: 3/A2-4
 4. 4'x4' ROOF HATCH. RE: 2/A2-4
 5. MTL AWNING
 6. PARAPET WALL TYP.
 7. NOT USED
 8. NOT USED

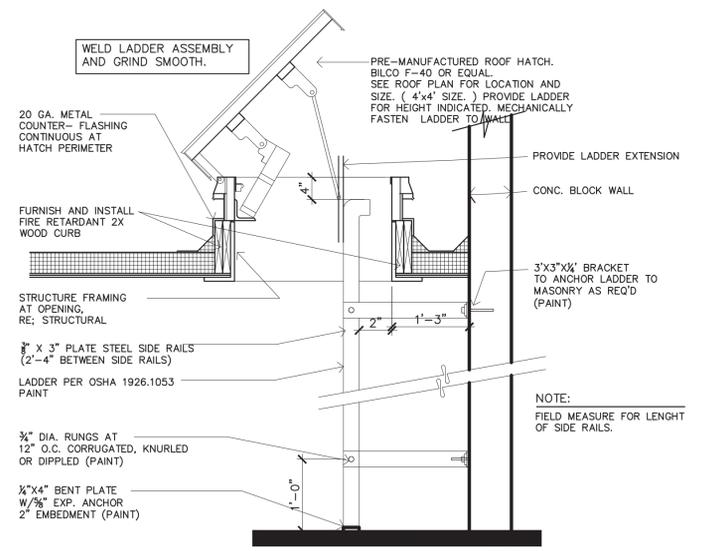
5 ROOF PLAN
SCALE: 1/4" = 1'-0"



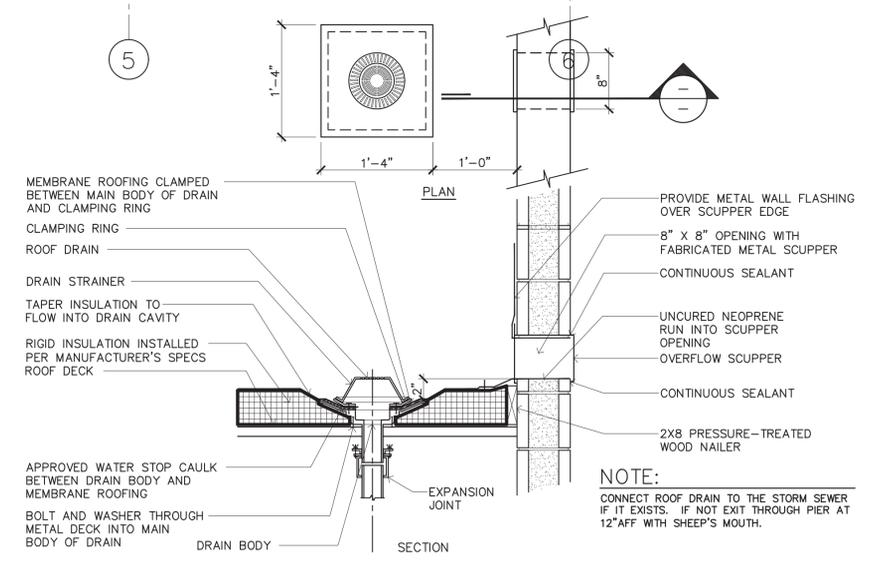
4 PIPE PENETRATION DETAIL
SCALE: 3" = 1'-0"



3 RTU CURB DETAIL
SCALE: 1 1/2" = 1'-0"



2 ROOF HATCH DETAIL
SCALE: 3/4" = 1'-0"



1 DOWNSPOUT / OVERFLOW DETAIL
SCALE: 1" = 1'-0"

BRAKES PLUS
3301 CLASSEN BLVD.
NORMAN, OKLAHOMA



ARCHITECT OF RECORD

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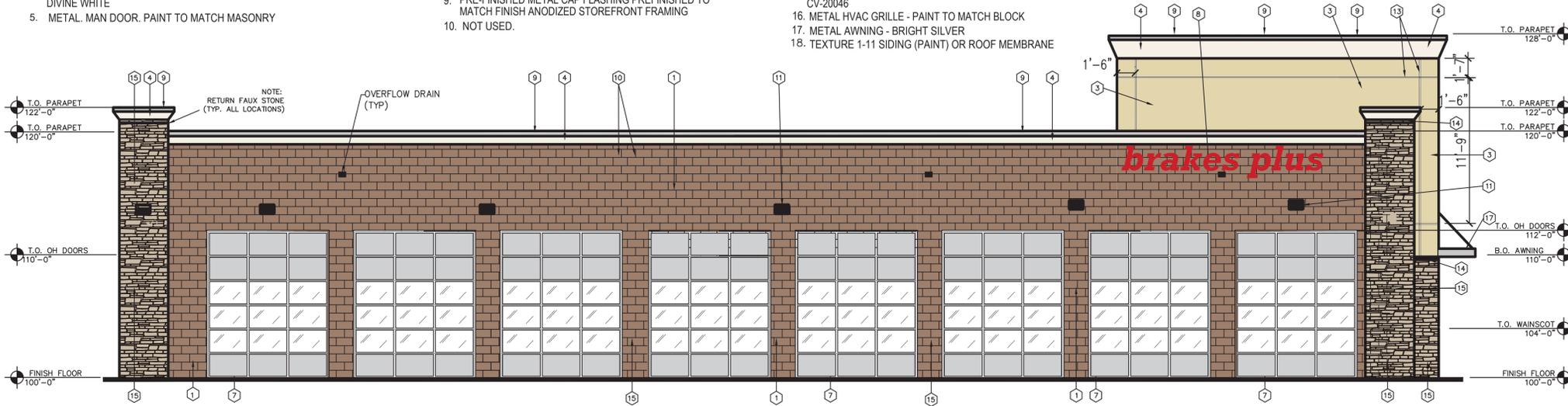
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CHECKED BY: NLH
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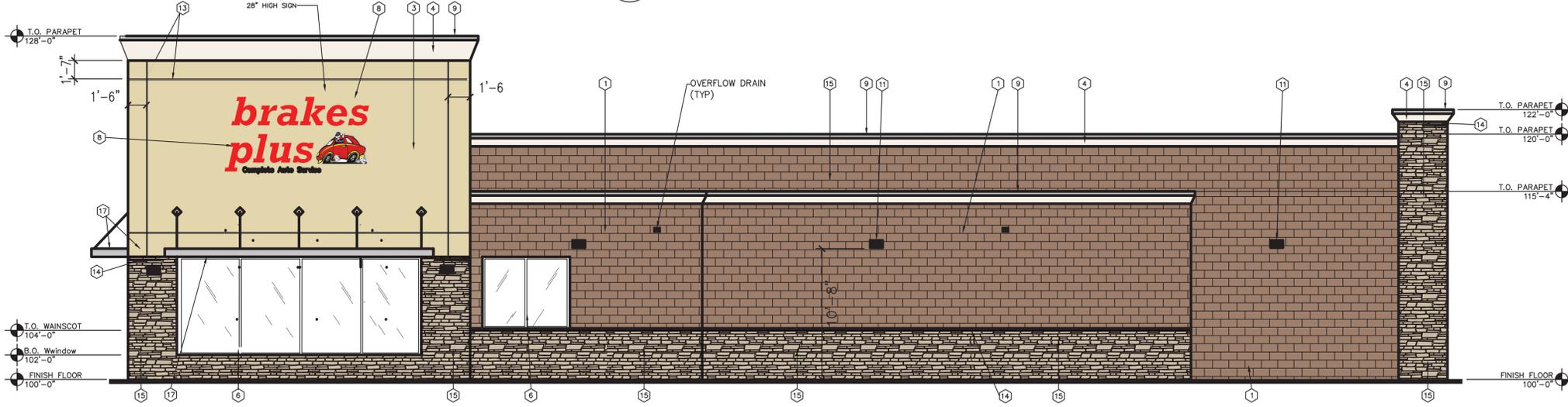
A2-4
ROOF PLAN

KEYNOTES

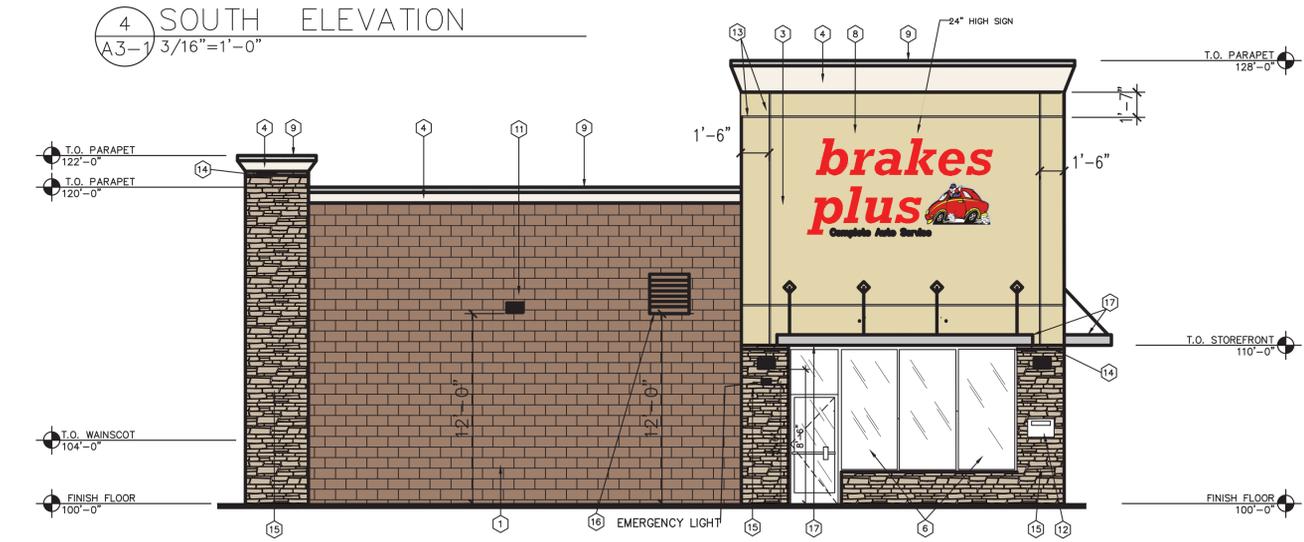
- 1. SMOOTH FACE CONCRETE BLOCK BY BEST BLOCK
COLOR: 739 MEDIUM BROWN
- 2. NOT USED.
- 3. EIFS - INTEGRAL COLOR TO MATCH SHERWIN WILLIAMS #2834
BIRDEYE MAPLE
- 4. EIFS - INTEGRAL COLOR TO MATCH SHERWIN WILLIAMS #6105
DIVINE WHITE
- 5. METAL. MAN DOOR. PAINT TO MATCH MASONRY
- 6. ALUMINUM/GLASS STOREFRONT
CLEAR ANODIZED ALUMINUM
- 7. ALUMINUM SECTIONAL OVERHEAD DOORS
CLEAR ANODIZED ALUMINUM
- 8. ILLUMINATED SIGNAGE (UNDER SEPARATE PERMIT)
- 9. PRE-FINISHED METAL CAP FLASHING PREFINISHED TO
MATCH FINISH ANODIZED STOREFRONT FRAMING
- 10. NOT USED.
- 11. DECORATIVE LIGHT FIXTURE.
- 12. KEY DROP BOX
- 13. 1 1/2" X 3/4" REVEAL
- 14. WATER SILL - FAUX STONE - CULTURED STONE - WHITE OAK COUNTRY
LEDGESTONE CV-20046
- 15. FAUX STONE - CULTURED STONE - WHITE OAK COUNTRY LEDGESTONE
CV-20046
- 16. METAL HVAC GRILLE - PAINT TO MATCH BLOCK
- 17. METAL AWNING - BRIGHT SILVER
- 18. TEXTURE 1-11 SIDING (PAINT) OR ROOF MEMBRANE



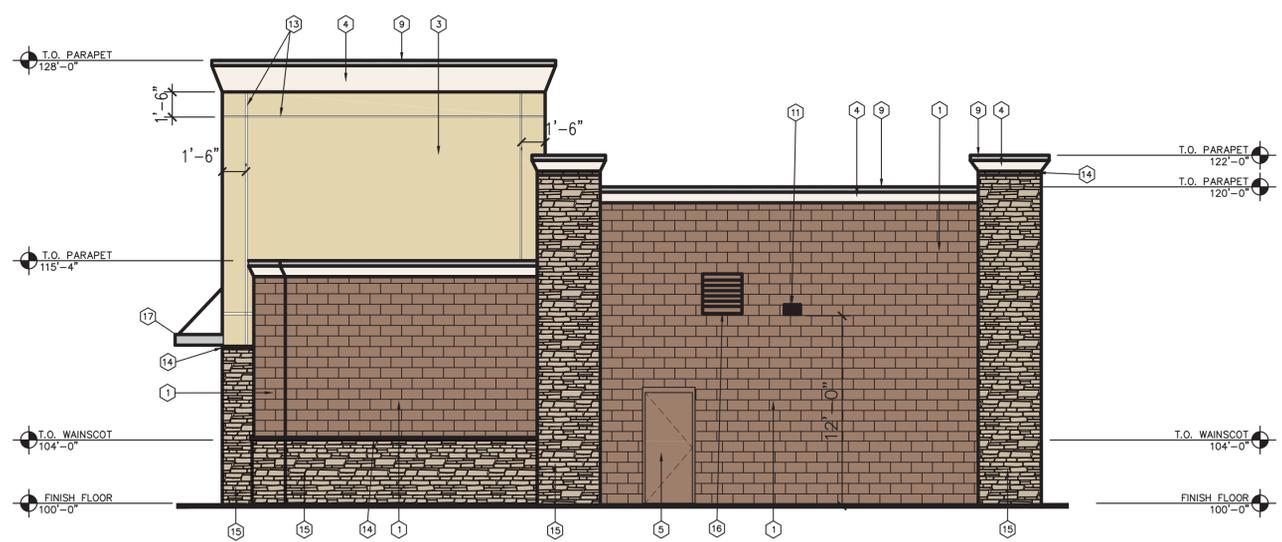
1 NORTH ELEVATION
A3-1 3/16"=1'-0"



4 SOUTH ELEVATION
A3-1 3/16"=1'-0"



2 WEST ELEVATION
A3-1 3/16"=1'-0"



3 EAST ELEVATION
A3-1 3/16"=1'-0"

BRAKES PLUS
 3301 CLASSEN BLVD.
 NORMAN, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	02.15.25	FOR BIDDING

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 CLIENTJOB #: _____
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 CHECKED BY: NLH
 DATE OF ISSUE: 11.15.24

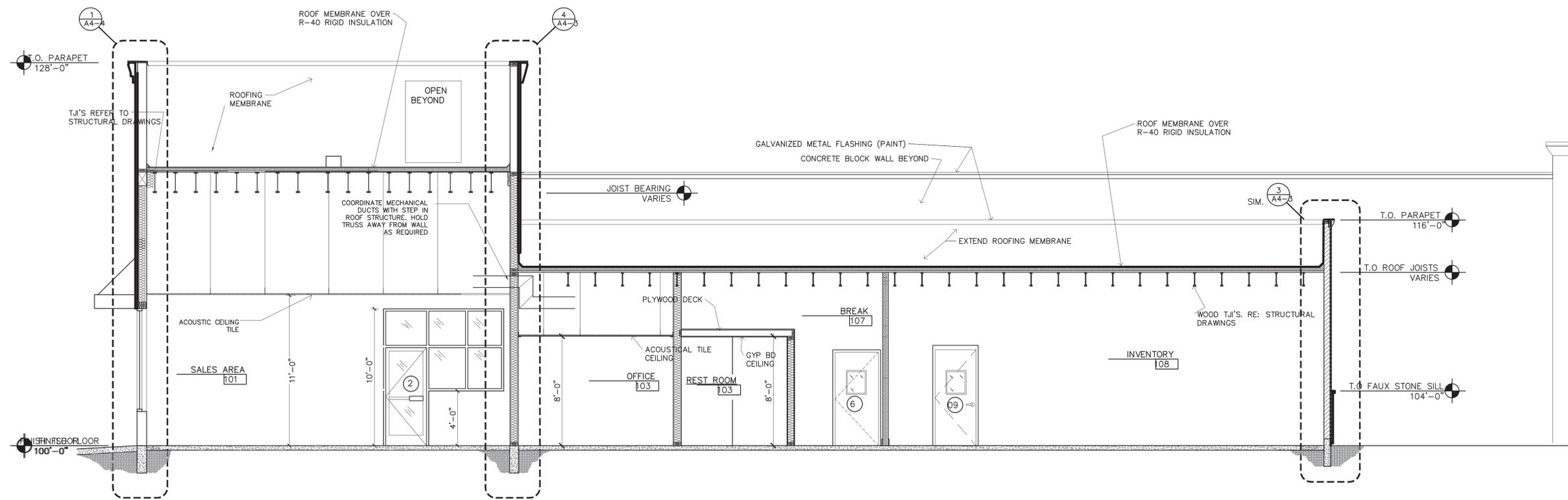


45 SPYGLASS DRIVE
LITTLETON, CO 80123
VOICE: 303.981-8925

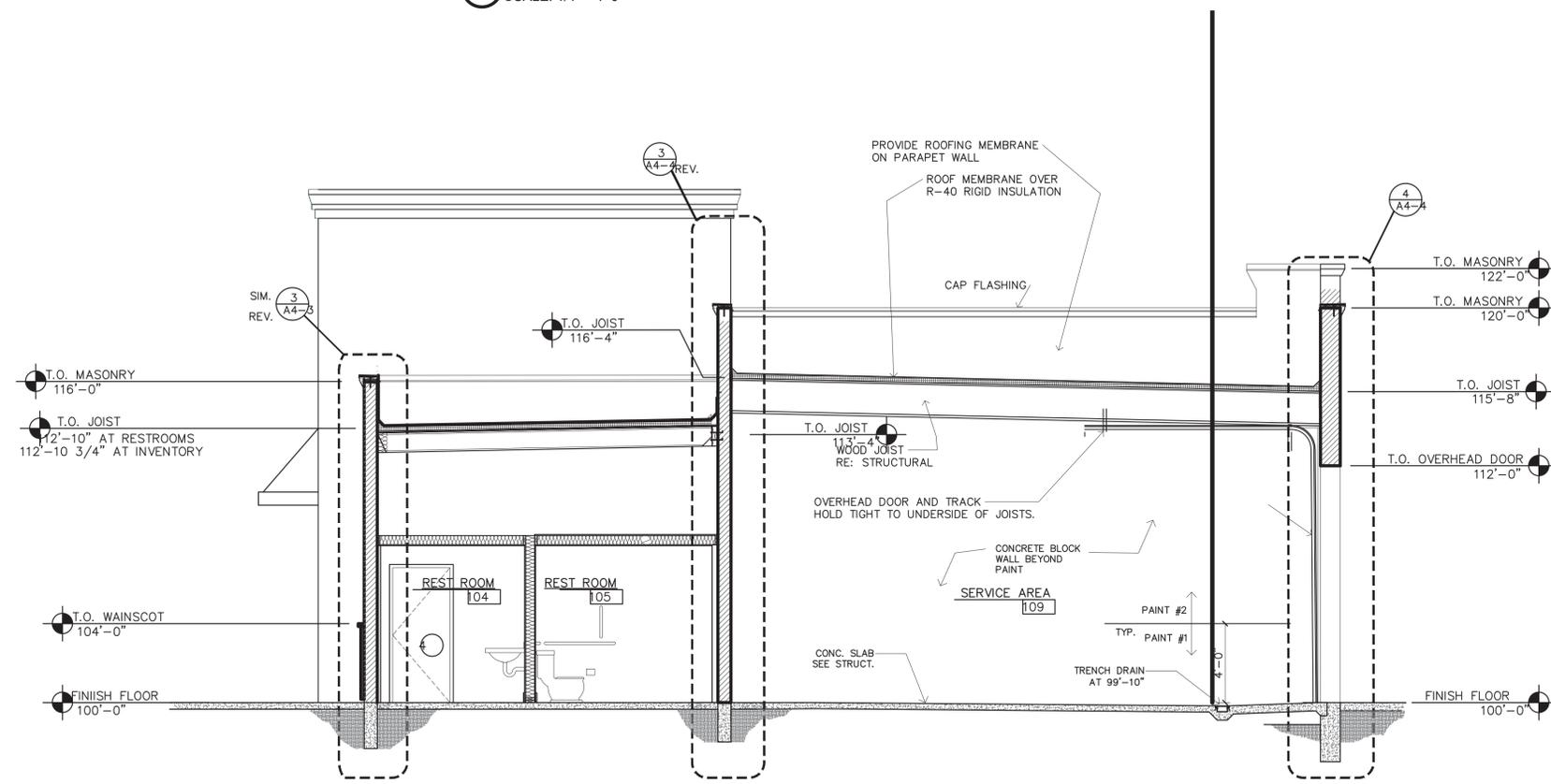
SHEET

A3-1

EXTERIOR ELEVATIONS

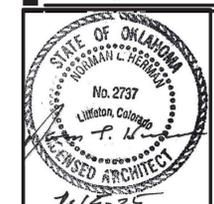


1 BUILDING SECTION
SCALE: 1/4" = 1'-0"



2 BUILDING SECTION
SCALE: 1/4" = 1'-0"

BRAKES PLUS
3301 CLASSEN BLVD.
NORMAN, OKLAHOMA



ARCHITECT OF RECORD

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	02.15.25	FOR BIDDING

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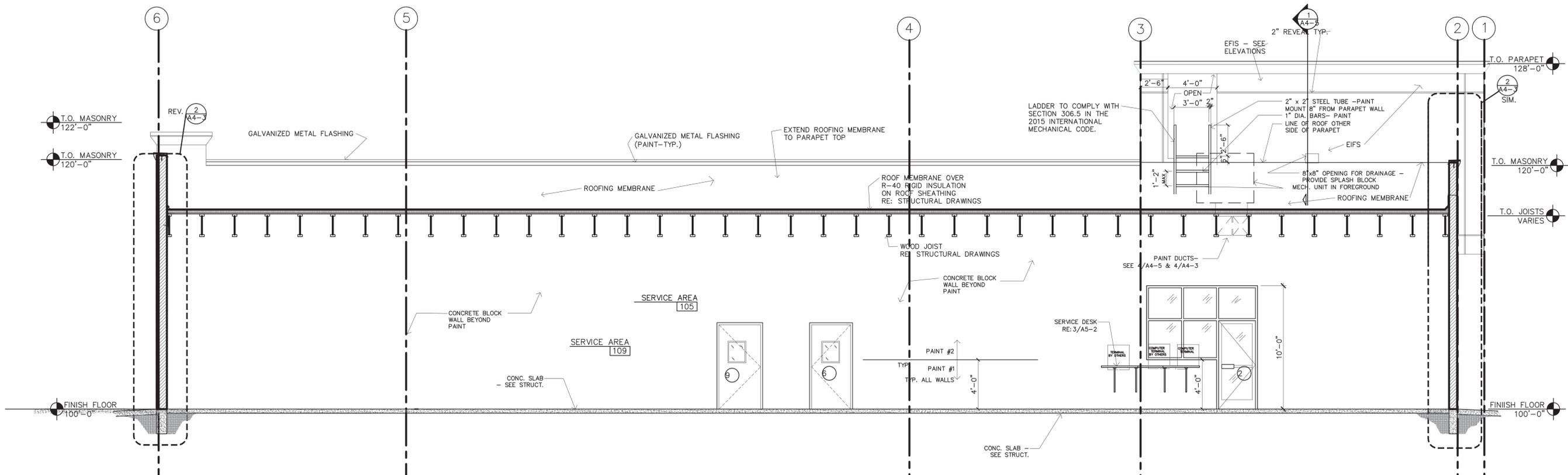


45 SPYGLASS DRIVE
LITTLETON, CO 80123
VOICE: 303.661-8925

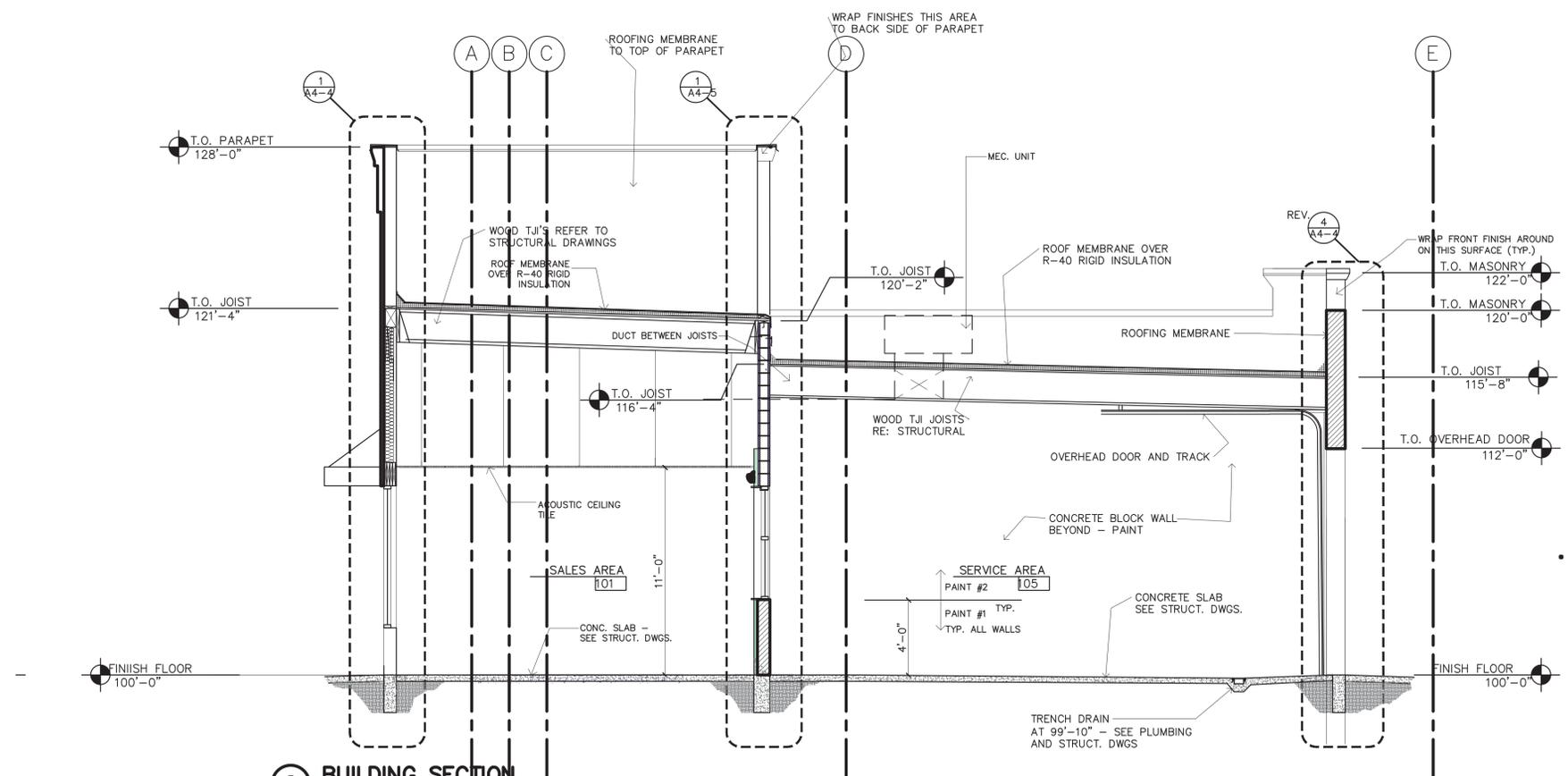
SHEET

A4-1

BUILDING SECTIONS



1 BUILDING SECTION
SCALE: 1/4" = 1'-0"



2 BUILDING SECTION
SCALE: 1/4" = 1'-0"

BRAKES PLUS
3301 CLASSEN BLVD.
NORMAN, OKLAHOMA



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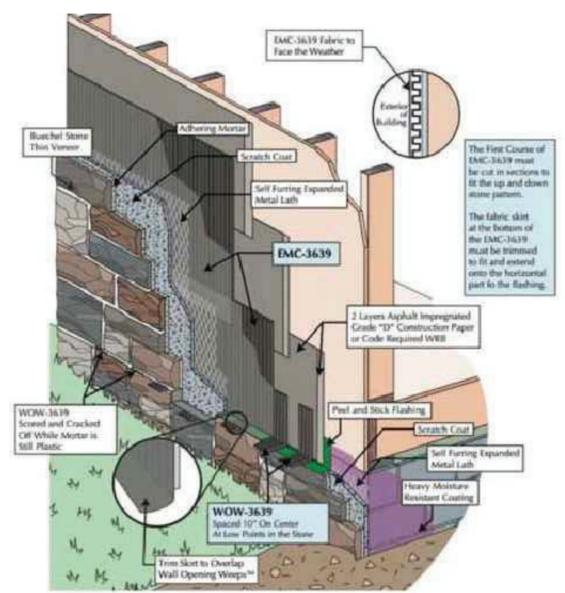
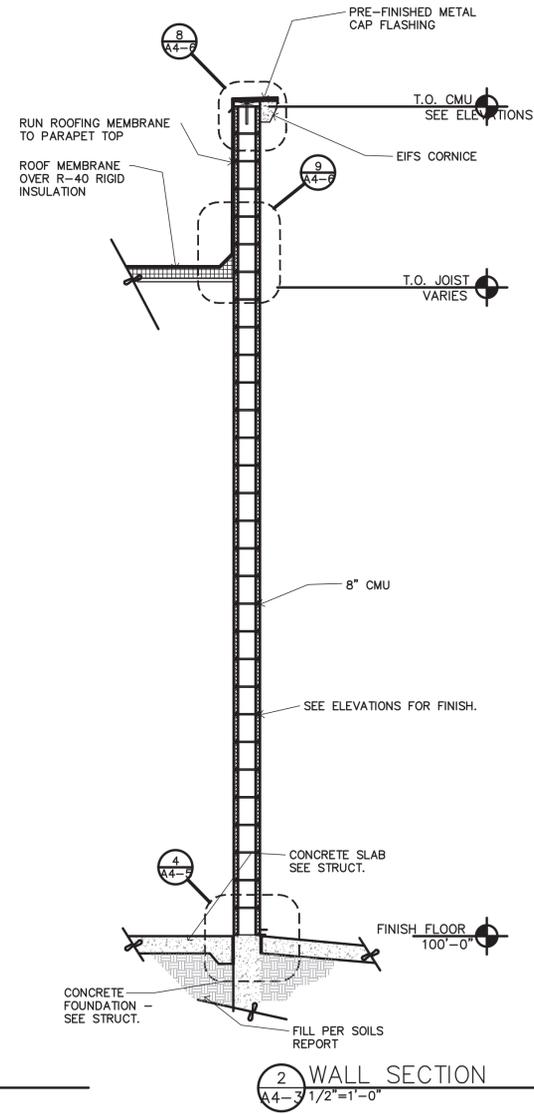
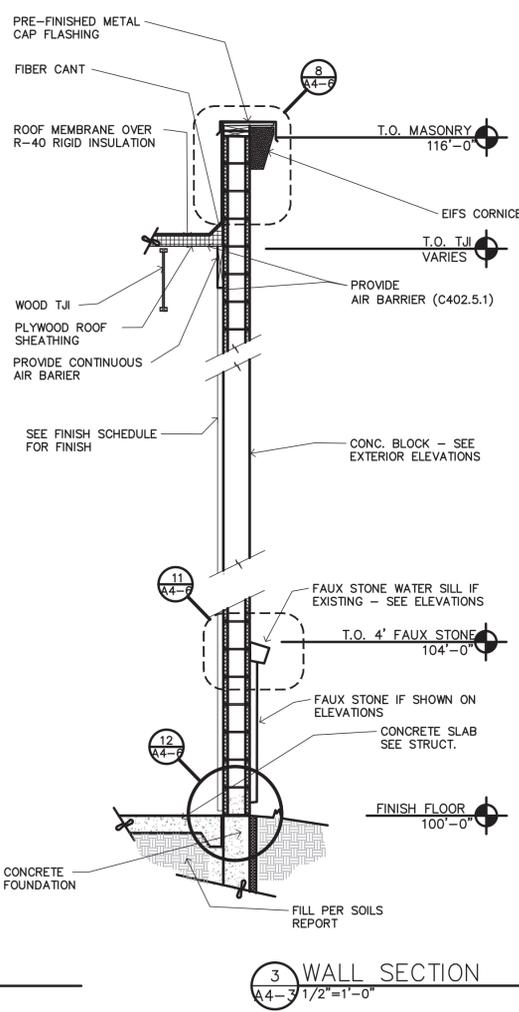
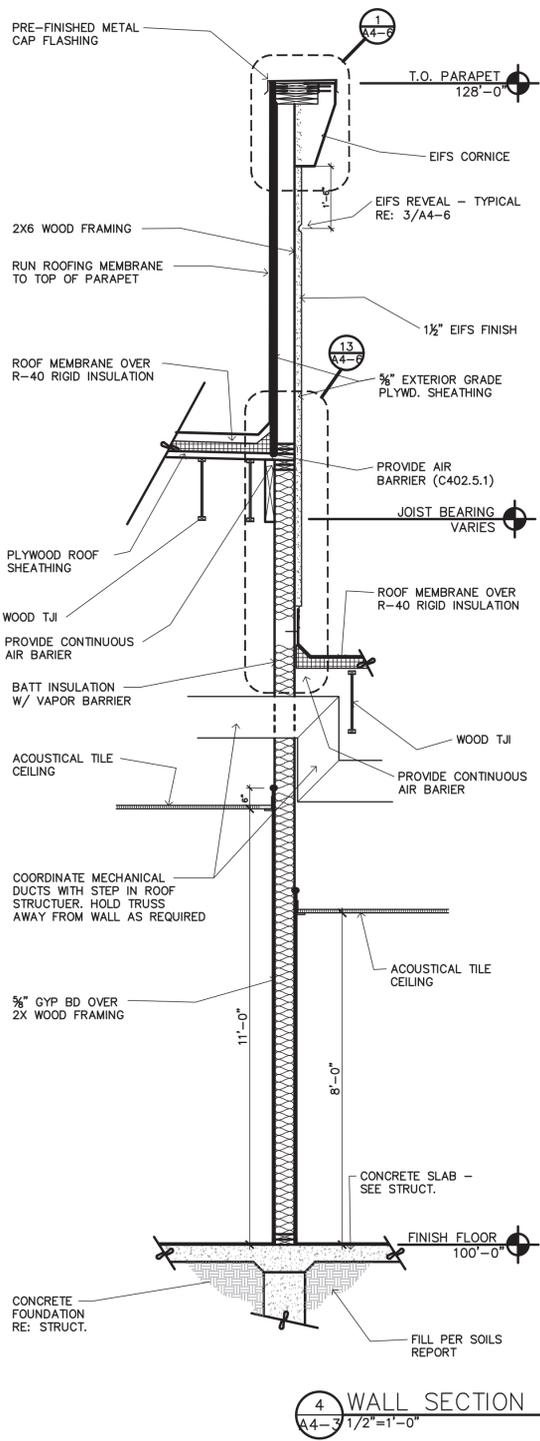


45 SPYGLASS DRIVE
LITTLETON, CO 80123
VOICE: 303.981-8925

SHEET

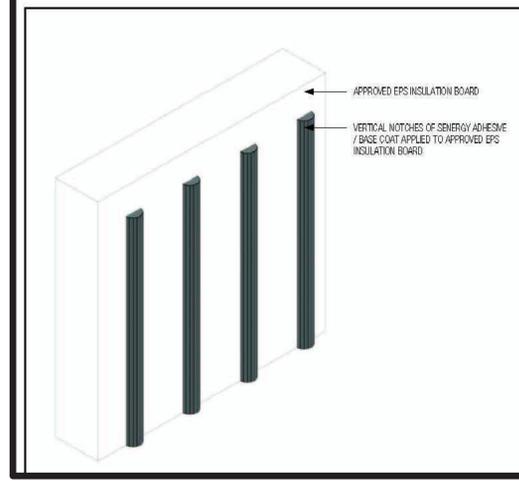
A4-2

BUILDING SECTIONS



Channeled Adhesive CI Design

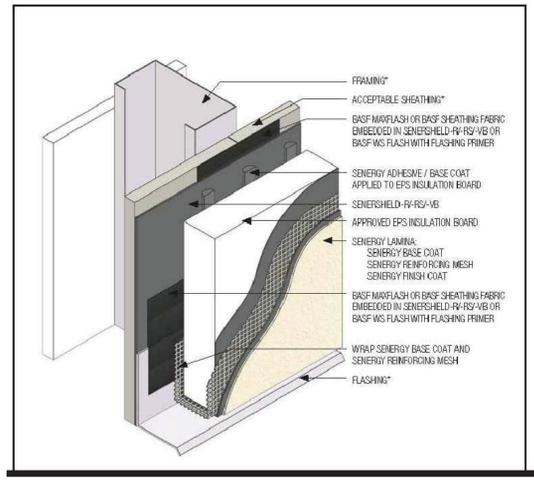
TYPICAL CHANNELED ADHESIVE



- Install BASF materials in accordance with current installation instructions.
- Unsatisfactory conditions shall be reported to the General Contractor and corrected before the application of BASF products.
- Verify all materials are installed in accordance with current installation instructions.
- Apply mixed base coat to entire surface of insulation board using a stainless steel trowel with 1/2" x 1/2" (13 mm x 13 mm) notches spaced 2" (50 mm) apart. Ribbons of adhesive must be applied parallel to the 2" (610 mm) dimension of the EPS insulation board to ensure they are vertical when the EPS insulation board is applied to the substrate.
- Set EPS insulation board into place and apply pressure over entire surface of board to ensure positive uniform contact and high initial grab. Do not slide board into place.

Channeled Adhesive CI Design

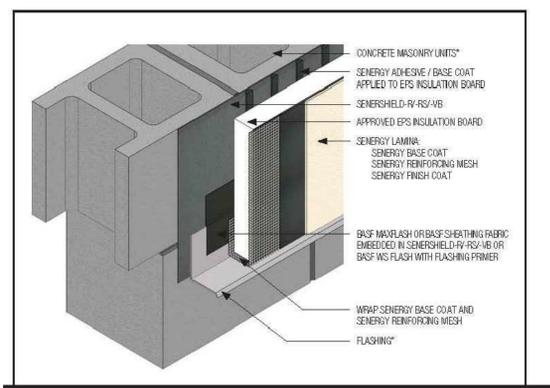
TYPICAL APPLICATION



- Install BASF materials in accordance with current installation instructions.
- Unsatisfactory conditions shall be reported to the General Contractor and corrected before the application of BASF products.
- Verify all materials are installed in accordance with current installation instructions.
- All terminations must be fully encapsulated with mesh reinforced base coat.
- Ensure a means for drainage is provided at system termination.

