



a new development for
D-BAT - Town Centre Lot 1
540 NE Town Centre Drive, Lee's Summit, Missouri

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project description:

New pre-engineered metal building for indoor batting cages with support office, retail, and party room.

submittal dates:

sitework: fall 2022
building envelope: fall 2022
occupancy: spring 2023
estimated duration: 9 months

schedule indications are estimated and shall be the responsibility of the contractor.

const. schedule

PDP & Rezoning submittal: approved January 2022
planning approval: pending approval
permit submittal: May 2022
permit approval: approved

project synopsis:

governing municipality: Lee's Summit, Missouri
governing code:
2018 International Building Code
2018 International Plumbing Code
2018 International Mechanical Code
2018 International Fuel Gas Code
2018 International Residential Code
2018 International Fire Code
2017 National Electrical Code
ICC/ANSI A117.1-2009, Accessible and Usable Buildings and Facilities
Lee's Summit Municipal Code

zoning: PI

construction: IIB, pemb

stories: one + mezzanine

building height: 27'-0" max.

fire suppression: yes

bldg footprint: 19,800 s.f.

occupancy group: A-3 (indoor sports) with B+M (office mercantile accessory)

occupant load: 213
first floor accessory spaces: 44
mezzanine: 73
batting cages: 96

*reference code plan and code review

sheet index:

A0.0 cover sheet
A0.1 code review, code plan, details

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C1.2 site plan
C1.3 utility plan
C2.1 grading plan
C2.2 phase I EC
C2.3 phase II EC
C2.4 spot elevation plan
C3.1 existing drainage map
C3.2 proposed drainage map
C3.3 storm calculations
C4.1 civil details
C4.2 civil details
C4.3 civil details
C4.4 civil details

Landscaping
L1.1 landscape plan
L1.2 landscape details

Architectural
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A2.3 first floor reflected ceiling plan
A2.4 enlarged bathroom plans
A3.1 exterior elevations
A4.1 wall sections
A4.2 wall sections and details
A5.1 door schedule and details
A5.2 first floor finish plan
A5.3 mezzanine finish plan
A5.4 millwork details

Structural
S100 structural specifications
S110 special inspections
S200 structural foundation plan
S500 typical foundation details
S501 typical foundation details

Mechanical & Plumbing
MP0.0 mp specifications
P1.0 overall plumbing plan
P1.1 enlarged plumbing plan
P2.0 plumbing riser diagram
M1.0 mechanical floor plan
M1.1 not used
M2.0 mechanical schedules

Electrical
E0 electrical specifications
E1 electrical lighting plan
E2 electrical power plan
E3 enlarged power plans
E4 panel schedule and riser diagram
E5 site lighting plan

owner:

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mp engineer:

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BC Engineers
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Municipality:	Lee's Summit, Missouri
Applicable Building Codes & Ordinances:	2018 International Building Code (IBC) 2018 International Plumbing Code (IPC) 2018 International Mechanical Code (IMC) 2018 International Fuel Gas Code (IFGC) 2018 International Fire Code (IFC) 2017 National Electrical Code (NEC) ICC/ANSI A117.1-2009, Accessible and Usable Buildings and Facilities Lee's Summit Unified Development Ordinance (UDO)
Project Address:	540 NE Town Centre Drive Lee's Summit, Missouri 64064
Property Owner:	WHD Management LLC PO Box 1059 Lee's Summit, MO 64063
Use:	PI - Planned Industrial
Proposed Land Use:	Limited Indoor Recreation
Driveway Setbacks:	
Street	20 ft
Side Yard	10 ft
Rear Yard	20 ft
Landscaping Setbacks:	
Street Frontage	20 ft
Height Requirements:	N/A
Number of Dwelling Units:	N/A

Special Conditions Met:
A commercial indoor and/or outdoor recreation facility or area shall be allowed provided the front entrance is 300 feet or greater distance from any residential district or use.

Adjacent Zoning (within 185'): CP-2, RP-4

Adjacent Land Use (within 185'): Commercial, Undeveloped, Residential, Government

Building Occupancy:
Pad Site A: A-3, Limited Indoor Recreation - Batting Cages

Site Area		
Pad Site A	83,267 sq. ft.	1.91 ac.

Building Area	
Pad Site A	20,130 sq. ft.

Floor Area Ratio - Maximim 1.0				
Pad Site A	20,130	/	83,267	0.24

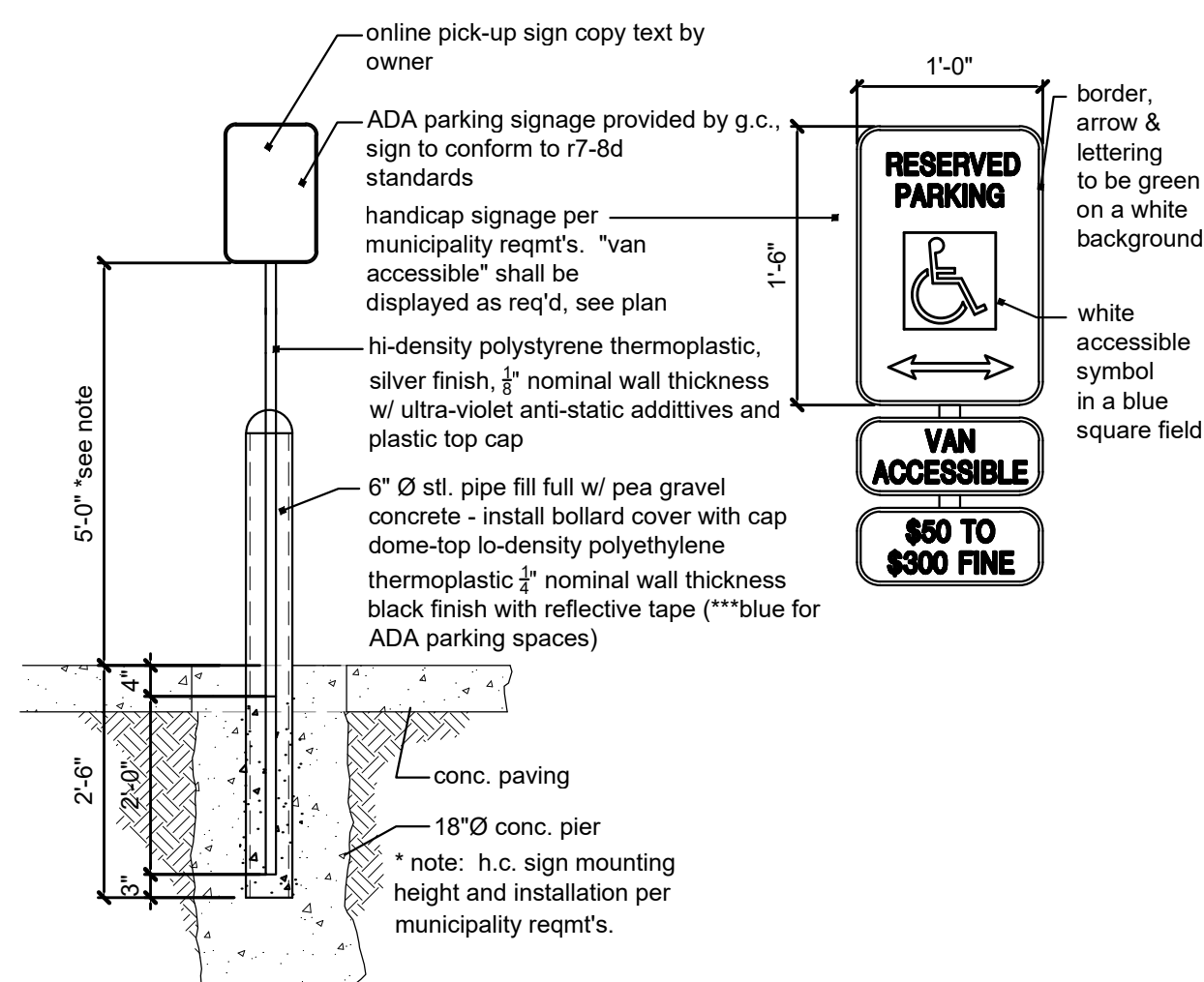
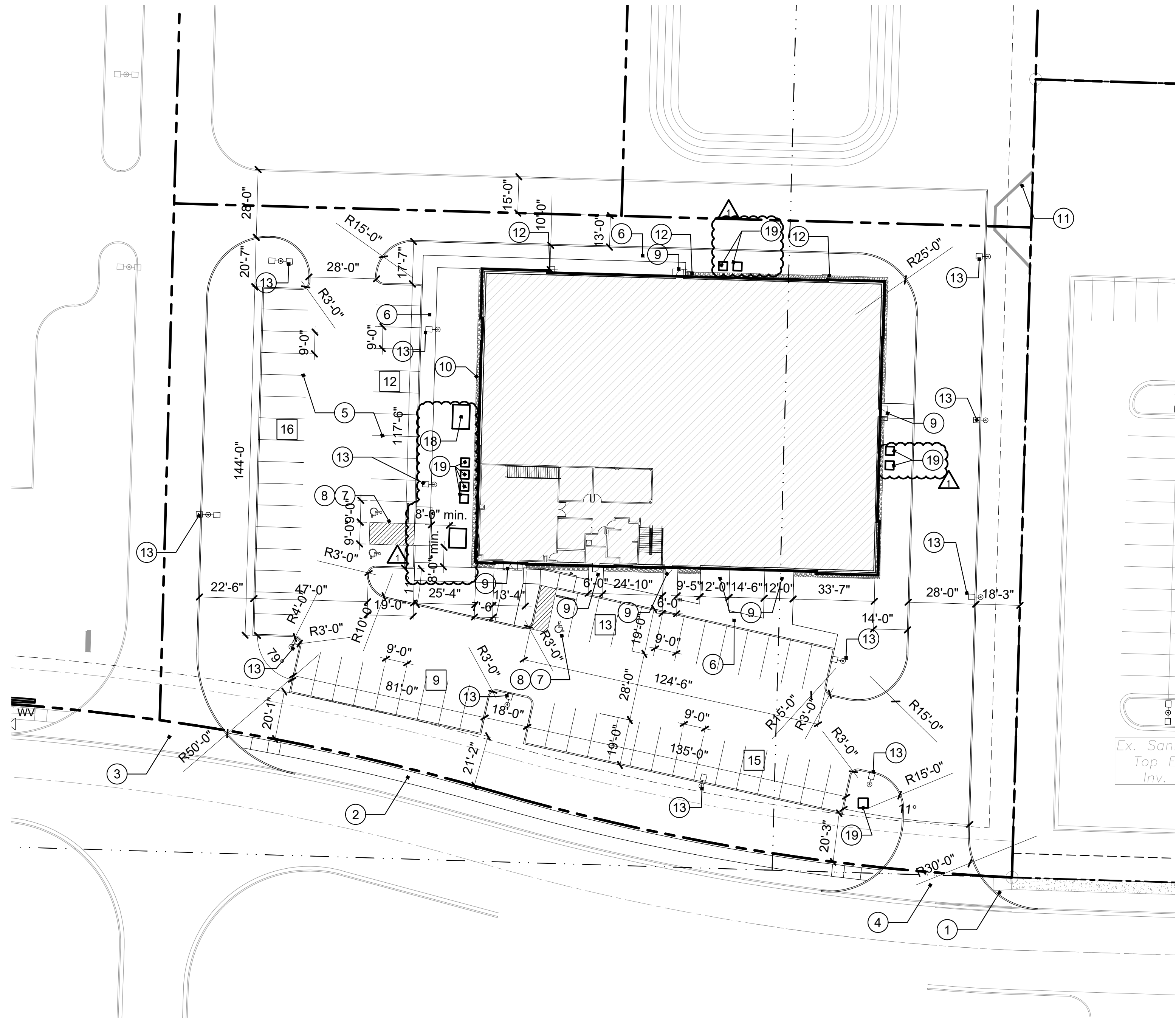
Pervious/Impervious Areas					
	pervious		impervious		
Pad Site A	24,656	sq. ft. 30%	58,611	sq. ft.	70%

Parking	
Pad Site A: Indoor Batting -	
Required: 4 per 1,000 sq. ft. of office space	20
batting cages: determined by director	-
total:	65

*Parking Space Length can reduce by 2'-0" at curbed landscaping and 6' deep sidewalks.

- All construction shall conform to the standards and specifications of Lee's Summit, Missouri.
- The general contractor shall contact all utility companies prior to the start of construction and verify the location and depth of any utilities that may be encountered during construction.
- The contractor shall field verify extent, surface & subsurface ground conditions prior to start of construction
- Slopes shall maintain a maximum 3:1 slope.
- The contractor shall be responsible for obtaining all required permits, paying all fees, and otherwise complying with all applicable regulations governing the project.
- Place silt fence per civil for erosion control.
- Provide temporary gravel access drive to prevent mud from being deposited onto the adjacent road.
- Prior to installing any structure on a public storm sewer, the contractor shall submit shop drawings for the structure(s). Installation shall not occur until drawings have been approved by public works.
- Prior to installing, constructing, or performing any work on the public storm sewer line (including connecting private drainage to the storm system) contact the city for inspection of the work. Contact must be made at least 48 hours prior to the start of work.
- Connections to the public storm sewer between structures will not be permitted.
- All exterior utility services shall be painted to match the primary building color.
- Signage shall comply with Lee's Summit Signage Ordinance.
- The property owner's responsibilities shall have ownership and maintenance responsibilities for the common area tract.
- Reference electrical plans for ground mounted equipment.

1. Furnish and install 5'-0" wide concrete sidewalk with broom finish per city of Lee's Summit standards to connect to existing sidewalk.
2. Furnish and install 5'-0" wide concrete sidewalk with broom finish per city of Lee's Summit standards. Sidewalk shall be in the r.o.w. offset by 1'-0" from the property line.
3. Furnish and install new curb cut per city of Lee's Summit standards. Align with access across the street.
4. Furnish and install new curb cut per city of Lee's Summit standards.
5. Furnish and install 4'-0" wide white parking space striping.
6. Furnish and install 5'-0" wide concrete sidewalk with broom finish per city of Lee's Summit standards.
7. Furnish and install handicap parking spaces with striped access aisle per UDO requirements.
8. Furnish and install handicap parking space bollard sign per UDO requirements.
9. Furnish and install door stop with turn down edge doveleed into building foundations; coordinate with civil drawings.
10. Furnish and install strip of clean rock at perimeter of building for drainage and maintenance if required by the geotechnical report.
11. Location of block retaining wall; reference civil drawings.
12. Furnish and install UDO compliant building mounted area light.
13. Furnish and install UDO compliant pole mounted area light; maximum top of pole height to be 18'-0".
14. Furnish and install ground mounted monument sign to meet ordinance requirements. Provide electrical to sign as required.
15. Furnish and install wall mounted sign to meet ordinance requirements. Provide electrical as required.
16. Property line.
17. Building setback line.
18. Furnish and install concrete pad for ground mounted RTU; provide landscape screening as required around the equipment.
19. Furnish and install equipment pad.



2 bollard parking sign
scale: 1/2" = 1'-0"

1 | Site Plan

scale: 1" = 30'-0"

sheet number

A1.1

drawing type
FDP & Permit

project number
20231

a new development for

D-BAT - Town Centre Lot 1

540 NE Town Centre Drive
Lee's Summit, Missouri

date
05.23.2022
drawn by
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general notes

- Double keyed locks are not permitted on any required or marked exit.
- Exit/emergency lighting are subject to an on site inspection.
- Provide min. 3 1/2" batt insulation between conditioned & unconditioned spaces
- Exit doors shall be operable from the inside without the use of a key or any special knowledge or effort
- Provide electrical outlets @ 15" a.f.f. to the lowest outlet per a.d.a.
- Egress illumination will be provided at an intensity of not less than 1 foot candle at floor level.
- Construction materials exposed within plenums shall be noncombustible or shall have flame spread rating of not more than 25 and a smoke development rating of not more than 50.
- All electrical outlets within 6' of any sink or water source to be GFCI protected.
- Mezzanine floor height is 12'-0" above first floor.
- Paint liner panels in batting cage areas PT-4 (green) up to 12'-0" a.f.f.
- Reference DBAT standards for painting patterns.

construction notes

- Merchandise display by others.
- Verify point of sale location with owner. Coordinate stub up if required.
- Furnish and install built-in bar height counter.
- Furnish and install seamless interior windows.
- Furnish and install Recessed knob box in stone. Verify final location with fire marshal.
- Cage by others.
- Provide access to overhead doors.
- Benches by others.
- Furniture by others.
- Provide data and power at wall mounted TV location.
- Netting by others.
- Premanufactured awning above by PEMB manufacturer.
- Decorative wall sconce.
- Reference site and landscaping plans for perimeter rock.
- Furnish and install millwork per details.
- Furnish and install bracket mounted fire extinguisher, min. 5lb ABC.
- Furnish and install semi-recessed ADA fire extinguisher cabinet (white) with min. 5lb ABC fire extinguisher.
- Furnish and install metal guardrail at mezzanine viewing area; verify attachment to structure with structural engineer; railing must have supports/attachments a maximum of 5'-0" apart, and railing must meet loading requirements per the 2018 IBC. Railing selection must be a minimum of 42" above finish floor of the mezzanine - open space between railing parts must not allow a sphere of 4" or greater to pass through.
- Furnish and install door stoops; reference structural.
- Furnish and install prefabricated concrete pads for condensing units per mechanical drawings.
- Provide concrete pad for ground mounted RTU as required, consult with structural.
- Furnish and install ADA bathroom partitions.
- Furnish and install lintel above door to support stone.

symbol legend:

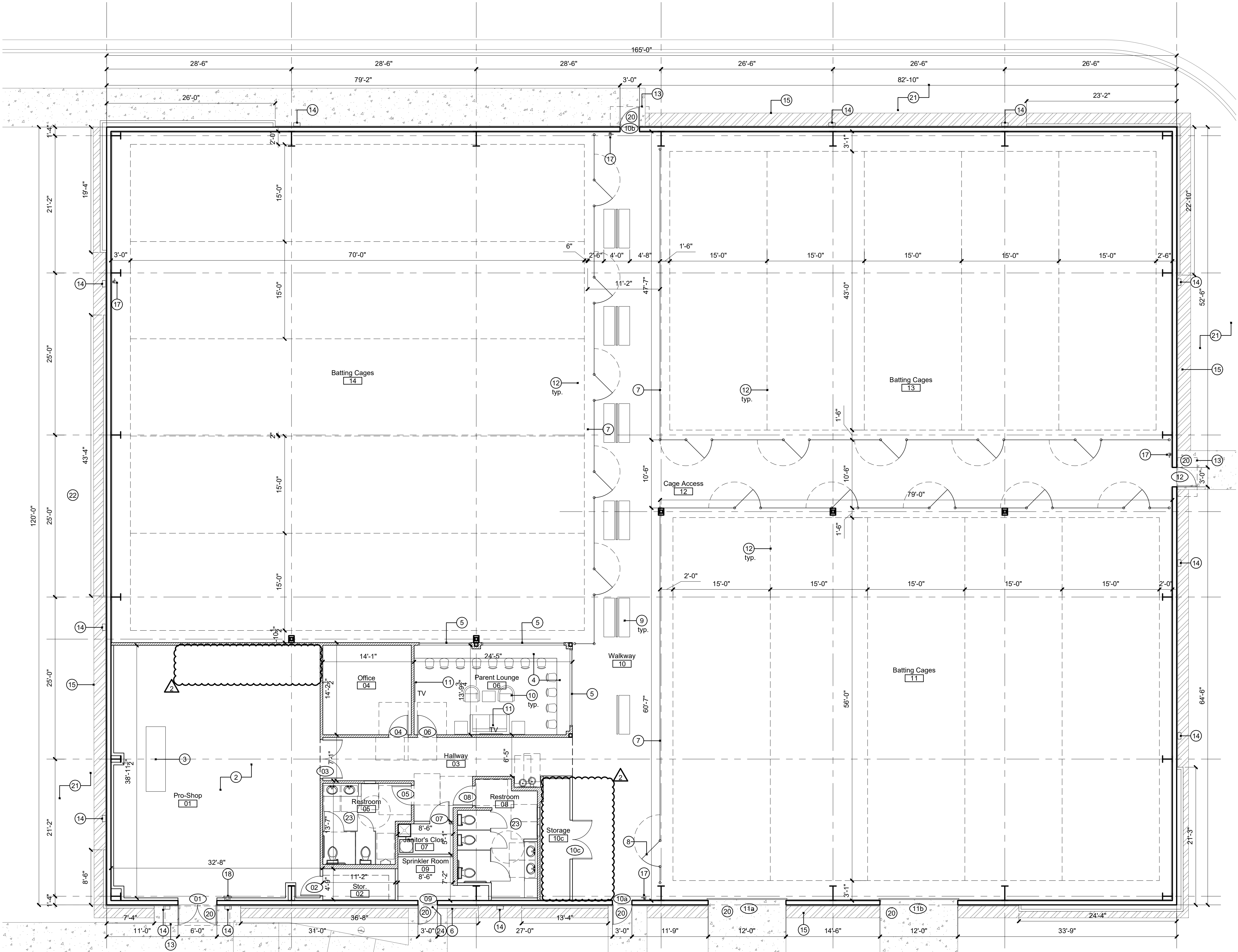
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|-----------|-------------------|---|-----------------|
| ## | door tag | # | elevation |
| ## | construction note | # | wall section |
| [P#] | partition type | # | enlarged detail |
| room name | room tag | | |

partition legend

- Insulated Interior Partition:
3-5/8" metal studs @ 16" o.c. to 6" above ceiling or to underside of decking with 5/8" gypsum board on both sides and 3-1/2" sound attenuation batt insulation. Stud gauge per supplier.
- Interior Partition:
3-5/8" metal studs @ 16" o.c. to 6" above ceiling or to underside of decking with 5/8" gypsum board on both sides. Stud gauge per supplier.
- *Utilize DensArmor Plus on plumbing walls

partition notes

- utilize 6" or 8" studs for plumbing walls
- walls with no ceiling shall extend up to underside of decking unless otherwise noted (reference reflected ceiling plan).
- walls with a lowered suspended ceiling should extend 6" above the ceiling height (reference reflected ceiling plan).
- interior wall height note: Utilize 3 5/8" metal studs @ 16" o.c. to an unbraced height of 13'-8", at heights up to 26'-0", utilize 6" 20 ga. studs @ 16" o.c. - adjust stud size as required for allowable L/240 deflection. Verify stud gauge with supplier.
- expansion joint note: Expansion joints shall be installed at a max. of 30'-0". Joints shall also be located to anticipate building movement, structural elements and substrate transition per elevations and wall sections.
- wet wall note: Utilize DensArmor Plus in all plumbing wet walls, walls receiving ceramic tile, and all walls adjacent to plumbing walls or where anticipated to be in contact with moisture.
- substrate: provide tile backerboard at any wall tile locations.
- blocking: Provide in wall blocking for all wall mounted items, including, but not limited to toilet accessories, plumbing fixtures, and hardware.
- maximum length of an unbraced wall shall be 8'-0".



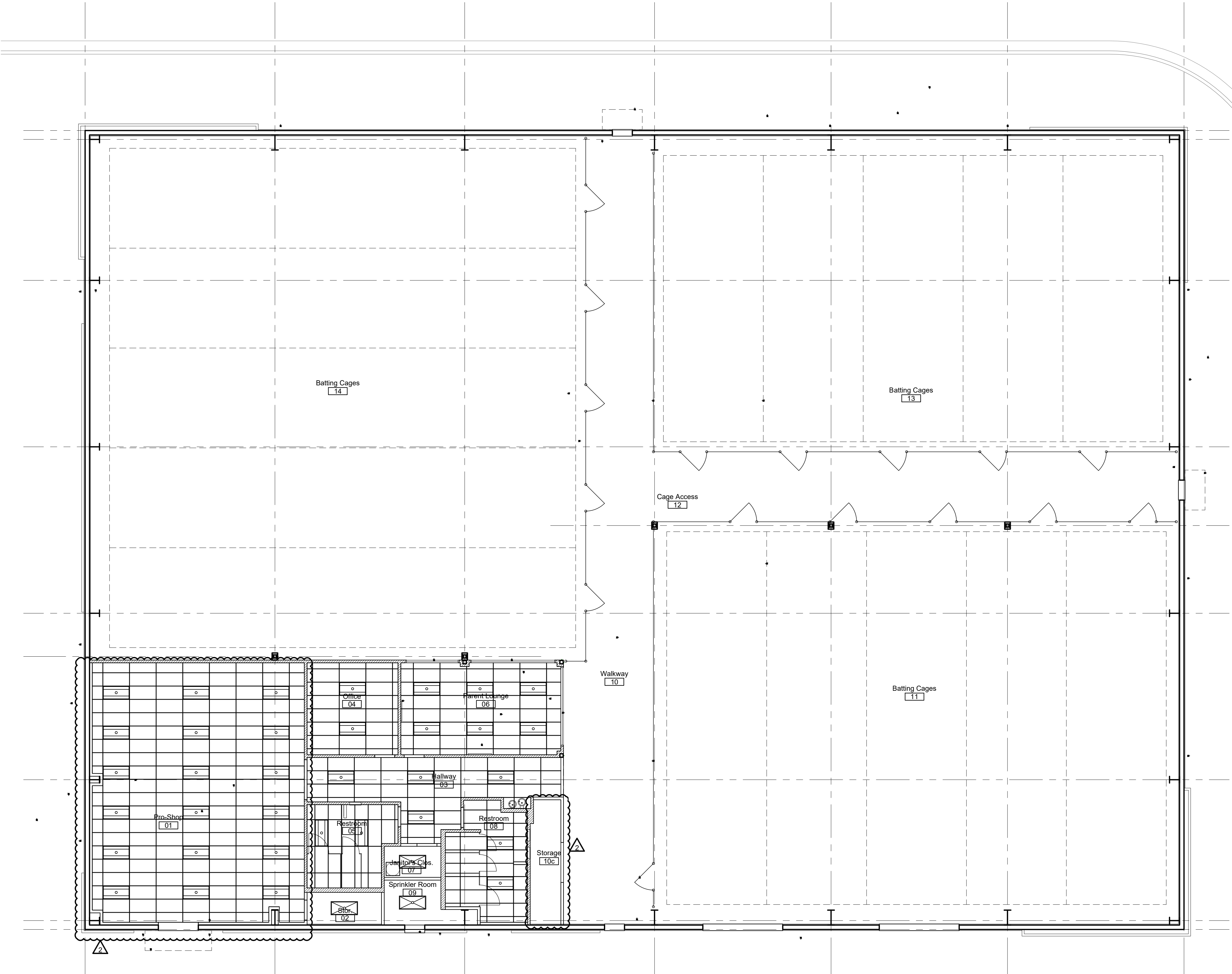


reflected ceiling notes

- Paint exposed structure off-white in areas open to the public.
- Furnish and install 2x4 suspended ceiling with lighting per reflected ceiling plan.
- Exposed structure finish to remain as-is.
- Reference room finish schedule for ceiling heights
- all materials above suspended ceilings must be fire retardant

reflected ceiling legend

- 2x4 lay-in LED light fixture with direct/indirect lens for finished areas
- 2x4 LED utility light fixture for unfinished areas
- CLG - 1: 2' x 4' x 3/4", with 15/16" Exposed Tee Grid System, color white



