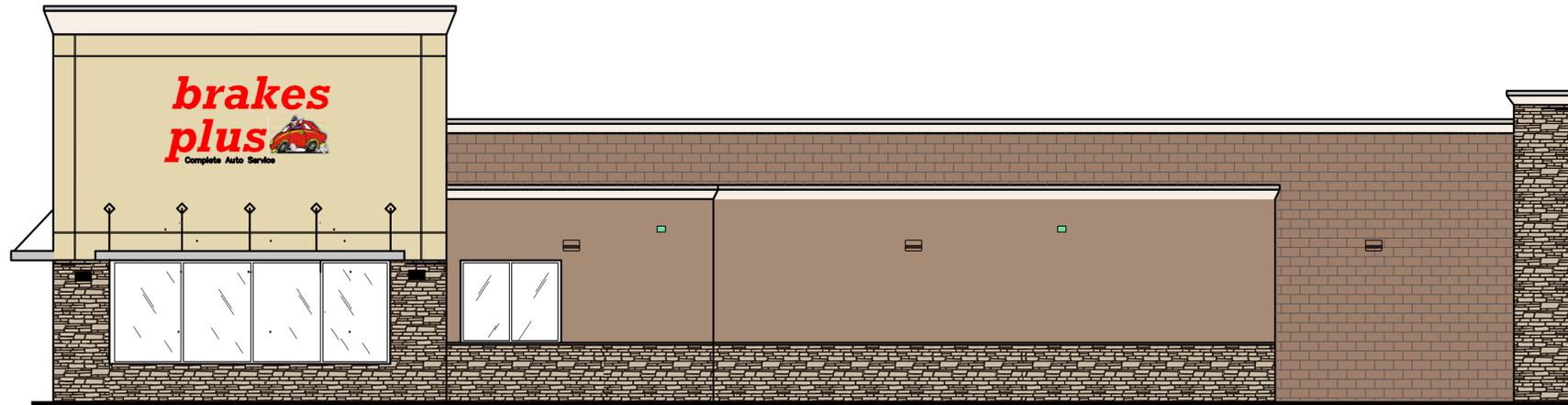
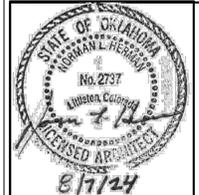


# brakes plus

ADA, OKLAHOMA



BRAKES PLUS  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



ARCHITECT OF RECORD

## 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 (ARCSA-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 ARCHITECT'S 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 #024-02476 dated MAY 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

### ARCHITECTURAL

A0	COVER SHEET
A0.1	ACCESSIBLE DETAILS
A1-1	ARCHITECTURAL SITE PLAN & DETAILS
A2-1	FLOOR PLAN
A2-2	EQUIPMENT PLAN
A2-3	REFLECTED CEILING PLAN
A2-4	ROOF PLAN
A3-1	EXTERIOR BUILDING ELEVATIONS
A4-1	BUILDING SECTIONS/ENVELOPE COMCHECK
A4-2	WALL SECTIONS / DETAILS
A4-3	WALL SECTIONS / DETAILS
A4-4	WALL SECTIONS / DETAILS
A4-5	WALL SECTIONS / DETAILS
A4-6	WALL SECTIONS / DETAILS
A5-1	INTERIOR ELEVATIONS AND DETAILS
A5-2	INTERIOR ELEVATIONS AND DETAILS
A6-1	SCHEDULE / DETAILS
A6-2	FURNITURE AND FIXTURE DETAILS
A6-3	MATERIAL FINISHES

### STRUCTURAL

S1-0	GENERAL NOTES
S2-0	FOUNDATION PLAN
S2-1	ROOF FRAMING PLAN
S3-0	SECTIONS AND DETAILS
S3-1	SECTIONS AND DETAILS
S3-2	SECTIONS AND DETAILS
S3-3	SECTIONS AND DETAILS

### MECHANICAL

M0.1	MECH. SPECS, SCHEDULE, & LEGEND
M0.2	MECHANICAL SEQUENCE OF OPERATIONS/SPECS/SCHEDULES
M1.1	MECHANICAL PLAN
M1.2	MECHANICAL ROOF PLAN
M2.1	MECHANICAL DETAILS
M3.0	MECHANICAL COMCHECK

### PLUMBING

P0.1	PLUMBING SPECS, SCHEDULES AND LEGEND
P1.0	UNDERGROUND PLUMBING PLAN
P1.1	PLUMBING PLAN
P2.1	PLUMBING ROOF PLAN
P3.1	PLUMBING DETAILS
P4.0	PLUMBING ISOMETRICS

### ELECTRICAL

E0.1	ELECTRICAL GENERAL NOTES AND ELECTRICAL LEGEND
E0.1.1	ELECTRICAL SITE PLAN AND SITE LIGHTING
E1.1	ELECTRICAL LIGHTING PLAN
E2.1	ELECTRICAL POWER PLAN
E3.1	ELECTRICAL ROOF PLAN
E4.1	ELECTRICAL ONE LINE DIAGRAM, SCHEDULES AND CALCULATIONS
E5.1	LIGHTING COM CHECK

## LOCATION-LEGAL DESCRIPTION

1201 LONNIE ABBOT BLVD., ADA, OKLAHOMA

## CODE INFORMATION

### APPLICABLE CODES

2018 INTERNATIONAL BUILDING CODE  
2018 INTERNATIONAL PLUMBING CODE  
2018 NATIONAL MECHANICAL CODE  
2020 NATIONAL ELECTRICAL CODE  
2018 IBC

### 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

## 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

REVISION	DATE	COMMENTS
1	10-01-24	FOR SUBMITTAL TO BLDG. DEPT. RESPONSE TO BLDG. DEPT. COMMENTS

ARCODEV JOB # :  
CLIENT JOB # :  
DRAWN BY :  
CHECKED BY : NLH  
DATE OF ISSUE: 06.26.24



45 SPYGLASS DRIVE  
LITTLETON, CO 80123  
VOICE: 303.981-8923  
NORMHERMAN@ARCODEV.COM

## SHEET

A0

COVER SHEET

# ICC A117.1-2009 : ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES

ALL INTERIOR CONSTRUCTION WITHIN THE SCOPE OF THIS PROJECT IS REQUIRED TO BE ACCESSIBLE AS SET FORTH IN THE '2010 ADA STANDARDS FOR ACCESSIBLE DESIGN, UNLESS NOTED OTHERWISE.

### DOORS

- 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 A117.1-2009 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 A117.1-2009 Section 404.2.5 and Figure 404.2.5.

NOTE: Y = 54" MIN. if door has a closer

NOTE: Y = 48" MIN. if door has a closer

NOTE: X = 12" MIN. if door has both a closer and a latch

NOTE: X = 8" if door has both a closer and a latch

NOTE: Door can have either a latch OR closer, but not both

### RESTROOMS & DRINKING FOUNTAINS

- 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.
- Toilet paper dispensers shall comply with ICC A117.1-2009, 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 A117.1-2009, 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 A117.1-2009, Chapter 6, Section 602.2.
- Toilet paper dispensers shall comply with ICC A117.1-2009, Chapter 6, Figure 604.9.2.
- Fixed side wall grab bars shall comply with ICC A117.1-2009, Chapter 6, Section 604.5.1.

Provide Knee & Toe Clearance - See Section 306

Clearances & Heights at Lavatory

Stall Compartment Toe Clearance

Drinking Fountain Clearance and Spout Location

NOTE: if ONLY a parallel approach is provided, then 'X' shall be 3'-1/2" MAX

### REACH RANGES, CONTROLS & OPERATING MECHANISMS

- 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.

Obstructed Forward Reach

Obstructed Side Reach

Unobstructed Forward Reach

Unobstructed Side Reach

### PATH OF TRAVEL

- 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 A117.1-2009 Section 303.
- The clear width of walking surfaces on an accessible route 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.

Clear Width of an Accessible Route

Changes in Level

Walking Parallel To A Wall

### SEATING AT TABLES & COUNTERS

- 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.

Toe and Knee Clearances

Full Knee Clearance @ Additional Depth

### STAIRS AND RAMPS

- 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. Risers 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.

Handrail Location with Barrier Edge Protection

Handrail Location with Alternate Edge Protection

Handrail Location

Stair Nosings

NOTE: x = tread depth

curved or beveled nosing

angled riser

SLOPE	MAX. RISE
1:12 MIN.	30"
1:12 to 1:10	6"
1:10 to 1:08 MAX.	3"

\*Only for Existing Sites, Buildings and Facilities

### SIGNAGE

- Signs shall comply with 703.
- Signs identifying permanent rooms and spaces shall comply with 703.1, 703.2, and 703.5. Where pictograms are provided as designations of permanent rooms and spaces, the pictograms shall comply with 703.6 and shall have text descriptors complying with 703.2 and 703.5.
- Signs that provide direction to or information about spaces and facilities shall comply with 703.5.
- Where more than one check-out aisle is provided, check-out aisles complying with 904.3 shall be identified by the International Symbol of Accessibility complying with 703.7.2.1. Where check-out aisles are identified by numbers, letters, or functions, signs identifying check-out aisles complying with 904.3 shall be located in the same location as the check-out aisle identification.

Lavatory Clearance

Standard Stall

Clear Floor Space and Water Closet Location

Recessed Toilet Paper Dispenser Location

Height and Depth of Urinal

Grab Bars at Water Closets

Parallel Approach at Sales & Service Counters

### FOODSERVICE LINES, TABLEWARE AREAS & CHECKOUT AISLES

- Where check-out aisles are provided, check-out aisles shall comply with 904.3 and be dispersed.
- Where provided, at least one of each type of sales counter and service counter shall comply with 904.4. Where counters are dispersed throughout the building or facility, counters complying with 904.4 also shall be dispersed.
- Food service lines shall comply with 904.5. Where self-service shelves are provided, at least 50 percent, but no fewer than one, of each type provided shall comply with 308.
- Queues and waiting lines servicing counters or check-out aisles required to comply with 904.3 or 904.4 shall comply with 403.
- Check-out aisles and sales and service counters shall comply with the applicable requirements of 904.
- All points of counters required to comply with 904 shall be located adjacent to a walking surface complying with 403.

Parallel Approach at Sales & Service Counters

## BRAKES PLUS

1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA

ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	08.07.2024	FOR SUBMITTAL TO BLDG. DEPT.

ARC CODEV

ARC CODEV JOB #:

CLIENT JOB #:

DRAWN BY:

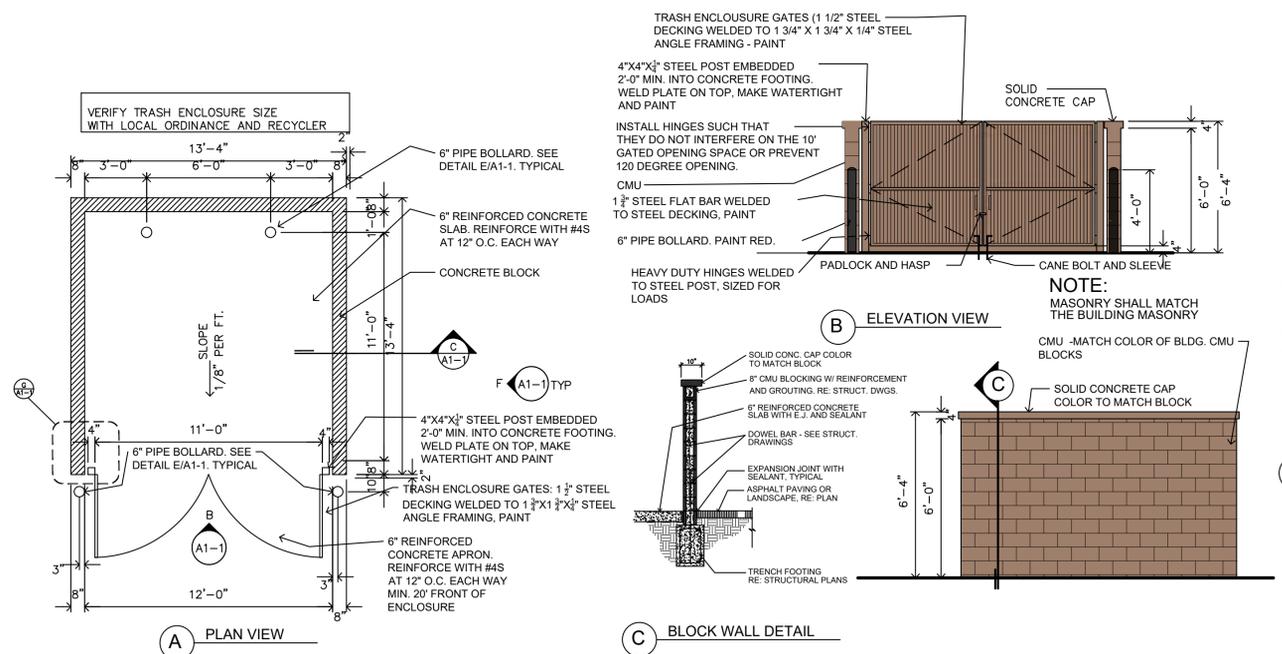
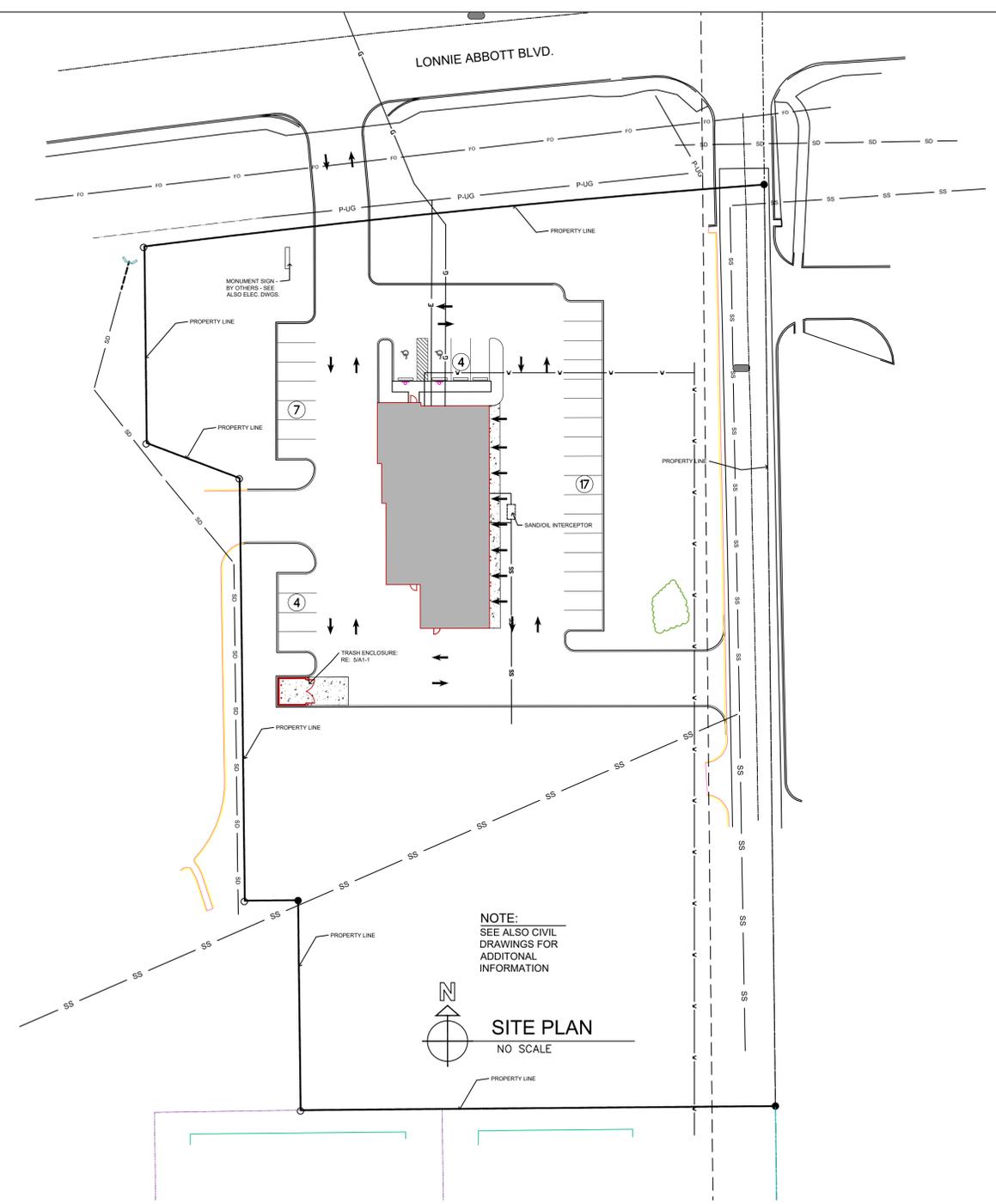
CHECKED BY: NLH

DATE OF ISSUE: 06.26.24

45 SPYGLASS DRIVE  
LITTLETON, CO 80124  
VOICE: 303.881-8925  
NORMAN@ARC CODEV.COM

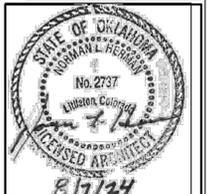
# A0.1

ACCESSIBLE DETAILS



**5 TRASH ENCLOSURE DETAIL**  
A1-1

**BRAKES PLUS**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	08.07.2024	FOR SUBMITTAL TO BLDG. DEPT.

ARCODEV JOB #:  
CLIENT JOB #:  
DRAWN BY:  
CHECKED BY: NLH  
DATE OF ISSUE: 06.26.24



SHEET

**A1-1**  
SITE PLAN AND DETAILS



ARCHITECT OF RECORD

REVISION  
DATE  
COMMENTS  
FOR SUBMITTAL TO BLDG. DEPT.

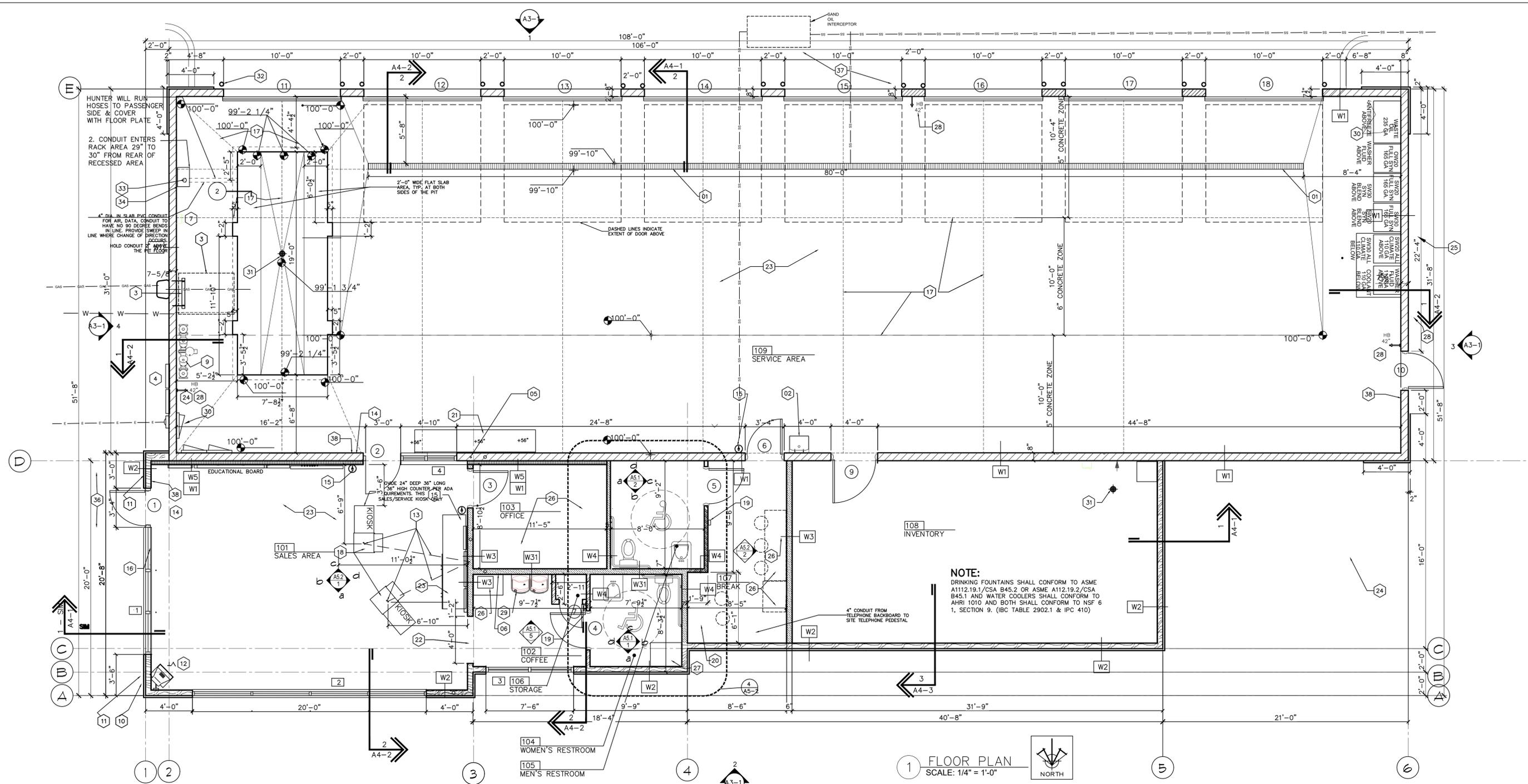
ARCODEV JOB #:  
CLIENT/JOB #:  
DRAWN BY:  
CHECKED BY:  
DATE OF ISSUE:

ARCODEV  
45 SPYGLASS DRIVE  
LITTLETON, CO 80123  
VOICE: 303.981-9105  
NORMHERMAN@ARCODEV.COM



SHEET

**A2-1**  
FLOOR PLAN



**NOTE:**  
DRINKING FOUNTAINS SHALL CONFORM TO ASME A112.19.1/CSA B45.2 OR ASME A112.19.2/CSA B45.1 AND WATER COOLERS SHALL CONFORM TO AHR1 1010 AND BOTH SHALL CONFORM TO NSF 6.1, SECTION 9. (IBC TABLE 2902.1 & IPC 410)

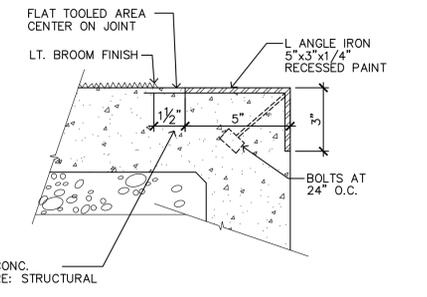
**1 FLOOR PLAN**  
SCALE: 1/4" = 1'-0"

**FLOOR PLAN KEYNOTES:**

- 6" WIDE CONTINUOUS PRE-FORMED TRENCH DRAIN. MAX OPENING = 2". SEE PLUMBING DRAWINGS AND DRAIN SPEC.
- DEEP-BASIN SERVICE SINK. RE: MECHANICAL DRAWINGS. PROVIDE 48" HIGH x 36" WIDE STAINLESS STEEL PANEL ON WALL BEHIND SINK.
- 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. DSP201AK 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 BRACKETS 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 OWNER
- SERVICE COUNTER PROVIDED AND INSTALLED BY G.C.
- 4'-0" W X 7'-4" H OPENING
- CONCRETE SLAB - RE: STRUCTURAL DRAWINGS.
- WATER-COOLER - (DEEP-ROCK WATER 303 292 2020; OR EQUAL).
- GAS METER.
- MILLWORK PROVIDED AND INSTALLED BY G.C.
- NOT USED.
- ACCESSIBLE ENTRY SIDEWALK.
- PROVIDE 10" WIDE CONC. APRON IN FRONT OF OVERHEAD DOORS (6" DEEP WITH #3'S 16" O.C. EACH WAY IN CENTER OF SLAB)
- CONDUIT CENTER IS 8" FROM THE CENTER.
- CONDUIT FROM CONTROL BOX TO RACK CONTROL BOX.
- NOT USED.
- PROVIDE EXIT SIGN AS SHOWN ON DETAIL 10 ON SHEET A4-5 INCLUDING TACTILE REQUIREMENTS.

**GENERAL NOTES:**

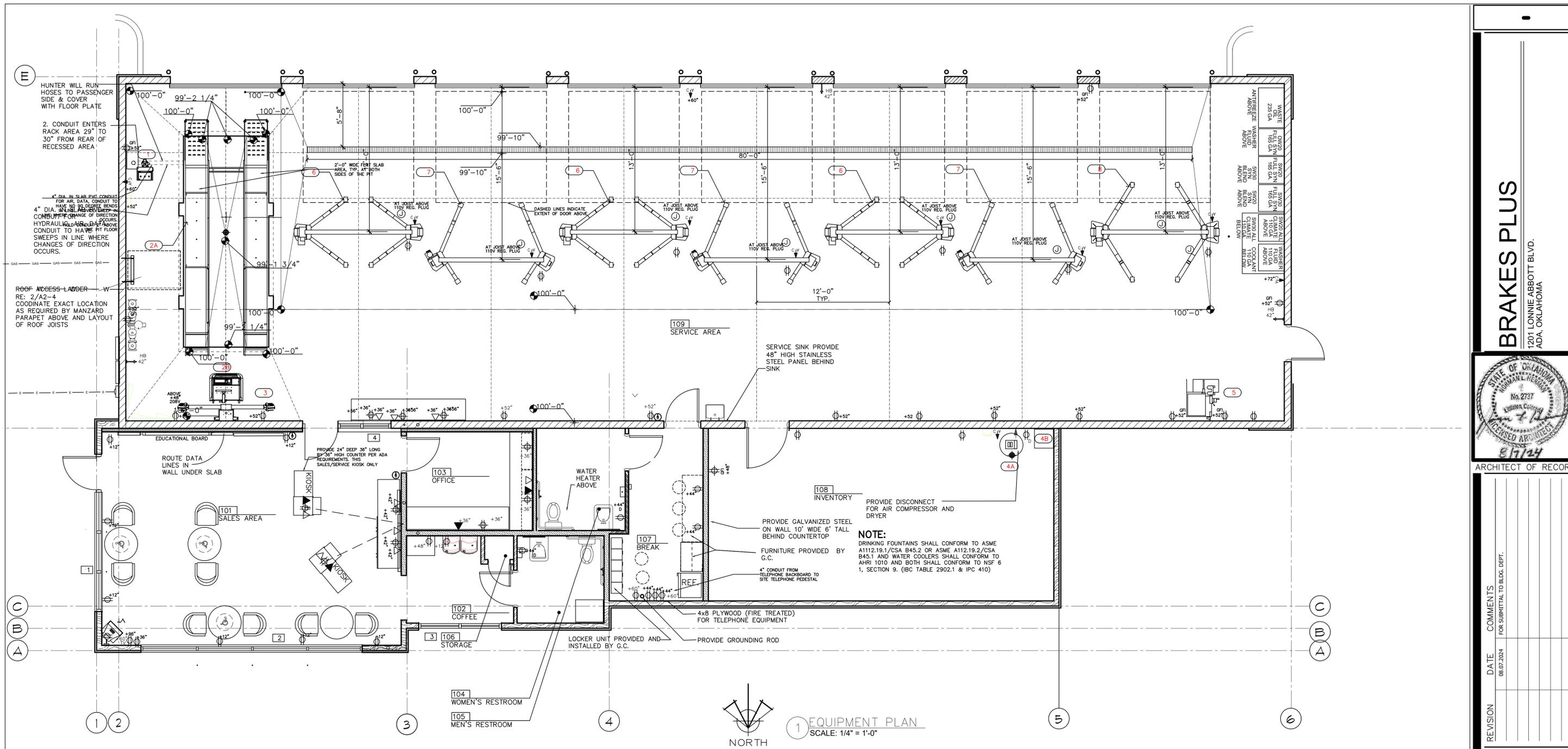
- PAIN EXPOSED UNFINISHED METALS PER SPECIFICATIONS. COLOR TO MATCH ADJACENT SURFACE IF NOT SPECIFIED.
- MAKE SURE TO HAVE A MINIMUM OF 6" CONCRETE UNDER HEAVY EQUIPMENT
- KEEP ALL EXPOSED PLUMBING AND CONDUIT LINES AT LEAST 6" ABOVE F.F.
- PROVIDE ANCHORS, BOLT AND OTHER NECESSARY FASTENERS AND BLOCKING 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 #024-024-76 DATED MAY 2024.
- N/A
- ALL DIMENSIONS OF FACE OF STUDS AND FACE OF CMU BLOCKS



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

WALLS ASSEMBLIES:				
ID	WALL TYPE / SYMBOL	DESCRIPTION	FIRE RATING	UL LISTING
W1	8" NOM. CONCRETE BLOCK FULL HEIGHT / DECK	NOMINAL (see PLAN) 16x8 LIGHT WEIGHT CONCRETE BLOCK. PROVIDE INSULATION IN OPEN CELLS WHERE EXTERIOR. GROUT CELLS SOLID AS THE STRUCTURAL DRAWINGS. MIN R VALUE OF 8.	LOOSE FILL SPECIFIED BY	-
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 GYP. BD AT WET LOCATIONS IN RESTROOM. USE EXTERIOR SHEATHING ON OUTSIDE SURFACES. PROVIDE MIN. FULL BATT R-19 INSULATION W/ VAPOR BARRIER (450 KRAFFT PAPER OF EQUAL CLASS III VAPOR BARRIER). PROVIDE WATER BARRIER GREENGUARD MAX BUILDING WRAP. PROVIDE DRAINAGE PER IBC SETICON 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		1" GYP. BD. EACH SIDE OVER 2X6 WOOD STUDS AT 16" O.C. O 12'-0" AFF. PROVIDE MOISTURE RESISTANT GYP. BD AT WET 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" ABOVE CEILING. PROVIDE FULL BATT INSULATION IN FURRED CAVITY	-	-
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.



**EQUIPMENT SCHEDULE A**

ID	DESCRIPTION	MANUFACTURER	MODEL NUMBER	LENGTH	DEPTH	HEIGHT	HP	VOLTAGE	AMPS	PHASE	NOTES
1	ALIGNMENT RACK - CONTROL BOX	HUNTER	RXL01FT-IS	19"	7"-4 1/2"	6"	-	208-230	26A	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									
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	SPO10	11'-6"	-	12'-5"	5	110	-	1	WITH SHOCKWAVE, NON-DEDICATED CIRCUIT
7	ABOVE-GROUND 10K A-TWIN POST LIFT	ROTARY	SPOA10	11'-6"	-	12'-5"	5	110	-	1	WITH SHOCKWAVE, NON-DEDICATED CIRCUIT
8	ABOVE-GROUND 12K TWIN POST LIFT	ROTARY	SPOA12RA	11'-6"	-	13'-8"	5	110	-	1	WITH SHOCKWAVE, NON-DEDICATED CIRCUIT
9	NEW OIL TANK	VALVOLINE									
10	USED OIL TANK			3'	4'						STACKABLE
11	WASHER/COOLANT TANK			3'	3'	5'-1"					DEL. WALL. UL LISTED
12	OIL DISPENSER	EP16									
13											
14											
15											
16											
17											
18											
19											

**ELECTRICAL LEGEND:**

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

VERIFY ELECTRICAL REQUIREMENTS WITH OWNER PRIOR TO INSTALLATION

- 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**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA

STATE OF OKLAHOMA  
ARCHITECTURE & ENGINEERING  
No. 2737  
LARRY H. HARRIS  
REGISTERED ARCHITECT  
8/17/24

ARCHITECT OF RECORD

REVISION

DATE	COMMENTS
08.07.2024	FOR SUBMITTAL TO BLDG. DEPT.

ARCOCODE JOB #:  
CLIENTJOB #:  
DRAWN BY:  
CHECKED BY: NLH  
DATE OF ISSUE: 06.26.24

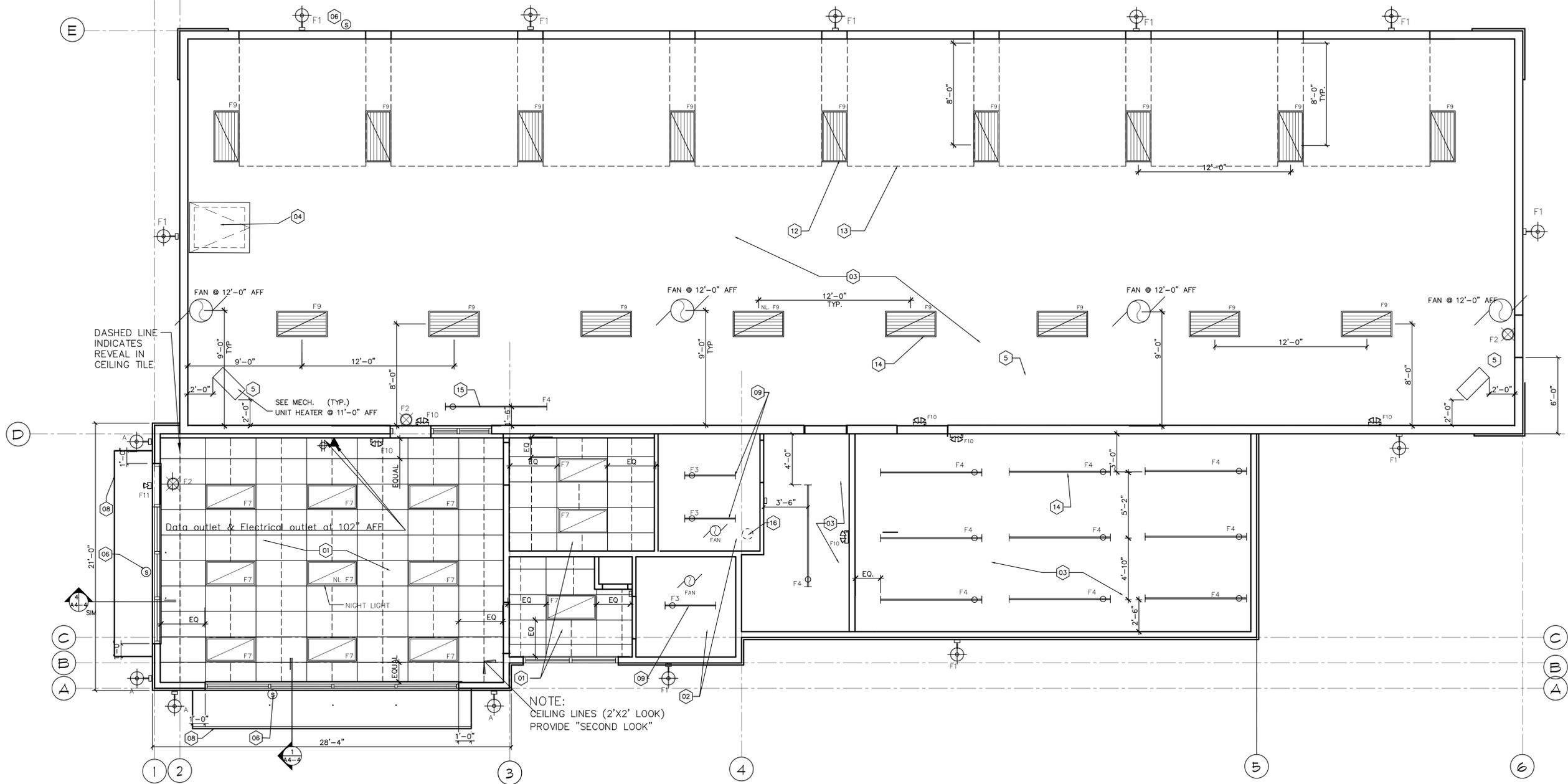
ARCOCODE

45 SPRING DRIVE  
LITTLETON, CO 80123  
VOICE: 303.881-8925  
NORTH@ARCOCODE.COM

SHEET

**A2-2**

EQUIPMENT PLAN



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

CEILING PLAN KEYNOTES:

1. 2x4 ACOUSTICAL TILE CEILING GRID WITH ARMSTRONG "DUNE - FINE FISURED SECOND LOOK" CEILING TILES. RE: ROOM FINISH SCHEDULE.
2. 6"X6" BO CEILING OVER WOOD STUD FRAMING. PAINT. RE: ROOM FINISH SCHEDULE.
3. OPEN TO STRUCTURE ABOVE. PAINT. RE: ROOM FINISH SCHEDULE.
4. ROOF LADDER AND HATCH ABOVE - COORDINATE EXACT LOCATION WITH ROOF FRAMING.
5. UNIT HEATER @ 11'-0" AFF TO BOTTOM - RE: MECH. DWGS.
6. JUNCTION BOX FOR EXTERIOR WALL SIGNS.
7. NOT USED.
8. LINE OF METAL AWNING.
9. CENTER LIGHT FIXTURE IN ROOM.
10. NA.
11. NA.
12. CENTER LIGHT FIXTURES BETWEEN OVERHEAD DOOR. MOUNT BOTTOM OF FIXTURE 2" BELOW BOTTOM OF OVERHEAD DOOR TRACK. TYPICAL.
13. LINE OF OVERHEAD DOOR.
14. MOUNT FIXTURES TIGHT TO STRUCTURE ABOVE. TYPICAL.
15. CENTER FIXTURE OVER SERVICE DESK BELOW.
16. BECK 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	IST-SA1F-730-U-T4FT	25W LED	WALL	120	
	B	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	8TNSLED 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.)