Channeled Adhesive CI Design

TYPICAL APPLICATION OVER CMU

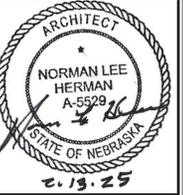


- Install BASF materials in accordance with current installation instructions.
- Unsatisfactory conditions shall be reported to the General Contractor and corrected before the application of BASF products.
- Verify all materials are installed in accordance with current installation instructions.
- All terminations must be fully encapsulated with mesh reinforced base coat.
- Ensure a means for drainage is provided at system termination.

EIFS WATER DRAINAGE DETAILS.

A4-3 NO SCALE

BRAKES PLUS
2725 CROSSBRIDGE PLACE
LINCOLN, NEBRASKA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
1	07/23/24	SUBMITTED TO BLDG. DEPT. ADDENDUM 1

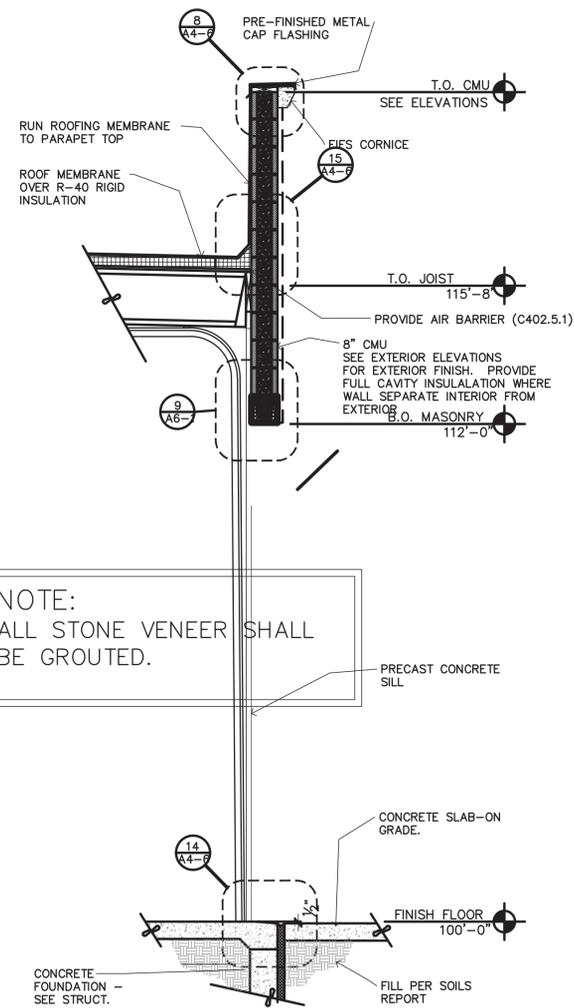
ARCDEV JOB #:
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DRAWN BY: NLH
CHECKED BY: NLH
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45 SPIGLASS DRIVE
LITTLETON, CO 80123
VOICE: 303.981-8923

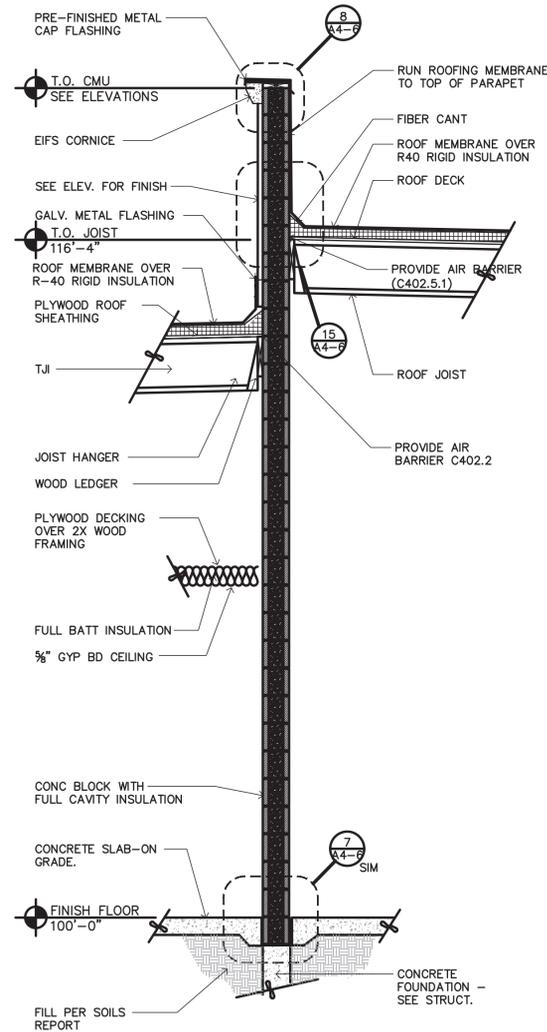
A SHEET

A4-3
WALL SECTIONS

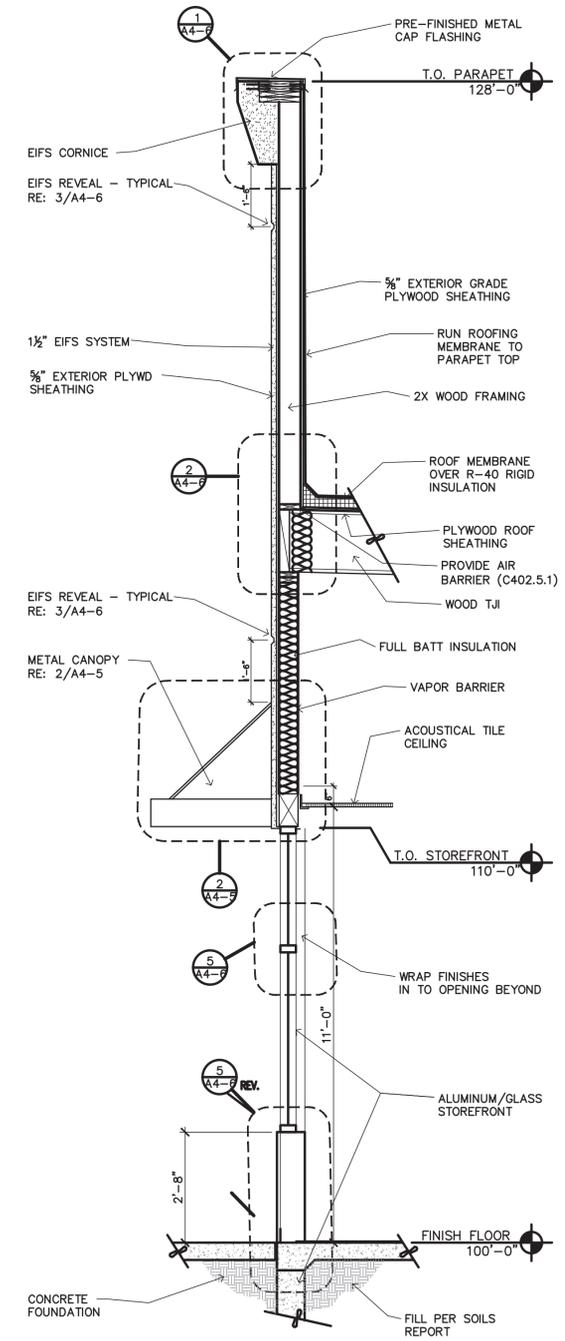


NOTE:
ALL STONE VENEER SHALL
BE GROUTED.

4 WALL SECTION
A4-4 1/2"=1'-0"



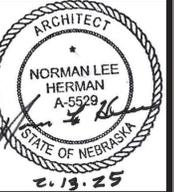
3 WALL SECTION
A4-4 1/2"=1'-0"



1 WALL SECTION
A4-4 1/2"=1'-0"

BRAKES PLUS

2725 CROSSBRIDGE PLACE
LINCOLN, NEBRASKA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	02.14.25	SUBMITTED TO BLDG. DEPT.

ARCODEV JOB #:
CLIENTJOB #:
DRAWN BY: NLH
CHECKED BY: NLH
DATE OF ISSUE: 012125



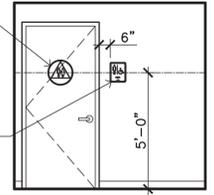
45 SPYGLASS DRIVE
LITTLETON, CO 80123
VOICE: 303.681-8925

A SHEET

A4-4

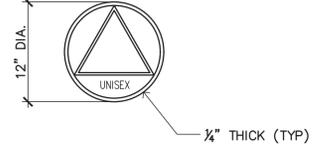
WALL SECTIONS

DOOR-MOUNTED SIGNAGE APPROPRIATE TO ROOM USE PER CBC 1115B.6.1, 1115B.6.2 AND 1115B.6.2

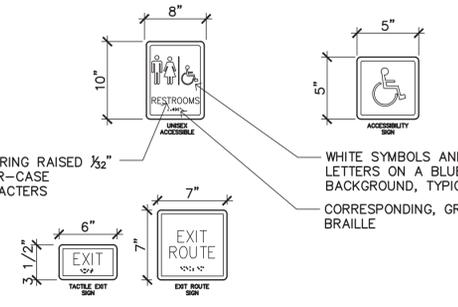


NOTES:
 1. ON DOORWAYS LEADING TO SANITARY FACILITIES, THE SYMBOLS TO BE PROVIDED ARE 12" EQUILATERAL TRIANGLE FOR MEN, OR 12" DIAMETER CIRCLE FOR WOMEN, 1/4" THICK CENTERED ON DOOR 60" ABOVE FLOOR, CONTRASTING COLOR WITH DOOR. PER CBC 1115B.6

WALL MOUNTED SIGNAGE TO BE LOCATED ON LATCH SIDE OF DOOR SWING. MOUNT AT 60" TO CENTERLINE OF SIGN FROM FLOOR



- NOTES:**
- H.C. SIGNS PER ADA
 - ALL LETTERS AND SYMBOLS SHALL BE RAISED 1/32"
 - 12" DIAMETER CIRCLE, 1/4" THICK WITH THE COLOR AND CONTRAST BEING DISTINCTLY DIFFERENT FROM THE COLOR OF THE DOOR
 - INTERNATIONAL SIGN OF ACCESSIBILITY. WHITE FIGURE ON BLUE (#15090 FEDERAL STANDARD 595A) BACKGROUND
 - SIGN SHALL BE DISPLAYED AT 60" A.F.F., CENTERED ON THE DOOR, COLOR AND CONTRAST SHALL BE DISTINCTLY DIFFERENT FROM COLOR AND CONTRAST OF THE DOOR TYP. FOR MEN'S AND WOMEN'S SIGNS
 - EDGES OF SIGNS SHALL BE ROUNDED, CHAMFERED OR EASED AND CORNERS OF SIGNS SHALL HAVE A MINIMUM RADIUS OF 1/8"
 - 12" EQUILATERAL TRIANGLE, 1/4" THICK WITH THE VERTEX POINTING UPWARD AND THE COLOR AND CONTRAST BEING DISTINCTLY DIFFERENT FROM THE COLOR OF THE DOOR
 - LETTERS AND NUMERALS ON SIGNS ARE RAISED 1/32", SANS SERIF UPPERCASE CHARACTERS TO BE ACCOMPANIED BY GRADE 2 BRAILLE.
 - BRAILLE DOTS ARE 1/10" ON CENTER IN EACH CELL WITH 2/10" SPACE BETWEEN CELLS
 - BRAILLE DOTS ARE RAISED A MINIMUM OF 1/40" ABOVE THE BACKGROUND
 - MOUNTING HEIGHT IS 60" FROM FINISH FLOOR TO THE CENTERLINE OF THE SIGN

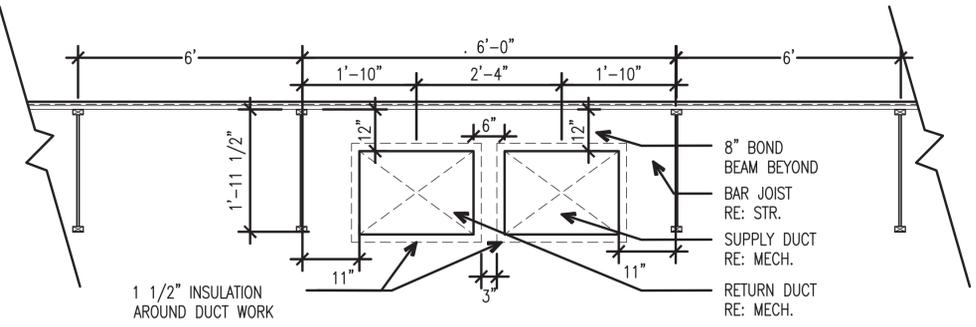


NOTE: PROVIDE SIGNAGE AT RESTROOMS AND EXITS

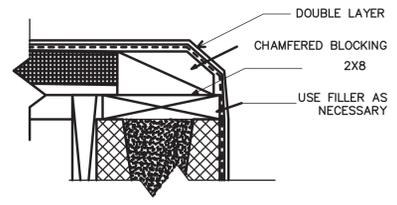
- NOTES:**
- CHARACTERS, SYMBOLS AND THEIR BACKGROUND SHALL HAVE A NONGLARE FINISH
 - CHARACTERS AND SYMBOLS SHALL CONTRAST WITH THEIR BACKGROUND, EITHER LIGHT ON A DARK BACKGROUND OR DARK ON A LIGHT BACKGROUND
 - VISUAL CHARACTERS ON SIGNS SHALL BE SELECTED FROM FONTS WHERE THE WIDTH OF THE UPPERCASE LETTER "O" IS 60% MINIMUM AND 110% MAXIMUM OF THE HEIGHT OF THE UPPERCASE LETTER "I". STROKE THICKNESS OF THE UPPERCASE LETTER "I" SHALL BE 10% MINIMUM AND 20% MAXIMUM OF THE HEIGHT OF THE CHARACTER
 - CHARACTERS ON SIGNS REQUIRED TO BE ACCESSIBLE SHALL BE SIZED ACCORDING TO THE "VISUAL CHARACTER HEIGHT" TABLE. THE MINIMUM HEIGHT IS MEASURED USING AN UPPERCASE LETTER "I".
 - RAISED CHARACTERS ON SIGNS SHALL BE RAISED 1/32" MINIMUM AND SHALL BE SANS SERIF UPPERCASE CHARACTERS ACCOMPANIED BY CONTRACTED (GRADE 2) BRAILLE.
 - RAISED CHARACTERS SHALL BE A MINIMUM OF 3/8" AND A MAXIMUM OF 2" HIGH.
 - PICTORIAL SYMBOL SIGNS (PICTOGRAMS) SHALL BE ACCOMPANIED BY THE VERBAL DESCRIPTION PLACED DIRECTLY BELOW THE PICTOGRAM. THE OUTSIDE DIMENSION OF THE PICTOGRAM FIELD SHALL BE A MINIMUM OF 6" IN HEIGHT.
 - BRAILLE SHALL BE PLACED A MINIMUM OF 3/8" AND A MAXIMUM OF 1/2" DIRECTLY BELOW THE TACTILE CHARACTERS, FLUSH LEFT OR CENTERED.

- RAISED CHARACTERS ON SIGNS SHALL BE SELECTED FROM FONTS WHERE THE WIDTH OF THE UPPERCASE LETTER "O" IS 60% MINIMUM AND 110% MAXIMUM OF THE HEIGHT OF THE UPPERCASE LETTER "I". STROKE THICKNESS OF THE UPPERCASE LETTER "I" SHALL BE 10% MINIMUM AND 20% MAXIMUM OF THE HEIGHT OF THE CHARACTER.
- CONTRACTED (GRADE 2) BRAILLE SHALL BE USED.
- MOUNTING HEIGHT SHALL BE 48" MINIMUM, MEASURED FROM THE BASELINE OF THE LOWEST LINE OF BRAILLE, AND 60" MAXIMUM, MEASURED FROM THE BASELINE OF THE HIGHEST RAISED CHARACTERS, ABOVE THE FINISH FLOOR OR GROUND SURFACE.

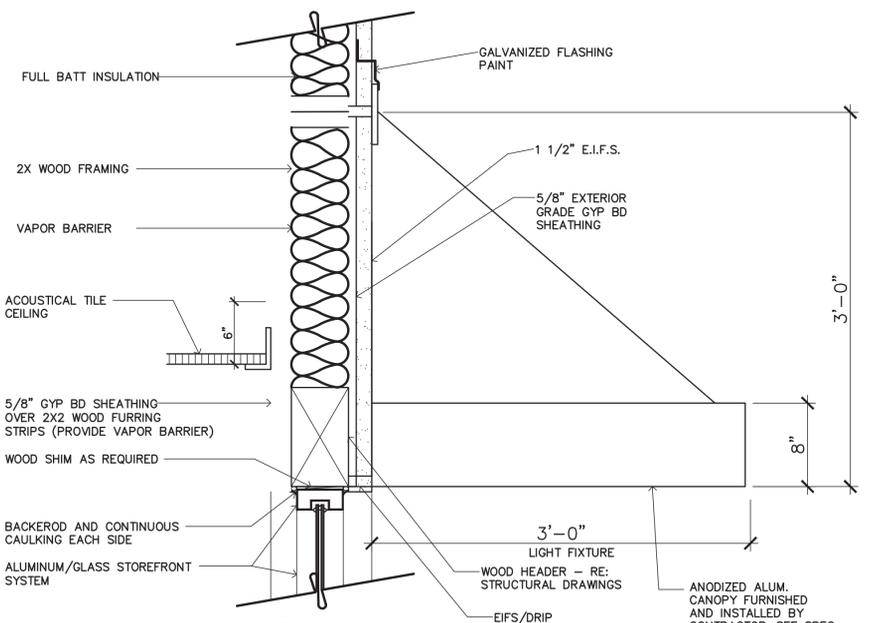
10 INTERIOR SIGNAGE INFORMATION
NO SCALE



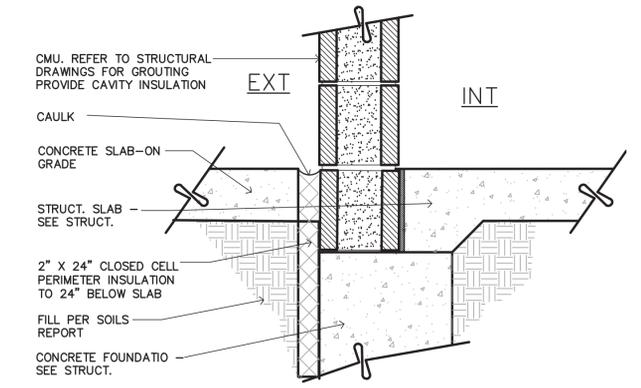
4 RTU DUCT-WORK DETAIL
SCALE: 3/4" = 1'-0"



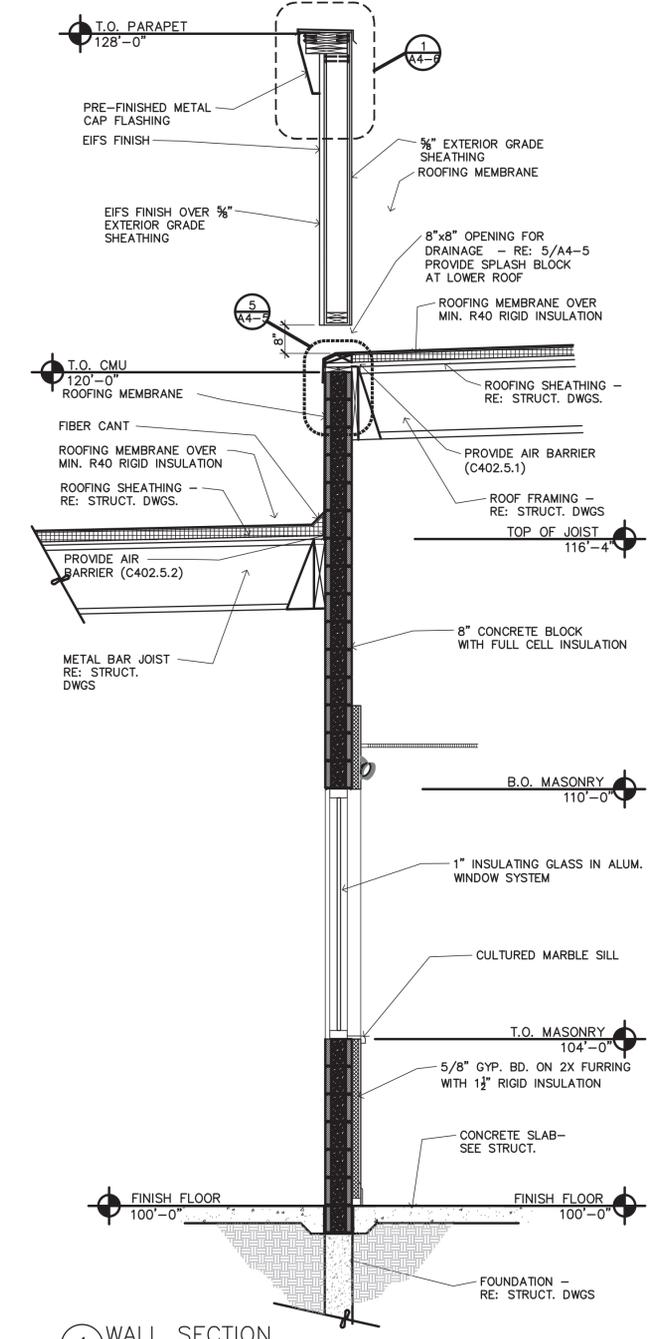
5 ROOF CORNER DETAIL
SCALE: 3" = 1'-0"



2 AWNING DETAIL
SCALE: 1 1/2" = 1'-0"



3 CMU FOUNDATION DETAIL
SCALE: 1/2" = 1'-0"



1 WALL SECTION
SCALE: 1/2" = 1'-0"

BRAKES PLUS
2725 CROSSBRIDGE PLACE
LINCOLN, NEBRASKA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	02.14.25	SUBMITTED TO BLDG. DEPT.

ARCODEV JOB #:
CLIENT JOB #:
DRAWN BY: NLH
CHECKED BY: NLH
DATE OF ISSUE: 01/21/25

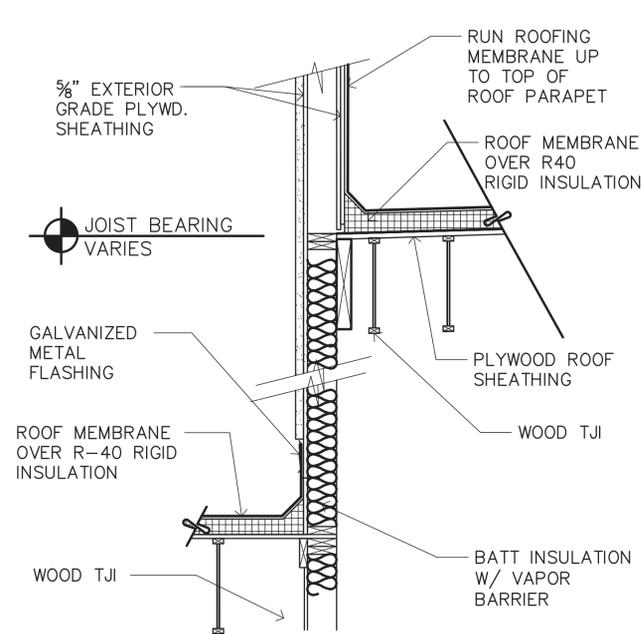


45 SPYGLASS DRIVE
LITTLETON, CO 80123
VOICE: 303.981-8925

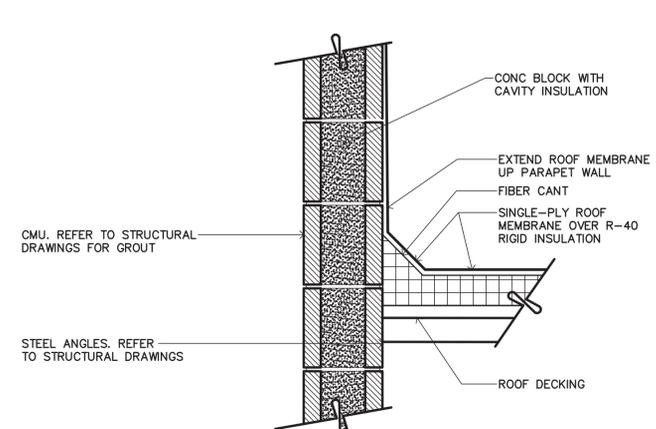
A SHEET

A4-5

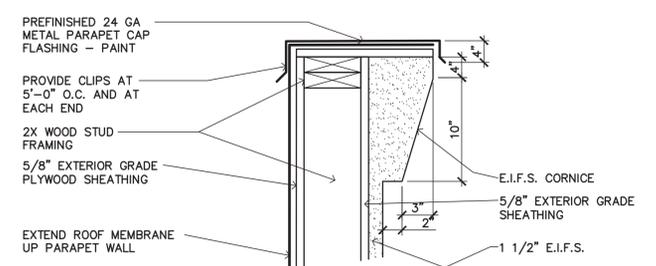
WALL SECTIONS & DET.



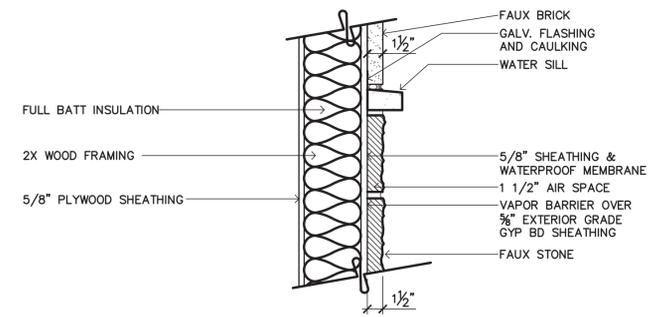
13 ROOF DETAIL
NO SCALE



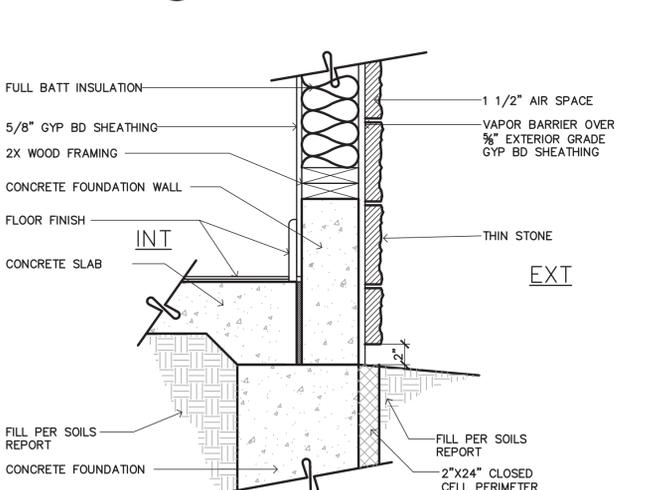
9 DECK AT CMU DETAIL
SCALE: 1 1/2"=1'-0"



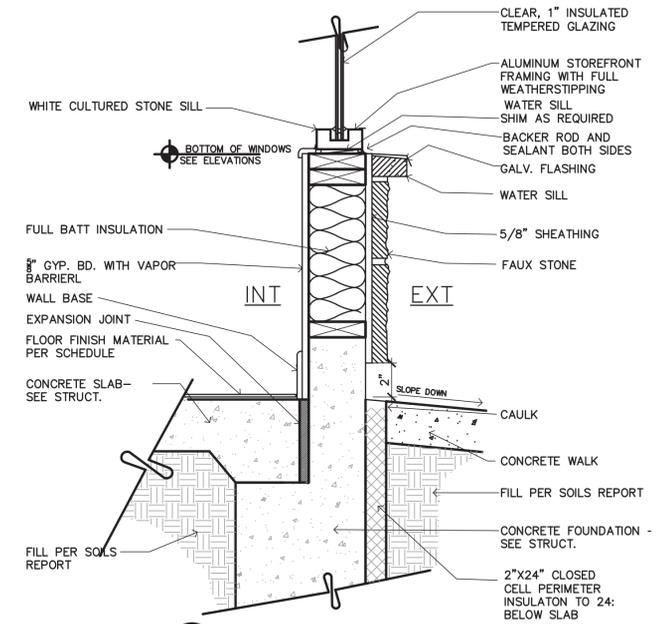
10 CORNICE AT STUD WALL DETAIL
SCALE: 1 1/2"=1'-0"



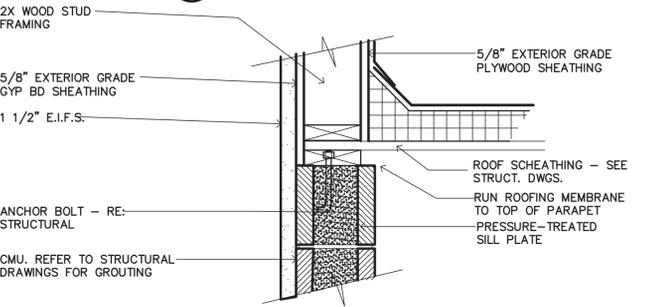
11 WAINSCOT DETAIL
SCALE: 1 1/2"=1'-0"



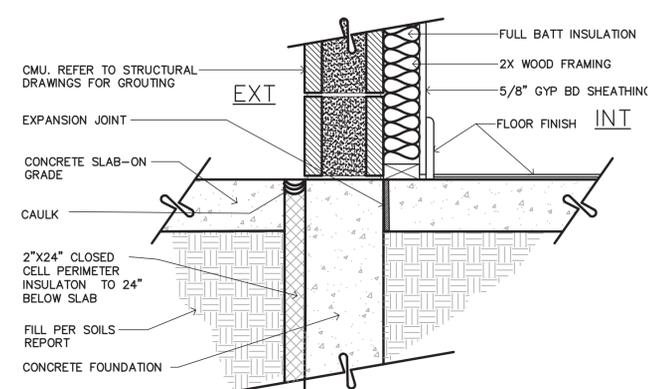
12 FOUNDATION DETAIL
SCALE: 1 1/2"=1'-0"



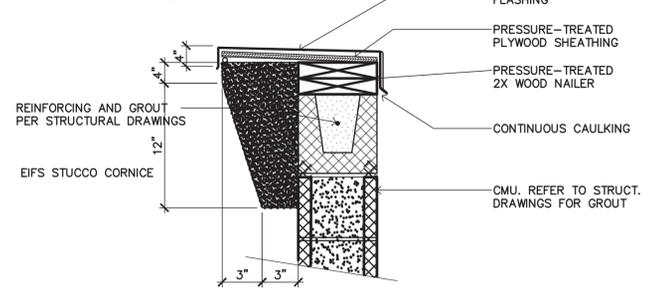
5 FOUNDATION DETAIL
SCALE: 1 1/2"=1'-0"



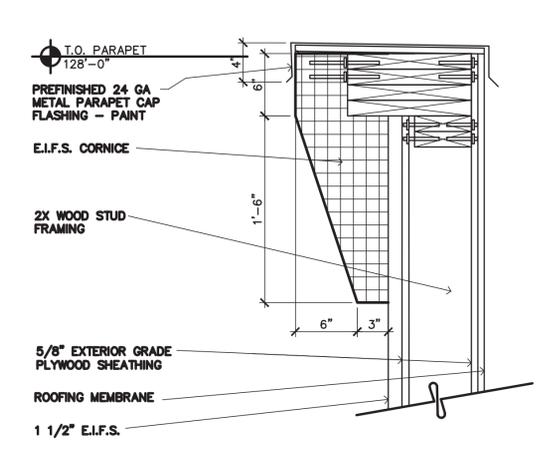
6 CMU AT STUD WALL DETAIL
SCALE: 1 1/2"=1'-0"



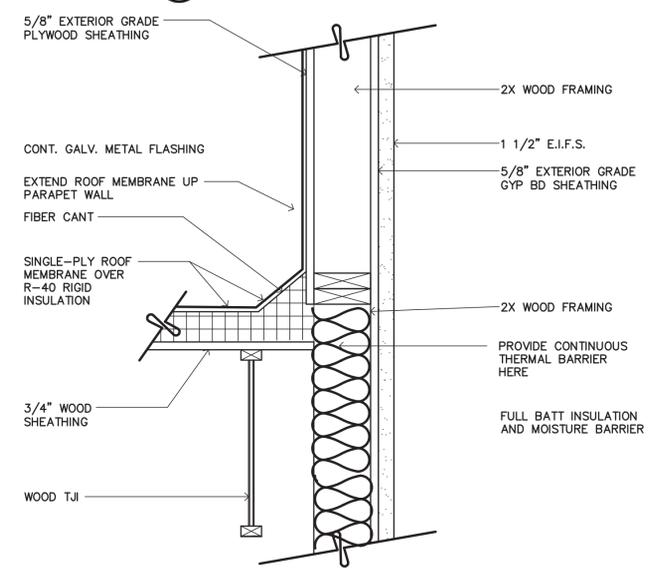
7 FOUNDATION DETAIL
SCALE: 1 1/2"=1'-0"



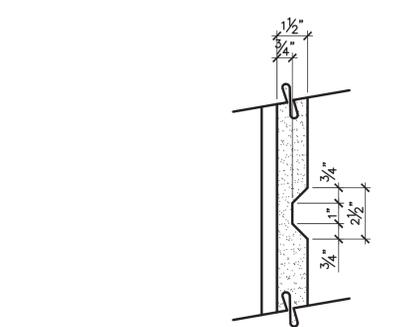
8 CORNICE AT CMU DETAIL
SCALE: 1 1/2"=1'-0"



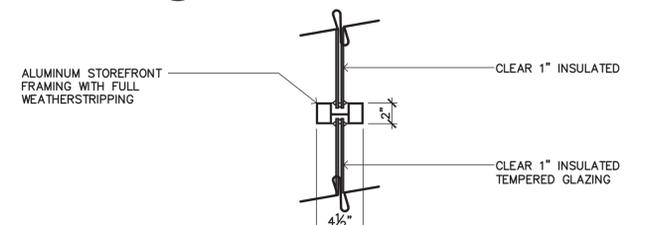
1 CORNICE AT STUD WALL DETAIL
SCALE: 1 1/2"=1'-0"



2 DECK AT STUD WALL DETAIL
SCALE: 1 1/2"=1'-0"



3 REVEAL DETAIL
SCALE: 3"=1'-0"



4 STOREFRONT WINDOW DETAIL
SCALE: 1 1/2"=1'-0"

BRAKES PLUS
3301 CLASSEN BLVD.
NORMAN, OKLAHOMA

STATE OF OKLAHOMA
NORMAN, OKLAHOMA
No. 2737
LITTLETON, COLORADO
P. H.
REGISTERED ARCHITECT
2/16/25

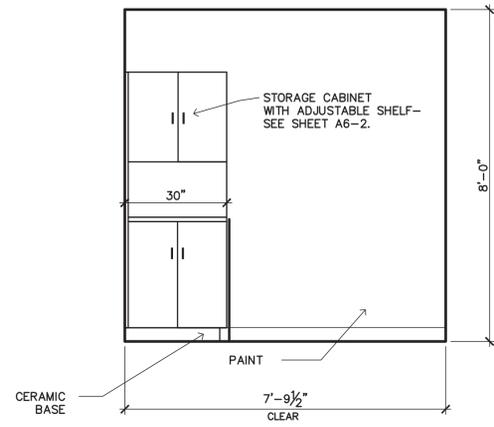
ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	02.15.25	FOR BIDDING

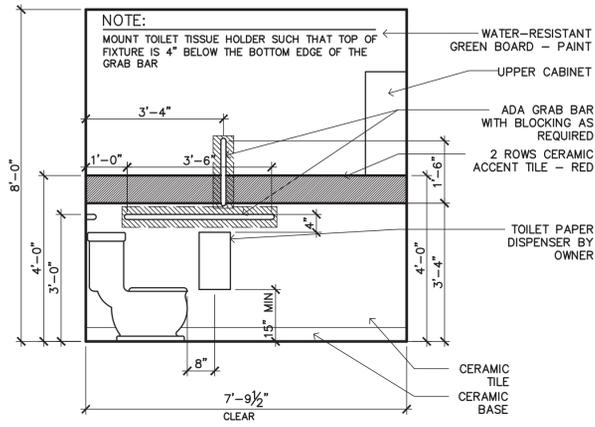
ARCOCODEV JOB #:
CLIENTJOB #:
DRAWN BY: NLH
CHECKED BY: NLH
DATE OF ISSUE: 11.15.24

45 SPYGLASS DRIVE
LITTLETON, CO 80123
VOICE: 303.881-8925

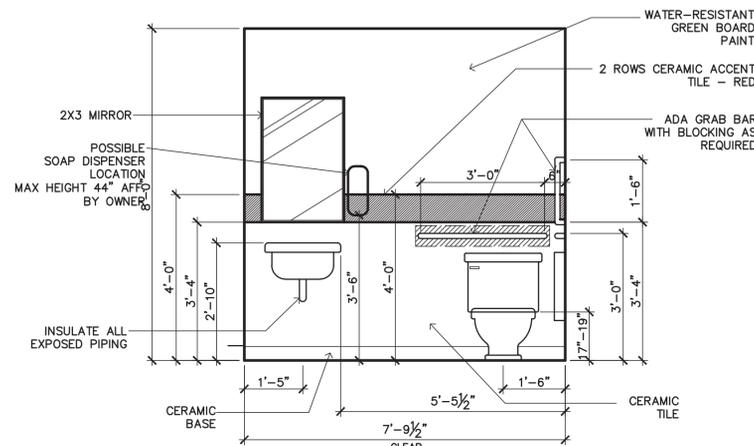
A4-6
DETAILS



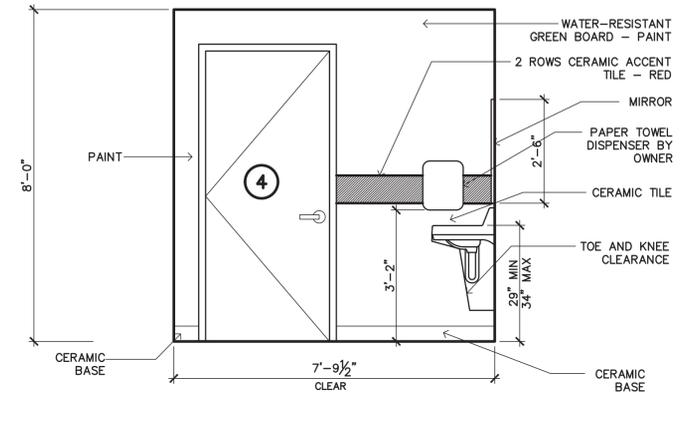
(d)



(a)

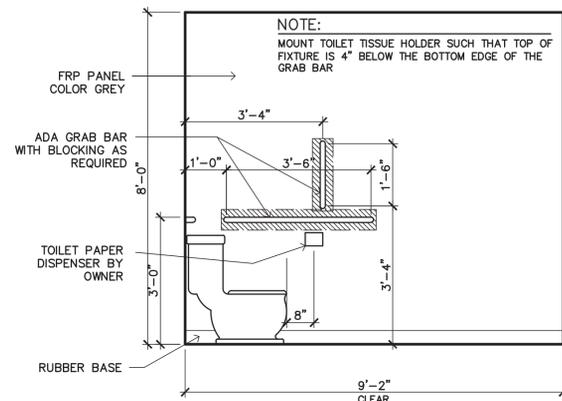


(b)