1 Reflected Ceiling Plan
scale: 1/8" = 1'-0"



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sheet number

A2.3

drawing type
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project number
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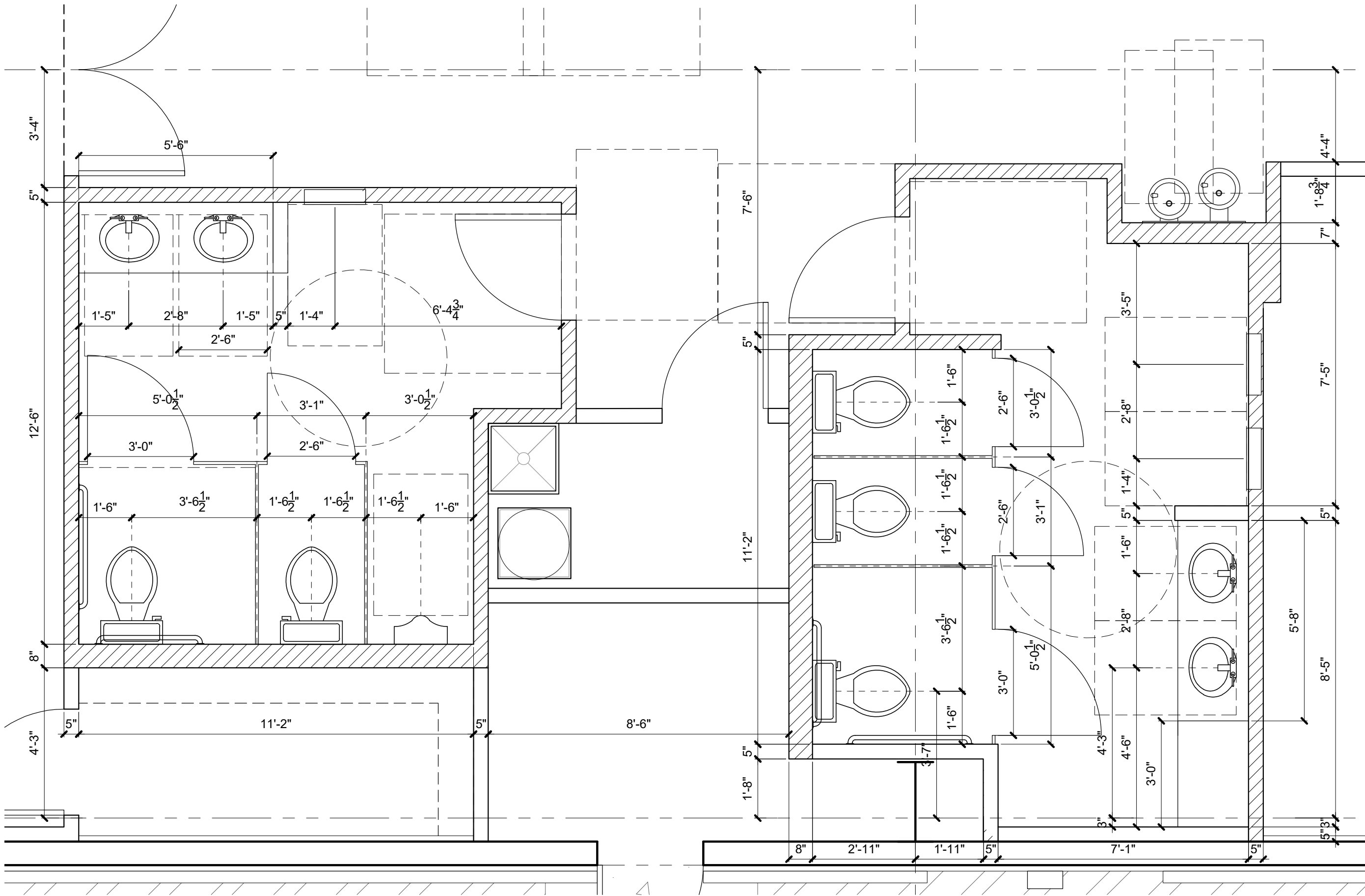
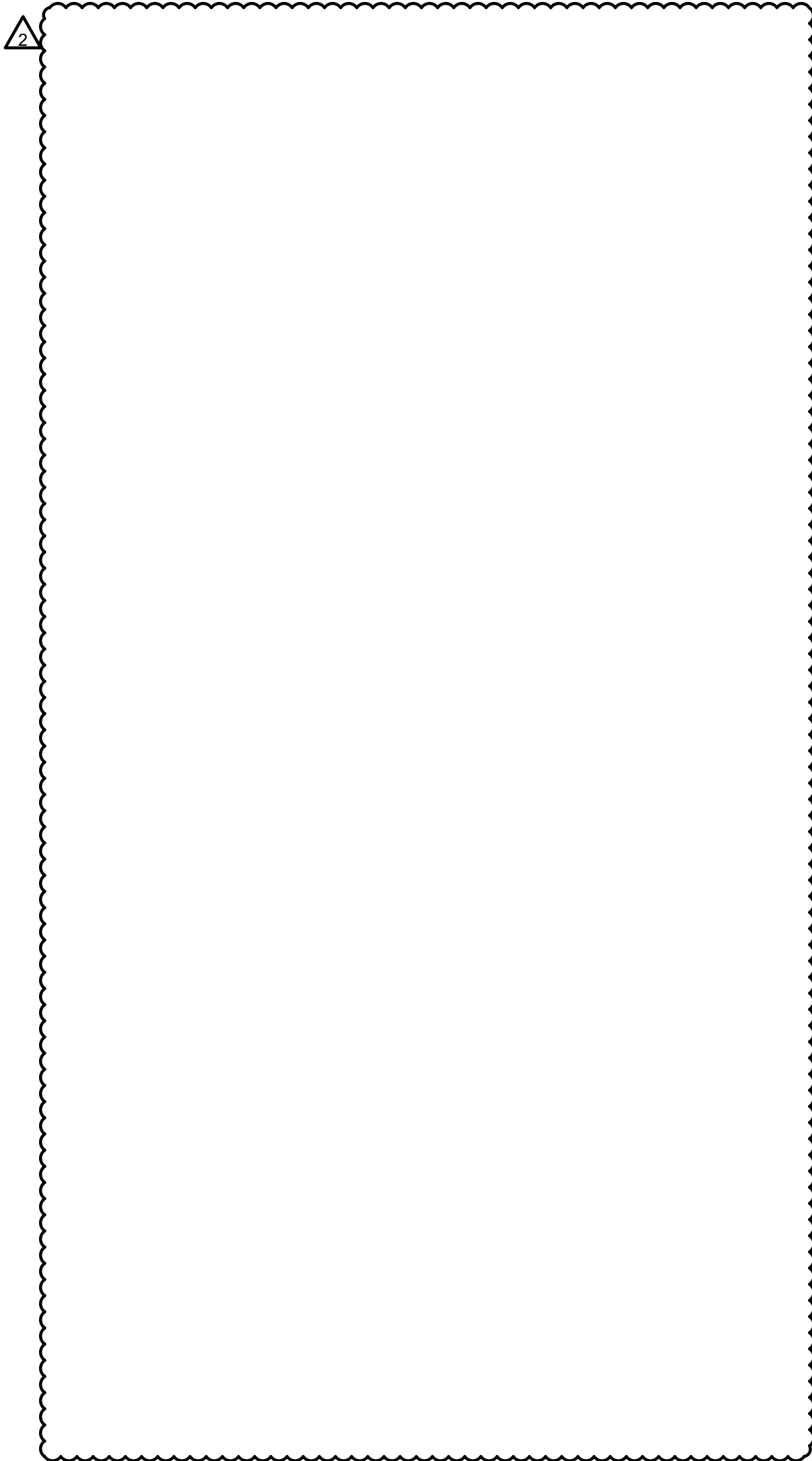
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sheet number

A2.4

drawing type FDP & Permit
project number 20231



1 Enlarged Restroom Plan
scale: 3/8" = 1'-0"



general notes

- provide appropriate covers for flue penetrations - paint to match the building.
- furnish and install knox box; reference floor plan; verify final location with code official and fire department
- all building mounted equipment shall be painted to match the adjacent wall colors, including pipes, and panels; do not paint meters.
- furnish and install landscape screening for all building mounted equipment; reference MEP
- material substitutes and changes MUST be approved by the City of Lee's Summit prior to purchase
- provide blocking and electrical at building mounted sign locations
- reference window elevation sheet
- reference door schedule and detail sheets
- all signage must be reviewed as part of a separate sign permit through the City of Lee's Summit
- stone shall align with seams in metal panels
- windows shall be centered with metal panels

exterior materials & finishes

Metal Panel

- Panel 2 - textured metal panel per PEMB supplier, color Gray
- Panel 3 - textured metal panel per PEMB supplier, color Off-White
- Panel 1 - tenant accent color, textured metal panel per PEMB supplier, color Blue

- flashing/trim
prefinished to match adjacent wall colors

- fascia panels
prefinished panels per PEMB supplier, color Black

- soffit panels
color to match building fascia

- prefabricated metal awnings per PEMB supplier, color Black

- Gutter & Downspout:
To match PEMB wall panel Gray - per supplier

Stone

- manufactured stone, Versetta ledgerstone color

Windows

- 1" insulated low-e glass with argon fill in 2" thermally broken frames per PEMB supplier (caulk at perimeter inside and out); frames color Black

Storefront Door

- 1" insulated clear glass with thermally broken frames per PEMB supplier; frames color Black

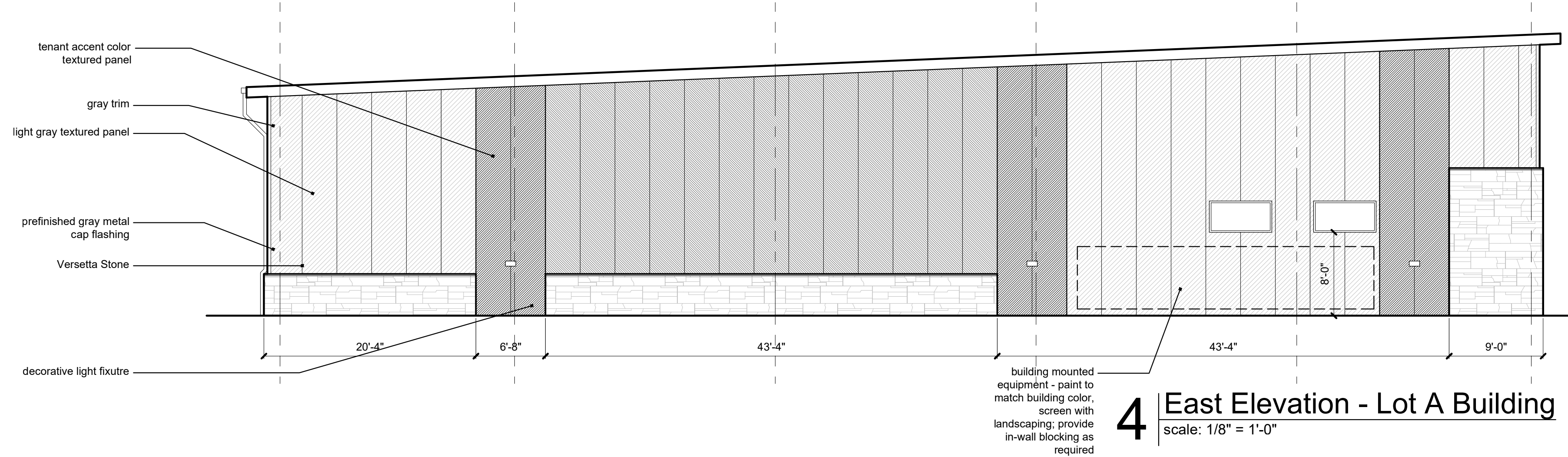
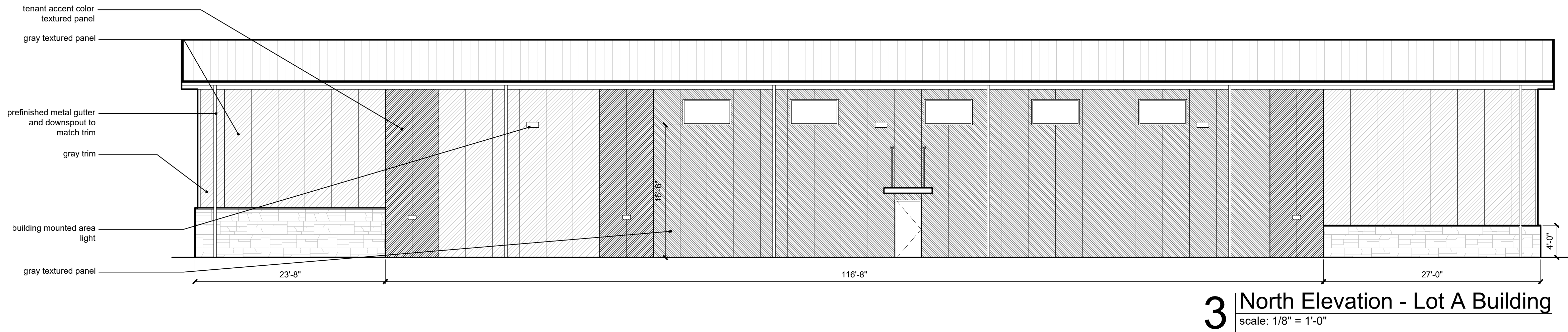
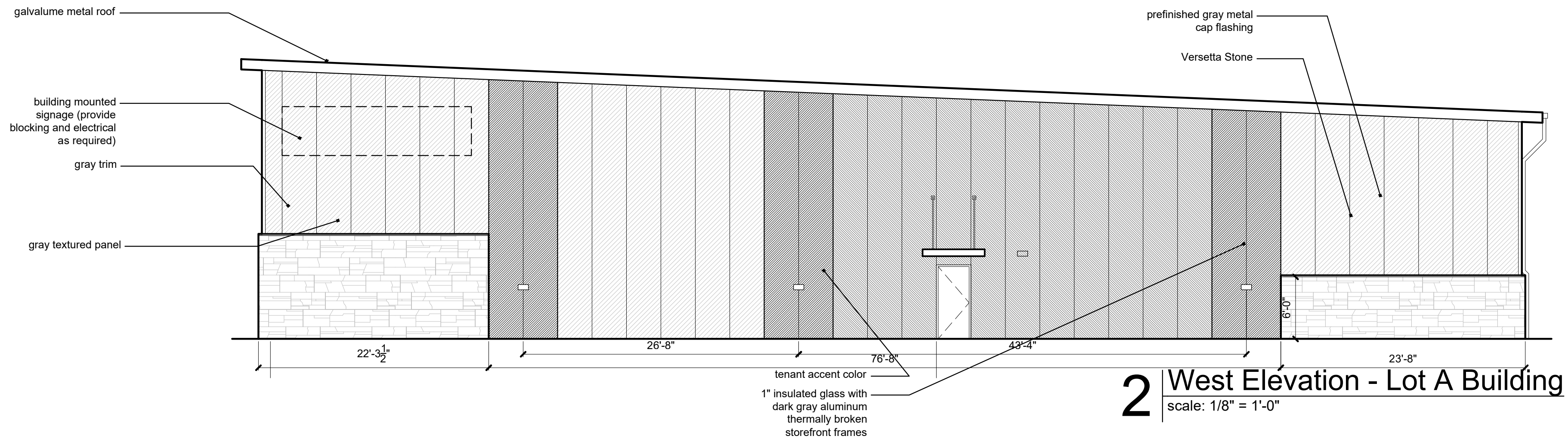
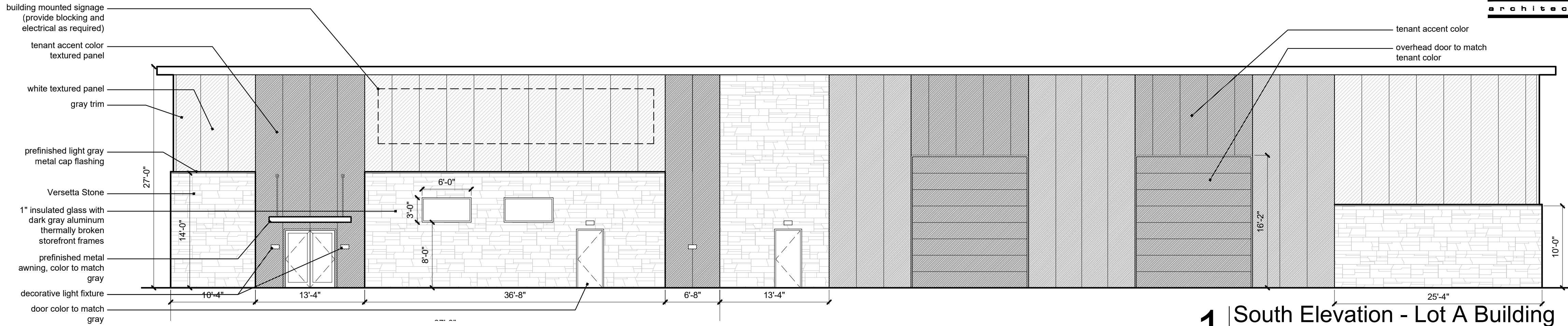
Overhead Doors

- insulated manual overhead doors, painted to match tenant accent color per building elevations

Hollow Metal Doors

- galvanized insulated hollow metal door and frame, painted to match adjacent wall color

- caulk - color to match adjacent wall colors



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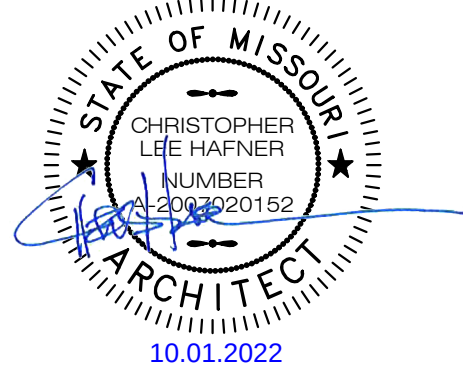
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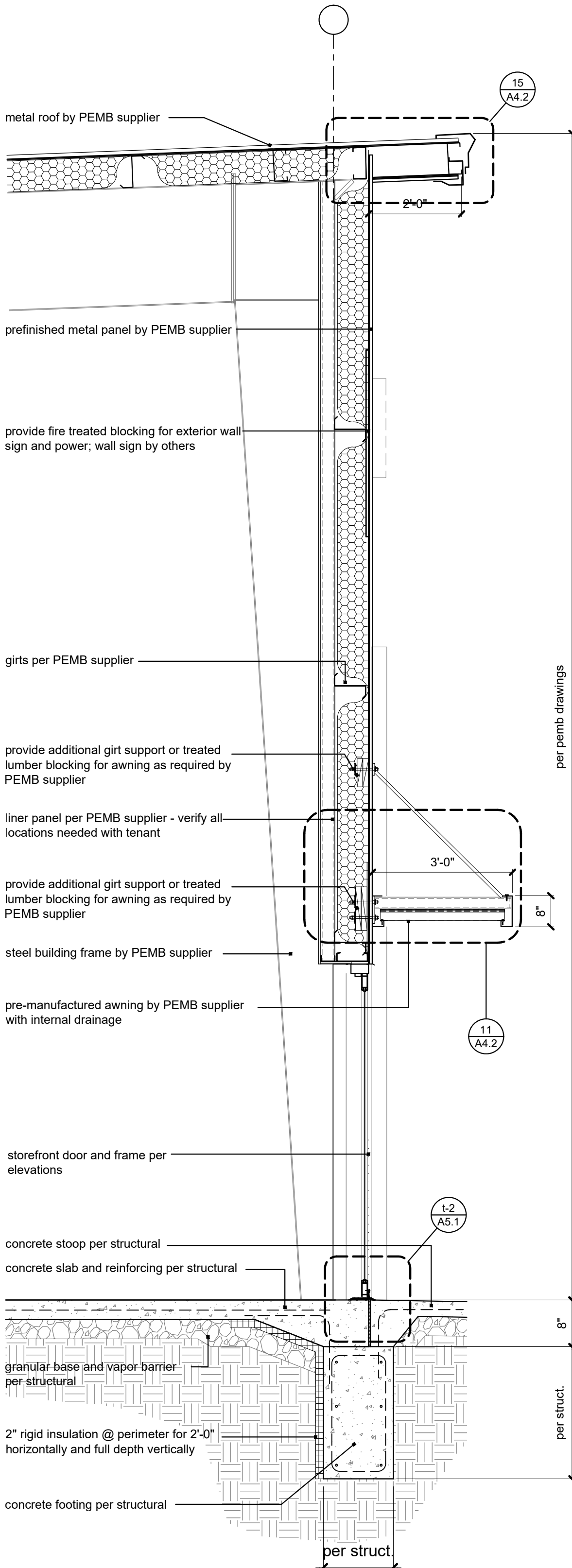
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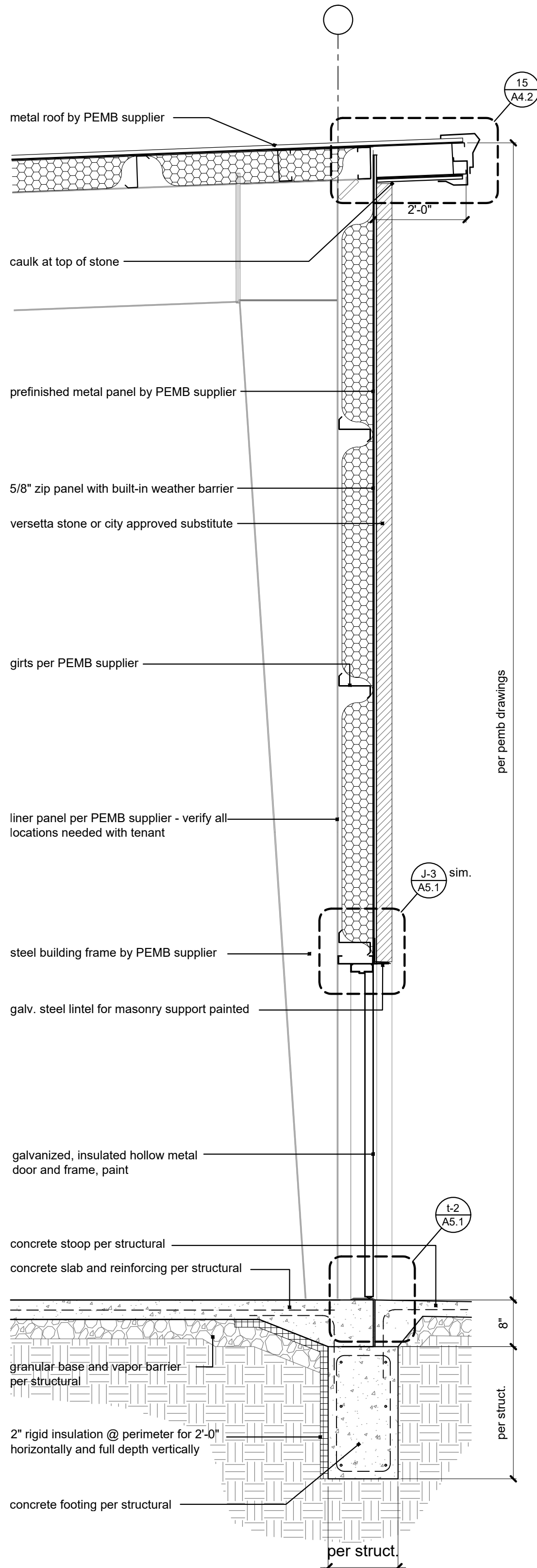
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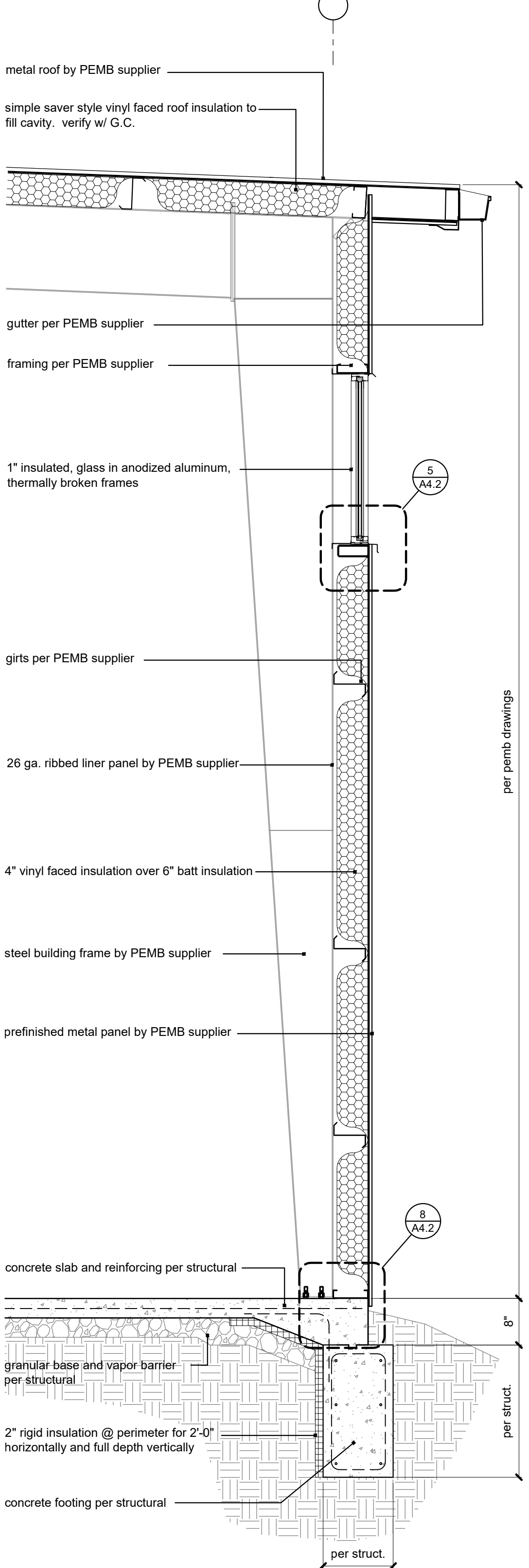
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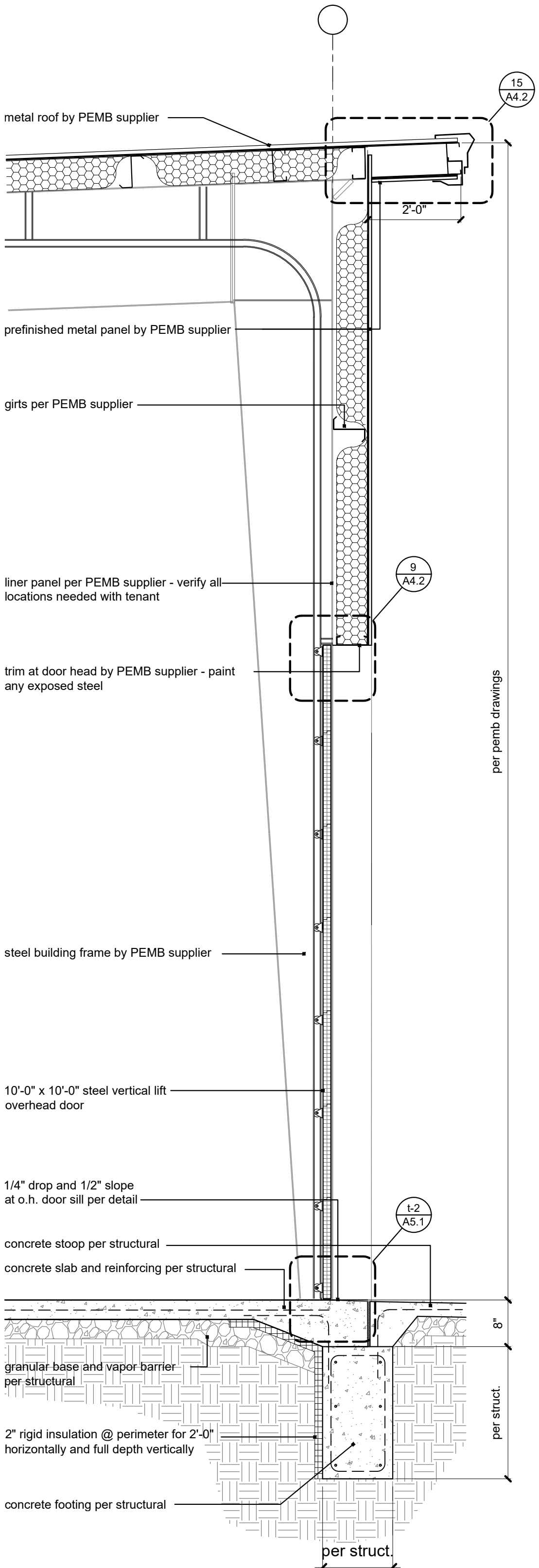
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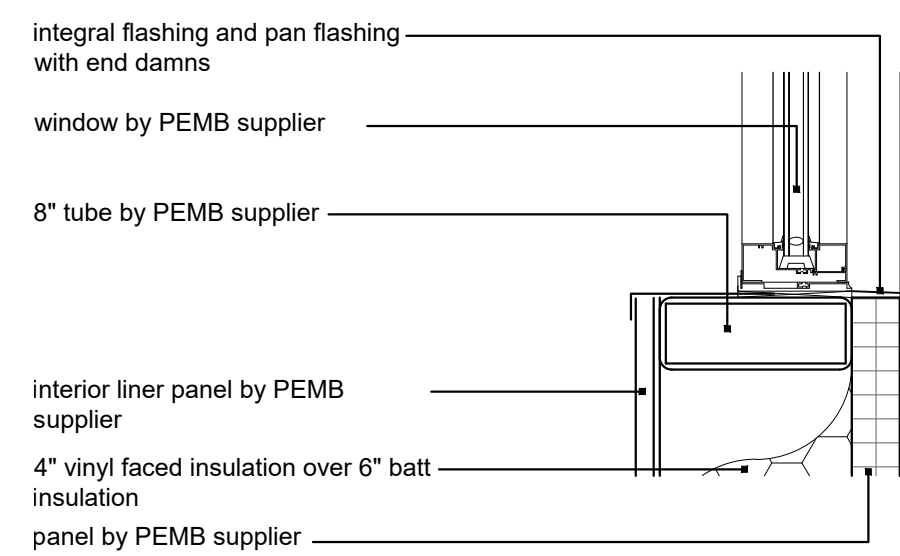
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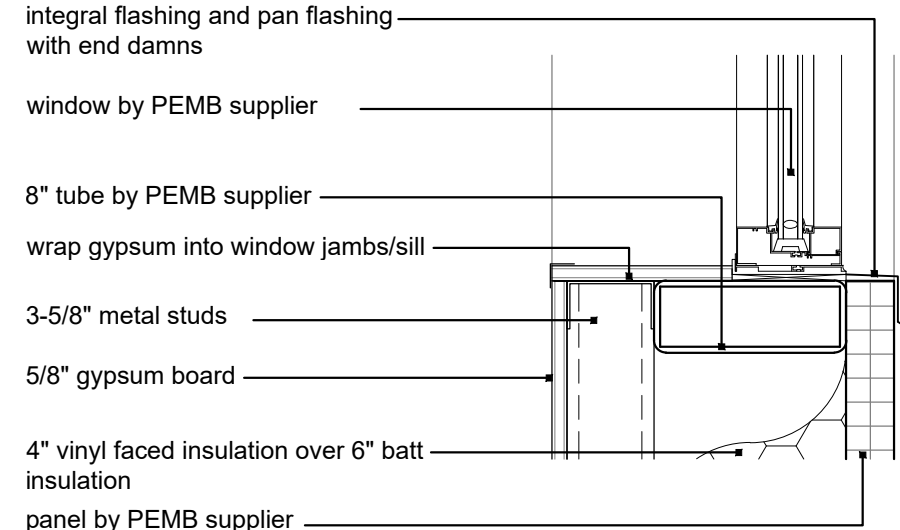
3 Wall Section
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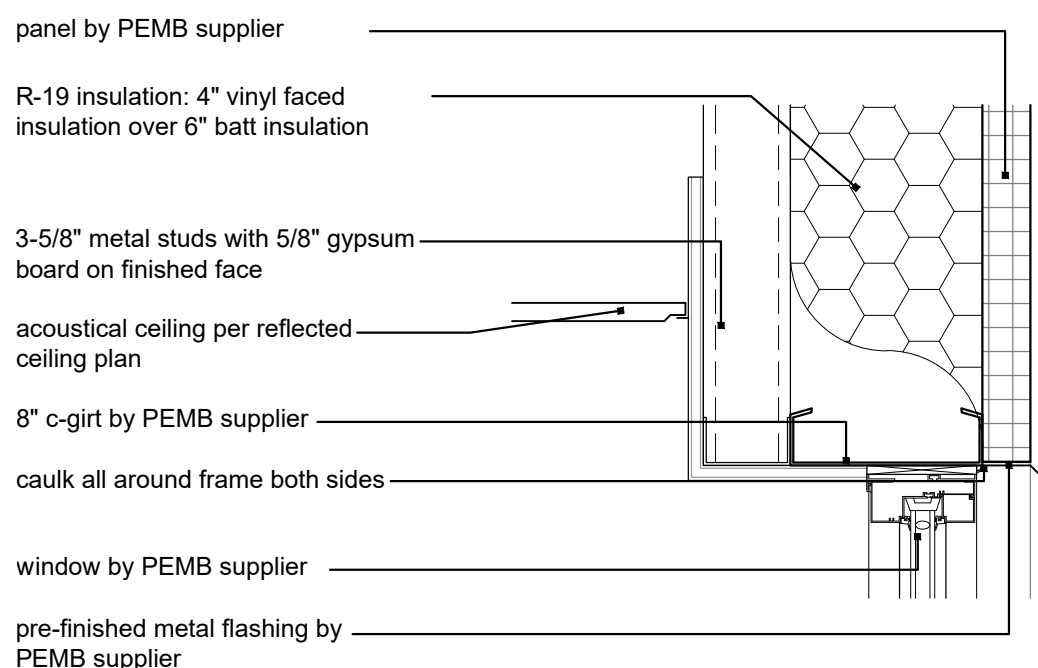
4 Wall Section
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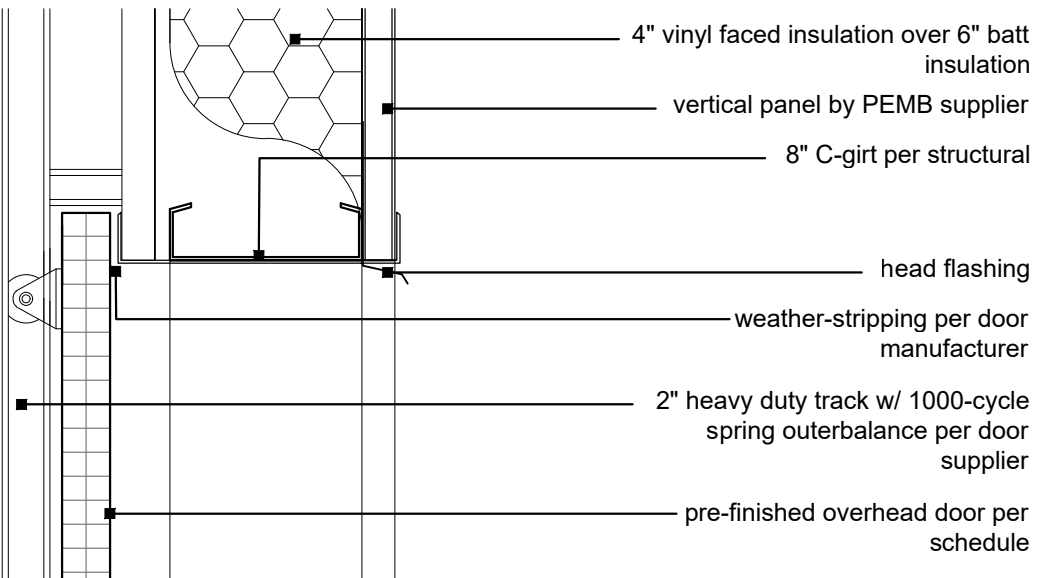
5 | Clerestory Sill
scale: 1-1/2" = 1'-0"