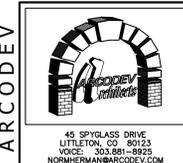
**BRAKES PLUS**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
1	08.07.2024	FOR SUBMITTAL TO BLDG. DEPT.
	10.10.23	RESPOND TO BLDG. DEPT COMMENTS

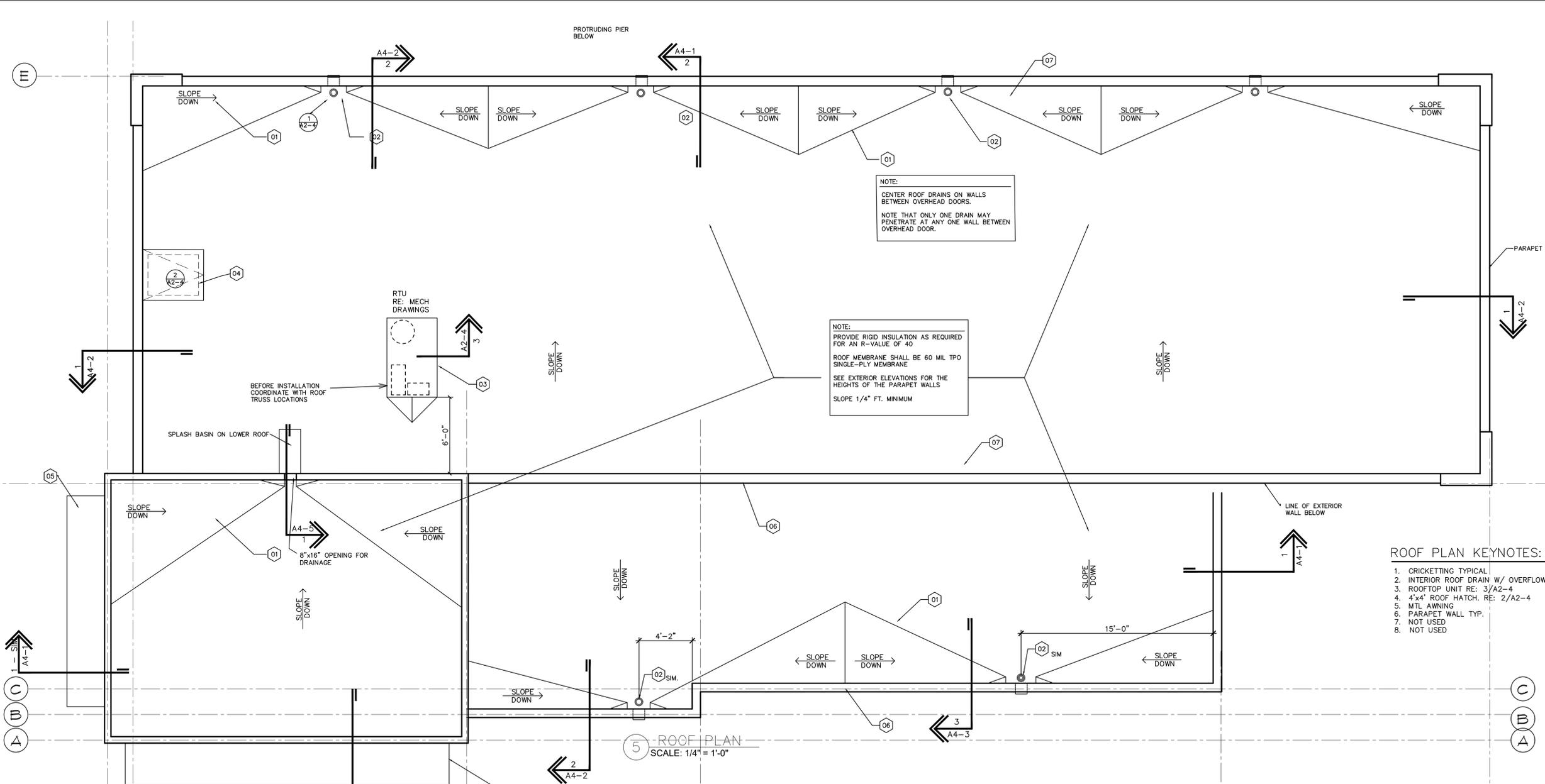
ARCDEV JOB #:  
CLIENT JOB #:  
DRAWN BY:  
CHECKED BY:  
DATE OF ISSUE: 06.26.24



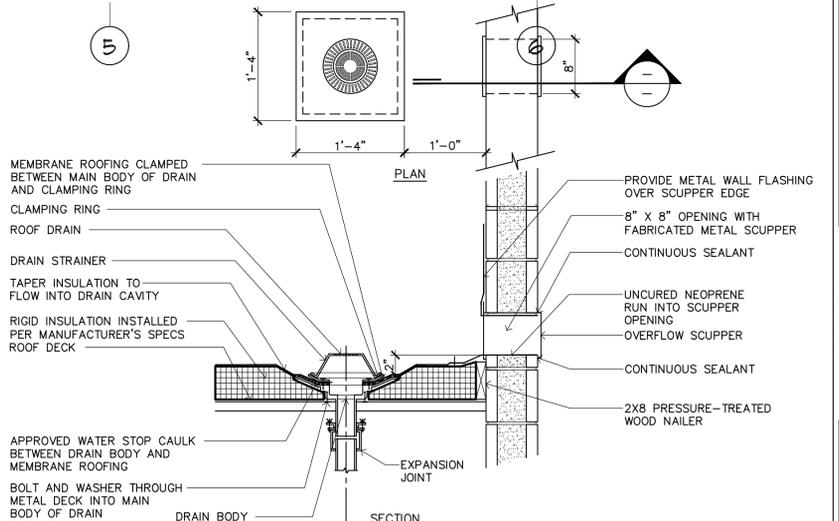
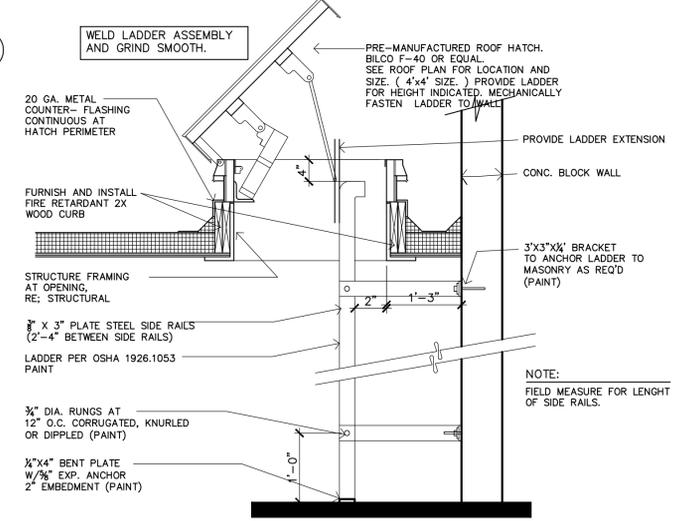
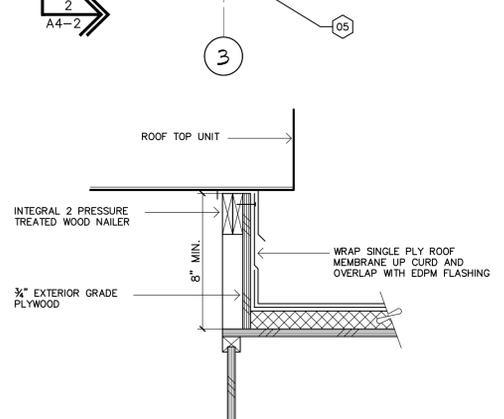
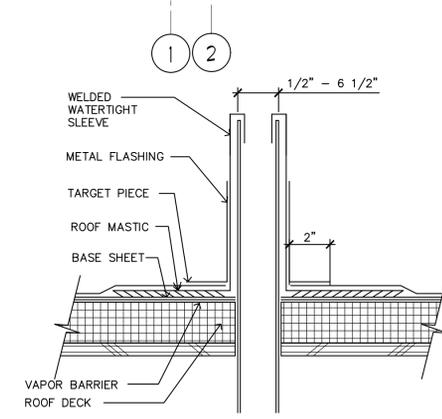
SHEET

A2-3

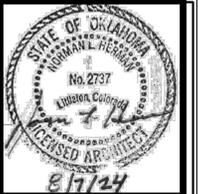
CEILING PLAN



- ROOF PLAN KEYNOTES:**
1. CRICKETTING 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



**BRAKES PLUS**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	08.07.2024	FOR SUBMITTAL TO BLDG. DEPT.

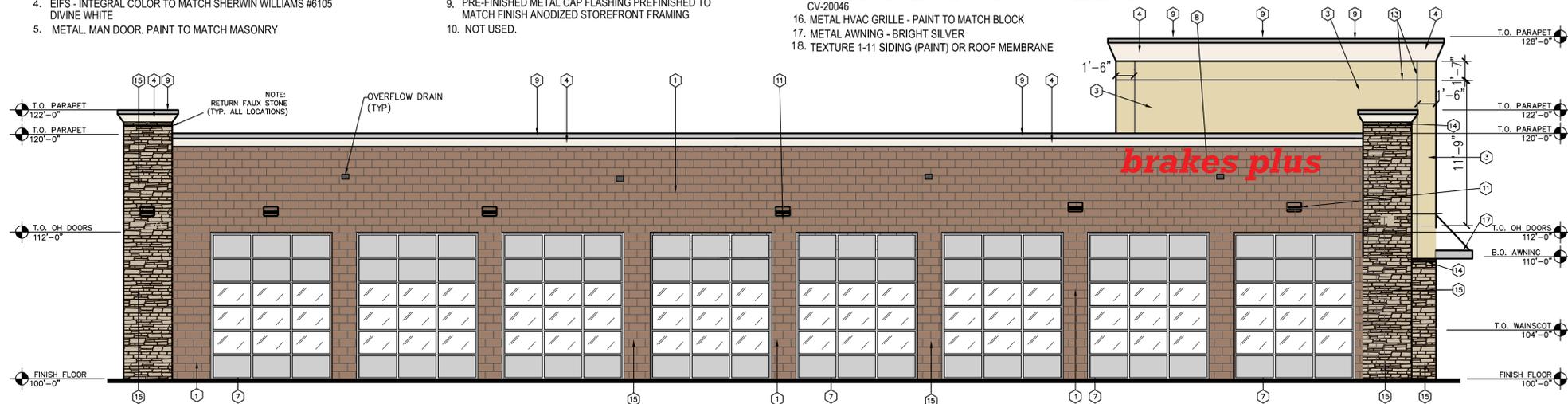
ARCODEV JOB #:  
CLIENT JOB #:  
DRAWN BY:  
CHECKED BY: NLH  
DATE OF ISSUE: 06.26.24



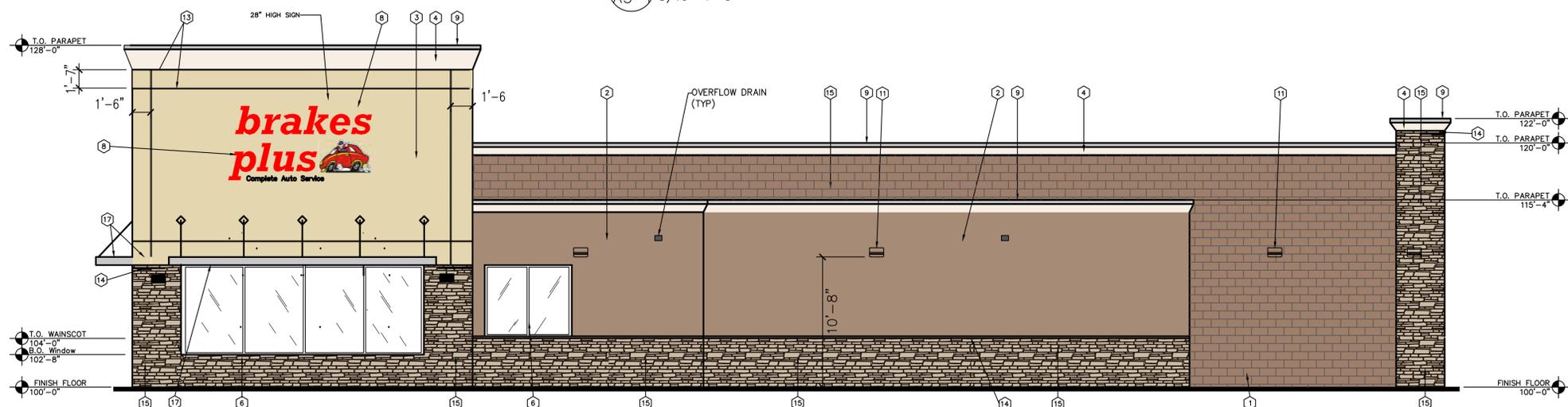
SHEET  
**A2-4**  
ROOF PLAN

**KEYNOTES**

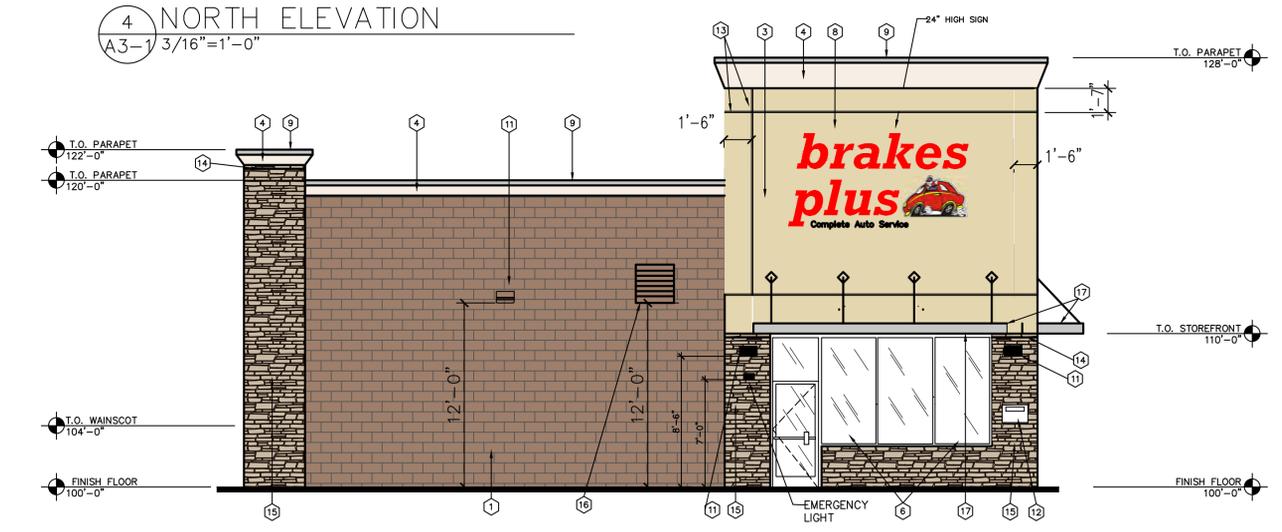
- |   |   |  |
|---|---|--|
| <ol style="list-style-type: none"> <li>1. SMOOTH FACE CONCRETE BLOCK BY BEST BLOCK<br/>COLOR: 739 MEDIUM BROWN</li> <li>2. EIFS - INTEGRAL COLOR TO MATCH SHERWIN WILLIAMS #2835<br/>CRAFTSMAN BROWN</li> <li>3. EIFS - INTEGRAL COLOR TO MATCH SHERWIN WILLIAMS #2834<br/>BIRDEYE MAPLE</li> <li>4. EIFS - INTEGRAL COLOR TO MATCH SHERWIN WILLIAMS #6105<br/>DIVINE WHITE</li> <li>5. METAL MAN DOOR. PAINT TO MATCH MASONRY</li> </ol> | <ol style="list-style-type: none"> <li>6. ALUMINUM/GLASS STOREFRONT<br/>CLEAR ANODIZED ALUMINUM</li> <li>7. ALUMINUM SECTIONAL OVERHEAD DOORS<br/>CLEAR ANODIZED ALUMINUM</li> <li>8. ILLUMINATED SIGNAGE (UNDER SEPARATE PERMIT)</li> <li>9. PRE-FINISHED METAL CAP FLASHING PREFINISHED TO<br/>MATCH FINISH ANODIZED STOREFRONT FRAMING</li> <li>10. NOT USED.</li> </ol> | <ol style="list-style-type: none"> <li>11. DECORATIVE LIGHT FIXTURE.</li> <li>12. KEY DROP BOX</li> <li>13. 1 1/2" X 3/4" REVEAL</li> <li>14. WATER SILL - FAUX STONE - CULTURED STONE - WHITE OAK COUNTRY<br/>LEDGESTONE CV-20046</li> <li>15. FAUX STONE - CULTURED STONE - WHITE OAK COUNTRY LEDGESTONE<br/>CV-20046</li> <li>16. METAL HVAC GRILLE - PAINT TO MATCH BLOCK</li> <li>17. METAL AWNING - BRIGHT SILVER</li> <li>18. TEXTURE 1-11 SIDING (PAINT) OR ROOF MEMBRANE</li> </ol> |
|---|---|--|



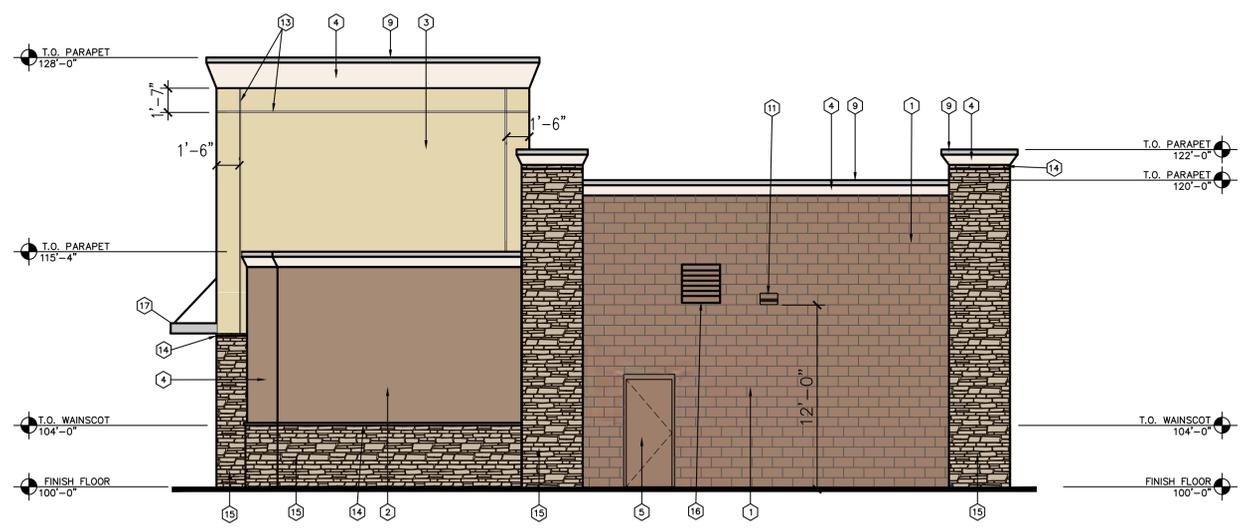
1 SOUTH ELEVATION  
A3-1 3/16"=1'-0"



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



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



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

**BRAKES PLUS**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



ARCHITECT OF RECORD

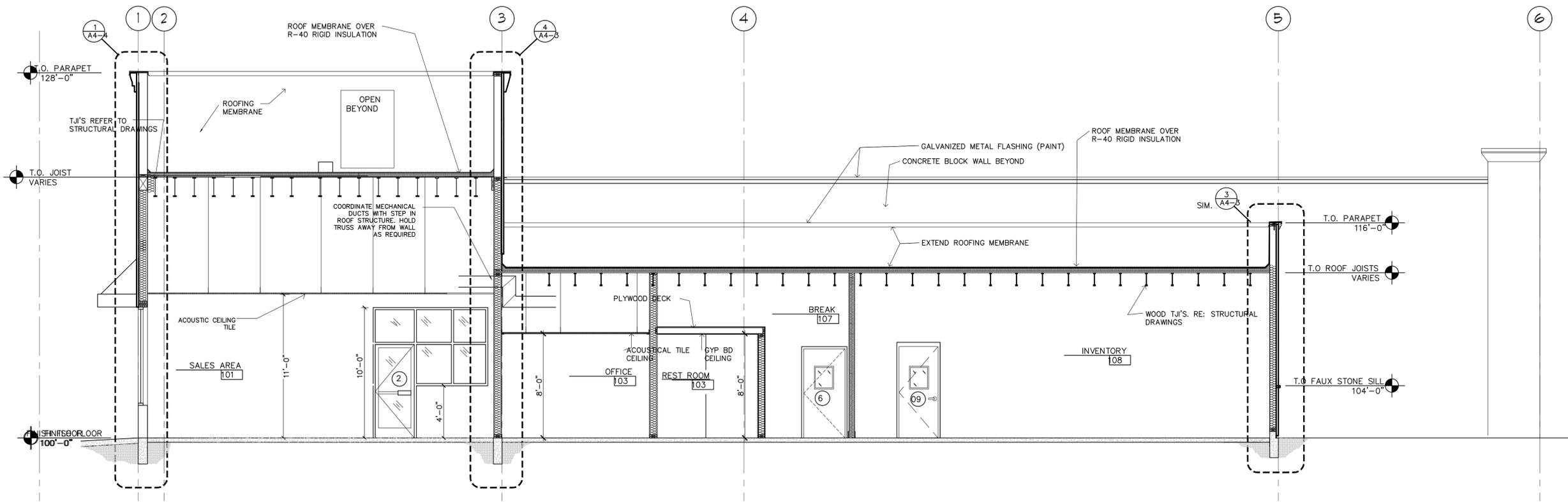
REVISION DATE COMMENTS  
FOR SUBMITTAL TO BLDG. DEPT.

REVISION	DATE	COMMENTS
	08.07.2024	FOR SUBMITTAL TO BLDG. DEPT.

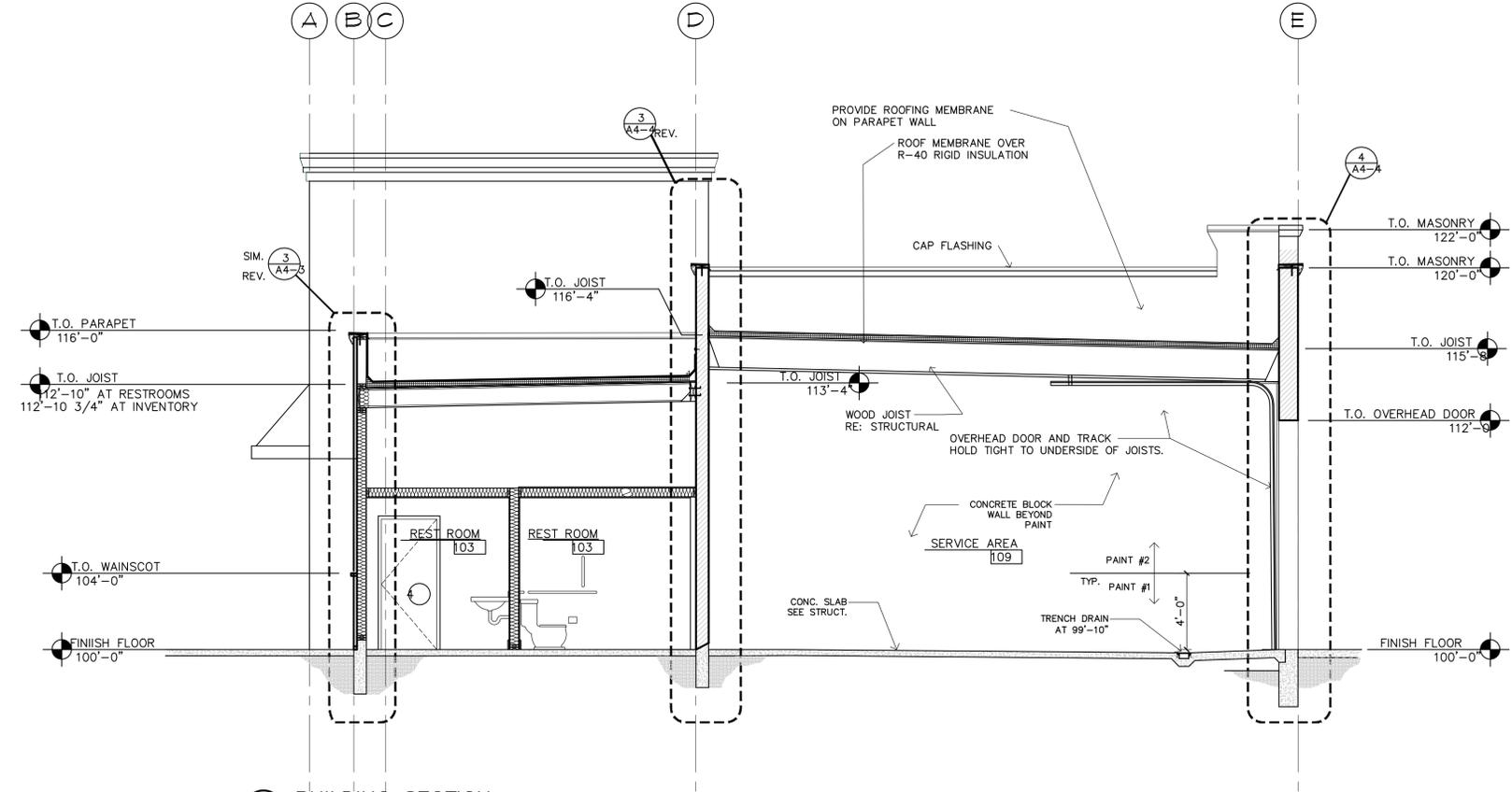


45 SPYGLASS DRIVE  
LITTLETON, CO 80123  
VOICE: 303.951-8923  
NORMAN@ARCODEV.COM

SHEET  
**A3-1**  
EXTERIOR ELEVATIONS

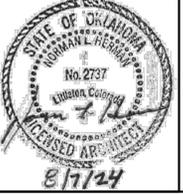


1 BUILDING SECTION  
SCALE: 1/4" = 1'-0"



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

**BRAKES PLUS**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	08.07.2024	FOR SUBMITTAL TO BLDG. DEPT.

ARCODEV JOB #:  
CLIENT JOB #:  
DRAWN BY:  
CHECKED BY: NLH  
DATE OF ISSUE: 06.26.24

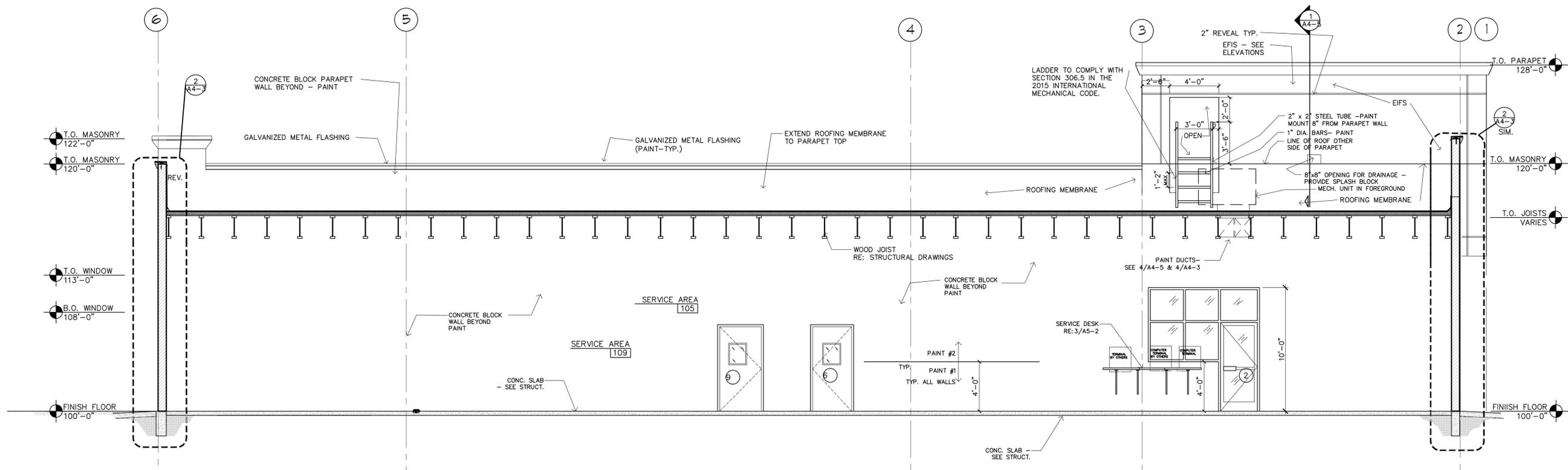
ARCODEV

45 SPYGLASS DRIVE  
LITTLETON, CO 80123  
VOICE: 303.881-8923  
NORMFERMAN@ARCODEV.COM

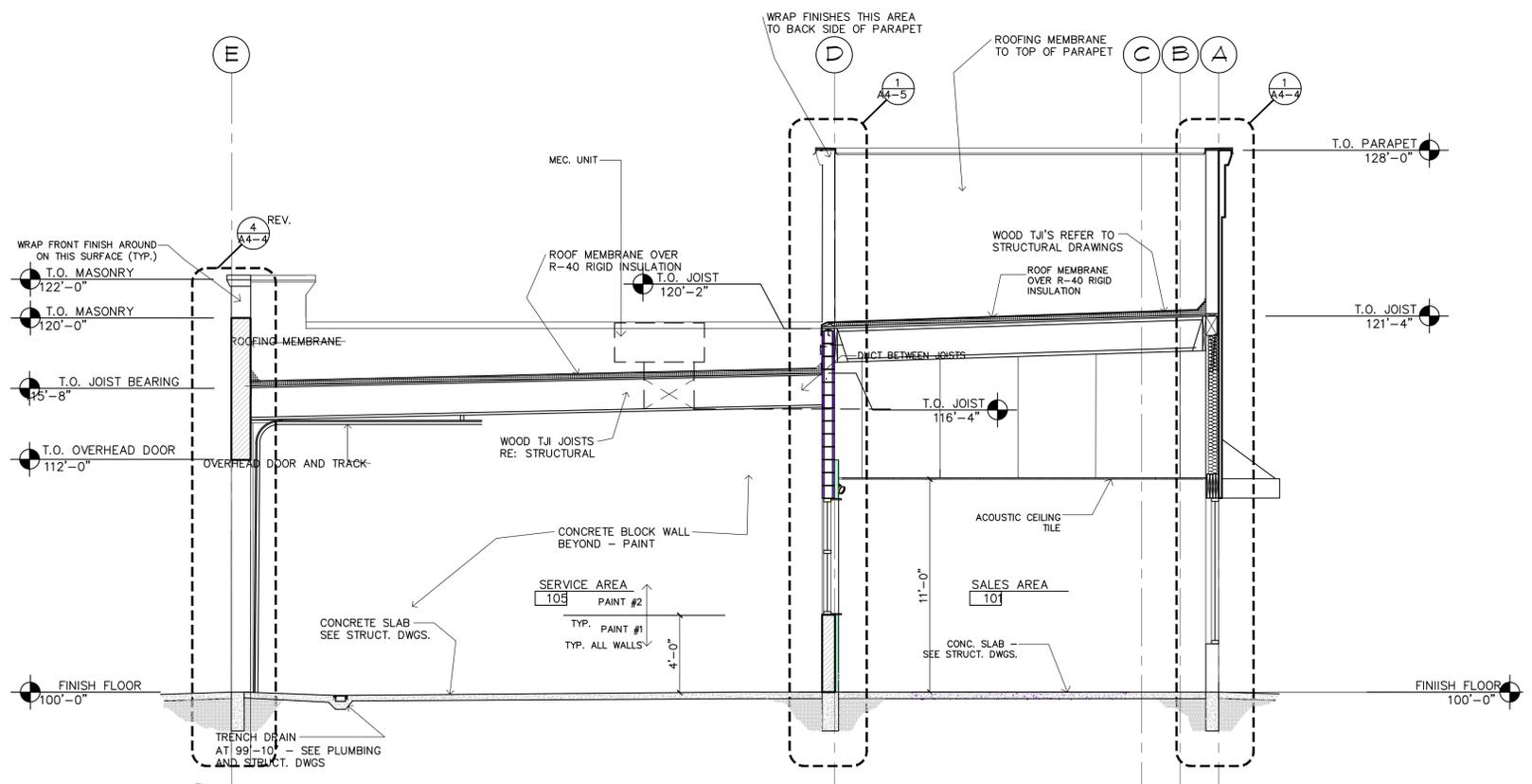
SHEET

**A4-1**

BUILDING SECTIONS



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



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

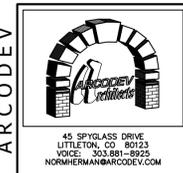
**BRAKES PLUS**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	08.07.2024	FOR SUBMITTAL TO BLDG. DEPT.

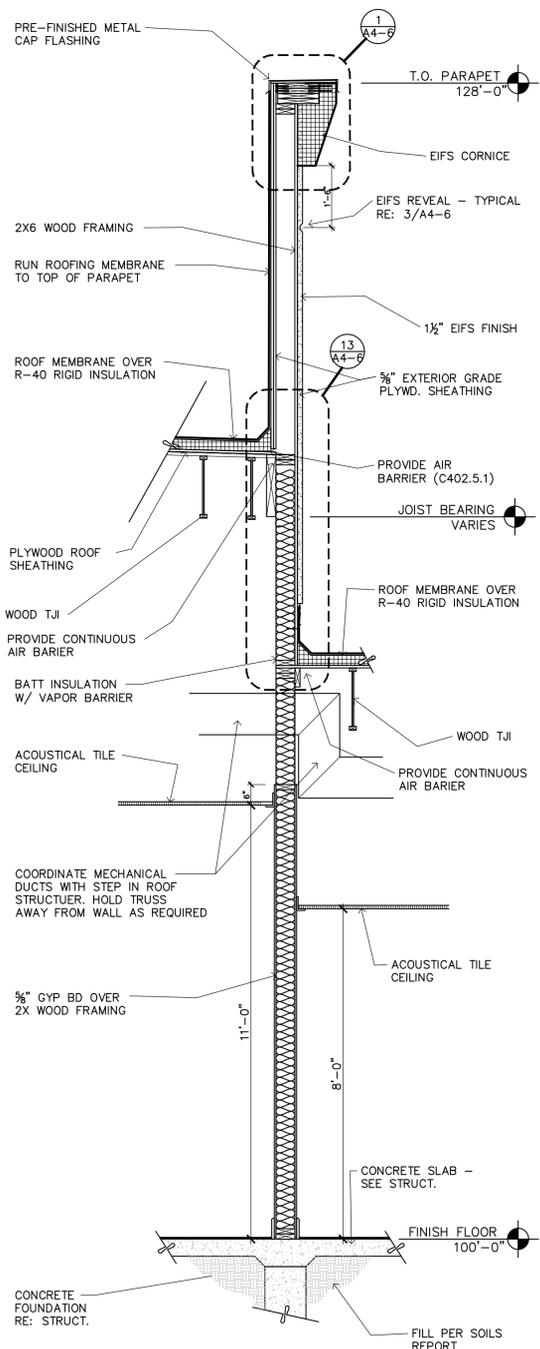
ARCODEV JOB #:  
CLIENT JOB #:  
DRAWN BY:  
CHECKED BY: NLH  
DATE OF ISSUE: 06.26.24



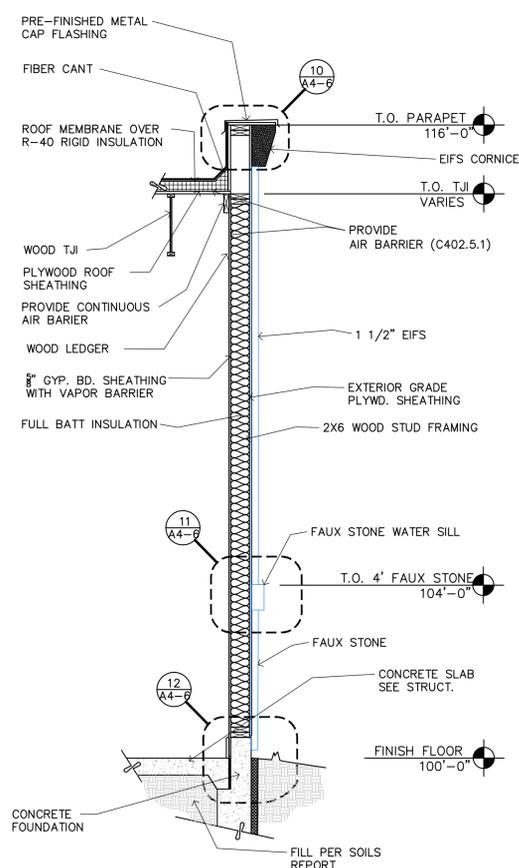
SHEET

**A4-2**

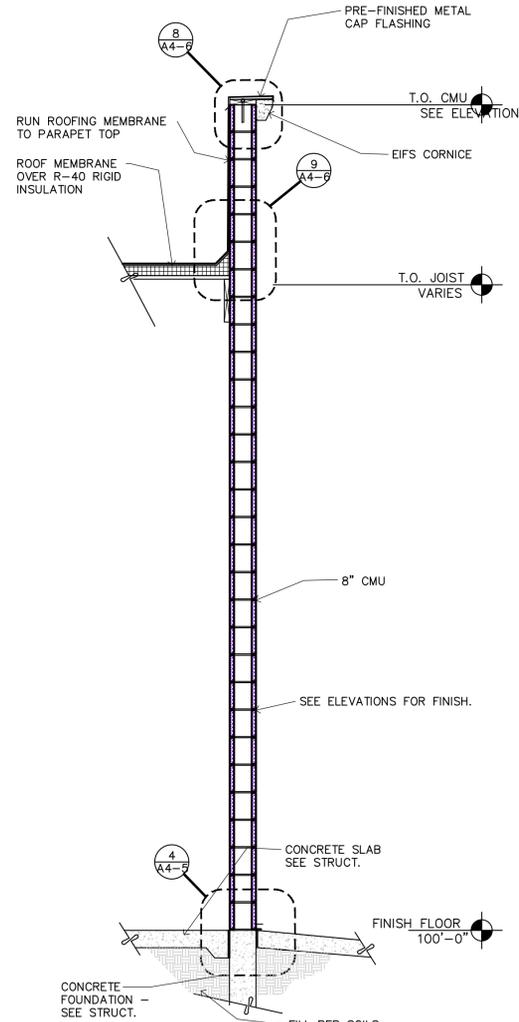
BUILDING SECTIONS



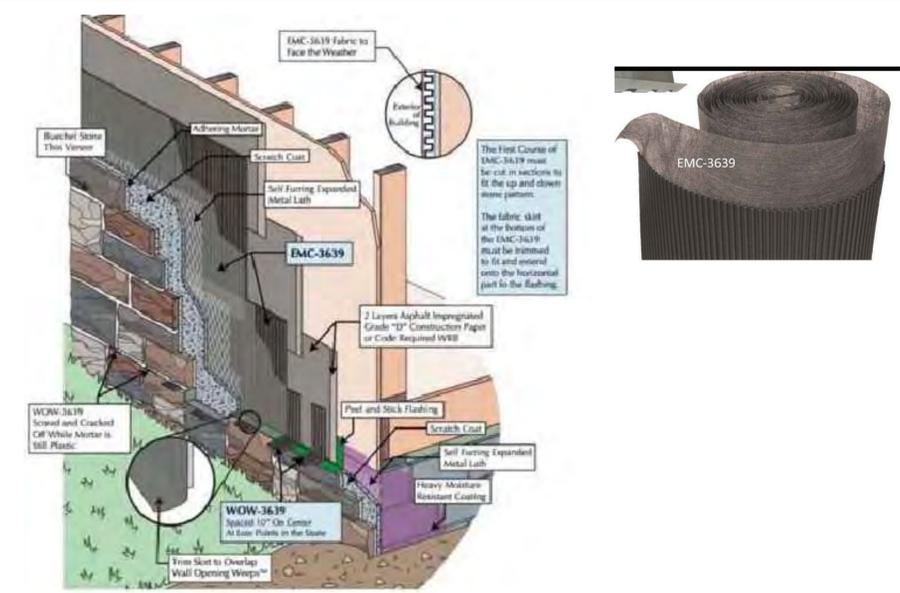
4 WALL SECTION  
A4-3 1/2"=1'-0"



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

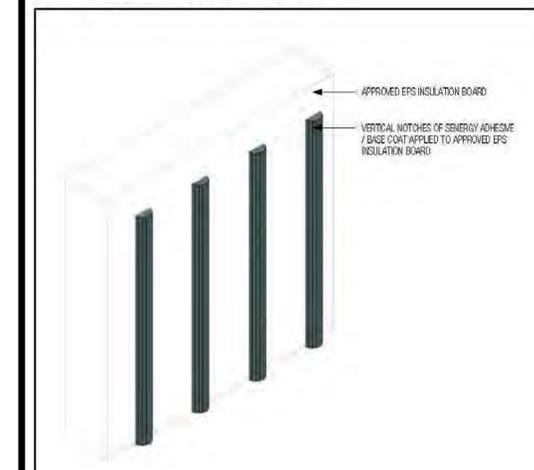


2 WALL SECTION  
A4-3 1/2"=1'-0"



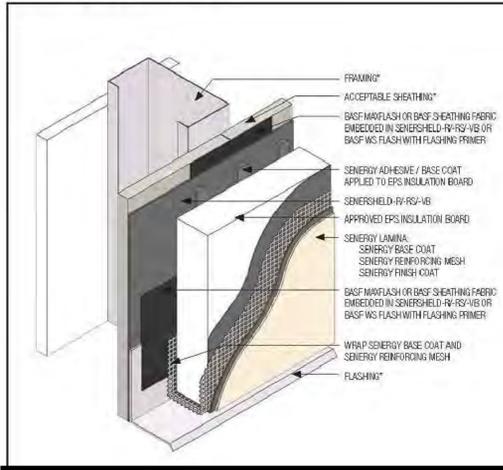
5 FAUX STONE WATER DRAINAGE DETAILS.  
A4-3 NO SCALE

### Channeled Adhesive CI Design



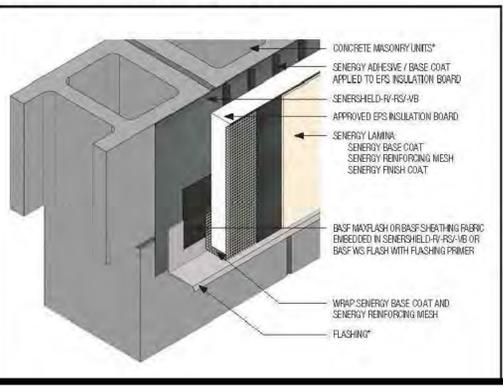
- Install BASF materials in accordance with current installation instructions.
- Unsatisfactory conditions shall be reported to the General Contractor and corrected before the application of BASF products.
- Verify all materials are installed in accordance with current installation instructions.
- Apply 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 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



- 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



- 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.