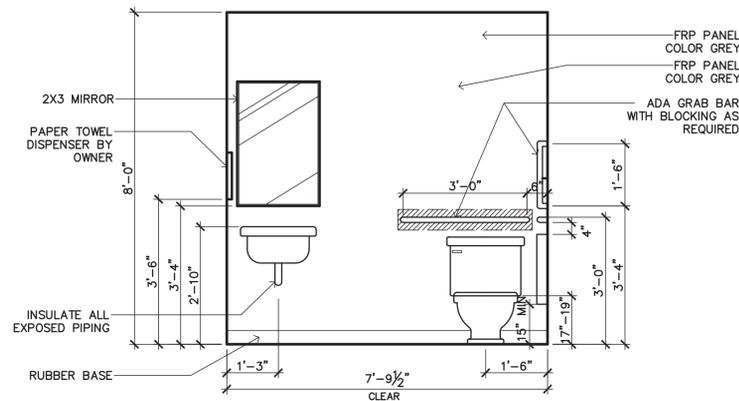


(c)

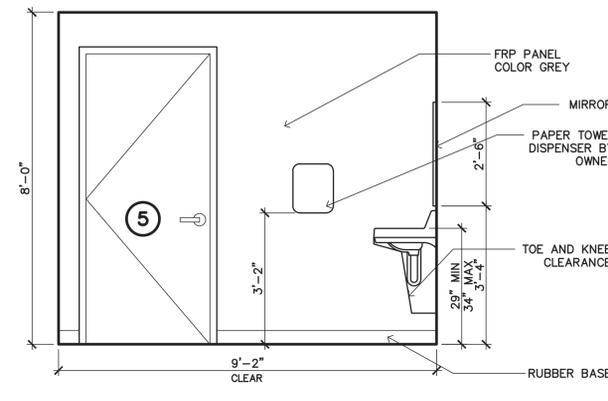
1 WOMEN'S RESTROOM ELEVATION
SCALE: 1/2" = 1'-0"



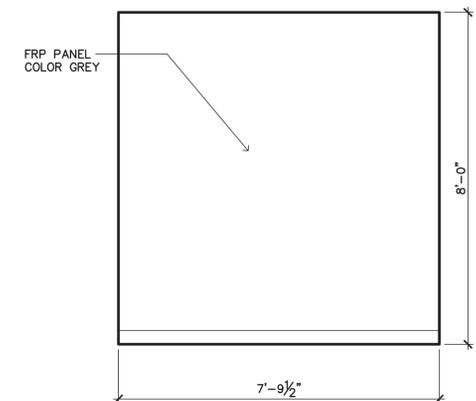
(b)



(c)

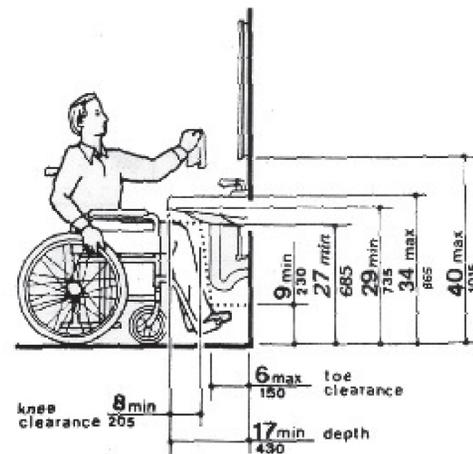


(d)

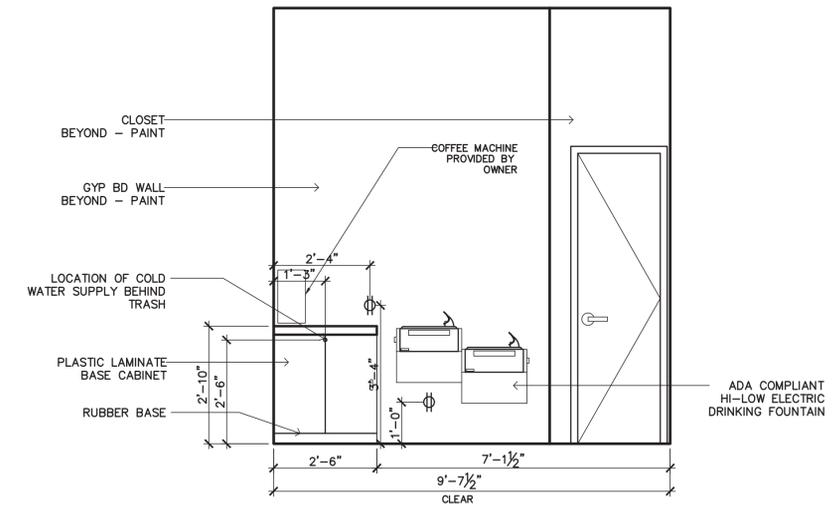


(a)

2 MEN'S RESTROOM ELEVATION
SCALE: 1/2" = 1'-0"



8 ADA FIXTURE PLACEMENT
NO SCALE



5 COFFEE ROOM ELEVATION
SCALE: 1/2" = 1'-0"

BRAKES PLUS
3301 CLASSEN BLVD.
NORMAN, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	02.15.25	FOR BIDDING

ARCODEV_JOB #: _____
CLIENTJOB #: _____
DRAWN BY: NLH
CHECKED BY: NLH
DATE OF ISSUE: 11.15.24



45 SPYGLASS DRIVE
LITTLETON, CO 80123
VOICE: 303.961-8925

A SHEET

A5-1

INTERIOR ELEVATIONS
AND DETAILS

DOOR SCHEDULE

DOOR NO.	DOOR SIZE	DOOR				FRAME		DETAILS			HWR GROUP	FIRE RATING	REMARKS
		TYPE	MATL.	FINISH IN	OUT	MATL.	FINISH	HEAD	JAMB	SILL			
1	3'-0" X 7'-0"	C	ALUM/GL	M1	M1	ALUM.	M1	8/A6-1	7/A6-1	8/A6-1	6	-	SIGN THIS DOOR SHALL REMAIN UNLOCKED DURING BUSINESS HOURS. NO PANIC BAR REQUIRED.
2	3'-0" X 7'-0"	C	ALUM/GL	M1	M1	ALUM.	M1	8/A6-1	7/A6-1	8/A6-1	6	-	THIS DOOR CLEAR MILL FINISH TO MATCH STOREFRONT FRAMING
3	3'-0" X 7'-0"	B	H.M.	P2	P2	H.M.	P2	3/A6-1	3/A6-1	-	2	-	
4	3'-0" X 7'-0"	B	H.M.	P2	P2	H.M.	P2	3/A6-1	3/A6-1	-	1	-	PROVIDE ACCESSIBLE RESTROOM SIGNAGE.
5	3'-0" X 7'-0"	F	H.M.	P2	P2	H.M.	P2	3/A6-1	3/A6-1	-	1	-	PROVIDE ACCESSIBLE RESTROOM SIGNAGE.
6	3'-0" X 7'-0"	E	H.M.	P2	P2	H.M.	P2	2/A6-1 SIM	4/A6-1 SIM	2/A6-1 SIM	4	-	PROVIDE 16"x30" VIEW PANEL.
7	2'-0" X 7'-0"	A	H.M.	-	-	-	-	-	-	-	-	-	
8	NOT USED	-	-	-	-	-	-	1,2/A6-1	4/A6-1	1,2/A6-1	3	-	INSULATED DOOR
9	3'-8" X 7'-0"	E	H.M.	P2	P2	H.M.	P2	1/A6-1	4/A6-1	-	1	-	PROVIDE 16"x30" VIEW PANEL.
10	3'-0" X 7'-0"	B	H.M.	-	-	-	-	1,2/A6-1	4/A6-1	1,2/A6-1	3	-	INSULATED DOOR
11	10'-0" X 12'-0"	D	ALUM/GL	-	-	-	-	9/A6-1	6/A6-1	9/A6-1	-	-	PADLOCK
12	10'-0" X 12'-0"	D	ALUM/GL	-	-	-	-	9/A6-1	6/A6-1	9/A6-1	-	-	PADLOCK
13	10'-0" X 12'-0"	D	ALUM/GL	-	-	-	-	9/A6-1	6/A6-1	9/A6-1	-	-	PADLOCK
14	10'-0" X 12'-0"	D	ALUM/GL	-	-	-	-	9/A6-1	6/A6-1	9/A6-1	-	-	PADLOCK
15	10'-0" X 12'-0"	D	ALUM/GL	-	-	-	-	9/A6-1	6/A6-1	9/A6-1	-	-	PADLOCK
16	10'-0" X 12'-0"	D	ALUM/GL	-	-	-	-	9/A6-1	6/A6-1	9/A6-1	-	-	PADLOCK
17	10'-0" X 12'-0"	D	ALUM/GL	-	-	-	-	9/A6-1	6/A6-1	9/A6-1	-	-	PADLOCK
18	10'-0" X 12'-0"	D	ALUM/GL	-	-	-	-	9/A6-1	6/A6-1	9/A6-1	-	-	PADLOCK

NOTE:

- THRESHOLD SHALL BE MAXIMUM 1/2" HIGH ABOVE FLOOR AND LANDING ON BOTH SIDES AT BUILDING ENTRANCES.
- MAXIMUM DOOR OPENING EFFORT SHALL BE 5 LBS AT EXTERIOR AND INTERIOR DOORS PER ANSI 404.2.9.
- ALL DOORS SHALL BE EQUIPPED WITH SIGNLE-EFFORT, NON-GRASP HARDWARE CENTERED BETWEEN 34" AND 48" ABOVE THE FLOOR.

ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOORS		WALLS								CEILINGS			REMARKS
		FLOOR	BASE	EAST		WEST		NORTH		SOUTH		MATERIAL	FINISH	HEIGHT (AFF)	
				MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH				
101	SALES FLOOR	LVT	RB	GB	F3	ALUM/G.B.	F3	G.B.	F3	ALUM/G.B.	F3	ACT	F1	11'-0"	-
102	COFFEE ROOM	LVT	RB	GB	F3	GB	F3	GB	F3	ALUM/G.B.	F3	ACT	F1	10'-0"	-
103	OFFICE	LVT	RB	GB	F3	GB	F3	GB	F3	GB	F3	ACT	F1	8'-0"	-
104	UNISEX RR.	LVT	CT	GB/CT	F4/F1	G.B./CT	F4/F1	G.B./CT	F4/F1	G.B.	F4	GB	F4	8'-0"	-
105	UNISEX RR.	SEALED CONCRETE	RB	FRP	F1	FRP	F1	CMU	F5	FRP	F1	GB	F1	8'-0"	-
106	STO.	LVT	RB	GB	F3	GB	F3	GB	F3	GB	F3	GB	F4	ON TRUSS	-
107	BREAK ROOM	SEALED CONCRETE	RB	G.B.	F3	GB	F3	CMU	F5	GB	F3	OPEN	P2	ON TRUSS	PROVIDE 1 COAT BLOCK FILLER AT CMU WALL
108	INVENTORY	SEALED CONCRETE	RB	GB	F3	G.B.	F3	CMU	F5	GB	F3	OPEN	F4	ON TRUSS	-
109	SERVICE AREA	SEALED CONCRETE	-	CMU	F5	CMU	F5	CMU	F5	CMU	F5	OPEN	F4	VARIES	-
110	NOT USED	-	-	-	-	-	-	-	-	-	-	-	-	-	-
111															

NOTES:

- PROVIDE MOISTURE-RESISTANT GYPSUM BOARD.

HARDWARE SCHEDULE

GROUP	QTY.	DESCRIPTION
1	1 EACH 1 EACH 3 EACH 1 EACH 1 EACH	FRAME - ME416 3070 X 5 3/4" HMF DOOR - 3070 X 1 3/4" H.M. HINGE - STANLEY FBB179 4.5 X 4.5 X 626 LOCKSET - SCHLAGE AL405 SAT X 626 (PRIVACY) FLOOR STOP - MM FS13 X US26D
2	1 EACH 1 EACH 3 EACH 1 EACH 1 EACH 1 EACH	FRAME - ME416 3070 X 5 3/4" HMF LH CR ASA DOOR - 3070 X 1 3/4" H.M. HINGE - STANLEY FBB179 4.5 X 4.5 X 626 LOCKSET - SCHLAGE AL539D SAT X 626 (ENTRY) CLOSER - LCN 1461 REG/PA TBMS X ALU FLOOR STOP - MM FS13 X US26D
3	1 EACH 1 EACH 1 EACH 3 EACH 1 EACH 1 EACH 1 EACH 1 EACH 1 EACH 1 EACH 1 EACH	FRAME - ME416 3070 X 5 3/4" 4" HD HMF RH CR BJPR DOOR - 3070 X 1 3/4" HMD BLANK MOLCR HINGE - STANLEY FBB179 NRP 4.5 X 4.5 X 626 EXIT DEVICE - VON DUPRIN 22NL 3" X SP28 RIM CYLINDER - SCH "C" X US26D CLOSER - LCN 4041 CUSH TBMS X ALU LATCHGUARD - MM MG2C THRESHOLD - PEMKO 179AV X 36" SWEEP - PEMKO 16137P X 36" SMOKE SEAL - PEMKO S88C 17"
4	1 EACH 1 EACH 3 EACH 1 EACH 1 EACH	FRAME - ME416 3070 X 5 3/4" HMF LH CR ASA DOOR - 3070 X 1 3/4" H.M. HINGE - STANLEY FBB179 4.5 X 4.5 X 626 LOCKSET - SCHLAGE AL539D SAT X 626 (ENTRY) CLOSER & STOP - MM FS13 X US26D
5	1 EACH 1 EACH 3 EACH 1 EACH 1 EACH	FRAME - ME416 3070 X 5 3/4" HMF DOOR - 3070 X 1 3/4" H.M. HINGE - STANLEY FBB179 4.5 X 4.5 X 626 LOCKSET - SCHLAGE AL105 SAT X 626 (PASSAGE) FLOOR & STOP - MM FS13 X US26D
6	2 EACH 1 EACH 1 EACH 1 EACH 1 EACH 1 EACH 1 EACH 1 EACH 1 EACH 1 EACH	HINGE - KAWNEER OFFSET PIVOT CLOSER - LCN 4041 CUSH TBMS X ALU PUSH/PULL - KAWNEER, STYLE F-2 DEADLOCK - KAWNEER ADAMS RITE MS-1850A-505 W/ STANDARD LOCK CYLINDERS WITH HEAD & SILL BOLTS EXIT INDICATOR - KAWNEER ADAMS RITE 4089 WEATHERSTRIPPING NOTE: HEAD AND SILL BOLTS MUST BE OPERATED BY THE DEAD BOLT MECHANISM

* ALL DOOR HARDWARE SHALL BE LEVER TYPE

FINISHES

DOOR AND FRAME MATERIAL

- SCW SOLID CORE WOOD
- HM HOLLOW METAL
- ALUM ALUMINUM
- STL STEEL

DOOR AND FRAME FINISHES

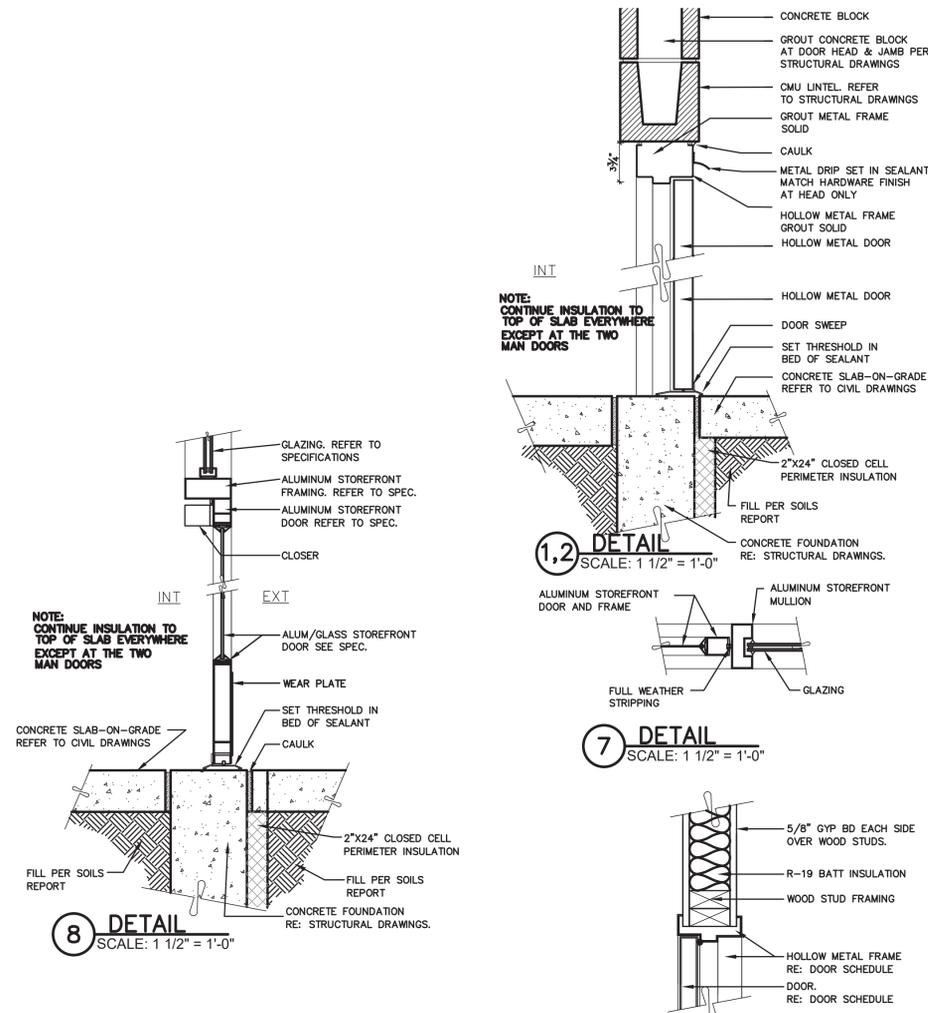
- P1 NOT USED
- P2 PRIME AND PAINTED
- P3 FACTORY PRIME, STANDARD WHITE/LIGHT GRAY
- M1 CLEAR ANODIZED ALUMINUM, MILL FINISH

FINISH MATERIALS

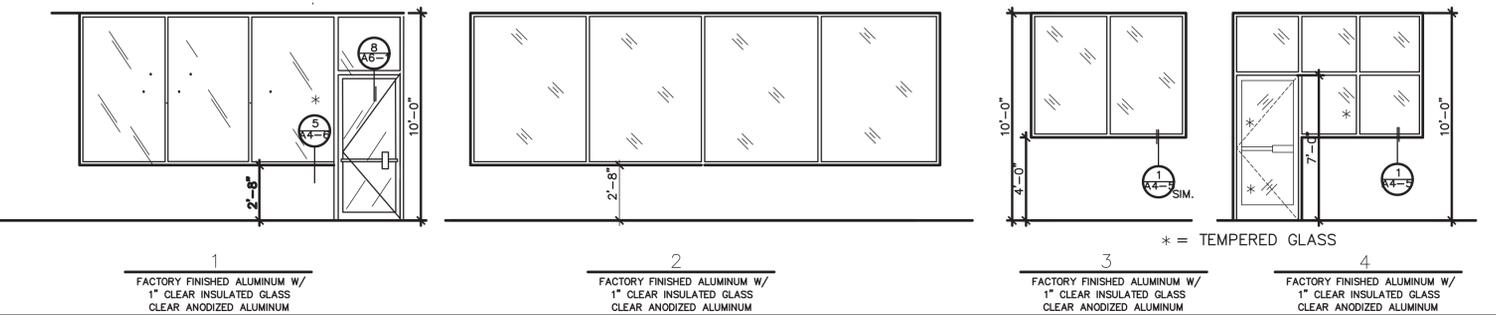
- ACT ACUSTICAL CEILING TILES
- CT CERAMIC TILE
- CMU CONCRETE MASONRY UNIT
- GB RUBBER BASE GYPSUM BOARD
- FRP FIBERGLASS REINFORCED PLASTIC
- OPT CARPET

FINISHES

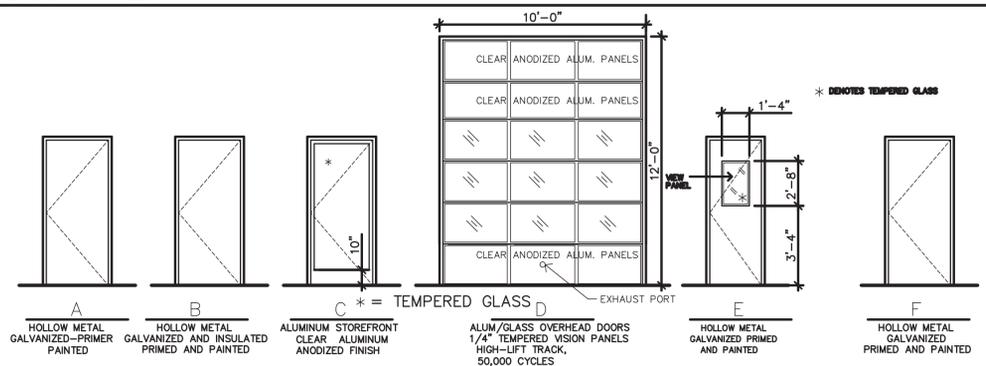
- F1 NONE
- F2 HARDENER AND SEALER
- F3 2 COATS ENAMEL
- F4 2 COATS ENAMEL
- F5 1 COAT BLOCK FILLER - 2 COAT HIGH GLOSS ENAMEL TO 4'-0" AFF - 1 COATS HIGH GLOSS ENAMEL ABOVE 4'-0" AFF 2 COATS SEMI-GLOSS ENAMEL



WINDOW TYPES * = TEMPERED GLAZING



DOOR TYPES = TEMPERED GLAZING



NOTE:

DOOR HANDLES, PULLS, LATCHES, AND OTHER OPERATING DEVICES ON DOORS REQUIRED TO BE ACCESSIBLE BY CHAPTER 11 SHALL NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING OR TWISTING OF THE WRIST TO OPERATE.

NOTE:

EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT

4 DETAIL SCALE: 1 1/2" = 1'-0"

5 DETAIL SCALE: 1 1/2" = 1'-0"

BRAKES PLUS
3301 CLASSEN BLVD
NORMAN, OKLAHOMA

STATE OF OKLAHOMA
No. 2737
LITTLETON, COLORADO
P. H.
REGISTERED ARCHITECT
1.15.25

ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	02.15.25	FOR BIDDING

ARCODEV

45 SPYGLASS DRIVE
LITTLETON, CO 80123
VOICE: 303.981-8925

A6-1

SCHEDULES

RESTROOM WAINSCOT FINISHES	
MAIN COLOR	TWO TOP ROWS
DALTILE (SEMI-GLOSS)	DALTILE (SEMI-GLOSS)
PRICE GROUP 2	PRICE GROUP 3
#0132	#DM-1
URBAN PUTTY #0161	CURRENT
SEMI-GLOSS	SEMI-GLOSS
4 1/4" X 4 1/4"	4 1/4" X 4 1/4"
GROUT: MAYEI BLANCO	GROUT: MAYEI BLANCO
PROVIDE CERAMIC BASE TO MATCH MAIN COLOR TILE	

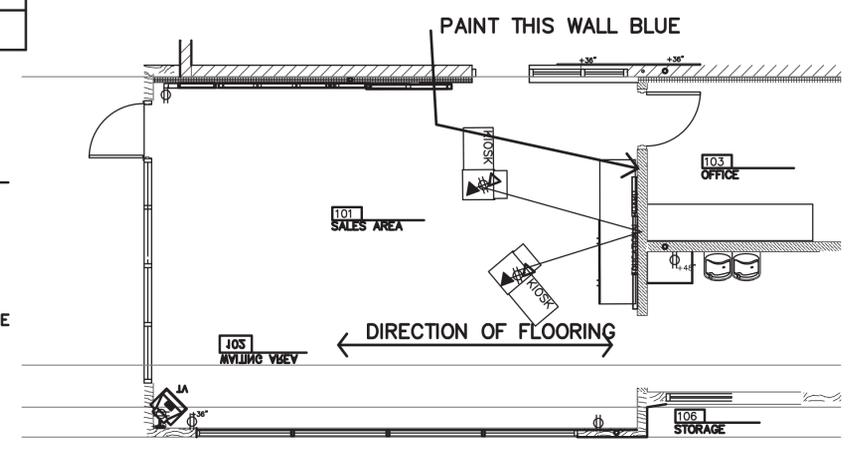
4 RESTROOM FINISHES
SCALE: N.T.S.

GENERAL NOTES:

- APPLY THE WALK OFF CARPET (4'X6' DIRECTLY TO THE CONCRETE SLAB DO NOT APPLY IT OVER THE FLOORING. PROVIDE JOHNSONITE REDUCER AROUND ALL EDGES (STYLE: CTA-09-A1, COLOR: BURNT UMBER)
- ALL FLOORING SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR
- PROVIDE 1 EXTRA BOX (32 S.F.) OF ALL FLOORING PRODUCTS FOR ATTIC STOCK
- ALL FLOORING MATERIALS MAY BE PURCHASED FROM EF CONTRACT FLOORING EXCEPT ADHESIVE AND THE TRANSITION STRIPS.....CONTACT KIMBERLY LYNCH AT THE CONTACT INFORMATION SHOWN BELOW.
- RUBBER TRANSITION STRIP HAS A 1-3 WEEK LEAD TIME

NOTE:

ALL INTERIOR FINISHES SHALL COMPLY WITH THE REQUIREMENTS CONTAINED IN THE 2018 IBC CHAPTER 18



1 DETAIL -- INTERIOR PAINT DETAILS
SCALE: N.T.S.

	Floor	Supplied by:
Manufacturer (1)	Bolyu/EF Contract Flooring	Bolyu/EF Contract Flooring
Number (1)	Main Floor LVT Style: Woodlands, Color Ironwood LVT direction - Run lengthwise in the wide direction of the room. Regardless of entry location /showroom design	Bolyu/EF Contract Flooring
Color (1)	Ironwood - Item # EFCW1001	Bolyu/EF Contract Flooring
Finish	N/A	
Size (1)	7" x 48" (42 sq ft per box)	Bolyu/EF Contract Flooring
Note (1)	LVT - with Hardwood Plank Pattern Attic Stock - Provide 1 extra Box (32 sq. ft) extra for Attic Stock	
Adhesive (1a)	LVT Adhesive The LVT adhesive, Taylor, RESOLUTE (MS-PLUS* RESILIENT***) Adhesive	Supplied by Installer
Transition	Johnsonite - Rubber Reducer - Style: CTA-09-A1, Color: #63 Burt Umber	Supplied by Installer - Lead Time 1 - 3 weeks
Size (2)	24" x 24", (6.22 sq yds per box)	Bolyu/EF Contract Flooring
Note (2)	Install Quarter Turn	
Adhesive (2a)	Nexus, multipurpose carpet tile adhesive	Bolyu/EF Contract Flooring

CONTACT PRICING AND QUESTIONS (ALL LOCATIONS, NATIONWIDE)
TARA KALVA
BOLYUEF CONTRACT
704-484-0844
TARA.KALVA@EFCONTRACTFLOORING.COM

3 DETAIL -- FLOORING SPECIFICATIONS
SCALE: N.T.S.

Brakes Plus Interior Paint Specifications						
Location	Worldly Gray	Intellectual Gray	Virtual Taupe	Balanced Beige	Safety Red	Brakes Plus Blue
Shop	All walls above red base	Ceiling & Joists	Metal Doors & Frames (Interior of Building)		Lower 4' of walls This area to receive block filler & gloss paint	
Office			Painted Wood Doors and Frames	Walls		
Showroom			Half Wall Drywall Painted Wood Doors and Frames (to office and bathroom and closet)	Walls		See attached Drawing
Parts Room	Walls	Ceiling & Joists	Metal Door and Frame			
Employee Bath	Walls & Ceiling		Metal Doors & Frames			
Customer Bath			Painted Wood Doors and Frames	Walls & Ceiling		
Break Room	Walls	Ceiling				Formula: Promar 200 Deep Base B31W2253 1 Gallon Formula W1 2Y 23+11 B1 1+01 L1 2Y 21+11 R3 55+01

* Use block fill on all cinder block walls prior to painting (See Finish Schedule Section 3.05)

Brand	Sherwin-Williams	Sherwin-Williams	Sherwin-Williams	Sherwin-Williams	Sherwin-Williams	Sherwin-Williams
Color	Worldly Gray	Intellectual Gray	Virtual Taupe	Balanced Beige	Safety Red	Blue
Number	SW7043	SW7045	SW7039	SW7037		
Product						Brakes Plus Custom Color
Finish	See Finish Schedule Section 3.05	Dry Fall	See Finish Schedule Section 3.05	See Finish Schedule Section 3.05	See Finish Schedule Section 3.05	

2 DETAIL -- INTERIOR PAINT SPECIFICATIONS
SCALE: N.T.S.

Brakes Plus Exterior Paint Specifications					
Location	Brand	Color	Number	Finish	Special Instructions
Corner-guards	Sherwin Williams	Artisan Tan	SW 7540		
Doors	Sherwin Williams	Artisan Tan	SW 7540		
Trash Enclosure Doors	Sherwin Williams	Artisan Tan	SW 7540		

5 DETAIL -- EXTERIOR PAINT SPECIFICATIONS
SCALE: N.T.S.

BRAKES PLUS
3301 CLASSEN BLVD
NORMAN, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	02.15.25	FOR BIDDING

ARCODEV JOB #: -
CLIENT JOB #: -
DRAWN BY: NLH
CHECKED BY: NLH
DATE OF ISSUE: 11.15.24



45 SPYGLASS DRIVE
LITTLETON, CO 80123
PHONE: 303.981-8925

ARCODEV SHEET

A6-3

MATERIAL FINISHES

GENERAL STRUCTURAL NOTES:

A. DESIGN DATA:

DESIGN CODE:	2018 INTERNATIONAL BUILDING CODE
CONCRETE 28-DAY STRENGTH:	FC = 4,000 PSI
MISCELLANEOUS ROLLED SECTIONS AND PLATES (ANGLES, CHANNELS, PLATES, ETC.):	ASTM A36 (UNLESS NOTED OTHERWISE)
PLAIN BOLTS AND ANCHORS:	ASTM A307
ANCHOR RODS:	ASTM F1554, GRADE 36 KSI
REINFORCING STEEL:	ASTM A615 Fy = 60,000 PSI
WELDED WIRE FABRIC:	ASTM A185

MORTAR TYPE S & GROUT 28-DAY COMPRESSIVE STRENGTH = 2,000 PSI (MASONRY CEMENT IS NOT ACCEPTABLE) ASTM C1019

CONCRETE MASONRY UNITS (LIGHTWEIGHT) ASTM C652
NET COMPRESSIVE STRENGTH OF CONCRETE MASONRY UNITS = 2,800 PSI
NET AREA COMPRESSIVE STRENGTH OF MASONRY FM = 2,000 PSI

ALLOWABLE SOIL BEARING CAPACITY: 2,000 PSF ON IMPROVED SUBGRADE (PER SOIL REPORT)

DESIGN LOADS	
ROOFS	D = 20 PSF Lr = 20 PSF S = 10 PSF (GROUND & ROOF SNOW LOAD)

WIND LOADING CRITERIA (2018 IBC & ASCE 7-16)
115 MPH, EXPOSURE C

SEISMIC LOADING CRITERIA (2018 IBC & ASCE 7-16)
IMPORTANCE FACTOR = 1.0
MAPPED SPECTRAL RESPONSE Sa = 0.343g, S1 = 0.086g
SITE CLASS = D, Fa = 1.525, Fv = 2.4
SPECTRAL RESPONSE COEFFICIENTS: SDS = 0.349g, SD1 = 0.137g
SEISMIC DESIGN CATEGORY = C
SEISMIC FORCE RESISTANT SYSTEM = ORDINARY REINFORCED MASONRY SHEAR WALLS & LIGHT FRAMED SHEAR WALLS
RESPONSE MODIFICATION FACTOR (R) = 2.0

B. FOUNDATION WORK:

- THE GEOTECHNICAL REPORT PREPARED BY OLSSON (PROJECT NO. 024-03804) DATED AUGUST 2, 2023, IS AVAILABLE AND SHALL BE REVIEWED BY THE CONTRACTOR, SEE SPECIFICATIONS AND GEOTECHNICAL REPORT FOR OVEREXCAVATION RECOMPACTION.
- CONTRACTOR SHALL COORDINATE FOOTING ELEVATIONS WITH FINAL GRADING PLAN TO PROVIDE A MINIMUM OF 2'-0" OF GRADE ABOVE THE BOTTOM OF ALL FOOTINGS.
- SUBSOILS SUPPORTING OR IN DIRECT CONTACT WITH FOOTINGS, SLABS ON GRADE, OR OTHER FOUNDATION ELEMENTS SHALL BE PROTECTED AGAINST FREEZING CONDITIONS THAT COULD CAUSE MOVEMENT OR OTHER DETRIMENTAL EFFECT TO THE STRUCTURE AS A WHOLE OR TO ANY OF ITS COMPONENT PARTS.
- WHEN WORKING NEAR EXISTING AND/OR NEW CONSTRUCTION, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION SO AS NOT TO UNDERMINE, DISTURB, DAMAGE OR, IN ANY WAY, CAUSE UNDESIRABLE MOVEMENT, CRACKING, AND/OR SETTLEMENT OF THE ADJACENT CONSTRUCTION.

5. SLABS ON GRADE SHALL BE SUPPORTED ON SUBGRADE THAT HAS BEEN CONSTRUCTED IN ACCORDANCE WITH THE SECTION 4.3 "SLAB-ON-GRADE FLOORS" IN THE GEOTECHNICAL REPORT. ANY UNACCEPTABLE UNDISTURBED VIRGIN SOIL OR BACKFILL GRANULAR FILL, AS DETERMINED BY THE OWNER'S GEOTECHNICAL ENGINEER, SHALL BE REMOVED AND REPLACED AS REQUIRED BY THE GEOTECHNICAL ENGINEER.

C. CONCRETE:

- FOR REINFORCEMENT DEVELOPMENT LENGTH AND SPLICE LENGTH SEE TYPICAL REINFORCEMENT TABLE ON THIS SHEET.
- PROVIDE CORNER BARS IN WALLS AND FOOTINGS THE SAME SIZE AND NUMBER AS THE CONTINUOUS REINFORCING.
- REINFORCING IN FOOTINGS SHALL BE ACCURATELY PLACED BEFORE PLACING CONCRETE. DO NOT FLOAT REINFORCING INTO FOOTINGS.
- CONCRETE SHALL BE REGULAR WEIGHT (144 PCF) WITH TYPE III CEMENT, 3/4" MAXIMUM AGGREGATE SIZE WITH POTABLE WATER. CONCRETE SHALL CONFORM TO ACI 301. THE MAXIMUM WATER-CEMENT RATIO FOR FOOTINGS, WALLS & SLABS SHALL BE 0.45. PROVIDE 9% AIR ENTRAINMENT IN CONCRETE USED IN FOOTINGS & WALLS. INTERIOR SLABS SHALL HAVE NATURAL ENTRAPPED AIR (3% MAXIMUM).
- MECHANICALLY VIBRATE CONCRETE, EXCEPT THAT SLABS ON GRADE NEED TO BE VIBRATED ONLY AROUND UNDERFLOOR DUCTS AND OTHER ITEMS EMBEDDED IN THE SLAB. EMBEDDED ITEMS INCLUDE ELECTRICAL CONDUITS, MECHANICAL PIPING, AND STEEL ANGLES OR CHANNELS. EMBEDDED ITEMS DOES NOT IMPLY REINFORCING STEEL. ALL OTHER CONCRETE PLACEMENT SHALL BE VIBRATED. CONCRETE SHALL BE VIBRATED IN CONFORMANCE WITH ACI 309. VIBRATE CONCRETE ONLY UNTIL THE CONCRETE IS THOROUGHLY CONSOLIDATED AND THE VOIDS FILLED. INSERT INTERNAL VIBRATORS VERTICALLY TO THE FULL DEPTH OF THE LAYER BEING PLACED AND INTO THE PREVIOUS LAYER IF APPLICABLE. DO NOT DRAG VIBRATORS THROUGH THE CONCRETE. DO NOT FLOW CONCRETE FROM ONE LOCATION TO ANOTHER BY USE OF VIBRATOR.
- DO NOT PLACE PIPES, DUCTS, OR CHASES IN STRUCTURAL CONCRETE WITHOUT APPROVAL OF THE ARCHITECT/ENGINEER. SEE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR LOCATIONS.
- FLOOR SURFACE TOLERANCE CLASS "B". SEE ACI 301 FOR PROCEDURE OF MEASUREMENT AND CORRECTION.
- CONTROL JOINTS SHALL BE PLACED AT COLUMN-LINE INTERSECTIONS AT A MAXIMUM SPACING INDICATED BELOW AND HAVE A MAXIMUM ASPECT RATIO OF 1.5 TO 1.0 UNLESS OTHERWISE INDICATED. SEE DETAIL - ON DRAWING - FOR CONTROL JOINT REQUIREMENTS.

SLAB THICKNESS	MAX. CONTROL JOINT SPACING
4"	12'-0"
5"	15'-0"

- ALL CONSTRUCTION JOINTS IN CONCRETE WALLS SHALL HAVE A 2" X 4" CONTINUOUS KEYWAY. ALL CONSTRUCTION JOINTS, EXCEPT THOSE DETAILED, SHALL HAVE ARCHITECT/ENGINEER APPROVAL. SEE SPECIFICATIONS FOR OTHER CONSTRUCTION JOINT REQUIREMENTS.
- ALL REINFORCING STEEL SHALL BE DEFORMED NEW BILLETS BARS (A615, GRADE 60), BENT COLD, AND DETAILED, FABRICATED, AND HELD IN PLACE IN ACCORDANCE WITH THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" (ACI 315 - LATEST EDITION) EXCEPT AS OTHERWISE DETAILED OR SPECIFIED.

11. UNLESS NOTED OTHERWISE ON PLAN SHEETS SLABS ON GRADE SHALL BE:

SLAB THICKNESS	SLAB REINFORCEMENT	SUBBASE
4"	6W-41.4W1.4 WWF	SEE GEOTECHNICAL REPORT
5"	6W-42.9W2.9 WWF	SEE GEOTECHNICAL REPORT

12. ALL REINFORCING IN SLABS AND WALLS SHALL BE CONTINUOUS UNLESS DETAILED OTHERWISE AND LAP SPLICED ONLY IN REGIONS OF LOW STRESS. ALL BARS SHALL HAVE A STANDARD HOOK WHERE A HOOK IS SHOWN, UNLESS DETAILED OTHERWISE.