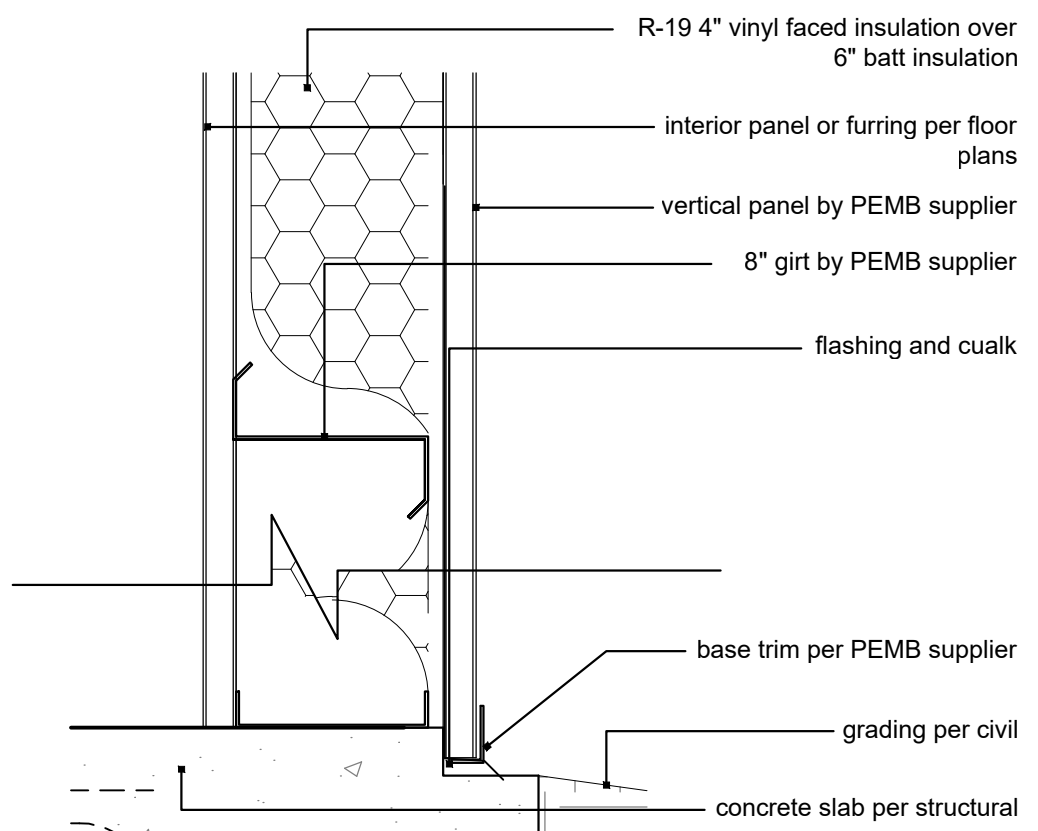
4 | Window Sill @ Shop
scale: 1-1/2" = 1'-0"



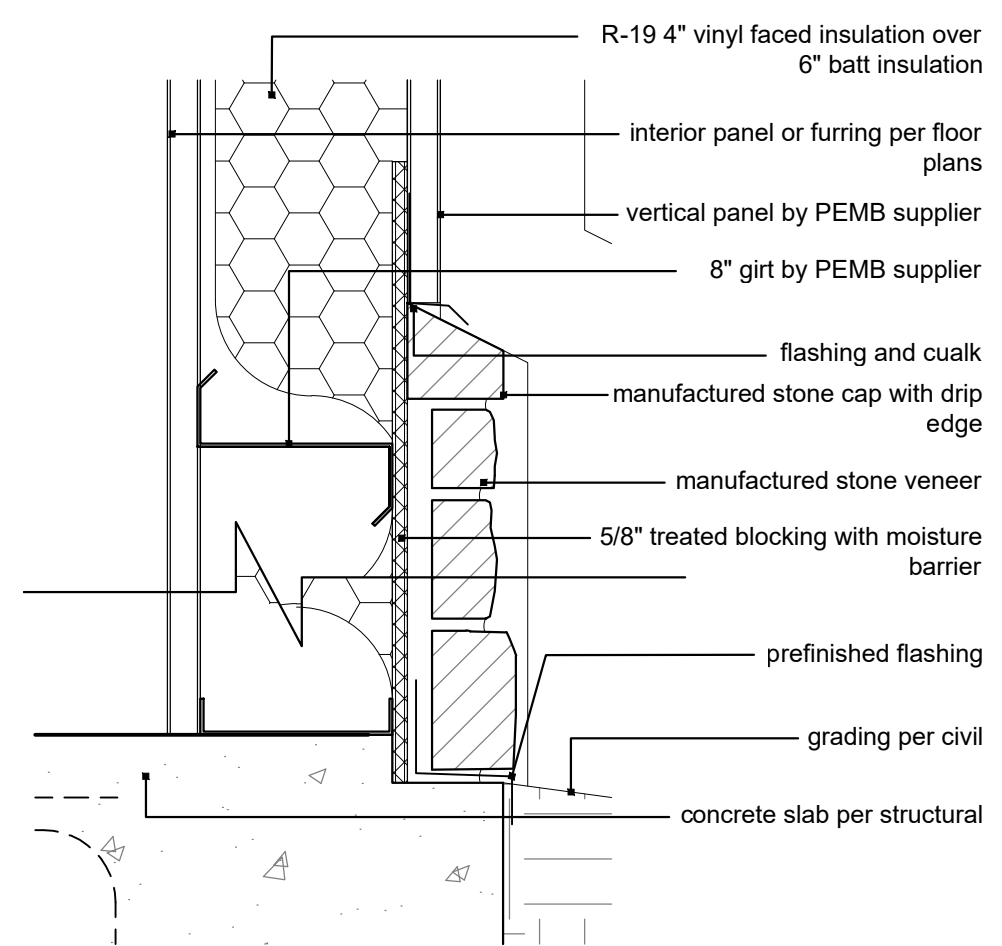
2 | Window Head @ metal panel
scale: 1-1/2" = 1'-0"



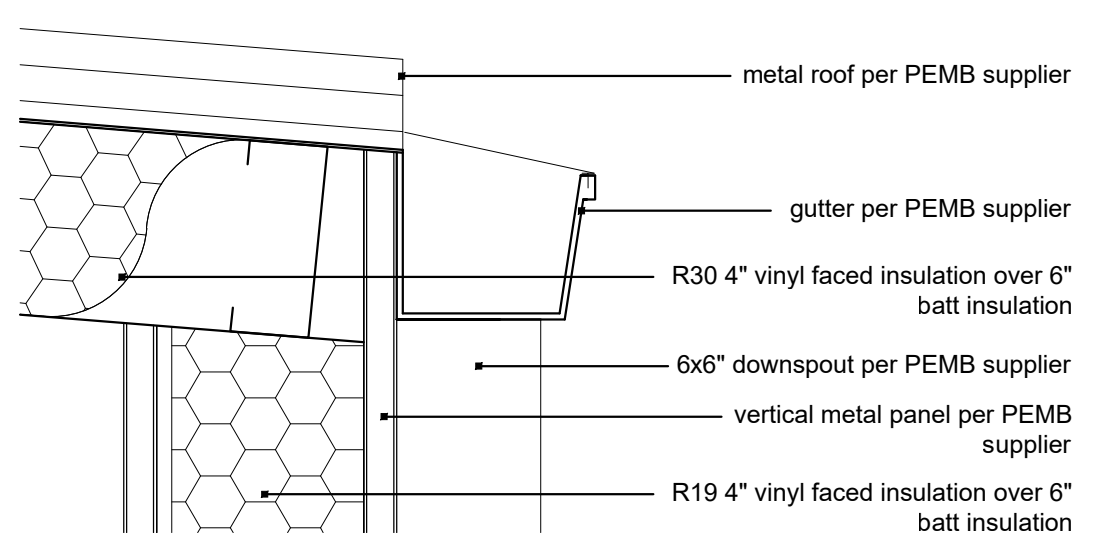
9 | Ovhd Door
scale: 1-1/2" = 1'-0"



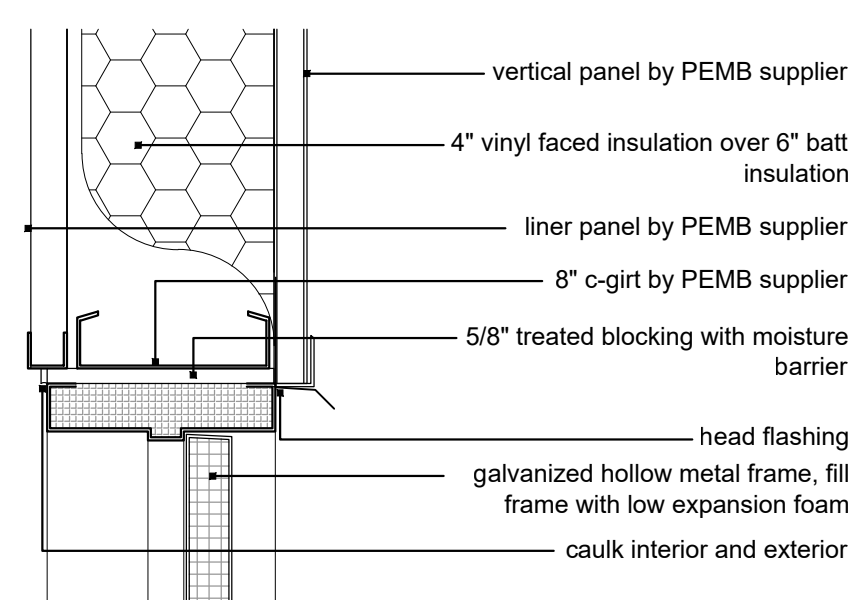
8 | metal panel @ base
scale: 1-1/2" = 1'-0"



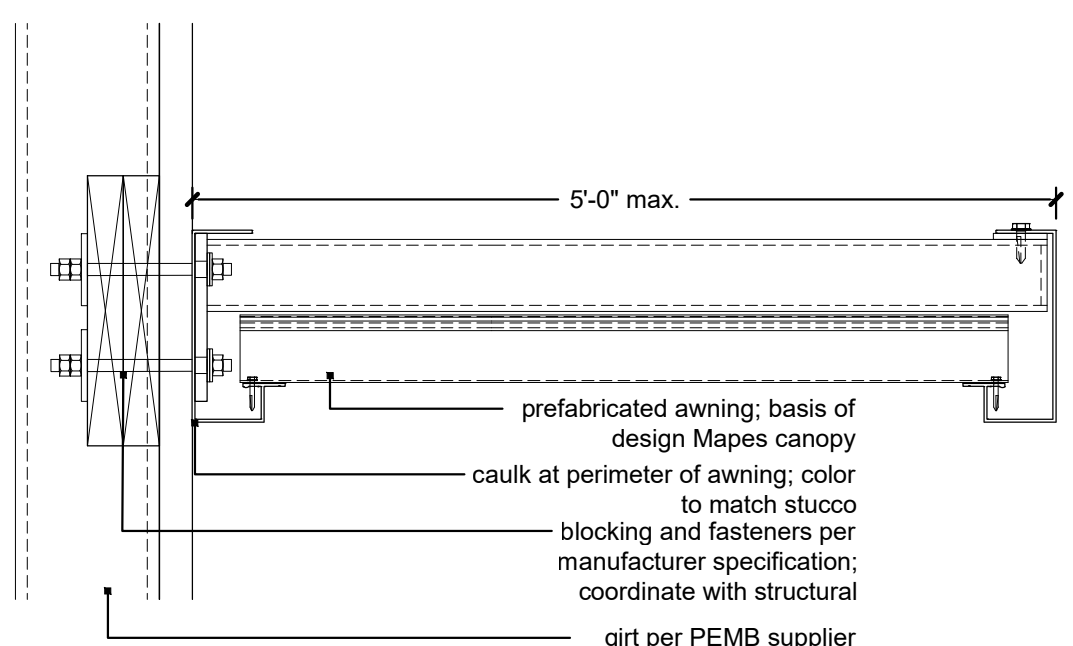
7 | Stone Cap
scale: 1-1/2" = 1'-0"



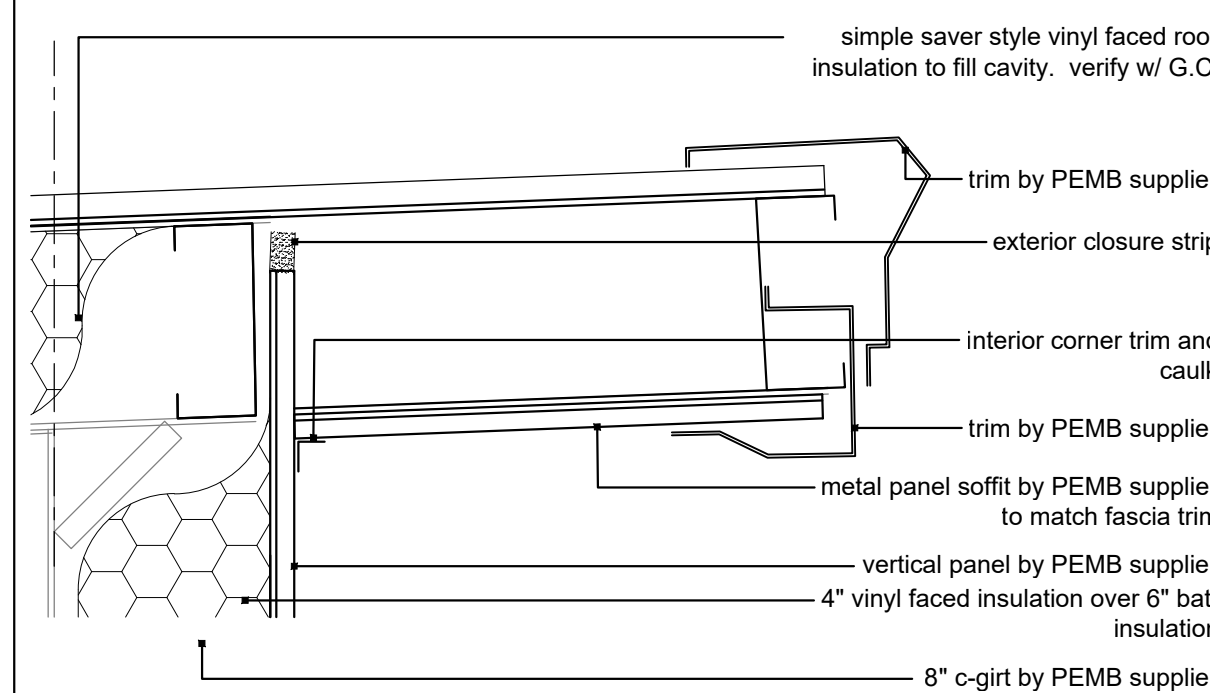
6 | Gutter
scale: 1-1/2" = 1'-0"



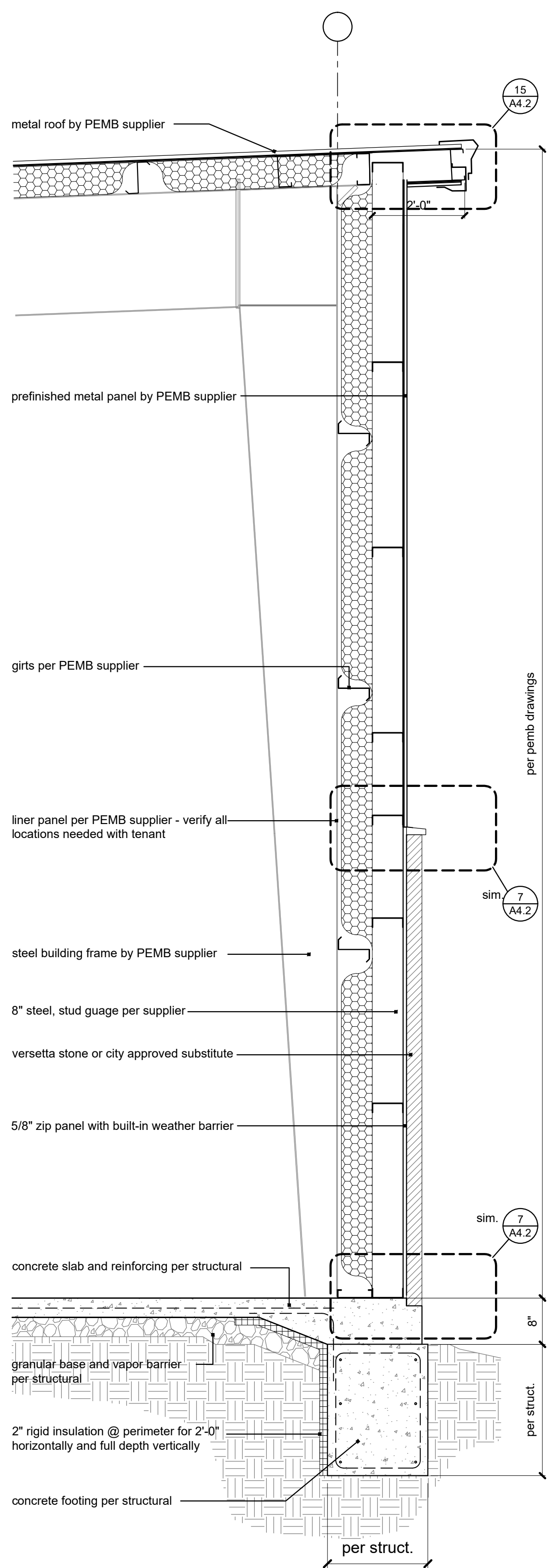
12 | Door @ Liner Panel
scale: 1-1/2" = 1'-0"



11 | Awning
scale: 1-1/2" = 1'-0"



15 | Wall Section
scale: 1/2" = 1'-0"



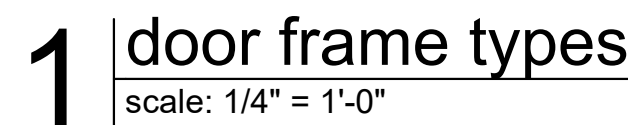
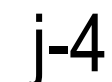
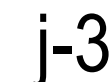
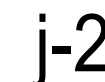
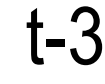
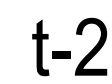
14 | Wall Section
scale: 1/2" = 1'-0"

typ. wdw by
PEMB supplier

6'-0"

3'-0"

2 | window type
scale: 1/4" = 1'-0"

 $j-1$  $t-1$ 

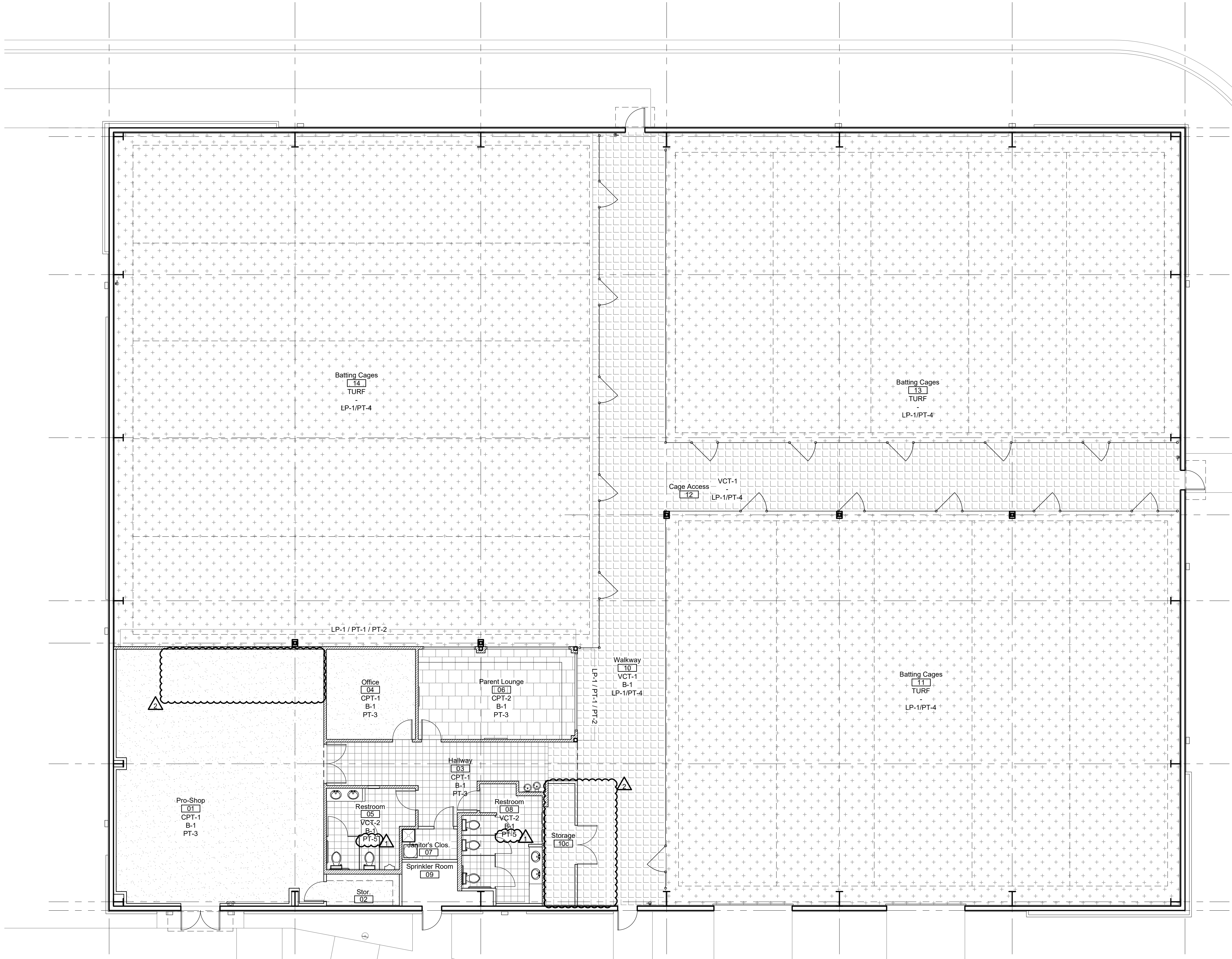
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revisions	
06.20.2022	1
10.13.2022	2



- TURF
- VCT-1
- CPT-1
- VCT-2
- CPT-2

room finish schedule

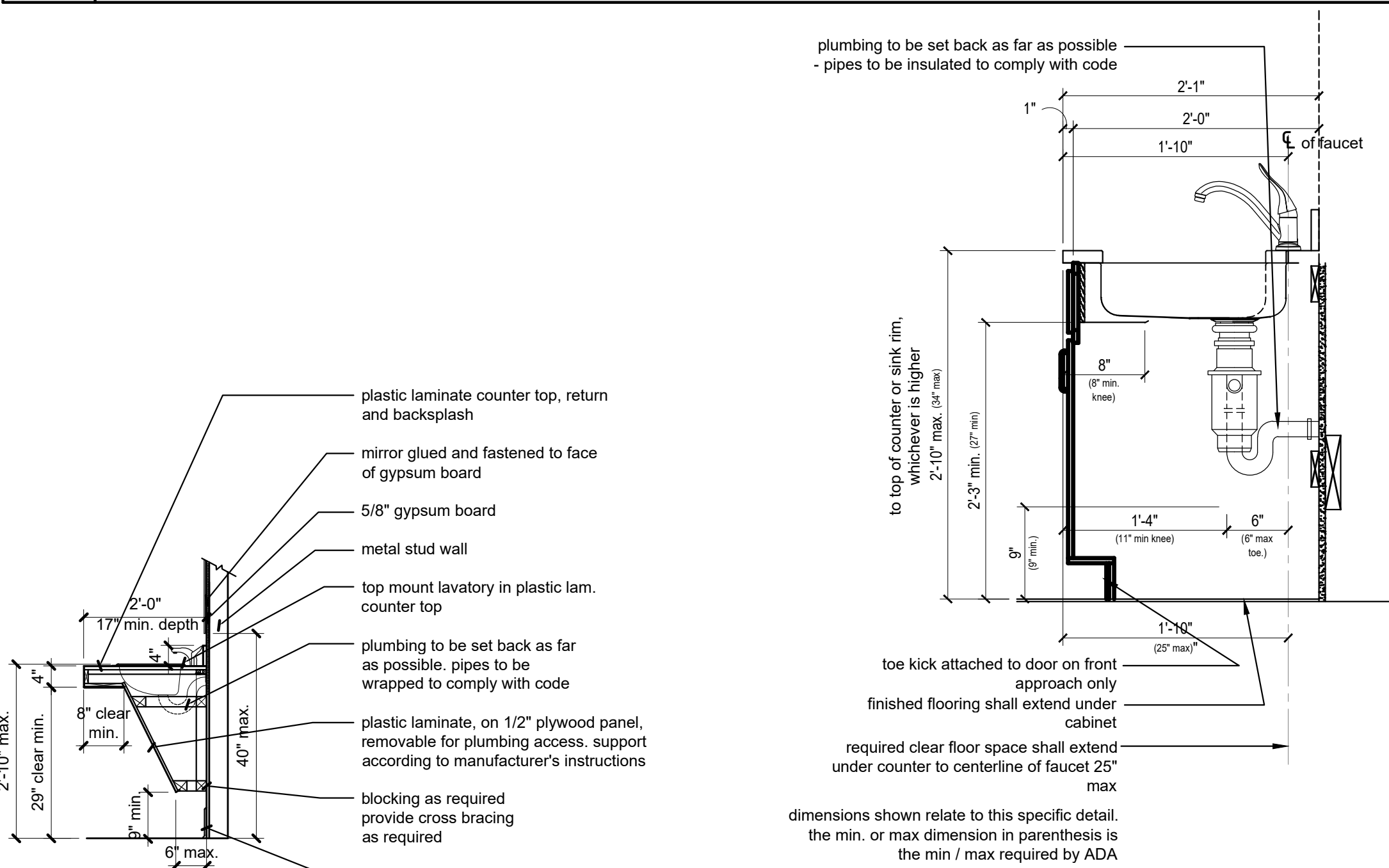
room no.	room name	floor					base	wall				ceiling		remarks		
		CPT-1	CPT-2	VCT-1	VCT-2	TURF	sc	b1	none	nw	sw	ne	se	act 1	dig. ht.	
01	Pro-Shop	●						●		wall finishes per plan 1/A5.2				●	14'-0"	△
02	Storage	●						●		wall finishes per plan 1/A5.2				●	open	-
03	Hallway			●				●		wall finishes per plan 1/A5.2				●	9'-0"	-
04	Office	●						●		wall finishes per plan 1/A5.2				●	8'-0"	-
05	Restroom			●				●		wall finishes per plan 1/A5.2				●	8'-0"	-
06	Parent Lounge		●					●		wall finishes per plan 1/A5.2				●	12'-0"	△
07	Janitor's Closet			●				●		wall finishes per plan 1/A5.2				●	8'-0"	-
08	Restroom			●				●		wall finishes per plan 1/A5.2				●	8'-0"	-
09	Sprinkler Room						●	●		wall finishes per plan 1/A5.2				●	open	-
10	Walkway				●			●		wall finishes per plan 1/A5.2				●	open	-
10c	Storage Closet			●				●		wall finishes per plan 1/A5.2				●	open	-
11	Batting Cages				●			●		wall finishes per plan 1/A5.2				●	open	-
12	Cage Access				●			●		wall finishes per plan 1/A5.2				●	open	-
13	Batting Cages				●			●		wall finishes per plan 1/A5.2				●	open	-
14	Batting Cages				●			●		wall finishes per plan 1/A5.2				●	open	-

finish legend

CPT-1	carpet tile, Philadelphia Commercial, style: Counterpart (54816), size: 24" x 24", color: Copilot (16400)
CPT-2	carpet tile, Philadelphia Commercial, style: Counterpart (54816), size: 24" x 24", color: Correlate (16505)
VCT-1	vinyl composite tile, Armstrong Flooring, style: Standard Excelon Imperial Texture VCT, size: 12" x 12", color: Gentian Blue (51946)
VCT-2	vinyl composite tile, Armstrong Flooring, style: Standard Excelon Imperial Texture VCT, size: 12" x 12", color: Pomegranate Red (51814) pricing alternate: basis of design Restek epoxy floor, colored flakes with red as primary color - submit sample for tenant approval
TURF	D-BAT Turf
SC	sealed concrete - ashford sealer
B-1	vinyl base, manufacturer: TBD, standard cove, size: 4", color: gray
PT-1	wall paint, manufacturer: TBD, finish: eggshell, color: D-Bat Gold (1 coat primer, 2 coats paint - to cover)
PT-2	wall paint, manufacturer: TBD, finish: eggshell, color: D-Bat Red (1 coat primer, 2 coats paint - to cover)
PT-3	wall paint, manufacturer: TBD, finish: eggshell, color: D-Bat White (1 coat primer, 2 coats paint - to cover)
PT-4	wall paint, manufacturer: TBD, finish: eggshell, color: D-Bat Green (1 coat primer, 2 coats paint - to cover) - from base to 12'-0" a.f.f.
PT-5	epoxy paint, manufacturer: TBD, color: D-Bat White (1 coat primer, 2 coats paint - to cover)
primer	primer, sherwin williams, PrepRite High Build latex primer/surfacer, B28V601
PL-1	plastic laminate, wilsonart, color: indigo (D379)
PL-2	plastic laminate, wilsonart, color: dove grey (D92)
ACT-1	acoustical ceiling tile, armstrong, 2x2, prelude xl 118" exposed tee grid, dune #1774, angled tegular (revealed), fine texture, white
LP-1	liner panel, Chief Buildings, steel liner panel, color: Emerald Green (EG)
door	door finish, manufacturer: TBD, color: manufacturer's standard white