1 EIFS WATER DRAINAGE DETAILS.  
A4-3 NO SCALE

**BRAKES PLUS**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA

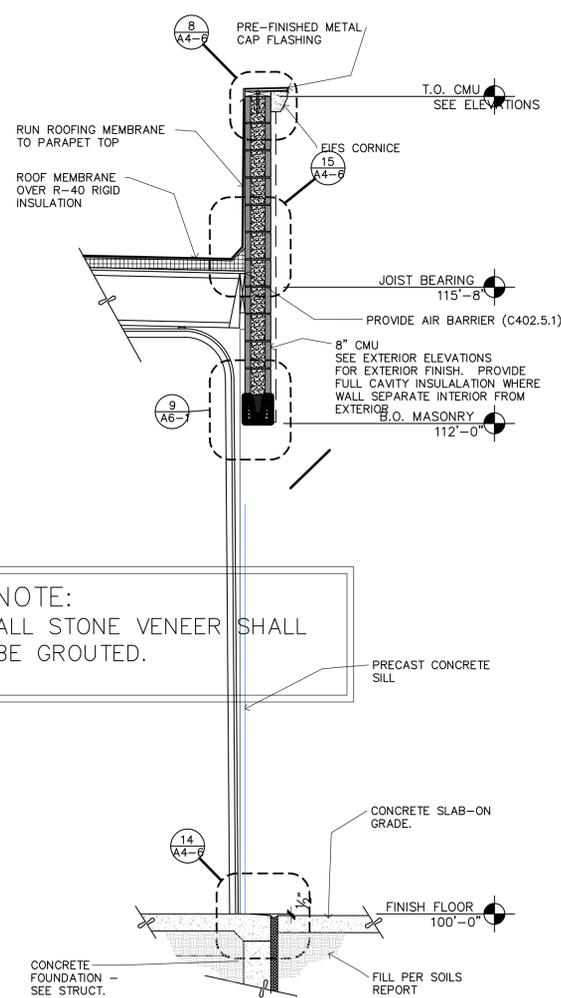


ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	06.07.2024	FOR SUBMITTAL TO BLDG. DEPT.

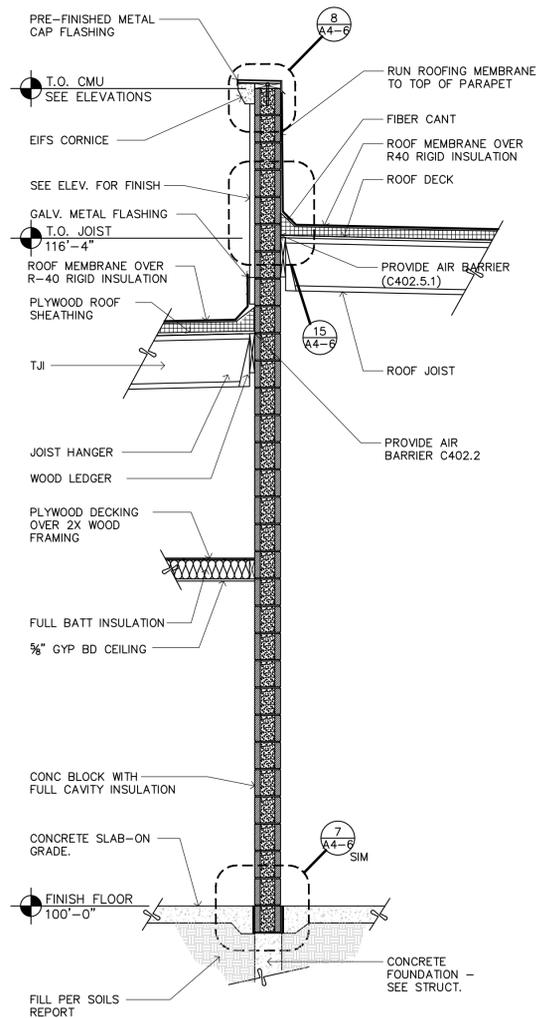


SHEET  
**A4-3**  
WALL SECTIONS

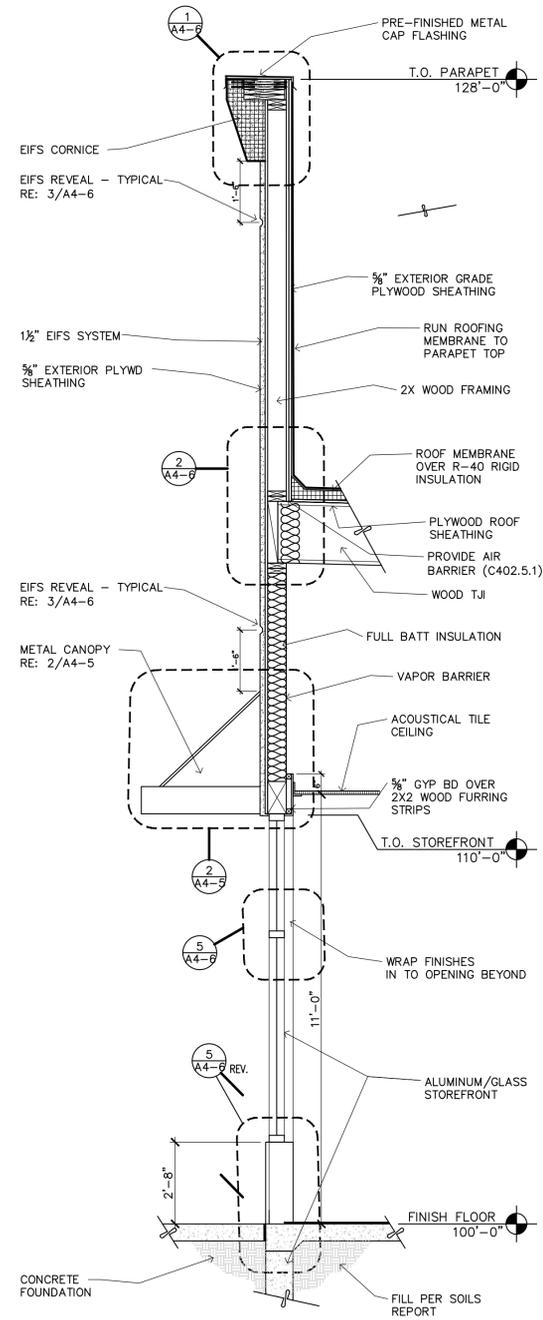


NOTE:  
ALL STONE VENEER SHALL  
BE GROUTED.

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

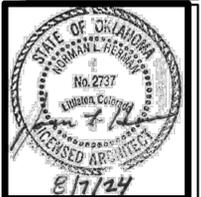


3 WALL SECTION  
A4-4 1/2"=1'-0"



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

**BRAKES PLUS**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



8/7/24  
ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	08.07.2024	FOR SUBMITTAL TO BLDG. DEPT.

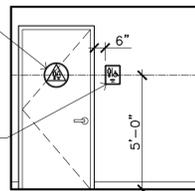
ARCODEV JOB #:  
CLIENT JOB #:  
DRAWN BY:  
CHECKED BY: NLH  
DATE OF ISSUE: 06.26.24



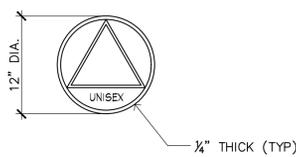
SHEET

**A4-4**  
WALL SECTIONS

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



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

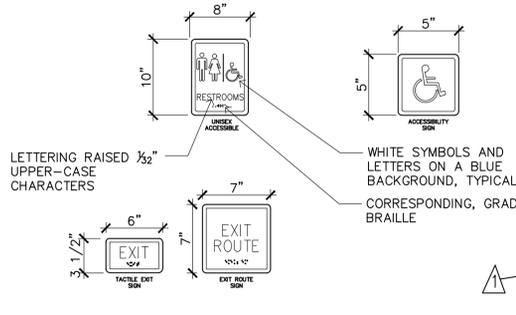


**NOTES:**

- 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

**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

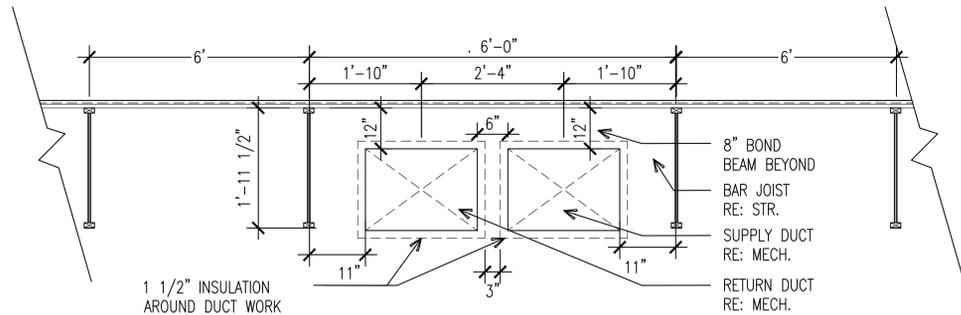


NOTE: PROVIDE SIGNAGE AT RESTROOMS AND EXITS

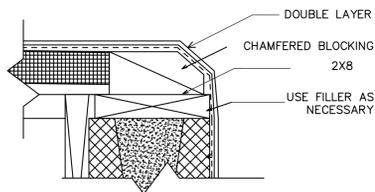
**NOTES:**

- 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.
- 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.

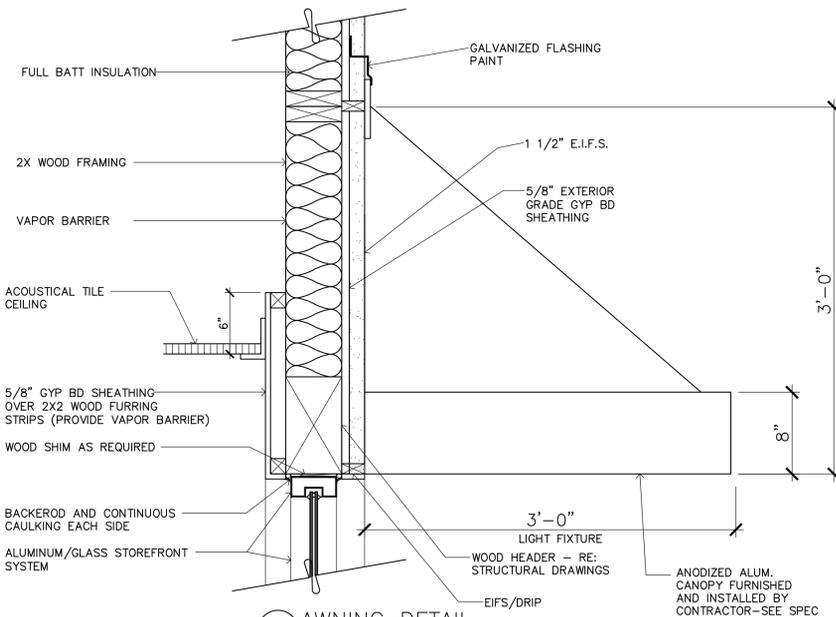
10 INTERIOR SIGNAGE INFORMATION  
NO SCALE



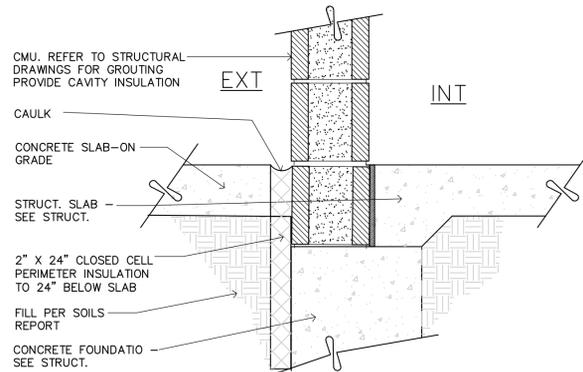
4 RTU DUCT-WORK DETAIL  
SCALE: 3/4" = 1'-0"



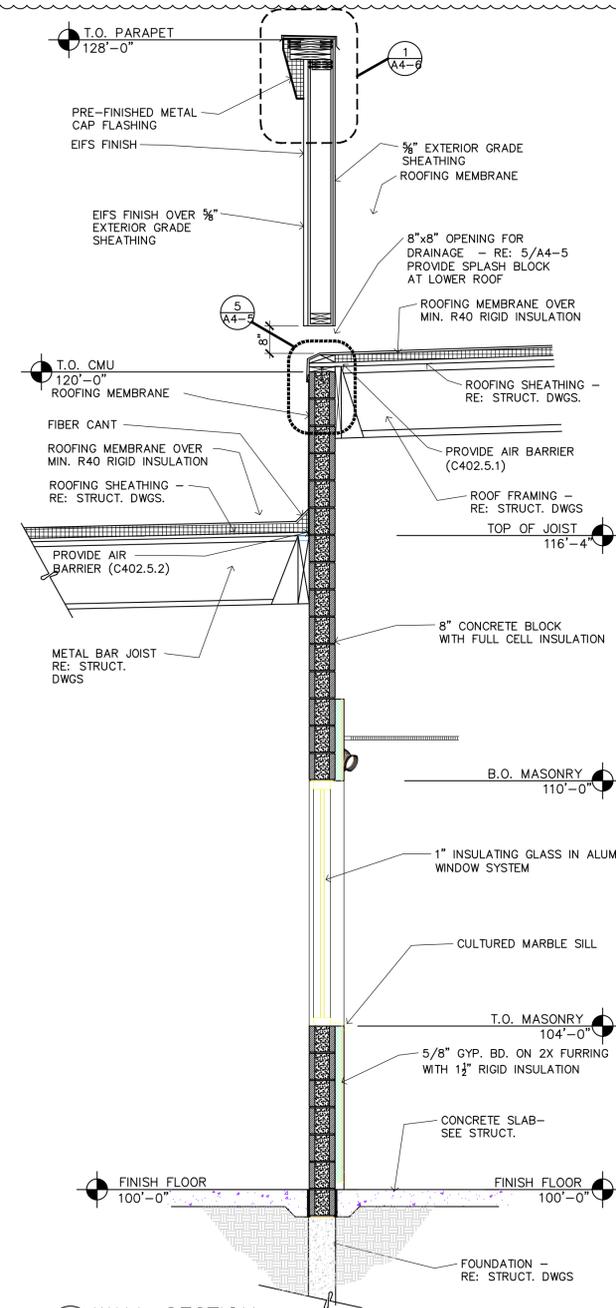
5 ROOF CORNER DETAIL  
SCALE: 3" = 1'-0"



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**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



ARCHITECT OF RECORD

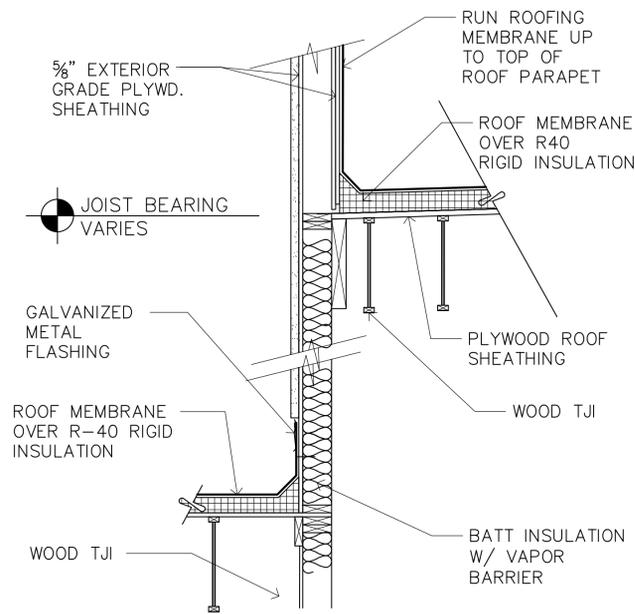
REVISION	DATE	COMMENTS
	08.07.2024	FOR SUBMITTAL TO BLDG. DEPT.



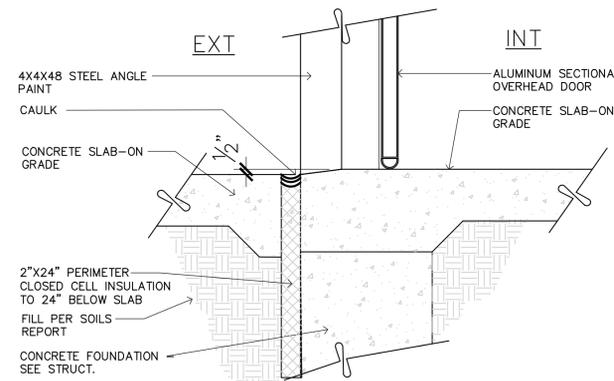
45 SPYGLASS DRIVE  
LITTLETON, CO 80123  
VOICE: 303.881-8925  
NORMHERMAN@ARCODEV.COM

**A4-5**

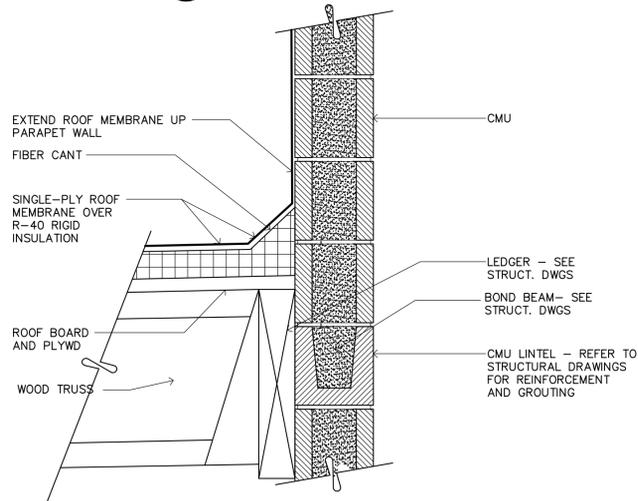
WALL SECTIONS & DET.



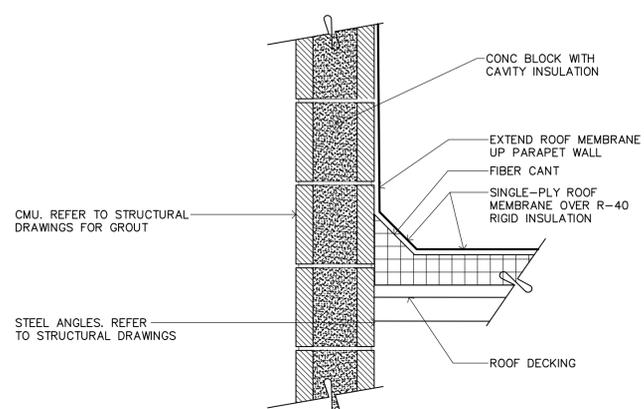
13 ROOF DETAIL  
SCALE: 1/2" = 1'-0"



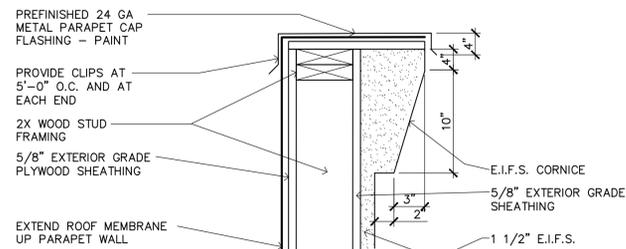
14 FOUNDATION DETAIL  
SCALE: 1/2" = 1'-0"



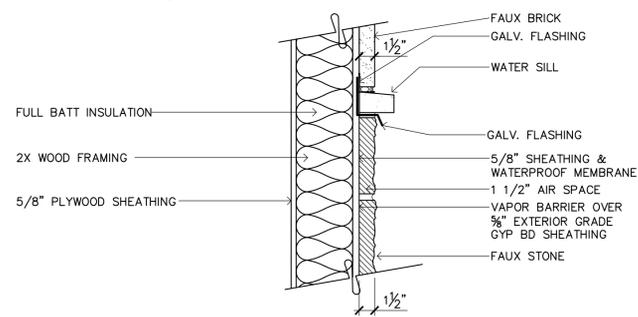
15 ROOF AT CMU DETAIL  
SCALE: 1/2" = 1'-0"



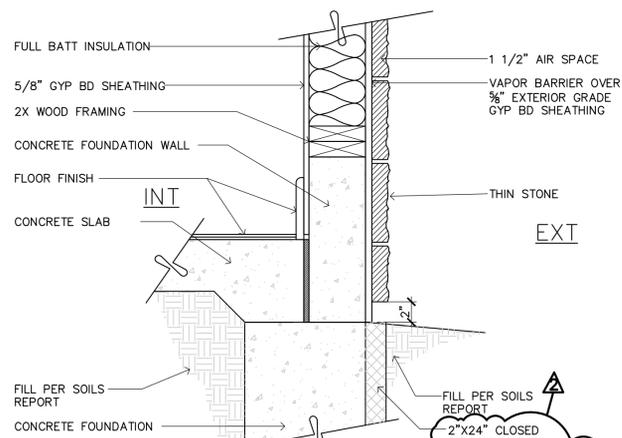
9 DECK AT CMU DETAIL  
SCALE: 1/2" = 1'-0"



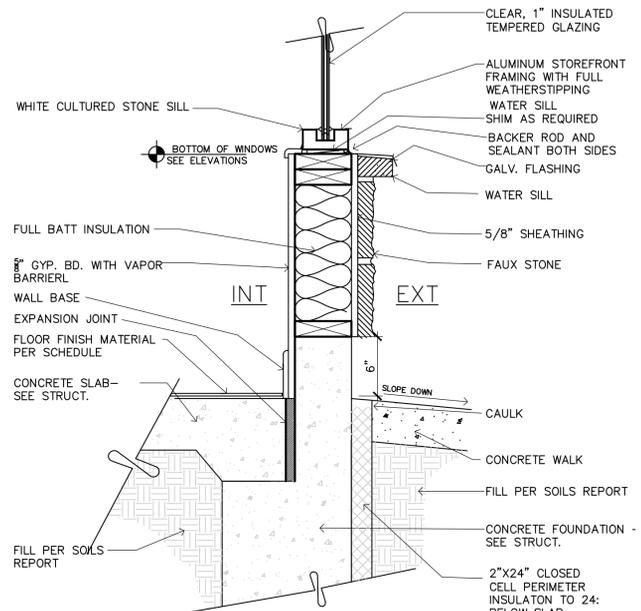
10 CORNICE AT STUD WALL DETAIL  
SCALE: 1/2" = 1'-0"



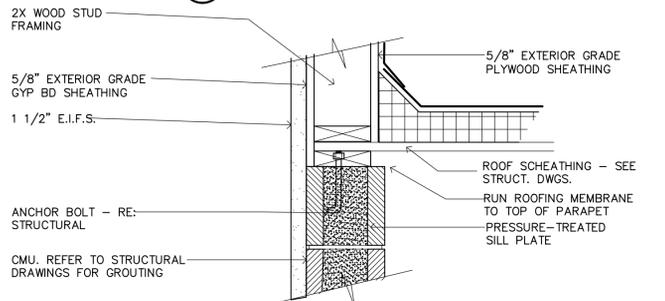
11 WAINSCOT DETAIL  
SCALE: 1/2" = 1'-0"



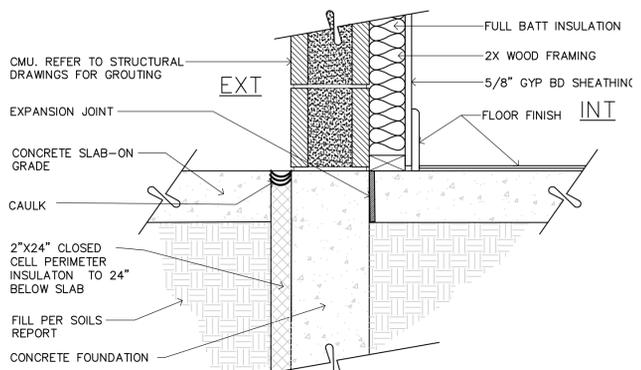
12 FOUNDATION DETAIL  
SCALE: 1/2" = 1'-0"



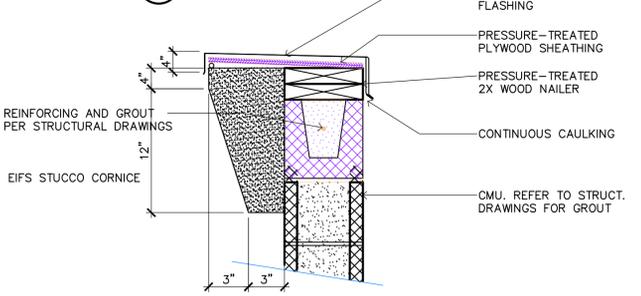
5 FOUNDATION DETAIL  
SCALE: 1/2" = 1'-0"



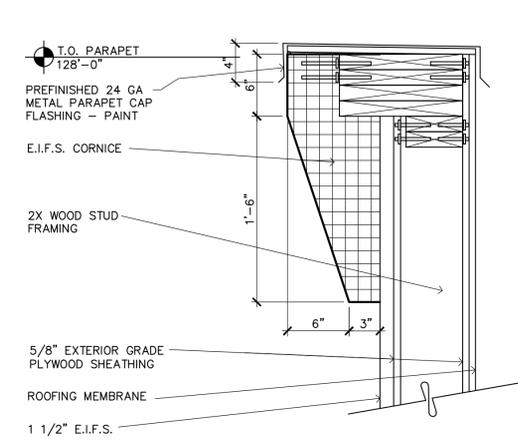
6 CMU AT STUD WALL DETAIL  
SCALE: 1/2" = 1'-0"



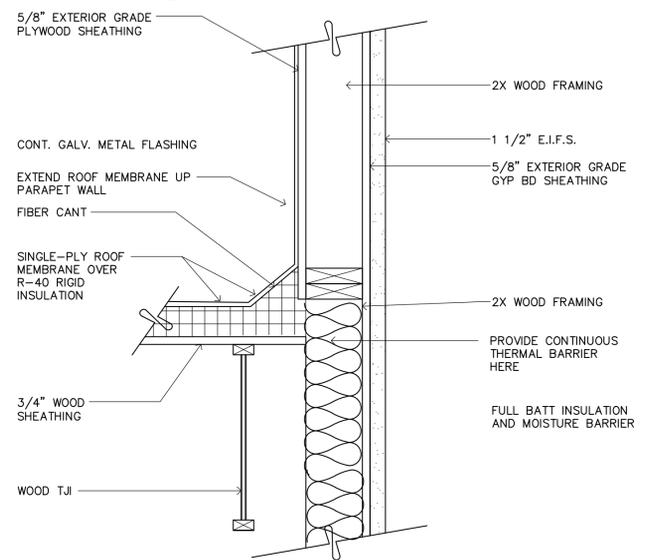
7 FOUNDATION DETAIL  
SCALE: 1/2" = 1'-0"



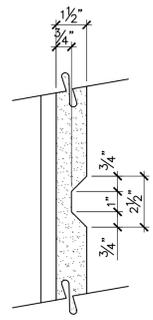
8 CORNICE AT CMU DETAIL  
SCALE: 1/2" = 1'-0"



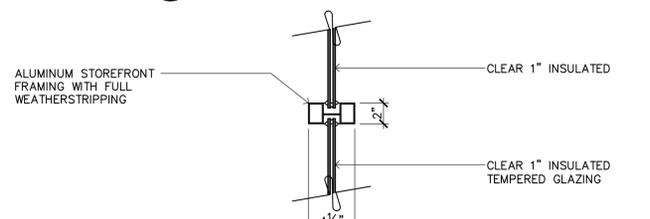
1 CORNICE AT STUD WALL DETAIL  
SCALE: 1/2" = 1'-0"



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

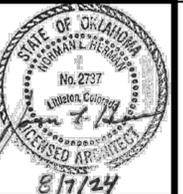


3 REVEAL DETAIL  
SCALE: 3" = 1'-0"



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

BRAKES PLUS  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	06/07/2024	FOR SUBMITTAL TO BLDG. DEPT.

ARCOCODE JOB #:

CLIENT/JOB #:

DRAWN BY:

CHECKED BY: NLH

DATE OF ISSUE: 06.26.24



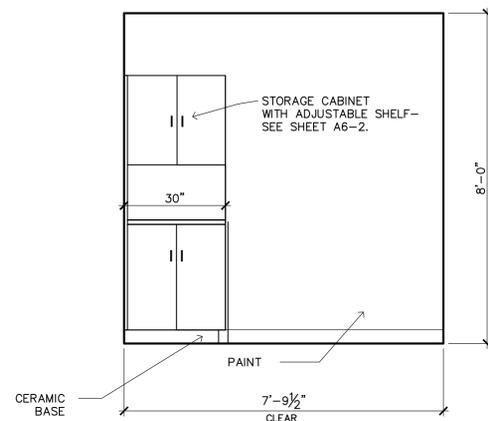
ARCOCODE

45 SPYGLASS DRIVE  
LITTLETON, CO 80120  
VOICE: 303.681-5925  
NORTHERRMAN@ARCOCODE.COM

SHEET

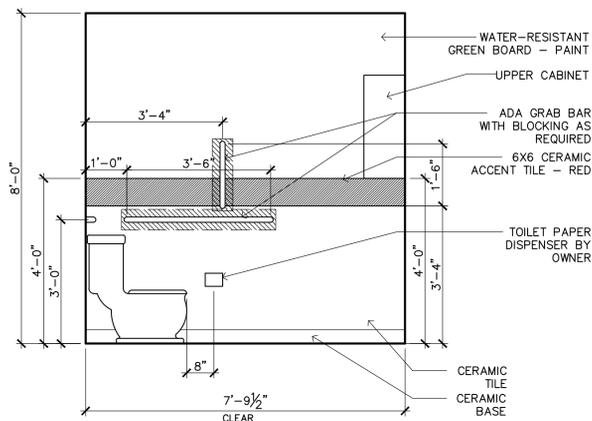
A4-6

DETAILS

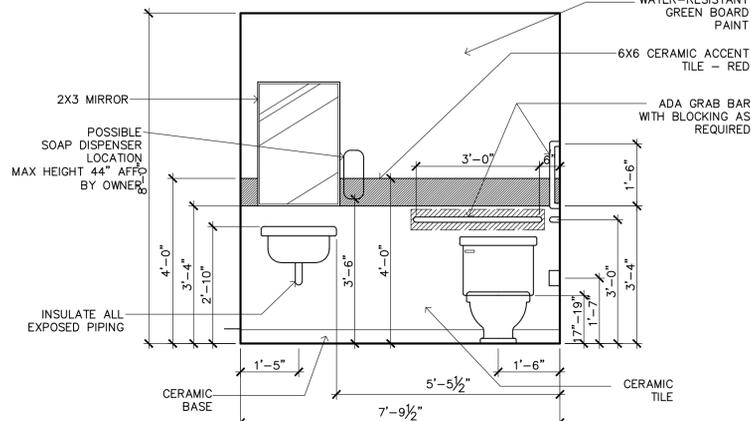


(d)

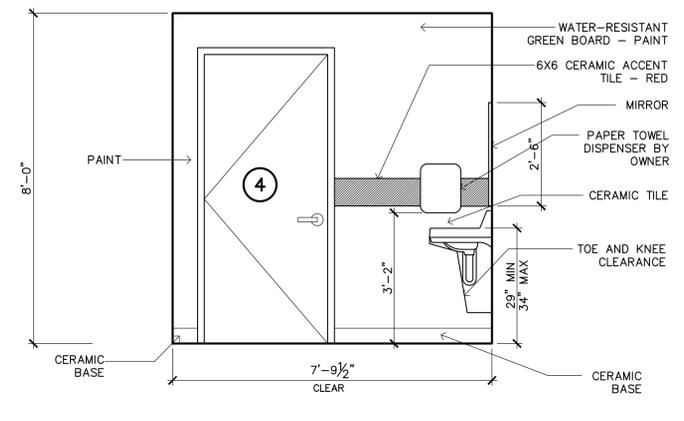
1 WOMEN'S RESTROOM ELEVATION  
SCALE: 1/2" = 1'-0"



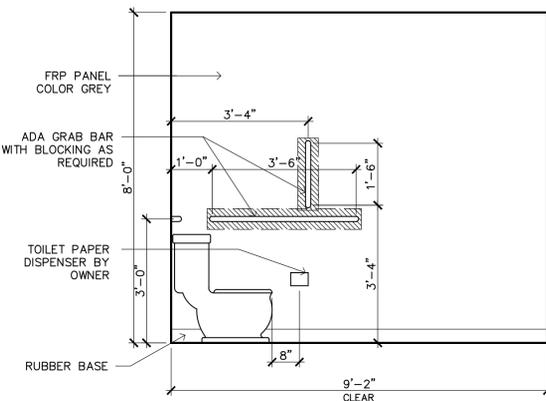
(a)



(b)

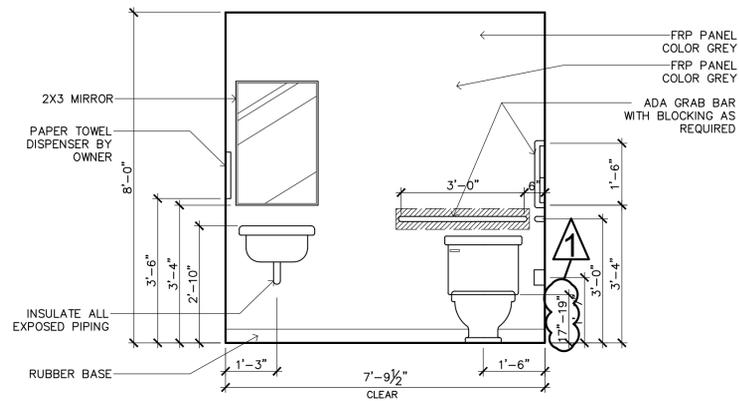


(c)

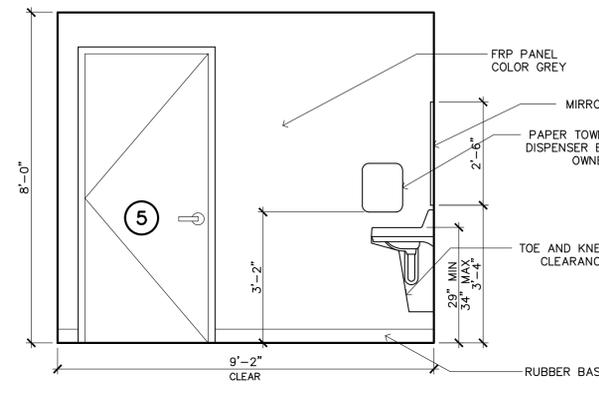


(b)

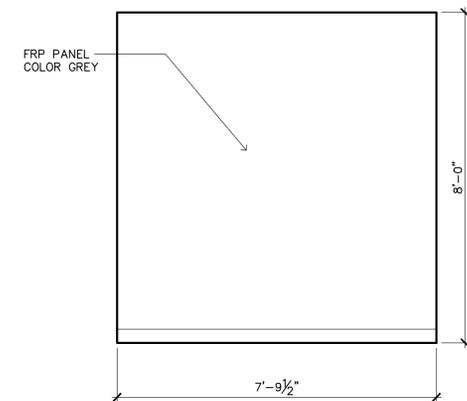
2 MEN'S RESTROOM ELEVATION  
SCALE: 1/2" = 1'-0"



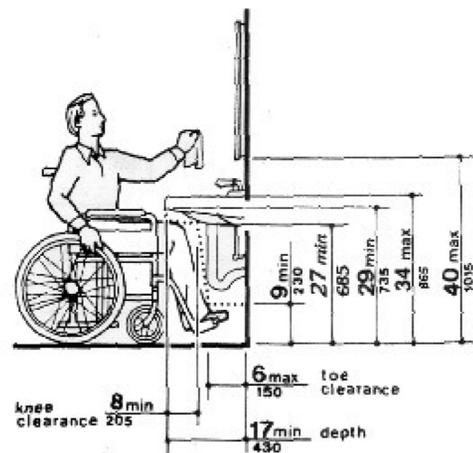
(c)



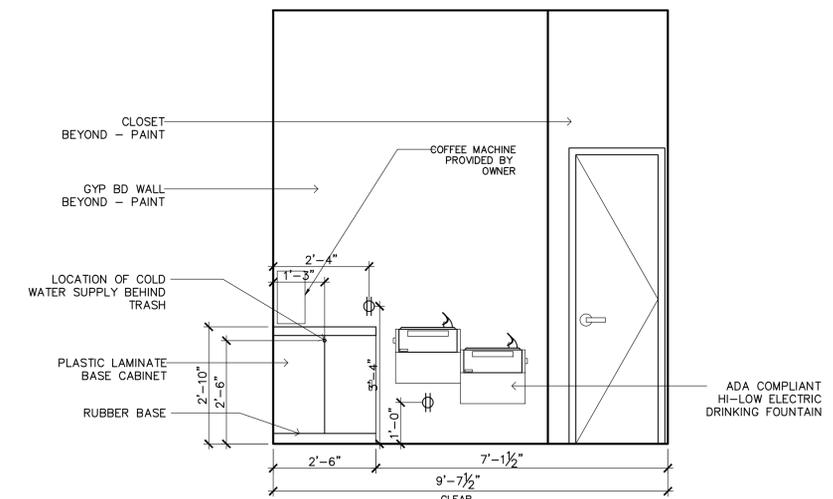
(d)



(a)



8 ADA FIXTURE PLACEMENT  
NO SCALE



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

**BRAKES PLUS**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



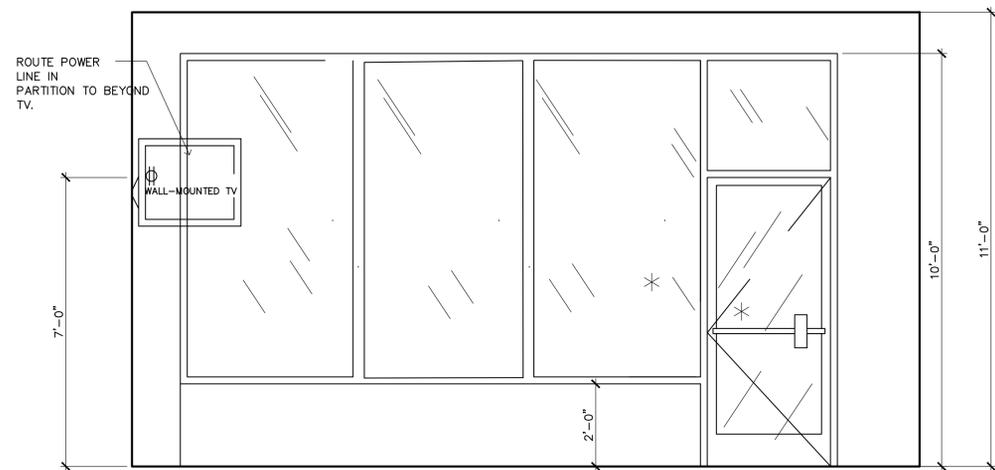
ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	06.07.2024	FOR SUBMITTAL TO BLDG. DEPT.