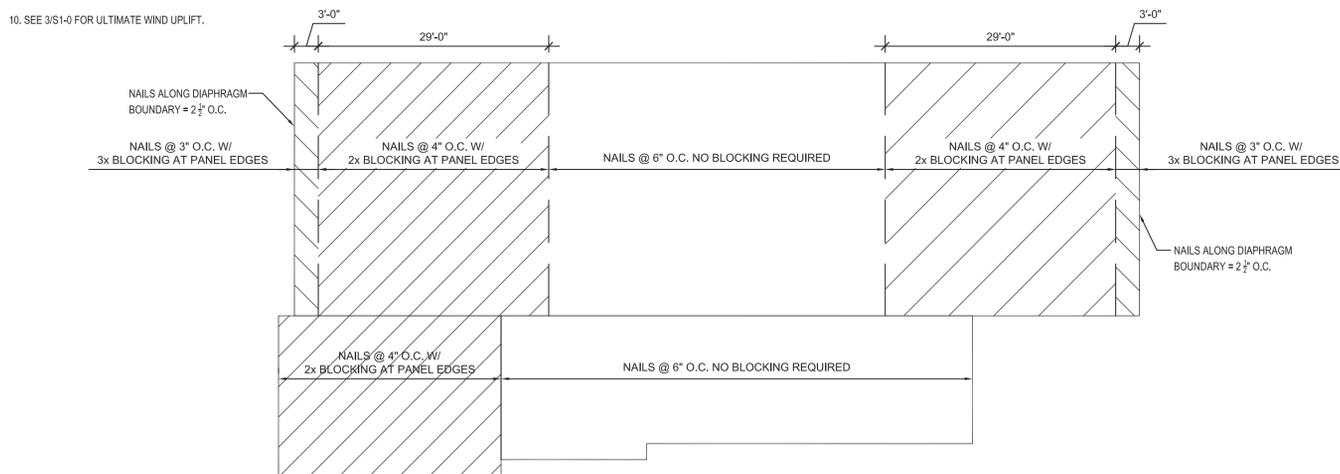
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING, UNLESS NOTED OTHERWISE:
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
CONCRETE EXPOSED TO EARTH OR WEATHER: 2"
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND, SLABS AND WALLS: 1"

D. MASONRY:

- FURNISH AND CONSTRUCT MASONRY IN ACCORDANCE WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR MASONRY CONSTRUCTION (ACI 530.1-11/ASCE 6-11/TMS 602-11.)
- LAY MASONRY UNITS IN RUNNING BOND.
- MAXIMUM GROUT LIFT WITHOUT CLEANOUTS 4'-0" IN BLOCK WALLS AND 8" IN GROUTED TWO-WYTHE WALLS.
- IN 8" WALLS, PROVIDE CONTINUOUS FULL HEIGHT VERTICAL REINFORCING IN CENTER OF GROUT AT CENTER OF WALL. TYPICAL REINFORCING SHALL BE 1#4 AT 2'-8" ON CENTER AND 2#4 AT CORNERS, INTERSECTIONS, WALL ENDS, DOOR AND WINDOW JAMBS, AND SIDE OF EXPANSION OR CONTROL JOINTS UNLESS NOTED OTHERWISE.
- GROUT CELLS FULL AT ALL ANCHOR AND EMBED LOCATIONS.
- PROVIDE LADDER TYPE #9 JOINT REINFORCING AT 16" ON CENTER VERTICAL SPACING IN ALL CLAY MASONRY AND UNLESS NOTED OTHERWISE.
- SPLICE MASONRY WALL REINFORCING AS SCHEDULED ON 3/33-3.
- PLACE BOND BEAM REINFORCING CONTINUOUS THROUGH EXPANSION CONTROL JOINTS, WRAPPING BARS WITH 1/8 INCH THICK BOND BREAKING TAPE 2'-0" BOTH SIDES OF JOINT. DO NOT SPLICE BOND BEAM REINFORCING WITHIN 6'-0" OF AN EXPANSION OR CONTROL JOINT.
- PROVIDE CONTINUOUS BOND BEAMS AT ALL BEAM BEARING AND TRUSS BEARING ELEVATIONS, AND AT THE TOP OF ALL WALLS.
- SPLICE BOND BEAM REINFORCING AT MASONRY CONTROL/EXPANSION JOINTS AS SHOWN ON MASONRY JOINT DETAIL ON 4/53-3.
- PROVIDE CONTINUOUS WIRE LATH GROUT BARRIERS BELOW BOND BEAMS.
- PROVIDE LINTELS OVER ALL OPENINGS AND RECESSES IN MASONRY WALLS.
- ALL LINTELS SHALL HAVE A MINIMUM BEARING OF 8 INCHES EACH END.
- FOR ALL OPENINGS NOT OTHERWISE DETAILED OR SCHEDULED, MINIMUM LINTELS SHALL BE FOR EACH 4 INCH OF MASONRY WIDTH 1-L 3-1/2 X 3-1/2 X 1/4 FOR SPANS UP TO 4'-0", 1-L 4 X 3-1/2 X 1/4 FOR SPANS UP TO 6'-0" AND 1-L 5 X 3-1/2 X 1/4 FOR SPANS UP TO 8'-0". FOR SPANS LESS THAN 2'-0" PROVIDE A 5/16" PLATE.
- MASONRY CONTROL JOINT SPACING SHALL NOT EXCEED 24'-0".
- ALL MASONRY CONSTRUCTION SHALL HAVE SPECIAL INSPECTION PER IBC SECTION 1705.4 AND HAVE LEVEL 2 QUALITY ASSURANCE IN ACCORD WITH ACI530-11 SECTION 1.14. PERIODIC INSPECTION SHALL BE INTERPRETED AS TWO TIMES PER WEEK.

E. WOOD:

- WOOD SHALL COMPLY WITH THE LATEST EDITION OF THE GRADING RULES OF THE WESTERN WOOD PRODUCTS ASSOCIATION OR THE WEST COAST LUMBER INSPECTION BUREAU.
 - ALL SAWN LUMBER SHALL BE STAMPED WITH THE GRADE MARK OF AN APPROVED GRADING AGENCY.
 - SAWN LUMBER SHALL HAVE THE FOLLOWING MINIMUM GRADE UNLESS NOTED OTHERWISE:
- | | |
|-----------------------------------|--------------------|
| TYPE OF USE | MATERIAL AND GRADE |
| TOP PLATES, ALL OTHER SAWN LUMBER | DOUGLAS FIR NO. 2 |
| POSTS AND BEAMS | DOUGLAS FIR NO. 1 |
- ALL 2x BEARING WALLS SHALL BE BLOCKED HORIZONTALLY AT 4'-0" O.C. VERT. SPACING FOR ALL WALLS GREATER THAN 9'-0" IN HEIGHT.
 - ALL PLYWOOD SHALL BE C-D OR C-C SHEATHING EXTERIOR GRADE CONFORMING TO STANDARD PS0.019.
 - PLYWOOD SHALL BE PLACED WITH FACE GRAIN PERPENDICULAR TO SUPPORTS USING A MINIMUM 5-PLY PLYWOOD. PLYWOOD JOINTS SHALL BE STAGGERED.
 - PLYWOOD ATTACHMENT SHALL BE DONE USING COMMON NAILS. NAILING SHALL BE AS NOTED ON ROOF FRAMING PLAN.
 - ALL SILL PLATES IN CONTACT WITH CONCRETE OR MASONRY SHALL BE TREATED DOUGLAS FIR OR FOUNDATION GRADE REDWOOD.
 - BRACE WOOD TRUSSES LATERALLY AT BEARING POINTS AND INTERMEDIATE LOCATIONS AS REQUIRED BY MANUFACTURER.
 - SEE 3/51-0 FOR ULTIMATE WIND UPLIFT.



2 ROOF DIAPHRAGM NAILING PATTERN
S1-0 3/4"=1'-0"

F. SPECIAL INSPECTION

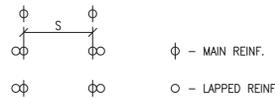
- IN ACCORD WITH 2018 IBC SECTIONS 1704 & 1705, AS NOTED BELOW, TESTING AND INSPECTION SHALL BE BY AN INDEPENDENT TESTING/INSPECTION FIRM UNDER THE SUPERVISION OF A LICENSED ENGINEER EMPLOYED BY THAT FIRM. THIS ENGINEER SHALL BE DEEMED THE DESIGNATED ENGINEER OF RECORD FOR SPECIAL INSPECTIONS PERFORMED BY HIS FIRM OR HIS CONSULTANTS. INSPECTORS SHALL BE ICBO CERTIFIED AND APPROVED BY THE BUILDING OFFICIAL.
- THE DESIGNATED ENGINEER OF RECORD FOR SPECIAL INSPECTIONS SHALL BE RESPONSIBLE FOR DEFINING THE ACTIVITIES OF THE INSPECTORS, FOR CERTIFYING THE QUALIFICATIONS OF THE INSPECTORS WITH THE BUILDING OFFICIAL AND TO ATTEND THE PRE-CONSTRUCTION MEETING TO DEFINE THEIR SCOPE OF SERVICES AND THE TESTING OR TEST PROCEDURES THAT ARE REQUIRED AS OUTLINED IN THE INTERNATIONAL BUILDING CODE.
- SPECIAL INSPECTION IS TO BE PROVIDED IN ADDITION THE INSPECTIONS CONDUCTED BY THE LOCAL DEPARTMENT OF BUILDING SAFETY AND SHALL NOT BE CONSTRUED TO RELIEVE THE OWNER OR HIS AUTHORIZED AGENT FROM REQUESTING THE PERIODIC AND CALLED INSPECTIONS REQUIRED BY SECTION 108.5 AND 108.7 OF THE INTERNATIONAL BUILDING CODE.
- CONCRETE PER SECTION 1705.3 AND TABLE 1705.3.
- ANCHOR RODS INSTALLED IN CONCRETE: PER TABLE 1705.3.
- REINFORCING PER TABLE 1705.3.
- STRUCTURAL MASONRY: PER SECTION 1705.4.
- GRADING, EXCAVATION AND FILLING: PER SECTION 1705.6. SEE GEOTECHNICAL REPORT.
- EXPANSION BOLT, SCREW ANCHOR AND ADHESIVE ANCHOR INSTALLATION TO VERIFY INSTALLATION IN ACCORD WITH ICBO REPORTS NOTED PREVIOUSLY OR APPROVED EQUAL.
- THE INSPECTOR SHALL OBSERVE THE WORK ASSIGNED TO BE CERTAIN IT CONFORMS TO THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS.
- THE INSPECTOR SHALL FURNISH DAILY INSPECTION REPORTS ON THE WORK TO THE BUILDING OFFICIAL AND TO THE ENGINEER. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, AND, IF UNCORRECTED, TO THE ENGINEER AND THE BUILDING OFFICIAL.
- THE TESTING/INSPECTION FIRMS ENGINEER SHALL COMPLETE, SIGN AND SEAL, A FINAL REPORT CERTIFYING THAT TO THE BEST OF HIS KNOWLEDGE, THE WORK IS IN CONFORMANCE WITH THE CONTRACT DOCUMENTS.
- THE SPECIAL INSPECTOR SHALL BE SELECTED AND CREDENTIALS SHALL BE SUBMITTED TO THE CITY PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.

G. OTHER:

- UNLESS NOTED OTHERWISE, EXPANSION ANCHORS SHALL BE HILTI KWIK BOLT II EXPANSION ANCHORS OR APPROVED EQUAL. ADHESIVE ANCHORS SHALL BE HILTI STANDARD HAS RODS WITH THE HVA ADHESIVE SYSTEM, THE SIMPSON SET SYSTEM, OR APPROVED EQUAL.
- VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO STARTING WORK. NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES OR INCONSISTENCIES.
- VERIFY IN FIELD ALL EXISTING CONDITIONS SHOWN ON DRAWINGS.
- ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR MECHANICAL, ELECTRICAL, AND PLUMBING WITH APPROPRIATE TRADES. PROVIDE ALL TEMPORARY BRACING, SHORING, GUYING, OR OTHER MEANS TO AVOID EXCESSIVE STRESSES AND TO HOLD STRUCTURAL ELEMENTS IN PLACE DURING CONSTRUCTION.
- ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE STAMP (AND SIGNATURE) OF AN ENGINEER REGISTERED IN OKLAHOMA.

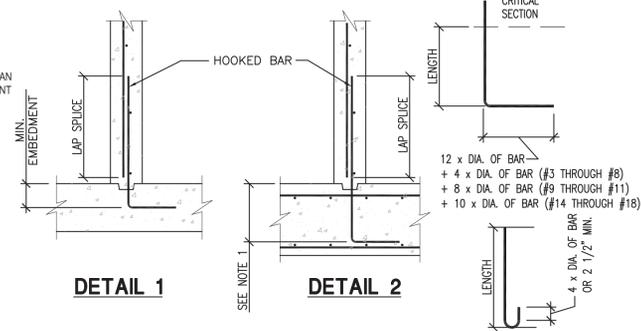
TYPICAL REINFORCING NOTES

- REINFORCING BAR DEVELOPMENT AND LAP SPLICE LENGTH SHALL BE AS SHOWN IN THIS TABLES UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- THE LENGTHS SHOWN IN THE TABLES ARE BASED ON THE FOLLOWING CONCRETE COVERAGE AND REINFORCING C-C SPACING:
BEAMS OR COLUMNS:
COVER (EQUAL OR MORE) 1.0bd (BAR DIAMETER)
CENTER TO CENTER (C-C) SPACING (EQUAL OR MORE) 2.0bd.
ALL OTHERS:
COVER (EQUAL OR MORE) 1.0bd
CENTER TO CENTER SPACING (EQUAL OR MORE) 3.0bd.
- TOP BARS ARE DEFINED AS HORIZONTAL REINFORCEMENT SUCH THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPLICE.
- DEVELOPMENT AND SPLICE LENGTH SHOWN SHALL NOT APPLY IF ANY OF THE FOLLOWING CONDITIONS OCCUR:
A) fc < 2,500 PSI
B) fy > 60,000 PSI
C) THE COVER OR C-C BAR SPACING IS NOT AS LISTED ABOVE
D) THE REINFORCING STEEL IS EPOXY COATED
E) LIGHT WEIGHT CONCRETE IS USED.
- CENTER ON CENTER SPACING (S) IS DEFINED AS BELOW:



DEVELOPMENT LENGTH NOTES

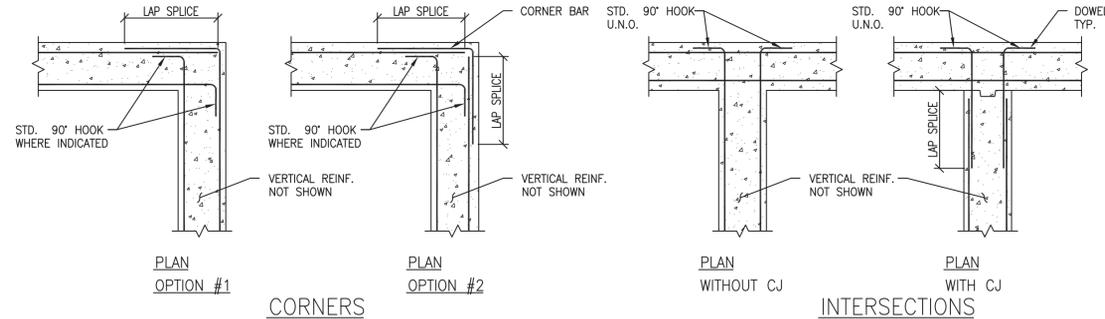
- WHERE DRAWINGS ARE DETAILED SIMILAR TO DETAIL 2, EXTEND THE EMBEDMENT LENGTH SUCH THAT THE HOOKED BAR CONTACTS THE LAYER OF MAIN REINFORCING SHOWN.
- EMBEDMENT LENGTHS IN CHART ARE TYPICAL EXCEPT AS NOTED IN DETAIL 2, OR AS INDICATED ON DRAWINGS.



REINFORCING DEVELOPMENT AND SPLICES f'c = 4,000 PSI				
BAR SIZE	DEVELOPMENT LENGTH		SPLICE LENGTH	
	TOP	OTHER	TOP	OTHER
#3	1'-7"	1'-3"	2'-0"	1'-7"
#4	2'-1"	1'-7"	2'-8"	2'-1"
#5	2'-7"	2'-0"	3'-4"	2'-7"
#6	3'-1"	2'-5"	4'-0"	3'-1"
#7	4'-6"	3'-6"	5'-10"	4'-6"
#8	5'-2"	4'-0"	6'-8"	5'-2"
#9	5'-10"	4'-6"	7'-7"	5'-10"
#10	6'-7"	5'-1"	8'-6"	6'-7"
#11	7'-3"	5'-7"	9'-5"	7'-3"

DEVELOPMENT LENGTHS HOOKED BARS (f'c = 4,000 PSI)	
BAR SIZE	LENGTH OR MIN. EMBEDMENT
#3	8"
#4	10"
#5	1'-0"
#6	1'-3"
#7	1'-5"
#8	1'-7"
#9	1'-10"
#10	2'-0"
#11	2'-3"

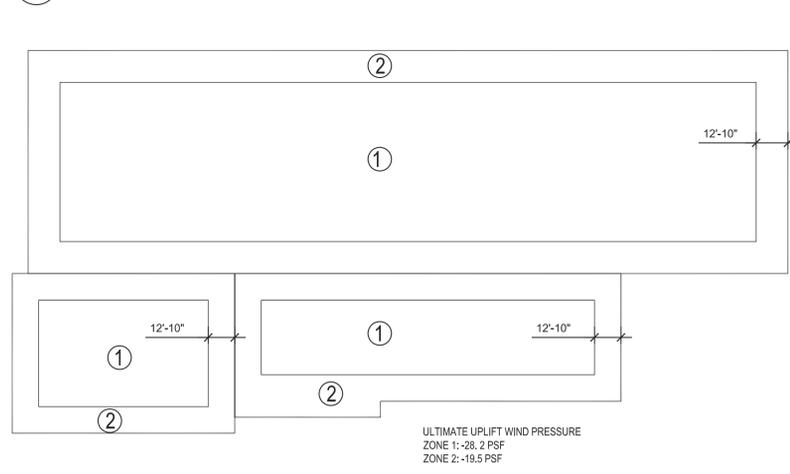
CONCRETE REINFORCEMENT COVER			
CONCRETE EXPOSURE	MEMBER	REINFORCEMENT	SPECIFIED COVER
CAST AGAINST AND PERMANENTLY IN CONTACT WITH GROUND	ALL	ALL	3"
EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	ALL	#6 TO #18 #5 AND SMALLER	2" 1 1/2"
NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	SLABS, JOISTS, & WALLS	#14 & #18 #14 & SMALLER	1 1/2" 3/4"
	BEAMS, COLUMNS, PEDASTALS, AND TENSION TIES	PRIMARY REINFORCEMENT STIRRUPS, TIES, SPIRALS, AND HOOPS	1 1/2"



NOTE: UNLESS OTHERWISE INDICATED, THE CONTRACTOR HAS THE OPTION OF REINFORCING CORNERS IN ACCORDANCE WITH OPTION #1 OR OPTION #2.

NOTE: UNLESS OTHERWISE INDICATED, THE CONTRACTOR HAS THE OPTION OF CONSTRUCTING INTERSECTIONS WITH OR WITHOUT CONSTRUCTION JOINTS. REINFORCE PER APPLICABLE DETAIL.

1 HORIZONTAL WALL REINFORCEMENT DETAILS
S1-0 3/4"=1'-0"



3 ROOF WIND UPLIFT LOADING
S1-0 3/4"=1'-0"

PERFORMANCE Engineering
 11811 Ford Street, Suite 104, Omaha, NE 68164
 389 Perry St., Suite 204A, Castle Rock, CO 80104
 (402) 343-3960 Fax: (402) 343-3961
 NE 024265
 PE #: 241105

BRAKES PLUS
 3301 CLASSEN BLVD.
 NORMAN, OKLAHOMA

Robert A. Whorley
 21026
 OKLAHOMA
 12/2/24

ENGINEER OF RECORD

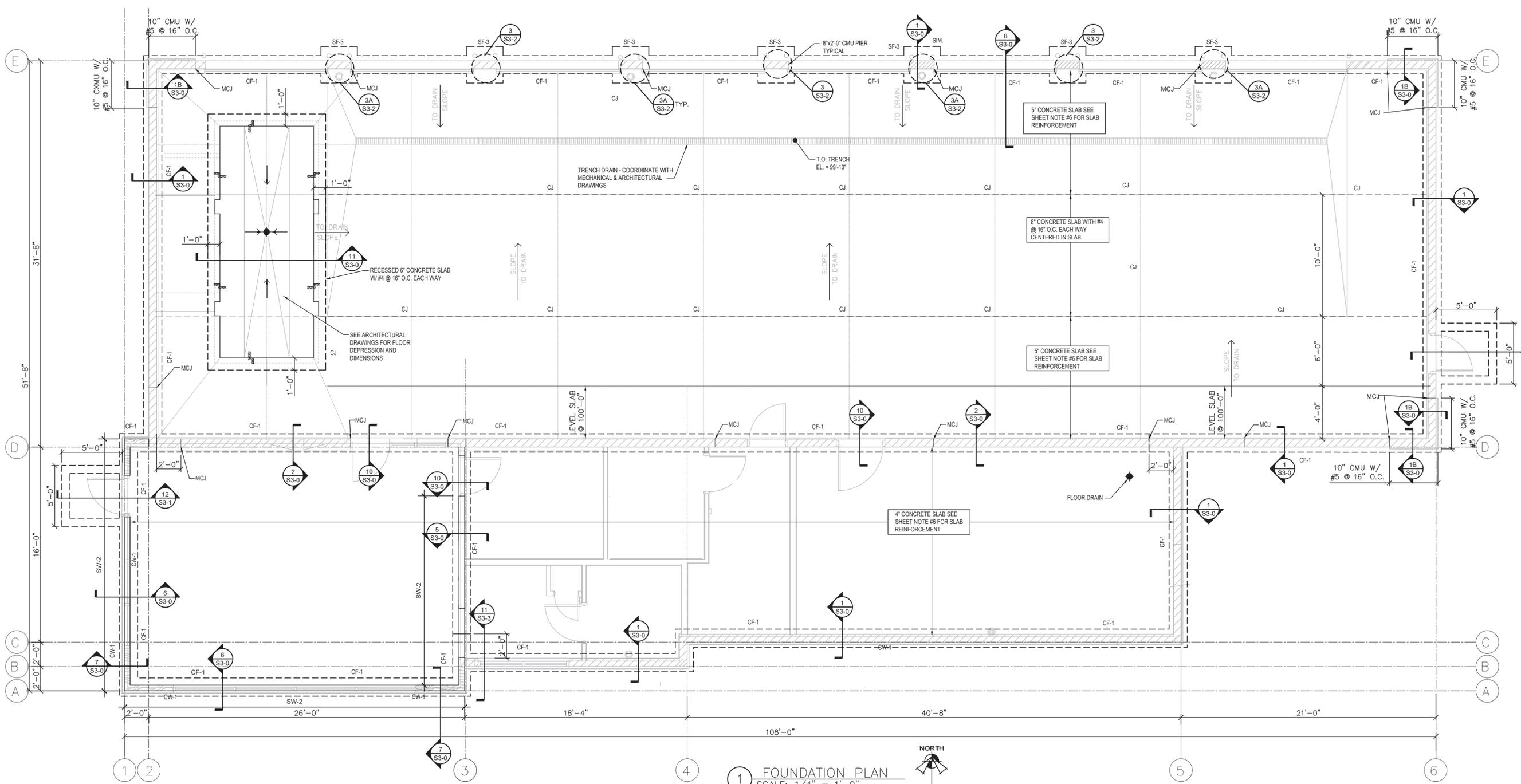
REVISION	DATE	COMMENTS

ARC CODE V
 ARCODEV JOB #: -
 CLIENT JOB #: -
 DRAWN BY: SLM
 CHECKED BY: TAS
 DATE OF ISSUE: 12.2.24

ARC CODE V
 45 SPYGLASS DRIVE
 LITTLETON, CO 80123
 VOICE: 303.881-6925

SHEET

S1-0
 GENERAL STRUCTURAL NOTES AND DETAILS



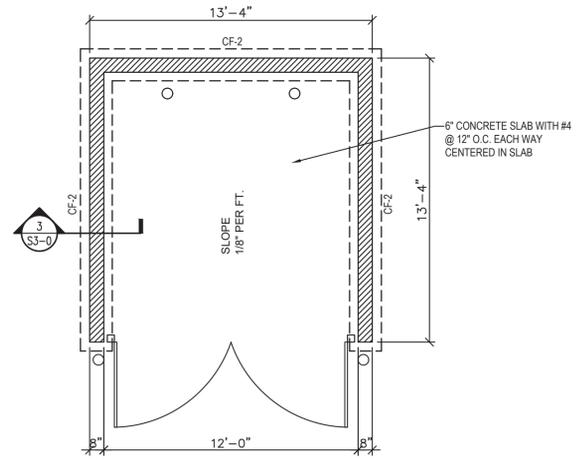
1 FOUNDATION PLAN
SCALE: 1/4" = 1'-0"

SHEAR WALL SCHEDULE										
MARK	WALL SHEATHING	NAILS, PENETRATION	PANEL EDGE NAILING	FIELD NAILING	SILL BOLTS	STUDS, SILLS & PLATES	ALLOWABLE SHEAR (PLF)	HOLD-DOWNS	FOUNDATION ANCHOR	END MEMBERS
SW-1	1/2" NOMINAL STRUCTURAL I SHEATHING, ONE SIDE, BLOCKED	10d x 3" 1 1/2" PEN.	6" O.C.	6" O.C.	3/4" DIA. @ 24" O.C.	2x STUDS, 2x SILL, 2x PL.	340	HDU8-SDS2.5	7/8" DIA. EMBED 9"	4x OR (3) 2x
SW-2	1/2" NOMINAL STRUCTURAL I SHEATHING, TWO SIDES, BLOCKED	10d x 3" 1 1/2" PEN.	6" O.C.	6" O.C.	3/4" DIA. @ 24" O.C.	2x STUDS, 2x SILL, 2x PL.	680	HDU11-SDS2.5	1" DIA. EMBED 12"	6x OR (4) 2x

- NOTE:
 1. ALL WOOD MEMBERS IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED.
 2. NAILING & HARDWARE IN CONTACT WITH PRESSURE TREATED LUMBER SHALL BE HOT DIPPED GALVANIZED.
 3. WHERE PANELS ARE APPLIED ON BOTH FACES OF WALL AND NAIL SPACING IS LESS THAN 6" O.C. ON EITHER SIDE PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS. STAGGER NAILING AT EACH SIDE OF JOINT.
 4. INSTALL HARDWARE IN ACCORD WITH MANUFACTURER'S RECOMMENDATIONS.
 5. ALL BOLT HOLES SHALL BE 1/8" (MAX) OVERSIZED AT THE CONNECTION OF HOLD DOWNS TO POSTS. INSPECTOR SHALL VERIFY.
 6. SEE DETAIL 5/S3-4 FOR TYPICAL SHEAR WALL FRAMING.

FOUNDATION SCHEDULE		
MARK	SIZE (L x W x D)	REINFORCING
CF-1	CONT. x 1'-6" x 1'-4"	3 - #5 CONT. TOP & BOTT. #4 TIES @ 18" O.C.
CF-2	CONT. x 2'-0" x 1'-4"	3 - #5 CONT. TOP & BOTT. #4 TIES @ 18" O.C.
SF-3	3'-0" x 3'-0" x 1'-4" DEEP	4 - #5 EACH WAY TOP & BOTT (RUN TRENCH REINF. THROUGH)

FOUNDATION WALL SCHEDULE		
MARK	SIZE	REINFORCING
CW-1	6" WIDE x 1'-2" HIGH	2 - #5 CONT. & # DOWELS AT 24" O.C.



2 FOUNDATION PLAN - TRASH ENCLOSURE
SCALE: 1/4" = 1'-0"

- SHEET NOTES:**
- INDICATES CMU WALLS WITH #5 VERTICAL BARS @ 2'-0" O.C. CENTERED IN MASONRY WALLS. SEE 6/S3-3 FOR MASONRY CONSTRUCTION.
 - SOIL PREPARATION BENEATH BUILDING AND FOUNDATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT. THIS ACTION SHALL BE OBSERVED BY A REPRESENTATIVE OF THE GEOTECHNICAL FIRM ON A CONTINUOUS BASIS TO ENSURE THAT SOIL PROPERTIES MEET THE REQUIREMENTS IN THE GEOTECHNICAL REPORT.
 - ALL SUBGRADE SOILS BELOW SLAB ON GRADES SHALL BE MOISTURE CONDITIONED AND COMPACTED AS DISCUSSED IN THE SOIL REPORT.
 - CONTRACTOR SHALL FOLLOW ALL RECOMMENDATIONS FOR MATERIAL AND COMPACTION LISTED IN THE SOIL REPORT. THIS INCLUDES A TOTAL DEPTH OF IMPROVEMENT OF 3 FEET, CONSISTING OF 2 FEET OF MOISTURE CONDITIONED SOIL AND 1 FOOT OF NON-EXPANSIVE FILL (SEE SECTION 4.2 "SUBGRADE IMPROVEMENTS").
 - CONTRACTOR SHALL COORDINATE SIZE AND LOCATION OF FLOOR AND WALL PENETRATIONS AND BLOCK OUT ACCORDINGLY.
 - TOP OF FOOTING ELEVATION SHALL BE 99'-4" UNLESS NOTED OTHERWISE. CONTINUOUS FOOTINGS MAY BE EARTH FORMED. SLABS THICKEN/HAUNCH TO 8" OVER FOOTINGS.
 - "MCJ" INDICATES MASONRY CONTROL JOINT LOCATION FOR CONCRETE MASONRY UNITS. SEE 2/S3-3 & 4/S3-3 FOR DETAILS. SEE ARCHITECTURAL DRAWINGS FOR BRICK CONTROL JOINTS.
 - SEE PLAN FOR SHOP AREA SLAB ON GRADE THICKNESS. REINFORCE CONCRETE SLAB WITH #4 BARS @ 16" O.C. EA. WAY. TOP OF SLAB SHALL BE 100'-0" UNLESS NOTED OTHERWISE.
 - SW-# INDICATES SHEAR WALL TYPE. SEE SCHEDULE.

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 NE-C02455 PE #: 241105

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 3301 CLASSEN BLVD.
 NORMAN, OKLAHOMA

Robert A. Whorley
 21026
 OKLAHOMA
 12/2/24

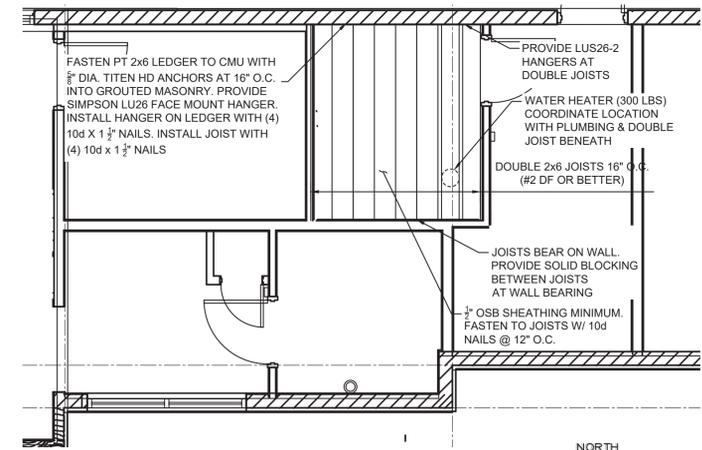
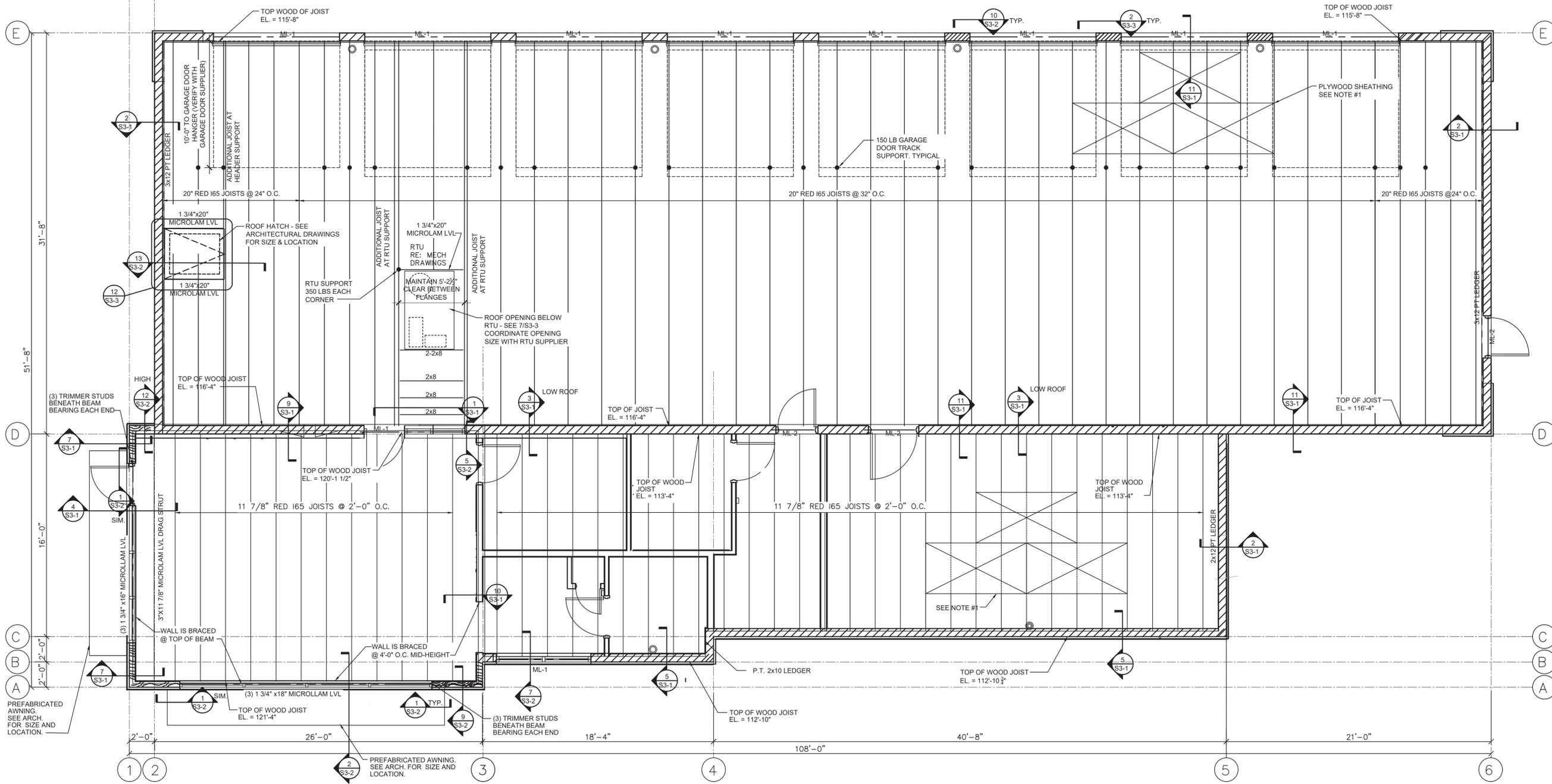
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S2-0
 FOUNDATION PLAN



2 CEILING FRAMING PLAN
SCALE: 1/4" = 1'-0"

1 ROOF FRAMING PLAN
SCALE: 1/4" = 1'-0"



SHEET NOTES:

- DIAPHRAGM SHALL BE A MINIMUM OF 3/4" PLYWOOD SHEATHING WITH A SPAN RATING OF 48/24, EXTERIOR GRADE AND SHALL BE FASTENED TO STRUCTURE AS FOLLOWS:
 - 10d (0.148" DIA.) NAILS WITH A MINIMUM OF 1 1/2" PENETRATION INTO FRAMING MEMBER
 - SEE 2/S1-0 FOR NAILING PATTERNS
 - FIELD NAILING = 12" O.C.
- ML-# INDICATES MASONRY LINTEL TYPE. SEE DETAIL 11/S3-2.
- UNLESS OTHERWISE DETAILED, CONNECTIONS FOR ITEMS HUNG FROM JOISTS (FANS, HEATERS, GARAGE DOORS, ETC.) SHALL BE DESIGNED AND INSTALLED BY THE GENERAL CONTRACTOR AND THEIR RESPECTIVE TRADES. THIS LOAD SHALL NOT EXCEED 250 LBS PER JOIST.
- ATTACH 2x6 LEDGER PIECES BETWEEN JOISTS TO CMU WALL W/ (2) 1/2"x3" ANCHORS, EMBED 3 1/2" MIN. FASTENERS SUCH AS NAILS, SCREWS, AND ANCHORS SHALL BE HOT DIPPED GALVANIZED WHEN CONNECTING TO OR ANCHORING PRESSURE TREATED LUMBER.
- HARDWARE & FASTENERS SUCH AS HANGERS, NAILS, SCREWS, AND ANCHORS SHALL BE HOT DIPPED GALVANIZED WHEN CONNECTING TO OR ANCHORING PRESSURE TREATED LUMBER.
- SEE DETAIL 7/S3-3 FOR ROOF OPENINGS & PENETRATIONS.
- WOOD WALLS SHALL BE 2x6 DOUGLAS FIR NO. 2 STUD. STUD SPACING SHALL BE 16" O.C. UNLESS NOTED OTHERWISE.