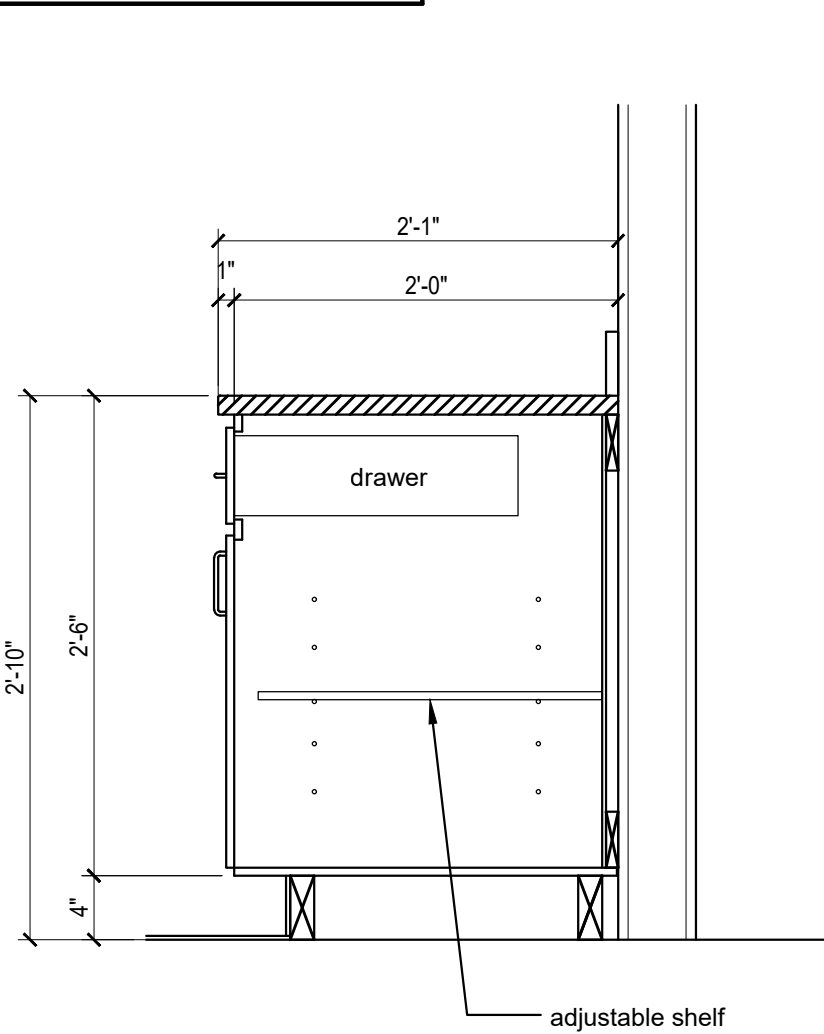
finish notes:

- All interior glazing to be clear. Temper all interior glass.
- Interior aluminum storefront shall have clear anodized aluminum finish
- Each material specified for application on the entire project shall be from the same dye lot.
- All surfaces shall be cleaned and conditioned to receive new finish as required by finish product manufacturer. Surfaces shall be smooth, free from depressions, protrusions, pits, slumps, streaks, flashing, and variation in texture. Installer/subcontractor shall notify general contractor prior to installation if conditions are not satisfactory.
- All wall mounted mechanical slots or grilles to be painted to match the wall on which they occur. Do not paint prefinished wall mullion end caps.
- Contractor shall be responsible for leveling of floor slabs to receive specified finishes.
- All patterned flooring to be centered in both directions and generated from center of room outward toward partitions, unless otherwise noted.
- All floor finish changes to occur under centerline of door in closed position.
- Combustible interior finish products shall be provided per the requirement of the international building code section 803.4.
- Carpet seams shall occur at junctions of partitions, thresholds or change of direction in corridors. No strip patch allowed smaller than 4'-0".
- Finishes shall be bid as specified or as approved equal only.
- Utilize dens-armour plus in all plumbing wet walls, walls anticipated to be in contact with moisture, or walls receiving ceramic tile.
- All interior ceramic corners & tops shall receive schluter trim.
- Refer to finish legend for level of gypsum board finish as defined by the gypsum association.
- LVT to sealed concrete shall occur with rubber transition to match base color.

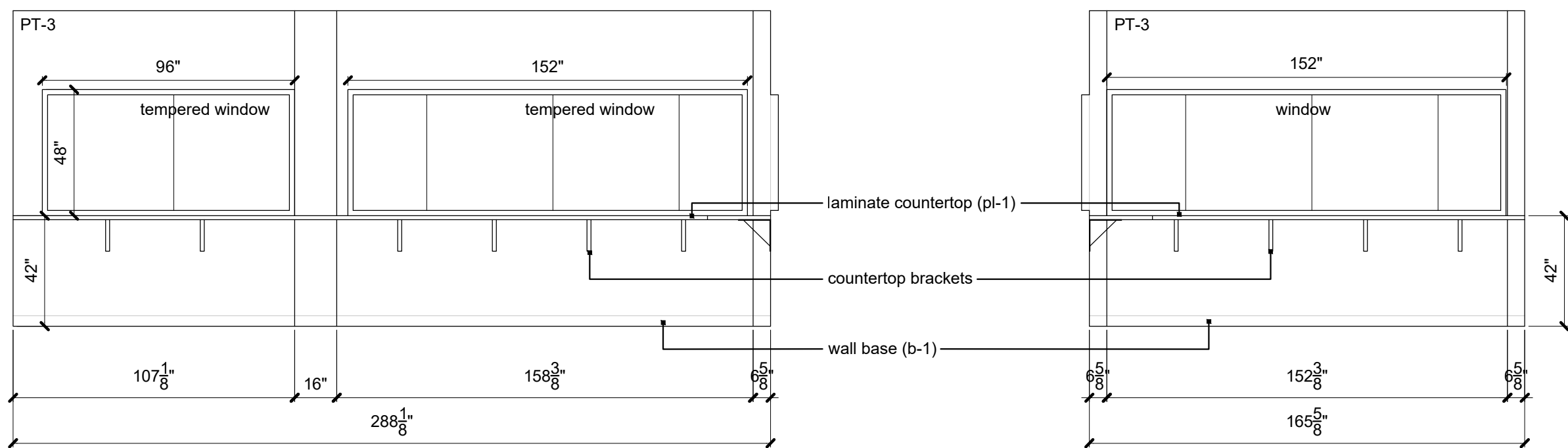


6 ADA sink
scale: 1/2" = 1'-0"

5 Sink Base Cabinet
scale: 1" = 1'-0"



4 Base Cabinet
scale: 1" = 1'-0"



3 Parents' Lounge Elevation
scale: 1/4" = 1'-0"

a new development for

D-BAT - Town Centre Lot 1

540 NE Town Centre Drive
Lee's Summit, Missouri

date
05.19.2022
drawn by
DAE
checked by
DAE
revisions

06.20.2022 1
10.13.2022 2

sheet number

A5.3

drawing type
FDP & Permit

project number
20231

NOTES - FOUNDATION

1. CONTRACTOR SHALL BE FULLY FAMILIAR WITH IBC CHAPTER 18 FOR USE OF PRESUMPTIVE LOAD-BEARING CAPACITY.
2. CONTRACTOR SHALL USE IBC SPECIFICATIONS AND DETAILS FOR PLACEMENT OF PERIMETER DRAINS, UNDER-SLAB DRAINS, AND ANY OTHER SOILS RELATED ITEMS.
3. ALL FOUNDATIONS TO BEAR ON ORIGINAL, UNDISTURBED SOIL. REMOVE ANY MUD, ORGANIC SILT, ORGANIC CLAYS, PEAT OR UNPREPARED FILL PRIOR TO PLACING FOUNDATIONS.
4. ALL FOOTING EXCAVATIONS TO BE APPROVED BY A QUALIFIED GEOTECHICAL ENGINEER PRIOR TO PLACING CONCRETE.
5. ALL EXTERIOR AND PERIMETER FOOTINGS SHALL EXTEND BELOW FROST DEPTH, REFERENCE DESIGN INFORMATION FOR FROST DEPTH.

NOTES - CONCRETE

1. ALL CONCRETE CONSTRUCTION TO CONFORM TO ACI "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", THE GOVERNING EDITION OF THE ACI 318, AND ACI "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" ACI 301, UNLESS NOTED OTHERWISE.
2. WATER REDUCING ADD MIXTURES ARE ALLOWED IN CONCRETE MIX DESIGNS.
3. SYNTHETIC MICRO-FIBERS ARE NOT ALLOWED UNLESS SPECIFICALLY NOTED IN THESE DRAWINGS.
4. UNLESS OTHERWISE SHOWN IN THE ARCHITECTURAL DRAWINGS, PROVIDE 3/4" CHAMFERS AT THE EDGES THAT ARE EXPOSED TO VIEW IN THE FINISHED STRUCTURE.
5. REFERENCE ARCHITECTURAL DRAWINGS FOR DOOR AND WINDOW OPENINGS, DRIP SLOTS, REGLETS, MASONRY, ANCHORS, BRICK LEDGE ELEVATIONS AND FOR MISCELLANEOUS EMBEDDED PLATES, BOLTS, ANCHORS, ANGLES, ETC.
6. REFERENCE ARCHITECTURAL DRAWINGS FOR CONCRETE FINISHES, WHERE FINISH IS NOT SPECIFIED, CONFORM TO REQUIREMENTS OF ACI 301.
7. REFERENCE MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR DRAINS, SLEEVES, OUTLET BOXES, CONDUIT, ANCHORS, ETC.
8. CONTACT APEX ENGINEERS, INC. IF HOUSE KEEPING PADS OR INERTIA BASES ARE REQUIRED BEYOND WHAT IS SHOWN IN THE STRUCTURAL CONTRACT DOCUMENTS.
9. ALL REINFORCING STEEL TO BE DETAILED IN ACCORDANCE WITH ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES."
10. REINFORCING SHALL BE CONTINUOUS WHEREVER POSSIBLE. SPLICES AND LAPS TO CONFORM TO ACI 318. REFER TO CONCRETE REBAR SCHEDULE.
11. DOWELS IN FOOTING, WALLS, AND DRILLED PIERS MUST BE IN POSITION BEFORE PLACING CONCRETE WHENEVER POSSIBLE.
12. REFERENCE TYPICAL FOUNDATION DETAILS FOR INFORMATION ON REINFORCING REQUIREMENTS AT WALL AND SLAB OPENINGS.
13. REFERENCE TYPICAL FOUNDATION DETAILS FOR INFORMATION ON REINFORCING REQUIREMENTS AT CORNER AND TEE INTERSECTIONS.
14. PROVIDE VERTICAL CONTROL JOINTS ON ALL POURED CONCRETE WALLS AND BASEMENT WALLS, EXCEPT FOUNDATION STEM WALLS LOCATED IN THE GROUND. SPACE JOINTS AT 3 x WALL HEIGHT FOR WALLS LESS THAN 10'-0" AND WALL HEIGHT FOR TALLER WALLS. PROVIDE ADDITIONAL JOINT WITHIN 10'-0" OF CORNERS.
15. OPENINGS IN SLAB OF 1'-4" AND LESS ON A SIDE ARE GENERALLY NOT SHOWN ON THE STRUCTURAL DRAWINGS. REFERENCE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR SUCH OPENINGS.

NOTES - STEEL

1. ALL STRUCTURAL STEEL TO BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE GOVERNING EDITION OF THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES."
2. BOLTED CONNECTIONS: ALL BOLTED CONNECTIONS SHALL BE SNUG-TIGHT IN ACCORDANCE WITH THE "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM F3125 GRADE A325 OR A490 BOLTS" PUBLISHED BY THE RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS.
3. WELDED CONNECTIONS: ALL WELDING SHALL BE IN ACCORDANCE WITH THE "STRUCTURAL WELDING SOCIETY CODE" (AWS D1.1) PUBLISHED BY THE AMERICAN WELDING SOCIETY. ELECTRODES FOR WELDING SHALL COMPLY WITH THE REQUIREMENTS OF TABLE 3.1 OF (AWS D1.1). ALL WELDING TO BE DONE BY QUALIFIED WELDERS CONFORMING TO THE AMERICAN WELDING SOCIETY STANDARDS.
4. SPLICING OF STEEL MEMBERS, UNLESS SHOWN ON THE DRAWINGS, IS PROHIBITED WITHOUT THE WRITTEN APPROVAL OF APEX ENGINEERS, INC.
5. CHANGES IN SIZE OR POSITION OF THE STRUCTURAL ELEMENTS, AND HOLES, SLOTS, CUTS, ETC. THROUGH ANY MEMBER, ARE NOT PERMITTED UNLESS THEY ARE DETAILED ON THE APPROVED SHOP DRAWINGS.
6. NO FINAL BOLTING OR WELDING SHALL BE MADE UNTIL AS MUCH OF THE STRUCTURE AS WILL BE STIFFENED THEREBY HAS BEEN PROPERLY ALIGNED.
7. FABRICATE ALL BEAMS WITH THE MILL CAMBER UP UNO.
8. ALL VISIBLE WELDED CONNECTIONS ON ARCHITECTURAL ELEMENTS TO BE GROUND SMOOTH. DO NOT REDUCE THROAT SIZE OF WELD.
9. THE FABRICATOR SHALL BE RESPONSIBLE FOR THE DESIGN AND PERFORMANCE OF ALL CONNECTIONS NOT FULLY DESIGNED OR DETAILED IN THE CONTRACT DOCUMENTS. FABRICATOR TO PROVIDE ENGINEERED STAMPED SHOP DRAWINGS AND CALCULATIONS FOR ALL CONNECTIONS THAT DO NOT COMPLY WITH AISC STEEL CONSTRUCTION MANUAL CHAPTER 10 SIMPLE SHEAR CONNECTIONS.
10. STEEL MEMBERS ON THE EXTERIOR OF THE BUILDING OR EXPOSED TO SOIL MUST BE, AT A MINIMUM, PROPERLY PRIMED WITH RUST INHIBITING PRIMER AND PAINTED. STEEL MEMBERS COMPLETELY ENCLOSED IN BUILDING ENVELOPE DO NOT REQUIRE PRIMER OR PAINT. UNO. REFER TO ARCHITECTURAL DOCUMENTS FOR ADDITIONAL REQUIREMENTS OF EXPOSED STEEL.

NOTES - GENERAL

1. THESE DRAWINGS ARE INTENDED TO BE USED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING SUCH REQUIREMENTS INTO THEIR SHOP DRAWINGS AND WORK.
2. NO OPENING SHALL BE MADE IN ANY STRUCTURAL MEMBER WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.
3. NO CHANGE IN SIZE OR DIMENSION OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.
4. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED.
5. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL TEMPORARY BRACING AND/OR SUPPORT THAT MAY BE REQUIRED AS THE RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES.
6. UNLESS OTHERWISE NOTED, FIREPROOFING METHODS AND MATERIALS FOR STRUCTURAL MEMBERS ARE NOT SHOWN ON STRUCTURAL DRAWINGS. REFERENCE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR FIRE RATING REQUIREMENTS, FIRE PROOFING METHODS AND MATERIALS.
7. DO NOT SCALE THESE DRAWINGS. USE DIMENSIONS SHOWN ON PLANS. THE CONTRACTOR SHALL INFORM THE ARCHITECT/ENGINEER OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY FOR SUCH DEVIATION BY THE ARCHITECT/ENGINEER'S APPROVAL OF SHOP DRAWINGS, PRODUCT DATA, ETC.. UNLESS HE HAS SPECIFICALLY INFORMED THE ARCHITECT/ENGINEER OF SUCH DEVIATION AT THE TIME OF SUBMISSION, AND THE ARCHITECT/ENGINEER HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION.
9. ALL THINGS WHICH, IN THE OPINION OF THE CONTRACTOR, APPEAR TO BE DEFICIENCIES, OMISSIONS, CONTRADICTIONS, BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER. PLANS AND/OR SPECIFICATIONS WILL BE CORRECTED, OR WRITTEN INTERPRETATION OF THE ALLEGED DEFICIENCY, OMISSION, CONTRADICTION OR AMBIGUITY WILL BE MADE BY THE ARCHITECT/ENGINEER BEFORE THE AFFECTED WORK PROCEEDS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ERRORS OF DETAILING, FABRICATION AND INSTALLATION. THE CONTRACTOR SHALL MAKE ALL MEASUREMENTS IN THE FIELD NECESSARY TO VERIFY OR SUPPLEMENT DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS AND HE SHALL VERIFY THAT ALL DIMENSIONS SHOWN ON THE SHOP DRAWINGS ARE COORDINATED WITH THE DIMENSIONS AND REQUIREMENTS OF THE CONTRACT DRAWINGS. REVIEW OF THE SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR COMPLETING THE WORK SUCCESSFULLY IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS.
11. SUBMIT PRINTS OR ELECTRONIC COPIES OF EACH SHOP DRAWINGS. REPRODUCIBLE COPIES OF CONTRACT DOCUMENTS SHALL NOT BE USED AS SHOP DRAWINGS. SHOP DRAWINGS SHALL BE REVIEWED BY CONTRACTOR PRIOR TO SUBMISSION. CONTRACTOR STAMP SHOP DRAWINGS ACCEPTING RESPONSIBILITY FOR COORDINATION OF DIMENSIONS SHOWN IN THE CONTRACT DOCUMENTS, QUANTITIES AND COORDINATION WITH OTHER TRADES. DRAWINGS NOT BEARING CONTRACTOR'S STAMP MAY BE REJECTED AT THE DISCRETION OF THE ARCHITECT OR STRUCTURAL ENGINEER.
12. REVIEW AND RETURN OF SHOP DRAWINGS SHALL BE BASED ON A MINIMUM OF TEN (10) WORKING DAYS IN THE STRUCTURAL ENGINEER'S OFFICE FROM RECEIPT OF SUBMISSION TO RETURN TO THE NEXT PARTY FOR THEIR ACTION. SHOP DRAWINGS SHOULD BE SUBMITTED INCREMENTALLY AS APPROPRIATE PACKAGES ARE PREPARED TO EQUALIZE THE WORKLOAD FOR REVIEW OF THE DRAWINGS. SUBMISSION OF A LARGE VOLUME OF SHOP DRAWINGS AT ONE TIME MAY RESULT IN REVIEW TIMES WHICH WILL EXCEED THOSE NOTED ABOVE. DEFINITION OF A "LARGE VOLUME" OF SHOP DRAWINGS IS SUBJECT TO INTERPRETATION.

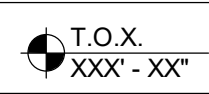
NOTES - DEFERRED SUBMITTALS

1. THE ARCHITECT OR ENGINEER OF RECORD SHALL LIST THE DEFERRED SUBMITTALS ON THE PLANS FOR REVIEW BY THE BUILDING OFFICIAL.
2. DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ARCHITECT OR ENGINEER OF RECORD WHO SHALL REVIEW THEM AND FORWARD THEM TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND FOUND TO BE IN THE GENERAL CONFORMANCE TO THE DESIGN OF THE BUILDING.
3. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.
4. DEFERRED SUBMITTALS ARE DEFINED AS THOSE PORTIONS OF THE DESIGN THAT ARE NOT SUBMITTED AT THE TIME OF THE APPLICATION AND THAT ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL WITHIN A SPECIFIED PERIOD.
5. DEFERRAL OF ANY SUBMITTAL ITEMS SHALL HAVE THE PRIOR APPROVAL OF THE BUILDING OFFICIAL.
6. SUBMITTALS SHALL INCLUDE DETAILED DRAWINGS OF EACH MEMBER AND ITS CONNECTIONS ALONG WITH SUPPORTING CALCULATIONS. PREPARED UNDER THE SUPERVISION, BEARING THE SEAL AND SIGNATURE, OF A LICENSED PROFESSIONAL ENGINEER IN THE PROJECT JURISDICTION.
7. CONTRACTOR SHALL SUBMIT STRUCTURAL DEFERRED SUBMITTAL FOR THE FOLLOWING:
 - STEEL GUARDRAILS AND HANDRAILS
 - STEEL FABRICATED STAIRS AND LADDERS
 - PRE-MANUFACTURED CANOPIES AND AWNINGS

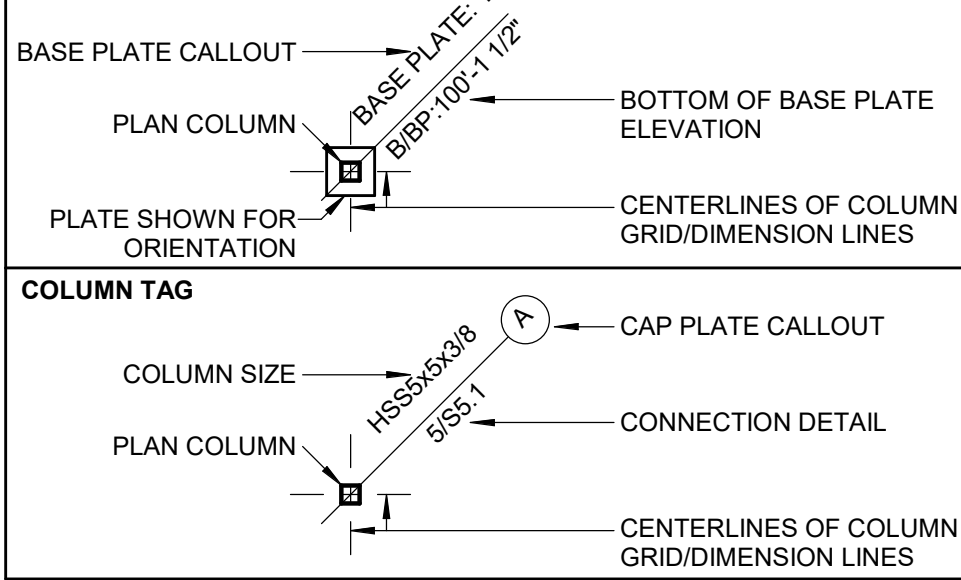
NOTES - SHOP DRAWING SUBMITTALS

1. SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL STRUCTURAL ITEMS IN ADDITION TO ITEMS REQUIRED BY ARCHITECTURAL SPECIFICATIONS. SHOP DRAWING REVIEW IS INTENDED FOR VERIFICATION OF DESIGN CONCEPT CONVEYANCE AND GENERAL CONFORMANCE TO CONTRACT DOCUMENTS ONLY.
2. CHANGES, SUBSTITUTIONS, OR DEVIATIONS FROM CONTRACT DOCUMENTS SHALL BE CLOUDED BY MANUFACTURER/FABRICATOR. ANY OF THE AFOREMENTIONED WHICH ARE NOT CLOUDED OR FLAGGED BY SUBMITTING PARTIES SHALL NOT BE CONSIDERED APPROVED AFTER ENGINEER'S REVIEW, UNO.
3. SHOP DRAWINGS DO NOT REPLACE THE CONTRACT DOCUMENTS. ITEMS SHOWN INCORRECTLY OR OMITTED AND NOT FLAGGED BY THE ENGINEER DURING REVIEW ARE NOT TO BE CONSIDERED CHANGES TO THE CONTRACT DOCUMENTS.
4. THE ADEQUACY OF ENGINEERING DESIGNS AND LAYOUT PERFORMED BY OTHERS RESTS WITH THE DESIGNING OR SUBMITTING AUTHORITY. DESIGNED SHOP DRAWINGS SHALL BE PREPARED UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER.
5. SHOP DRAWINGS MUST BE ORIGINAL DOCUMENTS. REPRODUCTION OF ANY PORTION OF THE CONTRACT DOCUMENTS FOR USE IN SUBMITTALS IS NOT PERMITTED AND MAY RESULT IN REJECTION.
6. THE ENGINEER HAS THE RIGHT TO APPROVE OR DISAPPROVE ANY CHANGES TO CONTRACT DOCUMENTS AT ANY TIME BEFORE OR AFTER SHOP DRAWING REVIEW.
7. CONTRACTOR SHALL SUBMIT STRUCTURAL SHOP DRAWINGS FOR THE FOLLOWING:
 - CONCRETE MIX DESIGN, MATERIALS, AND TEST REPORTS
 - CONCRETE REINFORCING STEEL, HARDWARE, AND FASTENERS
 - PRE-ENGINEERED METAL BUILDING

SYMBOLS / ABBREVIATIONS

SYMBOL/TAG	DESCRIPTION	APPLIES TO	
	DETAIL ON SHEET SHEET NUMBER	DETAILS, SECTIONS, & ELEVATIONS	
T.O.W. = XXX' - XX" B.O.W. = XXX' - XX"	ELEVATION (TOP) ELEVATION (BOTTOM)	FOUNDATION WALLS AND LEDGES (SIM)	
	ELEVATION MARK	LEVELS, SPOT ELEVATIONS, & PLAN ELEVATIONS	
T.O.S. = XXX' - XX"	TOP OF STEEL ELEVATION	PLAN VIEW NOTATIONS	
JST BRG = XXX' - XX"	JOIST BEARING ELEVATION	PLAN VIEW NOTATIONS	
	REVISION MARK	SHEET REVISIONS	
ABV	DEFINITION	ABV	DEFINITION
AB	ANCHOR BOLT	SIM	SIMILAR CONDITION
CJ	CONTRACTION JOINT	STD	STANDARD
CL	CENTERLINE	TOC	TOP OF CONCRETE
DIA	DIAMETER	TOD	TOP OF DECK
EOD	EDGE OF DECK ANGLE	TOL	TOP OF LEDGE
EOS	EDGE OF SLAB	TOM	TOP OF MASONRY
EXT	EXTERIOR	TOS	TOP OF STEEL
GA	GAUGE	TOW	TOP OF WALL
HAS	HEADED ANCHOR STUDS	TYP	TYPICAL CONDITION
OC	ON CENTER	UNO	UNLESS NOTED OTHERWISE
PAF	POWDER ACTUATED FASTNR	WP	WORK POINT

BASE PLATE TAG



DESIGN INFORMATION

BUILDING CODE: 2018 INTERNATIONAL BUILDING CODE AS ADOPTED AND/OR AMENDED BY LOCAL BUILDING CODES	
SOILS INFORMATION: THE FOUNDATION DESIGN PROVIDED IS BASED OFF OF A MINIMUM ALLOWABLE PRESUMPTIVE LOAD-BEARING VALUE AS INDICATED BY IBC TABLE 1806.2 IN LIEU OF A SITE BASE GEOTECHNICAL EVALUATION. IT IS RECOMMENDED THAT A QUALIFIED GEOTECHNICAL ENGINEER BE RETAINED TO VERIFY THESE ASSUMPTIONS PRIOR TO CONSTRUCTION. BY USE OF THIS FOUNDATION DESIGN WITHOUT PROVIDING SUCH VERIFICATION, APEX WILL NOT BE LIABLE FOR THIS DESIGN PARAMETER, AND THE OWNER SHALL ACCEPT ALL RISKS ASSOCIATED WITH DAMAGE TO THE STRUCTURE AS A RESULT OF EXPANSIVE, COMPRESSIBLE, SHIFTING AND/OR DIFFERENTIAL MOVEMENT AS A RESULT OF DIFFERING SUBGRADE CONDITIONS BETWEEN EXISTING AND NEW FOUNDATION ELEMENTS.	
FROST DEPTH	36"
PRESUMPTIVE LOAD-BEARING PRESSURE	2000 psf