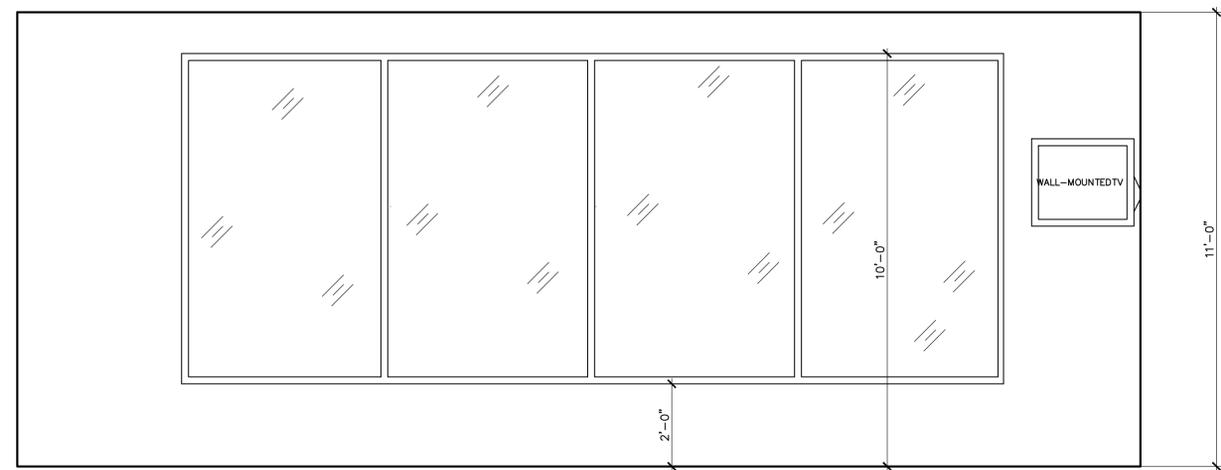
ARCODEV JOB #:  
CLIENT JOB #:  
DRAWN BY:  
CHECKED BY: NLH  
DATE OF ISSUE: 06.26.24



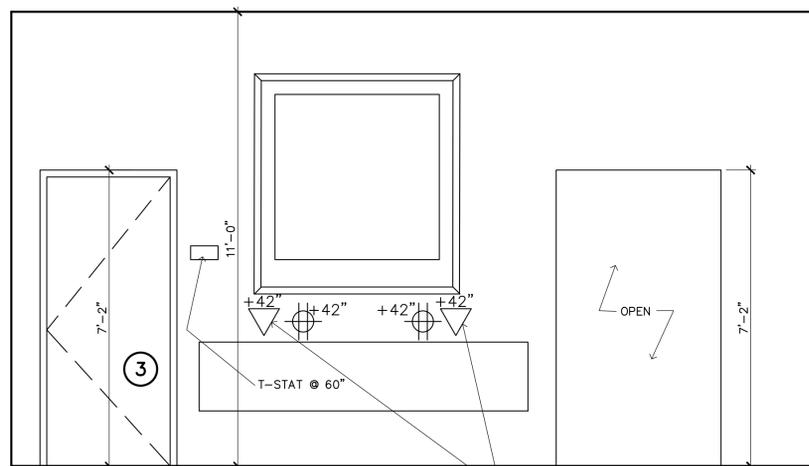
SHEET  
**A5-1**  
INTERIOR ELEVATIONS  
AND DETAILS



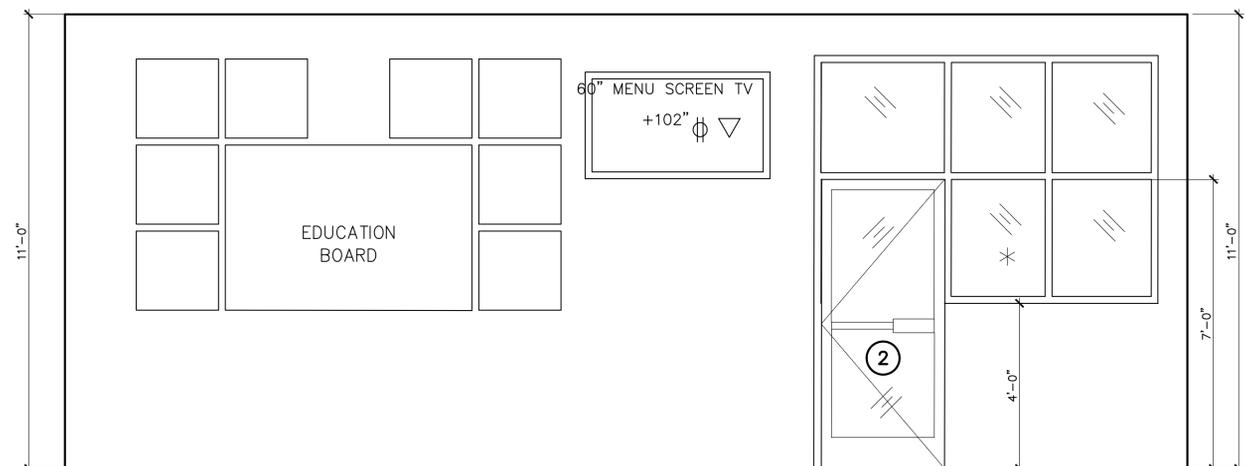
(b)



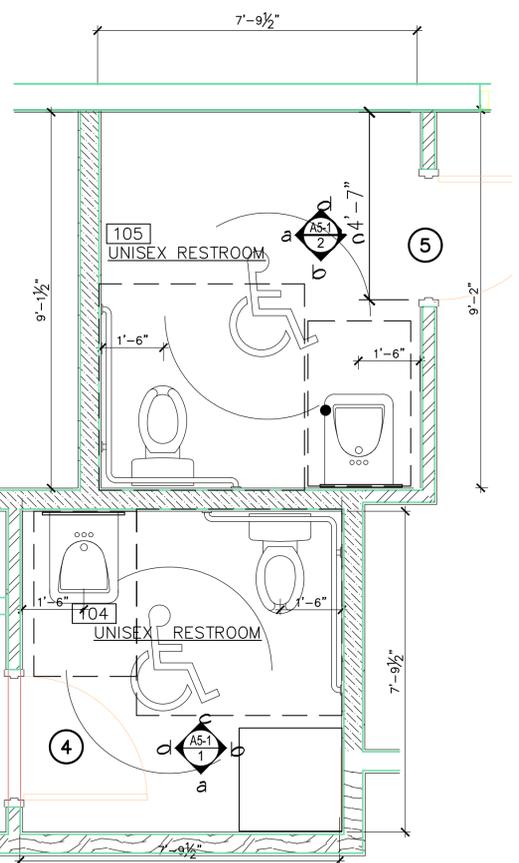
(a)



(d)

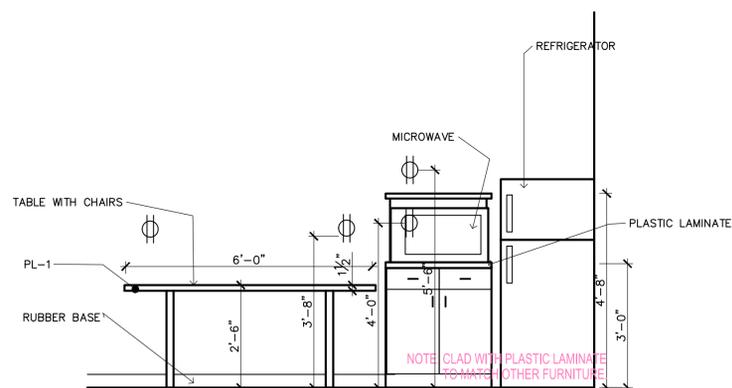


(c)

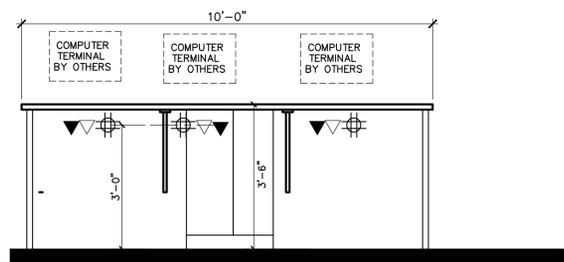


(4) ENLARGED RESTROOMS PLAN  
SCALE: 1/2" = 1'-0"

(1) SALES AREA ELEVATIONS  
SCALE: 1/2" = 1'-0"



(2) BREAK ROOM ELEVATION  
SCALE: 1/2" = 1'-0"

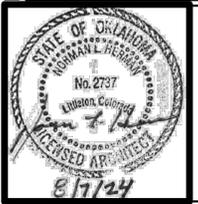


(3) SERVICE DESK COMP. TERMINAL STATION  
SCALE: 1/2" = 1'-0"

**NOTE:**

DASHED LINES ON RESTROOM FLOOR PLANS AT RIGHT SHOW THE CLEAR SPACE REQUIRED AT FIXTURES AND AT OPEN AREA:  
OPEN AREA: 60" DIA. CIRCLE  
TOILET: 5'-0" X 5'-0"  
SINK: 30" X 48"

**BRAKES PLUS**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	06/07/2024	FOR SUBMITTAL TO BLDG. DEPT.

ARCODEV JOB #: \_\_\_\_\_  
CLIENT JOB #: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
CHECKED BY: NLH  
DATE OF ISSUE: 06.26.24



SHEET  
**A5-2**  
INTERIOR ELEVATIONS AND DETAILS

DOOR NO.	DOOR SIZE	DOOR				FRAME		DETAILS			HDMR GROUP	FIRE RATING	REMARKS
		TYPE	MATL	FINISH		MATL	FINISH	HEAD	JAMB	SILL			
				IN	OUT								
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:  
 1. THRESHOLD SHALL BE MAXIMUM 1/2" HIGH ABOVE FLOOR AND LANDING ON BOTH SIDES AT BUILDING ENTRANCES.  
 2. MAXIMUM DOOR OPENING EFFORT SHALL BE 5 LBS AT EXTERIOR AND INTERIOR DOORS PER ANSI 404.2.9.  
 3. ALL DOORS SHALL BE EQUIPPED WITH SIGNLE-EFFORT, NON-GRASP HARDWARE CENTERED BETWEEN 34" AND 48" ABOVE THE FLOOR.

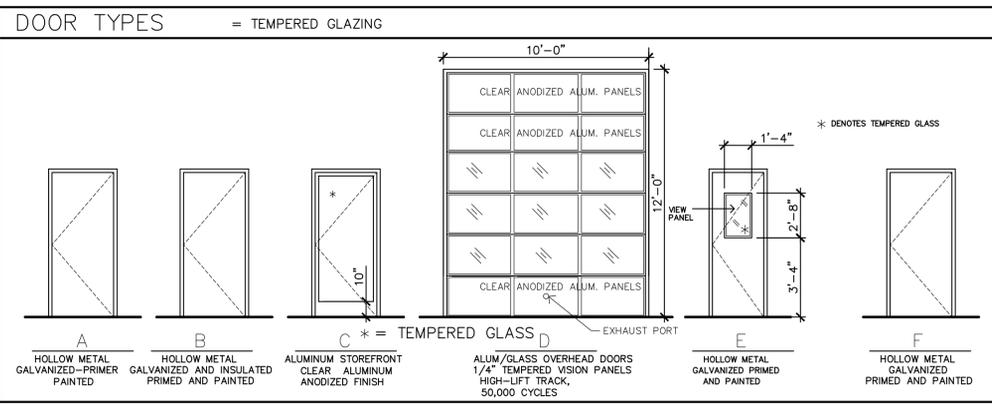
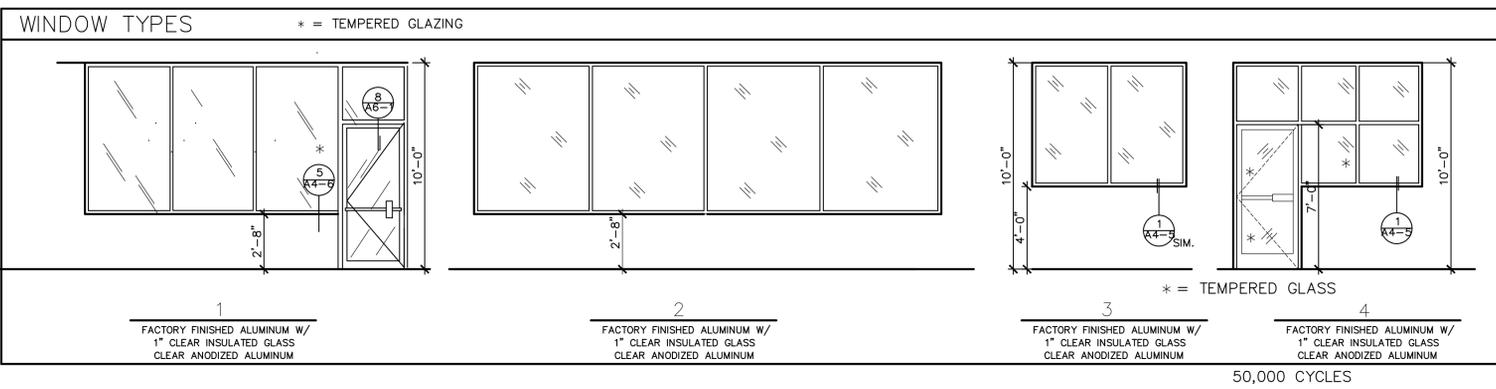
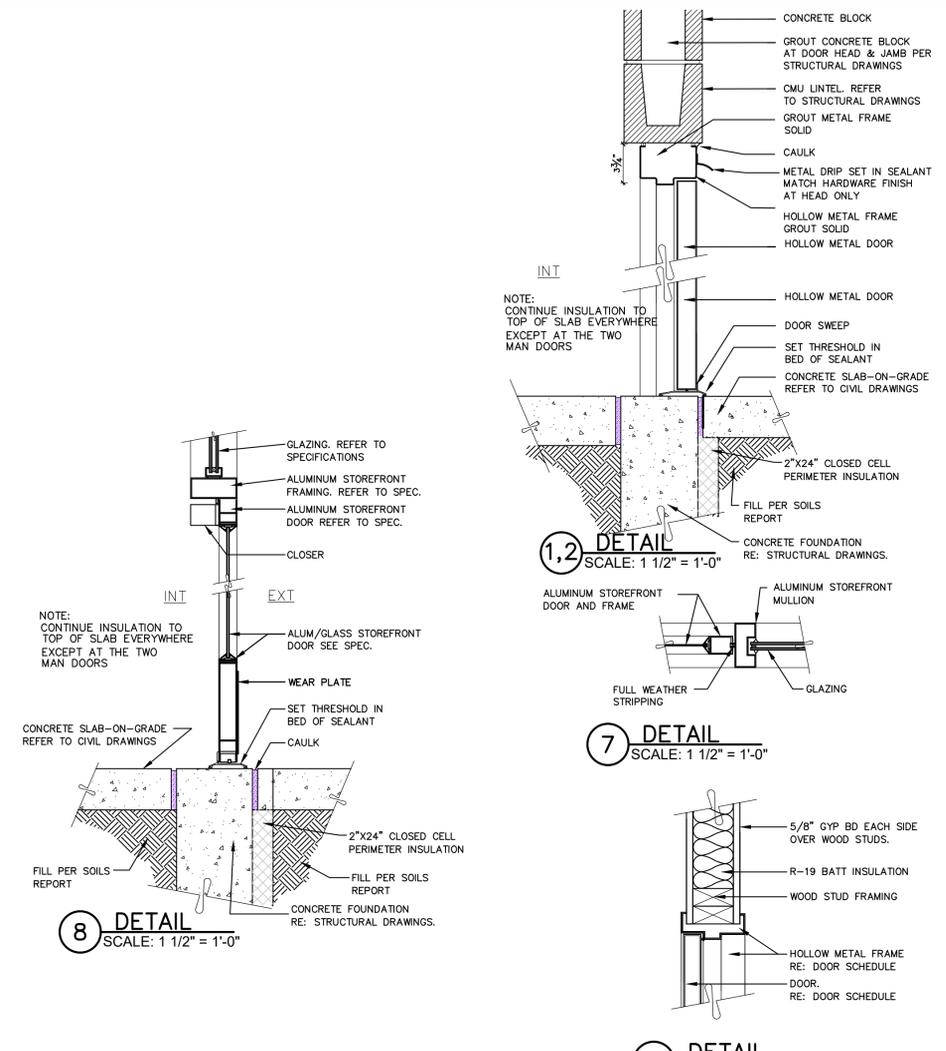
ROOM NO.	ROOM NAME	FLOORS		WALLS								CEILINGS			REMARKS
		FLOOR	BASE	WEST		EAST		NORTH		SOUTH		MATERIAL	FINISH	HEIGHT (AFF)	
				MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH				
101	SALES FLOOR	LVT	RB	GB	F3	ALUM/G.B.	F3	ALUM/G.B.	F3	G.B.	F3	ACT	F1	11'-0"	-
102	COFFEE ROOM	LVT	RB	GB	F3	GB	F3	GB	F3	GB	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	G.B./CT	F4/F1	G.B./CT	F4/F1	GB	F4	GB/CT	F4/F1	GB	F4	8'-0"	-
105	UNISEX RR.	SEALED CONCRETE	RB	FRP	F1	FRP	F1	FRP	F1	CONC	F1	GB	F4	8'-0"	-
106	STO.	LVT	RB	GB	F3	GB	F3	GB	F3	GB	F3	GB	F4	ON TRUSS	-
107	BREAK ROOM	SEALED CONCRETE	RB	GB	F3	GB	F3	G.B.	F3	CONC	F3	OPEN	P2	ON TRUSS	PROVIDE 1 COAT BLOCK FILLER AT CMU WALL.
108	INVENTORY	SEALED CONCRETE	RB	G.B.	F3	GB	F3	GB	F3	CONC	F5	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:  
 1. PROVIDE MOISTURE-RESISTANT GYPSUM BOARD.

GROUP	QTY.	DESCRIPTION
1	1 EACH 1 EACH 3 EACH 1 EACH 1 EACH	FRAME - ME416 3070 X 5 3/4" HM F DOOR - 3070 X 1 3/4" H.M. HINGE - STANLEY FBB179 4.5 X 4.5 X 626 LOCKSET - SCHLAGE AL605 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" HM LH CR ASA DOOR - 3070 X 1 3/4" H.M. HINGE - STANLEY FBB179 4.5 X 4.5 X 626 LOCKSET - SCHLAGE AL53PD 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 1 EACH 1 EACH 1 EACH 1 EACH 1 EACH 1 EACH 1 EACH	FRAME - ME416 3070 X 5 3/4" 4" HD HM F RH CR B/BPR 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 M02C THRESHOLD - PEMKO 179AV X 36" SWEEP - PEMKO 18137P X 36" SMOKE SEAL - PEMKO SB8C 17"
4	1 EACH 1 EACH 3 EACH 1 EACH 1 EACH	FRAME - ME416 3070 X 5 3/4" HM LH CR ASA DOOR - 3070 X 1 3/4" HM HINGE - STANLEY FBB179 4.5 X 4.5 X 626 LOCKSET - SCHLAGE AL53PD 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" HM F DOOR - 3070 X 1 3/4" H.M. HINGE - STANLEY FBB179 4.5 X 4.5 X 626 LOCKSET - SCHLAGE AL605 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	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 THRESHOLD SWEEP WEATHERSTRIPPING NOTE: HEAD AND SILL BOLTS MUST BE OPERATED BY THE DEAD BOLT MECHANISM

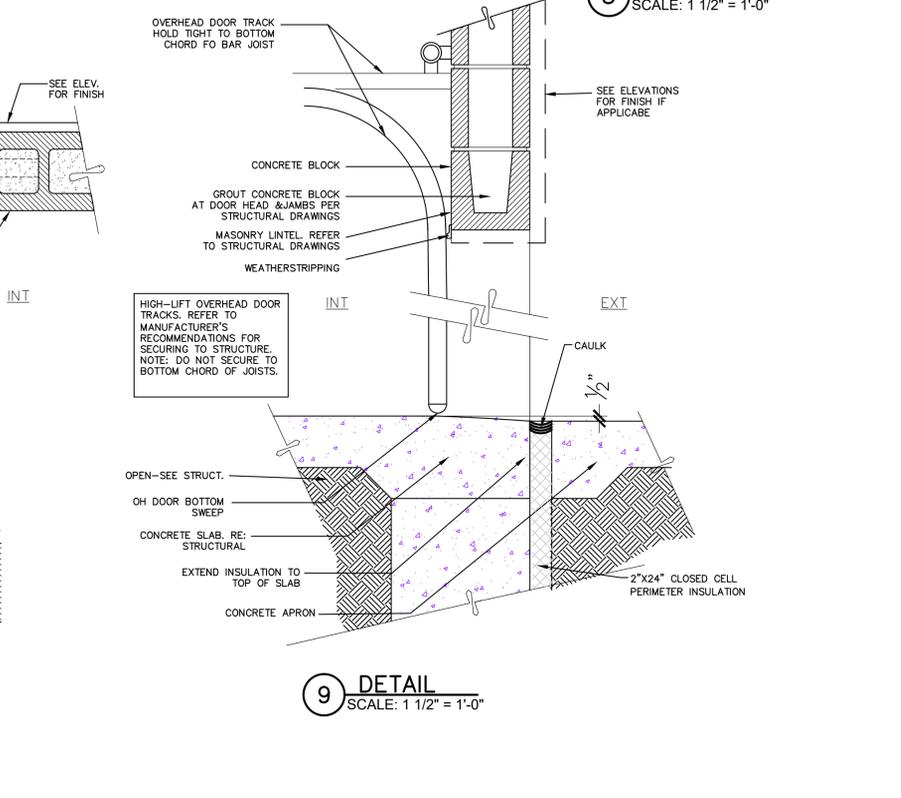
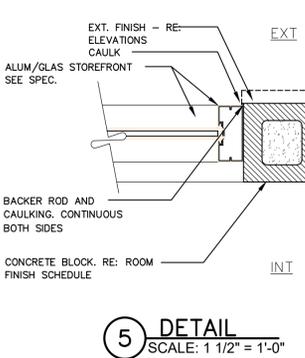
\* ALL DOOR HARDWARE SHALL BE LEVER TYPE

FINISHES	
DOOR AND FRAME MATERIAL	
SCW	SOLID CORE WOOD
HM	HOLLOW METAL
ALUM	ALUMINIUM
STL	STEEL
DOOR AND FRAME FINISHES	
P1	NOT USED
P2	PRIMED AND PAINTED
P3	FACTORY PRIMED, STANDARD WHITE/LIGHT GRAY
M1	CLEAR ANODIZED ALUMINIUM, MILL FINISH
FINISH MATERIALS	
ACT	ACOUSTICAL CEILING TILES
CT	CERAMIC TILE
CMU	CONCRETE MASONRY UNIT
RB	RUBBER BASE
GB	GYPSUM BOARD
FRP	FIBERGLASS REINFORCED PLASTIC
CPT	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
F6	2 COATS SEMI-GLOSS ENAMEL



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



**BRAKES PLUS**  
 1201 LONNIE ABBOTT BLVD.  
 ADA, OKLAHOMA

STATE OF OKLAHOMA  
 ARCHITECTS & ENGINEERS  
 No. 2737  
 LINDSEY COOPER  
 8/17/24  
 ARCHITECT OF RECORD

REVISION

DATE 08/07/2024

FOR SUBMITTAL TO BLDG. DEPT.

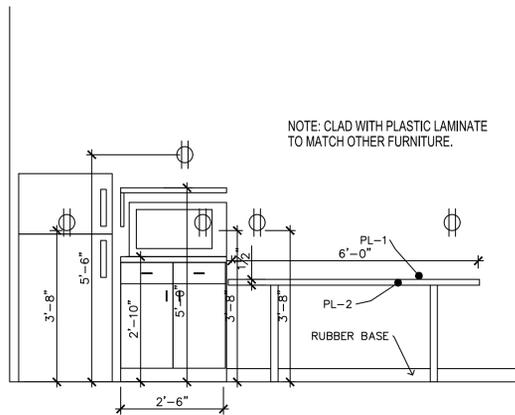
ARCHITECT

45 SPYGLASS DRIVE  
 LITTLETON, CO 80123  
 VOICE 303.881-8925  
 NORMHERMAN@ARCODEV.COM

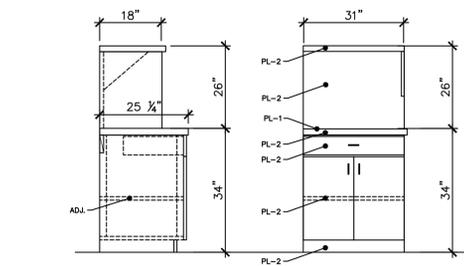
SHEET

**A6-1**

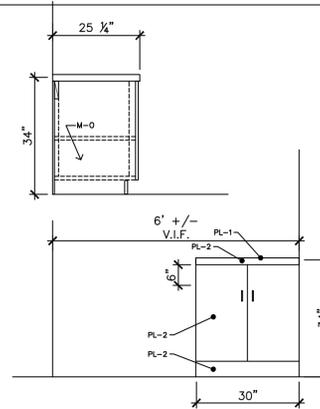
SCHEDULES



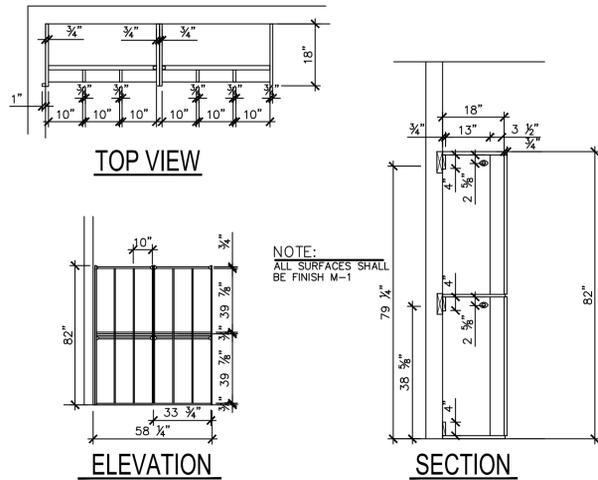
13 DETAIL - BREAK ROOM ELEVATION  
SCALE: 1/2" = 1'-0"



9 DETAIL - MICROWAVE STAND  
SCALE: 1/2" = 1'-0"

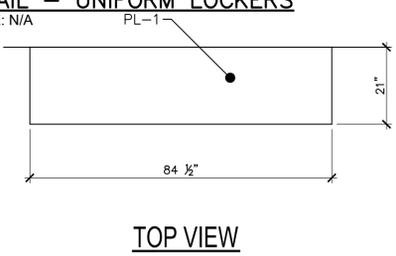


5 DETAIL - COFFEE ROOM 102  
SCALE: 1/2" = 1'-0"

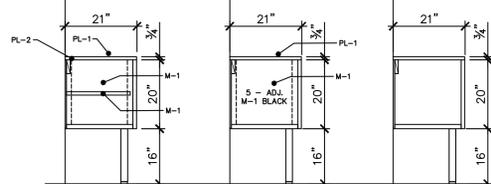


14 DETAIL - OFFICE 103 FURNITURE  
SCALE: 1/2" = 1'-0"

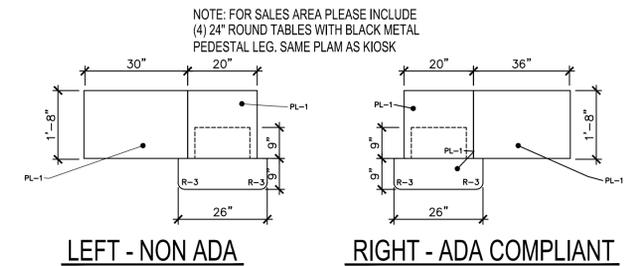
10 DETAIL - UNIFORM LOCKERS  
SCALE: N/A



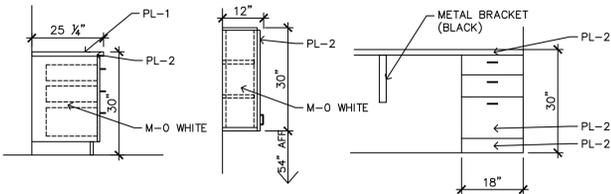
5B BISTRO TABLE  
NO SCALE



6 DETAIL - SALES AREA - PRINTER CABINETS  
SCALE: 1/2" = 1'-0"

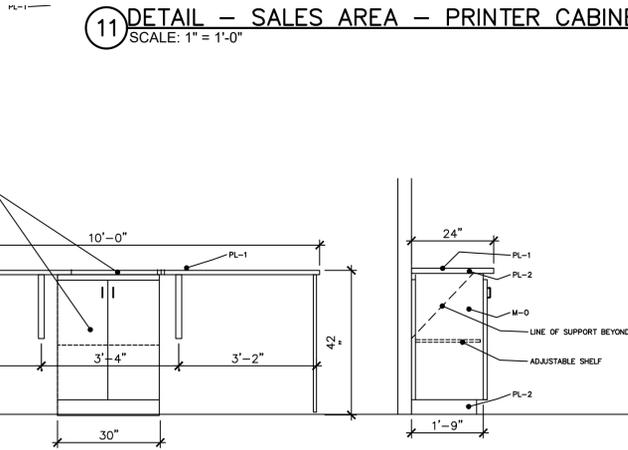


2 DETAIL - SALES AREA KIOSKS  
SCALE: 1/2" = 1'-0"

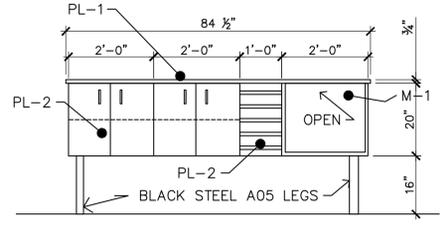


15 DETAIL - OFFICE 103 FURNITURE  
SCALE: 1/2" = 1'-0"

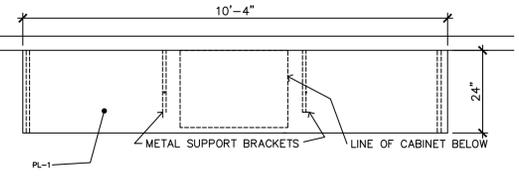
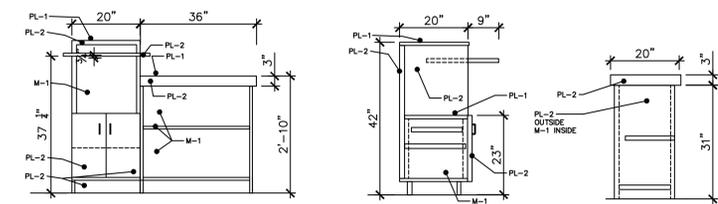
11 DETAIL - SALES AREA - PRINTER CABINETS  
SCALE: 1" = 1'-0"



7 DETAIL - SALES AREA - PRINTER CABINETS  
SCALE: 1" = 1'-0"

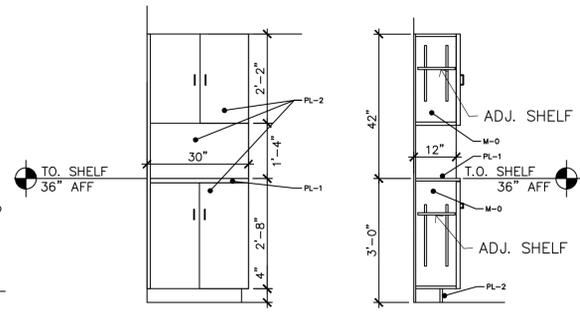


3 DETAIL - KIOSK 2 - ADA COMPLIANT  
SCALE: 1/2" = 1'-0"

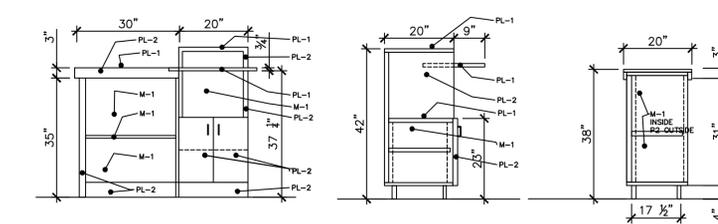


16 DETAIL - SERVICE ADVISORS DESK  
SCALE: 1/2" = 1'-0"

12 DETAIL - SERVICE ADVISORS DESK  
SCALE: 1/2" = 1'-0"



8 DETAIL - RESTROOM CABINETS  
SCALE: 1/2" = 1'-0"



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

**PLAM COLORS LEGEND:**  
PLAM COLORS - WILSON ART:  
PL-1 = #4689 NATURAL TIGRUS  
PL-2 = #4623 GRAPHITE NEBULA  
M-0 = WHITE MELAMINE  
M-1 = BLACK MELAMINE

**NOTE:**  
SELECTED CONTRACTOR WILL PROVIDE COMPLETE NEW DRAWINGS FOR APPROVAL.

**BRAKES PLUS**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA

STATE OF OKLAHOMA  
NORMAN, OKLAHOMA  
No. 2737  
Lillian C. ...  
8/17/24  
ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	08.07.2024	FOR SUBMITTAL TO BLDG. DEPT.

ARCOCODE JOB #:  
CLIENT JOB #:  
DRAWN BY:  
CHECKED BY: NLH  
DATE OF ISSUE: 06.26.24

ARCOCODE  
46 SPYGLASS DRIVE  
LITTLETON, CO 80123  
VOICE: 303.881-8925  
NORRHEIM@ARCOCODEV.COM

SHEET  
**A6-2**  
FURNITURE AND  
FIXTURE DETAILS

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

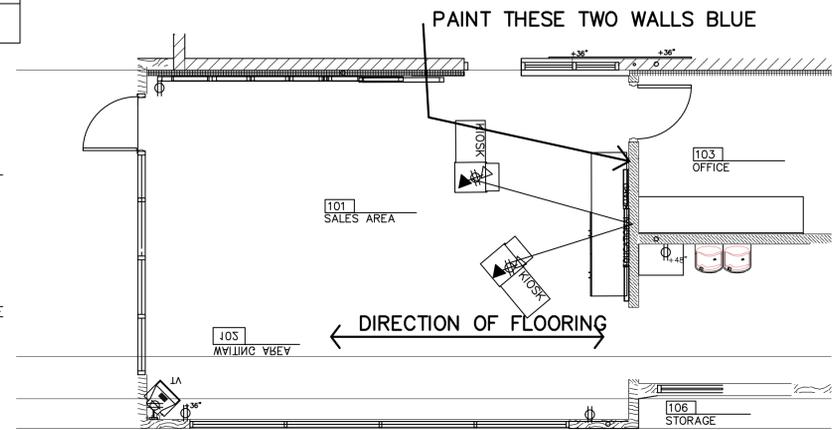
**4 RESTROOM FINISHES**  
SCALE: N.T.S.

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)	<b>Main Floor LVT</b> 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 # EFCWL001	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  
BOLYU/EF CONTRACT  
720-454-9014  
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		Formula: Promar 200 Deep Base B31W2253
Break Room	Walls	Ceiling				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						
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**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	08.07.2024	FOR SUBMITTAL TO BLDG. DEPT.

ARCODEV JOB #:  
CLIENT JOB #:  
DRAWN BY:  
CHECKED BY: NLH  
DATE OF ISSUE: 06.26.24



45 SPYGLASS DRIVE  
LITTLETON, CO 80123  
VOICE: 303.881-9925  
NORTHMAN@ARCODEV.COM

**A6-3**

MATERIAL FINISHES

**GENERAL STRUCTURAL NOTES:**

**A. DESIGN DATA:**

DESIGN CODE:	2018 INTERNATIONAL BUILDING CODE
CONCRETE 28-DAY STRENGTH:	FC = 4,500 PSI
MISCELLANEOUS ROLLED SECTIONS AND PLATES (ANGLES, CHANNELS, PLATES, ETC.):	ASTM A36 (UNLESS NOTED OTHERWISE)
PLAIN BOLTS AND ANCHORS	ASTM A307
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: 2,300 PSF (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)  
110 MPH, EXPOSURE C

**SEISMIC LOADING CRITERIA (2018 IBC & ASCE 7-16)**

IMPORTANCE FACTOR = 1.0  
MAPPED SPECTRAL RESPONSE S<sub>s</sub> = 0.289g, S<sub>1</sub> = 0.082g  
SITE CLASS = D, F<sub>a</sub> = 1.569, F<sub>v</sub> = 2.4  
SPECTRAL RESPONSE COEFFICIENTS: SDS = 0.302g, SD1 = 0.132g  
SEISMIC DESIGN CATEGORY = B  
SEISMIC FORCE RESISTANT SYSTEM = ORDINARY REINFORCED MASONRY SHEAR WALLS & LIGHT FRAMED SHEAR WALLS  
RESPONSE MODIFICATION FACTOR (R) = 2.0

**B. FOUNDATION WORK:**

1. THE GEOTECHNICAL REPORT PREPARED BY OLSSON (PROJECT NO. 024-02476) DATED MAY 31, 2024 IS AVAILABLE AND SHALL BE REVIEWED BY THE CONTRACTOR. SEE SPECIFICATIONS AND GEOTECHNICAL REPORT FOR OVEREXCAVATION RECOMPACTION.

2. CONTRACTOR SHALL COORDINATE FOOTING ELEVATIONS WITH FINAL GRADING PLAN TO PROVIDE A MINIMUM OF 2'-0" OF GRADE ABOVE THE BOTTOM OF ALL FOOTINGS.

3. SUBSOILS SUPPORTING OR IN DIRECT CONTACT WITH FOOTINGS, SLABSON/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.

4. 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:**

1. FOR REINFORCEMENT DEVELOPMENT LENGTH AND SPLICE LENGTH SEE TYPICAL REINFORCEMENT TABLE ON THIS SHEET.

2. PROVIDE CORNER BARS IN WALLS AND FOOTINGS THE SAME SIZE AND NUMBER AS THE CONTINUOUS REINFORCING.

3. REINFORCING IN FOOTINGS SHALL BE ACCURATELY PLACED BEFORE PLACING CONCRETE. DO NOT FLOAT REINFORCING INTO FOOTINGS.

4. 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 6% AIR ENTRAINMENT IN CONCRETE USED IN FOOTINGS & WALLS. INTERIOR SLABS SHALL HAVE NATURAL ENTRAPPED AIR (3% MAXIMUM).