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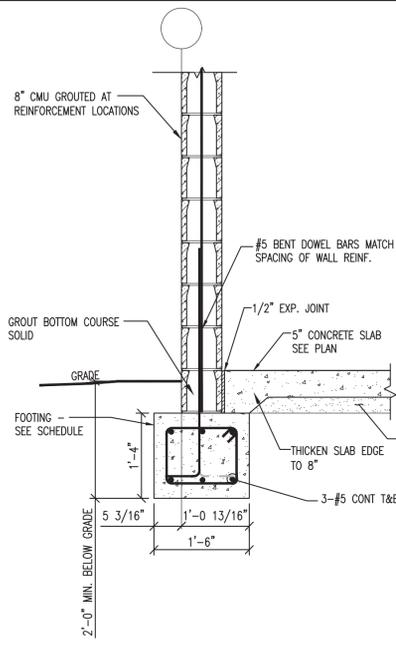
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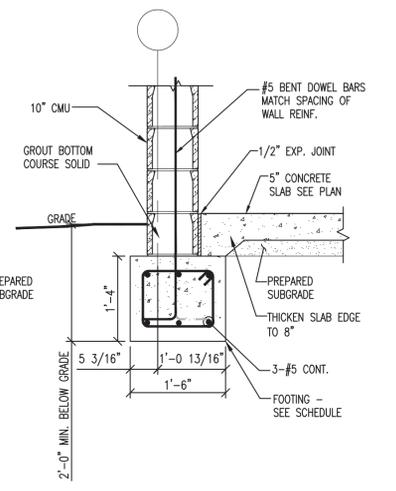
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SHEET

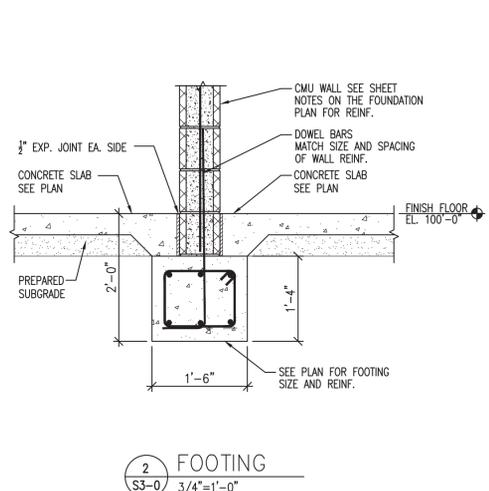
S2-1
 ROOF FRAMING PLAN



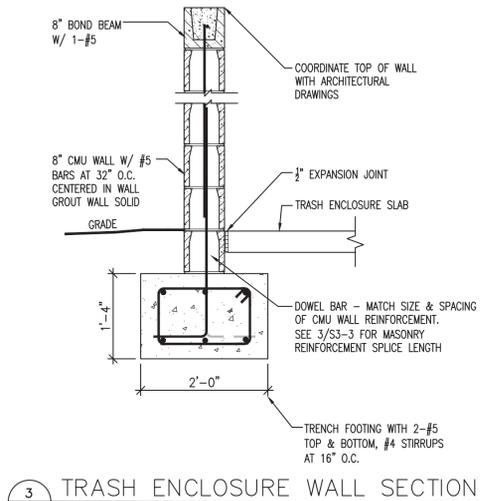
1 TRENCH FOOTING @ WALL
S3-0 3/4"=1'-0"



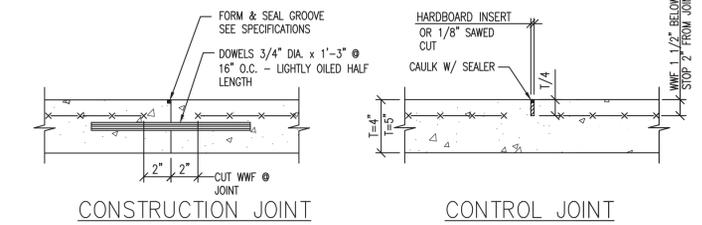
1B FOOTING @ 10" CMU
S3-0 3/4"=1'-0"



2 FOOTING
S3-0 3/4"=1'-0"

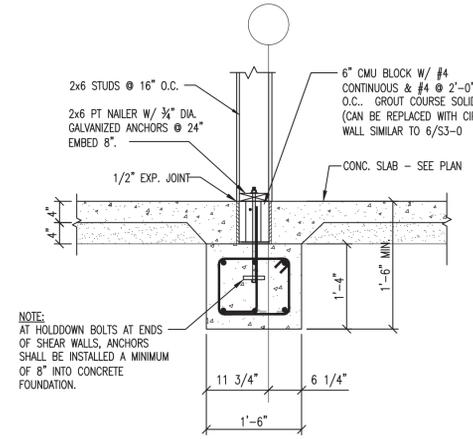


3 TRASH ENCLOSURE WALL SECTION
S3-0 3/4"=1'-0"

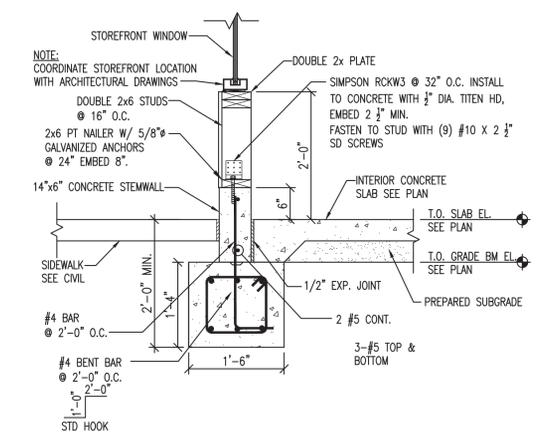


4 4" & 5" CONCRETE SLAB (C.J.) DETAILS
S3-0 N.T.S.

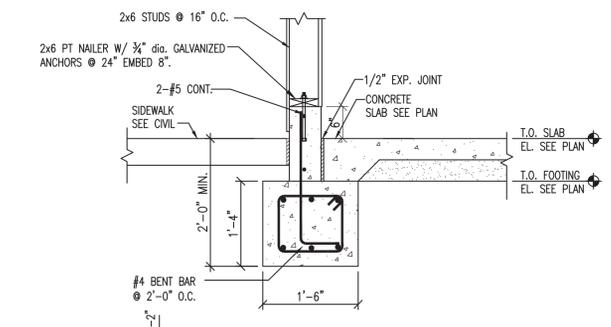
- NOTES:
- EPOXY JOINT FILLER TO BE SIKADUR 51 BY SIKA CORPORATION OR APPROVED EQUAL. MINIMUM AGE OF CONCRETE TO BE 28 DAYS WHEN FILLED.
 - SAW JOINT AS SOON AS SURFACE IS FIRM ENOUGH TO BE TORN OR DAMAGED BY THE BLADE (USUALLY 4 TO 12 HOURS AFTER CONCRETE HARDENS).



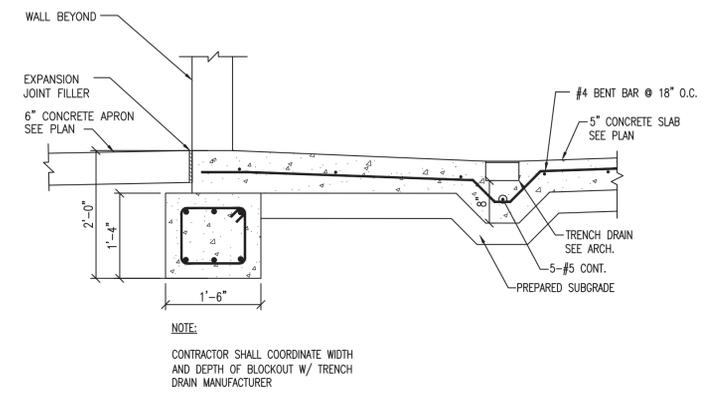
5 FOUNDATION SECTION
S3-0 3/4"=1'-0"



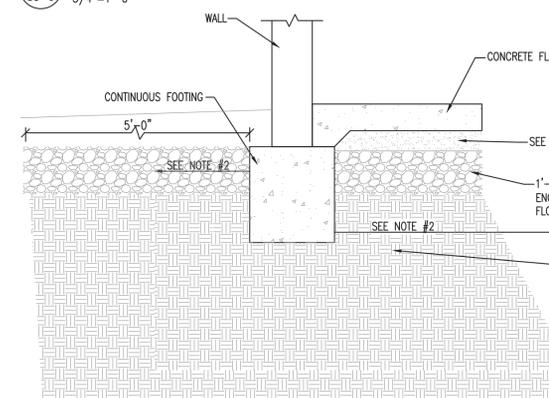
6 FOOTING @ STOREFRONT
S3-0 3/4"=1'-0"



7 FOOTING @ WOOD WALL
S3-0 3/4"=1'-0"

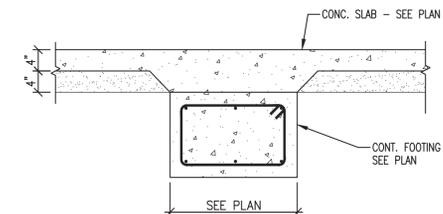


8 FOOTING & TRENCH DRAIN
S3-0 3/4"=1'-0"

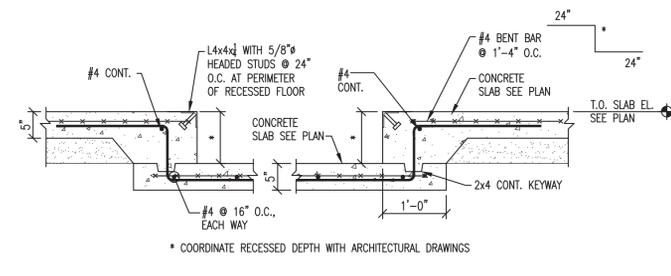


9 SUBGRADE PREPARATION
S3-0 3/4"=1'-0"

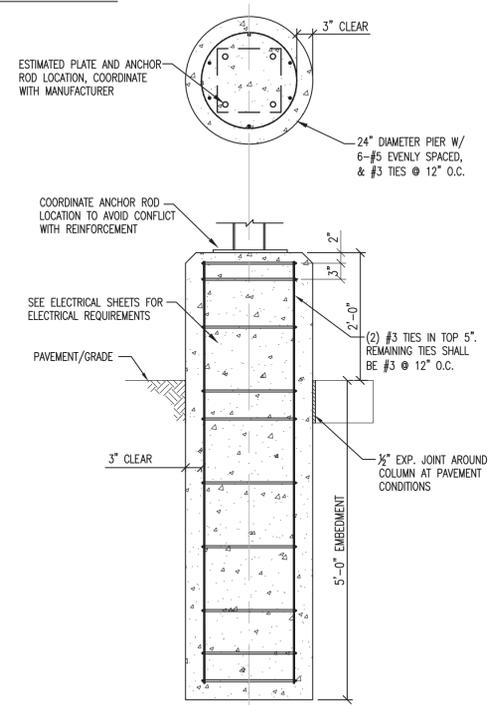
- SUBGRADE PREPARATION NOTES:
- SUBGRADE IMPROVEMENTS SHALL CONSIST OF A MINIMUM OF 2'-0" OF ENGINEERED FILL & 1'-0" THICK LAYER OF NON-EXPANSIVE FILL
 - THE ENTIRE FLOOR SLAB SHALL BE SUPPORTED ON A LAYER OF STRUCTURAL FILL. STRUCTURAL FILL SOILS SHALL EXTEND 5 FEET BEYOND THE BUILDING PERIMETER AND BE MOISTURE CONDITIONED AND RECOMPACTED IN ACCORDANCE WITH SECTION 6.2.
 - REFER TO THE SOIL REPORT FOR ALL MATERIAL TYPE, COMPACTION, AND MOISTURE REQUIREMENTS FOR THE IMPROVED SUBGRADE ZONE & THE NON-EXPANSIVE FILL LAYER BELOW THE FLOOR SLAB
 - PROVIDE 4" GRANULAR LEVELING AND DRAINAGE LAYER DIRECTLY UNDER THE SLAB. THIS LAYER SHALL BE FREE-DRAINING, WELL GRADED AND COMPACTED IN ACCORDANCE WITH TABLE 4 OF THE GEOTECHNICAL REPORT.



10 FOOTING SECTION
S3-0 3/4"=1'-0"



11 DEPRESSED SLAB DETAIL
S3-0 3/4"=1'-0"



12 LIGHT POLE FOUNDATION
S3-0 3/4"=1'-0"

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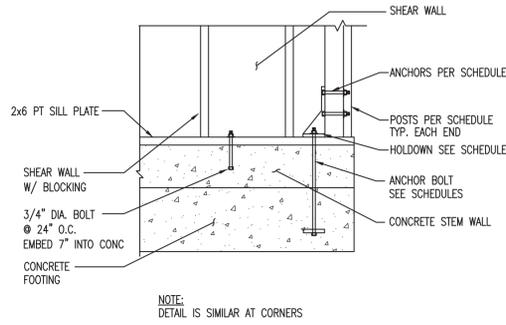


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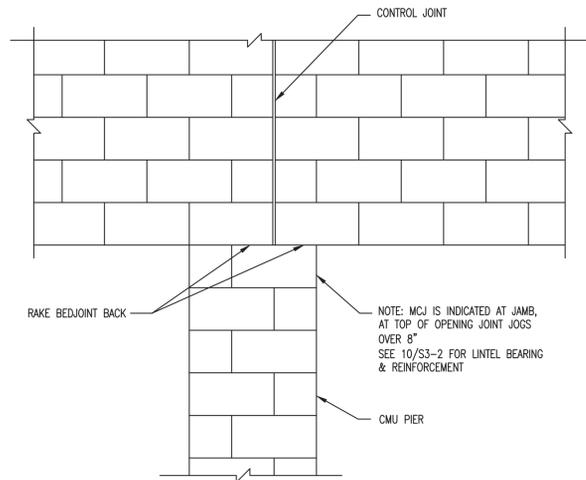
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S3-0

SECTIONS AND DETAILS



1 FOOTING @ COLUMN
S3-3 3/4"=1'-0"

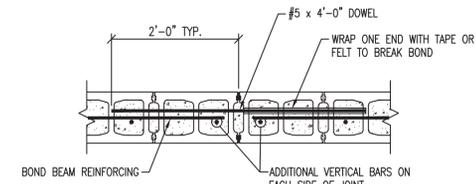


2 CONTROL JOINT @ PIER
S3-3 3/4"=1'-0"

BAR SIZE	6" BLOCK		8" BLOCK		10" BLOCK		12" BLOCK		REMARKS
	BAR @ CL	BAR @ CL	BAR @ EDGE	BAR @ CL	BAR @ EDGE	BAR @ CL	BAR @ EDGE		
#4	2'-1"	1'-9"	2'-7"	2'-1"	2'-5"	2'-1"	2'-4"	-	
#5	3'-3"	2'-2"	4'-0"	2'-7"	3'-10"	2'-7"	3'-7"	-	
#6	-	3'-6"	8'-2"	4'-4"	7'-8"	4'-4"	7'-3"	-	
#7	-	5'-0"	-	5'-1"	10'-5"	5'-1"	9'-10"	-	

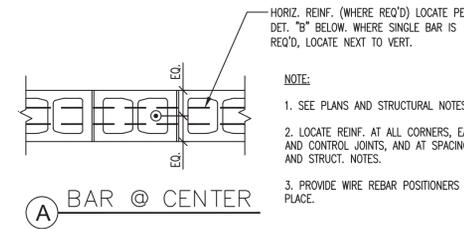
NOTE: WHEN REQUIRED SPLICE LENGTH EXCEEDS 4'-0" USE HIGH LIFT GROUTING WITH NO SPLICES OR USE MECHANICAL TENSION SPLICES WITH LOW LIFT GROUTING.

3 MASONRY REINFORCEMENT SPLICE & DEVELOPMENT LENGTH
S3-3 3/4"=1'-0"

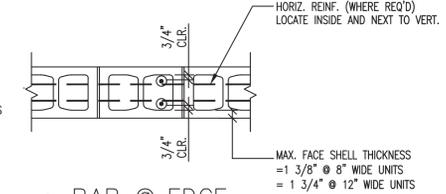


NOTE: THIS DETAIL DOES NOT APPLY TO BOND BEAMS LOCATED AT DIAPHRAGM CHORDS SUCH AS FLOORS OR ROOFS. AT DIAPHRAGM CHORD LOCATIONS, REINFORCEMENT SHALL RUN THROUGH JOINT WITH NO BOND BREAK.

4 MASONRY CONTROL JOINT
S3-3 3/4"=1'-0"

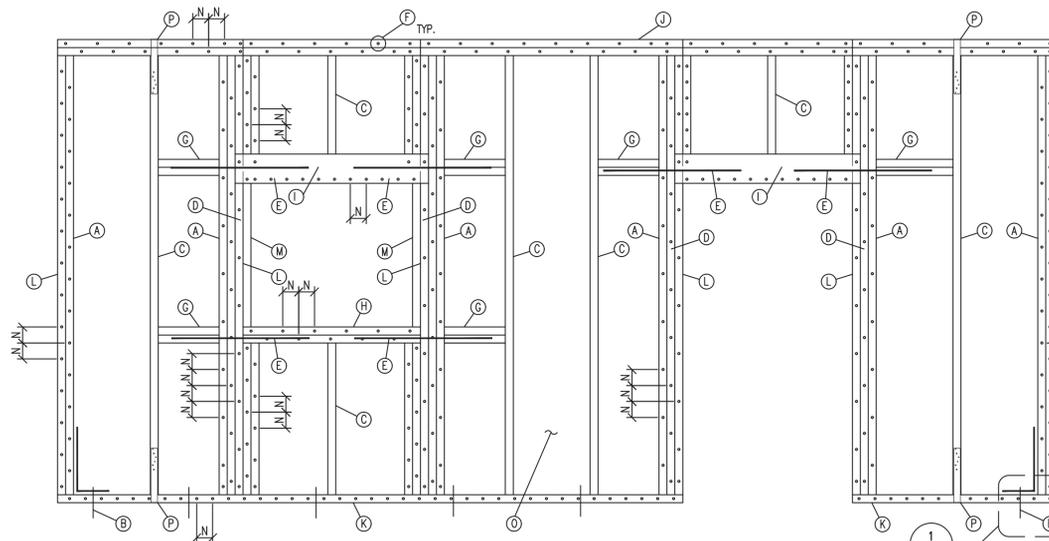


A BAR @ CENTER



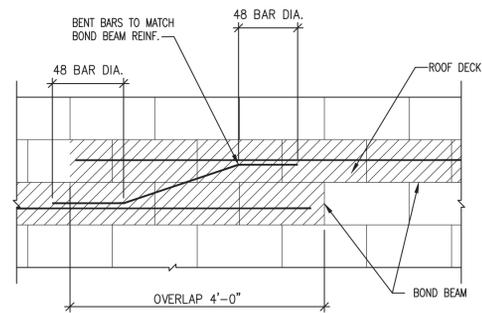
B BAR @ EDGE

6 TYP. MASONRY WALL REINF. PLACEMENT
S3-3 3/4"=1'-0"

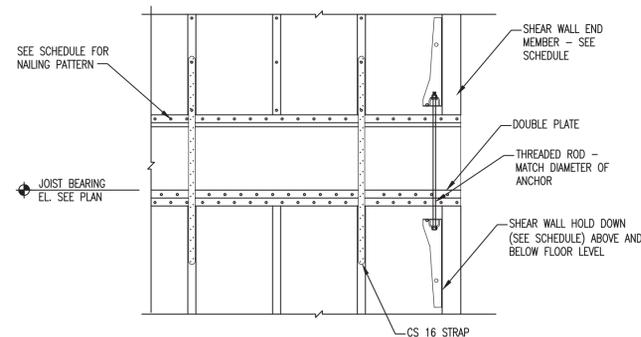


- A SHEARWALL END STUDS (KING STUDS @ OPENINGS). NAIL THESE STUDS TOGETHER WITH SHEARWALL BOTTOM PLATE NAILING (2 STUDS MIN.) EDGE NAIL WOOD STRUCTURAL PANEL SHEARWALL TO THESE STUDS.
- B SHEARWALL ANCHORS OR STRAPS.
- C TYPICAL STUDS (OR JACK STUDS) @ 16" O.C. MAX. SPACING. FIELD NAIL WOOD STRUCTURAL PANEL SHEARWALLS TO STUDS. EDGE NAIL AT PANEL EDGES.
- D TRIMMER STUDS, CONTINUE EDGE NAILING FROM KING STUDS AND NAIL STUDS TOGETHER WITH SHEARWALL BOTTOM PLATE NAILING.
- E CS16 x 28" STRAP WITH 11-10d NAILS IN BLOCKING AND HEADER OR WINDOW PLATE.
- F SHEAR EDGE NAILING.
- G 2-2X BLOCKING (WIDTH TO MATCH STUDS).
- H WINDOW PLATE (2-2X MIN., WIDTH TO MATCH STUD).
- I HEADER (2-2X MIN.) WITH SHEARWALL EDGE NAILING.
- J DOUBLE TOP PLATE WITH SHEARWALL EDGE NAILING.
- K BOTTOM PLATE WITH SHEARWALL EDGE NAILING AND BOLTED OR NAILED TO BELOW.
- L WOOD STRUCTURAL PANEL EDGE.
- M 2X BLOCK BETWEEN HEADER AND WINDOW PLATE. NAIL TO TRIMMER WITH 16d NAILS @ 6" O.C.
- N SHEARWALL EDGE NAILING SPACING.
- O SHEARWALL PANEL.
- P STUD PLATE TIE - SEE TYPICAL WALL FRAMING DETAIL 8/S3-3.

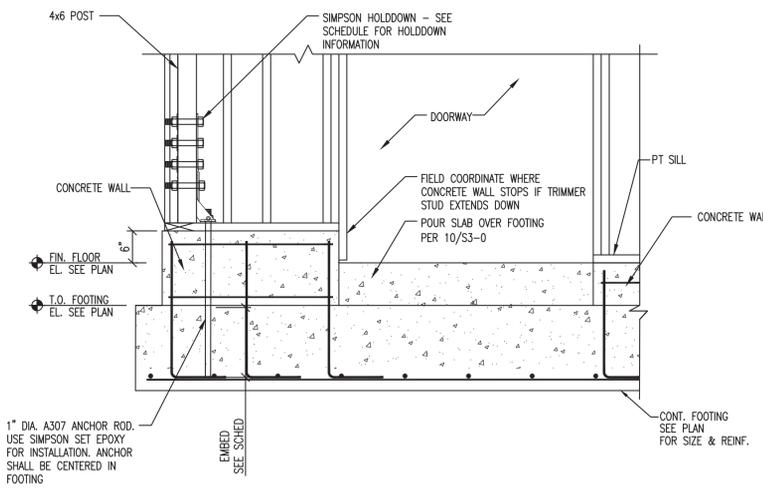
5 SHEAR WALL CONSTRUCTION
S3-3 3/4"=1'-0"



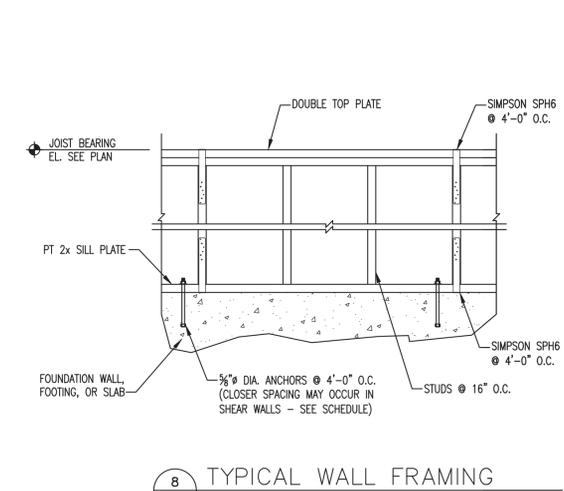
9 BOND BEAM STEP AT SLOPING ROOF
S3-3 3/4"=1'-0"



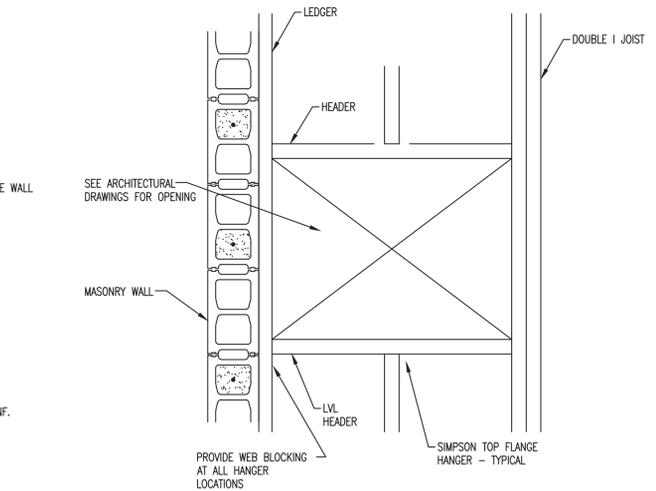
10 TWO LEVEL SHEAR WALL CONNECTION
S3-3 3/4"=1'-0"



11 FOOTING SECTION
S3-3 NTS



8 TYPICAL WALL FRAMING
S3-3 3/4"=1'-0"



12 ROOF ACCESS OPENING
S3-3 3/4"=1'-0"

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REVISION	DATE	COMMENTS

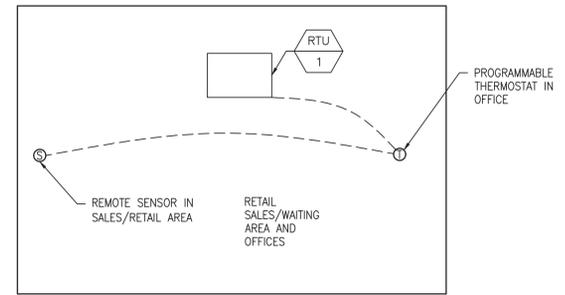
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CHECKED BY: TAS
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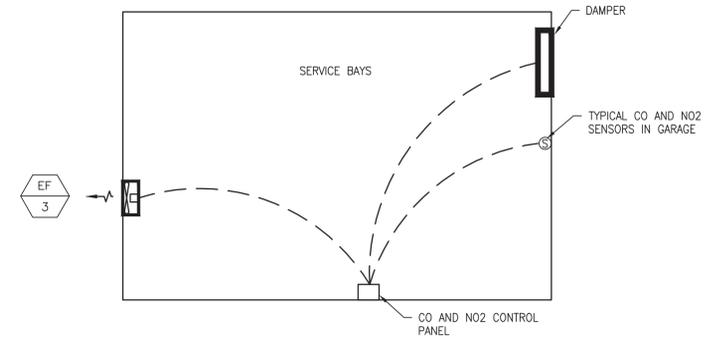
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S3-3

SECTIONS AND DETAILS



OFFICE/RETAIL SALES ROOFTOP UNIT
NOT TO SCALE



SEQUENCE OF OPERATION FOR SERVICE BAYS:

EF-3 SHALL REMAIN OFF AND L-1 SHALL REMAIN CLOSED UNLESS A CALL FOR CARBON MONOXIDE OR NITROGEN DIOXIDE VENTING IS INITIATED.

VENTILATION SHALL BE INITIATED ACCORDING TO THE FOLLOWING SCHEDULE:

STAGE 1: LOW ALARM (25 PPM CO) (0.5 PPM NO2), MOTORIZED DAMPER FOR INTAKE LOUVER SHALL OPEN.

STAGE 2: MEDIUM ALARM (75 PPM CO) (1 PPM NO2), MOTORIZED DAMPER SHALL BE FULLY OPEN AND EXHAUST FAN SHALL BE ENERGIZED.

THE FAN SHALL OPERATE WHEN CARBON MONOXIDE LEVELS FALL BELOW 25 PPM OR NITROGEN DIOXIDE LEVELS FALL BELOW 0.5 PPM. EF SHALL TIME OFF AND L-1 SHALL CLOSE.

GARAGE TRANSFER FANS SHALL REMAIN ON CONSTANT DUTY.

GARAGE GAS DETECTION SPECIFICATIONS

- A. THE GARAGE GAS DETECTION SYSTEM SHALL HAVE A DEDICATED MICROPROCESSOR-BASED CONTROLLER THAT SHALL MONITOR AND CONTROL THE GARAGE GAS DETECTION SYSTEM IN A STAND-ALONE MODE OR AS A PART OF THE BUILDING AUTOMATION SYSTEM. THE CONTROLLER SHALL HAVE A LOCAL DISPLAY.
- B. THE SYSTEM SHALL CONSIST OF EXHAUST FANS, NATURAL MAKEUP AIR AND MULTIPLE GAS DETECTION SENSORS LOCATED PER SUPPLIER REQUIREMENTS AND RECOMMENDATIONS. THE PLANS ARE ONLY A GUIDE, ALL REQUIRED SENSOR LOCATIONS SHALL BE INCLUDED IN THE BID.
- C. THE SENSORS SHALL BE ONE OF THE FOLLOWING TYPES:
 1. MACURCO CM21A
 2. VULCAIN Q2
 3. VERIS G SERIES
 4. MSA Z GUARD

EACH SENSOR SHALL HAVE AN INTEGRAL ALARM LIGHT FOR 25, 50 AND 200 PPM CO AS A MINIMUM. AS AN ALTERNATE, A SERIES OF LIGHTS SHALL BE MOUNTED AT EACH SENSOR FOR THIS PURPOSE.
- D. THE CONTROLLER SHALL MONITOR THE FAN STATUS AND IF THE FAN FAILS TO START AN AUDIBLE ALARM SHALL BE SOUNDED IN THE GARAGE TO ANNUNCIATE THE FAILURE. THE FAILURE SHALL AUTOMATICALLY RESET WHEN FAN STATUS IS ESTABLISHED.
- E. THE SYSTEM SHALL MONITOR ALL OF THE GAS DETECTION SENSORS IN THE GARAGE AND DETERMINE THE MAXIMUM VALUE OF ALL OF THE SENSORS. IF THE MAXIMUM VALUE EXCEEDS THE MINIMUM SETPOINT (THRESHOLD 1) (ADJ.) THE EXHAUST FANS SHALL OPERATE. WHEN THE MAXIMUM VALUE DROPS BELOW 80% OF MINIMUM SETPOINT (THRESHOLD 1) (ADJ.) THE FAN SHALL BE DISABLED. SYSTEM TO EXHAUST A MINIMUM OF 0.75 CFM/SQFT AT HIGH SPEED.
- F. IF ANY SENSOR FAILS THE FAN SHALL OPERATE CONTINUOUSLY AND THE AUDIBLE ALARM SHALL BE SOUNDED. IF ANY SENSOR READING RISES ABOVE 200 PPM CO OR 2.0 PPM NO2, THE AUDIBLE ALARM SHALL BE SOUNDED.
- G. POINTS LIST:
 1. AIP CARBON MONOXIDE SENSORS (AS REQUIRED)
 2. AIP NITROGEN DIOXIDE SENSORS (AS REQUIRED)
 3. AOP FAN ANALOG SPEED REQUEST
 4. BIP FAN STATUS
 5. BOP ALARM LIGHT, HORN WITH SILENCE BUTTON
 6. ALM FAN FAILURE
 7. STPT FAN ENABLE LEVEL
 8. STPT FAN DISABLE LEVEL

END

SERVICE BAY EXHAUST FAN/INTAKE LOUVER

NOT TO SCALE

BRAKES PLUS

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NORMAN, OKLAHOMA



12/03/24
ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
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CHECKED BY: LRP
DATE OF ISSUE: 12/03/24



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VOICE: 303.881.8925

SHEET

PROJ #24XXXX

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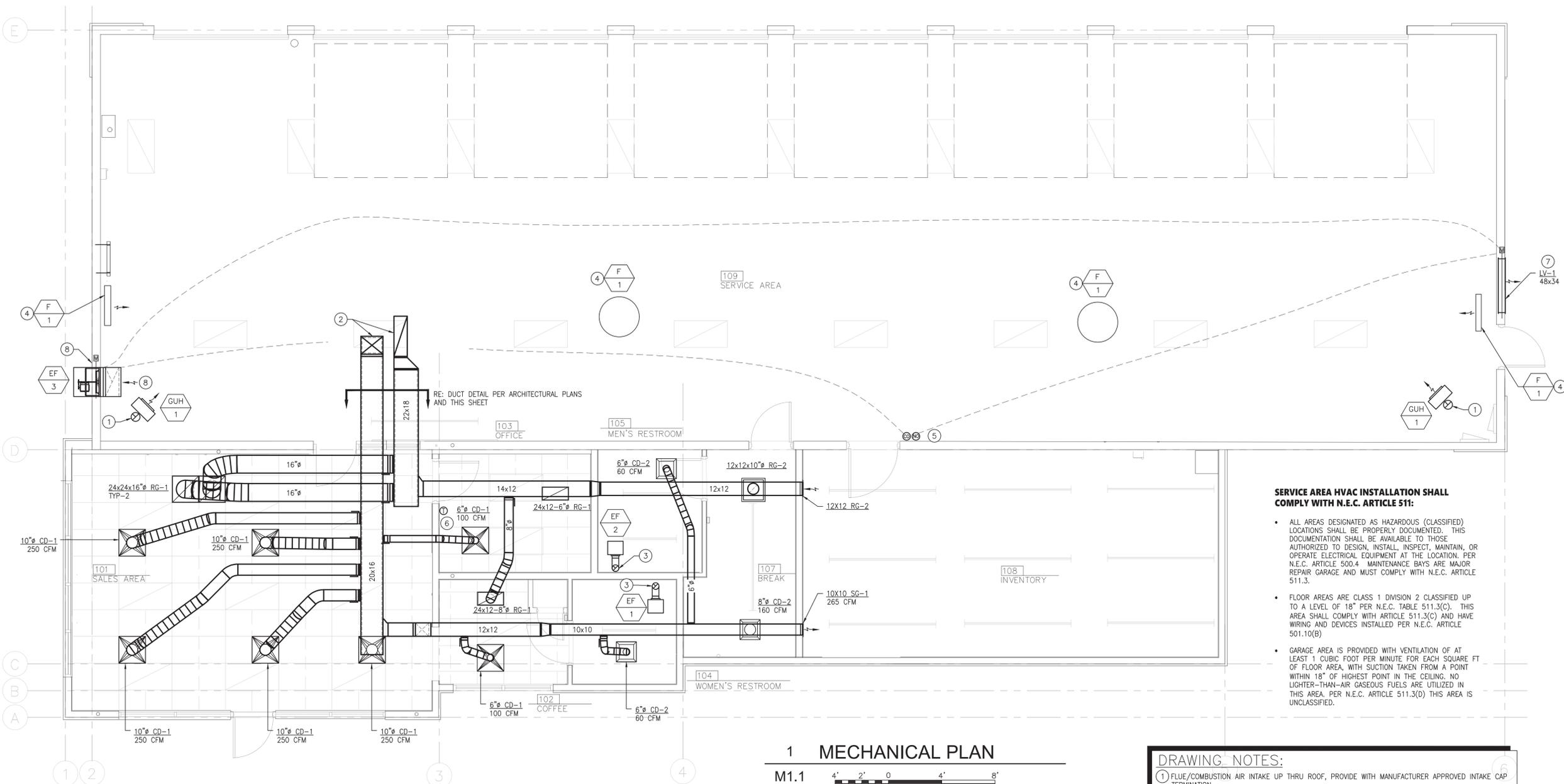
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MECHANICAL SEQUENCE OF OPERATIONS



12/03/24

ARCHITECT OF RECORD



SERVICE AREA HVAC INSTALLATION SHALL COMPLY WITH N.E.C. ARTICLE 511:

- ALL AREAS DESIGNATED AS HAZARDOUS (CLASSIFIED) LOCATIONS SHALL BE PROPERLY DOCUMENTED. THIS DOCUMENTATION SHALL BE AVAILABLE TO THOSE AUTHORIZED TO DESIGN, INSTALL, INSPECT, MAINTAIN, OR OPERATE ELECTRICAL EQUIPMENT AT THE LOCATION. PER N.E.C. ARTICLE 500.4 MAINTENANCE BAYS ARE MAJOR REPAIR GARAGE AND MUST COMPLY WITH N.E.C. ARTICLE 511.3.
- FLOOR AREAS ARE CLASS 1 DIVISION 2 CLASSIFIED UP TO A LEVEL OF 18" PER N.E.C. TABLE 511.3(C). THIS AREA SHALL COMPLY WITH ARTICLE 511.3(C) AND HAVE WIRING AND DEVICES INSTALLED PER N.E.C. ARTICLE 501.10(B)
- GARAGE AREA IS PROVIDED WITH VENTILATION OF AT LEAST 1 CUBIC FOOT PER MINUTE FOR EACH SQUARE FT OF FLOOR AREA, WITH SUCTION TAKEN FROM A POINT WITHIN 18" OF HIGHEST POINT IN THE CEILING. NO LIGHTER-THAN-AIR GASEOUS FUELS ARE UTILIZED IN THIS AREA. PER N.E.C. ARTICLE 511.3(D) THIS AREA IS UNCLASSIFIED.

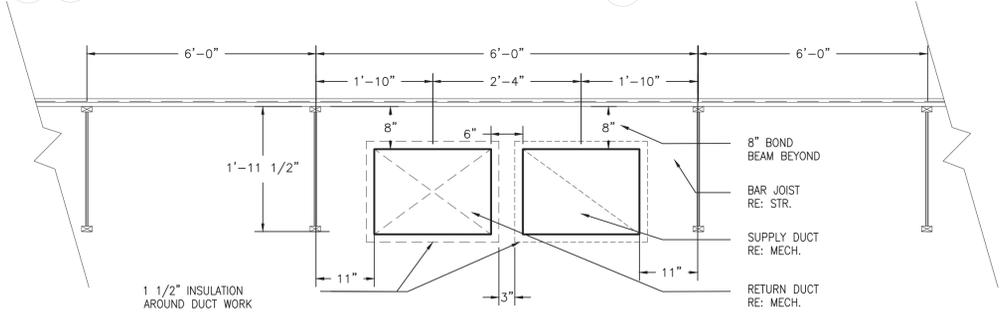
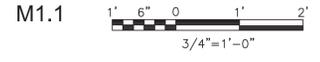
1 MECHANICAL PLAN



DRAWING NOTES:

- FLUE/COMBUSTION AIR INTAKE UP THRU ROOF. PROVIDE WITH MANUFACTURER APPROVED INTAKE CAP TERMINATION.
- FULL SIZE SA/RA DUCT DOWN FROM RTU. PROVIDE TRANSITIONS AS REQUIRED TO ACCOMMODATE DUCT SIZE AS INDICATED. PROVIDE FLEXIBLE CONNECTIONS AS REQUIRED.
- EXHAUST DUCT UP THRU ROOF TO APPROVED CAP OR GOOSENECK TERMINATION. SIZE AS INDICATED
- FANS SHALL BE EITHER WALL OR CEILING MOUNTED AT 10'-0" AFF. REFERENCE ARCHITECTURAL PLANS FOR FINAL LOCATION. COORDINATE WITH OTHER HVAC/SHOP EQUIPMENT. SEE OWNER FOR EXACT LOCATION.
- CONTROL WIRE FROM CO/NOX SENSORS BACK TO DETECTION SYSTEMS CONTROL PANEL. LOCATE AND INSTALL THE SENSORS BASED ON MANUFACTURERS INSTALLATION INSTRUCTIONS. COORDINATE FINAL LOCATION FOR CONTROL PANEL(S). PROVIDE 7-DAY, 24 HOUR PROGRAMMABLE THERMOSTAT WITH SPACE SENSOR. THERMOSTAT AND SENSOR LOCATIONS ON WALL TO BE VERIFIED WITH OWNER PRIOR TO INSTALLATION.
- PROVIDE 7-DAY PROGRAMMABLE T-STAT WITH SPACE SENSOR. BOTH SENSOR AND THERMOSTAT LOCATION SHALL BE COORDINATED WITH BUILDING OWNER.
- COORDINATE EXTERIOR WALL LOUVER AND EXHAUST FAN WALL OPENING SIZES AND LOCATIONS PER ARCHITECTURAL PLANS FOR EXACT LOCATION AND ELEVATION.
- PROVIDE 30x12 EXHAUST DUCT FROM EF-3, ROUTE UP INTERIOR WALL TO MIN. 18" BELOW STRUCTURE. PROVIDE HARDWARE MESH SCREEN AT OPENING. COORDINATE OPENINGS W/ ARCH PLANS AND OWNER.