MATERIAL SPECIFICATIONS

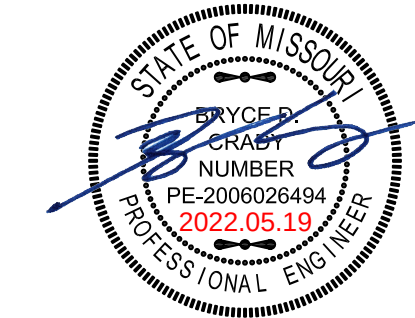
STEEL MATERIAL SPECIFICATIONS						
STEEL MEMBERS	MATERIAL					
WIDE FLANGE SHAPES (W)	ASTM A992					
CHANNELS (C), ANGLES (L)	ASTM A36					
PLATES	ASTM A36					
HOLLOW STRUCTURAL SHAPES (HSS)	ASTM A500, GRADE C					
HIGH STRENGTH BOLTS	ASTM F3125, GRADE A325					
ANCHOR BOLTS (HEX-HEAD UNO)	ASTM F1554 (55 ksi) "S1"					
EPOXY ANCHOR RODS	ASTM A36					
STEEL DECK, PLAIN STEEL	ASTM A1008, (33 ksi)					
STEEL DECK, GALVANIZED	ASTM A653, (33 ksi)					
NON-SHRINK GROUT, COL. BASES	5000 psi (28 DAY STRENGTH)					
CONCRETE & REINFORCING STEEL SPECIFICATIONS						
MATERIAL	SPECIFICATION					
REINFORCING BARS	ASTM A615, GRADE 60					
WELDED REBAR	ASTM A706					
WELDED WIRE FABRIC	ASTM A1064					
PORTLAND CEMENT	ASTM C 150					
FLY ASH	ASTM C 618, 15% MAX					
CONCRETE AGGREGATES	ASTM C 33, 3/4" MAX AGG. SIZE.					
EPOXY - THREADED ROD ANCHORS	HILTI HIT-HY 200 A OR SIMPSON SET 3G					
EPOXY - REINFORCING BARS	HILTI HIT-HY 200 R OR SIMPSON SET 3G					
REBAR CONDITION	MINIMUM CONCRETE COVER					
FORMED SURFACES EXPOSED TO GROUND OR WEATHER	2"					
UNFORMED SURFACE IN CONTACT WITH THE GROUND	3"					
WALLS AND SLABS NOT EXPOSED TO GROUND OR WEATHER	1"					
INTERIOR BEAMS AND COLUMNS (TO TIES OR STIRRUPS)	1 1/2"					
CONCRETE MIX DESIGN REQUIREMENTS						
CONCRETE USE	WEIGHT	28 DAY f'c	CEMENT TYPE	MAX W/C RATIO	SLUMP (+/- 1")	% AIR
FOOTINGS/PIERS	NW	3500 psi	I/II	0.55	5"	6% MAX
FOUNDATION WALLS	NW	3500 psi	I/II	0.50	4"	6% +/- 1%
INT. SLAB-ON-GRADE	NW	4000 psi	I/II	0.45	5"	3% MAX
ELEVATED SLABS	NW	5000 psi	I/II	0.45	5"	1.5% +/-
TILT-UP WALLS	NW	4000 psi	I/II	0.45	4"	5% +/- 1.5%
CONCRETE SLAB SPECIFICATIONS						
FLOOR FLATNESS, F _F	SOV: 35 MLV: 25					
FLOOR LEVELNESS, F _L	SOV: 24 MLV: 17					

SHEET LIST - STRUCTURAL

SHEET NUMBER	SHEET NAME
S100	GENERAL NOTES AND SPECIFICATIONS
S110	SPECIAL INSPECTIONS
S200	FOUNDATION PLAN
S500	TYPICAL FOUNDATION DETAILS
S501	TYPICAL FOUNDATION DETAILS

a new development for
D-Bats
520 NE Town Centre Drive
LEE'S SUMMIT, MO

date
Issue Date
drawn by
JMB
checked by
BDC
revisions



sheet number

S100

drawing type
Project Status
project number
Project Number



SCHEDULE - CONCRETE REBAR											
DEVELOPMENT LENGTHS - L _d											
f _c = 3000 PSI						f _c = 4000 PSI					
BAR SIZE	STD. L _d		CLASS B		BAR SIZE	STD. L _d		CLASS B			
	TYP.	TOP	TYP.	TOP		TYP.	TOP	TYP.	TOP		
#3	17"	22"	22"	28"	#3	15"	19"	19"	25"		
#4	22"	29"	29"	38"	#4	19"	25"	25"	33"		
#5	28"	36"	37"	47"	#5	24"	31"	32"	41"		
#6	33"	43"	43"	56"	#6	29"	37"	38"	49"		
#7	48"	63"	63"	82"	#7	42"	54"	55"	71"		
#8	55"	72"	72"	94"	#8	48"	62"	63"	81"		
#9	62"	81"	81"	106"	#9	54"	70"	71"	91"		
STANDARD HOOKS & BAR BENDS											
f _c = 3000 PSI						f _c = 4000 PSI					
BAR SIZE	L _{dh}	"Ø"	L _{ext}		BAR SIZE	L _{dh}	"Ø"	L _{ext}			
			180	90				180	90		
#3	6"	2 1/4"	2 1/2"	4 1/2"	#3	6"	2 1/4"	2 1/2"	4 1/2"		
#4	8"	3"	2 1/2"	6"	#4	7"	3"	2 1/2"	6"		
#5	10"	3 3/4"	2 1/2"	7 1/2"	#5	9"	3 3/4"	2 1/2"	7 1/2"		
#6	12"	4 1/2"	3"	9"	#6	10"	4 1/2"	3"	9"		
#7	14"	5 1/4"	3 1/2"	10 1/2"	#7	12"	5 1/4"	3 1/2"	10 1/2"		
#8	16"	6"	4"	12"	#8	14"	6"	4"	12"		
#9	18"	9"	4 1/2"	13 1/2"	#9	15"	9"	4 1/2"	13 1/2"		
BAR BENDS											
180 DEGREE HOOK				90 DEGREE HOOK				90 DEGREE HOOK			
STIRRUPS, TIES, & HOOPS											
BAR SIZE	Ø	L _{ext}			BAR SIZE	Ø	L _{ext}				
		90	135	180			90	135	180		
#3	1 1/2"	3"	3"	2 1/2"	#6	4 1/2"	9"	4 1/2"	3"		
#4	2"	3"	3"	2 1/2"	#7	5 1/4"	10 1/2"	5 1/4"	3 1/2"		
#5	2 1/2"	3 3/4"	3 3/4"	2 1/2"	#8	6"	12"	6"	4"		
90 DEGREE HOOK				135 DEGREE HOOK				180 DEGREE HOOK			
RECTANGULAR BEAM/COLUMN TIE				CIRCULAR COLUMN/PIER TIE				BAR CLEARANCE		BAR SPLICE	
NOTES:											
1. USE THE ABOVE TABLE UNLESS NOTED OTHERSIZE ON PLAN OR IN DETAILS.											
2. PROVIDE 6" LAP AT ALL WELDED WIRE FABRIC JOINTS.											
3. PROVIDE 1 D _b (1" MINIMUM) CLEARANCE BETWEEN ADJACENT BARS.											
4. PROVIDE WIRE TIES AT EACH END OF BAR SPLICE.											
5. DO NOT PROVIDE CLASS A SPLICE UNLESS SPECIFICALLY DETAILED.											

SCHEDULE - PAD FOOTING				
MARK	LENGTH	WIDTH	DEPTH	REINFORCING
F4.5	4' - 6"	4' - 6"	3' - 0"	(12) #5 EACH WAY (6) AT T&B
F5	5' - 0"	5' - 0"	3' - 0"	(14) #5 EACH WAY (7) AT T&B
F6.5	6' - 6"	6' - 6"	3' - 0"	(18) #5 EACH WAY (9) AT T&B
F7.5	7' - 6"	7' - 6"	4' - 0"	(26) #5 EACH WAY (13) AT T&B

SCHEDULE - CONTINUOUS FOOTING				
MARK	WIDTH	DEPTH	LONG BARS	TRANS BARS
CF16	1' - 4"	36"	(4) #4 CONT (2) AT T&B	#3 TIES AT 18" OC
CF27	2' - 3"	36"	(4) #4 CONT (2) AT T&B	#3 TIES AT 18" OC

SCHEDULE - SLAB ON GRADE				
MARK	SLAB THICKNESS	WEIGHT CLASS	SLAB REINFORCING	ADDITIONAL REQUIREMENTS
SG4	4"	NW	#3 AT 18"OC EA WAY OR 6X6 W2.9XW2.9 WWF	10 MIL. VAPOR BARRIER ON 4" OF 3/4" CLEAN, GRADED ROCK.

SDI TABLE 1.1			
INSPECTION OR EXECUTION TASKS PRIOR TO DECK PLACEMENT:			
TASK	QC	QA	
A. VERIFY COMPLIANCE OF MATERIALS (DECK AND ALL DECK ACCESSORIES) WITH CONSTRUCTION DOCUMENTS, INCLUDING PROFILES, MATERIAL PROPERTIES, AND BASE METAL THICKNESS.	P	P	
B. DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACCESSORIES.	P	P	

SDI TABLE 1.2			
INSPECTION OR EXECUTION TASKS AFTER DECK PLACEMENT			
TASK	QC	QA	
A. VERIFY COMPLIANCE OF DECK AND ALL DECK ACCESSORIES INSTALLATION WITH CONSTRUCTION DOCUMENTS.	P	P	
B. VERIFY DECK MATERIALS ARE REPRESENTED BY THE MILL CERTIFICATIONS THAT COMPLY WITH THE CONSTRUCTION DOCUMENTS.	N/A	P	
C. DOCUMENT ACCEPTANCE OR REJECTION OF INSTALLATION OF DECK AND DECK ACCESSORIES.	P	P	

SDI TABLE 1.3			
INSPECTION OR EXECUTION TASKS PRIOR TO WELDING			
TASK	QC	QA	
A. WELDING PROCEDURE SPECIFICATIONS (WPS) AVAILABLE.	O	O	
B. MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE.	O	O	
C. MATERIAL IDENTIFICATION (TYPE/GRADE)	O	O	
D. CHECK WELDING EQUIPMENT.	O	O	

SDI TABLE 1.4			
INSPECTION OR EXECUTION TASKS DURING WELDING			
TASK	QC	QA	
A. USE OF QUALIFIED WELDERS.	O	O	
B. CONTROL AND HANDLING OF WELDING CONSUMABLES.	O	O	
C. ENVIRONMENTAL CONDITIONS (WIND SPEED, MOISTURE, TEMPERATURE)	O	O	
D. WPS FOLLOWED	O	O	

SDI TABLE 1.5			
INSPECTION OR EXECUTION TASKS AFTER WELDING			
TASK	QC	QA	
A. VERIFY SIZE AND LOCATION OF WELDS, INCLUDING SUPPORT, SIDELAP, AND PERIMETER WELDS.	P	P	
B. WELDS MEET VISUAL ACCEPTANCE CRITERIA.	P	P	
C. VERIFY REPAIR ACTIVITIES.	P	P	
D. DOCUMENT ACCEPTANCE OR REJECTION OF WELDS.	P	P	

SDI TABLE 1.6			
INSPECTION OR EXECUTION TASKS PRIOR TO MECHANICAL FASTENING			
TASK	QC	QA	
A. MANUFACTURER INSTALLATION INSTRUCTIONS AVAILABLE FOR MECHANICAL FASTENERS.	O	O	
B. PROPER TOOLS AVAILABLE FOR FASTENER INSTALLATION.	O	O	
C. PROPER STORAGE FOR MECHANICAL FASTENERS.	O	O	

SDI TABLE 1.7			
INSPECTION OR EXECUTION TASKS DURING MECHANICAL FASTENING			
TASK	QC	QA	
A. FASTENERS ARE POSITIONED AS REQUIRED.	O	O	
B. FASTENERS ARE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.	O	O	

SDI TABLE 1.8			
INSPECTION OR EXECUTION TASKS AFTER MECHANICAL FASTENING			
TASK	QC	QA	
A. CHECK SPACING, TYPE, AND INSTALLATION OF SUPPORT FASTENERS.	P	P	
B. CHECK SPACING, TYPE, AND INSTALLATION OF SIDELAP FASTENERS.	P	P	
C. CHECK SPACING, TYPE, AND INSTALLATION OF PERIMETER FASTENERS.	P	P	
D. VERIFY REPAIR ACTIVITIES.	P	P	
E. DOCUMENT ACCEPTANCES OR REJECTION OF MECHANICAL FASTENERS.	P	P	

AISC TABLE N5.4-1			
INSPECTION TASKS PRIOR TO WELDING			
	QC	QA	
1. WELDING PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE	P	P	
2. MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	P	P	
3. MATERIAL IDENTIFICATION (TYPE/GRADE)	O	O	
4. WELDER IDENTIFICATION SYSTEM ¹	O	O	
5. FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY)	O	O	
6. CONFIGURATION AND FINISH OF ACCESS HOLES	O	O	
7. FIT-UP OF FILLET WELDS	O	O	
8. CHECK WELDING EQUIPMENT	O	-	
¹ THE FABRICATOR OR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED. STAMPS, IF USED, SHALL BE THE LOW-STRESS TYPE			

AISC TABLE N5.4-2			
INSPECTION TASKS DURING WELDING			
	QC	QA	
1. USE OF QUALIFIED WELDERS	O	O	
2. CONTROL AND HANDLING OF WELDING CONSUMABLES	O	O	
3. NO WELDING OVER CRACKED TACK WELDS	O	O	
4. ENVIRONMENTAL CONDITIONS	O	O	
5. WPS FOLLOWED	O	O	
6. WELDING TECHNIQUES	O	O	
7. INTERPASS TEMPERATURE MAINTAINED (MIN./MAX.)	O	O	
8. WPS FOLLOWED	O	O	

AISC TABLE N5.4-3			
INSPECTION TASKS AFTER WELDING			
	QC	QA	
1. WELDS CLEANED	O	O	
2. SIZE, LENGTH AND LOCATION OF WELDS	P	P	
3. WELDS MEET VISUAL ACCEPTANCE CRITERIA	P	P	
4. CRACK PROHIBITION	P	P	
5. WELD/BASE-METAL FUSION	P	P	
6. CRATER CROSS SECTION	P	P	
7. WELD PROFILES	P	P	
8. WELD SIZE	P	P	
9. UNDERCUT	P	P	
10. POROSITY	P	P	
11. ARC STRIKES	P	P	
12. K-AREA ¹	P	P	
13. BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	P	P	
14. REPAIR ACTIVITIES	P	P	
15. DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	P	P	
¹ WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE K-AREA, VISUALLY INSPECT THE WEB K-AREA FOR CRACKS WITHIN 3 IN. (75 MM) OF THE WELD			

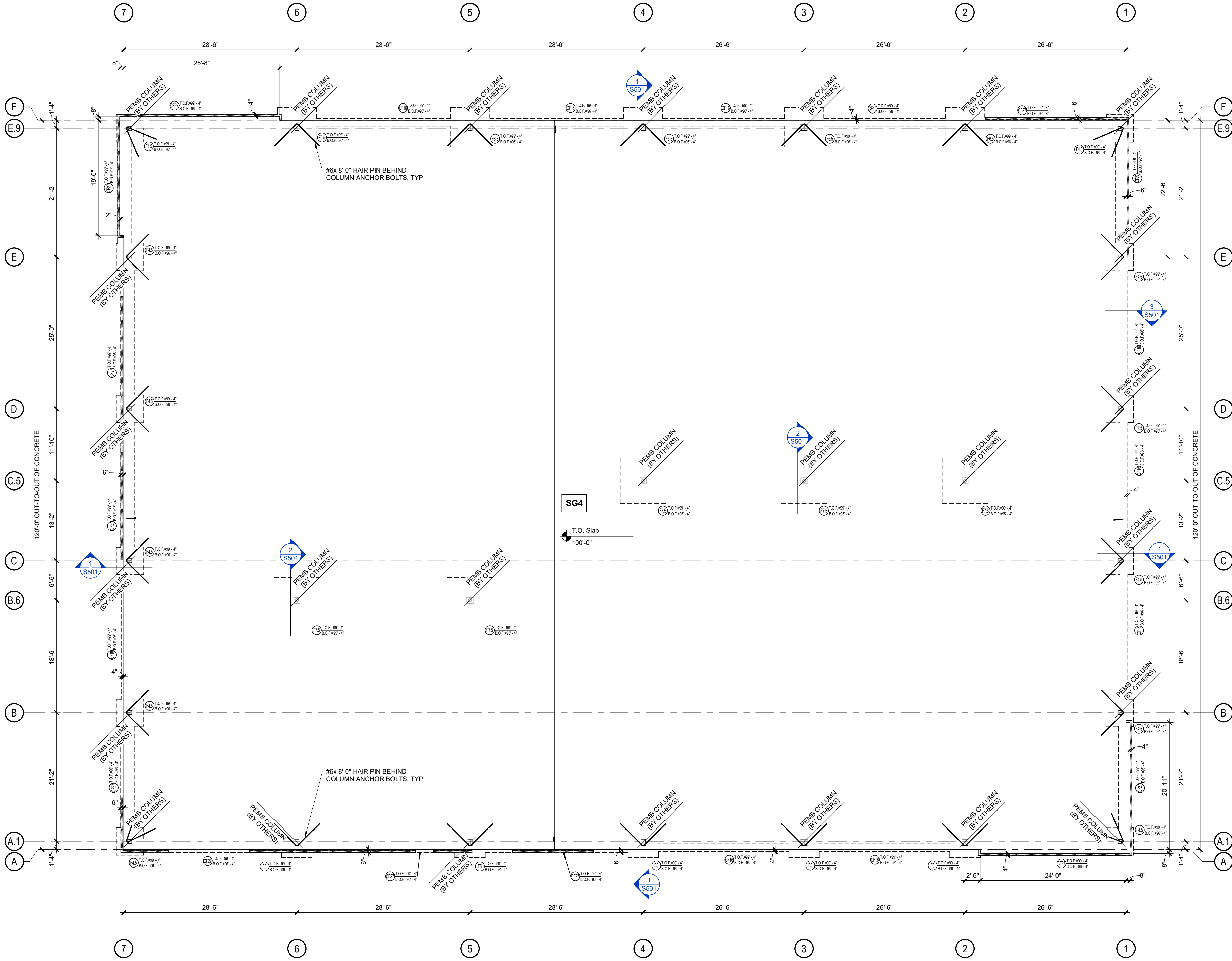
AISC TABLE N5.6-1			
INSPECTION TASKS PRIOR TO BOLTING			
	QC	QA	
1. MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	O	P	
2. FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	O	O	
3. PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE)	O	O	
4. PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	O	O	
5. CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	O	O	
6. PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED	P	O	
7. PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	O	O	

AISC TABLE N5.6-2			
INSPECTION TASKS DURING BOLTING			
	QC	QA	
1. FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED	O	O	
2. JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	O	O	
3. FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	O	O	
4. FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	O	O	

AISC TABLE N5.6-3			
INSPECTION TASKS AFTER BOLTING			
	QC	QA	
1. DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	P	P	

AISC TABLE N6.1			
INSPECTION OF STEEL ELEMENTS OF COMPOSITE CONSTRUCTION PRIOR TO CONCRETE PLACEMENT			
	QC	QA	
1. PLACEMENT AND INSTALLATION OF STEEL DECK	P	P	
2. PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	P	P	
3. DOCUMENT ACCEPTANCE OR REJECTION OF STEEL ELEMENTS	P	P	

STATEMENT OF SPECIAL INSPECTION		
IBC CODE REFERENCE	CONSTRUCTION TYPE	FREQUENCY CONT. PER.
1705.2	STEEL CONSTRUCTION	
1705.2.1	STRUCTURAL STEEL	
1. SPECIAL INSPECTION FOR STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF AISC 360. (REFER TO AISC CHARTS ON THIS SHEET)		
1705.2.2	COLD-FORMED STEEL DECK	
1. SPECIAL INSPECTIONS AND QUALIFICATIONS OF WELDING SPECIAL INSPECTORS FOR COLD-FORMED STEEL FLOOR AND ROOF DECK SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF SDI QA/QC. (REFER TO SDI CHARTS ON THIS SHEET)		
1705.2.3	OPEN-WEB STEEL JOIST AND JOIST GIRDERS	
1. INSTALLATION OF OPEN-WEB STEEL JOISTS AND JOIST GIRDERS:		
A. END CONNECTIONS - WELDING OR BOLTED		X
B. BRIDGING - HORIZONTAL OR DIAGONAL		X
1. STANDARD BRIDGING		X
2. BRIDGING THAT DIFFERS FROM THE SJI SPECIFICATIONS LISTED IN SECTION 2207.1		X
1705.3	REINFORCED CONCRETE	
1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT.		
2. INSPECTION OF REINFORCING STEEL WELDING:		
A. VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706.		X
B. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"		X
C. INSPECT ALL OTHER WELDS	X	
3. INSPECTION OF ANCHORS CAST IN CONCRETE:		
4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.		
A. ADHESIVE ANCHORS INSTALLED IN HORIZONTAL OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	X	
B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A		X
5. VERIFYING USE OF REQUIRED MIX DESIGN		X
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	
7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.		X
9. INSPECTION OF PRESTRESSED CONCRETE:		
A. APPLICATION OF PRESTRESSING FORCES.	X	
B. GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC-FORCE-RESISTING SYSTEM.	X	
10. ERECTION OF PRECAST CONCRETE MEMBERS.		
11. VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORING.		
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.		
SPECIAL INSPECTION AGENT/ENGINEER TO PERFORM TESTS AT SEVEN (7) DAYS AND AT TWENTY EIGHT (28) DAYS. A STRENGTH TEST SHALL BE THE AVERAGE OF THE STRENGTHS OF AT LEAST TWO (2) 6"x12" CYLINDERS OR AT LEAST THREE (3) 4"x8" CYLINDERS MADE FROM THE SAME SAMPLE OF CONCRETE. HOLD ONE ADDITIONAL CYLINDER IN RESERVE UNTIL PROJECT IS COMPLETED. TESTING LABORATORY IS TO FURNISH ARCHITECT/ENGINEER WITH TEST RESULTS PROMPTLY.		
FREQUENCY OF TESTING IS TO BE IN ACCORDANCE WITH ACI 318:		
A. ONCE EACH DAY A GIVEN CLASS IS PLACED, NOR LESS THAN.		
B. ONCE FOR EACH 150 CUBIC YDS OF EACH CLASS PLACED EACH DAY, NOR LESS THAN.		
C. ONCE FOR EACH 5000 SQFT OR SLAB WALL OR SURFACE AREA PLACED EACH DAY.		
1705.6	SOILS	
1. VERIFY FIELDS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.		
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.		
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIAL.		
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.		
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.		
1705.8	CAST-IN-PLACE DEEP FOUNDATIONS	
1. OBSERVE DRILLING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT.		
2. VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM ELEMENT DIAMETERS, BELL DIAMETERS (IF APPLICABLE), LENGTHS, EMBEDMENT INTO BEDROCK (IF APPLICABLE) AND ADEQUATE END-BEARING STRATA CAPACITY. RECORD CONCRETE OR GROUT VOLUMES.		
1705.11.2	COLD-FORMED STEEL FRAMING	
1. MATERIAL VERIFICATION:		
A. MEMBER SIZE AND THICKNESS TO MATCH CONTRACT DOCUMENTS INCLUDING TRACKS, STUDS, ASSEMBLIES, CONNECTORS.		X
B. FASTENER MATERIAL AND COMPONENTS		X
2. INSPECTION OF INSTALLATION		
A. INSPECT MEMBER LAYOUT, CONNECTION, ORIENTATION		X
B. SPECIAL INSPECTION REQUIRED FOR FASTENERS PER MANUFACTURER.		X
C. INSPECTION PRIOR TO SHEATHING: VERIFY FLANGES ARE INTACT. STUDS ARE NOT CUT OR SPLICED.		
3. INSPECTION OF WELDING.		
1705.14	SPRAYED FIRE-RESISTANT MATERIALS	
1. STRUCTURAL MEMBER SURFACE FIRE CONDITIONS.		
2. APPLICATION.		
3. THICKNESS.		
4. DENSITY.		
5. BOND STRENGTH.		



FOUNDATION PLAN

1/8" = 1'-0"

PLAN NOTES - FOUNDATIONS

1. PROVIDE CONTROL JOINTS (1/4 SLAB DEPTH) AT 10'-0" OC BOTH WAYS, NOT SHOWN FOR CLARITY.
2. CONTRACTOR TO VERIFY ALL FOUNDATION ELEVATIONS AND STEPS PER SITE CONDITIONS.
3. TOP OF SLAB ELEVATION SHOWN IN PLAN IS FOR REFERENCE ONLY.
4. REFERENCE ARCHITECTURAL DRAWINGS FOR WALL OPENING DIMENSIONS, EXTERIOR FINISHES AND ADDITIONAL NOTES.
5. REFERENCE GENERAL NOTES SHEET FOR ADDITIONAL FOUNDATION SPECIFICATIONS.
6. CONTRACTOR TO CONTACT APEX ENGINEERS, INC AT LEAST 48 HRS IN ADVANCE OF ANY CONCRETE POUR.
7. ■■■■■ INDICATES STONE FACADE, REF ARCH.

SCHEDULE - PAD FOOTING

MARK	LENGTH	WIDTH	DEPTH	REINFORCING
F4.5	4'-6"	4'-6"	3'-0"	(12) #5 EACH WAY ([6] AT T&B)
F5	5'-0"	5'-0"	3'-0"	(14) #5 EACH WAY ([7] AT T&B)
F6.5	6'-6"	6'-6"	3'-0"	(16) #5 EACH WAY ([9] AT T&B)
F7.5	7'-6"	7'-6"	4'-0"	(26) #5 EACH WAY ([13] AT T&B)

SCHEDULE - CONTINUOUS FOOTING

MARK	WIDTH	DEPTH	LONG BARS	TRANS BARS
CF16	1'-4"	36"	(4) #4 CONT ([2] AT T&B)	#3 TIES AT 18" OC
CF27	2'-3"	36"	(4) #4 CONT ([2] AT T&B)	#3 TIES AT 18" OC

SCHEDULE - SLAB ON GRADE

MARK	SLAB THICKNESS	WEIGHT CLASS	SLAB REINFORCING	ADDITIONAL REQUIREMENTS
SG4	4"	NW	#3 AT 18" OC EA WAY OR 6X6 W2.9XW2.9 WWF	10 MIL VAPOR BARRIER ON 4" OF 3/4" CLEAN, GRADED ROCK

KEYNOTE LEGEND

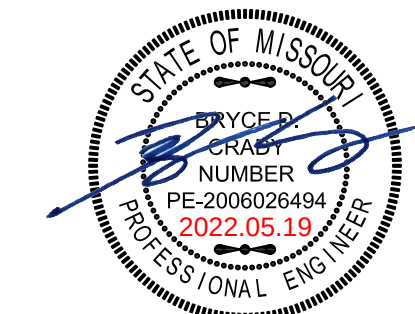
KEYNOTE	COMMENT
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a new development for

D-Bats

520 NE Town Centre Drive
LEE'S SUMMIT, MO

date
Issue Date
drawn by
JMB
checked by
BDC
revisions



sheet number

S200

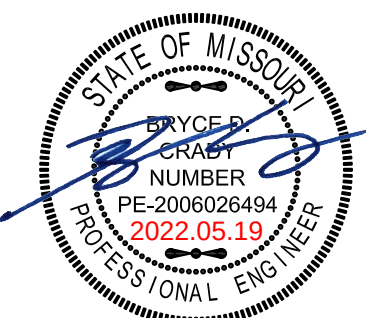
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project number
Project Number