5. 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.

6. DO NOT PLACE PIPES, DUCTS, OR CHASES IN STRUCTURAL CONCRETE WITHOUT APPROVAL OF THE ARCHITECT/ENGINEER. SEE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR LOCATIONS.

7. FLOOR SURFACE TOLERANCE CLASS "B". SEE ACI 301 FOR PROCEDURE OF MEASUREMENT AND CORRECTION.

8. 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"

9. 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.

10. ALL REINFORCING STEEL SHALL BE DEFORMED NEW BILLET 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"	6x6-W1.4W1.4 WWF	SEE GEOTECHNICAL REPORT
5"	6x6-W2.9W2.9 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.

13. 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:**

1. 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.)

2. LAY MASONRY UNITS IN RUNNING BOND.

3. MAXIMUM GROUT LIFT WITHOUT CLEANOUTS 4'-0" IN BLOCK WALLS AND 8" IN GROUTED TWO-WYTHE WALLS.

4. IN 8' WALLS, PROVIDE CONTINUOUS FULL HEIGHT VERTICAL REINFORCING IN CENTER OF GROUT AT CENTER OF WALL. TYPICAL REINFORCING SHALL BE 1-#6 AT 2'-0" ON CENTER AND 2-#6 AT CORNERS, INTERSECTIONS, WALL ENDS, DOOR AND WINDOW JAMBS, AND SIDE OF EXPANSION OR CONTROL JOINTS UNLESS NOTED OTHERWISE.

5. GROUT CELLS FULL AT ALL ANCHOR AND EMBED LOCATIONS.

6. PROVIDE LADDER TYPE #9 JOINT REINFORCING AT 16" ON CENTER VERTICAL SPACING IN ALL CLAY MASONRY AND UNLESS NOTED OTHERWISE.

7. SPLICE MASONRY WALL REINFORCING AS SCHEDULED ON 3/S3-3.

8. 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.

9. PROVIDE CONTINUOUS BOND BEAMS AT ALL BEAM BEARING AND TRUSS BEARING ELEVATIONS, AND AT THE TOP OF ALL WALLS.

10. SPLICE BOND BEAM REINFORCING AT MASONRY CONTROL/EXPANSION JOINTS AS SHOWN ON MASONRY JOINT DETAIL ON 4/S3-3.

11. PROVIDE CONTINUOUS WIRE LATH GROUT BARRIERS BELOW BOND BEAMS.

12. PROVIDE LINTELS OVER ALL OPENINGS AND RECESSES IN MASONRY WALLS.

13. ALL LINTELS SHALL HAVE A MINIMUM BEARING OF 8 INCHES EACH END.

14. 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.

15. MASONRY CONTROL JOINT SPACING SHALL NOT EXCEED 24'-0".

16. ALL MASONRY CONSTRUCTION SHALL HAVE SPECIAL INSPECTION PER IBC SECTION 1705.4 AND HAVE LEVEL 2 QUALITY ASSURANCE IN ACCORD WITH ACI 930-11 SECTION 1.14. PERIODIC INSPECTION SHALL BE INTERPRETED AS TWO TIMES PER WEEK.

**E. WOOD:**

1. WOOD SHALL COMPLY WITH THE LATEST EDITION OF THE GRADING RULES OF THE WESTERN WOOD PRODUCTS ASSOCIATION OR THE WEST COAST LUMBER INSPECTION BUREAU.

2. ALL SAWN LUMBER SHALL BE STAMPED WITH THE GRADE MARK OF AN APPROVED GRADING AGENCY.

3. 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

4. ALL 2x BEARING WALLS SHALL BE BLOCKED HORIZONTALLY AT 4'-0" O.C. VERT. SPACING FOR ALL WALLS GREATER THAN 9'-0" IN HEIGHT.

5. ALL PLYWOOD SHALL BE C-D OR C-C SHEATHING EXTERIOR GRADE CONFORMING TO STANDARD PS0.019.

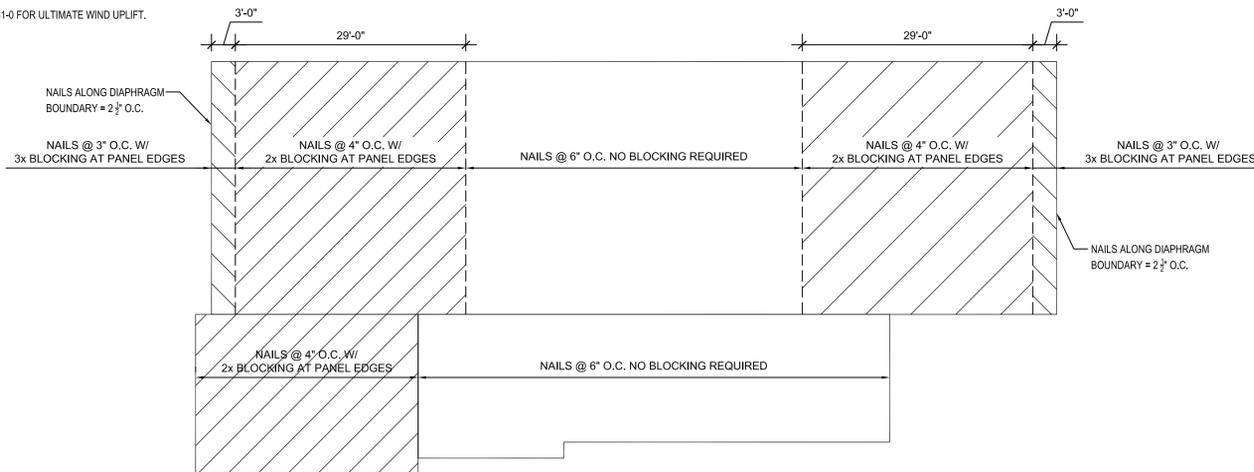
6. PLYWOOD SHALL BE PLACED WITH FACE GRAIN PERPENDICULAR TO SUPPORTS USING A MINIMUM 5-PLY PLYWOOD. PLYWOOD JOINTS SHALL BE STAGGERED.

7. PLYWOOD ATTACHMENT SHALL BE DONE USING COMMON NAILS. NAILING SHALL BE AS NOTED ON ROOF FRAMING PLAN.

8. ALL SILL PLATES IN CONTACT WITH CONCRETE OR MASONRY SHALL BE TREATED DOUGLAS FIR OR FOUNDATION GRADE REDWOOD.

9. BRACE WOOD TRUSSES LATERALLY AT BEARING POINTS AND INTERMEDIATE LOCATIONS AS REQUIRED BY MANUFACTURER.

10. SEE 3/S1-0 FOR ULTIMATE WIND UPLIFT.



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

**F. SPECIAL INSPECTION**

1. 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.

2. 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.

3. 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 106.5 AND 108.7 OF THE INTERNATIONAL BUILDING CODE.

4. CONCRETE PER SECTION 1705.3 AND TABLE 1705.3.

5. ANCHOR RODS INSTALLED IN CONCRETE: PER TABLE 1705.3.

6. REINFORCING PER TABLE 1705.3.

7. STRUCTURAL MASONRY: PER SECTION 1705.4.

8. GRADING, EXCAVATION AND FILLING: PER SECTION 1705.6. SEE GEOTECHNICAL REPORT.

9. EXPANSION BOLT, SCREW ANCHOR AND ADHESIVE ANCHOR INSTALLATION TO VERIFY INSTALLATION IN ACCORD WITH ICBO REPORTS NOTED PREVIOUSLY OR APPROVED EQUAL.

10. THE INSPECTOR SHALL OBSERVE THE WORK ASSIGNED TO BE CERTAIN IT CONFORMS TO THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS.

11. 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.

12. 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.

13. THE SPECIAL INSPECTOR SHALL BE SELECTED AND CREDENTIALS SHALL BE SUBMITTED TO THE CITY PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.

**G. OTHER:**

1. 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.

2. VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO STARTING WORK. NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES OR INCONSISTENCIES.

3. VERIFY IN FIELD ALL EXISTING CONDITIONS SHOWN ON DRAWINGS.

4. 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.

5. 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**

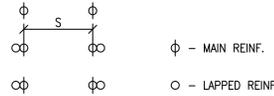
1. REINFORCING BAR DEVELOPMENT AND LAP SPLICE LENGTH SHALL BE AS SHOWN IN THIS TABLES UNLESS OTHERWISE NOTED ON THE DRAWINGS.

2. 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.

3. 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.

4. DEVELOPMENT AND SPLICE LENGTH SHOWN SHALL NOT APPLY IF ANY OF THE FOLLOWING CONDITIONS OCCUR:  
A) f'c < 2,500 PSI  
B) f'y > 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.

5. CENTER ON CENTER SPACING (S) IS DEFINED AS BELOW:

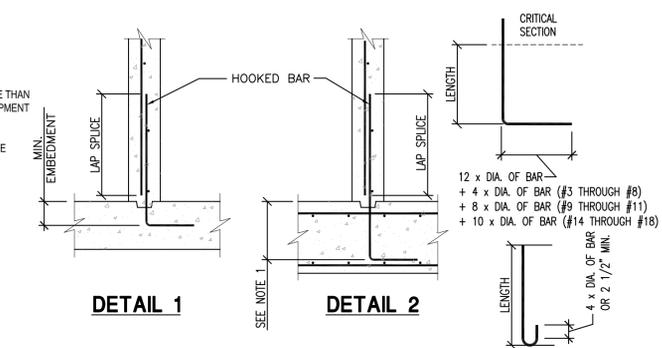


BAR SIZE	DEVELOPMENT LENGTH		SPLICE LENGTH	
	TOP	OTHER	TOP	OTHER
#3	1'-7"	1'-3"	2'-0"	1'-7"
#4	2'-1"	1'-7"	2'-8"	2'-1"
#5	2'-7"	2'-0"	3'-4"	2'-7"
#6	3'-1"	2'-5"	4'-0"	3'-1"
#7	4'-6"	3'-6"	5'-10"	4'-6"
#8	5'-2"	4'-0"	6'-8"	5'-2"
#9	5'-10"	4'-6"	7'-7"	5'-10"
#10	6'-7"	5'-1"	8'-6"	6'-7"
#11	7'-3"	5'-7"	9'-5"	7'-3"

**DEVELOPMENT LENGTH NOTES**

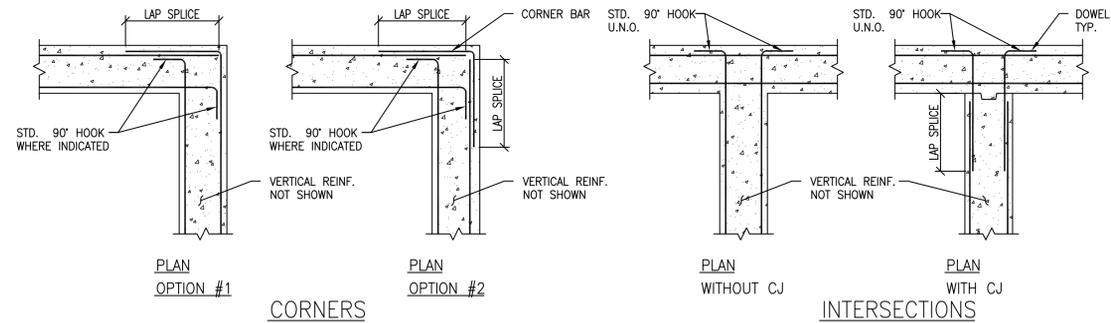
1. WHERE DRAWINGS ARE DETAILED SIMILAR TO DETAIL 2, EXTEND THE EMBEDMENT LENGTH SUCH THAT THE HOOKED BAR CONTACTS THE LAYER OF MAIN REINFORCING SHOWN.

2. EMBEDMENT LENGTHS IN CHART ARE TYPICAL EXCEPT AS NOTED IN DETAIL 2, OR AS INDICATED ON DRAWINGS.



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"

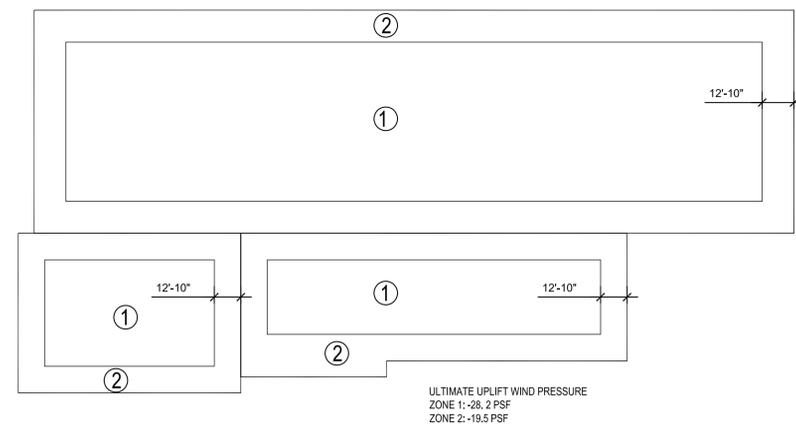
CONCRETE EXPOSURE	MEMBER	REINFORCEMENT	SPECIFIED COVER
CAST AGAINST AND PERMANENTLY IN CONTACT WITH GROUND	ALL	ALL	3"
EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	ALL	#6 TO #18 #5 AND SMALLER	2" 1 1/2"
NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	SLABS, JOISTS, & WALLS	#14 & #18 #14 & SMALLER	1 1/2" 3/4"
	BEAMS, COLUMNS, PEDASTALS, AND TENSION TIES	PRIMARY REINFORCEMENT STRIPPERS, 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**  
S1-0 3/4"=1'-0" **HORIZONTAL WALL REINFORCEMENT DETAILS**



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

**PERFORMANCE Engineering**  
11811 Fort Street, Suite 104 - Omaha, NE 68164  
(402) 343-3960 Fax: (402) 343-3961  
NE-C04265  
PE # 240701

**BRAKES PLUS**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA

**Robert A. Whorley**  
21026  
OKLAHOMA  
07/10/24

**ENGINEER OF RECORD**

REVISION	DATE	COMMENTS

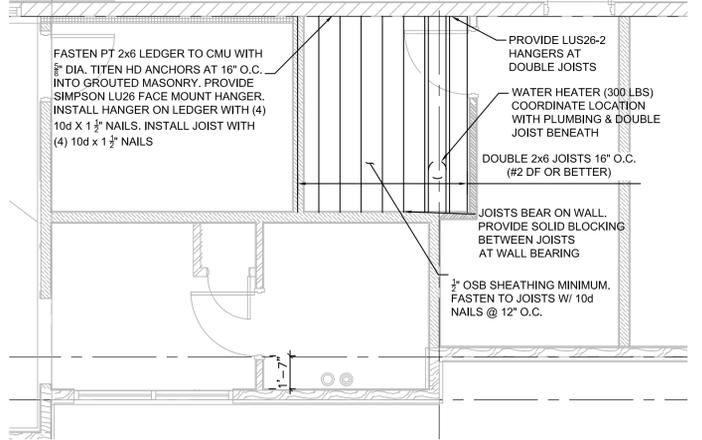
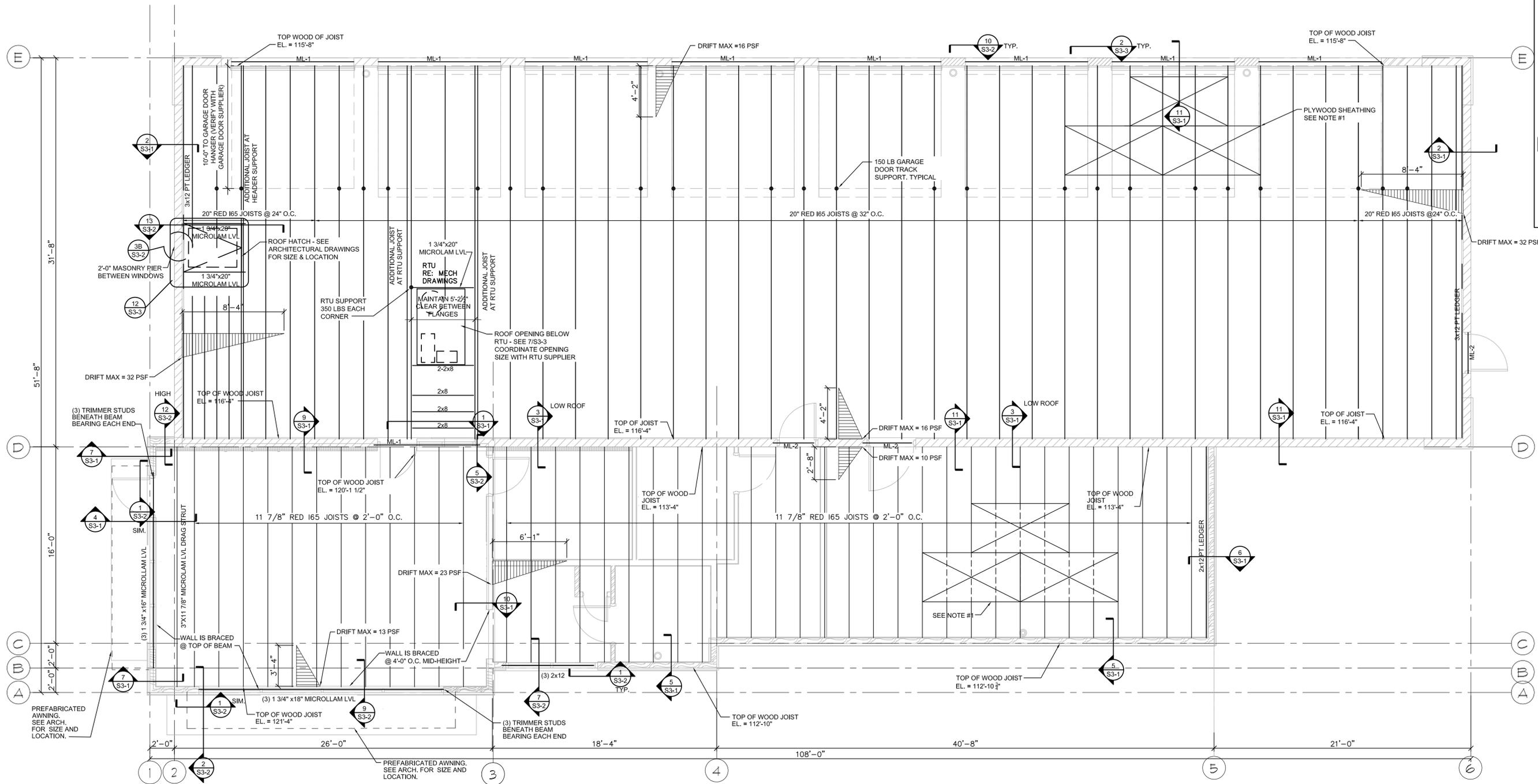
ARCODEV JOB #:  
CLIENT JOB #:  
DRAWN BY: SLM  
CHECKED BY: TAS  
DATE OF ISSUE: 07.10.24

**ARCODEV**  
45 SPRING DRIVE  
LITTLETON, CO 80123  
VOICE: 303.881-8925  
NORTHMERMAN@ARCODEV.COM

**SHEET**  
**S1-0**  
GENERAL STRUCTURAL NOTES AND DETAILS







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 2x12 LEDGER PIECES TO CMU WALL W/ (2) 3/4" DIA. ANCHORS @ 24" O.C., EMBED 6" 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.

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



**PERFORMANCE Engineering**  
11811 Fort Street, Suite 104 - Omaha, NE 68164  
(402) 343-3960 Fax: (402) 343-3961  
NE-C42465  
PE # 240701

**BRAKES PLUS**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA

**Robert A. Whorley**  
LICENSED PROFESSIONAL ENGINEER  
OKLAHOMA  
21026  
07/10/24

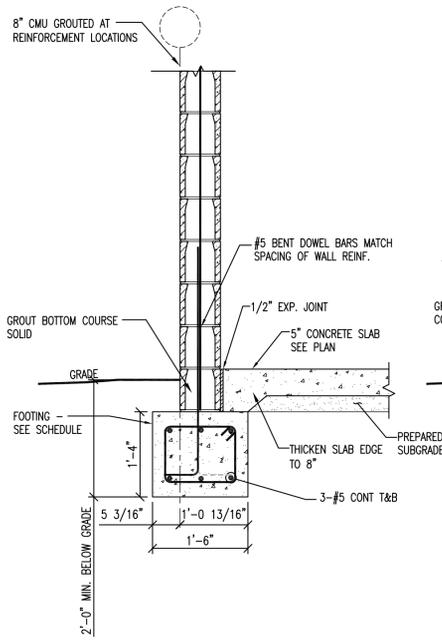
ENGINEER OF RECORD

REVISION	DATE	COMMENTS

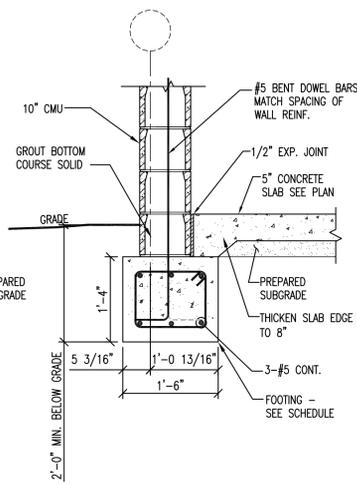
ARCODEV JOB # \_\_\_\_\_  
CLIENT JOB # \_\_\_\_\_  
DRAWN BY: SLM  
CHECKED BY: TAS  
DATE OF ISSUE: 07.10.24

**ARCODEV**

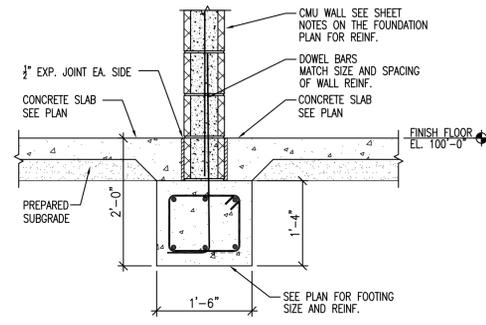
45 SPYGLASS DRIVE  
LITTLETON, CO 80123  
VOICE: 303.881-8925  
NORTHMERIDIANARCODEV.COM



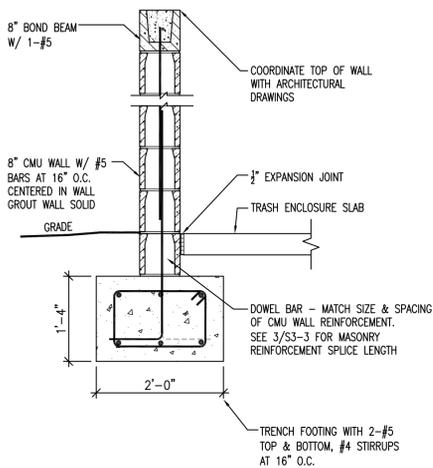
1 TRENCH FOOTING @ WALL  
S3-0 3/4"=1'-0"



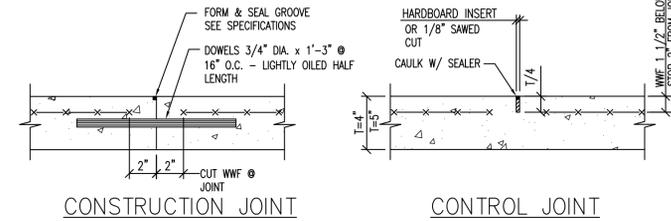
1B FOOTING @ 10" CMU  
S3-0 3/4"=1'-0"



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



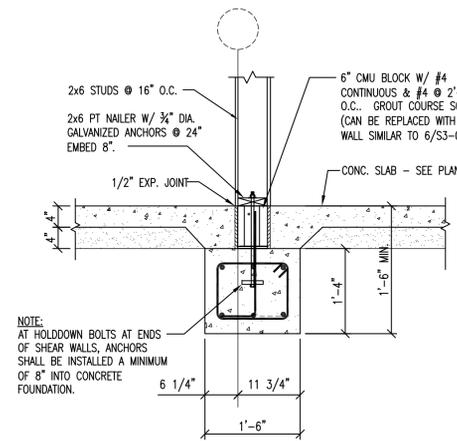
3 TRASH ENCLOSURE WALL SECTION  
S3-0 3/4"=1'-0"



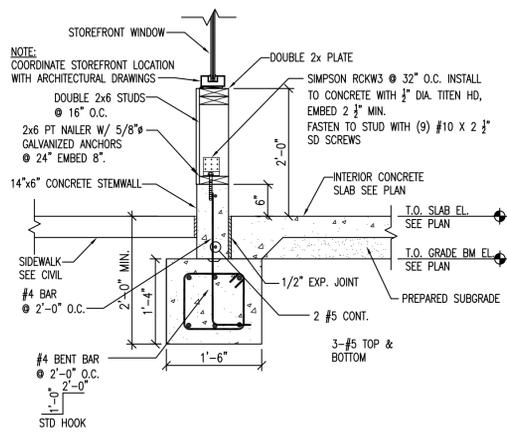
CONSTRUCTION JOINT CONTROL JOINT

- NOTES:
1. EPOXY JOINT FILLER TO BE SIKADUR 51 BY SIKA CORPORATION OR APPROVED EQUAL. MINIMUM AGE OF CONCRETE TO BE 28 DAYS WHEN FILLED.
  2. 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).

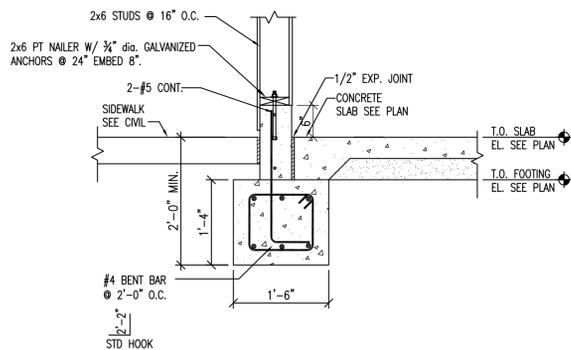
4 4" & 5" CONCRETE SLAB (C.J.) DETAILS  
S3-0 N.T.S.



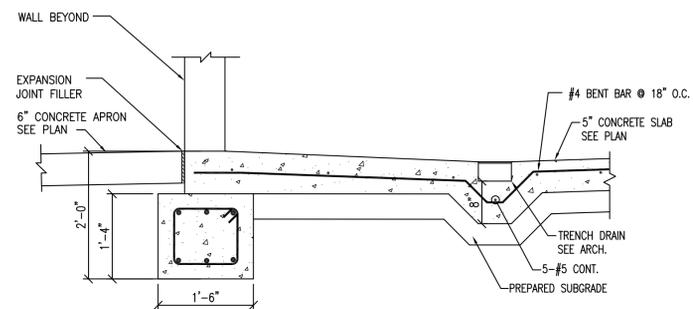
5 FOUNDATION SECTION  
S3-0 3/4"=1'-0"



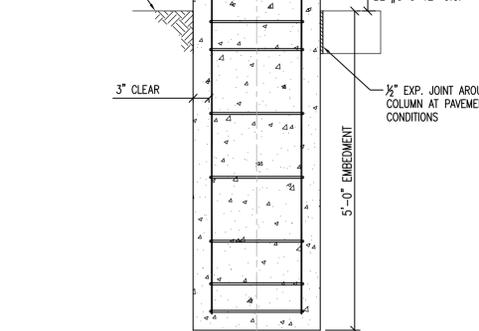
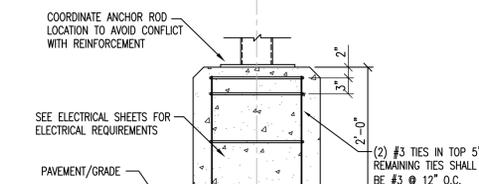
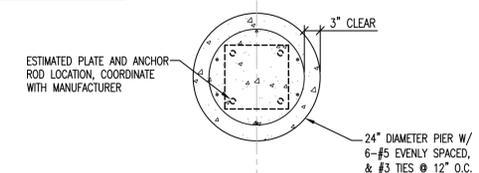
6 FOOTING @ STOREFRONT  
S3-0 3/4"=1'-0"



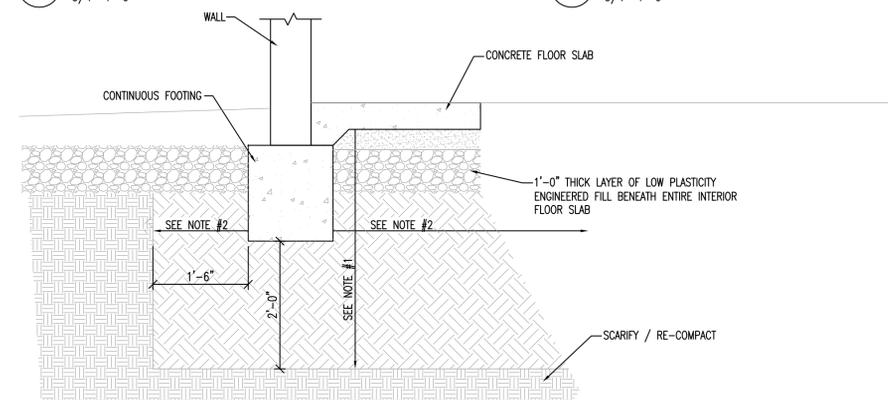
7 FOOTING @ WOOD WALL  
S3-0 3/4"=1'-0"



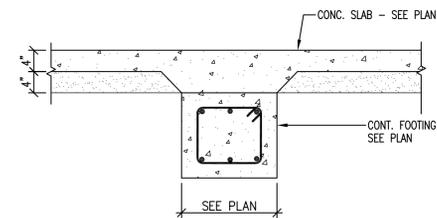
8 FOOTING & TRENCH DRAIN  
S3-0 3/4"=1'-0"



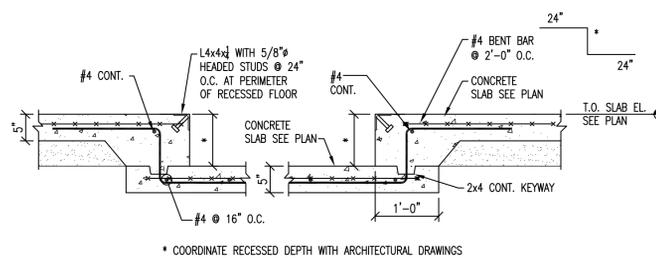
12 LIGHT POLE FOUNDATION  
S3-0 3/4"=1'-0"



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



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



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

- SUBGRADE PREPARATION NOTES:
- #1 SUBGRADE IMPROVEMENTS SHALL CONSIST OF A MINIMUM OF 2'-0" OF ENGINEERED FILL & 1'-0" THICK LAYER OF NON-EXPANSIVE FILL.
  - #2 THE OVEREXCAVATION SHALL EXTEND BELOW THE ENTIRE STRUCTURE AND BEYOND THE OUTSIDE EDGES OF THE PROPOSED BUILDING FOOTPRINT A MINIMUM DISTANCE OF 5'-0".
  - #3 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.
  - #4 PROVIDE 4" GRANULAR LEVELING AND DRAINAGE LAYER DIRECTLY UNDER THE SLAB.

**PERFORMANCE Engineering**  
11811 Fort Street, Suite 104 - Omaha, NE 68164  
(402) 343-3960 Fax: (402) 343-3961  
NE-C04265  
399 Perry St., Castle Rock, CO 80104  
(303) 727-1332  
PE # 240701

**BRAKES PLUS**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA

**Robert A. Whorley**  
LICENSED PROFESSIONAL ENGINEER  
OKLAHOMA  
07/10/24

ENGINEER OF RECORD

REVISION	DATE	COMMENTS

ARCODEV JOB #:  
CLIENT JOB #:  
DRAWN BY: SLM  
CHECKED BY: TAS  
DATE OF ISSUE: 07.10.24

**ARCODEV**  
45 SPYGLASS DRIVE  
LITTLETON, CO 80123  
VOICE: 303.881-8925  
NORMERMAN@ARCODEV.COM

SHEET  
**S3-0**  
SECTIONS AND DETAILS







**MECHANICAL 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:**

MECHANICAL DESIGN SHALL CONFORM TO THE CURRENT ADOPTED INTERNATIONAL MECHANICAL CODE. PROJECT SHALL BE COORDINATED WITH THE EXISTING BUILDING SERVICES AND SHALL INCLUDE ALL ITEMS NECESSARY FOR COMPLETE AND FULLY OPERATIONAL TENANT MECHANICAL 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.

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 MECHANICS OR UNDER THEIR DIRECT SUPERVISION. ALL MATERIALS AND EQUIPMENT SHALL MEET THE REQUIREMENTS OF THE APPLICABLE STANDARDS OF USE AND SHALL BEAR THE UL LABEL AS EVIDENCE THAT THE MATERIALS AND/OR EQUIPMENT MEETS THIS REQUIREMENT.

INSTALL ALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS AND DETAILS UNLESS OTHERWISE NOTED IN THESE PLANS. IF 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.

THE SUB-CONTRACTOR SHALL VISIT THE JOB SITE AND BECOME FAMILIARIZED WITH ALL REQUIREMENTS OF THE CONTRACT PRIOR TO SUBMISSION OF BID. THE SUB-CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY CONFLICTS PRIOR TO BID OR START OF INSTALLATION.

THE SUB-CONTRACTOR SHALL ARRANGE FOR ALL INSPECTIONS WHEN THEY BECOME DUE, AND SHALL NOT COVER ANY WORK UNTIL APPROVED BY THE INSPECTION AUTHORITY. ANY AND ALL FEES ASSOCIATED WITH THE MECHANICAL WORK, INCLUDING CONSTRUCTION AND INSPECTIONS SHALL BE PAID FOR BY THE SUB-CONTRACTOR IN ORDER TO DELIVER A COMPLETE AND FINISHED BUILDING, READY FOR OCCUPANCY AND 100% USAGE. THE SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT THE SUB-CONTRACTOR HAS FAMILIARIZED HIMSELF/HERSELF WITH THE PLANS AND BUILDING SITE. CLAIMS MADE SUBSEQUENT TO THE PROPOSAL FOR MATERIALS AND LABOR BECAUSE OF DIFFICULTIES ENCOUNTERED, WILL NOT BE RECOGNIZED IF THEY COULD HAVE BEEN FORESEEN HAD PROPER EXAMINATION BEEN MADE. ANY COSTS DUE TO THE LACK OF COOPERATION AMONG TRADES SHALL BE BORNE BY THE SUB-CONTRACTOR.

THE INFORMATION PRESENTED ON THESE DRAWINGS IS DIAGRAMMATIC IN NATURE. IT DOES NOT NECESSARILY REPRESENT ALL FITTINGS, HANGERS, ETC. FOR A COMPLETE WORKING SYSTEM. PROVIDE ALL MATERIALS AND LABOR FOR COMPLETELY FINISHED AND OPERATIONAL SYSTEMS. REFER TO LATEST ARCHITECTURAL DRAWINGS

FOR: EXACT WALL LOCATIONS, DIMENSIONS, AND PLUMBING FIXTURE LOCATIONS AND REQUIREMENTS.

SUB-CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY ALTERATIONS REQUIRED BY THE OWNER, ARCHITECT, OR FIELD CONDITIONS.

ALL EQUIPMENT SHALL BE NEW, SHALL COMPLY WITH APPLICABLE INDUSTRY STANDARDS, WITH SPECIFICATIONS ON DRAWINGS, AND ENERGY CODE COMPLIANCE CERTIFICATION AS ADOPTED BY THE STATE, AS WELL AS LOCAL JURISDICTIONAL, BUILDING DEPARTMENT. SUBMIT DATA FOR APPROVAL PRIOR TO ORDERING EQUIPMENT. SUBMITTAL SHALL INCLUDE ENERGY CODE COMPLIANCE CERTIFICATION.

SUB-CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL EQUIPMENT INCLUDING: FIXTURES SPECIFIED IN EQUIPMENT SCHEDULE ON DRAWINGS FOR REVIEW/APPROVAL (5) DAYS PRIOR TO BID. EQUIPMENT IS NOT TO BE ORDERED WITHOUT SUBMITTAL TO ARCHITECT/OWNER/ENGINEER.

ALL SPACE HEATING SUPPLY AIR DUCTS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE LATEST S.M.A.C.N.A. DUCT CONSTRUCTION STANDARDS AND BE INSULATED IN ACCORDANCE WITH APPLICABLE STATE AND LOCAL JURISDICTIONAL ENERGY CONSER- VATION STANDARDS AND THE LATEST EDITION INTERNATIONAL MECHANICAL CODE.

ALL DUCT DIMENSIONS ARE CLEAR INSIDE DIMENSIONS. INCREASE LISTED DUCT SIZE TO ACCOMMODATE LINER.

FLEX SHALL NOT EXCEED 8 FT. IN LENGTH AND SHALL BE TYPE "1" FACTORY DUCT. PROVIDE WITH 1 IN. EXTERNAL INSULATION IF MAIN SUPPLY DUCT IS INSULATED.

ALL SUPPLY RUN-OUTS TO HAVE MANUALLY ADJUSTABLE VOLUME DAMPERS WITH ABILITY TO LOCK IN PLACE. THIS SUB-CONTRACTOR SHALL INCLUDE IN HIS/HER BID THE COMPLETE COST FOR THE ELECTRICAL CONTRACTOR TO INTERLOCK EXHAUST FANS AS REQUIRED BY EQUIPMENT SCHEDULE. THIS SUB-CONTRACTOR SHALL FIELD VERIFY 10 FT. MINIMUM CLEARANCE BETWEEN FRESH AIR INTAKE AND ALL VENTS OR EXHAUST OUTLETS.

WALL THERMOSTATS FOR HEATING/COOLING UNITS TO BE AUTOMATIC CHANGEOVER TYPE AND INSTALLED 48 IN. ABOVE FINISHED FLOOR. HEATING/COOLING UNITS SHALL MAINTAIN MINIMUM OUTSIDE AIR AS SHOWN ON SCHEDULE OR SHOWN IN FRESH AIR CALCULATIONS.

ALL FURNACES OR ROOFTOP UNITS SUPPLYING MORE THAN 2000 CFM OF AIR SHALL BE EQUIPPED WITH A SMOKE DETECTOR IN THE MAIN RETURN AIR DUCT WHICH WILL SHUT THE POWER OFF TO THE UNIT WHEN SMOKE IS DETECTED. THIS SMOKE DETECTOR SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR AND WIRED BY THE MECHANICAL CONTRACTOR. IN BUILDINGS WHERE FIRE DETECTION OR ALARM SYSTEMS ARE PROVIDED, THE SMOKE DETECTOR SHALL BE WIRED BY THE ELECTRICAL CONTRACTOR AND SHALL BE SUPERVISED BY FIRE ALARM SYSTEM. SEE LATEST EDITION INTERNATIONAL MECHANICAL CODE FOR ADDITIONAL REQUIREMENTS. MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL REMOTE TEST SWITCH AND INDICATING LIGHT AT CEILING LOCATION NEAR FURNACE/ROOFTOP LOCATION.