2 DUCTWORK DETAIL



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DATE OF ISSUE: 12/03/24

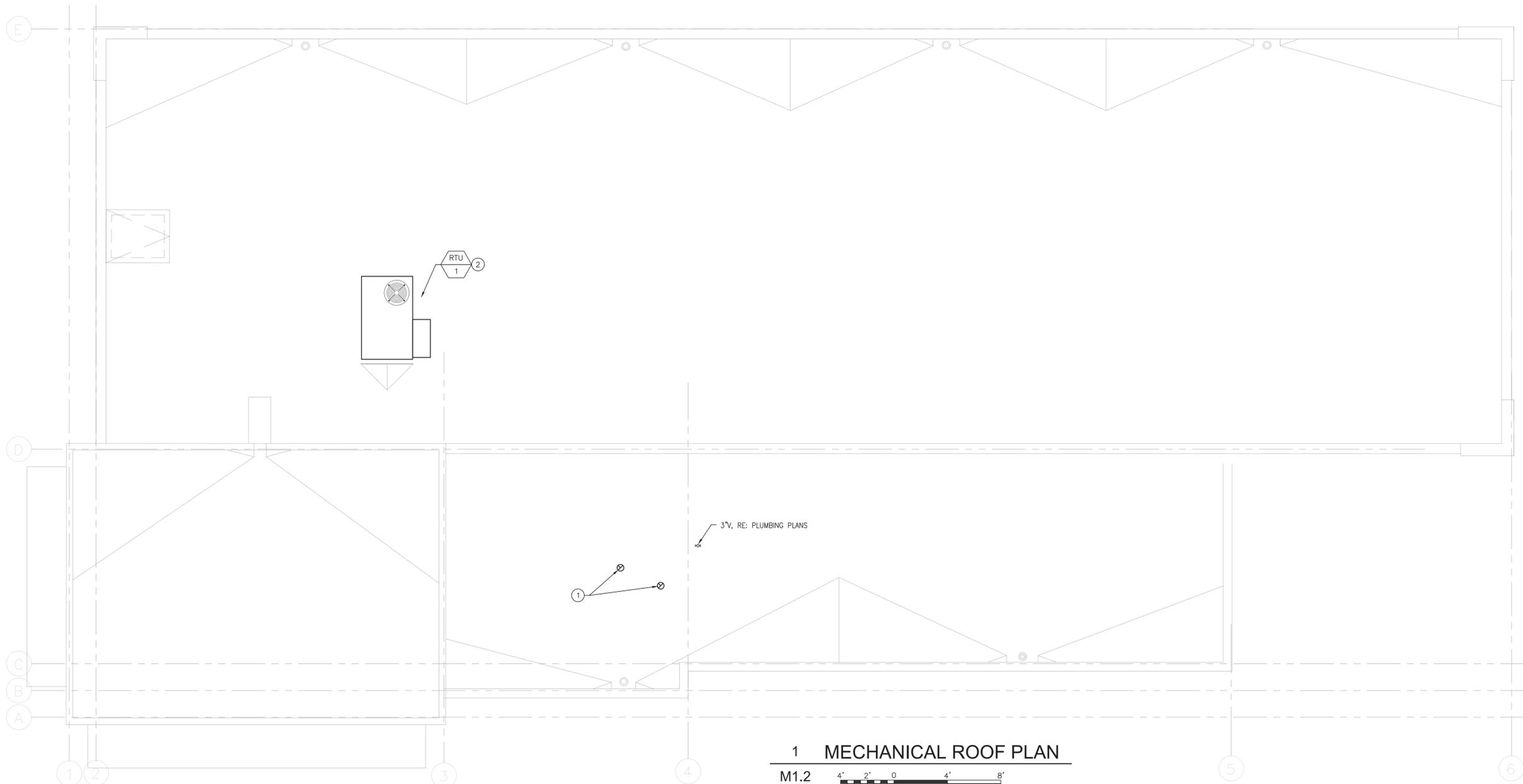


45 SPYGLASS DRIVE
LITTLETON, CO 80123
VOICE: 303.881.8925

A SHEET

PROJ #24XXXX
ADAM A. POWELL, P.E.
PEC Enterprises, Inc.
14412 Alene Ct. NE
Albuquerque, NM 87123
Telephone 720-409-2454

M1.1
MECHANICAL PLAN



1 MECHANICAL ROOF PLAN
M1.2 1/4"=1'-0"

DRAWING NOTES:
① EXHAUST DUCT FROM RESTROOM BELOW. TERMINATE WITH APPROVED CAP.
② NEW ROOFTOP UNIT: MAINTAIN 10'-0" FROM OUTSIDE AIR INTAKE.

BRAKES PLUS
3301 CLASSEN BLVD.
NORMAN, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
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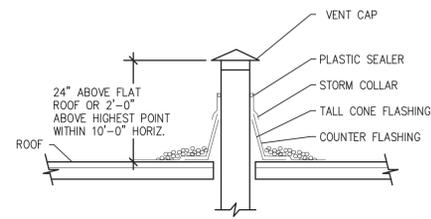
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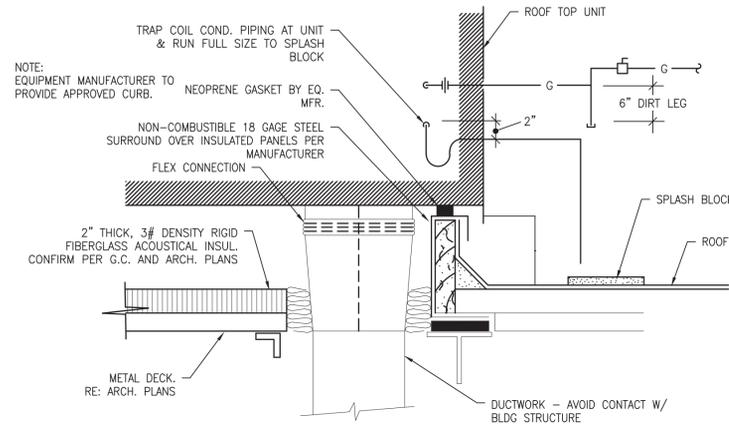
M1.2
MECHANICAL ROOF PLAN

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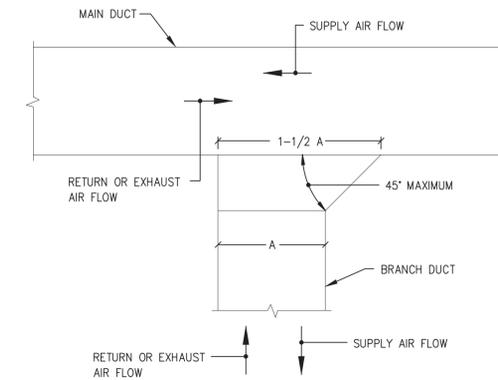
EXHAUST FAN DUCT THRU ROOF DETAIL

NOT TO SCALE



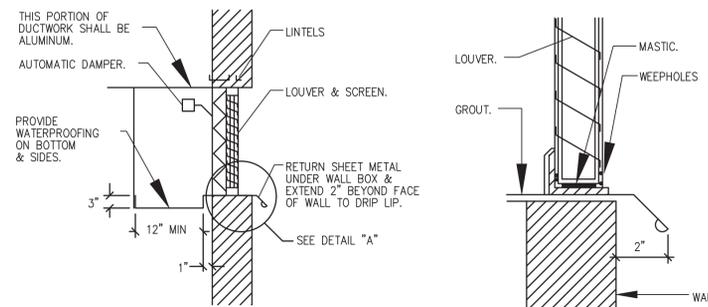
ROOFTOP UNIT INSTALLATION DETAIL

NOT TO SCALE



DUCT TAKE-OFF DETAIL

NOT TO SCALE



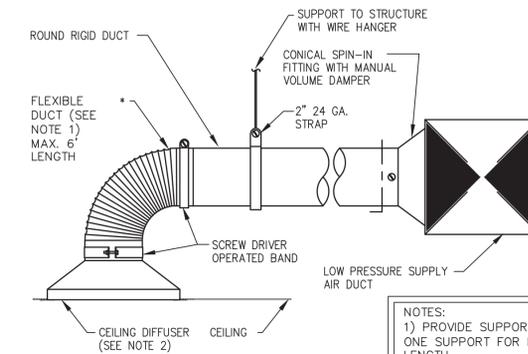
NOTE:
REFER TO MFR'S INSTURCTIONS
FOR SPECIFIC MOUNTING DETAILS.
COORDINATE WITH
ARCHITECTURAL REQUIREMENTS.

DETAIL A

NOT TO SCALE

WATERTIGHT LOUVER CONNECTION DETAIL

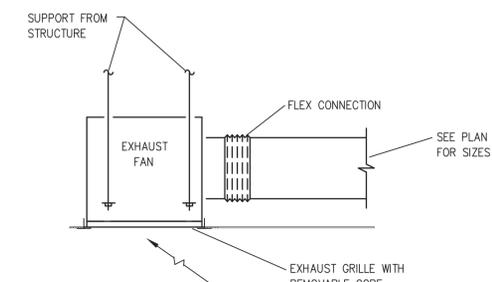
NOT TO SCALE



NOTES:
1) PROVIDE SUPPORT MINIMUM OF
ONE SUPPORT FOR EACH 3'-0" OF
LENGTH
2) SUPPORT DIFFUSER
INDEPENDENT FROM DUCTWORK
WITH WIRE HANGERS WHEN
REQUIRED BY LOCAL CODE.

AIR DEVICE DETAIL

NOT TO SCALE



CEILING EXHAUST FAN DETAIL

NOT TO SCALE

BRAKES PLUS

3301 CLASSEN BLVD.
NORMAN, OKLAHOMA



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M2.1
MECHANICAL DETAILS

- Systems serving spaces that are heated and not cooled to less than 60°F.
- Where more than 60 percent of the outdoor heating energy is provided from site-recovered or site solar energy.
- Heating systems in climates with less than 3600 HDD.
- Cooling systems in climates with a 1 percent cooling design wet-bulb temperature less than 64°F.
- Systems requiring dehumidification that employ energy recovery in series with the cooling coil.
- Laboratory fume hood exhaust systems that have either a variable air volume system capable of reducing exhaust and makeup air volume to 50 percent or less of design values or, a separate make up air supply meeting the following makeup air requirements: a) at least 75 percent of exhaust flow rate, b) heated to no more than 2°F below room setpoint temperature, c) cooled to no lower than 3°F above room setpoint temperature, d) no humidification added, e) no simultaneous heating and cooling.

Section 5: Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2009 IECC requirements in COMcheck Version 4.1.5.5 and to comply with the mandatory requirements in the Requirements Checklist.

Name - Title _____ Signature _____ Date _____

Section 6: Post Construction Compliance Statement

- HVAC record drawings of the actual installation, system capacities, calibration information, and performance data for each equipment provided to the owner.
- HVAC O&M documents for all mechanical equipment and system provided to the owner by the mechanical contractor.
- Written HVAC balancing and operations report provided to the owner.

The above post construction requirements have been completed.

Principal Mechanical Designer-Name _____ Signature _____ Date _____

Project Title: Brakes Plus Report date: 12/03/24
 Data filename: G:\24XXXX - Brakes - South Norman OK-Norm Herman-LL-GUH\Engrfile\Mech calcs\BRAKES - S. NORMAN OK.cck Page 3 of 3

- 1. Water heating equipment meets minimum efficiency requirements: Electric Water Heater efficiency: 0.89 EF (211 SL, Bluh (if > 12 kW))
- 2. All piping in circulating system insulated
- 3. Hot water storage temperature controls that allow setpoint of 90°F for non-dwelling units and 110°F for dwelling units.
- 4. Automatic time control of heat tapes and recirculating systems present
- 5. Controls will shut off operation of circulating pump between water heater/boiler and storage tanks within 5 minutes after end of heating cycle

Generic Requirements: Must be met by all systems to which the requirement is applicable:

- 1. Plant equipment and system capacity no greater than needed to meet loads
Exception(s):
 - Standby equipment automatically off when primary system is operating
 - Multiple units controlled to sequence operation as a function of load
- 2. Minimum one temperature control device per system
- 3. Minimum one humidity control device per installed humidification/dehumidification system
- 4. Load calculations per ASHRAE/ACCA Standard 183.
- 5. Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup
Exception(s):
 - Continuously operating zones
 - Outside-air source for ventilation; system capable of reducing OSA to required minimum
- 6. R-5 supply and return air duct insulation in unconditioned spaces
 R-8 supply and return air duct insulation outside the building
 R-8 insulation between ducts and the building exterior when ducts are part of a building assembly
Exception(s):
 - Ducts located within equipment
 - Ducts with interior and exterior temperature difference not exceeding 15°F.
- 8. Mechanical fasteners and sealants used to connect ducts and air distribution equipment
- 9. Ducts sealed - longitudinal seams on rigid ducts; transverse seams on all ducts; UL 181A or 181B tapes and mastics
- 10. Hot water pipe insulation: 1.5 in. for pipes <=1.5 in. and 2 in. for pipes >1.5 in.
 Chilled water/refrigerant/brine pipe insulation: 1.5 in. for pipes <=1.5 in. and 1.5 in. for pipes >1.5 in.
 Steam pipe insulation: 1.5 in. for pipes <=1.5 in. and 3 in. for pipes >1.5 in.
Exception(s):
 - Piping within HVAC equipment.
 - Fluid temperatures between 55 and 105°F.
 - Fluid not heated or cooled with renewable energy.
 - Piping within room fan-coil (with AHRI440 rating) and unit ventilators (with AHRI840 rating).
 - Runouts <4 ft in length.
- 11. Operation and maintenance manual provided to building owner
- 12. Thermostatic controls have 5°F deadband
Exception(s):
 - Thermostats requiring manual changeover between heating and cooling
 - Special occupancy or special applications where wide temperature ranges are not acceptable and are approved by the authority having jurisdiction.
- 13. Balancing devices provided in accordance with IMC 603.17
- 14. Demand control ventilation (DCV) present for high design occupancy areas (>40 person/1000 ft2 in spaces >500 ft2) and served by systems with any one of 1) an air-side economizer, 2) automatic modulating control of the outdoor air damper, or 3) a design outdoor airflow greater than 3000 cfm.
Exception(s):
 - Systems with heat recovery.
 - Multiple-zone systems without DDC of individual zones communicating with a central control panel.
 - Systems with a design outdoor airflow less than 1200 cfm.
 - Spaces where the supply airflow rate minus any makeup or outgoing transfer air requirement is less than 1200 cfm.
- 15. Motorized, automatic shutoff dampers required on exhaust and outdoor air supply openings
Exception(s):
 - Gravity dampers acceptable in buildings <3 stories
- 16. Automatic controls for freeze protection systems present
- 17. Exhaust air heat recovery included for systems 5,000 cfm or greater with more than 70% outside air fraction or specifically exempted
Exception(s):
 - Hazardous exhaust systems, commercial kitchen and clothes dryer exhaust systems that the International Mechanical Code prohibits the use of energy recovery systems.

Project Title: Brakes Plus Report date: 12/03/24
 Data filename: G:\24XXXX - Brakes - South Norman OK-Norm Herman-LL-GUH\Engrfile\Mech calcs\BRAKES - S. NORMAN OK.cck Page 2 of 3



**COMcheck Software Version 4.1.5.5
 Mechanical Compliance Certificate**

Section 1: Project Information

Energy Code: 2009 IECC
 Project Title: Brakes Plus
 Project Type: New Construction

Construction Site:
 3301 CLASSEN ROAD
 NORMAN, OK

Owner/Agent:
 Brakes Plus

Designer/Contractor:
 Loren Priest
 EE LLC Engineering
 12005 Antelope Trail
 Parker, CO 80138
 3037481189
 loren@eeparker.com

Section 2: General Information

Building Location (for weather data): Norman, Oklahoma
 Climate Zone: 5a

Section 3: Mechanical Systems List

Quantity System Type & Description

- 1 RTU-1 (Single Zone) :
 Heating: 1 each - Duct Furnace, Gas, Capacity = 130 kBtu/h
 Proposed Efficiency = 80.00% Ec, Required Efficiency: 80.00 % Ec
 Cooling: 1 each - Single Package DX Unit, Capacity = 90 kBtu/h, Air-Cooled Condenser, Air Economizer
 Proposed Efficiency = 14.00 EER, Required Efficiency: 11.00 EER
 Fan System: RTU-1 -- Compliance (Motor nameplate HP method) : Passes

 Fans:
 RTU1 Supply, Constant Volume, 1990 CFM, 2.0 motor nameplate hp
- 2 GUH-1 (Single Zone) :
 Heating: 1 each - Unit Heater, Gas, Capacity = 175 kBtu/h
 Proposed Efficiency = 80.00% Ec, Required Efficiency: 80.00 % Ec
 Fan System: GUH-1 -- Compliance (Motor nameplate HP method) : Passes

 Fans:
 GUH1 Supply, Constant Volume, 2575 CFM, 0.5 motor nameplate hp
- 1 EWH-1:
 Electric Storage Water Heater, Capacity: 30 gallons w/ Circulation Pump
 Proposed Efficiency: 1.20 EF, Required Efficiency: 0.89 EF

Section 4: Requirements Checklist

Requirements Specific To: RTU-1 :

- 1. Equipment minimum efficiency: Duct Furnace (Gas): 80.00 % Ec
- 2. Equipment minimum efficiency: Single Package Unit: 11.00 EER
- 3. Integrated economizer is required for this location and system.
- 4. Cooling system provides a means to relieve excess outdoor air during economizer operation.

Requirements Specific To: GUH-1 :

- 1. Equipment minimum efficiency: Unit Heater (Gas): 80.00 % Ec

Requirements Specific To: EWH-1 :

Project Title: Brakes Plus Report date: 12/03/24
 Data filename: G:\24XXXX - Brakes - South Norman OK-Norm Herman-LL-GUH\Engrfile\Mech calcs\BRAKES - S. NORMAN OK.cck Page 1 of 3

BRAKES PLUS

3301 CLASSEN BLVD.
 NORMAN, OKLAHOMA



12/03/24
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M3.0

MECHANICAL COMCHECK

PLUMBING GENERAL NOTES AND SPECIFICATIONS

GENERAL CONSTRUCTION NOTES:

- DRAWINGS ARE MEANT TO SHOW INTENT ONLY, NOT EXACT DETAIL. THESE DRAWINGS ARE A "BUILDERS SET" AND INTENDED FOR THE USE OF AN EXPERIENCED AND WELL QUALIFIED CONTRACTOR WHO MAY INFER REASONABLE INFORMATION BASED ON EXPERIENCE COMMON IN THE INDUSTRY AND TRADES. QUALITY LEVEL IS A REQUIRED STANDARD. DO NOT SCALE DRAWINGS. FIELD VERIFY ALL CONDITIONS OF WORK AND REPORT ANY DISCREPANCIES TO THE ARCHITECT/ENGINEER FOR CLARIFICATIONS BEFORE STARTING ANY WORK. CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL ERRORS IN HIS WORK, INCLUDING THE LACK OF FIELD VERIFICATION OF EXISTING CONDITIONS.
- THE ARCHITECT AND PROFESSIONAL CONSULTANTS WILL NOT HAVE CONTROL OF AND WILL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, OR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK ON THIS PROJECT OR FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTOR, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK ON THIS SITE, NOR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE INTENT OF THE CONTRACT AND OR THESE CONSTRUCTION DOCUMENTS.

BASIC REQUIREMENTS:

PLUMBING DESIGN SHALL CONFORM TO THE CURRENT INTERNATIONAL PLUMBING CODE. PROJECT SHALL BE COORDINATED WITH THE EXISTING BUILDING SERVICES AND SHALL INCLUDE ALL ITEMS NECESSARY FOR COMPLETE AND FULLY OPERATIONAL TENANT PLUMBING SYSTEMS. MAKE CONNECTIONS TO AND EXTEND SYSTEMS INSTALLED BY OTHERS AND/OR FURNISHED BY OTHERS. PROVIDE ACCESSORIES AND INCIDENTAL ITEMS AS REQUIRED FOR A COMPLETE AND FULLY OPERATIONAL SYSTEM WHETHER OR NOT SPECIFICALLY SPECIFIED AND/OR SHOWN ON THE PLANS.

DO NOT SCALE FROM THESE DRAWINGS. REFER TO ARCHITECTURAL OR CIVIL DRAWINGS BY OTHERS FOR DIMENSIONS AND FOR ESTIMATING DISTANCES. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DRAWINGS AND SPECIFICATIONS RELATING TO THE JOB WHETHER OR NOT INDICATED ON THESE DRAWINGS. ANY SCALE, DIMENSION OR QUANTITIES SHOWN ON THE DRAWINGS ARE FOR ENGINEERING CALCULATION PURPOSES ONLY. THE PLUMBING CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ESTIMATING AND DETERMINING ALL DISTANCES AND QUANTITIES RELATED TO THE PROJECT. REFER TO ARCHITECTURAL OR CIVIL DRAWINGS BY OTHERS AND VERIFY EXISTING CONDITIONS ON SITE FOR ALL ESTIMATING PURPOSES.

COORDINATE WITH OTHER TRADES FOR A COORDINATED INSTALLATION WITHIN THE AVAILABLE SPACE. WHERE CROWDED CONDITIONS EXIST, PREPARE COORDINATION DRAWINGS SHOWING ALL TRADE CONFLICTS AND SUBMIT TO ARCHITECT FOR APPROVAL AND DIRECTION PRIOR TO ROUGH-IN AND/OR INSTALLATION. RELOCATION OF OUTLETS AND/OR DEVICES MADE PRIOR TO ROUGH-IN SHALL BE DONE AT NO ADDITIONAL COST.

ALL WORK SHALL BE PERFORMED BY PROPERLY LICENSED PLUMBERS OR UNDER THEIR DIRECT SUPERVISION. ALL MATERIALS AND EQUIPMENT SHALL MEET THE REQUIREMENTS OF THE APPLICABLE STANDARDS OF UL AND SHALL BEAR THE UL LABEL AS EVIDENCE THAT THE MATERIAL AND/OR EQUIPMENT MEETS THIS REQUIREMENT.

INSTALL ALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS AND DETAILS UNLESS OTHERWISE NOTED IN THESE PLANS. IF ANY DISCREPANCIES EXIST CONTACT THE ENGINEER PRIOR TO ORDERING EQUIPMENT AND ROUGH-IN.

ALL EQUIPMENT START UP AND TESTING SHALL BE PERFORMED BY THE EQUIPMENT MANUFACTURER TRAINED SERVICE TECHNICIAN. SUBMIT MANUFACTURER'S LITERATURE (SHOP DRAWINGS) FOR MATERIALS AND EQUIPMENT. SUBMITTAL SHALL INCLUDE EQUIPMENT PERFORMANCE DATA AT ELEVATION AND/OR LOCAL CONDITIONS. EQUIPMENT CUTSHEETS OR CATALOG COPIES ARE NOT ACCEPTABLE. SUBMITTAL SHALL BEAR THE APPROVAL OF THE GENERAL CONTRACTOR FOR COMPLIANCE WITH COORDINATION AND THESE SPECIFICATIONS PRIOR TO SUBMITTAL TO ARCHITECT AND/OR HIS AGENCIES. ANY EQUIPMENT SUBSTITUTED FOR WHAT IS SCHEDULED SHALL BE EQUAL TO THAT SCHEDULED IN CONTROLS, ACCESSORIES, AND PERFORMANCE REGARDLESS OF MANUFACTURER.

FIELD LABEL ALL PLUMBING EQUIPMENT AND PIPING AS INDICATED ON THE PLANS PER PLUMBING AND LOCAL CODE REQUIREMENTS. INDICATE DIRECTION OF FLOW ON PIPING.

TAG ALL VALVES WITH CONSECUTIVE NUMBERING ON PERMANENT HARD PLASTIC OR METAL TAG AND PROVIDE SCHEDULE LISTING ITEMS, AREA SERVED, SIZE AND VALVE TYPE. SUBMIT FINAL VALVE SCHEDULE FOR REVIEW.

PROVIDE EXPANSION LOOPS, SWING JOINTS, OR MECHANICAL EXPANSION COMPENSATING DEVICES AS REQUIRED TO ACCOUNT FOR THERMAL EXPANSION OF ALL PIPING SYSTEMS. EXPANSION SYSTEM SIZING SHALL BE IN ACCORDANCE WITH MATERIALS DATA SHEETS AND MANUFACTURER RECOMMENDATIONS.

INSTALL ALL EQUIPMENT PER MANUFACTURERS INSTRUCTIONS AND RECOMMENDATIONS. IF PLAN DIFFERS FROM THESE INSTRUCTIONS THEN NOTIFY ENGINEER PRIOR TO ROUGH-IN. MANUFACTURERS INSTRUCTIONS SHALL PREVAIL. SPECIAL ATTENTION MUST BE PAID TO GAS FIRED EQUIPMENT FLUE/GA LENGTHS, SIZES, AND MATERIAL.

BASIC MATERIALS

PLUMBING CONTRACTOR TO PROVIDE PLUMBING SYSTEM CONTROLS, CONTROLLERS, CONTROL TRANSFORMER, DISCONNECT STARTERS, CONTROL W/SP INTERNATIONAL COUPLINGS FOR JOINING AND ALL WORK NECESSARY FOR A COMPLETE AND OPERATIONAL PLUMBING SYSTEM. ALL ELECTRICAL ITEMS SHALL BE COORDINATED WITH ELECTRICAL DRAWINGS AND ELECTRICAL SUB-CONTRACTOR FOR INSTALLATION.

PROVIDE SUPPLEMENTAL STEEL AND SUPPORTS AS REQUIRED FOR INSTALLATION OF PLUMBING MATERIALS, EQUIPMENT, AND APPARATUS.

ALL WORK IN FINISHED AREAS SHALL BE CONCEALED UNLESS SPECIFICALLY NOTED AS EXPOSED ON THE PLANS. PRIOR TO THE INSTALLATION OF ANY EXPOSED WORK THIS CONTRACTOR SHALL VERIFY AND OBTAIN ARCHITECTURAL APPROVAL OF LOCATION AND EXTENT.

PROVIDE PRESSURE REDUCING VALVE ASSEMBLY AT BUILDING WATER SERVICE ENTRY WHERE PRESSURE EXCEEDS 65 PSI. PRESSURE REDUCING VALVE TO BE SET TO 65 PSI.

PROVIDE SANITARY SEWER SYSTEM CLEANOUTS AS REQUIRED BY LOCAL CODES. PROVIDE BRANCH SHUT-OFF VALVES ON ALL WATER LINES EXTENDING FROM MAINS. THE CONTRACTOR SHALL LOCATE AND FURNISH FOR INSTALLATION BY OTHERS, ALL ACCESS PANELS AS REQUIRED FOR ACCESS TO VALVES, MOTORS, ETC. AND THE PROPER SERVICING OF EQUIPMENT AND LINES INSTALLED UNDER THIS CONTRACT.

PIPING

- SANITARY, VENT, AND STORM PIPING ABOVE GRADE SHALL BE CAST IRON NO-HUB PIPE AND FITTINGS, MANUFACTURED TO CISPI 310 BEARING THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE AND BE LISTED BY NSF INTERNATIONAL. COUPLINGS FOR JOINING CAST IRON NO-HUB PIPE SHALL MEET THE REQUIREMENTS OF CISPI 310 AND LISTED BY NSF INTERNATIONAL TO THE CISPI 310 STANDARD. IF HEAVY DUTY COUPLINGS ARE REQUIRED: HUSKY 2000, CLAMP ALL 80, OR MISSION 80 COUPLINGS WITH CONSIDERATION TO USE: HUSKY 4000 OR CLAMP ALL 125. INSTALLATION IN COMPLIANCE TO CISPI HANDBOOK.
- SANITARY, VENT, AND STORM PIPING ABOVE AND BELOW GRADE SHALL BE SOLID CORE PVC SCHEDULE 40 OR 80 PIPE AND SHALL BE IRON PIPE SIZE (IPS) CONFORMING TO ASTM D 1785 AND ASTM D 2665. INJECTION MOLDED PVC DWV FITTINGS SHALL CONFORM TO ASTM D 2665. FABRICATED PVC DWV FITTINGS SHALL CONFORM TO ASTM F 1866. PIPE AND FITTINGS SHALL BE MANUFACTURED AS A SYSTEM AND BE THE PRODUCT OF ONE MANUFACTURER. ALL PIPE AND FITTINGS SHALL BE MANUFACTURED IN THE UNITED STATES. ALL SYSTEMS SHALL UTILIZE A SEPARATE WASTE AND VENT SYSTEM. PIPE AND FITTINGS SHALL CONFORM TO NSF INTERNATIONAL STANDARD 14. INSTALLATION SHALL COMPLY WITH THE LATEST INSTALLATION INSTRUCTIONS PUBLISHED BY MANUFACTURER AND SHALL CONFORM TO ALL APPLICABLE PLUMBING, BUILDING, AND FIRE CODE REQUIREMENTS. BURIED PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM F 2321 AND ASTM F 1668. SOLVENT CEMENT JOINTS SHALL BE MADE IN A TWO STEP PROCESS WITH PRIMER CONFORMING TO ASTM F 656 AND SOLVENT CEMENT CONFORMING TO ASTM D 2564. THE SYSTEM SHALL BE PROTECTED FROM CHEMICAL AGENTS, FIRE STOPPING MATERIALS, THREAD SEALANT, PLASTICIZED VINYL PRODUCTS, OR OTHER AGGRESSIVE CHEMICAL AGENTS NOT COMPATIBLE WITH PVC COMPOUNDS. SYSTEMS SHALL BE HYDROSTATICALLY TESTED AFTER INSTALLATION.
- DOMESTIC WATER PIPING ABOVE GRADE: ASTM B 88, TYPE L COPPER WITH SOLDERED OR MECHANICALLY CRIMPED JOINTS (PRO PRESS)
- DOMESTIC WATER PIPING ABOVE GRADE: SOCKET WELDED CPVC TUBE AND FITTINGS PER ASTM D 2846.
- DOMESTIC WATER PIPING ABOVE GRADE: UPONOR AQUAPEX PIPING WITH PROPEX FITTINGS FOR ALL BRANCH CONNECTIONS AND TERMINATIONS (OR REHAU EQUIVALENT). DCW TO BE BLUE PIPE, DHW TO BE RED PIPE, AND DHWR TO BE CLEAR PIPE.
- DOMESTIC WATER PIPING BELOW GRADE SHALL BE TYPE K COPPER WITH SILVER SOLDERED JOINTS.
- CONDENSATE DRAIN PIPING SHALL BE TYPE M COPPER WITH SOLDERED JOINTS, OR CPVC IF ALLOWED BY LOCAL AUTHORITY HAVING JURISDICTION.

- ANY PIPING SYSTEM LOCATED IN A RETURN AIR PLENUM SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NO MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NO MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84.
- FIRE STOP ALL PIPING MATERIALS PASSING THROUGH FIRE RATED STRUCTURES OR FIRE RATED ASSEMBLIES IN ACCORDANCE WITH THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION. USE CURRENTLY LISTED U.L. CLASSIFIED PRODUCTS, TESTED BY ASTM E814. USE FOR ALL APPLICABLE PIPE PENETRATIONS THROUGH FIRE RATED FLOORS, WALLS, OR FLOOR CEILING ASSEMBLIES IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS.
- COMPRESSED AIR PIPING: 1" AND SMALLER: TYPE K OR L (TYPE A OR B), COPPER TUBE; WROUGHT-COPPER FITTINGS; COPPER PRESSURE-SEAL-JOINT FITTINGS; COPPER-PUSH FITTINGS; AND BRAZED JOINTS.
- COMPRESSED AIR PIPING: 2" DOWN TO 1-1/4" SHALL BE TYPE K OR L (TYPE A OR B), COPPER TUBE; WROUGHT-COPPER FITTINGS; COPPER PRESSURE-SEAL-JOINT FITTINGS; AND BRAZED JOINTS.
- COMPRESSED AIR PIPING: 2-1/2" TO 4" SHALL BE TYPE K OR L (TYPE A OR B), COPPER TUBE; WROUGHT-COPPER FITTINGS; COPPER PRESSURE-SEAL-JOINT FITTINGS; AND BRAZED JOINTS.
- COMPRESSED AIR DRAIN PIPING SHALL BE TYPE M (TYPE C) COPPER TUBE; WROUGHT-COPPER FITTINGS, AND BRAZED OR SOLDERED JOINTS.

INSULATION

- WATER PIPING IN UNCONDITIONED SPACE AND EXTERIOR WALLS SHALL BE 2" FIBERGLASS INSULATION.
- HOT WATER PIPING 2" OR LESS SHALL BE 1-INCH FIBERGLASS INSULATION. HOT WATER PIPING GREATER THAN 2-INCHES SHALL BE 1 1/2" FIBERGLASS INSULATION. RUNOUTS, NOT EXCEEDING 12 FEET, UP TO 2-INCHES SHALL BE 1/2-INCH THICK FIBER GLASS INSULATION WITH AN ALL-SERVICE JACKET.
- STORM DRAIN PIPING ABOVE GRADE SHALL BE 1/2-INCH THICK FIBER GLASS INSULATION WITH AN ALL-SERVICE JACKET.
- HORIZONTAL SANITARY AND STORM PIPING EXPOSED TO OUTDOOR TYPE AMBIENT CONDITIONS INCLUDING COVERED PARKING AND CRAWL SPACES SHALL BE HEAT-TRACED AND INSULATED WITH 1-INCH FIBERGLASS INSULATION.
- VERTICAL SANITARY AND STORM PIPING EXPOSED TO OUTDOOR TYPE AMBIENT CONDITIONS INCLUDING COVERED PARKING AND CRAWL SPACES SHALL BE INSULATED WITH 1-INCH FIBERGLASS INSULATION.
- CONDENSATE DRAIN PIPING SHALL BE 1/2-INCH THICK INSULATION WITH AN ALL-SERVICE JACKET.
- COLD WATER DISTRIBUTION PIPING SHALL NOT BE INSULATED UNLESS OTHERWISE NOTED.
- COLD OR HOT WATER PIPING IN A WALL, CEILING, OR FLOOR THAT IS ADJACENT TO AN UNCONDITIONED SPACE SHALL HAVE 1-INCH THICK INSULATION. THE PIPING SHALL ALSO BE INSTALLED TO THE WARM SIDE OF THE BUILDING INSULATION.
- HOT WATER PIPING LESS THAN 1-1/2" SHALL BE 1-INCH FIBERGLASS INSULATION. HOT WATER PIPING 1-1/2" TO 4" SHALL BE 1 1/2" FIBERGLASS INSULATION.

PLUMBING EQUIPMENT/FIXTURES

- FURNISH AND INSTALL PLUMBING FIXTURES AS SCHEDULED ON THE PLANS.
- PROVIDE CHROME PLATED ANGLE STOPS AND ESCUTCHEON PLATES ON ALL EXPOSED FIXTURE RUNOUTS.
- PROVIDE INSULATION AND ROUGH IN AS REQUIRED FOR COMPLIANCE WITH ADA REQUIREMENTS.
- PROVIDE ALL ACCESSORIES AND SPECIALTY ITEMS AS REQUIRED FOR A COMPLETE FIXTURE INSTALLATION.

REDUCED PRESSURE BACKFLOW PREVENTER

FURNISH AND INSTALL LEADFREE REDUCED PRESSURE BACKFLOW PREVENTER FOR THE PRIMARY DOMESTIC COLD WATER SERVICE IN ACCORDANCE WITH STATE, LOCAL, AND JURISDICTIONAL WATER DISTRICT REQUIREMENTS. FURNISH AND INSTALL REDUCED PRESSURE BACKFLOW PREVENTER FOR MECHANICAL EQUIPMENT REQUIRED OF THIS OR OTHER SECTIONS OF THESE SPECIFICATIONS.

ELECTRIC WATER HEATERS

FURNISH AND INSTALL A GLASS LINED ELECTRIC WATER HEATER AS SCHEDULED ON THE PLANS. FURNISH HEATER WHICH ARE UL LABELED AND MEET THE REQUIREMENTS OF LOCAL MUNICIPALITIES. WATER HEATER LOCATED IN CEILING SHALL BE PROVIDED WITH 2 1/2" DRAIN PAN. TERMINATE DRAIN TO NEAREST FLOOR DRAIN, FLOOR SINK OR LAV TRAP.

ABBREVIATIONS

(D)	DEMO
(E)	EXISTING
(N)	NEW
AAV	AIR ADMITTANCE VALVE
AD	AREA DRAIN
AF	ABOVE FINISH FLOOR
AFF	AIR HANDLING UNIT
AHU	BOILER
B	BASEBOARD
BB	BOOSTER FAN
BFP	BACKFLOW PREVENTER
BT	BATH TUB
BV	BALL VALVE
CD	CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
CO	CHILLER
CO	CLEANOUT
COTG	CLEANOUT TO GRADE
CU	CONDENSING UNIT
CV	CHECK VALVE
CUH	CABINET UNIT HEATER
DCW	DOMESTIC COLD WATER
DF	DRINKING FOUNTAIN
DHW	DOMESTIC HOT WATER
DSN	DOWN SPOUT NOZZLE
EC	ELECTRICAL CONTRACTOR
ECO	END OF LINE CLEANOUT
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
EW	ELECTRIC WATER COOLER
EWV	ELECTRIC WATER HEATER
FURN	FURNACE
FCO	FLOOR CLEANOUT
FCU	FAN COIL UNIT
FD	FLOOR DRAIN
FS	FLOOR SINK
G	GAS
GC	GENERAL CONTRACTOR
GM	GAS METER
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GUH	GAS UNIT HEATER
GW	GREASE WASTE
GWV	GAS WATER HEATER
HB	HOSE BIB
HP	HEAT PUMP
HX	HEAT EXCHANGER
IM	ICE MAKER BOX
LAV	LAVATORY
LS	LAUNDRY SINK
MAU	MAKE-UP AIR UNIT
MC	MECHANICAL CONTRACTOR
MF	MEASURE FLOW
NIC	NORMALLY CLOSED
NC	NORMALLY OPEN
NO	NOT TO SCALE
NTS	NOT TO SCALE
OA	OUTSIDE AIR
ORD	OVER FLOOR ROOF DRAIN
P	PUMP
PC	PLUMBING CONTRACTOR
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
RA	RETURN AIR
RAR	RETURN AIR REGISTER
RD	ROOF DRAIN
RH	RADIANT HEATER
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
SAR	SUPPLY AIR REGISTER
SF	SUPPLY FAN
SFT	SERIES FAN TERMINAL
SH	SHOWER
SK	SINK
SOI	SAND/OIL INTERCEPTOR
SS	SERVICE SINK
T&P	TEMPERATURE & PRESSURE
TD	TRENCH DRAIN
TYP	TYPICAL
UR	URINAL
VAV	VARIABLE AIR VOLUME
VV	VARI TRAC
WB	WASHER BOX
WCO	WALL CLEANOUT
WH	WALL HYDRANT

PLUMBING LEGEND

----	CND	CONDENSATE
----	DCW	DOMESTIC COLD WATER
----	120"	DOMESTIC HOT WATER
----	120"R	DOMESTIC HOT WATER RECIRC
----	GW	GREASE WASTE
----	RD	ROOF DRAIN
----	ORD	OVERFLOW ROOF DRAIN
----	SS	SAND OIL
----	Y	SANITARY SEWER
----	V	VENT
----	(A)XX	TYPICAL PIPE ABOVE/ON ROOF
----	(B)XX	TYPICAL PIPE BELOW/UNDERGROUND
----	(E)XX	TYPICAL PIPE EXISTING

VALVES

○	BALL VALVE
⊗	GATE VALVE
∇	CHECK VALVE
⊞	PRESSURE REDUCING VALVE (PRV)
⊞	MEASURE FLOW
⊞	TEE UP
⊞	TEE DOWN
⊞	ELBOW UP
⊞	ELBOW DOWN

MISC.