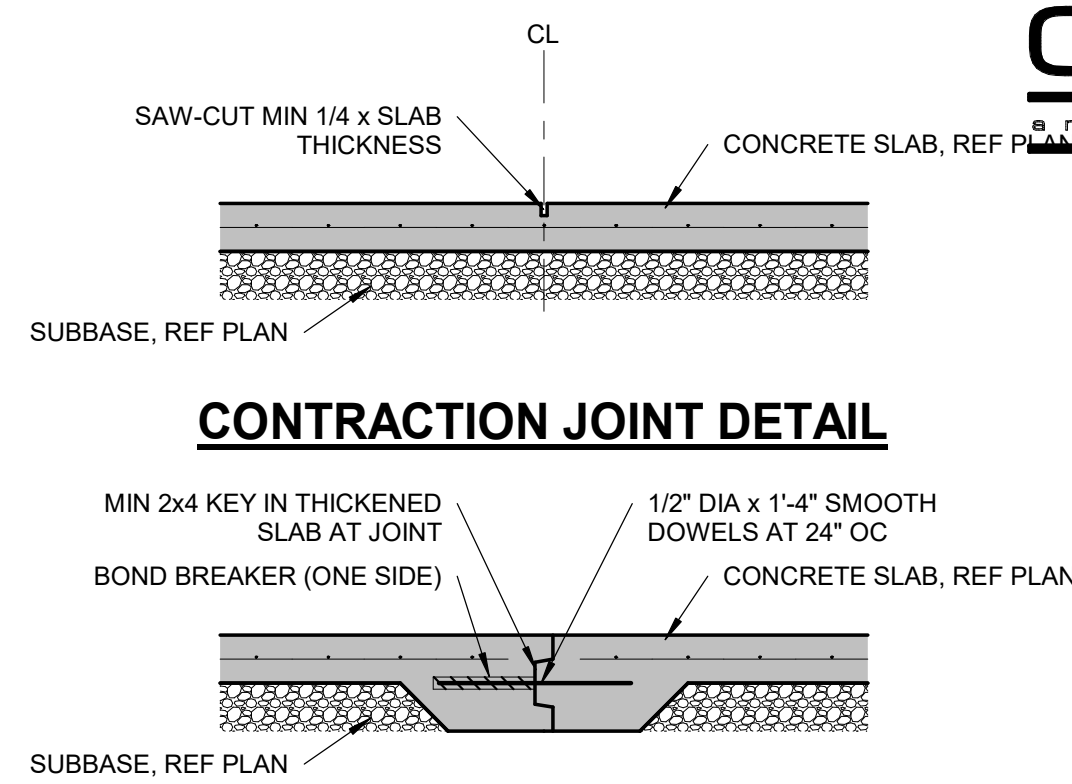


a new development for
D-Bats
520 NE Town Centre Drive
LEE'S SUMMIT, MO

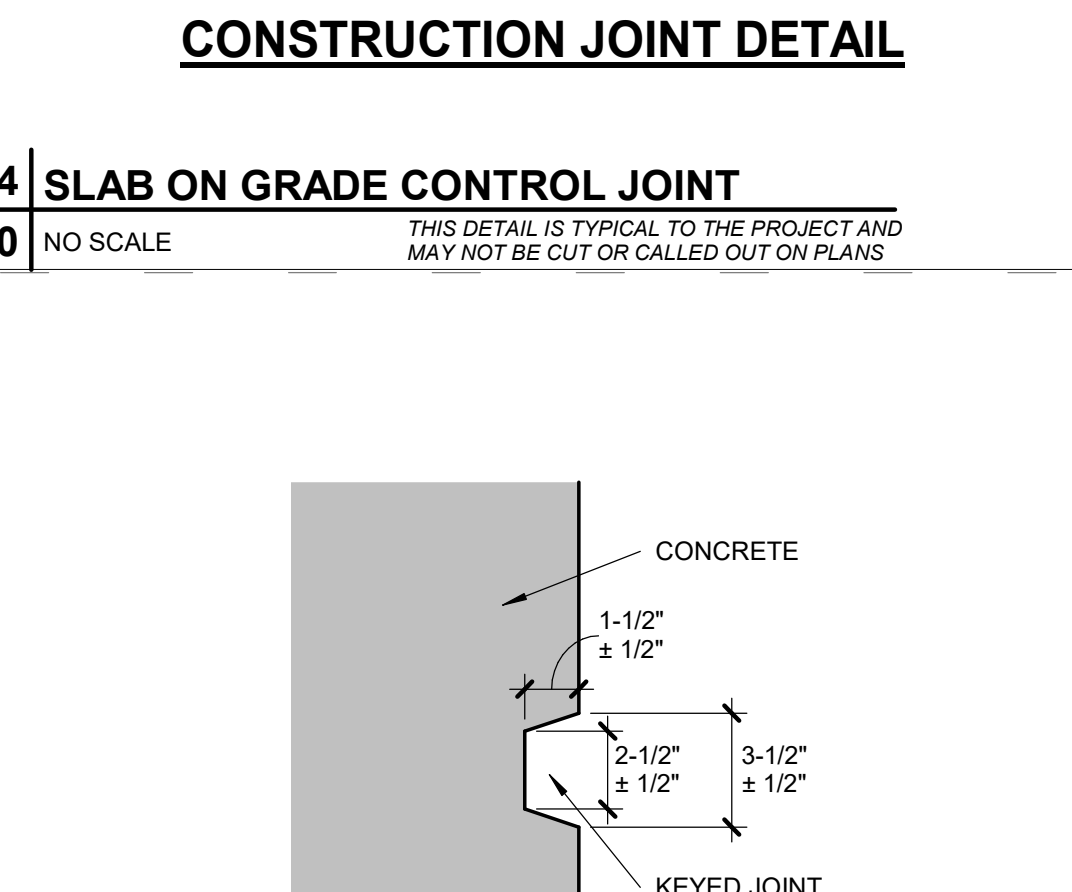
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sheet number
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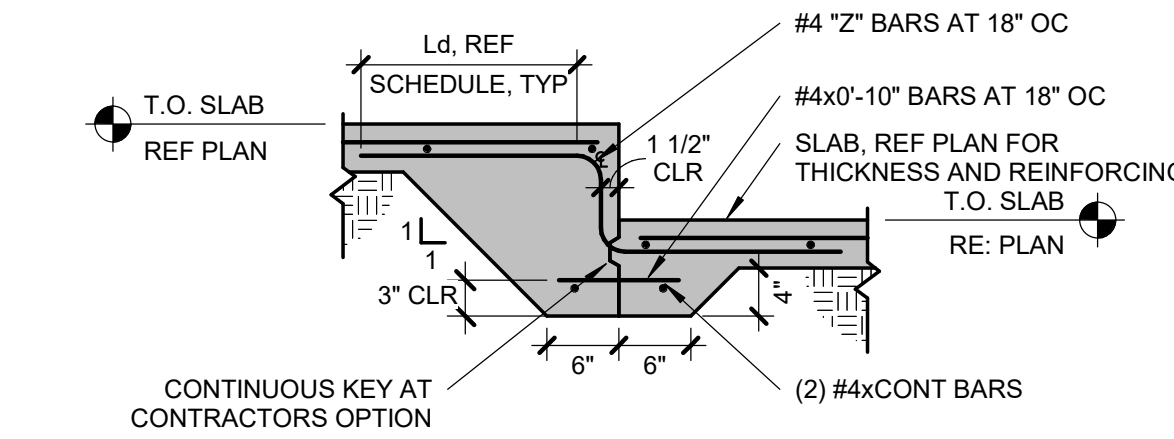


CONTRACTION JOINT DETAIL

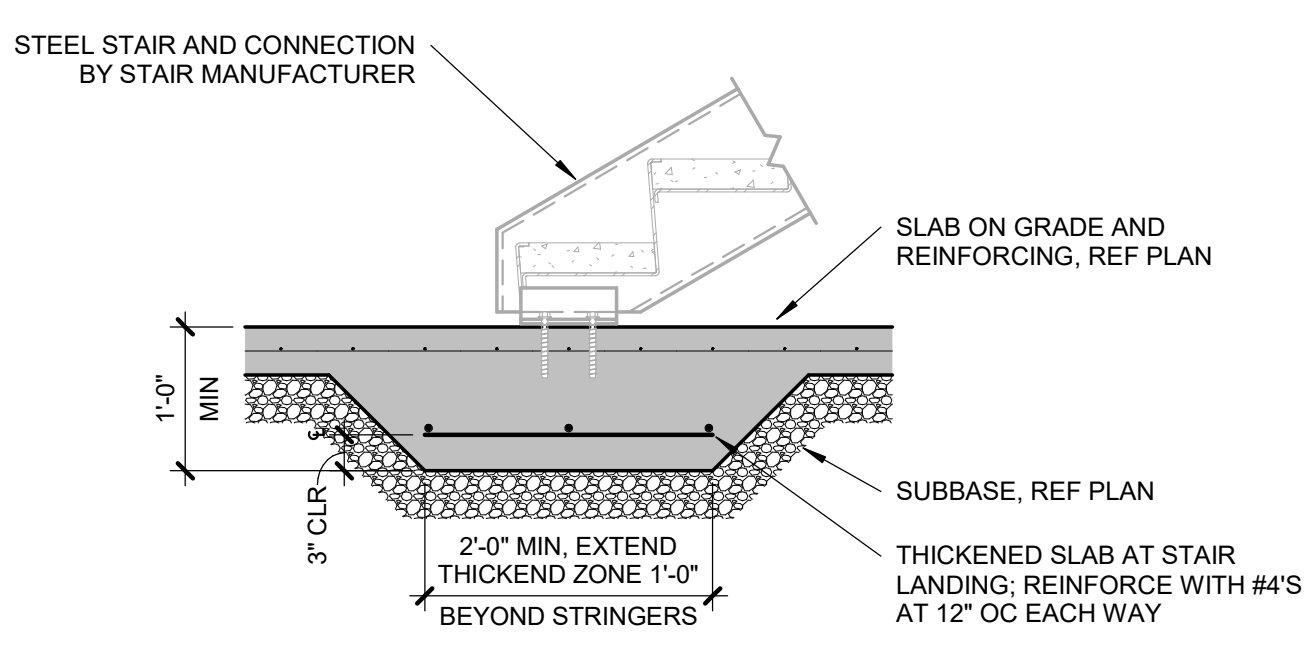


CONSTRUCTION JOINT DETAIL

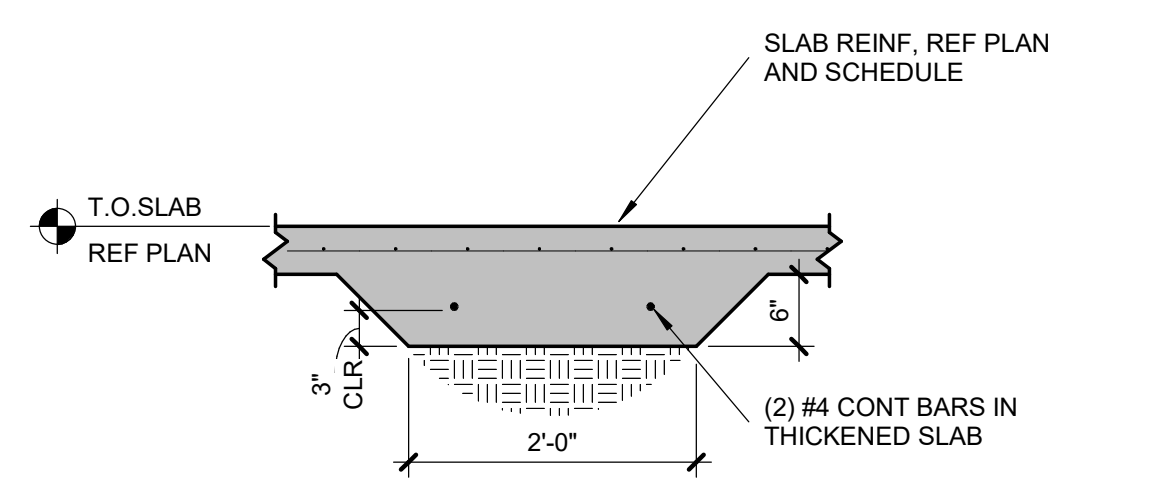
4 SLAB ON GRADE CONTROL JOINT
S500 NO SCALE THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS



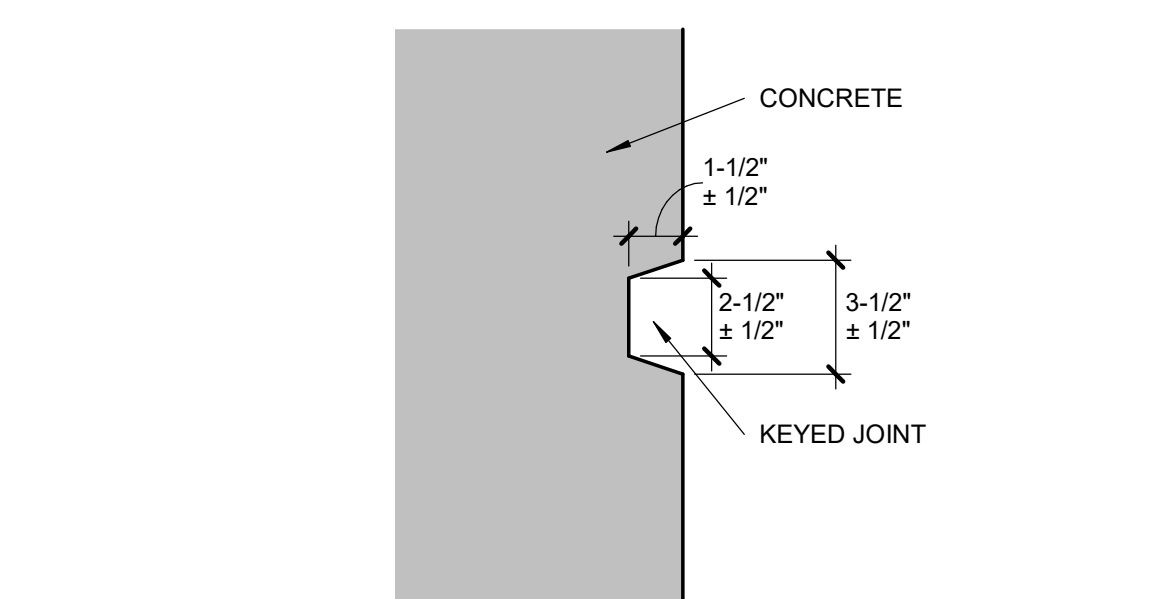
8 TYP CONCRETE SLAB ON GRADE STEP
S500 NO SCALE THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS



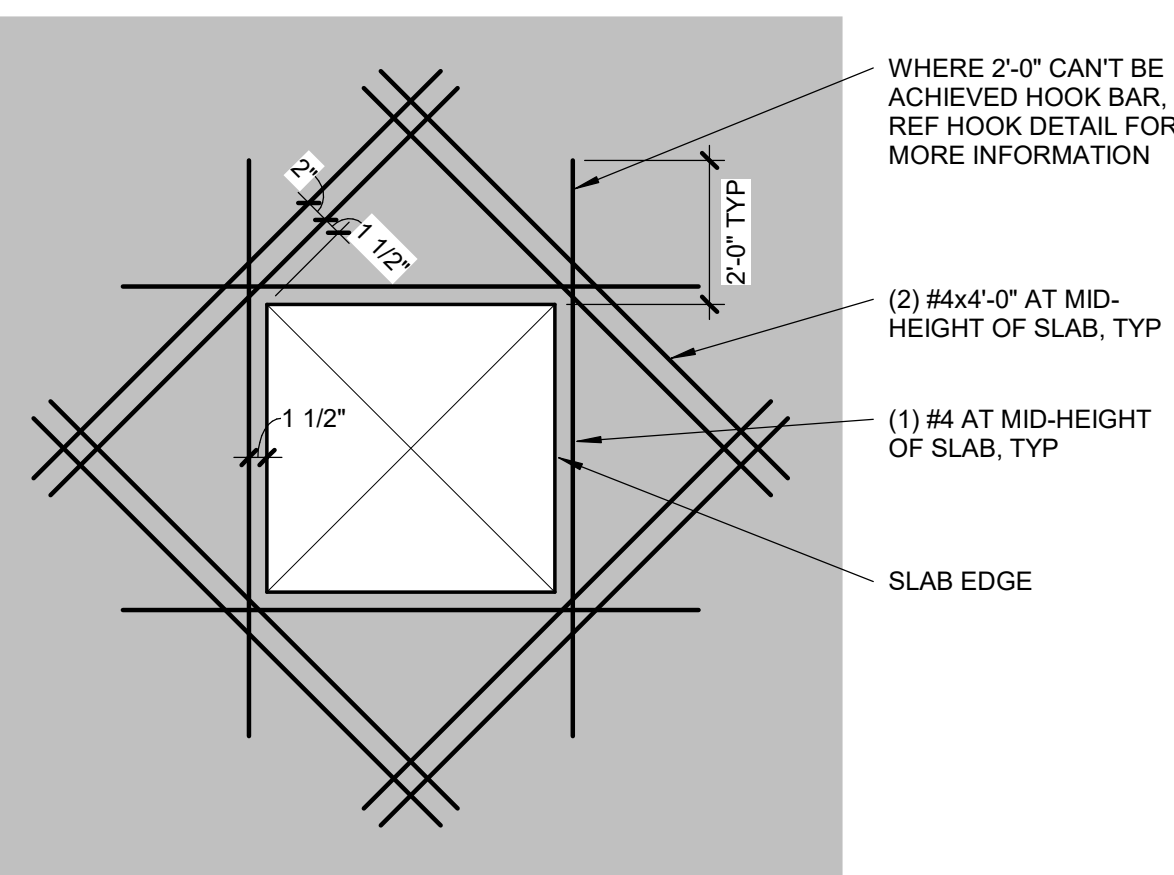
12 TYPICAL THICKENED SLAB AT STEEL STAIR LANDING
S500 NO SCALE THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS



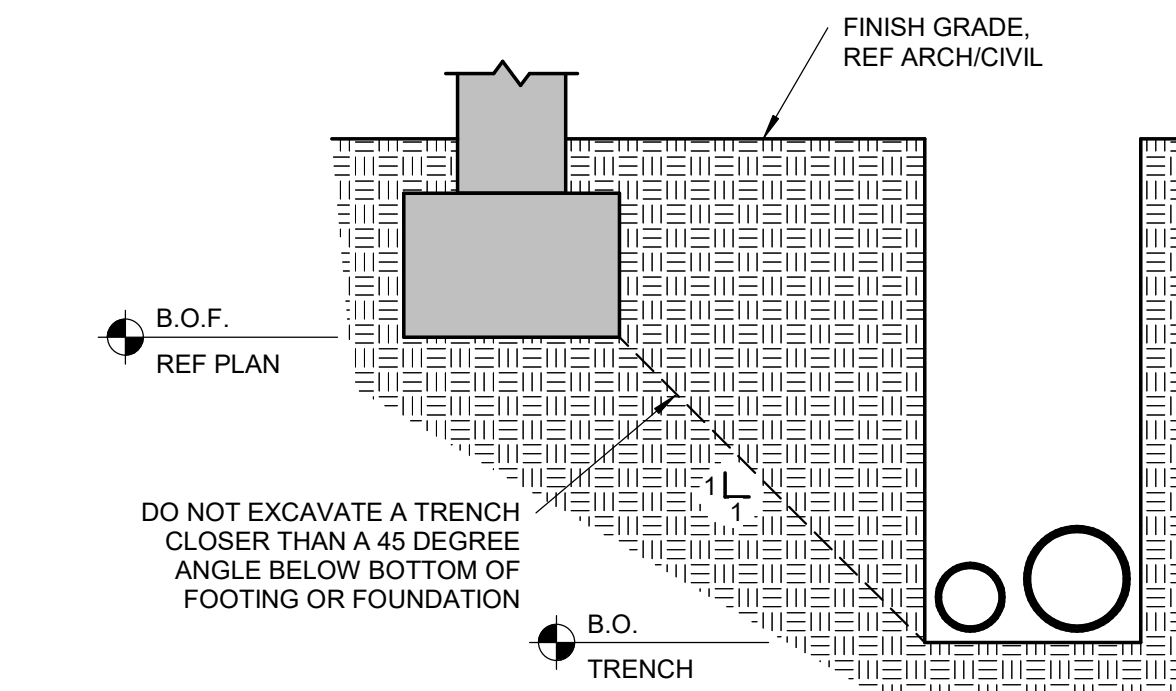
7 TYPICAL THICKENED SLAB ON GRADE
S500 NO SCALE THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS



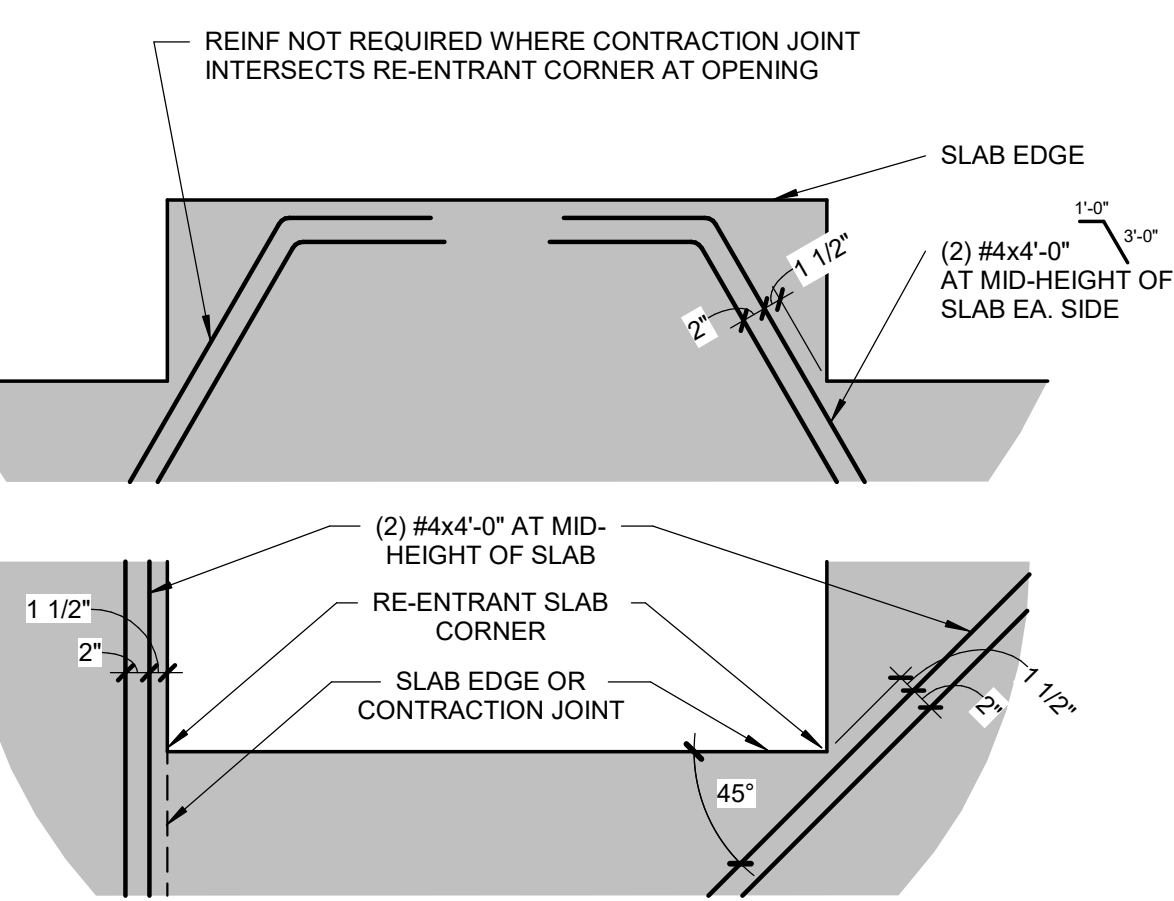
3 TYP KEY IN CONCRETE
S500 NO SCALE THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS



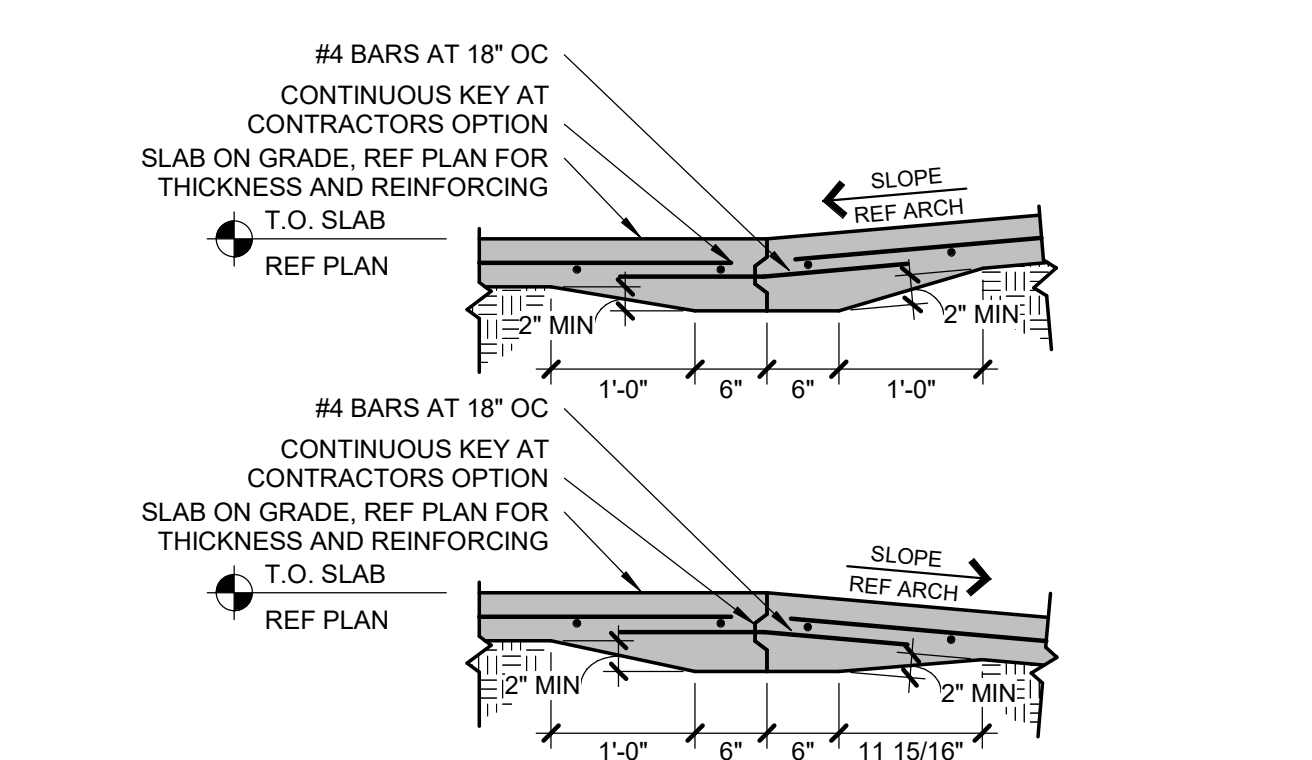
6 TYP OPENING IN CONCRETE SLAB ON GRADE
S500 NO SCALE THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS



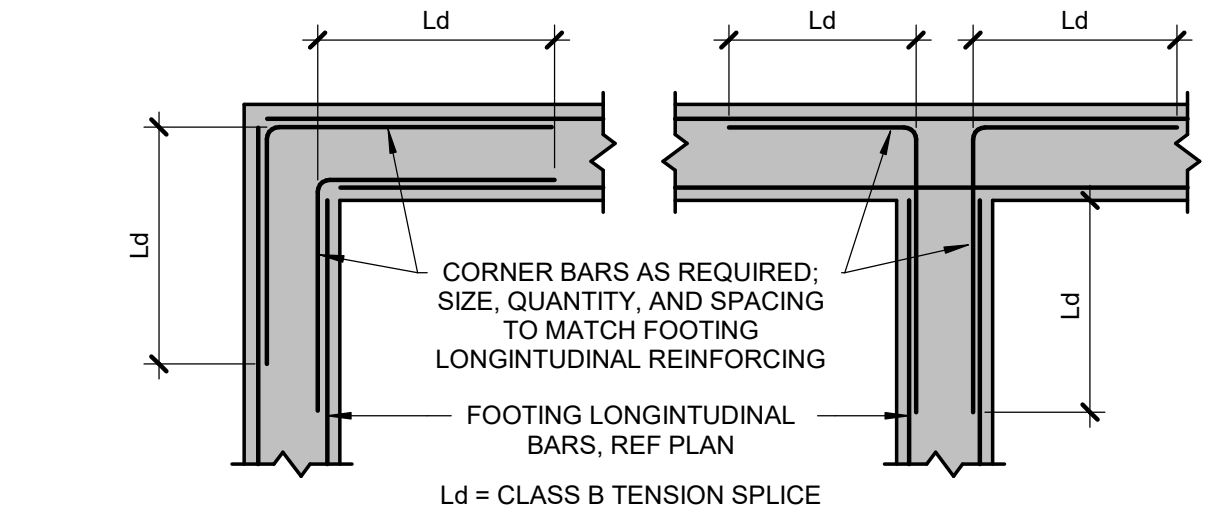
2 MAXIMUM SLOPE BETWEEN FOUNDATION AND TRENCH
S500 NO SCALE THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS



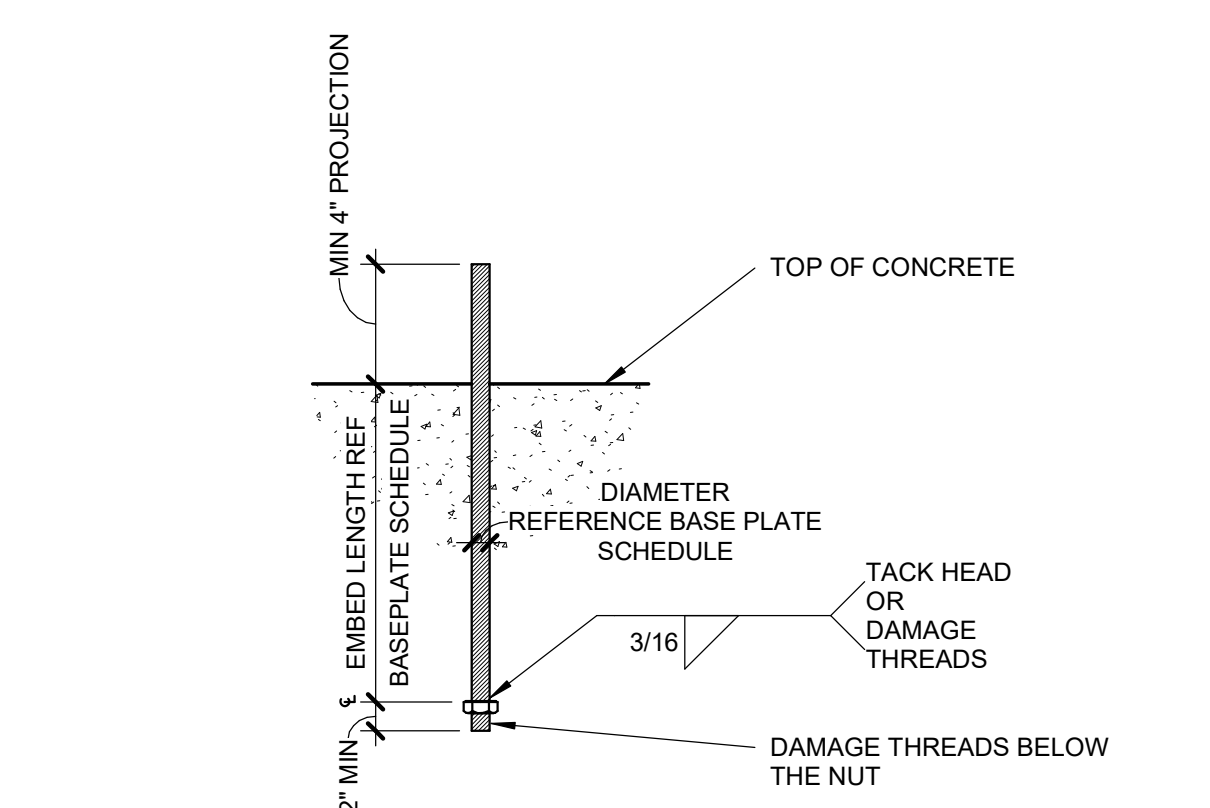
5 TYP RE-ENTRANT CORNER IN CONCRETE SLAB
S500 NO SCALE THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS



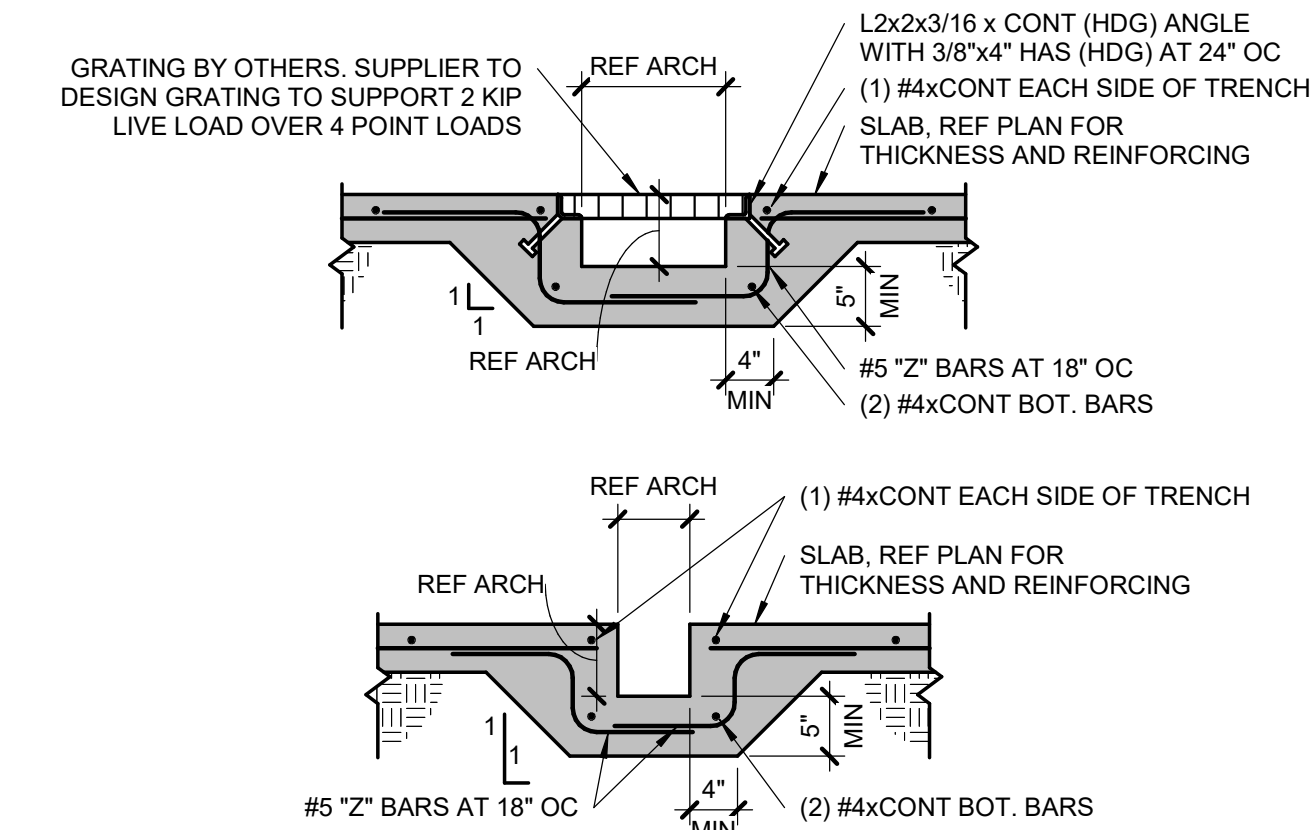
9 SLAB ON GRADE AT RAMP
S500 NO SCALE THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS



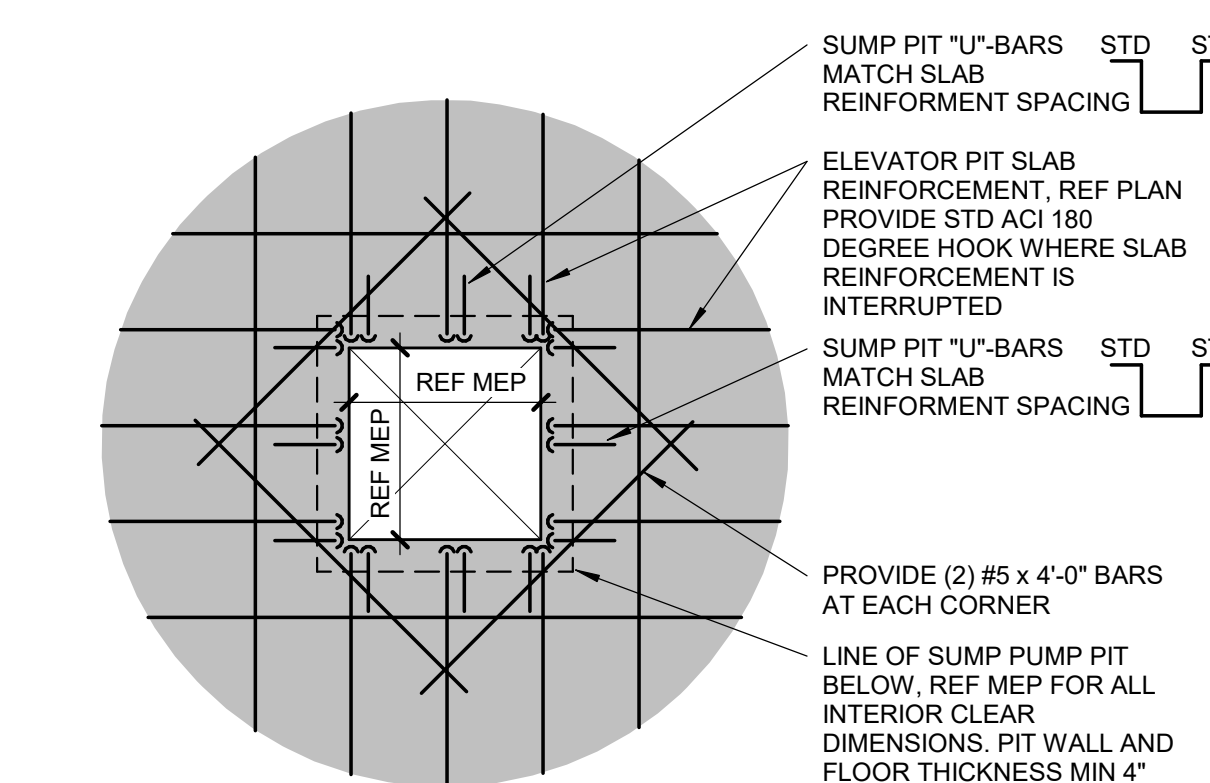
16 TYP FOUNDATION CORNER DETAIL
S500 NO SCALE THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS



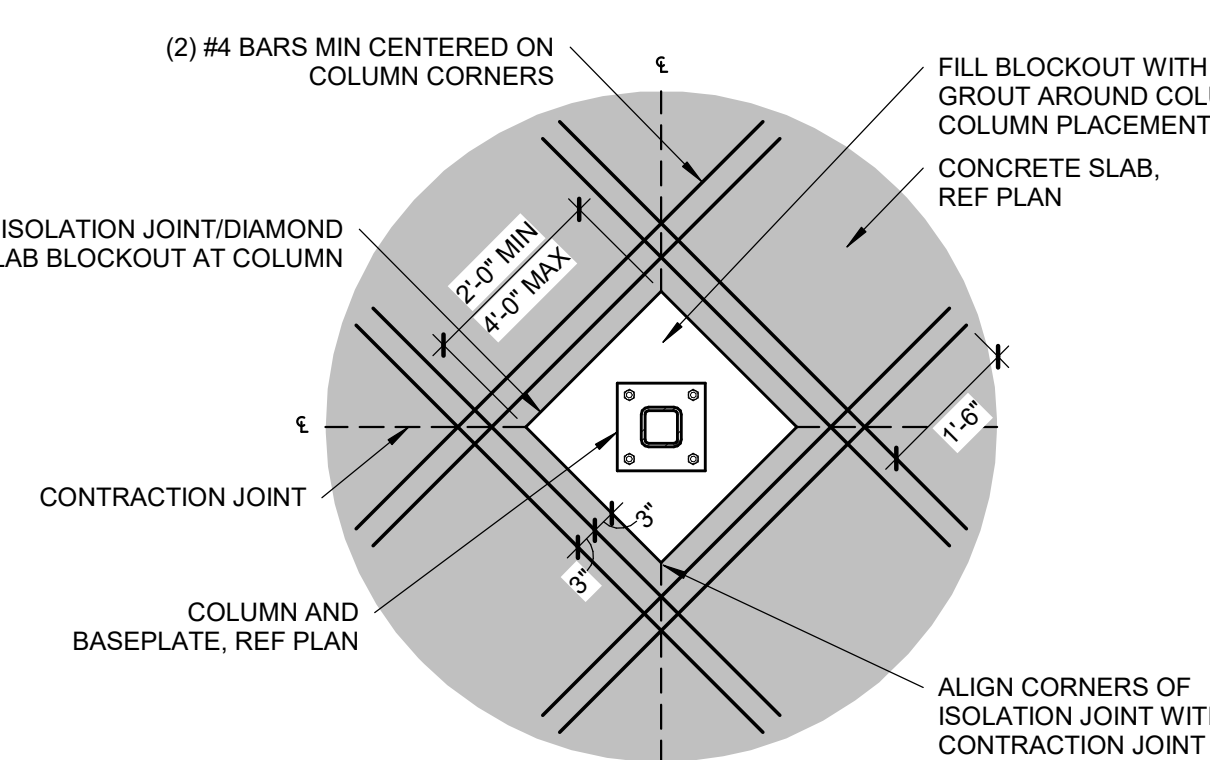
14 TYP ANCHOR BOLT
S500 NO SCALE THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS



11 TYP SLAB AT TRENCH
S500 NO SCALE THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS



15 TYPICAL SUMP PIT REINFORCEMENT
S500 NO SCALE THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS



13 TYP COLUMN ISOLATION JOINT
S500 NO SCALE THIS DETAIL IS TYPICAL TO THE PROJECT AND MAY NOT BE CUT OR CALLED OUT ON PLANS



a new development for
D-Bats
520 NE Town Centre Drive
LEE'S SUMMIT, MO

REF SCHEDULE

REF SCHEDULE

SPREAD FOOTING, REF PLAN

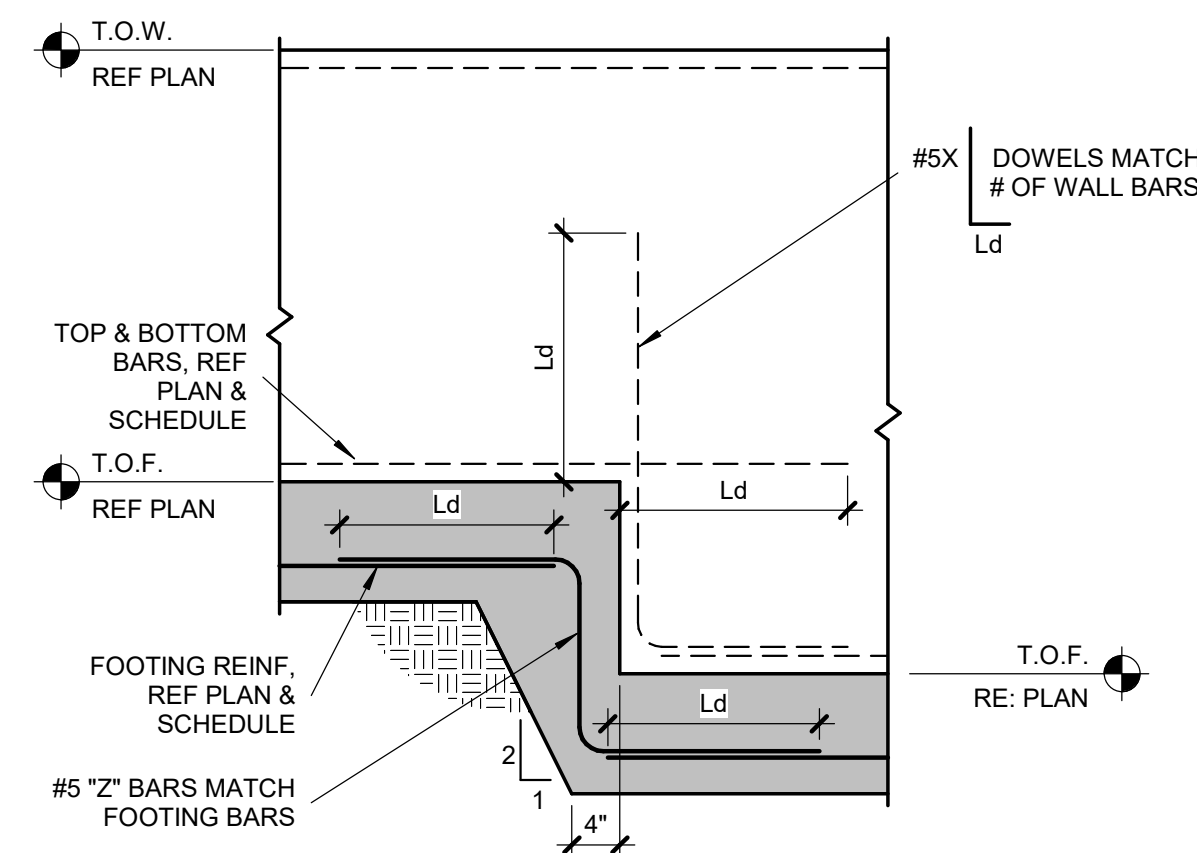
TOP & BOT. REINFORCING, REF PLAN

VERT BARS AT 18" OC MAX AROUND PERIMETER, REF SCHEDULE FOR SIZE

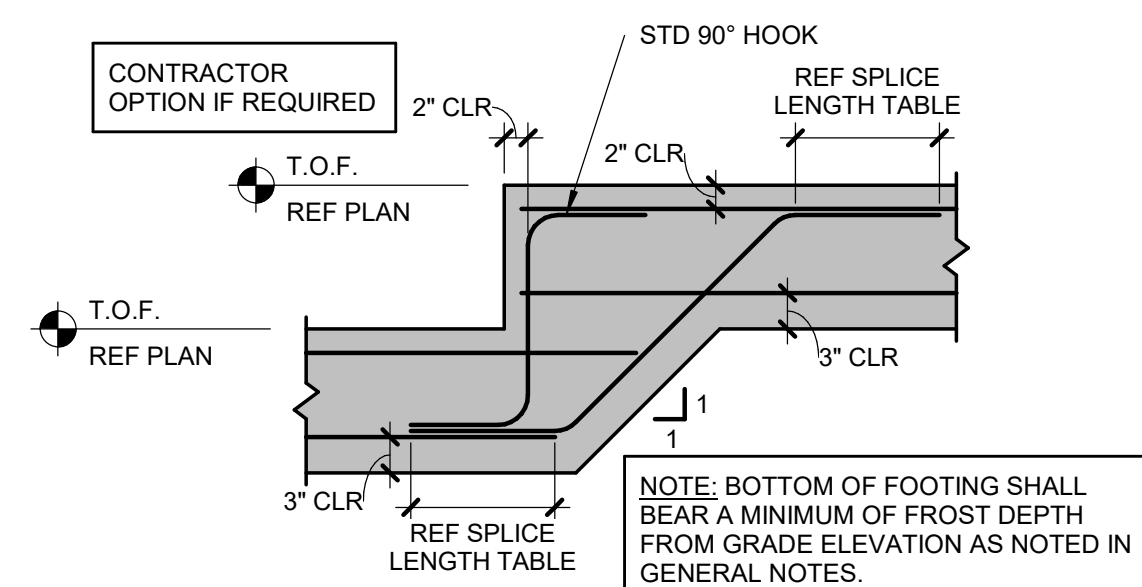
(1) VERT BAR EACH CORNER, REF SCHEDULE FOR SIZE

PLAN VIEW

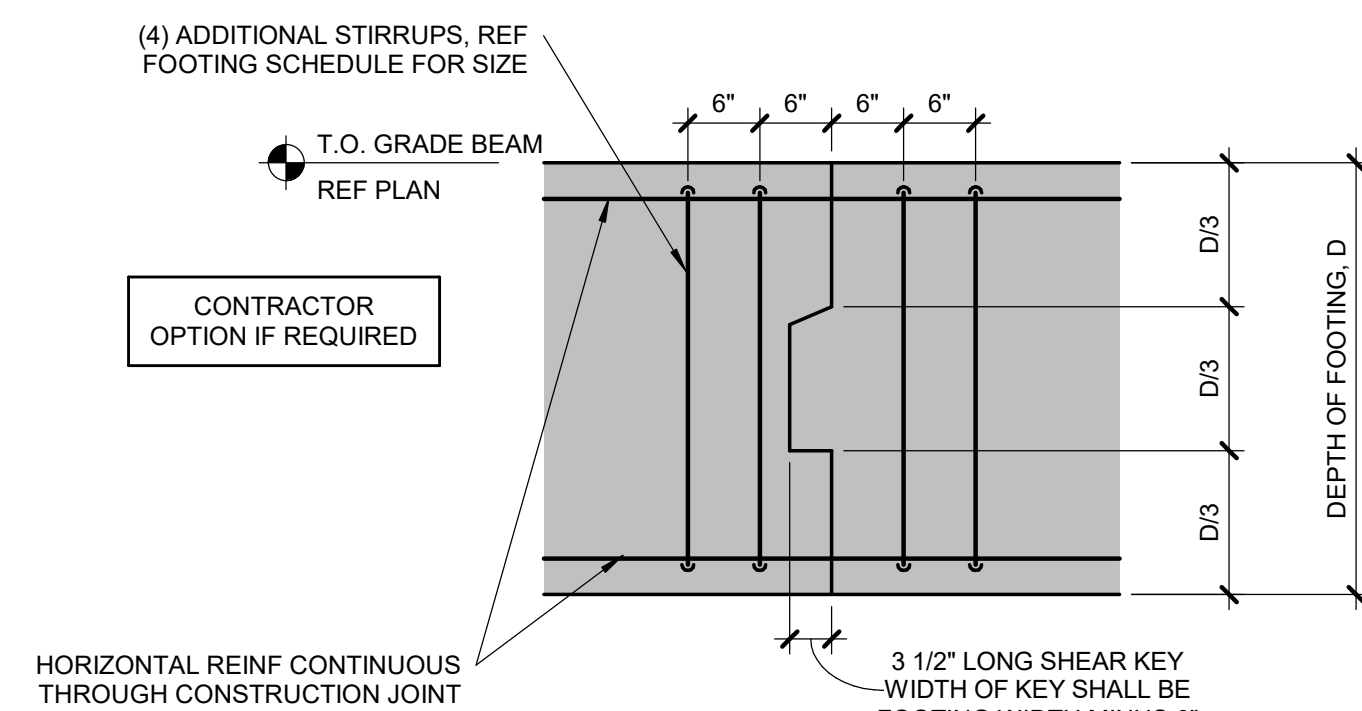
S501	$3/4" = 1'-0"$
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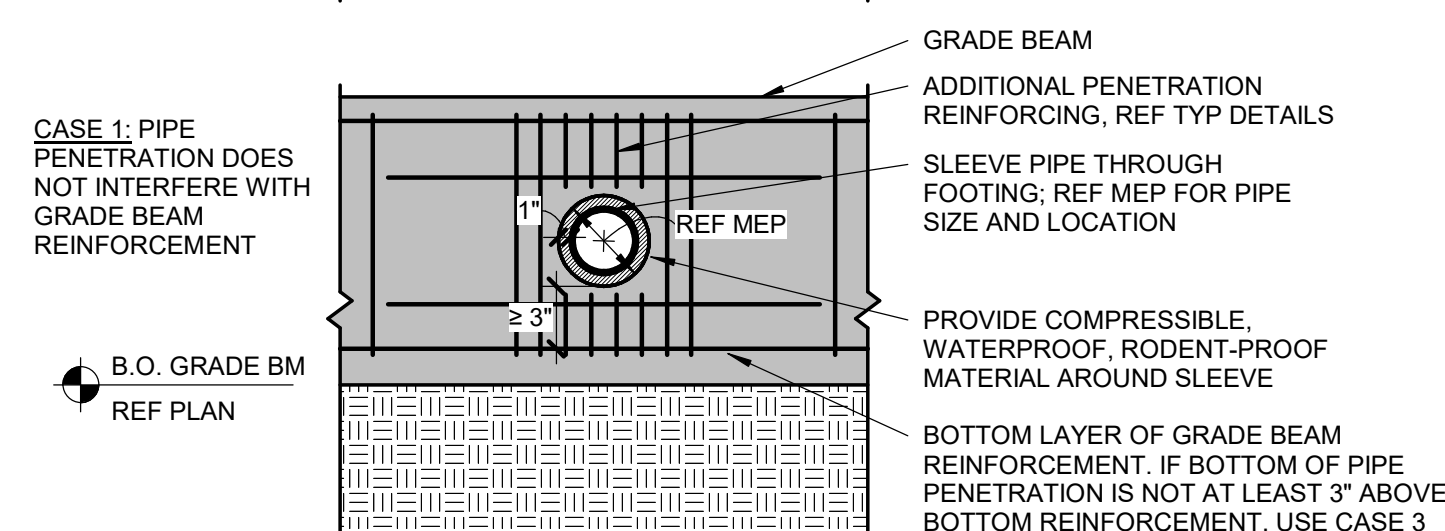
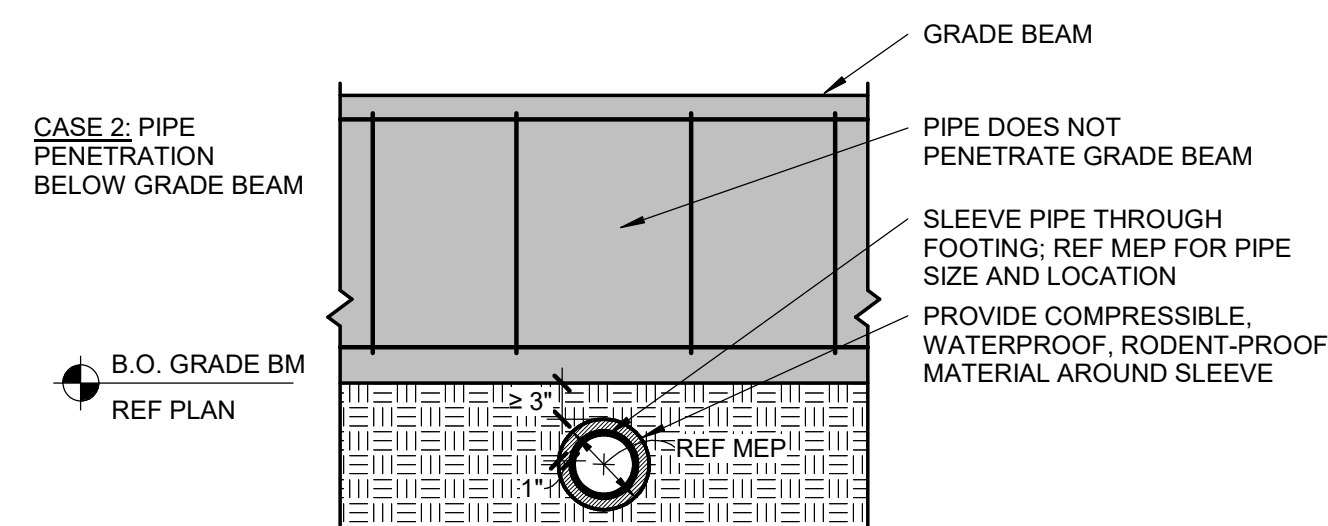
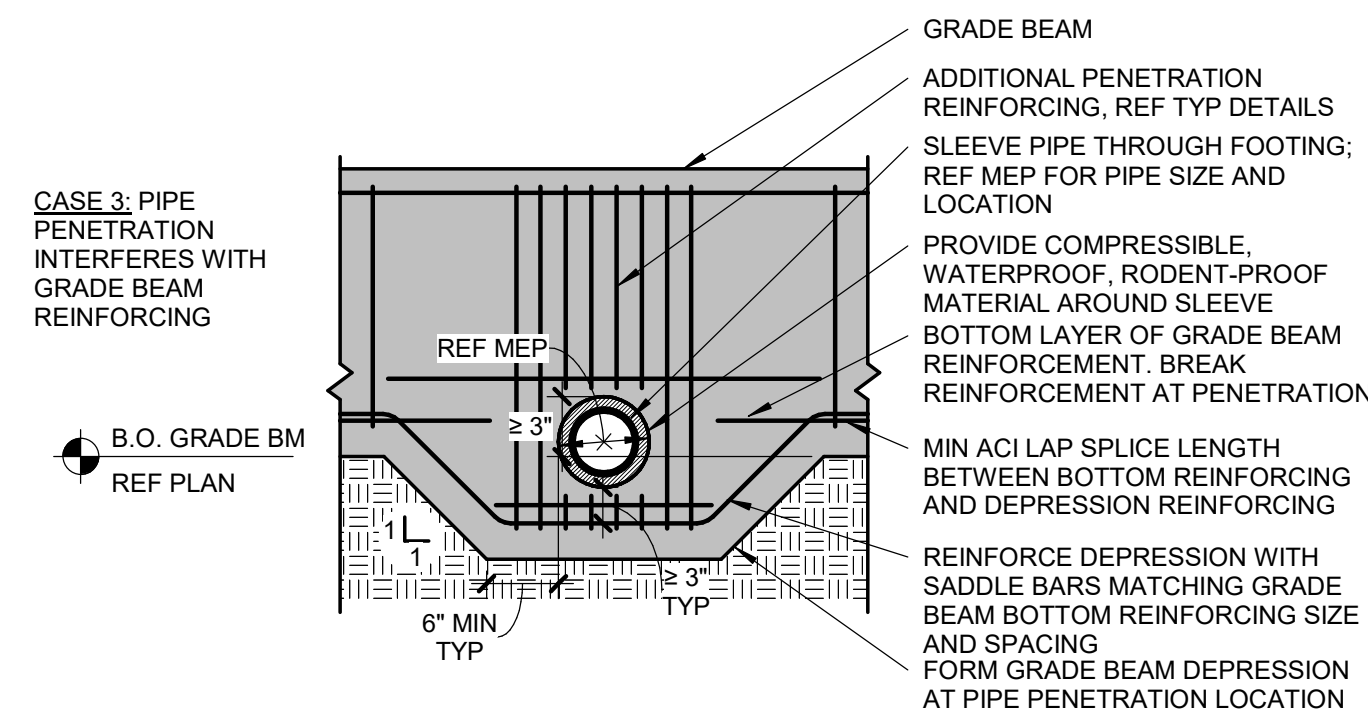
S501	$3/4" = 1'-0"$
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S501	3/4" = 1'-0"
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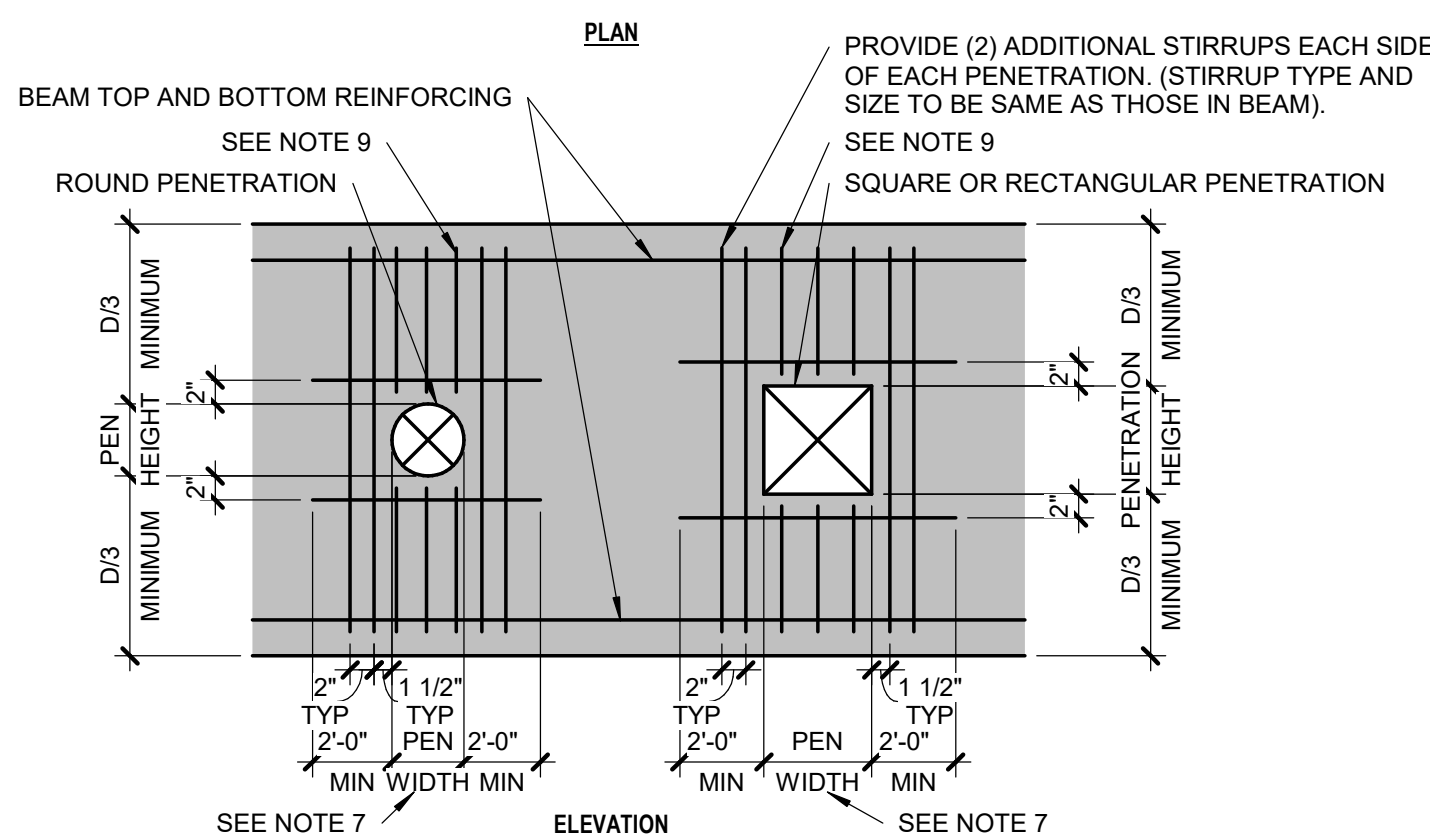
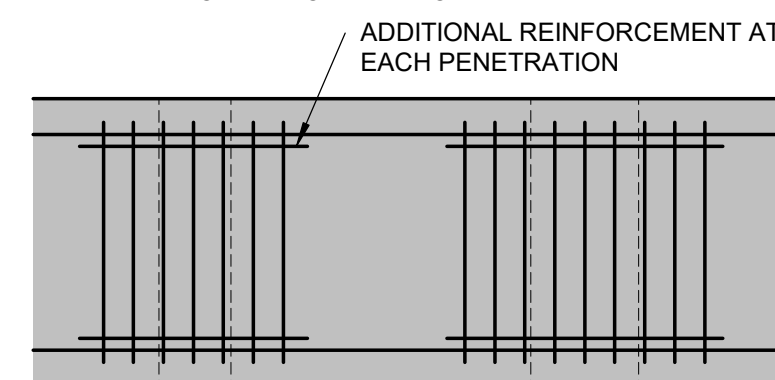