MECHANICAL CONTRACTOR IS RESPONSIBLE TO HAVE ROOFTOP UNIT MANUFACTURERS TECHNICIAN START ALL ROOFTOP UNITS. PROVIDE WRITTEN REPORT FROM MANUFACTURER FOR START-UP COMMISSIONING.

**DUCTWORK**

- DUCTWORK SHALL BE GALVANIZED SHEET METAL INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS. INSTALL TURNING VANES IN ALL ELBOWS. ALL SPIN-IN FITTINGS AND RUNOUTS TO ANY REGISTERS, RETURN, OR EXHAUST TERMINAL SHALL BE PROVIDED WITH MANUAL VOLUME DAMPERS.
- ALL DUCTWORK SHALL BE SEALED IN ACCORDANCE WITH SMACNA STANDARDS. THE DUCT PRESSURE CLASS SHALL BE AS NOTED ON PLANS OR CORRESPONDING TO THE MAXIMUM EQUIPMENT ESP ON EACH SYSTEM. THE DUCTWORK SHALL BE SEALED TIGHT. LEAKAGE MAY NOT EXCEED 10% OF DESIGN AIRFLOW AT DESIGN PRESSURE. FOR SMOKE DETECTOR SYSTEMS THE DUCT MUST BE TESTED AT 1.5 TIMES ITS DESIGN PRESSURE AND LEAKAGE MAY NOT EXCEED 5% OF DESIGN AIRFLOW.
- ALL EXPOSED ROUND DUCTWORK SHALL BE SPIRAL DUCT. NO JOISTS OR CONNECTIONS SHALL HAVE

ANY VISIBLE SEALANT FROM THE EXTERIOR SO THE DUCTWORK HAS A CLEAN AND WORKMAN LIKE APPEARANCE.

- DUCT SIZES GIVEN ARE NET INSIDE FREE AREA.
- EQUIPMENT FLEXIBLE DUCTWORK CONNECTION NOT TO EXCEED 10 INCHES IN LENGTH WITH A MAX. 25 FLAME/50 SMOKE INDEX.
- FLEXIBLE DUCTWORK TO AIR DEVICES SHALL HAVE A MAXIMUM STRETCHED LENGTH OF 6 FEET. SUITABLE FOR RETURN AIR PLENUM.
- ALL EXHAUST TERMINALS MUST BE 3'-0" AWAY FROM IN ELEVATION FROM OPERABLE PORTION OF WINDOW AND DOORS. MC TO OFFSET AS REQUIRED.
- ALL DIRECT VENT TERMINALS MUST BE 4'-0" AWAY IN ELEVATION HORIZONTALLY OR BELOW AND ATLEAST 1'-0" ABOVE ANY OPERABLE PORTION OF A WINDOW OR DOOR. MC TO OFFSET AS REQUIRED.

**INSULATION**

- ALL INSULATING VALUES ARE TO CONFORM TO THE LATEST VERSION OF THE INTERNATIONAL ENERGY CODE.
- ALL ROUND CONCEALED RIGID SUPPLY DUCTWORK SHALL BE EXTERNALLY WRAPPED WITH NOMINAL 1-1/2" THICK (MINIMUM R-6.0) FIBER GLASS INSULATION WITH FIRE RETARDANT VAPOR BARRIER.
- OUTDOOR AIR INTAKE DUCTS SHALL BE EXTERNALLY WRAPPED WITH NOMINAL 1-1/2" THICK (MINIMUM R-12.0) FIBER GLASS INSULATION WITH FIRE RETARDANT VAPOR BARRIER.
- WHEN LOCATED IN UNCONDITIONED SPACES ALL RECTANGULAR DUCTWORK SHALL BE LINED WITH 1" THICK 2 POUND DENSITY MINIMUM R-6.0 FIBER GLASS ACOUSTIC DUCT LINER. ALL DUCTWORK EXPOSED TO OUTDOOR AMBIENT TYPE CONDITIONS (UNCONDITIONED ATTICS, OUTSIDE AIR DUCTS, ETC) SHALL BE EXTERNALLY WRAPPED OR INTERNALLY LINED IN 2 - 2.5" NOMINAL INSULATION (MINIMUM R-12.0). ALL OUTDOOR DUCTWORK SHALL HAVE 2 - 2.5" DUCTLINER (MINIMUM R-12.0) AND THE DUCT BE SEALED WEATHERPROOF PER SMACNA GUIDELINES. RECTANGULAR DUCT WORK IN RETURN AIR PLENUM SHALL BE LINED WITH 1/2" THICK 2 POUND DENSITY (MINIMUM R2.1) MAT-LACED ACOUSTIC DUCT LINER.

**AIR INLETS AND OUTLETS**

- FURNISH AND INSTALL AIR INLETS AND OUTLETS AS SCHEDULED ON THE PLANS.
- OUTLETS SHALL HAVE A WHITE BAKED ENAMEL FINISH TO MATCH CEILING OR WALL.

**EXHAUST FANS**

- FURNISH AND INSTALL CENTRIFUGAL EXHAUST FANS AS SCHEDULED ON THE PLANS.
- FURNISH AND INSTALL ROOF CURBS AND BACKDRAFT DAMPERS.
- FURNISH AND INSTALL UNITS COMPLETE WITH ALL OPERATIONAL AND SAFETY CONTROL NECESSARY FOR PROPER OPERATION.

**ROOFTOP HVAC UNITS**

- FURNISH AND INSTALL ROOF TOP PACKAGED ELECTRIC A/C UNITS WITH NATURAL GAS HEATING SECTIONS AS SCHEDULED ON THE PLANS. ACCEPTABLE MANUFACTURERS ARE TRANE, CARRIER, CARRIER, OR YORK. ANY SUBSTITUTED MODELS MUST BE EQUAL IN CONTROLS, ACCESSORIES, AND PERFORMANCE TO SCHEDULED MODELS.
- FURNISH AND INSTALL UNITS COMPLETE WITH ALL OPERATIONAL AND SAFETY CONTROLS FOR SATISFACTORY OPERATION. PROVIDE PHASE REVERSAL PROTECTION ON ANY UNITS WITH SCROLL COMPRESSORS.
- FURNISH PROGRAMMABLE SPACE THERMOSTAT WITH NIGHT SETBACK OPERATION OR DIGITAL CONTROL SYSTEM FOR VAV APPLICATIONS AS APPLICABLE. MOUNT AT 4-42-INCHES AFF.
- FURNISH ALL UNITS WITH 100% OUTDOOR AIR ECONOMIZER PACKAGE UNLESS OTHERWISE NOTED.
- FURNISH ALL UNITS WITH 14-INCH ROOF CURBS.

**RADIANT HEATING UNITS**

- FURNISH AND INSTALL NATURAL GAS FIRED RADIANT HEATING UNITS AND ASSOCIATED ACCESSORIES AS SCHEDULED ON THE PLANS.
- UNITS SHALL BE COMPLETE WITH PLUGS FOR ELECTRICAL CONNECTION, SPACE THERMOSTATS, TUBE EXTENSIONS, FLUES, AND ROOF CAPS AS REQUIRED. UNITS SHALL BE UL AND AGA RATED.

**ABBREVIATIONS**

(D)	DEMO
(E)	EXISTING
(N)	NEW
AV	AIR ADMITTANCE VALVE
AD	AREA DRAIN
AFF	ABOVE FINISH FLOOR
AHU	AIR HANDLING UNIT
B	BOILER
BB	BASEBOARD
BF	BOOSTER FAN
BFP	BACKFLOW PREVENTER
BT	BATH TUB
BV	BALL VALVE
CD	CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CN	CLEANOUT
COTG	CLEANOUT TO GRADE
CV	CONDENSING UNIT
CW	CHECK VALVE
CUH	CABINET UNIT HEATER
DCW	DOMESTIC COLD WATER
DF	DRINKING FOUNTAIN
DH	DOMESTIC HOT WATER
DSN	DOWN SPOUT NOZZLE
EC	ELECTRICAL CONTRACTOR
ECO	END OF LINE CLEANOUT
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
EWC	ELECTRIC WATER COOLER
EWH	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
GWH	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	NOT IN CONTRACT
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OA	OUTSIDE AIR
ORD	OVER FLOW ROOF DRAIN
P	PUMP
PC	PLUMBING CONTRACTOR
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
RAR	RETURN AIR REGISTER
RD	ROOF DRAIN
RH	RADIANT HEATER
RTU	ROOF TOP UNIT
SA	SUPPLY AIR REGISTER
SAR	SERIES FAN 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
VVT	VARI TRAC
WB	WASHER BOX
WCO	WALL CLEANOUT
WH	WALL HYDRANT

**MECHANICAL LEGEND**

**VENTILATION SCHEDULE (2018 IMC)**

SYSTEM OR UNIT #	ROOM NAME	ZONE FLOOR AREA (SQ.FT.)	OUTDOOR AIRFLOW REQUIRED PER PERSON (CFM/PERSON) Rp	OUTDOOR AIRFLOW REQUIRED PER PERSON (CFM /SQ.FT) Ra	ZONE OCCUPANT DENSITY (PPL/1000 SQ.FT.)	ZONE POPULATION (PEOPLE) Pz	BREATHING OUTDOOR AIR FLOW (CFM) Vbz	ZONE AIR DISTRIBUTION EFFECTIVENESS Ez	REQUIRED ZONE OUTDOOR AIR FLOW Vbz (CFM)
RTU-1	SALES 101	630	7.5	0.12	15	8	124	0.8	155
	COFFEE 102	75	5	0.06	5	0	5	0.8	6
	OFFICE 103	100	5	0.06	5	1	11	0.8	14
	BREAK 107	114	5	0.06	5	1	12	0.8	15
	INVENTORY 108	500		.12 CFM/SQ.FT.					60
									249
								300	

**EXHAUST FAN SCHEDULE**

PLAN MARK	MFR	MODEL NO.	LOCATION	STYLE	CFM	ESP (IN)	SONES	WEIGHT LBS	SPD	ELECTRICAL DATA				REMARKS
					VOLT	PH	HP	WATTS						
EF-1	ACME	VQ0150	TOILET	CEILING	75	0.25	1.1	25	1	115	1	-	100	1, 2
EF-2	ACME	VQ0150	TOILET	CEILING	75	0.25	1.1	25	1	115	1	-	100	1, 2
EF-3	GREENHECK	SBE-2H20-5	SIDEWALL-SERVICE AREA	WALL	3200	.35	23	150	1	115	1	1/2	9.8 AMPS	1, 3 - 7

- SELECTION BASED AT ALTITUDE
  - INTERLOCK WITH LIGHT SWITCH
  - PROVIDE WALL MOUNTED SENSOR CONNECTED BY E.C.
  - PROVIDE VIBRATION ISOLATORS
  - FURNISH WITH WALL COLLAR (# C-20), MOTORIZED DAMPER & WEATHERHOOD
- 6 CO SENSOR ALARM PER PLANS  
DAMPERS OPEN AT 50 PPM & FAN ENRGIZES  
ON AIR SHUTDOWN OPERATION - REVERSE SEQUENCE
- PROVIDE STARTER SET BY MC, USED FOR DAMPER MOTOR, THERMOSTAT AND CO SENSOR CONTROL.

**AIR CIRCULATION FAN SCHEDULE**

PLAN MARK	MFR	MODEL NO.	LOCATION	STYLE	CFM	ESP (IN)	SPD	ELECTRICAL DATA				REMARKS	
					VOLT	PH	HP	WATTS					
F-1	DAYTON	2RDZ9	CEILING/WALL	PROP	7450/3450	.25	1	115	1	1/4	-	1-5	

- SELECTION BASED AT ALTITUDE
- PROVIDE SOFT START
- OSCILLATING FAN
- STRUCTURAL AND MOUNTING EQ. PER MANUFACTURER
- OSCILLATING FAN: MEANT FOR AIR MOVEMENT ONLY

**GAS UNIT HEATER SCHEDULE**

PLAN MARK	MFR	MODEL NO.	FUEL	INPUT MBTUH	OUTPUT MBTUH	CFM	HP	VOLT	PH	FLUE SIZE (IN)	REMARKS
GUH-1	MODINE	PDP175	NG	175	143	2725	1/2	115	1	5	1, 2

- REFERS TO MODINE. PERFORMANCE REFERS TO LOCAL ALTITUDE. 82% EFFICIENCY GAS HEATING UNIT.
- PROVIDE REMOTE TSTAT WITH SUMMER/WINTER SWITCH.

**ROOFTOP HVAC UNIT SCHEDULE**

PLAN MARK	MFR	MODEL NO.	CFM	MIN OA CFM	BLWR HP	ESP (IN)	GAS NAT/PROP	HEATING CAPACITY				NET COOLING CAPACITY						REFRIG (R410A / R22)	EFFICIENCY (STD / H)	SEER/EER RATING	WEIGHT LBS	ELECTRICAL DATA				REMARKS			
								INPUT MBH (SL)	OUTPUT MBH (ALT)	EAT (F)	LAT (F)	EFF	STG	TOTAL MBH	SENS MBH	EADB (F)	EAWB (F)					LADB (F)	LAWB (F)	VOLT	PH		FLA (LG MTR)	MCA	MOCP
RTU-1	CARRIER	48CGM06K1A3	1990	300	2	0.40	NG	130	106	63.3	113.4	81%	2	60.53	46.61	79.3	65.6	57.2	55.7	R-410A	STD	16 SEER	900	208	1	31.3	37	50	1-5

- REFERS TO COOLING CAPACITIES BASED ON 95F OADB, 80F EADB, 61F EAWB @ ELEV, AND 100F CONDENSING TEMPERATURE
- PROVIDE 14" ROOF CURB, BELT DRIVE, HAIL GUARDS, MICROPROCESSOR CONTROL, OPTIONAL DISCONNECT, AND 100% ECONOMIZER W/ BARO RELIEF.
- PROVIDE OPTIONAL CONVENIENCE OUTLET
- SEER AND EER RATING ARE RATED AT ARI CONDITIONS AND IN ACCORDANCE WITH DOE TEST PROCEDURES.
- PROVIDE 7-DAY, 24 HOUR PROGRAMMABLE THERMOSTAT.
- PROVIDE DUCT SMOKE DETECTOR AS REQUIRED.

**CODES & DESIGN CRITERIA**

JURISDICTION:	ADA, OK
MECHANICAL CODE:	2018 IMC
ENERGY CODE:	2018 IECC
LOCAL ADDENDUMS:	YES
WINTER DESIGN DB:	9 F
SUMMER DESIGN TEMP DB / WB:	99/74 F
INDOOR HEATING SET POINT:	72 F
INDOOR COOLING SET POINT:	75 F
ROOF R-VALUE:	R40 (VERIFY)
WALL R-VALUE:	R19
ELEVATION:	597 FT
BUILDING TOTAL AREA:	4897 SQ.FT.

**MECHANICAL SHEET LIST**

SHEET #	SHEET TITLE
M0.1	MECHANICAL SPECS, SCHEDULES AND LEGEND
M0.2	SEQUENCE OF OPERATION
M1.1	MECHANICAL PLAN
M1.2	MECHANICAL ROOF PLAN
M2.1	MECHANICAL DETAILS
M3.0	MECHANICAL COMCHECK
M3.1	MECHANICAL COMCHECK

**HVAC TESTING AND BALANCING REQUIREMENTS:**

THE MECHANICAL CONTRACTOR SHALL EMPLOY THE SERVICES OF AN INDEPENDENT TEST AND BALANCE CONTRACTOR TO BALANCE THE HVAC SYSTEMS IN ACCORDANCE WITH THE DRAWINGS.

HVAC SYSTEMS SHALL BE BALANCED IN ACCORDANCE WITH THE LATEST NEBB PROCEDURAL STANDARDS. THE BALANCING CONTRACTOR SHALL HAVE AT LEAST (3) THREE YEARS OF EXPERIENCE IN TESTING AND BALANCING.

THE BALANCING REPORT SHALL CONTAIN ALL INFORMATION REQUIRED BY NEBB PROCEDURAL STANDARDS FOR TESTING, ADJUSTING, AND BALANCING. THE REPORT SHALL INCLUDE, BUT MAY NOT BE LIMITED TO THE FOLLOWING:

A COMPLETE LIST OF BALANCING INSTRUMENTS AND THEIR LATEST CALIBRATION DATES IS TO BE INCLUDED IN THE FINAL REPORT.

BLOWER: MOTOR HP, VOLTAGE, AMPERAGE (NAMEPLATE AND ACTUAL) RPM, BELT MAKE/MODEL, SHEAVE MAKE/MODEL.

UNIT: MAKE/MODEL/SERIAL NUMBER, FILTER TYPE/SIZE/QUANTITY, FINAL BALANCED DAMPER POSITIONS.

AIR INLETS AND OUTLETS: DESIGN/PRELIMINARY/FINAL CFM'S (EXCLUDES RETURN GRILLES).

ALL MANUAL SINGLE BLADE DAMPERS SHALL BE SECURED IN THEIR FINAL BALANCED POSITIONS WITH A SHEET METAL SCREW THRU THE DAMPER HANDLE.

ALL COMPONENTS SHALL BE BALANCED TO WITHIN +/- 10% OF DESIGN CFM REQUIREMENTS.

**BRAKES PLUS**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



08/25/24  
ARCHITECT OF RECORD

DATE	REVISION	COMMENTS
08/06/24	1	FOR BLDG. DEPT. SUBMITTAL
08/06/24	2	COMMENTS

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

DATE OF ISSUE: 08/25/24

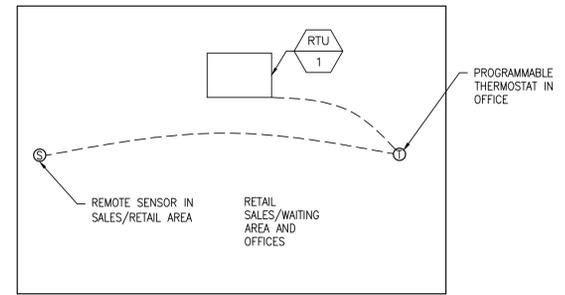


45 SPYGLASS DRIVE  
LITTLETON, CO 80123  
VOICE: 303.881.8925

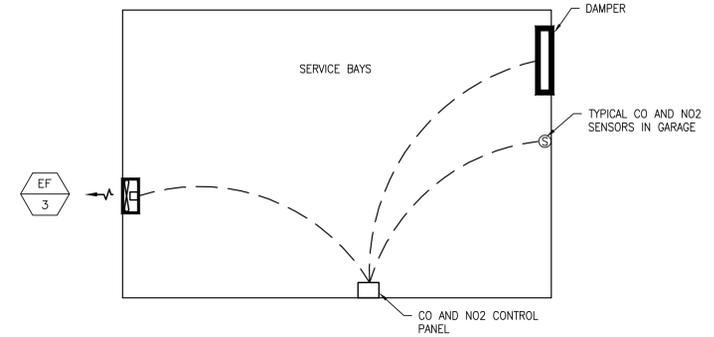
PROJ #241412

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

**MO.1**  
MECHANICAL SPECS,  
SCHEDULES AND LEGEND



**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
- D. 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.
- E. 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.
- F. 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.
- G. 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**

1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS FOR BLDG. DEPT. SUBMITTAL
△	08/06/24	
	08/06/24	

ARCODEV JOB #: \_\_\_\_\_  
CLIENT JOB #: \_\_\_\_\_  
DRAWN BY: JRG  
CHECKED BY: LRP  
DATE OF ISSUE: 08/25/24



45 SPYGLASS DRIVE  
LITTLETON, CO 80123  
VOICE: 303.881.8925

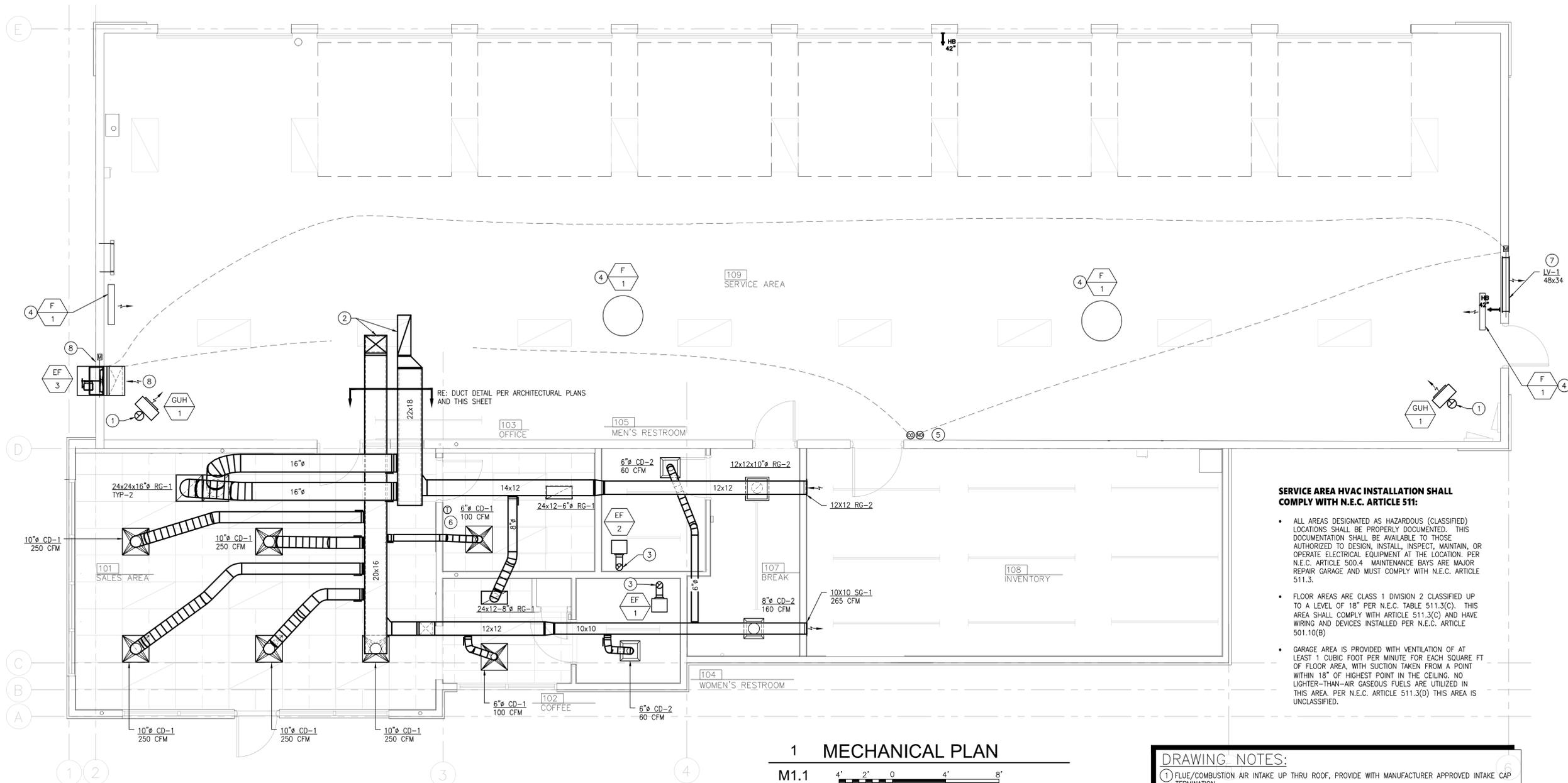
SHEET

PROJ #241412

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

**MO.2**

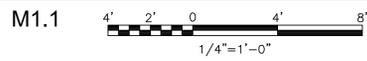
MECHANICAL SEQUENCE OF OPERATIONS



**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.

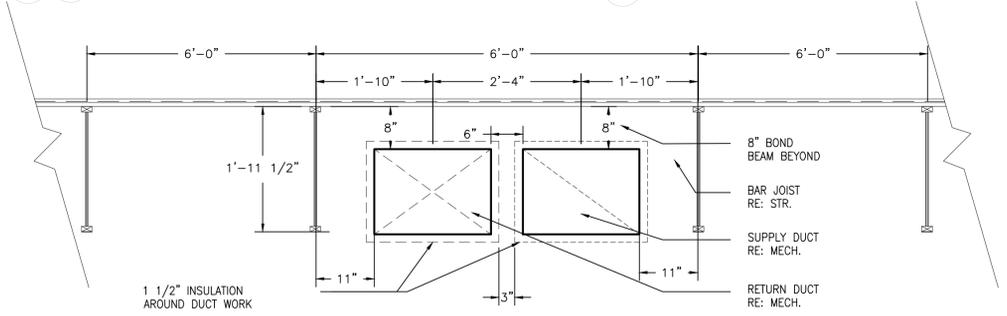
**1 MECHANICAL PLAN**



**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**



**BRAKES PLUS**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	08/06/24	FOR BLDG. DEPT. SUBMITTAL
	08/06/24	COMMENTS

ARCODEV JOB #:  
CLIENT JOB #:  
DRAWN BY: JRG  
CHECKED BY: LRP  
DATE OF ISSUE: 08/23/24

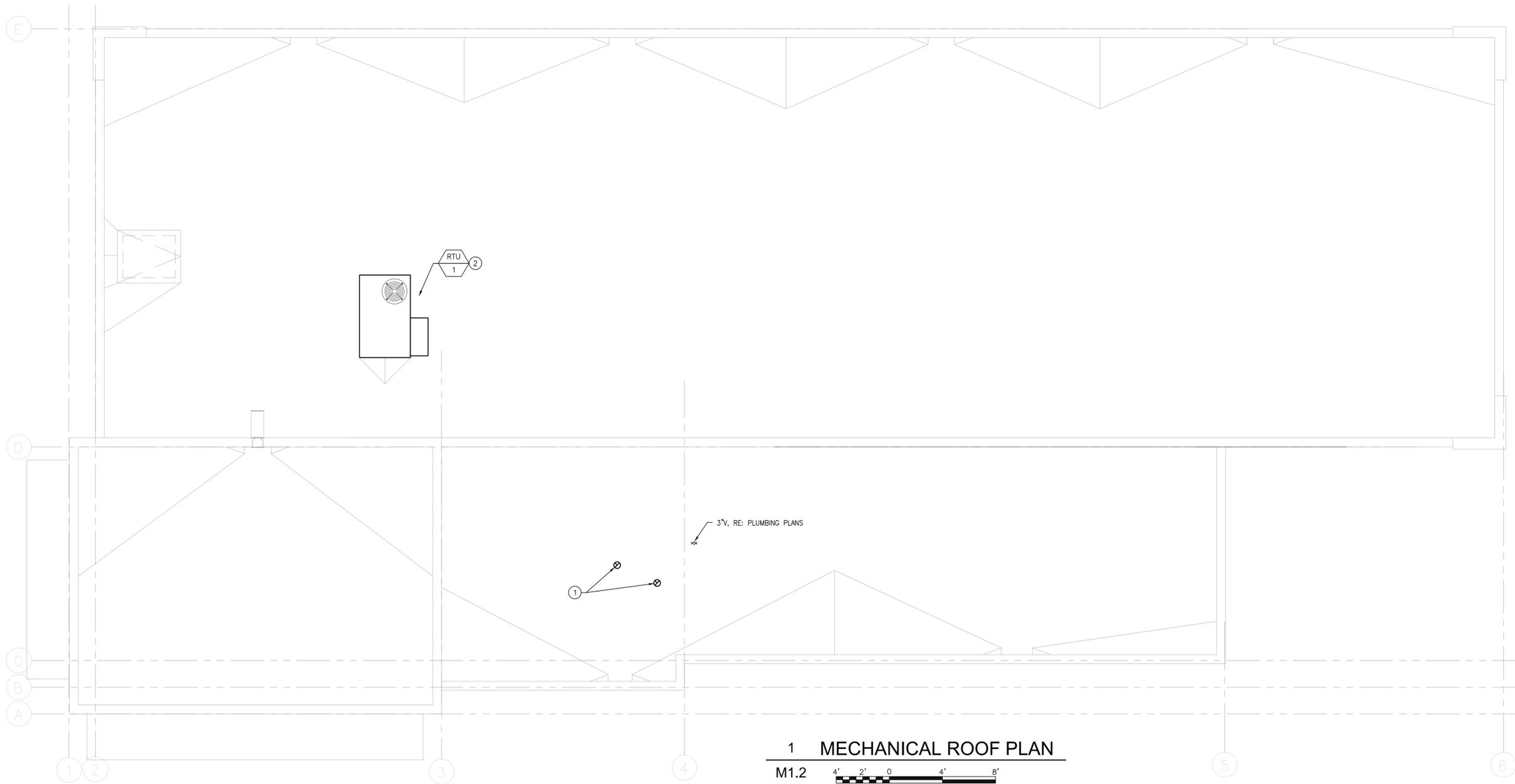


45 SPYGLASS DRIVE  
LITTLETON, CO 80123  
VOICE: 303.881.8925

A SHEET

PROJ #241412  
**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.

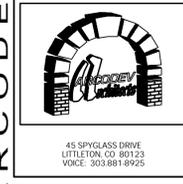
**BRAKES PLUS**  
 1201 LONNIE ABBOTT BLVD.  
 ADA, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
△	08/06/24	FOR BLDG. DEPT. SUBMITTAL
	08/06/24	COMMENTS

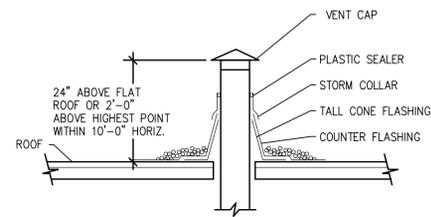
ARC CODE V JOB #:  
 CLIENT JOB #:  
 DRAWN BY: JRG  
 CHECKED BY: LRP  
 DATE OF ISSUE: 08/23/24



SHEET

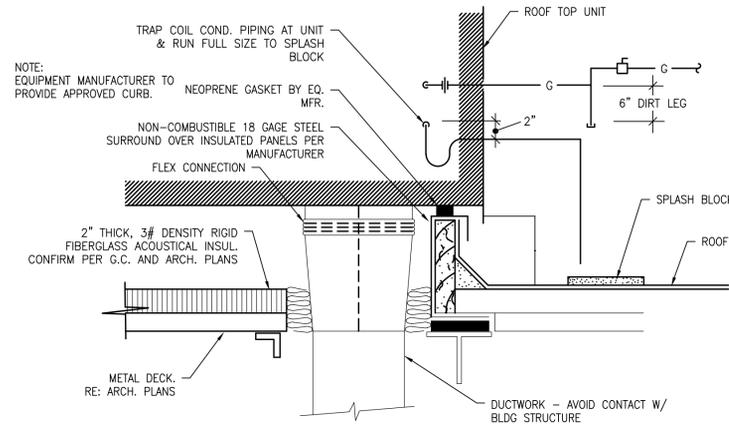
PROJ #241412  
**ADAM A. POWELL, P.E.**  
 PEC Enterprises, Inc.  
 14412 Alene Ct. NE  
 Albuquerque, NM 87123  
 Telephone 720-409-2454

**M1.2**  
 MECHANICAL ROOF PLAN



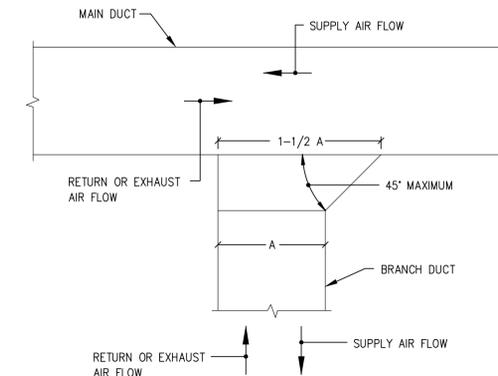
**EXHAUST FAN DUCT THRU ROOF DETAIL**

NOT TO SCALE



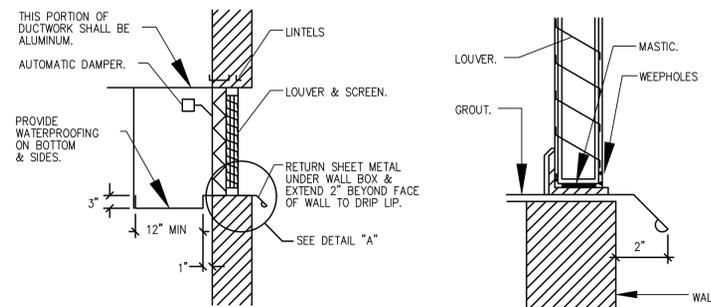
**ROOFTOP UNIT INSTALLATION DETAIL**

NOT TO SCALE



**DUCT TAKE-OFF DETAIL**

NOT TO SCALE



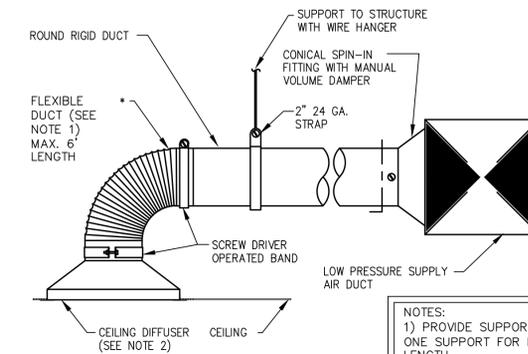
NOTE:  
REFER TO MFR'S INSTURCTIONS  
FOR SPECIFIC MOUNTING DETAILS.  
COORDINATE WITH  
ARCHITECTURAL REQUIREMENTS.

**DETAIL A**

NOT TO SCALE

**WATERTIGHT LOUVER CONNECTION DETAIL**

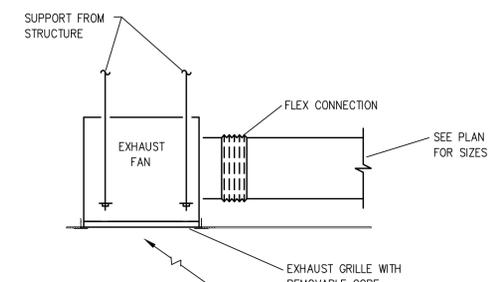
NOT TO SCALE



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**

1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS FOR BLDG. DEPT. SUBMITTAL
1	08/06/24	
2	08/06/24	

ARCDEV JOB #:

CLIENT JOB #:

DRAWN BY: JRG

CHECKED BY: LRP

DATE OF ISSUE: 08/25/24



45 SPYGLASS DRIVE  
LITTLETON, CO 80123  
VOICE: 303.881.8925

SHEET

PROJ #241412

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

**M2.1**  
MECHANICAL DETAILS

Section # & Req. ID	Footings / Foundation Inspection	Complies?	Comments/Assumptions
C403.12.2	Snow/ice melting system and freeze protection systems have sensors and controls configured to limit service for pavement temperature and outdoor temperature. future connection to controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Brakes Plus Report date: 09/25/24  
 Data filename: G:\241412 - Brakes Plus - ADA, OK - Norm Herman-LL GUH\Engfile\Mech calcs\BRAKES - ADA Page 3 of 12  
 OK.cck

### COMcheck Software Version 4.1.5.5 Inspection Checklist

Energy Code: 2018 IECC

Requirements: 0.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req. ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [P92]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C103.2 [P93]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the service water heating systems and equipment and document where exceptions to the standard are claimed. Hot water system sized per manufacturer's sizing guide.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405 [P99]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Brakes Plus Report date: 09/25/24  
 Data filename: G:\241412 - Brakes Plus - ADA, OK - Norm Herman-LL GUH\Engfile\Mech calcs\BRAKES - ADA Page 2 of 12  
 OK.cck

### COMcheck Software Version 4.1.5.5 Mechanical Compliance Certificate

**Project Information**

Energy Code: 2018 IECC  
 Project Title: Brakes Plus  
 Location: Ada, Oklahoma  
 Climate Zone: 3a  
 Project Type: New Construction

Construction Site: ADA, OK  
 Owner/Agent: Brakes Plus  
 Designer/Contractor: Loren Priest  
 EE LLC Engineering  
 12005 Antelope Trail  
 Parker, CO 80138  
 303.481.189  
 loren@eeparker.com

**Additional Efficiency Package(s)**

Credits: 1.0 Required 1.0 Proposed  
 Reduced Lighting Power, 1.0 credit

**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% Ee, Required Efficiency: 80.00 % Ee  
 Cooling: 1 each - Single Package DX Unit, Capacity = 80 kBtu/h, Air-Cooled Condenser, Air Economizer  
 Proposed Efficiency = 14.00 EER, Required Efficiency: 11.00 EER / 12.0 EER  
 Fan System: RTU-1 - Compliance (Motor nameplate HP method) : Passes

Fans:  
 RTU1 Supply, Constant Volume, 1990 CFM, 2.0 motor nameplate hp, 0.0 fan efficiency grade

2 GUH-1 (Single Zone)  
 Heating: 1 each - Unit Heater, Gas, Capacity = 175 kBtu/h  
 Proposed Efficiency = 80.00% Ee, Required Efficiency: 80.00 % Ee  
 Fan System: GUH-1 - Compliance (Motor nameplate HP method) : Passes

Fans:  
 GUH1 Supply, Constant Volume, 2575 CFM, 0.5 motor nameplate hp, 0.0 fan efficiency grade

1 EWH-1  
 Electric Storage Water Heater, Capacity: 30 gallons w/ Circulation Pump  
 Proposed Efficiency: 1.20 SL %/h (# > 12 KW), Required Efficiency: 1.20 SL %/h (# > 12 KW)

**Mechanical 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 2018 IECC requirements in COMcheck Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Mechanical Designer: *John R. Carter* 9/25/24  
 Name - Title Signature Date

Project Title: Brakes Plus Report date: 09/25/24  
 Data filename: G:\241412 - Brakes Plus - ADA, OK - Norm Herman-LL GUH\Engfile\Mech calcs\BRAKES - ADA Page 1 of 12  
 OK.cck

**BRAKES PLUS**  
 1201 LONNIE ABBOTT BLVD.  
 ADA, OKLAHOMA



ARCHITECT OF RECORD

Section # & Req. ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C402.2.6 [ME41]	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-5.5.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.11.3 [ME61]	HVAC piping insulation insulated in accordance with Table C403.11.3. Insulation exposed to weather is protected from damage and is provided with shielding from solar radiation.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.8.4 [ME142]	Motors for fans that are not less than 1/12 hp and less than 1 hp are electronically commutated motors or have a minimum motor efficiency of 70 percent. These motors have the means to adjust motor speed.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.8.4 [ME142]	Motors for fans that are not less than 1/12 hp and less than 1 hp are electronically commutated motors or have a minimum motor efficiency of 70 percent. These motors have the means to adjust motor speed.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.8.5 [ME143]	Each DX cooling system > 65 kbtu and chiller water/evaporative cooling system with fans > 1/4 hp are designed to vary the indoor fan airflow as a function of load and comply with detailed requirements of this section.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.8.5 [ME143]	Each DX cooling system > 65 kbtu and chiller water/evaporative cooling system with fans > 1/4 hp are designed to vary the indoor fan airflow as a function of load and comply with detailed requirements of this section.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.12.1 [ME71]	Systems that heat outside the building envelope are radiant heat systems controlled by an occupancy sensing device or timer switch.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.2.3 [ME55]	HVAC equipment efficiency verified.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Mechanical Systems list for values.
C403.5.5 [ME113]	Fault detection and diagnostics installed with air-cooled unitary DX units having economizers.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.2.2 [ME59]	Natural or mechanical ventilation is provided in accordance with International Mechanical Code Chapter 4. Mechanical ventilation has capability to reduce outdoor air supply to minimum per IMC Chapter 4.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.7.1 [ME59]	Demand control ventilation provided for spaces >500 ft <sup>2</sup> and >25 people/1000 ft <sup>2</sup> occupant density and served by systems with air-side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Brakes Plus Report date: 09/25/24  
 Data filename: G:\241412 - Brakes Plus - ADA, OK - Norm Herman-LL GUH\Engfile\Mech calcs\BRAKES - ADA Page 6 of 12  
 OK.cck