⊞	POINT OF CONNECTION (POC)
⊞	DEMO

FIXTURES

	WALL CLEAN OUT
⊞	FLOOR CLEANOUT
⊞	AREA DRAIN
⊞	FLOOR DRAIN
⊞	FLOOR SINK FULL COVER
⊞	GAS METER
⊞	HOSE BIB
⊞	BATH TUB/MOP SINK
⊞	SINK
⊞	2-COMPARTMENT SINK
⊞	DRINKING FOUNTAIN/URINAL
⊞	WASHER BOX
⊞	ICE BOX
⊞	WATER CLOSET STACK
⊞	WATER CLOSET

GENERAL NOTES

- ALL ITEMS CONNECTING TO POTABLE WATER SHALL MEET THE LEAD FREE STANDARD OF .25% OR LESS LEAD.
- PLUMBING PLANS REFERENCE FINISHED FLOOR TO FINISHED FLOOR ABOVE. SANITARY SHOWN IS FOR FIXTURES ABOVE UNLESS NOTED OTHERWISE.
- FIELD VERIFY ALL ROUTING OF PLUMBING LINES WITH OTHER TRADES. FIELD ADJUST ROUTING ACCORDINGLY TO MAKE SYSTEM WORK WITH OTHER TRADES.
- PROVIDE WATTS MMV ASSE1070 MIXING VALVE AT ALL PUBLIC FIXTURES AS REQUIRED PER LOCAL CODE.
- PC TO PROVIDE VACUUM BREAKERS AT LOCATIONS WHERE HOSES AND NOZZLES ARE USE, I.E. JANITOR SINKS, BEAUTY SINKS, KITCHEN SPRAYERS, DISHWASHERS, AND BATHS.
- ALL DRAINAGE LINES 2-1/2" AND UNDER TO BE SLOPED AT MINIMUM 1/4" PER FOOT, AND 3" AND OVER TO BE SLOPED AT MINIMUM 1/8" PER FOOT UNLESS NOTED OTHERWISE.
- START TRENCHING FOR NEW SANITARY LINE AT FURTHEST FIXTURE (HIGHEST POINT IN SYSTEM) FROM CIVIL CONNECTION POINT TO BUILDING.
- FIELD ROUTE ALL CONDENSATE LINES, T&P VALVES, AND DRAIN VALVES FROM MECHANICAL AND PLUMBING EQUIPMENT TO SANITARY SEWER RECEPTOR OR STORM/GRADE PER LOCAL CODE AND JURISDICTION.

PLUMBING FIXTURE SCHEDULE

TAG	ADA	DESCRIPTION	CONNECTIONS				FIXTURE	MANUFACTURER	MODEL NAME	MODEL #	FLOW RATE	DIMENSIONS	MOUNTING	RIM HEIGHT	FINISH	MISC.	REMARKS
			DCW	DHW	WASTE	VENT											
WC-1	YES	WATER CLOSET-TANK OPEN FRONT LESS COVER	1/2"	3"	2"	AMER. STND.	CADET PRO	21AA-104	1.28 GPF	12" R1/2-1/8" TRAP	FLOOR	16-12"	VITREOUS CHINA	ELONGATED			
LAV-1	YES	WALL HUNG WALL HUNG COVER	1/2"	1/2"	1-1/2"	AMER. STND.	HEAVY DUTY	5901.110	0.256 XXX	20-1/2"X16-1/4"	WALL HANGER	31" TO 34" TO RIM	VITREOUS CHINA	STAINLESS HINGES	6W, WB		
SS-1	NO	SERVICE SINK FAUCET		3"	2"	ELKAY	SERVICE SINK	14-1C22X22-0X	2.0 GPM	22"x22"x14"	FLOOR/WALL	36"	STAINLESS STEEL		PS		
WB-1	YES	TRENCH DRAIN WALL BOX	1/2"	-	4"	ZURN	FOOT VALVE	28550-XL	2886	80-0" LENGTH	FLOOR	-	CHROME			**	
HW-1	N	INTERIOR WALL HYDRANT BI-LEVEL	3/4"	-	-	WOODFORD	ANTI-SIPHON	MODEL 101	2.00 GPM	VARIES W/ WALL DEPTH	INTERIOR ONLY	24" AFG	INTERIOR USE ONLY	W/ BACKFLOW PROTECTION			
RD-1	-	ROOF DRAIN	-	-	-	ZURN	SINGLE	21222	2160	15" DIA	FLOOR	-	DURA COATED	CARRIER ONLY	IF REQUIRED		
ORD-1	-	OVERFLOW ROOF DRAIN	-	-	-	ZURN	SINGLE	2160	2100	15" DIA	ROOF/EXTERIOR	-	DURA COATED CAST IRON	FLASH CLAMP/GRAVEL GUARD			
DSN-1	-	DOWNSPOUT NOZZLE	-	-	-	ZURN	SINGLE	2199	2199	-	EXTERIOR	-	NICKEL BRONZE				
AD-1	-	AREA DRAIN	-	-	-	ZURN	MEDIUM DUTY	Z-507-P	2-507-P	7" ROUND	FLOOR	-	CAST IRON BODY				
FD-1	-	FLOOR DRAIN	-	-	-	ZURN	MEDIUM DUTY	Z-550-P	2-550-P	6-1/2" ROUND	FLOOR	-	NICKEL BRONZE FINISH, STAINLESS STRAINER	W/ TRAP PRIMER CONNECTION			

ALTERNATE MFG: AMERICAN STANDARD, CRANE, DELTA, ELKAY, HAWS, HALSEY TAYLOR, J.R.SMITH, KOHLER, LASCO, MOEN, SIOUX CHIEF, STING RAY, SYMMONS, TOTO, WADE, ZURN.

BS-BASKET STRAINER	GS-GRID STRAINER	WB-WALL BRACKET	GENERAL NOTES:
DS-DOME STRAINER	PS-POP UP STRAINER	TP-ASSE 1018 OR 1044 TRAP PRIMER	1. ALL PUBLIC SINKS TO HAVE OPEN GRID STRAINERS.
EC-ENAMEL COATING	SS-STAINLESS STEEL	6W-6" WALL REQ.	2. ALL NON-PUBLIC SINKS TO HAVE POP-UP STRAINERS.

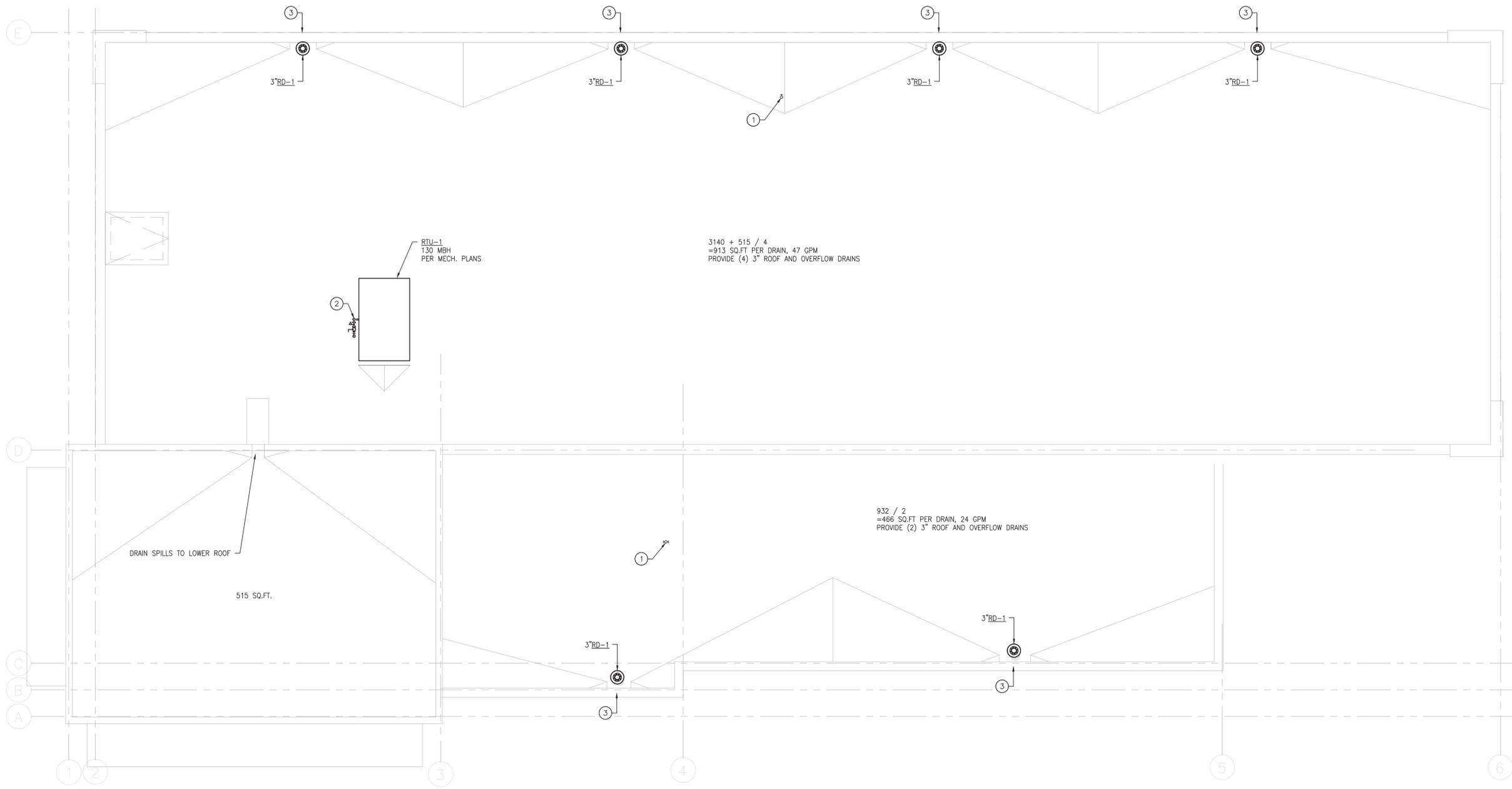
- ALL FIXTURES TO BE PROVIDED W/ FLEXIBLE WATER LINES, ANGLE STOPS (INCLUDING DISHWASHER CONNECTIONS), TRAP WRAP, ESCUTCHEON PLATES AS REQUIRED PER FIXTURE INSTALL AND CODE.
- ALL INSTALLATIONS SHALL COMPLY WITH MANUFACTURER'S INSTRUCTIONS, AND STATE AND LOCAL CODES.
- PROVIDE BACKFLOW PROTECTION ON FIXTURES AS REQUIRED PER LOCAL CODE.
- TRIP LEVERS SHAL BE TO WIDE/OPEN SIDE OF TOILET.
- TRIP LEVERS SHALL BE TO WIDE/OPEN SIDE OF TOILET.
- 120V/1ph-5 FLA, 370 WATTS

IPC WASTE AND WATER FIXTURE UNIT CALCULATION

PROJECT: BRAKES PLUS - S. NORMAN, OK		CODE: 2018 IPC		DATE: 12/03/24							
BUILDING: 1											
FIXTURE TOTAL	FIXTURE TYPE	OCC.	SUPPLY TYPE	WATER FIXTURE UNITS				WASTE FIXTURES UNITS		REMARKS	
				COLD WATER	COLD TOTAL	HOT WATER	HOT TOTAL	COLD & HOT	COMBINED TOTAL		FIXTURE VALUES
3	HOSE BIBBS	PRIVATE	1/2" VALVE	1.00	2.00	0.0	0.0	1.00	3.0	0.0	
1	DRINKING FOUNTAIN	OFFICES	3/8" VALVE	0.25	0.3	0.0	0.25	0.3	0.50	0.5	
2	LAVATORY	PUBLIC	FAUCET	1.50	3.0	1.50	3.0	2.00	4.0	2.0	
1	SERVICE SINK	OFFICES	FAUCET	2.25	2.3	2.25	2.3	3.00	3.0	2.0	
2	WATER CLOSET	PUBLIC	FLUSH TANK	5.00	10.0	0.0	0.0	5.00	10.0	8.0	
TOTAL FIXT. UNITS											
				17.50		5.25		20.25		12.50	TOTAL FIXTURE UNITS
								20		4"	BUILDING MAIN SIZE
								1"		1/8"	BUILDING MAIN SLOPE
				PIPE SIZE		NOTES					
TAP & METER		WATER SERVICE LINE SIZE		FT/SEC		PSI/100FT					
BFP & BLDG MAIN		3/4"		-		-					
		1"		6.00		9.00					

ELECTRIC WATER HEATER SCHEDULE

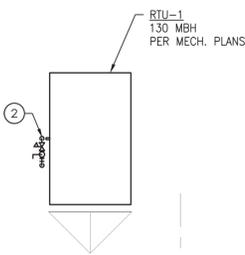
PLAN MARK	MANUFACTURER	MODEL NO.	TANK GALLONS	ELECTRICAL VOLT [PH] KW	GPH RISE (F)	REMARKS
EW-H-1	STATE	PCE-30-10MSA	30	120 1 1.5	8 70	1



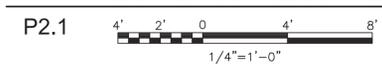
3140 + 515 / 4
 =913 SQ.FT PER DRAIN, 47 GPM
 PROVIDE (4) 3" ROOF AND OVERFLOW DRAINS

932 / 2
 =466 SQ.FT PER DRAIN, 24 GPM
 PROVIDE (2) 3" ROOF AND OVERFLOW DRAINS

DRAIN SPILLS TO LOWER ROOF
 515 SQ.FT.



1 PLUMBING ROOF PLAN



- DRAWING NOTES:**
- ① 3" PLUMBING VENT UP THRU ROOF FROM BELOW, RE: PLUMBING PLANS.
 - ② GAS PIPING UP FROM BELOW, ROUTE AND TERMINATE W/ SHUT-OFF VALVE, PRV AND DIRT LEG AT ROOFTOP UNIT. PRV SHALL BE CAPABLE OF REDUCING FROM 2 PSI GAS PRESSURE TO 7"W.W. AT MBH AS INDICATED.
 - ③ OVERFLOW SCUPPER, SIZE PER ARCHITECTURAL PLANS, DETAIL 1/A2-4.

BRAKES PLUS
 3301 CLASSEN BLVD.
 NORMAN, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	12/03/24	FOR BLDG. DEPT. SUBMITTAL

ARCODEV JOB #:
 CLIENT JOB #:
 DRAWN BY: JRG
 CHECKED BY: LRP
 DATE OF ISSUE: 12/03/24

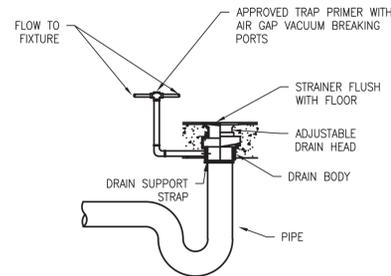


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 VOICE: 303.881.8925

SHEET

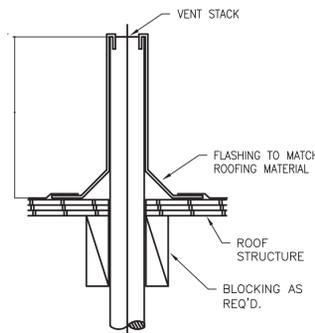
PROJ #24XXXX
ADAM A. POWELL, P.E.
 PEC Enterprises, Inc.
 14412 Alene Ct. NE
 Albuquerque, NM 87123
 Telephone 720-409-2454

P2.1
 PLUMBING ROOF PLAN



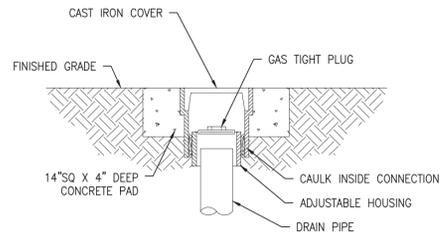
**FLOOR DRAIN W/
TRAP PRIMER DETAIL**

NOT TO SCALE



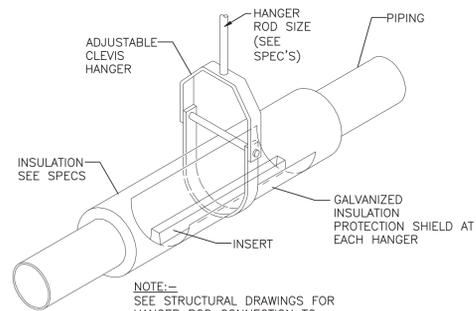
PIPE THRU ROOF DETAIL

NOT TO SCALE



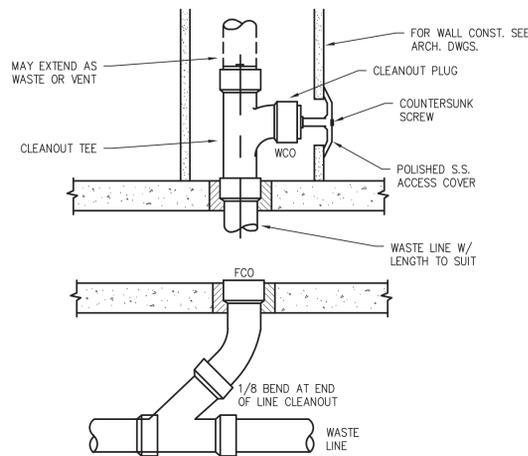
OUTSIDE CLEANOUT TO GRADE

NOT TO SCALE



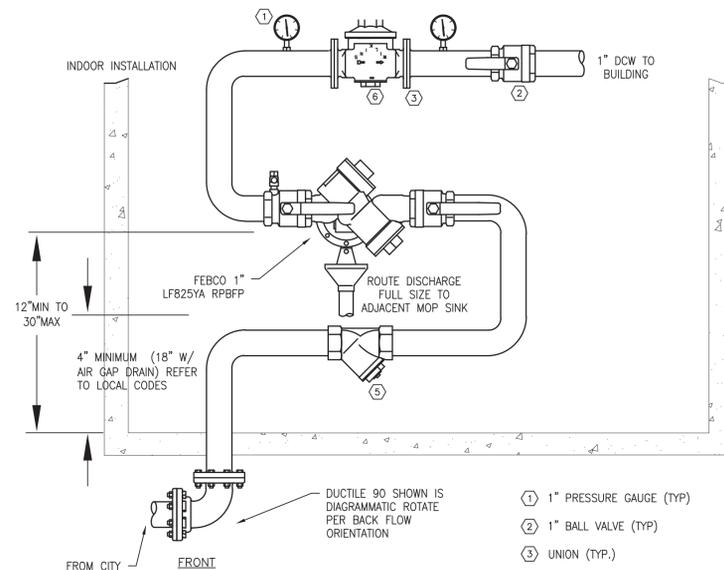
PIPE HANGER AND INSULATION DETAIL

NOT TO SCALE



CLEANOUT DETAILS

NOT TO SCALE

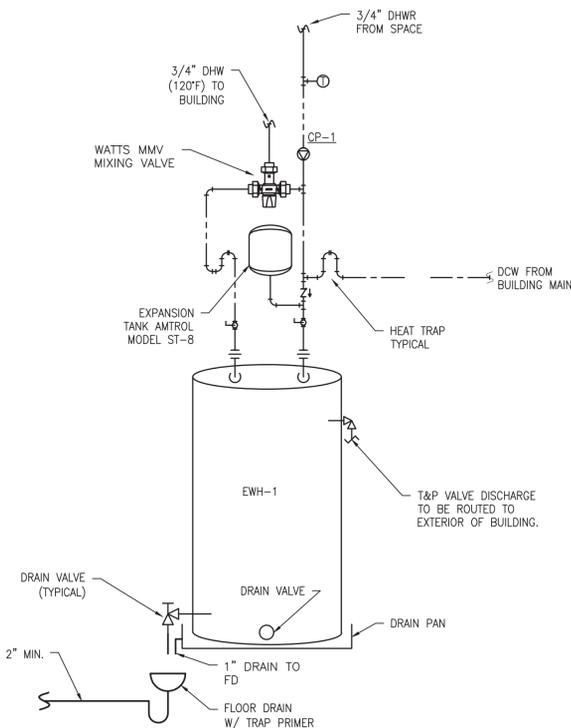


**DOMESTIC WATER ENTRY
BACKFLOW DETAIL**

NOT TO SCALE

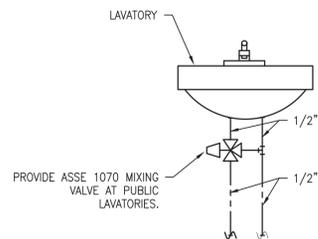
- ① 1" PRESSURE GAUGE (TYP)
- ② 1" BALL VALVE (TYP)
- ③ UNION (TYP.)
- ④ 1" BYPASS NORMALLY CLOSED.
- ⑤ 1" STRAINER.
- ⑥ 1" PRESSURE REDUCING VALVE (WILKINS 500 SERIES)

BACKFLOW PREVENTOR IN ACCORDANCE TO LOCAL CODES AND JURISDICTIONS.



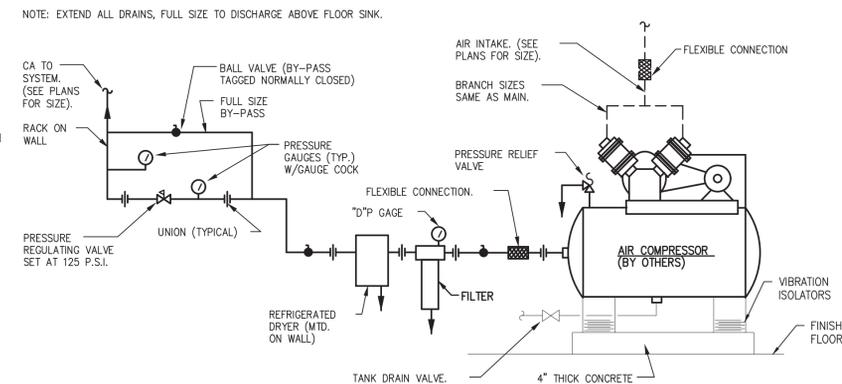
ELECTRIC WATER HEATER DETAIL

NOT TO SCALE



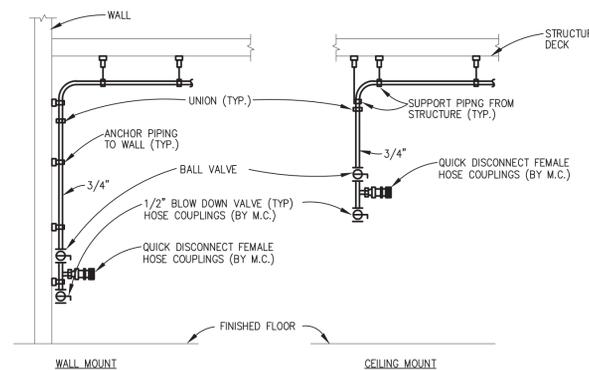
THERMOSTATIC MIXING VALVE DETAIL

NOT TO SCALE



AIR COMPRESSOR PIPING DETAIL

NOT TO SCALE



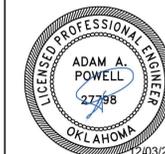
COMPRESSED AIR CONNECTION DETAILS

NOT TO SCALE

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Albuquerque, NM 87123
Telephone 720-409-2454

BRAKES PLUS

3301 CLASSEN BLVD.
NORMAN, OKLAHOMA



12/03/24

ARCHITECT OF RECORD

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ARCODEV JOB #:
CLIENT JOB #:
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CHECKED BY: LRP
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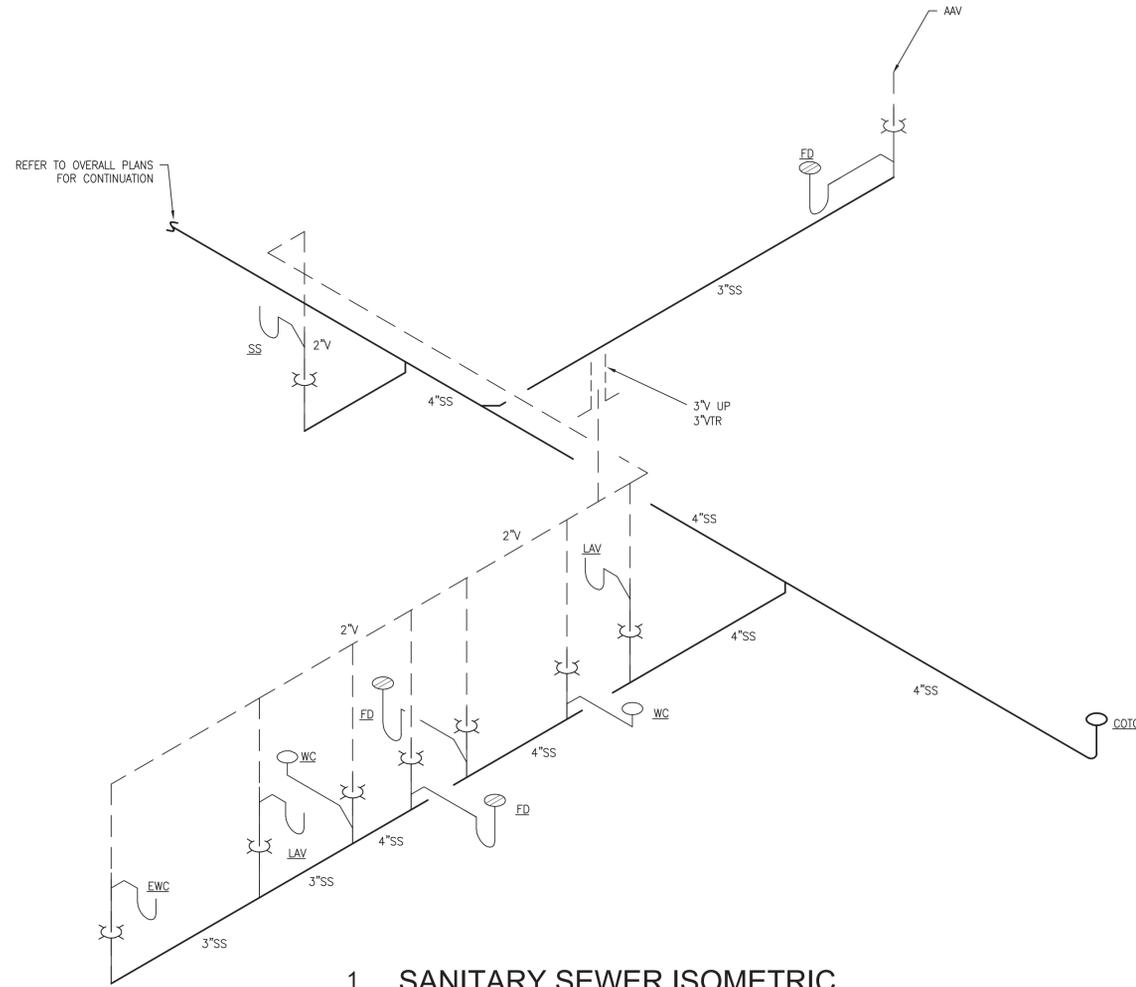


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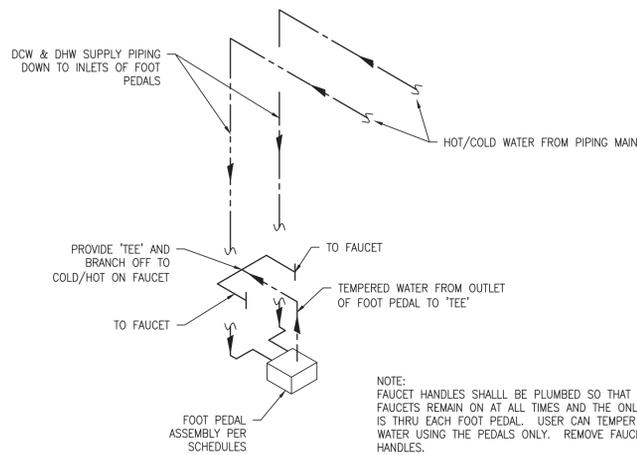
P3.1
PLUMBING DETAILS

PROJ #24XXXX



1 SANITARY SEWER ISOMETRIC

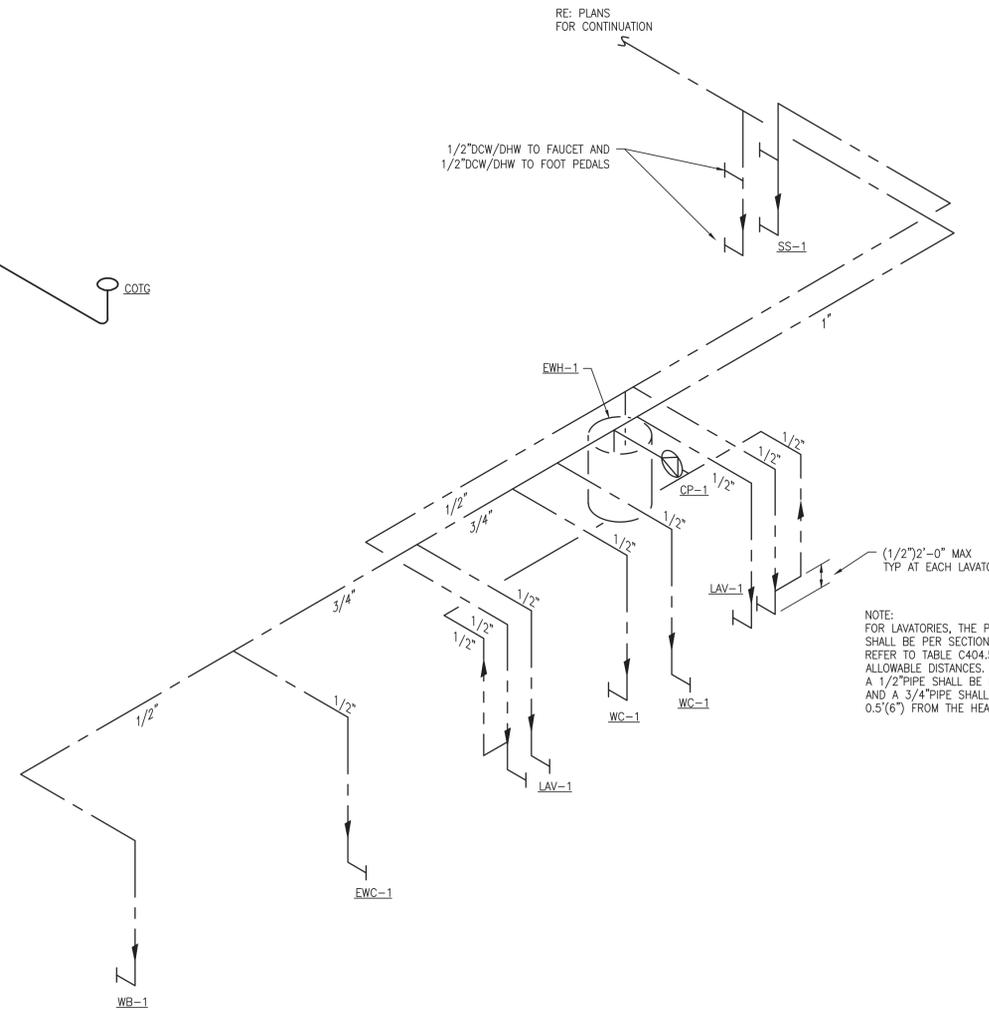
P4.0 N.T.S.



DOMESTIC WATER AT SERICE SINK

NOT TO SCALE

NOTE:
FAUCET HANDLES SHALL BE PLUMBED SO THAT THE FAUCETS REMAIN ON AT ALL TIMES AND THE ONLY CONTROL IS THRU EACH FOOT PEDAL. USER CAN TEMPER THE WATER USING THE PEDALS ONLY. REMOVE FAUCET HANDLES.



2 DOMESTIC HOT WATER PIPING DIAGRAM

P4.0 N.T.S.

NOTE:
FOR LAVATORIES, THE PIPE VOLUME AND DISTANCE SHALL BE PER SECTION C404.5 OF 2018 IECC. REFER TO TABLE C404.5.1 OF IECC FOR MAXIMUM ALLOWABLE DISTANCES.
A 1/2" PIPE SHALL BE NO LONGER THAN 2'-0" AND A 3/4" PIPE SHALL BE NO LONGER THAN 0.5'(6") FROM THE HEATED SOURCE MAIN.

BRAKES PLUS

3301 CLASSEN BLVD.
NORMAN, OKLAHOMA



ARCHITECT OF RECORD

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P4.0

PLUMBING ISOMETRICS

ELECTRICAL GENERAL NOTES

1. DO NOT SCALE DRAWINGS. VERIFY DIMENSIONS IN FIELD PRIOR TO COMMENCEMENT OF WORK.
2. FINAL CONNECTIONS & ROUGH-IN REQUIREMENTS TO EQUIPMENT SHALL BE PER MANUFACTURER'S APPROVED WIRING DIAGRAMS, DETAILS AND INSTRUCTIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.
3. CONTRACTOR SHALL REVIEW ARCHITECTURAL, STRUCTURAL, MECHANICAL AND OTHER DRAWINGS PRIOR TO BID.
4. CONTRACTOR SHALL VISIT SITE PRIOR TO BID AND VERIFY THAT CONDITIONS ARE AS INDICATED. CONTRACTOR SHALL REPORT DISCREPANCIES TO THE ARCHITECT AND INCLUDE IN HIS BID ALL COSTS REQUIRED TO MAKE HIS WORK MEET EXISTING CONDITIONS.
5. PROPOSED SUBSTITUTIONS OF ELECTRICAL EQUIPMENT OR REQUEST FOR "OR EQUAL" OR "APPROVED EQUAL" LISTING SHALL BE SUBMITTED TO ARCHITECT NOT LESS THAN TEN (10) WORKING DAYS PRIOR TO BID.
6. WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER TO THE SATISFACTION OF THE ARCHITECT.
7. WORK, MATERIALS AND EQUIPMENT SHALL CONFORM TO THE LATEST ADOPTED EDITIONS OF LOCAL, STATE, AND NATIONAL CODES AND ORDINANCES.
8. PROVIDE PERMITS AND INSPECTIONS REQUIRED.
9. PROVIDE RECORD DRAWINGS TO ARCHITECT. DRAWINGS SHALL INCLUDE ALL ADDENDUM ITEMS, CHANGE ORDERS, ALTERATIONS, REROUTINGS, ETC.
10. VERIFY EXACT LOCATION OF EQUIPMENT TO BE FURNISHED BY OTHERS PRIOR TO ROUGH-IN.
11. SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. IF TESTS SHOW THAT WORK IS DEFECTIVE, CONTRACTOR SHALL MAKE CORRECTIONS NECESSARY AT NO COST TO OWNER.
12. WIRE SHALL BE COPPER, 75 DEGREE C RATED FOR GENERAL USE. FOR HID FIXTURES AND WIRING WITHIN 3 INCHES OF FLUORESCENT BALLASTS, WIRE SHALL BE COPPER, MINIMUM 90 DEGREE C RATED. SIZES INDICATED ARE FOR INSTALLATION IN A MAXIMUM 30 DEGREE C AMBIENT. CONDUCTOR AMPACITY SHALL BE DERATED FOR HIGHER AMBIENT INSTALLATIONS.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING EQUIPMENT WHICH IS DAMAGED DUE TO INCORRECT FIELD WIRING PROVIDED UNDER THIS SECTION OR FACTORY WIRING IN EQUIPMENT PROVIDED UNDER THIS SECTION.
14. CONTRACTOR'S FAILURE TO ORDER OR RELEASE ORDER FOR MATERIALS AND/OR EQUIPMENT WILL NOT BE ACCEPTED AS A REASON TO SUBSTITUTE ALTERNATE MATERIALS OR EQUIPMENT.
15. SYSTEMS SHALL BE COMPLETE, OPERABLE AND READY FOR CONTINUOUS OPERATION. LIGHTS, SWITCHES, RECEPTACLES, MOTORS, ETC., SHALL BE CONNECTED AND OPERABLE.
16. VERIFY EXACT LOCATIONS OF EXISTING AND NEW UNDERGROUND UTILITIES, PIPING AND RACEWAY SYSTEMS PRIOR TO TRENCHING. PROVIDE NECESSARY TRENCHING, BACKFILL, EXCAVATION SUPPORTS, SERVICE FEEDERS (CONDUIT AND/OR WIRE), PULLBOXES, TRANSFORMER PADS, SAWCUTTING AND PATCHING, CONCRETE/PAVING, ETC., REQUIRED. BACKFILL TRENCHES TO 90% COMPACTION AND PATCH TO MATCH EXISTING. CONTRACTOR SHALL OBTAIN AND VERIFY EXACT UTILITY COMPANY DRAWINGS AND REQUIREMENTS.
17. PROVIDE MAINTENANCE RECEPTACLE WITHIN 25'-0" OF ALL MECHANICAL OR MOTORIZED EQUIPMENT.
18. SEE MECHANICAL DRAWINGS FOR LOCATION OF MECHANICAL EQUIPMENT. PROVIDE SERVICE TO AND CONNECT EQUIPMENT AS REQUIRED. PROVIDE FUSES OR HACR-TYPE CIRCUIT BREAKERS FOR ALL AIR CONDITIONING EQUIPMENT SIZED IN ACCORDANCE WITH MANUFACTURER'S NAMEPLATE.
19. PROVIDE ENGRAVED NAMEPLATES ON PANELBOARDS, DISCONNECT SWITCHES, ETC. INDICATING EQUIPMENT DESIGNATION (OR DESIGNATION OF EQUIPMENT SERVED) AND VOLTAGE. NAMEPLATES TO BE MECHANICALLY FASTENED.
20. PANEL DIRECTORIES SHALL BE TYPED AND INSTALLED UNDER CLEAR PLASTIC COVERS.
21. ALL WIRING SHALL BE INSTALLED IN LISTED METALLIC RACEWAYS. RACEWAYS IN SLAB-ON-GRADE OR BELOW GRADE SHALL BE SCHEDULE 40 PVC. TRANSITIONS FROM BELOW TO ABOVE GRADE SHALL BE WITH RIGID STEEL ELBOWS WITH P.V.C. JACKET OR APPROVED EQUAL PROTECTION.
22. EMT, NON-METALLIC AND FLEXIBLE METAL CONDUITS SHALL HAVE A CODE SIZED COPPER GROUNDING CONDUCTOR. INCREASE CONDUIT SIZE AS REQUIRED.
23. FIRE ALARM, SOUND, TELEPHONE, COMPUTER, AND SIMILAR SYSTEMS CONDUITS LARGER THAN 1" SHALL HAVE LONG RADIUS SWEEPS (12 TIMES THE DIAMETER).
24. ALL ELECTRICAL SYSTEMS COMPONENTS SHALL BE LISTED OR LABELED BY U.L.
25. WIRE TERMINATION PROVISIONS FOR PANELBOARDS, CIRCUIT BREAKERS, SAFETY SWITCHES, AND ALL OTHER ELECTRICAL APPARATUS SHALL BE LISTED AS SUITABLE FOR 75 DEGREE C.
26. RECEPTACLES INSTALLED OUTSIDE, ON THE BUILDING EXTERIOR OR ROOF, WITHIN 6' OF A SINK OR WATER COOLER CONNECTION, VENDING MACHINES, AND KITCHEN AREAS SHALL BE GFCI TYPE OR PROTECTED BY GFCI CIRCUIT BREAKER PER NEC 511.12.
27. ALL NEW EQUIPMENT SUCH AS SWITCHBOARDS, DISTRIBUTION PANELS, DISCONNECT SWITCHES, TRANSFORMERS, AND PANELBOARDS SHALL BE BY THE SAME MANUFACTURER.
28. ELECTRICAL CONTRACTOR SHALL SUBMIT 5 COPIES OF ALL ELECTRICAL EQUIPMENT AND LIGHT FIXTURES TO ENGINEER VIA GENERAL CONTRACTOR FOR APPROVAL PRIOR TO ORDERING.
29. ELECTRICAL CONTRACTOR TO PROVIDE FINAL CONNECTION OF OWNER FURNISHED EQUIPMENT. VERIFY EXACT REQUIREMENTS PRIOR TO ROUGH-IN.
30. HANDLE TIES SHALL BE PROVIDED FOR ALL MULTI-WIRED BRANCH CIRCUITS UNLESS INDIVIDUAL NEUTRAL CONDUCTORS ARE PROVIDED PER NEC 210.4(B).
31. FURNISH ALL MECHANICAL EQUIPMENT WITH FUSIBLE DISCONNECTS. THESE DISCONNECTS SHALL BE EQUIPPED WITH CLASS "R" FUSES.

ALL ELECTRICAL WORK SHALL COMPLY WITH N.E.C. REQUIREMENTS

ELECTRICAL SHEET INDEX

NO.	REV.	DATE	BY	DESCRIPTION	SHEET NO.	SHEET DESCRIPTION
					12-2-24 PERMIT	
					E0.1	ELECTRICAL COVER SHEET
					ES1.1	ELECTRICAL SITE PLAN
					E1.1	ELECTRICAL LIGHTING PLAN
					E2.1	ELECTRICAL POWER PLAN
					E3.1	ELECTRICAL ROOF PLAN
					E4.1	ELECTRICAL ONE LINE DIAGRAM
					E5.1	LIGHTING COMPLIANCE CERTIFICATES

ELECTRICAL LEGEND

	DUPLEX OUTLET
	DEDICATED DUPLEX OUTLET
	AUTOCLAVE RECEPTACLE
	FOUR-PLEX OUTLET
	220-VOLT OUTLET
	FLOOR OUTLET
	TELEPHONE JACK
	TELEPHONE JACK +60"
	DATA JACK
	PLUGMODE
	ABOVE COUNTER
	LIGHT SWITCH @ 56" AFF
	THREE-WAY LIGHT SWITCH @56" AFF
	TELEPHONE BACKBOARD W/ OUTLET
	ELECTRICAL PANEL
	TIME CLOCK
	SIGN OUTLET
	JUNCTION BOX
	THERMOSTAT

VERIFY ELECTRICAL REQUIREMENTS WITH OWNER PRIOR TO INSTALLATION

FIRE ALARM LEGEND

	MINI HORN/STROBE +90" A.F.F.
	MANUAL FIRE ALARM PULL STATION +48" A.F.F.

BRAKES PLUS
3301 CLASSEN BLVD.
NORMAN, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	12.02.24	SUBMITTED TO BLDG. DEPT.

ARCDEV JOB #: _____
 CLIENT JOB #: _____
 DRAWN BY: **SB**
 CHECKED BY: **LRP**
 DATE OF ISSUE: **12.02.24**



45 SPYGLASS DRIVE
LITTLETON, CO 80123
VOICE: 303.881-8925

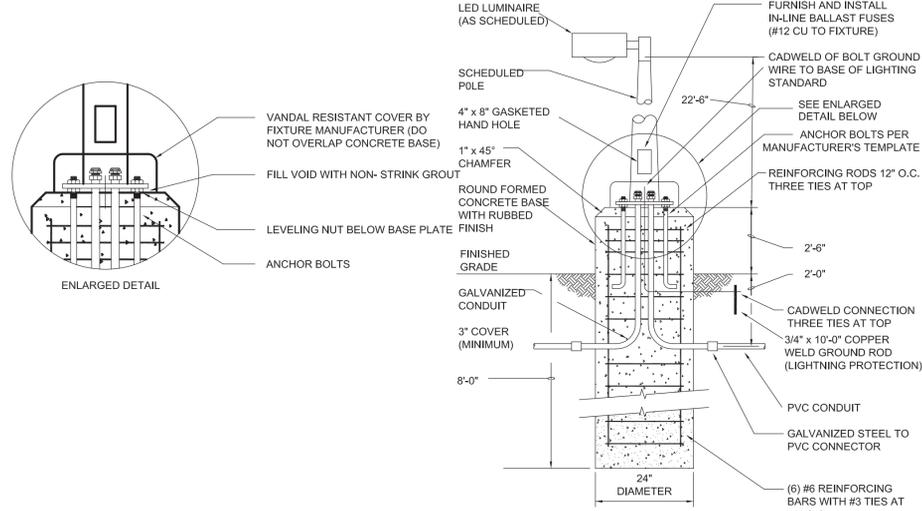
SHEET

PROJ #24-
ADAM A. POWELL, P.E.
 PEC Enterprises, Inc.
 14412 Alene Ct. NE
 Albuquerque, NM 87123
 Telephone 720-409-2454

EO.1

ELECTRICAL
COVER SHEET

NOTE:
SEE PHOTOMETRIC PLAN AND CIVIL SITE PLAN



2 POLE BASE DETAIL
NOT TO SCALE



EXTERIOR LUMINAIRE SCHEDULE								
FIXTURE TYPE	MANUFACTURER		VOLT AMPS	MOUNTING	LAMPS/ACCESSORY QTY, TYPE	DESCRIPTION	QUANTITY	VOLTS
	NAME	CATALOG NUMBER						
P2	COOPER LIGHTING	PRV-PA2B-730-U-T3-HSS	151	25'-0" AFG UNLESS OTHERWISE NOTED	LED	LED AREA LIGHT ON 22' (VERIFY) POLE DARK BRONZE FINISH	1	120

GENERAL REMARKS:
ALL FIXTURES FURNISHED AND INSTALLED BY GENERAL CONTRACTOR

SPECIFIC REMARKS:
1. COORDINATE FINISH COLOR WITH ARCHITECT.
2. PROVIDE 4-INCH SQUARE POLE FOR LUMINAIRE TYPE "AA". E.C. TO VERIFY LIGHT POLE TYPE PRIOR TO ORDERING.

NOTE:
1. EXTERIOR LIGHTING SHALL COMPLY WITH THE 2009 IECC. EXTERIOR LIGHTING SHALL BE CONTROLLED BY A COMBINATION OF A PHOTOSENSOR AND A TIME CLOCK. ALL TIME SWITCHES SHALL BE CAPABLE OF RETAINING PROGRAMMING AND THE TIME SETTING DURING LOSS OF POWER FOR A PERIOD OF AT LEAST 10 HOURS. REFER TO SHEET E5.1 FOR EXTERIOR LIGHTING COMPLIANCE CERTIFICATE.

BRAKES PLUS
3301 CLASSEN BLVD
NORMAN, OKLAHOMA



ARCHITECT OF RECORD

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DRAWN BY: SB
CHECKED BY: LRP
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SHEET

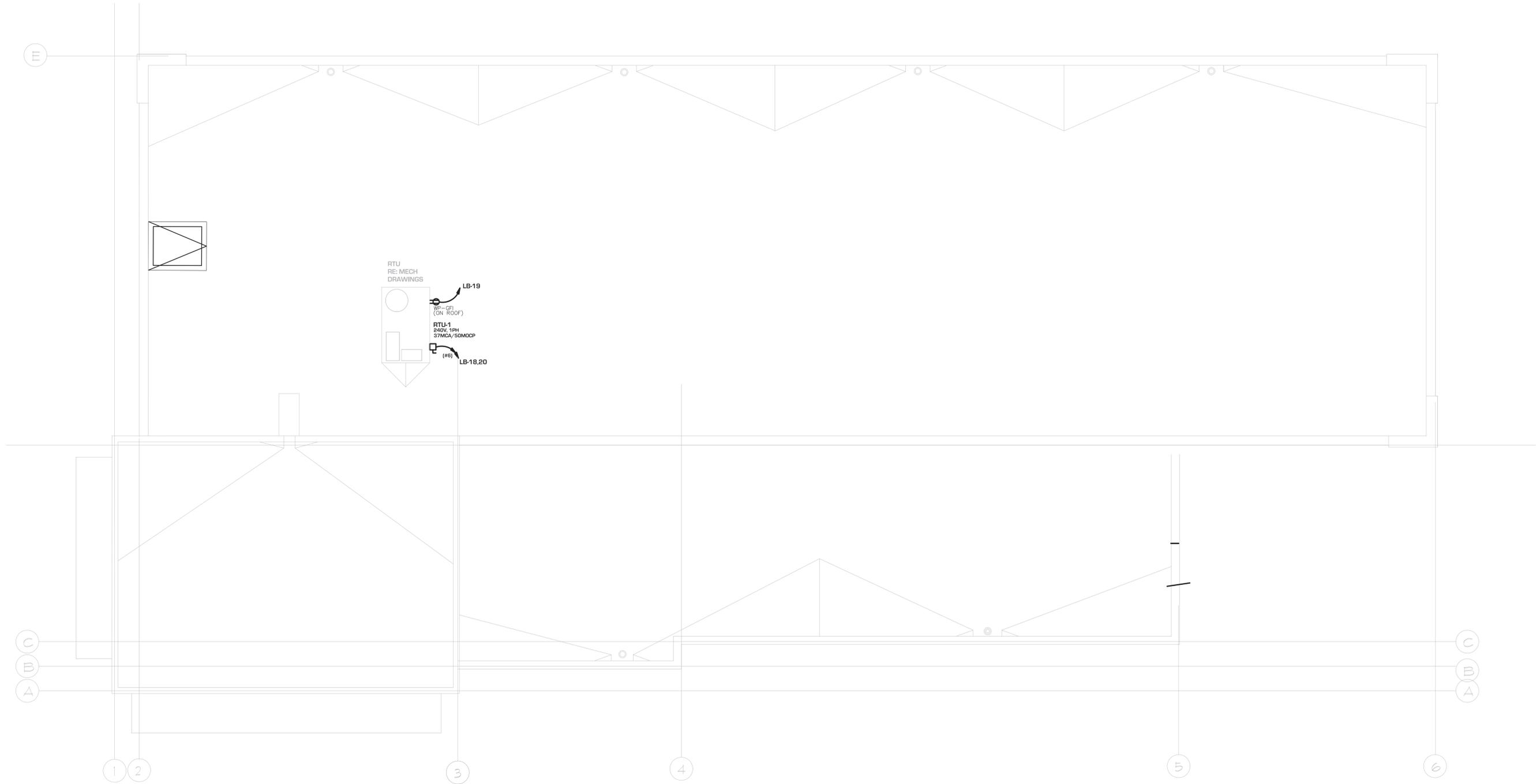
ES1.1

ELECTRICAL
SITE PLAN

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1 ELECTRICAL SITE PLAN
SCALE: 1" = 20'-0"





1 ELECTRICAL ROOF PLAN
SCALE: 1/4" = 1'-0"

BRAKES PLUS
3301 CLASSEN BLVD.
NORMAN, OKLAHOMA



ARCHITECT OF RECORD

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ARCODEV JOB #: -
CLIENT JOB #: -
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DATE OF ISSUE: 12.02.24



SHEET

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E3.1

ELECTRICAL
ROOF PLAN

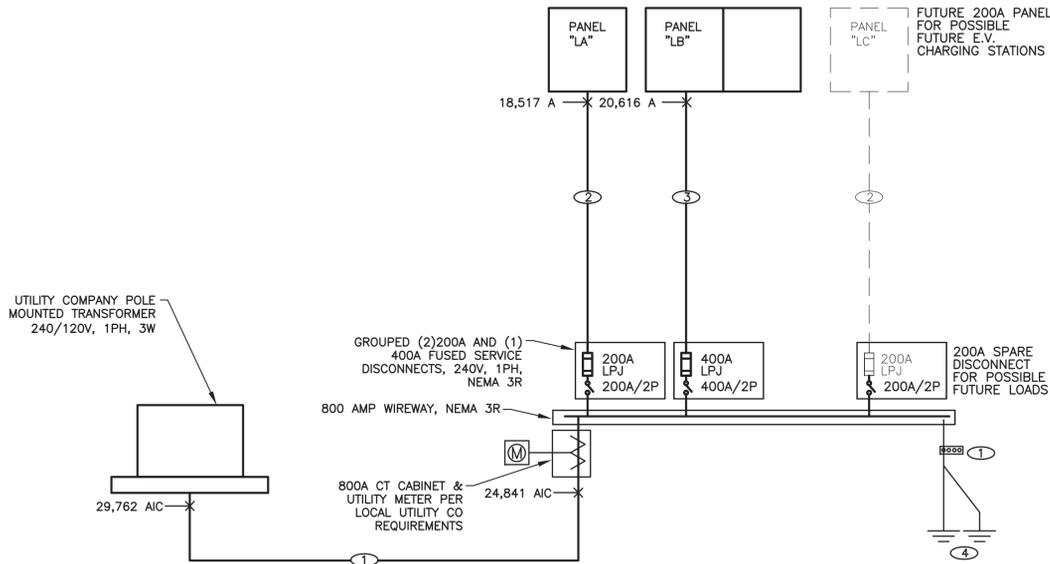
MECHANICAL EQUIPMENT SCHEDULE

DESIGNATION	DESCRIPTION	LOAD				VOLTAGE	PHASE	DISCONNECT SIZE	FUSE SIZE	FEEDER SIZE	REMARKS
		HP	KVA	FLA	MCA						
RTU-1	ROOF TOP UNIT			31.3	37.0	240	1	60A/2P	50A FRN-R	(2#6, 1#10G, 1-1/4"C)	
EF-1	EXHAUST FAN		100W			120	1	SMT0	-	(2#12, 1#12G, 3/4"C)	
EF-2	EXHAUST FAN		100W			120	1	SMT0	-	(2#12, 1#12G, 3/4"C)	
EF-3	EXHAUST FAN	1/2	1176W	9.8		120	1	SMT0	-	(2#12, 1#12G, 3/4"C)	
F-1	AIR CIRCULATION FAN	1/4	696W	5.8		120	1	30A/1P	9A FRN-R	(2#12, 1#12G, 3/4"C)	
GUH-1	GAS UNIT HEATER	1/2				120	1	SMT0	-	(2#12, 1#12G, 3/4"C)	
EW-1	WATER HEATER		1.5KW			120	1	-	-	(2#12, 1#12G, 3/4"C)	

REMARKS
 1. UNIT FURNISHED WITH INTEGRAL DISCONNECT.
 1. PROVIDE MOTOR RATED SWITCH WITH THERMAL OVERLOAD.

LIGHT FIXTURE SCHEDULE ALL FIXTURES FURNISHED AND INSTALLED BY GENERAL CONTRACTOR

SYMBOL	MARK	QUANTITY	DESCRIPTION	MANUF.	CAT. NO.	LAMP	LPW	MOUNTING	VOLTAGE	REMARKS
⊕	A	4	EXTERIOR DECORATIVE LIGHT FIXTURE	COOPER LIGHTING	303-W1-LEDB2-3000-UNV-T4-DIM10	16W LED	64	WALL	120	REFER TO ELEVATIONS FOR MOUNTING LOCATIONS
⊕	F1	10	EXTERIOR DECORATIVE LIGHT FIXTURE	MCGRAW EDISON	IST-SA1F-730-U-T4FT	25W LED	117	WALL	120	
⊗	F2	3	EXIT SIGN	COOPER LIGHTING	APC7 G	LED		WALL/CENTER ON DOOR	120	PROVIDE EMERGENCY BATTERY PACK (90 MINUTE MIN.)
—	F3	3	4'-0" STRIP LED	COOPER LIGHTING	4SNLED LD5 UNV	38W LED		UNIVERSAL	120	MOUNT AT 12'-0" AFF
—	F4	11	8'-0" STRIP LED	COOPER LIGHTING	8TSNLED LD5 UNV	61W LED		UNIVERSAL	120	MOUNT AT 12'-0" AFF
—	F7	12	2x4 RECESSED LED TROFFER	COOPER LIGHTING	24CGT 4540C	39W LED		GRID MOUNT	120	
—	F9	17	4' - LED HIGHBAY	COOPER LIGHTING	LHB 18 UNV	87W LED		HUNG FROM STRUCT.	120	
—	F10	6	EMERGENCY LIGHT W/ BATTERY BACKUP	COOPER LIGHTING	SEL 25	LED		WALL MOUNTED	120	PROVIDE EMERGENCY BATTERY PACK (90 MINUTE MIN.) AND TIME DELAY RELAY
—	F11	2	EMERGENCY EGRESS LIGHT - EXTERIOR	COOPER LIGHTING	AEL 246	LED		SURFACE	120	PROVIDE EMERGENCY BATTERY PACK (90 MINUTE MIN.)



1 ELECTRICAL ONE LINE DIAGRAM
 N.T.S.

FEEDER SCHEDULE

- 1 3 RUNS OF 3#300 MCM CU 2-1/2"C
- 2 3#250 MCM AL, 1#4 AL GND, 2"C
- 3 2 RUNS OF 3#250 MCM AL, 1#1 AL GND, 2"C
- 4 #2/0 CU GND TO BLDG. STEEL & COLD WATER BOND, #6 CU GND TO DRIVEN ROD, & #4 TO CONCRETE ENCASED ELECTRODE (JFER).

ONE-LINE DIAGRAM DETAIL NOTES

- 1 PROVIDE AN INTERSYSTEM BONDING TERMINATION (IBT) AS REQUIRED BY N.E.C. ARTICLE 250.94.

LOAD CALCULATIONS

LIGHTING	9.1 @ 125%	=	11.4 kVA
RECEPTACLE	10.0 @ 100%	=	10.0 kVA
BALANCE	3.1 @ 50%	=	1.6 kVA
MECHANICAL	12.4 @ 100%	=	12.4 kVA
25% OF LARGEST		=	1.9 kVA
SPECIAL	55.7 @ 100%	=	55.7 kVA
TOTAL		=	93.0 kVA (388 A)

SHORT CIRCUIT CALCULATIONS

POINT TO POINT METHOD FOR SHORT CIRCUIT CALCULATIONS ILLUSTRATED IN BUSSMAN MANUFACTURING PUBLICATION FORM SP090.

SERVICE: 120/240 V., 1-PHASE, 3W

AVAILABLE SHORT CIRCUIT CURRENT FROM UTILITY = 29,762 A.

FIND FACTOR f = 2.0 x (length in feet) x (short circuit current) (constant from Table C) x (line-to-line voltage)

f = 2.0 x 100 x 29,762 = 0.198

3 x 20,888 x 240

FIND FACTOR M = 1 / (1 + f) M = 0.8347

SHORT CIRCUIT CURRENT AT CT/MAIN = M x AVAILABLE S.C. CURRENT

I = 24,841 A.

LENGTH IN FEET = 20 f = 2.0 x 20 x 24,841 = 0.342

FACTOR f = 0.342 1 x 12,122 x 240

FACTOR M = 0.7454

SHORT CIRCUIT CURRENT AT PANEL "LA" = 18,517 A.

LENGTH IN FEET = 24 f = 2.0 x 24 x 24,841 = 0.205

FACTOR f = 0.205 2 x 12,122 x 240

FACTOR M = 0.83

SHORT CIRCUIT CURRENT AT PANEL "LB" = 20,616 A.

NOTE:

- 1. ELECTRICAL CONTRACTOR TO LABEL THE SERVICE ENTRANCE WITH THE AVAILABLE FAULT CURRENT AND THE DATE IT WAS CALCULATED AS REQUIRED BY N.E.C. ARTICLE 100.24

SCHEDULE - PANEL LA

MFG.	AS APPROVED	NOTE: ALL BREAKERS 20A, UNLESS NOTED OTHERWISE
TYPE	PANELBOARD	LIGHT: 7.4 kVA @ 125% = 9.3 kVA
LUG LOC.	TOP	RECEPT: 11.7 kVA @ 100% = 11.7 kVA
AMPS	200A MLO	MECH: kVA @ 100% = kVA
VOLTAGE	120/240V, 1ph, 3W	25% LARGEST MOTOR: kVA
MOUNTING	SURFACE	SPECIAL: 6.3 kVA @ 100% = 6.3 kVA
BRACING	22,000 A.I.C.	SPARE: kVA
		TOTAL: 27.8 kVA (116A)

EXTERIOR LIGHTING	404	1	1.2	720 OFFICE RECEIPTS	
EXTERIOR SIGN	1200	3	1.4	800 SALES AREA COUNTER RECEIPTS	
EXTERIOR SIGN	1200	5	1.6	1000 KIOSK RECEIPTS	
EW-1	1500	7	1.8	360 SALES AREA RECEIPTS	
EXTERIOR SIGN	1200	9	1.0	SPARE	
SALES, COFFEE, OFFICE LIGHTING	528	11.7	1.2	1800 SHOW WINDOW RECEIPTS	
SERVICE AREA LIGHTING	1144	13.7	1.4	360 SALES AREA RECEIPTS	
SERVICE AREA LIGHTING	660	15.7	1.6	500 TELEVISION	
SERVICE AREA LIGHTING	528	17.7	1.8	360 SERVICE AREA RECEIPTS	
INVENTORY, BREAK, RESTROOM LTG	1012	19.7	1.2	500 GARAGE A/C RECEIPTS	
IRRIGATION CONTROLS	500	21.7	1.22	540 GARAGE RECEIPT	
BREAK RM	180	23.7	1.24	360 GARAGE RECEIPT	
BURGLER ALARM	400	25.7	1.26	200 COMPUTER	
TELEPHONE SYSTEM	400	27.7	1.28	500 BENCH RECEIPT	
MICROWAVE	900	29.7	1.30	180 GARAGE RECEIPT	
BREAK RECEIPTS	360	31.7	1.32	360 GARAGE RECEIPT	
SPARE	1200	33.7	1.34	540 SERVICE AREA RECEIPTS	
REFRIGERATOR	370	35.7	1.36	SPARE	
RECEPT - WATER FOUNTAIN	370	37.7	1.38	360 GARAGE RECEIPT	
COFFEE UNIT	1000	39.7	1.40	1200 SHOW WINDOW RECEIPTS	
OFFICE RECEIPTS	360	41.7	1.42	300 MENU TV	
A phase =	11,526 VA	B phase =	14,420 VA	Total =	25,946 VA

SCHEDULE - PANEL LB

MFG.	AS APPROVED	NOTE: ALL BREAKERS 20A, UNLESS NOTED OTHERWISE
TYPE	PANELBOARD 2-SECTION	LIGHT: 1.2 kVA @ 125% = 1.5 kVA
LUG LOC.	TOP	RECEPT: 1.4 kVA @ 100% = 1.4 kVA
AMPS	400A MLO	MECH: kVA @ 100% = 1.4 kVA
VOLTAGE	120/240V, 1ph, 3W	25% LARGEST MOTOR: 1.4 kVA
MOUNTING	SURFACE	SPECIAL: 49.4 kVA @ 100% = 49.4 kVA
BRACING	22,000 A.I.C.	SPARE: kVA
		TOTAL: 66.6 kVA (278A)

AIR COMPRESSOR	3360	1	1.2	1800 ALIGNMENT SENSORS
SPARE	3360	3	1.4	1800 ALIGNMENT MACHINE
SPARE	3360	5	1.6	SPARE
SPARE	3360	7	1.8	3120 ALIGNMENT RACK
AIR CIRCULATION FANS	1392	9	1.0	3120
AIR CIRCULATION FANS	1392	11.7	1.2	1800 BRAKE LATHE
SHOP EQUIPMENT RECEIPTS	1440	13.7	1.4	SPARE
SPARE	1440	15.7	1.6	SPARE
ROOF RECEIPT	180	17.7	1.18	3755 RTU-1
RECEPT - RESTROOM	180	19.7	1.20	3755
RECEPT - RESTROOM	180	21.7	1.22	SPARE
RECEPT - INVENTORY	180	23.7	1.24	302 SITE LIGHTING
EF-3	1130	25.7	1.26	SPARE
GUH-1	500	27.7	1.28	720 INVENTORY RECEIPTS
GUH-1	500	29.7	1.30	1200 MONUMENT SIGN
SPARE	500	31.7	1.32	1000 DRYER
SPARE	357	33.7	1.34	SPARE
SPARE	357	35.7	1.36	SPARE
SPARE	377	37.7	1.38	SPARE
SPARE	397	39.7	1.40	SPARE
SPARE	417	41.7	1.42	SPARE

SECTION TWO	
LIFT	2040 43.7 1.44
---	2040 45.7 1.46
LIFT	2040 47.7 1.48
---	2040 49.7 1.50
LIFT	2040 51.7 1.52
---	2040 53.7 1.54
LIFT	2040 55.7 1.56
---	2040 57.7 1.58
LIFT	2040 59.7 1.60
---	2040 61.7 1.62
LIFT	2040 63.7 1.64
---	2040 65.7 1.66
LIFT	2040 67.7 1.68
---	2040 69.7 1.70
SPACE	71.7 1.72
SPACE	73.7 1.74
SPACE	75.7 1.76
SPACE	77.7 1.78
SPACE	79.7 1.80
SPACE	81.7 1.82
SPACE	83.7 1.84

A phase = 31,207 VA B phase = 39,217 VA Total = 64,424 VA

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ARCODEV
 45 SPYGLASS DRIVE
 LITTLETON, CO 80123
 VOICE: 303.881-8925



SHEET

E4.1
 ELECTRICAL ONE
 LINE DIAGRAM



COMcheck Software Version 4.1.5.5
Interior Lighting Compliance Certificate

Section 1: Project Information

Energy Code: 2009 IECC
Project Title: Brakes Plus
Project Type: New Construction

Construction Site: 3301 Classen Blvd. Norman, OK
Owner/Agent:
Designer/Contractor: Loren Priest, EE, LLC, 12005 Antelope Trail Parker, CO 80138, 303.748.1189, loren@eeparker.com

Section 2: Interior Lighting and Power Calculation

A Area Category	B Floor Area (ft ²)	C Allowed Watts / ft ²	D Allowed Watts (B x C)
Sales Area (Retail)	988	1.5	1482
Service/Repair (Automotive Facility)	3690	0.9	3321
Total Allowed Watts =			4803

Section 3: Interior Lighting Fixture Schedule

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Sales Area (Retail: Sales Area 988 sq.ft.)				
LED 7: F3: 4' LED Strip: LED Linear 22W:	2	3	44	132
LED 8: F4: 8' LED Strip: LED Linear 22W:	4	1	88	88
LED 7 copy 1: F7: 2x4 LED Troffer: LED Panel 19W:	1	12	25	300
Service/Repair (Automotive: Vehicular Maintenance Area 3690 sq.ft.)				
LED 8 copy 2: F9: 4' LED Highbay: LED Panel 80W:	1	17	120	2040
LED 8 copy 1: F4: 8' LED Strip: LED Linear 22W:	4	10	88	880
Total Proposed Watts =			3440	

Section 4: Requirements Checklist

Interior Lighting PASSES: Design 28% better than code.

Lighting Wattage:

1. Total proposed watts must be less than or equal to total allowed watts.

Allowed Watts	Proposed Watts	Complies
4803	3440	YES

Controls, Switching, and Wiring:

2. Daylight zones under skylights more than 15 feet from the perimeter have lighting controls separate from daylight zones adjacent to vertical fenestration.

3. Daylight zones have individual lighting controls independent from that of the general area lighting.

Exceptions:

Contiguous daylight zones spanning no more than two orientations are allowed to be controlled by a single controlling device.

Project Title: Brakes Plus
Data filename: C:\COMCHECK\BRAKES PLUS\BRAKES PLUS- SOUTH NORMAN.cck
Report date: 11/21/24
Page 2 of 4

- Daylight spaces enclosed by walls or ceiling height partitions and containing two or fewer light fixtures are not required to have a separate switch for general area lighting.
4. Independent controls for each space (switch/occupancy sensor).
- Exceptions:
- Areas designated as security or emergency areas that must be continuously illuminated.
- Lighting in stairways or corridors that are elements of the means of egress.
5. Master switch at entry to hotel/motel guest room.
6. Individual dwelling units separately metered.
7. Medical task lighting or arthistory display lighting claimed to be exempt from compliance has a control device independent of the control of the nonexempt lighting.
8. Each space required to have a manual control also allows for reducing the connected lighting load by at least 50 percent by either controlling all luminaires, dual switching of alternate rows of luminaires, alternate luminaires, or alternate lamps, switching the middle lamp luminaires independently of other lamps, or switching each luminaire or each lamp.
- Exceptions:
- Only one luminaire in space.
- An occupant-sensing device controls the area.
- The area is a corridor, storeroom, restroom, public lobby or sleeping unit.
- Areas that use less than 0.6 Watts/sq.ft.
9. Automatic lighting shutoff control in buildings larger than 5,000 sq.ft.
- Exceptions:
- Sleeping units, patient care areas; and spaces where automatic shutoff would endanger safety or security.
10. Photocell/astronomical time switch on exterior lights.
- Exceptions:
- Lighting intended for 24 hour use.
11. Tandem wired one-lamp and three-lamp ballasted luminaires (No single-lamp ballasts).
- Exceptions:
- Electronic high-frequency ballasts; Luminaires on emergency circuits or with no available pair.

Section 5: Compliance Statement

Compliance Statement: The proposed lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 2009 IECC requirements in COMcheck Version 4.1.5.5 and to comply with the mandatory requirements in the Requirements Checklist.

Stan Bentley - Electrical Designer
Signature: *Stan Bentley*
Date: 11-21-24

Project Title: Brakes Plus
Data filename: C:\COMCHECK\BRAKES PLUS\BRAKES PLUS- SOUTH NORMAN.cck
Report date: 11/21/24
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COMcheck Software Version 4.1.5.5
Exterior Lighting Compliance Certificate

Section 1: Project Information

Energy Code: 2009 IECC
Project Title: Brakes Plus
Project Type: New Construction
Exterior Lighting Zone: 4 (High activity metropolitan commercial district (L24))

Construction Site: 3301 Classen Blvd. Norman, OK
Owner/Agent:
Designer/Contractor: Loren Priest, EE, LLC, 12005 Antelope Trail Parker, CO 80138, 303.748.1189, loren@eeparker.com

Section 2: Exterior Lighting Area/Surface Power Calculation

A Exterior Area/Surface	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B x C)	F Proposed Watts
Wall area (Illuminated area of facade wall or surface)	3000 ft ²	0.2	No	600	404
Parking (Parking area)	12100 ft ²	0.13	Yes	1573	302
Total Tradable Watts* =				1573	302
Total Allowed Watts =				2173	
Total Allowed Supplemental Watts** =				1300	

* Wattage tradeoffs are only allowed between tradable areas/surfaces.
** A supplemental allowance equal to 1300 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Section 3: Exterior Lighting Fixture Schedule

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Wall area (Illuminated area of facade wall or surface 3000 ft ²): Non-tradable Wattage				
LED 1: F1: LED Wall pack: LED A Lamp 25W:	1	10	30	300
LED 4: A: LED Decorative Wall Lt: LED A Lamp 25W:	1	4	26	104
Parking (Parking area 12100 ft ²): Tradable Wattage				
LED 5: AA: LED Pole Light: LED Panel 110W:	1	2	151	302
Total Tradable Proposed Watts =			302	

Section 4: Requirements Checklist

Lighting Wattage:

1. Within each non-tradable area/surface, total proposed watts must be less than or equal to total allowed watts. Across all tradable areas/surfaces, total proposed watts must be less than or equal to total allowed watts.

Compliance: Passes.

Controls, Switching, and Wiring:

2. All exemption claims are associated with fixtures that have a control device independent of the control of the nonexempt lighting.

3. Lighting not designated for dusk-to-dawn operation is controlled by either a a photosensor (with time switch), or an astronomical time switch.

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4. Lighting designated for dusk-to-dawn operation is controlled by an astronomical time switch or photosensor.
5. All time switches are capable of retaining programming and the time setting during loss of power for a period of at least 10 hours.
- Exterior Lighting Efficacy:**
6. All exterior building grounds luminaires that operate at greater than 100W have minimum efficacy of 60 lumen/watt.
- Exceptions:
- Lighting that has been claimed as exempt and is identified as such in Section 3 table above.
- Lighting that is specifically designated as required by a health or life safety statute, ordinance, or regulation.
- Emergency lighting that is automatically off during normal building operation.
- Lighting that is controlled by motion sensor.

Exterior Lighting PASSES: Design 89% better than code.

Section 5: Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 2009 IECC requirements in COMcheck Version 4.1.5.5 and to comply with the mandatory requirements in the Requirements Checklist.

Stan Bentley - Electrical Designer
Signature: *Stan Bentley*
Date: 11-21-24

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BRAKES PLUS

3301 CLASSEN BLVD.
NORMAN, OKLAHOMA



ARCHITECT OF RECORD

COMMENTS
SUBMITTED TO BLDG. DEPT.

DATE
12.02.24

REVISION

ARCDEV JOB #:
CLIENT/JOB #:
DRAWN BY: SB
CHECKED BY: LRP
DATE OF ISSUE: 12.02.24



45 SPYGLASS DRIVE
LITTLETON, CO 80123
VOICE: 303.881-8925

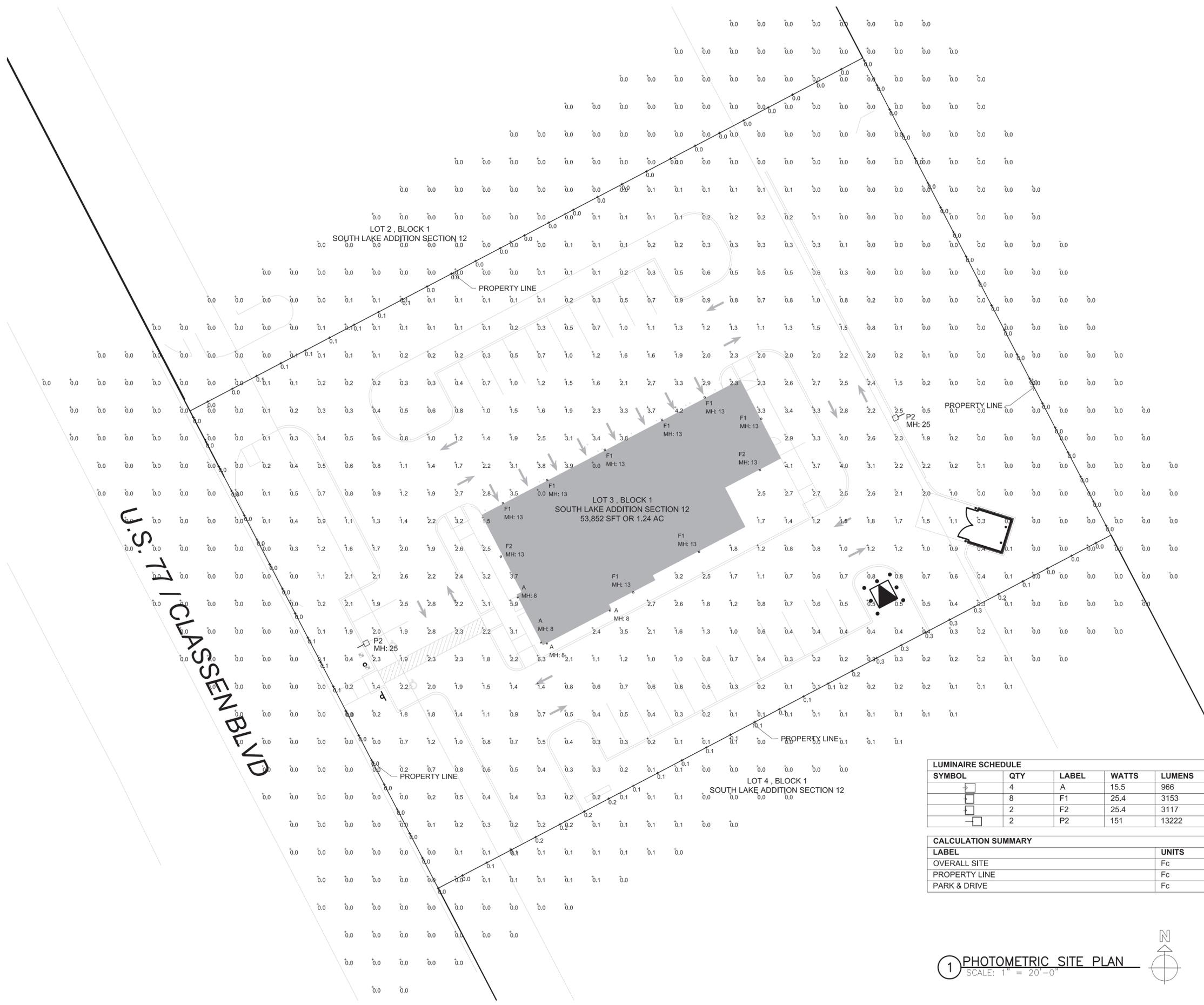
SHEET

PROJ #24----

ADAM A. POWELL, P.E.
PEC Enterprises, Inc.
14412 Alene Ct. NE
Albuquerque, NM 87123
Telephone 720-409-2454

E5.1

LIGHTING COMPLIANCE CERTIFICATES



U.S. 71 / CLASSEN BLVD

LOT 2, BLOCK 1
SOUTH LAKE ADDITION SECTION 12

LOT 3, BLOCK 1
SOUTH LAKE ADDITION SECTION 12
53,852 SFT OR 1.24 AC

LOT 4, BLOCK 1
SOUTH LAKE ADDITION SECTION 12

LUMINAIRE SCHEDULE						
SYMBOL	QTY	LABEL	WATTS	LUMENS	LLF	CATALOG
	4	A	15.5	966	0.900	303-W1-LEDB2-3000-UNV-T4-DIM10-EDGE
	8	F1	25.4	3153	0.900	IST-SA1B-730-U-T4FT
	2	F2	25.4	3117	0.900	IST-SA1B-730-U-SL2
	2	P2	151	13222	0.900	PRV-PA2B-730-U-T3-HSS

CALCULATION SUMMARY						
LABEL	UNITS	AVG	MAX	MIN	AVG/MIN	MAX/MIN
OVERALL SITE	Fc	0.53	6.3	0.0	N.A.	N.A.
PROPERTY LINE	Fc	0.05	0.3	0.0	N.A.	N.A.
PARK & DRIVE	Fc	1.46	4.2	0.3	4.87	14.00

1 PHOTOMETRIC SITE PLAN
SCALE: 1" = 20'-0"



PROJ #24-
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3301 CLASSEN BLVD.
NORMAN, OKLAHOMA



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SITE PLAN