Section # & Req. ID	Plumbing Rough-In Inspection	Complies?	Comments/Assumptions
C404.5 [P6]	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C404.5.1 [P6]	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C404.5.2 [P6]	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C404.6.1 [P6]	Automatic time switches installed to automatically switch off the recirculating hot-water system or heat trace.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C404.6.2 [P6]	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C404.6.3 [P6]	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C404.6.3 [P6]	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C404.7 [P8]	Demand recirculation water systems have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C404.7 [P8]	Demand recirculation water systems have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Brakes Plus Report date: 09/25/24  
 Data filename: G:\241412 - Brakes Plus - ADA, OK - Norm Herman-LL GUH\Engfile\Mech calcs\BRAKES - ADA Page 4 of 12  
 OK.cck

REVISION	DATE	COMMENTS
	08/06/24	FOR BLDG. DEPT. SUBMITAL
	08/06/24	COMMENTS

ARC CODEV JOB #:  
 CLIENT JOB #:  
 DRAWN BY: JRC  
 CHECKED BY: LRP  
 DATE OF ISSUE: 09/25/24



45 SPYGLASS DRIVE  
 LITTLETON, CO 80123  
 VOICE: 303.881.8925

SHEET

PROJ #241412  
**ADAM A. POWELL, P.E.**  
 PEC Enterprises, Inc.  
 14412 Alene Ct. NE  
 Albuquerque, NM 87123  
 Telephone 720-409-2454

**M3.0**  
 MECHANICAL COMCHECK

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.6 [EL26]	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.7 [EL27]	Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.8.2, C405.8.2.1 [EL28]	Escalators and moving walks comply with ASME A37.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A37.1/CSA B44 or applicable local code when not conveying passengers.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.9 [EL29]	Total voltage drop across the combination of feeders and branch circuits $\leq$ 5%.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Brakes Plus Report date: 09/25/24  
Data filename: G:\241412 - Brakes Plus - ADA, OK - Norm Herman-LL.GUH(Engrfile)\Mech calcs\BRAKES - ADA OK.cck Page 9 of 12

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.3.3 [ME35]	Hot gas bypass limited to: $\leq$ 240 kBtu/h - 50% $>$ 240 kBtu/h - 25%	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C408.2.2.1 [ME33]	Air outlets and zone terminal devices have means for air balancing.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.5, C403.5.1, C403.5.2 [ME123]	Refrigerated display cases, walk-in coolers or walk-in freezers served by remote compressors and remote condensers not located in a condensing unit, have fan-powered condensers that comply with Sections C403.5.1 and refrigeration compressor systems that comply with C403.5.2.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Brakes Plus Report date: 09/25/24  
Data filename: G:\241412 - Brakes Plus - ADA, OK - Norm Herman-LL.GUH(Engrfile)\Mech calcs\BRAKES - ADA OK.cck Page 8 of 12

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.7.2 [ME115]	Enclosed parking garage ventilation has automatic contaminant detection and capacity to stage or modulate fans to 50% or less of design capacity.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.7.6 [ME141]	HVAC systems serving guestrooms in Group R-1 buildings with $>$ 50 guestrooms: Each guestroom is provided with controls that automatically manage temperature setpoint and ventilation (see sections C403.7.6.1 and C403.7.6.2).	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.7.4 [ME57]	Exhaust air energy recovery on systems meeting Table C403.7.4(1) and C403.7.4(2).	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.7.5 [ME116]	Kitchen exhaust systems comply with replacement air and conditioned supply air limitations, and satisfy hood rating requirements and maximum exhaust rate criteria.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.11.1 [ME60]	HVAC ducts and plenums insulated in accordance with C403.11.1 and constructed in accordance with C403.11.2. Verification may need to occur during Foundation Inspection.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.5 [ME62]	Air economizers provided where required, meet the requirements for design capacity, control signal, ventilation controls, high-limit shut-off, integrated economizer control, and provide a means to relieve excess outside air during operation.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.5.3 [ME124]	Air economizers automatically reduce outdoor air intake to the design minimum outdoor air quantity when outdoor air intake will not reduce cooling energy usage. See Table C403.5.3.3 for applicable device types and climate zones.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.5.3.4 [ME125]	System capable of relieving excess outdoor air during air economizer operation to prevent overpressurizing the building. The relief air outlet located to avoid recirculation into the building.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.5.3.5 [ME126]	Return, exhaust/relief and outdoor air dampers used in economizers have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Reference section C403.7.7 for details.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.4.1 [ME63]	Heating for vestibules and air curtains with integral heating include automatic controls that shut off the heating system when outdoor air temperatures $>$ 45F. Vestibule heating and cooling systems controlled by a thermostat in the vestibule with heating setpoint $\leq$ 60F and cooling setpoint $\geq$ 80F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Brakes Plus Report date: 09/25/24  
Data filename: G:\241412 - Brakes Plus - ADA, OK - Norm Herman-LL.GUH(Engrfile)\Mech calcs\BRAKES - ADA OK.cck Page 7 of 12

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C404.6.1 [F112]	Controls are installed that limit the operation of a recirculation pump installed to maintain temperature of a storage tank. System return pipe is a dedicated return pipe or a cold water supply pipe.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C408.1.1 [F157]	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C408.2.1 [F128]	Commissioning plan developed by registered design professional or approved agency.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C408.2.3 [F131]	HVAC equipment has been tested to ensure proper operation.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C408.2.3.2 [F110]	HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C408.2.3.3 [F152]	Economizers have been tested to ensure proper operation.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C408.2.4 [F129]	Preliminary commissioning report completed and certified by registered design professional or approved agency.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C408.2.5.1 [F17]	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C408.2.5.3 [F143]	An air and/or hydronic system balancing report is provided for HVAC systems.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C408.2.5.4 [F130]	Final commissioning report due to building owner within 90 days of receipt of certificate of occupancy.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Brakes Plus Report date: 09/25/24  
Data filename: G:\241412 - Brakes Plus - ADA, OK - Norm Herman-LL.GUH(Engrfile)\Mech calcs\BRAKES - ADA OK.cck Page 11 of 12

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C303.3, C408.2.5.3 [F18]	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.2.2 [F127]	HVAC systems and equipment capacity does not exceed calculated loads.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.2.4.1 [F147]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.2.4.2 [F147]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.4.1.2 [F138]	Thermostatic controls have a 5 °F deadband.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.2.4.1.3 [F120]	Temperature controls have setpoint overlap restrictions.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.2.4.2 [F139]	Each zone equipped with setback controls using automatic time clock or programmable control system.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.2.4.2.1, C403.2.4.2.2 [F140]	Automatic Controls: Setback to 55°F (heat) and 85°F (cool), 7-day clock, 2-hour occupant override, 10-hour backup.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.2.4.2.3 [F141]	Systems include optimum start controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.2.4.2.3 [F141]	Systems include optimum start controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C404.3 [F111]	Heat traps installed on supply and discharge piping of non-circulating systems.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C404.4 [F123]	All piping insulated in accordance with section details and Table C403.11.3.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Brakes Plus Report date: 09/25/24  
Data filename: G:\241412 - Brakes Plus - ADA, OK - Norm Herman-LL.GUH(Engrfile)\Mech calcs\BRAKES - ADA OK.cck Page 10 of 12

Project Title: Brakes Plus Report date: 09/25/24  
Data filename: G:\241412 - Brakes Plus - ADA, OK - Norm Herman-LL.GUH(Engrfile)\Mech calcs\BRAKES - ADA OK.cck Page 12 of 12

**BRAKES PLUS**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	08/06/24	FOR BLDG. DEPT. SUBMITAL
	08/06/24	COMMENTS

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

DATE OF ISSUE: 09/25/24



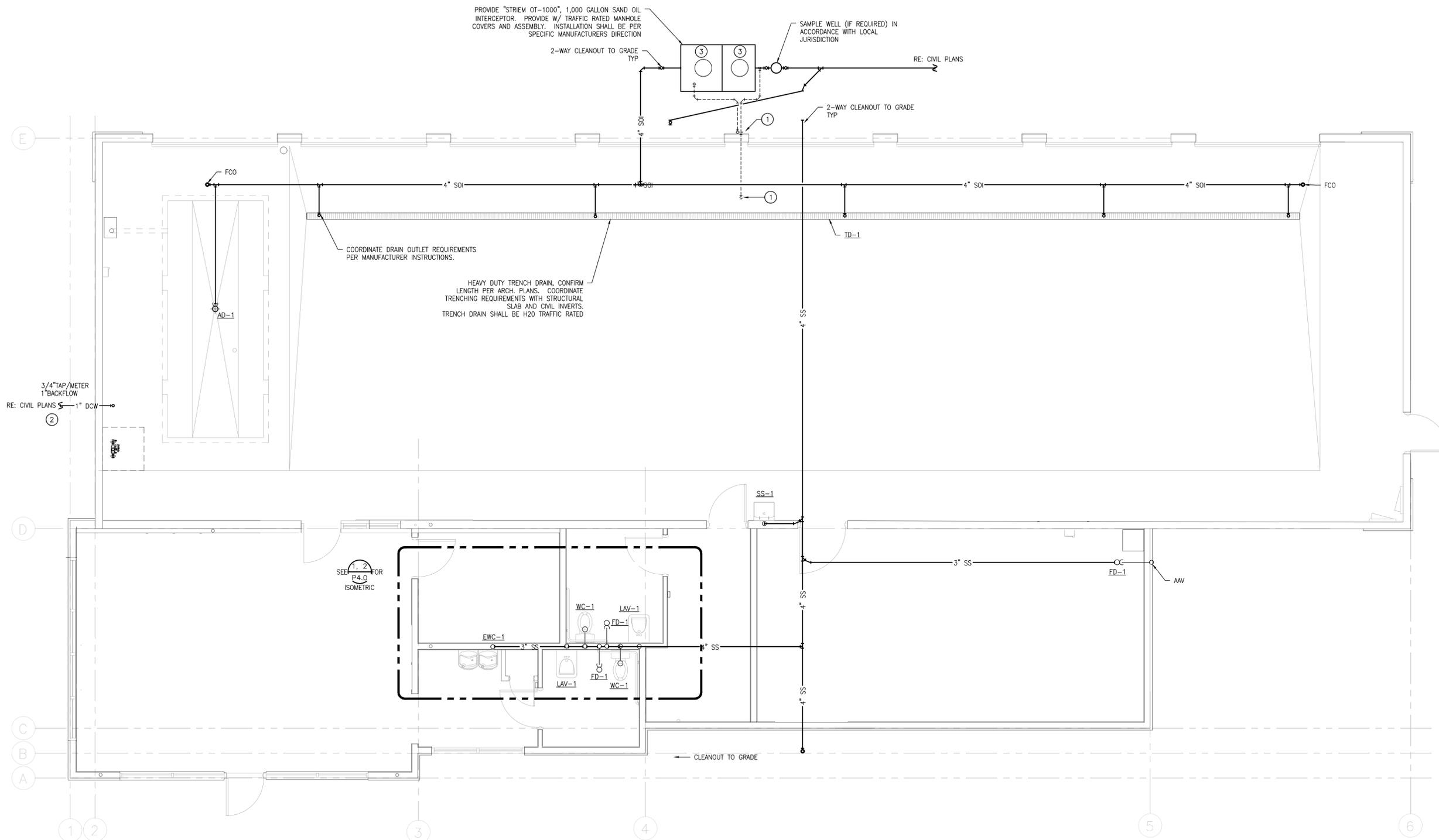
45 SPYGLASS DRIVE  
LITTLETON, CO 80123  
VOICE: 303.881.8925

A SHEET

PROJ #241412  
**ADAM A. POWELL, P.E.**  
PEC Enterprises, Inc.  
14412 Alene Ct. NE  
Albuquerque, NM 87123  
Telephone 720-409-2454

**M3.1**  
MECHANICAL COMCHECK





PROVIDE "STRIEM OT-1000", 1,000 GALLON SAND OIL INTERCEPTOR. PROVIDE W/ TRAFFIC RATED MANHOLE COVERS AND ASSEMBLY. INSTALLATION SHALL BE PER SPECIFIC MANUFACTURERS DIRECTION

COORDINATE DRAIN OUTLET REQUIREMENTS PER MANUFACTURER INSTRUCTIONS.

HEAVY DUTY TRENCH DRAIN, CONFIRM LENGTH PER ARCH. PLANS. COORDINATE TRENCHING REQUIREMENTS WITH STRUCTURAL SLAB AND CIVIL INVERTS. TRENCH DRAIN SHALL BE H2O TRAFFIC RATED

3/4" TAP/METER 1" BACKFLOW  
RE: CIVIL PLANS 1" DCW

SEC 1, 2 FOR P4.0 ISOMETRIC

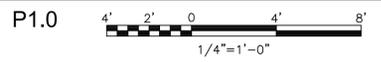
**GENERAL NOTES:**

- BUILDING SEWERS SHALL BE PROVIDED WITH CLEANOUTS LOCATED NOT MORE THAT 100'-0" APART, IPC SECTION 708.3.2
- CLEANOUTS SHALL BE INSTALLED AT EACH CHANGE OF DIRECTION GREATER THAN 45 DEGREES FOR BUILDING SEWER. FOR BUILDING DRAINS WHERE MORE THAN ONE CHANGE OF DIRECTION OCCURS IN A RUN OF PIPING, ONLY ONE CLEANOUT SHALL BE REQUIRED FOR EACH 40 FEET OF DEVELOPED LENGTH OF THE DRAINAGE PIPING, IPC SECTION 708.3.3
- REFER AND COORDINATE W/ CIVIL PLANS FOR SANITARY, GAS AND WATER EXIT/ENTRY LOCATIONS.
- PROVIDE TRAP PRIMERS ON ALL FLOOR DRAINS, RE: DETAIL ON SHEET ###

**DRAWING NOTES:**

- (2), 2" VENT UP THROUGH SLAB, COMBINE INTO (1) 3" V, ROUTE AS INDICATED. TERMINATE 3" V TO 3" VTR.
- 1" DOMESTIC WATER TAP/METER ON SITE UPSIZE TO A 1" DCW AFTER METER, TO A 1" BACKFLOW IN BUILDING. COORDINATE PER CIVIL PLANS.
- H2O TRAFFIC RATED MANHOLE ASSEMBLY, ACCESS COVERS, MANHOLE RING EXTENTIONS AS REQUIRED FOR DEPTH OF INTERCEPTOR.

**1 UNDERGROUND PLUMBING PLAN**



**BRAKES PLUS**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	08/06/24	FOR BLDG. DEPT. SUBMITAL
	08/06/24	COMMENTS

ARCDEV JOB #:  
CLIENT JOB #:  
DRAWN BY: JRG  
CHECKED BY: LRP  
DATE OF ISSUE: 08/23/24

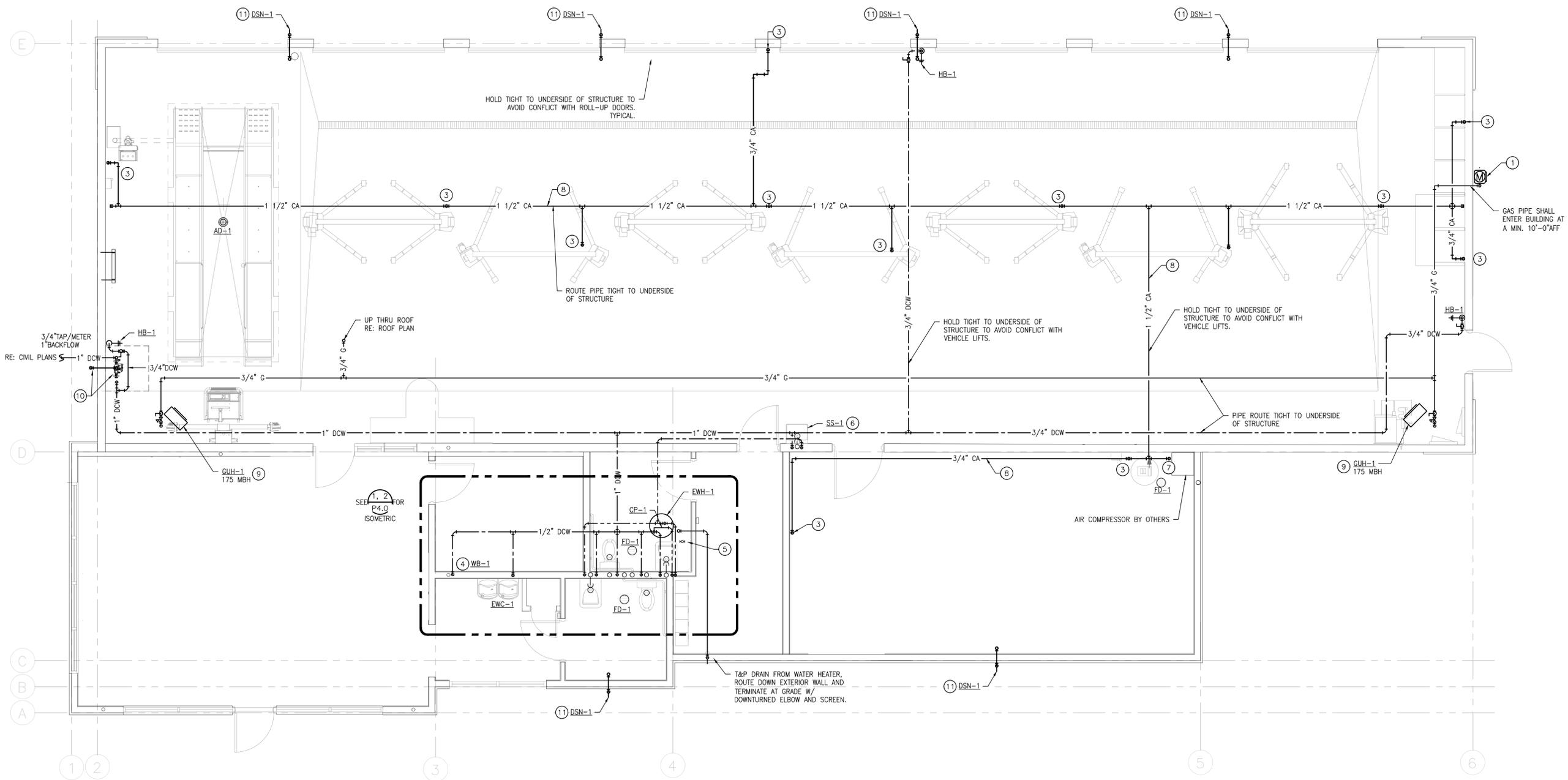


45 SPYGLASS DRIVE  
LITTLETON, CO 80123  
VOICE: 303.881.8925

SHEET

PROJ #241412  
**ADAM A. POWELL, P.E.**  
PEC Enterprises, Inc.  
14412 Alene Ct. NE  
Albuquerque, NM 87123  
Telephone 720-409-2454

**P1.0**  
UNDERGROUND PLUMBING PLAN



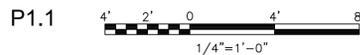
**DRAWING NOTES:**

- ① GAS METER: SIZING BASED ON 175'-0" AT 2 PSI GAS PRESSURE. TOTAL CONNECTED GAS LOAD = 480 MBH. CONFIRM GAS PRESSURE WITH LOCAL GAS COMPANY SERVICE.
- ② 3/4" G UP THRU ROOF FOR RTU-1, 130 MBH
- ③ 3/4" CA DROP, TERMINATE PER DETAIL. CONFIRM HEIGHT REQUIREMENT WITH EQUIPMENT SERVED. CONTRACTOR TO VERIFY SIZE IS ADEQUATE FOR EQUIPMENT USE.
- ④ 1/2" DCW DN IN WALL TO RECESSED WALL OUTLET VALVE BOX, PROVIDE W/ INLINE BACKFLOW PREVENTER. ROUGH-IN FOR COFFEE MAKER.
- ⑤ 3" V UP TO 3" VTR.
- ⑥ 3/4" DCW/DHW DN AT WALL, OFFSET 1/2" DCW/DHW TO FAUCET AND 1/2" DCW/DHW TO FOOT PEDALS.
- ⑦ COMPRESSED AIR MAIN FROM COMPRESSOR OUTLET. INSTALL PER MANUFACTURERS INSTRUCTIONS. PROVIDE ONE DISCONNECT AT AIR COMPRESSOR.
- ⑧ SLOPE COMPRESSED AIR DOWN IN DIRECTION OF SLOPE AT 1/8" PER FOOT, TYPICAL.
- ⑨ TERMINATE W/ SHUT-OFF VALVE, PRV AND DIRT LEG. PRV SHALL BE CAPABLE OF REDUCING FROM 2 PSI GAS TO 6" W.C. AT MBH AS INDICATED. PROVIDE VENTLESS REGULATOR IS LOCAL AHJ ALLOWS. IF NOT, VENT SHALL EXIT TO ATMOSPHERE, FULL SIZE.
- ⑩ 1" LEADFREE DOMESTIC WATER BACKFLOW DEVICE, FEBCO LF825Y OR EQUAL. RELIEF DRAIN PIPING FROM AIR GAP FITTING TO TERMINATE OUTDOORS. DISCHARGE MIN 6" AFG, TURN DOWN TO FINISHED GRADE. TERMINATION SHALL INCLUDE STAINLESS STEEL INSECT SCREEN.
- ⑪ 3" RD/ORD FROM ABOVE TO NEAREST PILASTER AND DOWN. EXTEND TO EXTERIOR WALL, TERMINATE W/ DSN-1 AT MIN 12" AFG.

**GENERAL NOTES:**

- 1. PROVIDE TRAP PRIMERS ON ALL FLOOR DRAINS, RE: DETAIL ON SHEET P3.1
- 2. PAINT ALL EXPOSED GAS PIPING TO MATCH, PER ARCH. PLANS.

**1 PLUMBING PLAN**



**BRAKES PLUS**

1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	08/06/24	FOR BLDG. DEPT. SUBMITTAL
	08/06/24	COMMENTS

ARC CODEV JOB #:  
CLIENT JOB #:  
DRAWN BY: JRG  
CHECKED BY: LRP  
DATE OF ISSUE: 08/23/24

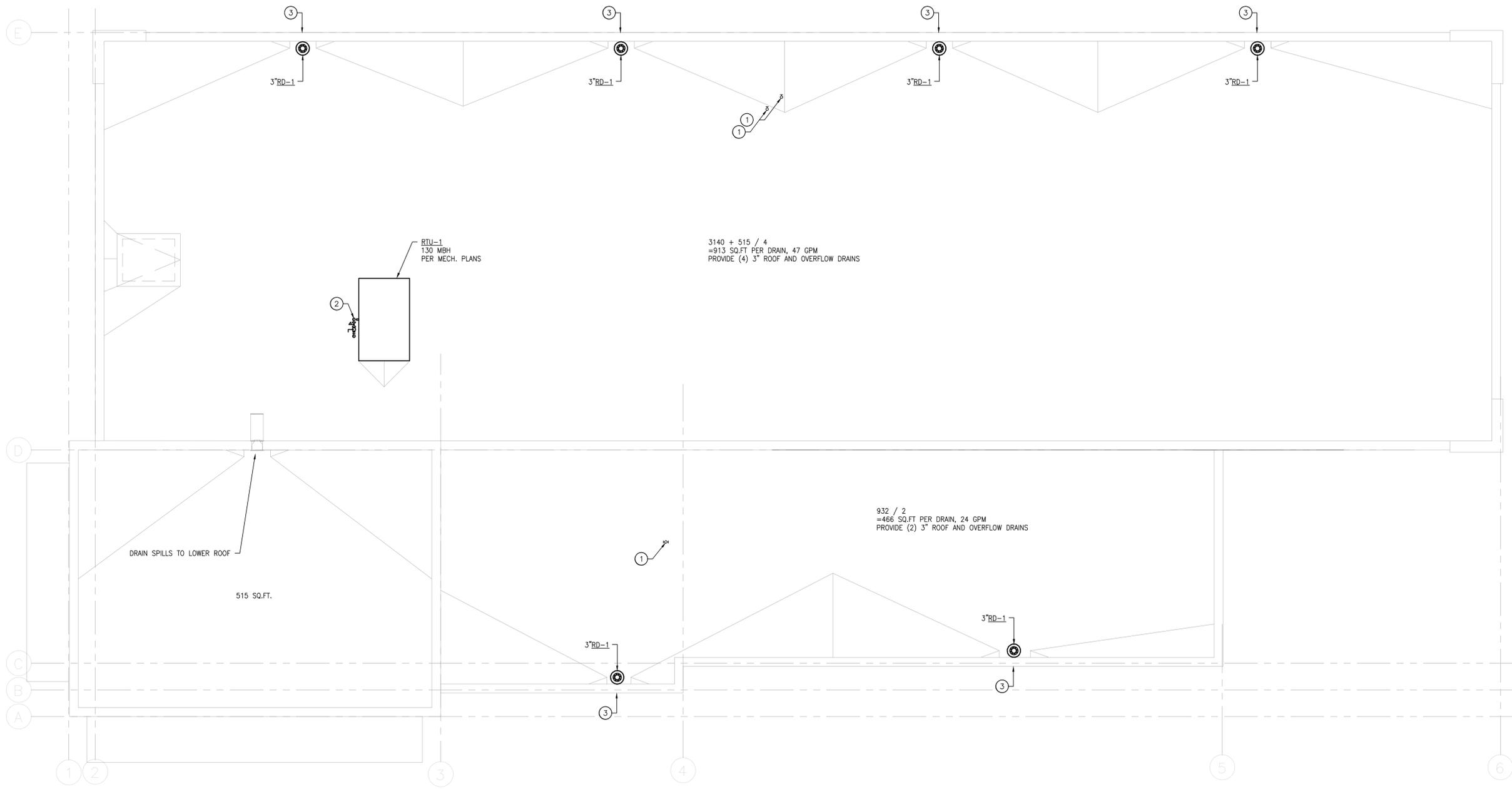


45 SPYGLASS DRIVE  
LITTLETON, CO 80123  
VOICE: 303.881.8925

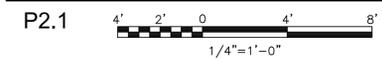
A SHEET

PROJ #241412  
**ADAM A. POWELL, P.E.**  
PEC Enterprises, Inc.  
14412 Alene Ct. NE  
Albuquerque, NM 87123  
Telephone 720-409-2454

**P1.1**  
PLUMBING PLAN



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.

**BRAKES PLUS**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	08/06/24	FOR BLDG. DEPT. SUBMITTAL
	08/06/24	COMMENTS

ARCODEV JOB #:  
CLIENT JOB #:  
DRAWN BY: JRG  
CHECKED BY: LRP  
DATE OF ISSUE: 08/23/24

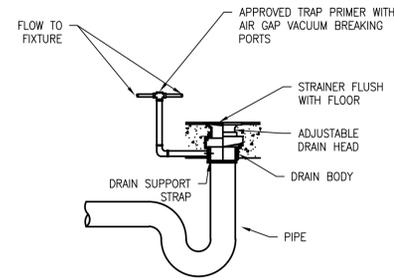


45 SPYGLASS DRIVE  
LITTLETON, CO 80123  
VOICE: 303.881.8925

SHEET

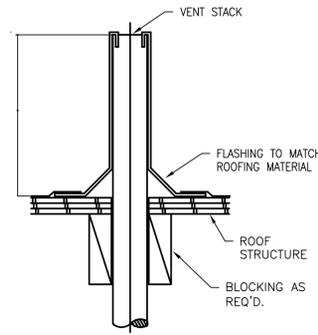
PROJ #241412  
**ADAM A. POWELL, P.E.**  
PEC Enterprises, Inc.  
14412 Alene Ct. NE  
Albuquerque, NM 87123  
Telephone 720-409-2454

**P2.1**  
PLUMBING ROOF PLAN



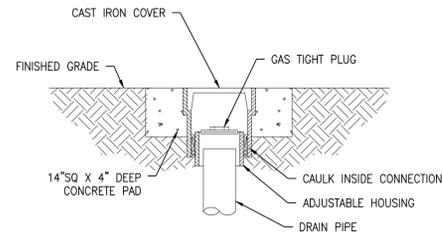
**FLOOR DRAIN W/  
TRAP PRIMER DETAIL**

NOT TO SCALE



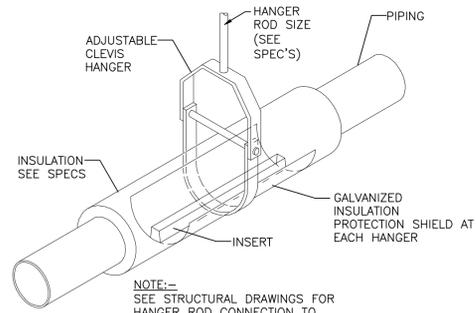
**PIPE THRU ROOF DETAIL**

NOT TO SCALE



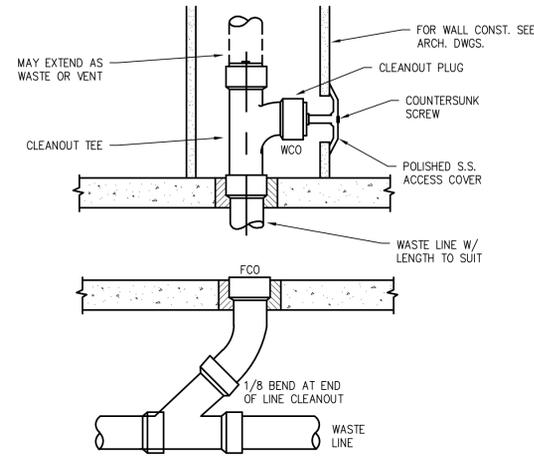
**OUTSIDE CLEANOUT TO GRADE**

NOT TO SCALE



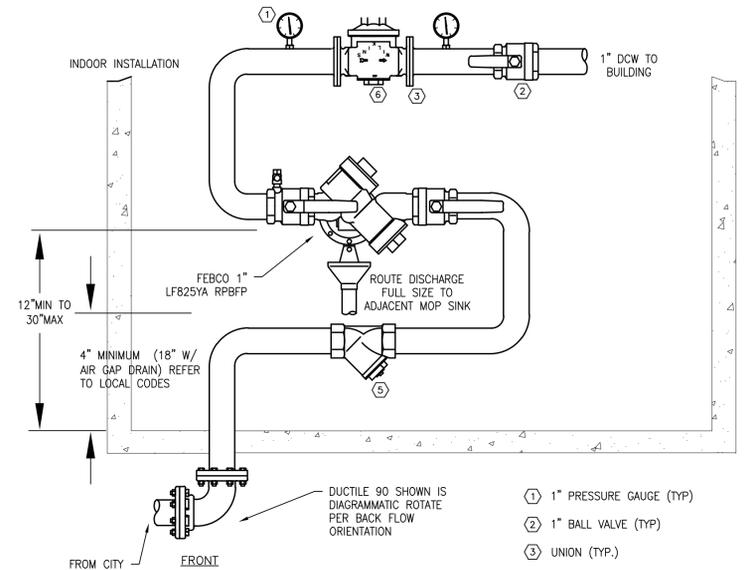
**PIPE HANGER AND INSULATION DETAIL**

NOT TO SCALE



**CLEANOUT DETAILS**

NOT TO SCALE

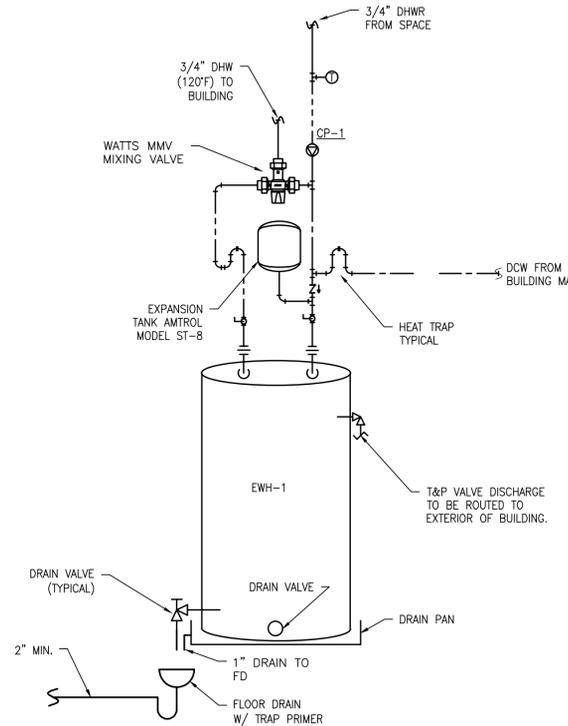


**DOMESTIC WATER ENTRY  
BACKFLOW DETAIL**

NOT TO SCALE

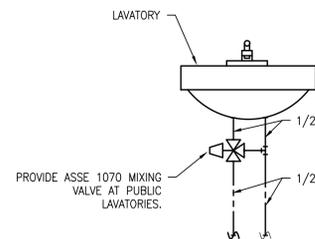
- ① 1" PRESSURE GAUGE (TYP)
- ② 1" BALL VALVE (TYP)
- ③ UNION (TYP.)
- ④ 1" BYPASS NORMALLY CLOSED.
- ⑤ 1" STRAINER.
- ⑥ 1" PRESSURE REDUCING VALVE (WILKINS 500 SERIES)

BACKFLOW PREVENTOR IN ACCORDANCE TO LOCAL CODES AND JURISDICTIONS.



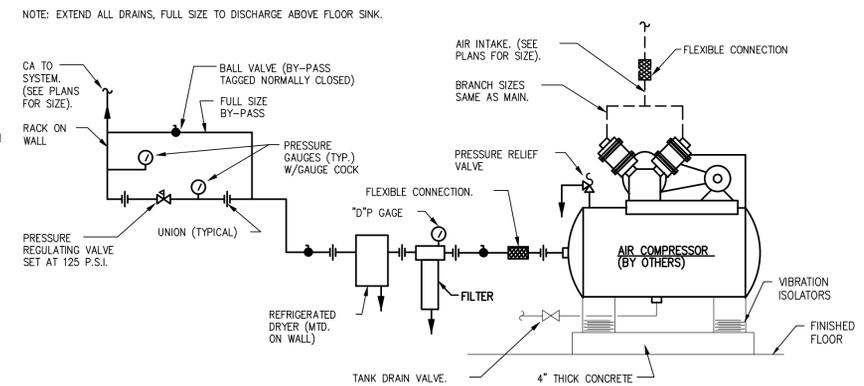
**ELECTRIC WATER HEATER DETAIL**

NOT TO SCALE



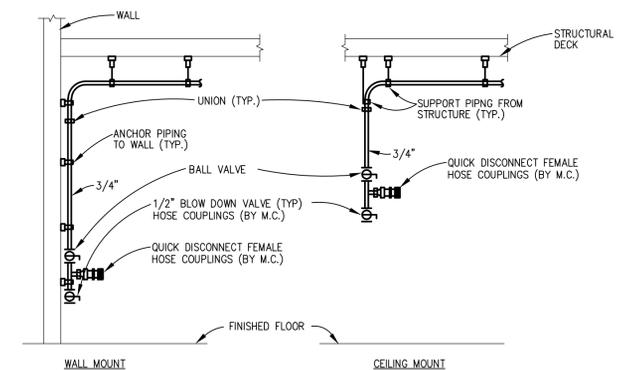
**THERMOSTATIC MIXING VALVE DETAIL**

NOT TO SCALE



**AIR COMPRESSOR PIPING DETAIL**

NOT TO SCALE



**COMPRESSED AIR CONNECTION DETAILS**

NOT TO SCALE

**BRAKES PLUS**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	08/06/24	FOR BLDG. DEPT. SUBMITTAL
	08/06/24	COMMENTS

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

DATE OF ISSUE: 08/25/24

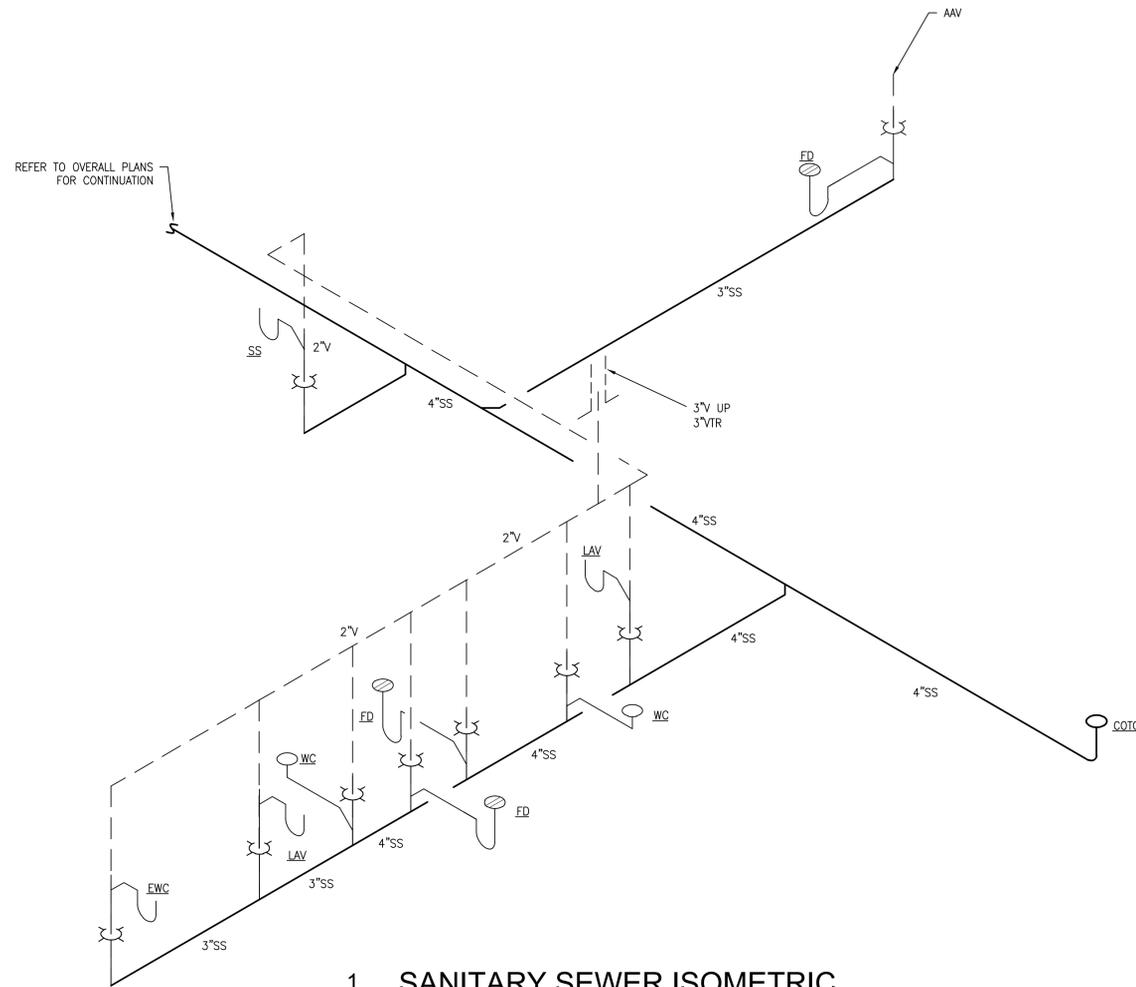


45 SPYGLASS DRIVE  
LITTLETON, CO 80123  
VOICE: 303.881.8925

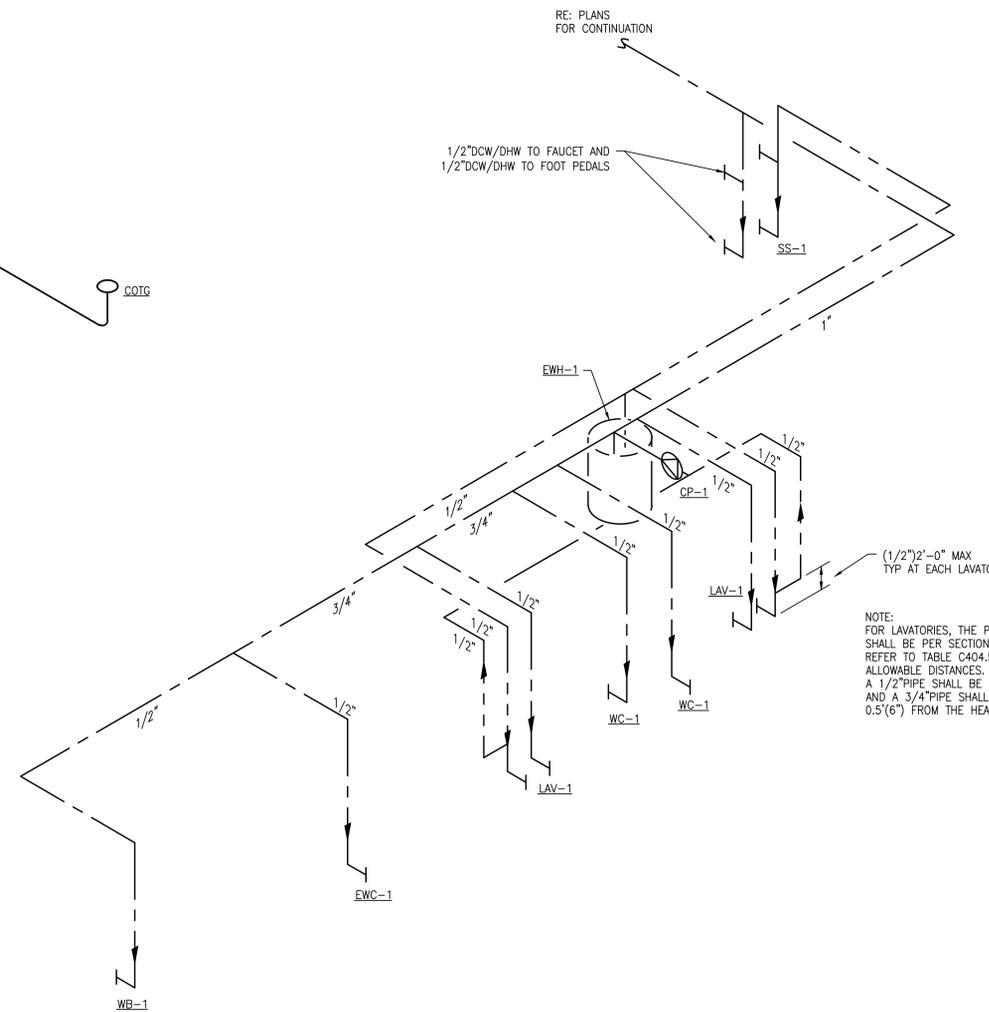
A SHEET

PROJ #241412  
**ADAM A. POWELL, P.E.**  
PEC Enterprises, Inc.  
14412 Alene Ct. NE  
Albuquerque, NM 87123  
Telephone 720-409-2454

**P3.1**  
PLUMBING DETAILS



**1 SANITARY SEWER ISOMETRIC**  
P4.0 N.T.S.



**2 DOMESTIC HOT WATER PIPING DIAGRAM**  
P4.0 N.T.S.

**BRAKES PLUS**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	08/06/24	FOR BLDG. DEPT. SUBMITTAL
	08/06/24	COMMENTS

ARCDEV JOB #:  
CLIENT JOB #:  
DRAWN BY: JRG  
CHECKED BY: LRP  
DATE OF ISSUE: 08/06/24



45 SPYGLASS DRIVE  
LITTLETON, CO 80123  
VOICE: 303.881.8925

SHEET

**P4.0**

PLUMBING ISOMETRICS

PROJ #241412  
**ADAM A. POWELL, P.E.**  
PEC Enterprises, Inc.  
14412 Alene Ct. NE  
Albuquerque, NM 87123  
Telephone 720-409-2454

## 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
					8-6-24	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.

PROJ #24----

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

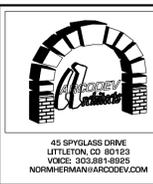
**BRAKES PLUS**  
 1201 LONNIE ABBOTT BLVD.  
 ADA, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	08.06.24	FOR BLDG. DEPT. SUBMITTAL

ARCDEV JOB #: \_\_\_\_\_  
 CLIENT JOB #: \_\_\_\_\_  
 DRAWN BY: **SB**  
 CHECKED BY: **LRP**  
 DATE OF ISSUE: **08.06.24**

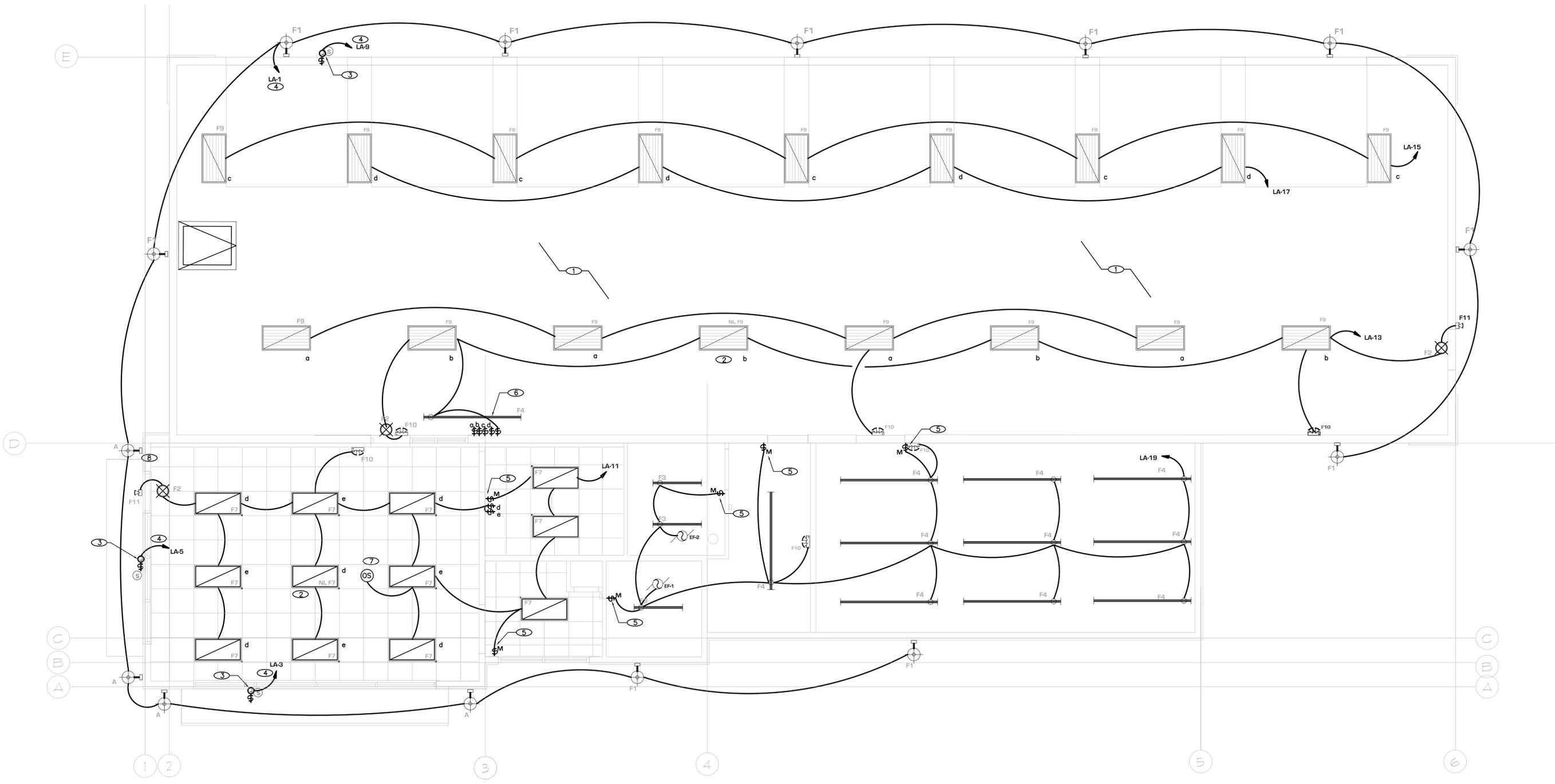


SHEET

E0.1

ELECTRICAL  
COVER SHEET





**LIGHTING GENERAL NOTES**

1. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR LUMINAIRE LOCATIONS.
2. COORDINATE LUMINAIRE LOCATION WITH MECHANICAL PIPING, DUCTWORK, ETC. TO AVOID CONFLICTS.
3. ALL CONDUIT SHALL BE INSTALLED CONCEALED IN FINISHED AREAS UNLESS OTHERWISE NOTED.
4. EACH MULTI-WIRE BRANCH CIRCUIT SHALL BE PROVIDED WITH A SEPARATE NEUTRAL FOR EACH BRANCH CIRCUIT.
5. CONNECT EXTERIOR LUMINAIRES WITH MINIMUM #10 AWG CONDUCTOR.
6. FUNCTIONAL TESTING OF THE LIGHTING SYSTEM SHALL COMPLY WITH SECTION C408.3.1 OF THE 2018 IECC.

**LIGHTING DETAIL NOTES**

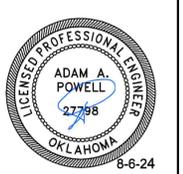
- 1 MOUNT TYPE 'F9' LUMINAIRES LOCATED IN GARAGE AREA CHAIN HUNG FROM STRUCTURE AT 12'-0" A.F.F. MOUNT TYPE 'F9' LUMINAIRES LOCATED BETWEEN OVERHEAD DOORS AT 2" BELOW OVERHEAD GRILLE GUIDES.
- 2 NIGHT LIGHT UNSWITCHED FIXTURE. CONNECT AHEAD OF LOCAL SWITCHING OR LIGHT CONTROLS.
- 3 JUNCTION BOX / DISCONNECTING MEANS FOR CONNECTION TO OWNER PROVIDED ILLUMINATED BUILDING SIGNAGE. COORDINATE EXACT LOCATION WITH SIGN CONTRACTOR PRIOR TO ROUGH-IN.
- 4 LUMINAIRE OR SIGN BRANCH CIRCUIT CONTROLLED THROUGH PHOTOCELL ON/TIMECLOCK OFF.
- 5 PROVIDED OCCUPANCY SENSOR ON/OFF SWITCH FOR CONTROL OF LIGHTING WITHIN THIS ROOM. SWITCH TO BE MANUFACTURED BY WATT STOPPER #LMPW-100.
- 6 CENTER FIXTURE OVER SERVICE MANAGER'S DESK.

- 7 DASHED LINE INDICATES DAYLIGHT ZONE.
- 8 CIRCUIT SWITCHED VIA DAYLIGHT PHOTOCELL SENSORS (DAYLIGHT RESPONSIVE CONTROLS) CONFIGURED TO COMPLETELY SHUT OFF ALL CONTROLLED LIGHT FIXTURES, IN ACCORDANCE WITH SECTION C405.2.3 OF THE 2018 IECC.
- 9 PROVIDED BI-LEVEL SWITCHING LIGHT-REDUCTION CONTROLS, IN ACCORDANCE WITH SECTION C405.2.3.1 OF THE 2018 IECC.

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

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

**BRAKES PLUS**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



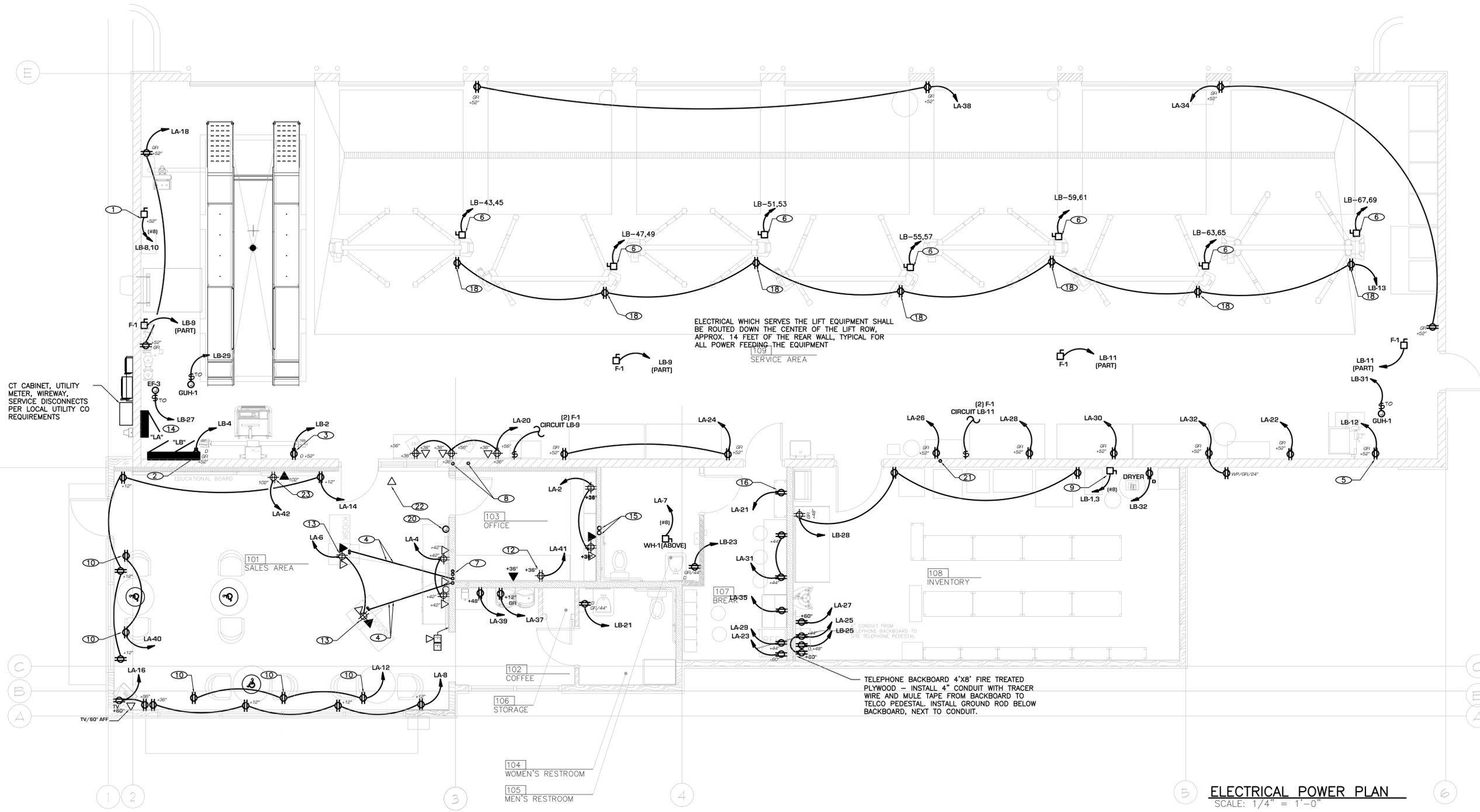
ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	08.06.24	FOR BLDG. DEPT. SUBMITTAL

ARC CODEV JOB #:  
CLIENT JOB #:  
DRAWN BY: LRP  
CHECKED BY: LRP  
DATE OF ISSUE: 08.06.24



SHEET  
**E1.1**  
ELECTRICAL LIGHTING PLAN



ELECTRICAL WHICH SERVES THE LIFT EQUIPMENT SHALL BE ROUTED DOWN THE CENTER OF THE LIFT ROW APPROX. 14 FEET OF THE REAR WALL, TYPICAL FOR ALL POWER FEEDING THE EQUIPMENT

TELEPHONE BACKBOARD 4'X8' FIRE TREATED PLYWOOD - INSTALL 4" CONDUIT WITH TRACER WIRE AND MULE TAPE FROM BACKBOARD TO TELCO PEDESTAL. INSTALL GROUND ROD BELOW BACKBOARD, NEXT TO CONDUIT.

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

**POWER GENERAL NOTES**

- REFER TO ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHT AND/OR LOCATION OF DEVICES PRIOR TO ROUGH-IN.
- COORDINATE REQUIREMENTS AND LOCATIONS OF MECHANICAL EQUIPMENT WITH MECHANICAL DRAWINGS AND MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
- MAKE ALL FINAL ELECTRICAL CONNECTIONS TO EQUIPMENT.
- ALL CONDUIT SHALL BE INSTALLED CONCEALED IN FINISHED AREAS UNLESS OTHERWISE NOTED.
- EACH MULTIWIRE BRANCH CIRCUIT SHALL BE PROVIDED WITH A SEPARATE NEUTRAL FOR EACH BRANCH CIRCUIT.
- COORDINATE REQUIREMENTS AND LOCATIONS OF OWNER SUPPLIED EQUIPMENT WITH OWNER AND EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.
- PROVIDE GFCI PROTECTION FOR ALL 125V, 15-20A RECEPTACLES INSTALLED IN THE SERVICE BAY AREAS WHERE DIAGNOSTIC EQUIPMENT, POWER TOOLS, OR LIGHTING EQUIPMENT IS USED PER N.E.C. ARTICLE 511.12.

**8. ELECTRICAL 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.

**POWER DETAIL NOTES**

- ALIGNMENT RACK. PROVIDE 40A/2P DISCONNECT SWITCH AS REQUIRED FOR CONNECTION TO EQUIPMENT. CONNECT TO BRANCH BREAKER AS INDICATED VIA 2#8, 1#10G - 1" C.
- ALIGNMENT MACHINE. PROVIDE 20 AMP, 120 VOLT GFI DUPLEX RECEPTACLE AS REQUIRED FOR CONNECTION TO EQUIPMENT. CONNECT TO BRANCH BREAKER AS INDICATED VIA 2#12, 1#12G - 1/2" C.
- ALIGNMENT SENSORS. PROVIDE 20 AMP, 120 VOLT GFI DUPLEX RECEPTACLE AS REQUIRED FOR CONNECTION TO EQUIPMENT. CONNECT TO BRANCH BREAKER AS INDICATED VIA 2#12, 1#12G - 1/2" C.
- PROVIDE (2) 1" ELECTRICAL CONDUITS FROM JUST ABOVE CEILING, THROUGH THE WALL, AND UNDER FLOOR SLAB TO EACH KIOSK. CONDUIT #1 (FOR POWER) SHALL BE 7"-0" FROM REAR WALL AND 2"-6" FROM CENTERLINE OF FRONT DOOR. CONDUIT #2 (FOR DATA) WILL BE JUST TO THE OUTSIDE OF CONDUIT #1 AND SLIGHTLY BACK TO ALLOW FOR ANGLE MOUNTING OF KIOSK.
- BRAKE LATHE. PROVIDE 20 AMP, 120 VOLT GFI DUPLEX RECEPTACLE AS REQUIRED FOR CONNECTION TO EQUIPMENT. CONNECT TO BRANCH BREAKER AS INDICATED VIA 2#12, 1#12G - 1/2" C.
- PROVIDE POWER FOR LIFTS, 208V, 1PH, 25A CIRCUIT, 17FLA. VERIFY EXACT LOCATION AND REQUIREMENTS PRIOR TO ROUGH-IN AND INSTALLATION.
- PROVIDE TWO 1" EMPTY CONDUITS WITH PULL STRINGS FROM THE PRINTER DESK WALL BOX TO THE CEILING PLENUM.
- PROVIDE TWO 1" EMPTY CONDUITS WITH PULL STRINGS AT THE SERVICE MANAGER'S DESK FROM THE WALL BOX UP TO THE CEILING PLENUM.
- AIR COMPRESSOR. PROVIDE (1) 60A/2P DISCONNECT SWITCH AS REQUIRED FOR CONNECTION TO EACH MOTOR. CONNECT TO BRANCH BREAKER AS INDICATED VIA 2#8, 1#10G - 3/4" C.
- PROVIDE FLUSH MOUNTED DUPLEX RECEPTACLE LOCATED IN CEILING FOR SHOW WINDOW RECEPTACLES.
- INTERLOCK EF-3 WITH LV-1
- PROVIDE FOUR-PLEX RECEPTACLE FOR CONNECTION TO OWNER SUPPLIED COMPUTER SERVER. COORDINATE LOCATION AND MOUNTING HEIGHT WITH OWNER PRIOR TO ROUGH-IN.
- COORDINATE LOCATION OF DUPLEX RECEPTACLE AND DATA OUTLET IN MILLWORK PRIOR TO ROUGH-IN.
- MAINTAIN NEC REQUIRED CLEARANCES AT PANELS.
- PROVIDE 1" EMPTY CONDUIT WITH PULL STRING IN MANAGER'S OFFICE AT EACH WORK STATION FROM THE WALL BOX TO THE CEILING PLENUM.
- PROVIDE DUPLEX RECEPTACLE FOR CONNECTION TO IRRIGATION CONTROLLER. COORDINATE EXACT LOCATION WITH LANDSCAPE CONTRACTOR.
- WEATHERPROOF RECEPTACLE PROVIDED WITH ROOF TOP UNIT, E.C. TO INSTALL.
- GFI DUPLEX RECEPTACLE PROVIDED WITH LIFT. CONNECT 120 VOLT RECEPTACLE TO BRANCH CIRCUIT SERVING LIFT.
- PROVIDE 1" EMPTY CONDUIT WITH PULL STRING FROM COMPUTER STATION LOCATION WALL BOX TO THE CEILING PLENUM.
- ALARM PAD - PROVIDE 3/4" EMPTY CONDUIT STUBBED ABOVE CEILING. VERIFY EXACT LOCATION AND REQUIREMENTS PRIOR TO ROUGH-IN AND INSTALLATION.
- PROVIDE 1" EMPTY CONDUIT WITH PULL STRING FROM TECH PERSON COMPUTER LOCATION WALL BOX TO THE CEILING PLENUM.
- DATA OUTLET ABOVE CEILING FOR WIRELESS ROUTER. VERIFY EXACT LOCATION AND REQUIREMENTS PRIOR TO ROUGH-IN AND INSTALLATION.
- DUPLEX RECEPTACLE AND DATA OUTLET FOR MENU TV. VERIFY EXACT LOCATION AND REQUIREMENTS PRIOR TO ROUGH-IN AND INSTALLATION.

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

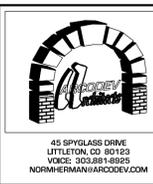
**BRAKES PLUS**  
1201 LONNIE ABBOTT BLVD.  
ADA, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	08.06.24	FOR BLDG. DEPT. SUBMITTAL

ARC CODEV JOB #:  
CLIENT JOB #:  
DRAWN BY: SB  
CHECKED BY: LRP  
DATE OF ISSUE: 08.06.24



SHEET

PROJ #24-  
**E2.1**  
ELECTRICAL POWER PLAN



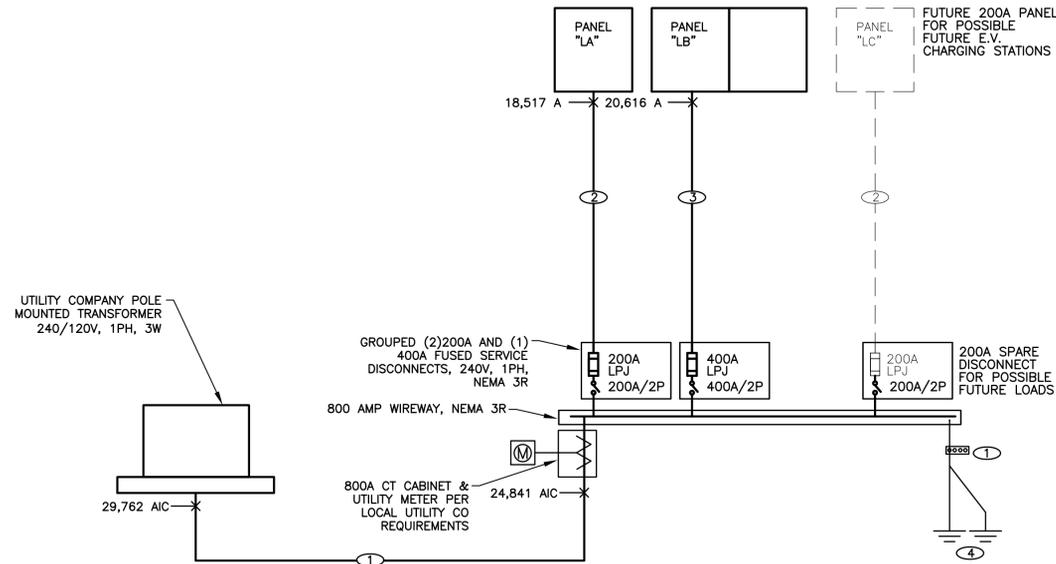
MECHANICAL EQUIPMENT SCHEDULE

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-WI-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	9.6 @ 125%	=	12.0 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		=	93.6 kVA (390 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)  
 $f = 2.0 \times 100 \times 29,762 = 0.198$   
 $3 \times 20,888 \times 240$   
 FIND FACTOR M =  $\frac{1}{1+f}$  M = 0.8347  
 SHORT CIRCUIT CURRENT AT CT/MAIN = M x AVAILABLE S.C. CURRENT  
 I = 24,841 A.  
 LENGTH IN FEET = 20, FACTOR f = 0.342, f = 2.0 x 20 x 24,841 = 0.342  
 FACTOR M = 0.7454, 1 x 12,122 x 240  
 SHORT CIRCUIT CURRENT AT PANEL "LA" = 18,517 A.  
 LENGTH IN FEET = 24, FACTOR f = 0.205, f = 2.0 x 24 x 24,841 = 0.205  
 FACTOR M = 0.83, 2 x 12,122 x 240  
 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 200A UNLESS NOTED OTHERWISE	
TYPE	PANELBOARD	LIGHT	7.9 kVA @ 125% = 9.8 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	1.10	SPARE
SALES, COFFEE, OFFICE LIGHTING	528	11.7	1.12	1800 SHOW WINDOW RECEIPTS
SERVICE AREA LIGHTING	1144	13.7	1.14	360 SALES AREA RECEIPTS
SERVICE AREA LIGHTING	660	15.7	1.16	500 TELEVISION
SERVICE AREA LIGHTING	528	17.7	1.18	360 SERVICE AREA RECEIPTS
INVENTORY, BREAK, RESTROOM LTG	1012	19.7	1.20	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	500 SERVICE AREA RECEIPTS
REFRIGERATOR	1200	35.7	1.36	SPARE
RECEIPT - 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 200A UNLESS NOTED OTHERWISE	
TYPE	PANELBOARD 2-SECTION	LIGHT	1.7 kVA @ 125% = 2.1 kVA
LUG LOC.	TOP	RECEPT	12.4 kVA @ 100% = 12.4 kVA
AMPS	400A MLO	MECH.	kVA @ 100% = kVA
VOLTAGE	120/240V, 1ph, 3W	25% LARGEST MOTOR	kVA
MOUNTING	SURFACE	SPECIAL	44.4 kVA @ 100% = 44.4 kVA
BRACING	22,000 A.I.C.	SPARE	kVA
		TOTAL	66.9 kVA (279A)

AIR COMPRESSOR	3360	1	1.2	1800 ALIGNMENT SENSORS
SPARE	3360	3	1.4	1800 ALIGNMENT MACHINE
SPARE		5	1.6	SPARE
SPARE		7	1.8	3120 ALIGNMENT RACK
AIR CIRCULATION FANS	1392	9	1.10	3120
AIR CIRCULATION FANS	1392	11.7	1.12	1800 BRAKE LATHE
SHOP EQUIPMENT RECEIPTS	1440	13.7	1.14	SPARE
SPARE		15.7	1.16	SPARE
ROOF RECEIPT	180	17.7	1.18	3755 RTU-1
RECEIPT - RESTROOM	180	19.7	1.20	3755
RECEIPT - RESTROOM	180	21.7	1.22	SPARE
RECEIPT - INVENTORY	180	23.7	1.24	453 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		31.7	1.32	1000
SPARE		33.7	1.34	SPARE
SPARE		35.7	1.36	SPARE
SPARE		37.7	1.38	SPARE
SPARE		39.7	1.40	SPARE
SPARE		41.7	1.42	SPARE
SECTION TWO				
LIFT	2040	43.7	1.44	SPACE
---	2040	45.7	1.46	SPACE
LIFT	2040	47.7	1.48	SPACE
---	2040	49.7	1.50	SPACE
LIFT	2040	51.7	1.52	SPACE
---	2040	53.7	1.54	SPACE
LIFT	2040	55.7	1.56	SPACE
---	2040	57.7	1.58	SPACE
LIFT	2040	59.7	1.60	SPACE
---	2040	61.7	1.62	SPACE
LIFT	2040	63.7	1.64	SPACE
---	2040	65.7	1.66	SPACE
LIFT	2040	67.7	1.68	SPACE
---	2040	69.7	1.70	SPACE
SPACE		71.7	1.72	SPACE
SPACE		73.7	1.74	SPACE
SPACE		75.7	1.76	SPACE
SPACE		77.7	1.78	SPACE
SPACE		79.7	1.80	SPACE
SPACE		81.7	1.82	SPACE
SPACE		83.7	1.84	SPACE
A phase =	9120 VA	B phase =	33,670 VA	Total = 64,871 VA

BRAKES PLUS  
 1201 LONNIE ABBOTT BLVD.  
 ADA, OKLAHOMA



ARCHITECT OF RECORD

REVISION	DATE	COMMENTS
	08.06.24	FOR BLDG. DEPT. SUBMITTAL

ARC CODEV JOB #:  
 CLIENT JOB #:  
 DRAWN BY: SB  
 CHECKED BY: LRP  
 DATE OF ISSUE: 08.06.24



SHEET

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

E4.1

ELECTRICAL ONE LINE DIAGRAM

**COMcheck Software Version 4.1.5.5**  
**Interior Lighting Compliance Certificate**

**Project Information**  
 Energy Code: 2018 IECC  
 Project Title: Brakes Plus  
 Project Type: New Construction

Construction Site: 1201 Lonnie Abbott Blvd Ada, OK  
 Owner/Agent:  
 Designer/Contractor: Loren Priest EE, LLC 12005 Antelope Trail Parker, CO 80138 303.748.1189 loren@eeparker.com

**Additional Efficiency Package(s)**

A Area Category	B Floor Area (ft <sup>2</sup> )	C Allowed Watts / ft <sup>2</sup>	D Allowed Watts (B X C)
1-Sales Area (Retail Sales Area)	990	1.10	1089
2-Service/Repair (Automotive/Vehicular Maintenance Area)	3686	0.50	1843
Total Allowed Watts = 2932			

**Proposed Interior Lighting Power**

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
1-Sales Area (Retail Sales Area)				
LED 7: F3 4' LED Strip; LED Linear 22W:	2	3	38	114
LED 8: F4 8' LED Strip; LED Linear 22W:	4	1	61	61
LED 7 copy 1: F7: 2x4 LED Troffer; LED Panel 19W:	1	12	39	468
2-Service/Repair (Automotive/Vehicular Maintenance Area)				
LED 8 copy 2: F9: 4' LED Highbay; LED Panel 60W:	1	17	87	1479
LED 8 copy 1: F4: 8' LED Strip; LED Linear 22W:	4	10	61	610
Total Proposed Watts = 2732				

**Interior Lighting PASSES: Design 7% better than code**

**Interior Lighting Compliance Statement**  
 Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

**Stan Bentley – Electrical Designer** *Stan Bentley* 8-2-24

Project Title: Brakes Plus Report date: 08/01/24  
 Data filename: C:\COMCHECK\BRAKES PLUS\BRAKES PLUS- ADA OK.cck Page 1 of 8

Section # & Req. ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.3 [EL22] 1, 2	Daylight zones provided with individual controls that control the lights independent of general area lighting. See code section C405.2.3 Daylight-responsive controls for applicable spaces. C405.2.3.1 Daylight responsive control function and section C405.2.3.2 Sidelit zone.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.2.4 [EL26]	Separate lighting control devices for specific uses installed per approved lighting plans.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.2.4 [EL27]	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.2.5 [EL28] 1	Manual controls required by the energy code are in a location with ready access to occupants and located where the controlled lights are visible, or identify the area served and their status.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.2.6 [EL30] 1	Automatic lighting controls for exterior lighting installed. Controls will be daylight controlled, set based on business operation time-of-day, or reduce connected lighting > 30%.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.3 [EL6]	Exit signs do not exceed 5 watts per face.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.6 [EL26]	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.7 [EL27]	Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.8.2 [EL28]	Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.9 [EL29]	Total voltage drop across the combination of feeders and branch circuits <= 3%.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)  
 Project Title: Brakes Plus Report date: 08/01/24  
 Data filename: C:\COMCHECK\BRAKES PLUS\BRAKES PLUS- ADA OK.cck Page 5 of 8

**COMcheck Software Version 4.1.5.5**  
**Exterior Lighting Compliance Certificate**

**Project Information**  
 Energy Code: 2018 IECC  
 Project Title: Brakes Plus  
 Project Type: New Construction  
 Exterior Lighting Zone: 4 (High activity metropolitan commercial district (L24))

Construction Site: 1201 Lonnie Abbott Blvd Ada, OK  
 Owner/Agent:  
 Designer/Contractor: Loren Priest EE, LLC 12005 Antelope Trail Parker, CO 80138 303.748.1189 loren@eeparker.com

**Allowed Exterior Lighting Power**

A Area/Surface Category	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B X C)
Wall area (Illuminated area of facade wall or surface)	3000 ft <sup>2</sup>	0.15	No	450
Total Tradable Watts (a) =				0
Total Allowed Watts =				450
Total Allowed Supplemental Watts (b) =				900

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.  
 (b) A supplemental allowance equal to 900 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

**Proposed Exterior Lighting Power**

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 <sup>2</sup> ). Non-tradable Wattage				
LED 1: F1: LED Wall pack; LED A Lamp 29W:	1	10	30	300
LED 4: A: LED Decorative Wall Lt; LED A Lamp 25W:	1	4	26	104
Total Tradable Proposed Watts = 0				

**Exterior Lighting PASSES: Design 0.0% better than code**

**Exterior Lighting 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 exterior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

**Stan Bentley – Electrical Designer** *Stan Bentley* 8-2-24

Project Title: Brakes Plus Report date: 08/01/24  
 Data filename: C:\COMCHECK\BRAKES PLUS\BRAKES PLUS- ADA OK.cck Page 2 of 8

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)  
 Project Title: Brakes Plus Report date: 08/01/24  
 Data filename: C:\COMCHECK\BRAKES PLUS\BRAKES PLUS- ADA OK.cck Page 6 of 8

**COMcheck Software Version 4.1.5.5**  
**Inspection Checklist**

Energy Code: 2018 IECC  
 Requirements: 0.0% were addressed directly in the COMcheck software  
 Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req. ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR4]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C103.2 [PR8]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include exterior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C406 [PR9]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)  
 Project Title: Brakes Plus Report date: 08/01/24  
 Data filename: C:\COMCHECK\BRAKES PLUS\BRAKES PLUS- ADA OK.cck Page 3 of 8

Section # & Req. ID	Final Inspection	Complies?	Comments/Assumptions
C303.3 [F17] 2	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.4.1 [F18]	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Interior Lighting fixture schedule for values.
C405.5.1 [F19]	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Exterior Lighting fixture schedule for values.
C408.1.1 [F15]	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C408.2.5 [F16]	Furnished as-built drawings for electric power systems within 90 days of system acceptance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C408.3 [F13]	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)  
 Project Title: Brakes Plus Report date: 08/01/24  
 Data filename: C:\COMCHECK\BRAKES PLUS\BRAKES PLUS- ADA OK.cck Page 7 of 8

Section # & Req. ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.2 [EL22]	Spaces required to have light-reduction controls have a manual control that allows the occupant to reduce the connected lighting load in a reasonably uniform illumination pattern >= 50 percent.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.2.1 [EL18]	Occupancy sensors installed in classrooms/lecture/training rooms, conference/meeting/multi-purpose rooms, copy/print rooms, lounges/breakrooms, enclosed offices, open plan office areas, restrooms, storage rooms, locker rooms, warehouse storage areas, and other spaces <= 300 sqft that are enclosed by floor-to-ceiling height partitions. Reference section language C405.2.1.2 for control function in warehouses and section C405.2.1.3 for open plan office spaces.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.2.1 [EL19]	Occupancy sensors control function in warehouses: In warehouses, the lighting in aislesways and open areas is controlled with occupant sensors that automatically reduce lighting power by 50% or more when the areas are unoccupied. The occupant sensors control lighting in each aisleway independently and do not control lighting beyond the aisleway being controlled by the sensor.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.2.1 [EL20]	Occupant sensor control function in open plan office areas: Occupant sensor controls in open office spaces >= 300 sq ft. have controls 1) configured so that general lighting can be controlled separately in control zones with floor areas <= 600 sq. ft. within the space, 2) automatically turn off general lighting in all control zones within 20 minutes after all occupants have left the space, 3) are configured so that general lighting power in each control zone is reduced by >= 80% of the full zone general lighting power within 20 minutes of all occupants leaving that control zone, and 4) are configured such that any daylight responsive control will activate space general lighting or control zone general lighting only when occupancy for the same area is detected.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.2.2 [EL21]	Each area not served by occupancy sensors (per C405.2.1) have time-switch controls and functions detailed in sections C405.2.2.1 and C405.2.2.2.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)  
 Project Title: Brakes Plus Report date: 08/01/24  
 Data filename: C:\COMCHECK\BRAKES PLUS\BRAKES PLUS- ADA OK.cck Page 4 of 8

**BRAKES PLUS**  
 1201 LONNIE ABBOTT BLVD.  
 ADA, OKLAHOMA

**ADAM A. POWELL**  
 LICENSED PROFESSIONAL ENGINEER  
 27798  
 OKLAHOMA  
 8-6-24

**ARCHITECT OF RECORD**

REVISION	DATE	COMMENTS
	08.06.24	FOR BLDG. DEPT. SUBMITTAL

ARC CODE V

ARC CODE V JOB #:  
 CLIENT JOB #:  
 DRAWN BY: SB  
 CHECKED BY: LRP  
 DATE OF ISSUE: 08.06.24

**ADAM A. POWELL**  
 45 SPYGLASS DRIVE  
 LITTLETON, CO 80120  
 VOICE: 303.881-8825  
 NORM@ERMANARCOCODEV.COM

**SHEET**  
**E5.1**  
 LIGHTING COMPLIANCE  
 CERTIFICATES

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