S501	$3/4" = 1'-0"$
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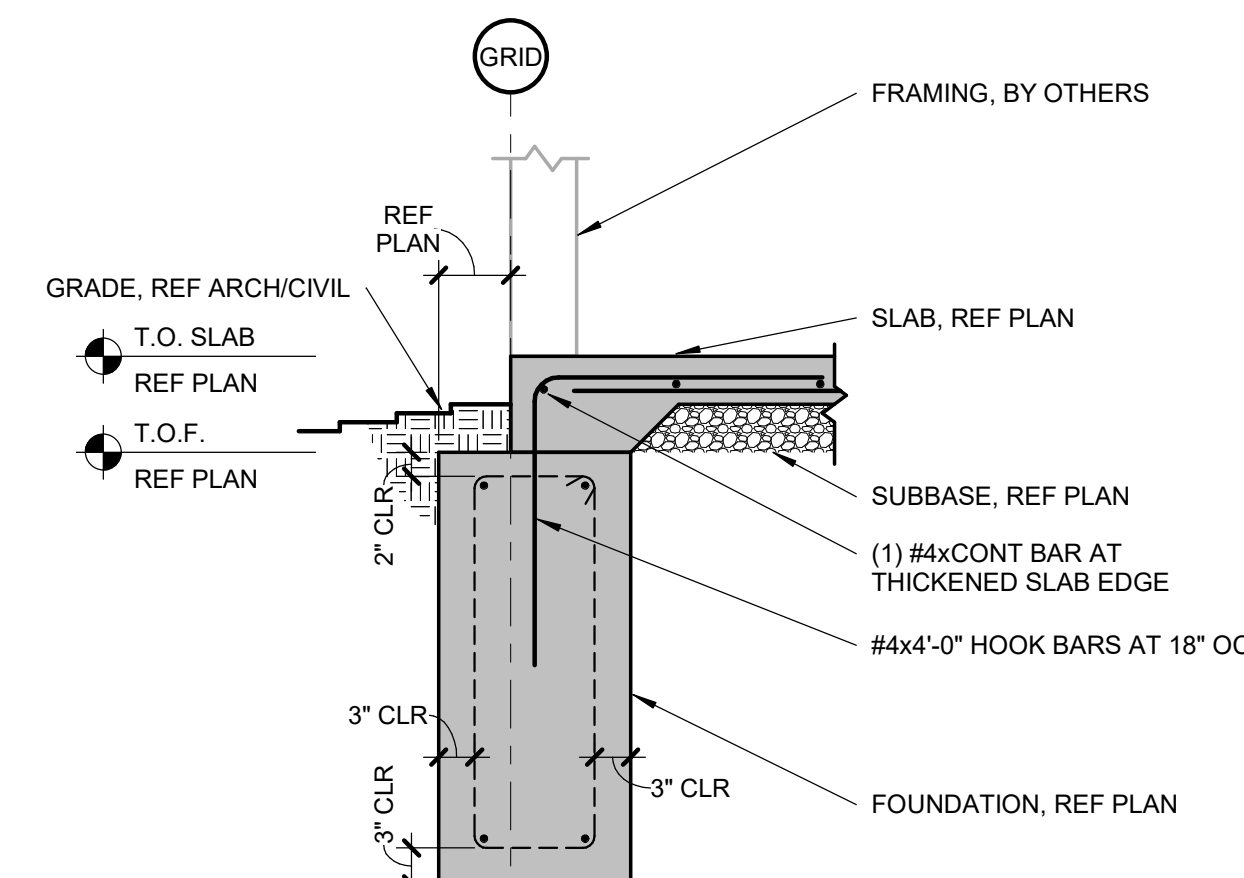


S501	$3/4" = 1'-0"$
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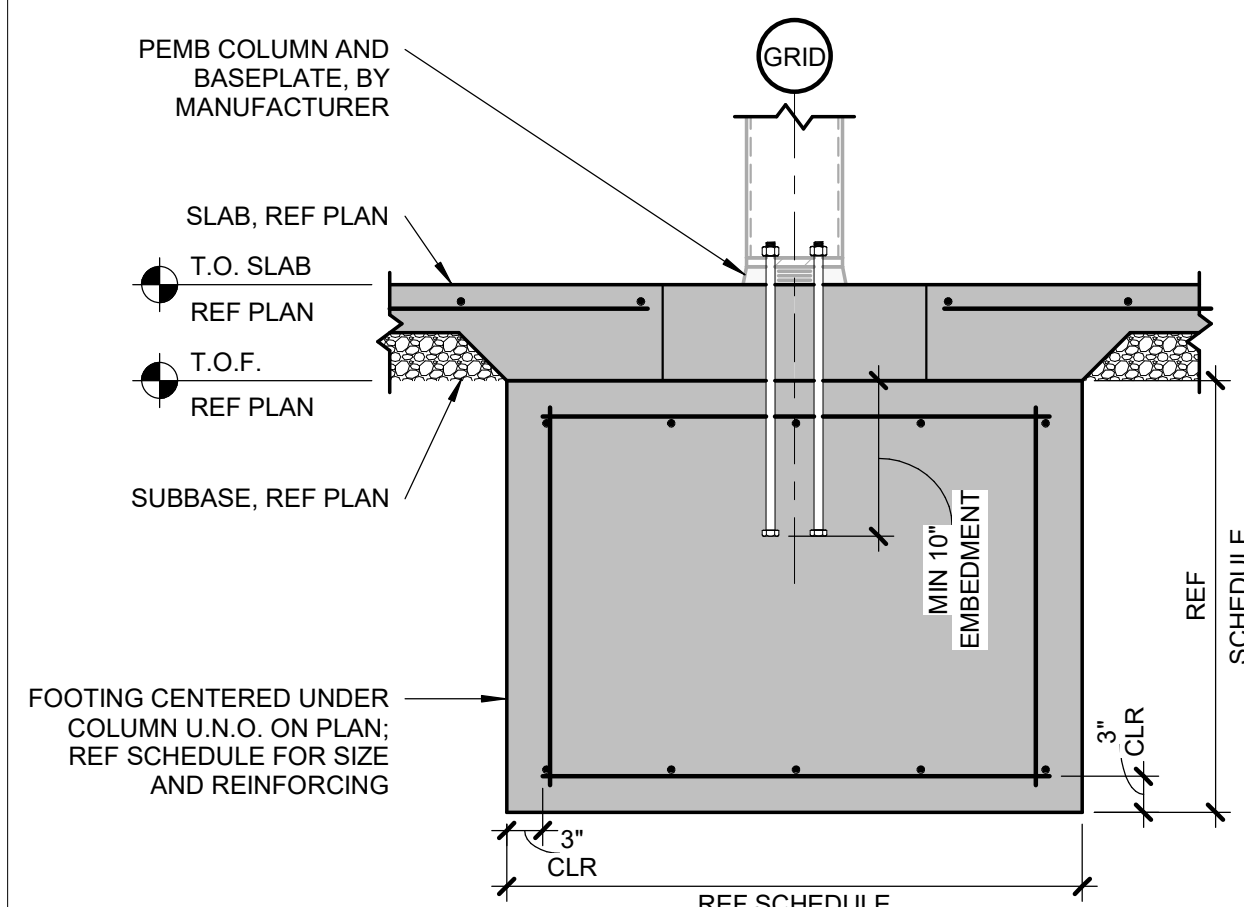
- NOTES:**
1. CONTRACTOR TO COORDINATE LOCATION, SIZE AND ELEVATION AND INCLUDE IN HIS CONTRACT PRICE ALL REQUIRED HORIZONTAL PENETRATIONS THROUGH CONCRETE BEAMS WHETHER SHOWN ON STRUCTURAL DRAWINGS OR NOT.
 2. CLEAR BEAM PENETRATIONS ARE REQUIRED BUT ARE NOT SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS, SUBMIT DRAWINGS, SHOWING DIMENSIONS AND LOCATIONS OF ALL REQUIRED PENETRATIONS, FOR REVIEW AND APPROVAL.
 3. "D" DENOTES THE DEPTH OF BEAM.
 4. CLEAR SPACING BETWEEN PENETRATIONS SHALL BE 24" MINIMUM UNLESS DESIGNED OTHERWISE BY THE ENGINEER.
 5. PENETRATIONS SHALL BE LOCATED ACCORDING TO THE FOLLOWING CRITERIA:
 - A. FOR BEAMS NOT SUPPORTING INTERSECTING BEAMS: LOCATE PENETRATIONS WITHIN TWO FEET EITHER SIDE OF BEAM MIDSPAN.
 - B. FOR BEAMS SUPPORTING INTERSECTING BEAMS: CHECK WITH STRUCTURAL ENGINEER AT EACH SLEEVE, UNLESS REQUIRED OTHERWISE BY NOTE #7 BELOW, PROVIDE THE FOLLOWING:
 - (1) #5 TOP AND BOTTOM AT BEAMS WITH WIDTHS LESS THAN 9".
 - (2) #5 TOP AND BOTTOM AT BEAMS WITH (2) LEG STIRRUPS.
 - (4) #5 TOP AND BOTTOM AT BEAMS WITH (4) LEG STIRRUPS.
 - (N) #5 TOP AND BOTTOM AT BEAMS WITH (N) LEG STIRRUPS.
 6. PENETRATION WIDTH $\leq$ PENETRATION DEPTH (UNLESS SHOWN OTHERWISE ON THE STRUCTURAL DRAWINGS).
 7. FOR LOCATIONS AND/OR SIZES OF PENETRATIONS NOT CONFORMING TO THE ABOVE CRITERIA AND NOT OTHERWISE DETAILED ON THE STRUCTURAL DRAWINGS, CONTRACTOR SHALL COORDINATE REQUIRED ADDITIONAL REINFORCEMENT WITH THE ENGINEER ON THE SHOP DRAWINGS.
 8. PROVIDE ADDITIONAL STIRRUPS AT SPACING NOT TO EXCEED ONE HALF OF THE SCHEDULED STIRRUP SPACING (UNLESS DETAILED OTHERWISE ON THE STRUCTURAL DRAWINGS).
 9. SEPARATE THE REINFORCING PASSING THRU SLEEVES ON PENETRATIONS TO ADEQUATELY ACCOMMODATE ANY POTENTIAL SWELL FROM THE ON-SITE SOILS.



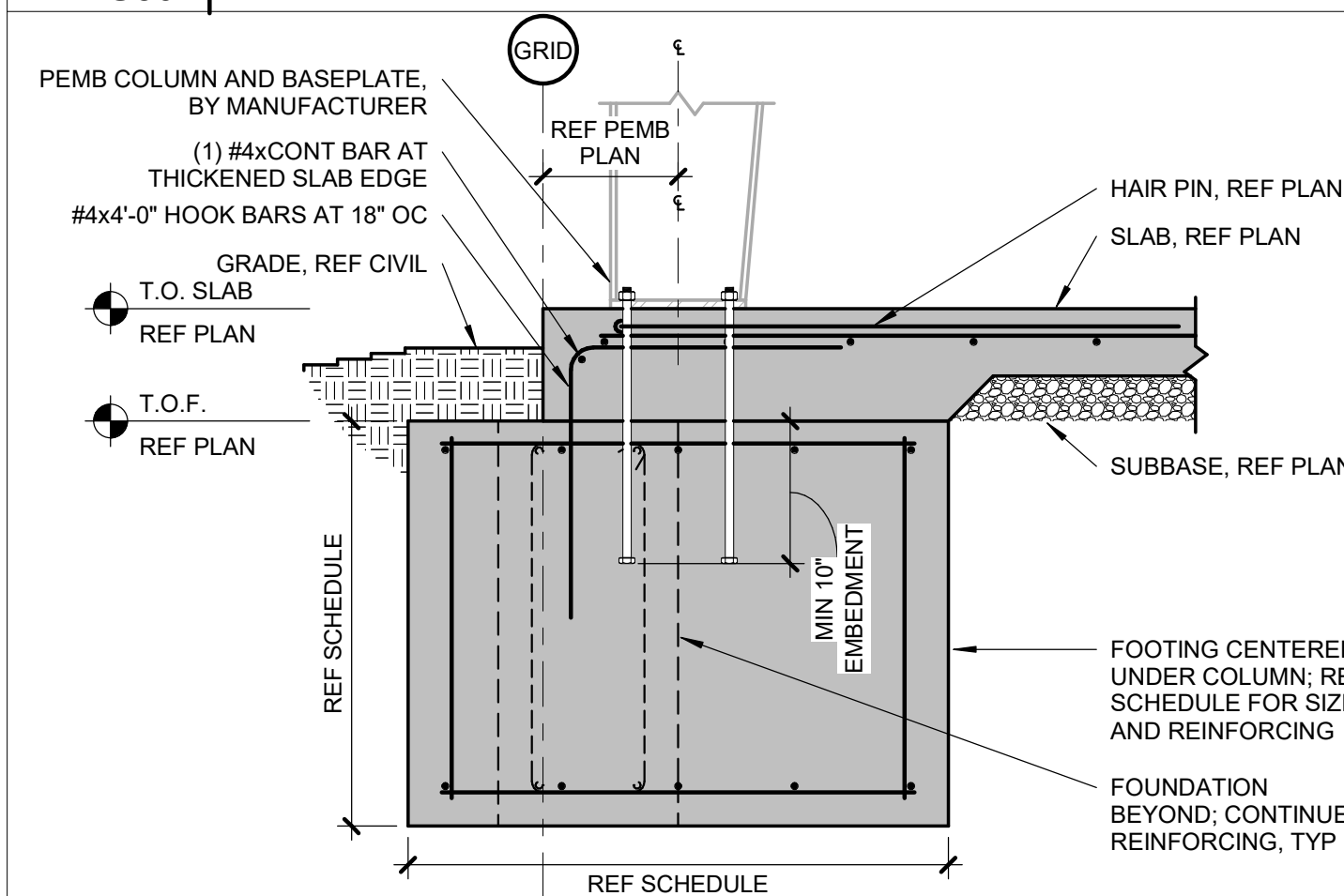
S501	3/4" = 1'-0"
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S501	3/4" = 1'-0"
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S501	3/4" = 1'-0"
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S501	3/4" = 1'-0"
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1/26/2023



a new development for
Town Centre Lot 1
520 NE Town Centre Drive
Lee's Summit, Missouri 64064

date 05.19.22
drawn by MA/FS
checked by EK/DS
revisions
12.22.22 REV 1
01.26.23 REV 2

sheet number

P1.0

drawing type
permit

project number
20231

PLUMBING GENERAL NOTES:

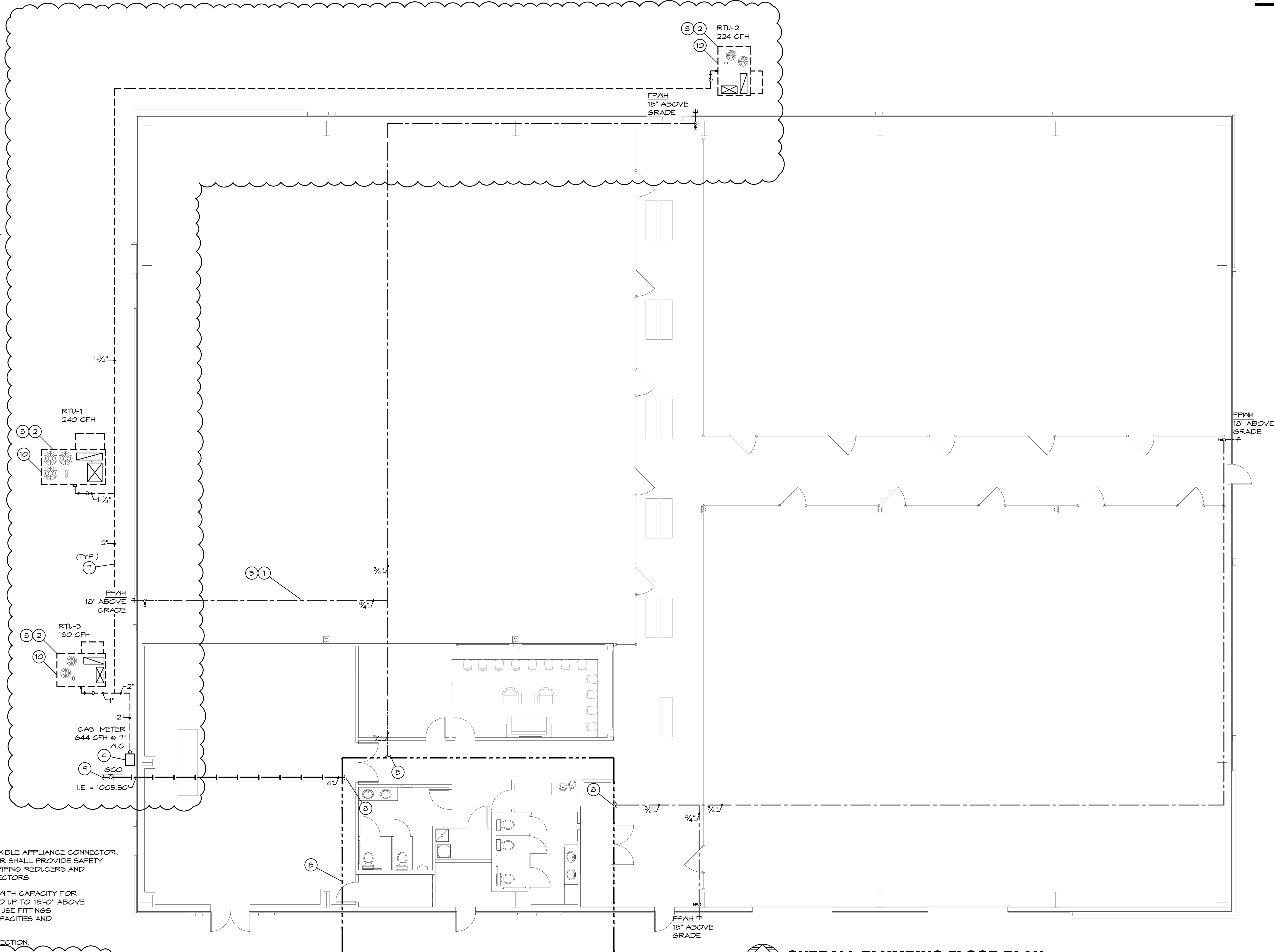
1. INSTALL ALL PIPE, ETC. AS HIGH AS POSSIBLE.
2. COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACES AVAILABLE, AND WITHOUT INTERFERENCES.
3. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF FIXTURES.
4. REFER TO ARCHITECTURAL & STRUCTURAL DRAWINGS FOR REQUIREMENTS FOR SUPPORTING PIPING, EQUIPMENT, ETC. FROM THE STRUCTURE. PROVIDE ADDITIONAL STEEL AS REQUIRED TO PROPERLY SUPPORT SYSTEMS FROM THE STRUCTURE.
5. PROVIDE 1" SCHEDULE 40 PVC CONDENSATE DRAIN PIPE FOR ROOFTOP UNIT LAID ROUTED TO GRASSY AREA. PROVIDE WATER TRAP AND CLEAN OUTS AS DETAILED. SECURE PVC PIPE TO DRAIN WITH NYLON STRAP.
6. NO PIPING SHALL BE ROUTED OVER THE TOP OF ELECTRICAL PANELS.
7. CONTRACTOR TO TEST WATER PRESSURE ON SITE AND PROVIDE PRESSURE REDUCING VALVE ON WATER SERVICE IF PRESSURE IS OVER 80 PSI.
8. ALL WATER SERVICE INSTALLATIONS INCLUDING BACKFLOW DEVICES ARE SUBJECT TO FIELD VERIFICATION AND APPROVAL BY THE WATER DEPARTMENT INSPECTOR.

PLUMBING SYMBOLS

	SOIL AND WASTE PIPING BELOW FLOOR/GRADE
	SOIL AND WASTE PIPING ABOVE FLOOR/GRADE
	SANITARY VENT PIPING ABOVE GRADE
	SANITARY VENT PIPING BELOW GRADE
	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER PIPING
	GAS PIPING
	EQUIPMENT DRAIN LINE
	FIRE LINE
	PIPING TURNING DOWN
	PIPING TURNING UP
	TEE TOP CONNECTION
	UNION
	BACKFLOW PREVENTER
	FLOOR DRAIN
	FLOOR CLEAN OUT
	WALL CLEAN OUT
	GRADE CLEAN OUT
	VALVE
	BALANCING VALVE
	SOLENOID VALVE
	PRESSURE REGULATOR
	CHECK VALVE
	CONNECT TO EXISTING
	I.E. INVERT ELEVATION OF PIPE
	MATCH MARKS ON PLUMBING RISER DIAGRAM

PLUMBING PLAN NOTES:

1. INSTALL WALL HYDRANT 18" ABOVE GRADE / FINISHED FLOOR.
2. CONNECT GAS TO EQUIPMENT AS REQUIRED AND AS DETAILED.
3. ALL APPLIANCE CONNECTIONS SHALL BE MADE WITH UL LISTED FLEXIBLE APPLIANCE CONNECTOR. FLEX CONNECTORS SHALL BE PROVIDED BY TENANT. CONTRACTOR SHALL PROVIDE SAFETY LOCK AND CHAIN AT ALL GAS APPLIANCES ON WHEELS. PROVIDE PIPING REDUCERS AND INCREASERS AS REQUIRED TO MATE HARD PIPING WITH FLEX CONNECTORS.
4. COORDINATE WITH GAS COMPANY FOR INSTALLATION OF A METER WITH CAPACITY FOR 694 CFH @ 7" W.C. ROUTE PIPING UP INSIDE THE EXTERIOR WALL AND UP TO 18"-0" ABOVE FINISHED FLOOR. ALL CONCEALED JOINTS ARE TO BE WELDED OR USE FITTINGS APPROVED FOR CONCEALED USE. VERIFY ALL EQUIPMENT GAS CAPACITIES AND OPERATING PRESSURES PRIOR TO INSTALLATION OF ANY PIPING.
5. ROUTE PIPING ON INTERIOR SIDE OF INSULATION FOR FREEZE PROTECTION.
6. NOT USED.
7. ROUTE POLYETHYLENE GAS PIPING UNDERGROUND TO EQUIPMENT LOCATION. PROVIDE A LISTED PREMANUFACTURED ANODELESS RISER AND TRANSITION TO POLYETHYLENE GAS PIPING RATED FOR UNDERGROUND USE. INSTALL PIPING A MINIMUM OF 12" BELOW GRADE AND PROTECT FROM PHYSICAL DAMAGE. WHERE GAS PIPING PENETRATES A WALKWAY SLAB, IT SHALL BE THROUGH A 12"x12" OPEN AREA FILLED WITH GRAVEL 16" DEEP. PROVIDE 18 AWG TRACER WIRE RATED FOR DIRECT BURIAL ALONG PE GAS PIPE. PROVIDE PREMANUFACTURED ANODELESS RISER AT EQUIPMENT.
8. SEE ENLARGED PLUMBING PLAN ON SHEET P1.1 FOR CONTINUATION OF PIPING AND PIPING IN THIS AREA.
9. SEE CIVIL PLAN FOR CONTINUATION OF 4" SANITARY SEWER. MAINTAIN MIN 30" COVER.
10. CONNECT CONDENSATE TO RTU AS REQUIRED AND AS DETAILED.



OVERALL PLUMBING FLOOR PLAN
SCALE: 1/8" = 1'-0"
F.F.E. = 1008.50'

BC PROJECT #: 22323
MISSOURI PE COA #2009003629
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12/22/2022



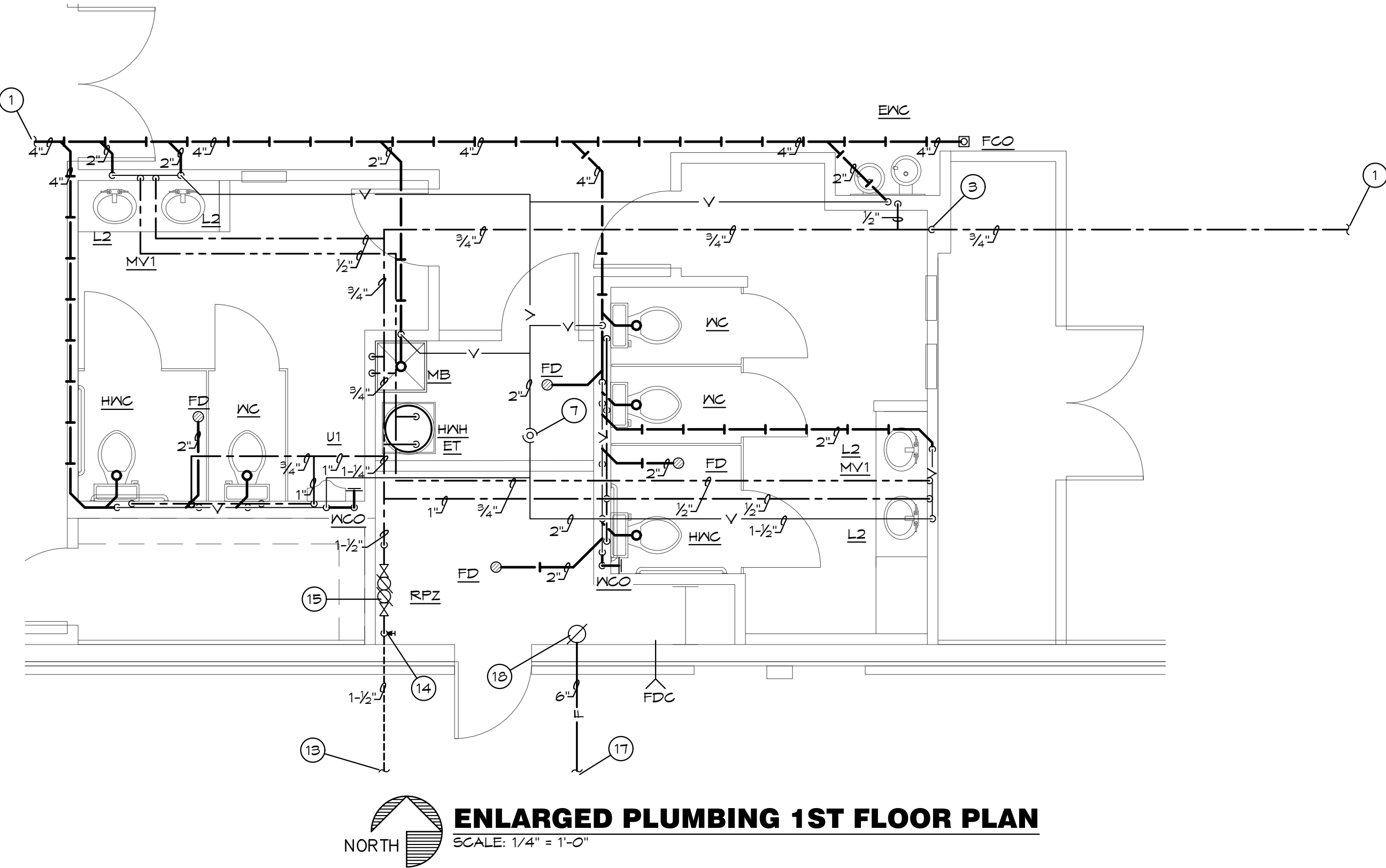
a new development for
Town Centre Lot 1
520 NE Town Centre Drive
Lee's Summit, Missouri 64064

date
05.19.22
drawn by
MA/FS
checked by
EK/DS
revisions
12.20.22 REV 1

sheet number
P1.1
drawing type
permit
project number
20231

PLUMBING PLAN NOTES:

- ① REFER TO SHEET P1.0 FOR CONTINUATION OF PIPING.
- ② 4" WASTE PIPE DOWN TO FLOOR BELOW. REFER TO ENLARGED FIRST FLOOR PLUMBING PLAN FOR CONTINUATION OF PIPING. PROVIDE CLEANOUT AT BASE OF RISER.
- ③ REFER TO ENLARGED FIRST FLOOR PLUMBING PLAN FOR CONTINUATION OF PIPING.
- ④ 1/2" CW UP FROM FLOOR BELOW. REFER TO ENLARGED FIRST FLOOR PLUMBING PLAN FOR CONTINUATION OF PIPING.
- ⑤ 1/2" HW UP FROM FLOOR BELOW. REFER TO ENLARGED FIRST FLOOR PLUMBING PLAN FOR CONTINUATION OF PIPING.
- ⑥ NOT USED.
- ⑦ LOCATION OF 3" VTR. VERIFY 10' CLEARANCE FROM ALL OUTDOOR AIR INTAKES. SEAL PENETRATION WEATHERTIGHT.
- ⑧ 4" WASTE PIPE DOWN FROM FLOOR ABOVE. REFER TO ENLARGED 2ND FLOOR PLUMBING PLAN FOR CONTINUATION OF PIPING. PROVIDE CLEANOUT AT BASE OF RISER.
- ⑨ NOT USED.
- ⑩ NOT USED.
- ⑪ NOT USED.
- ⑫ NOT USED.
- ⑬ SEE CIVIL PLAN FOR CONTINUATION OF 1-1/2" DOMESTIC C.W. MAINTAIN MIN 48" COVER.
- ⑭ ROUTE PIPING ON INTERIOR SIDE OF INSULATION FOR FREEZE PROTECTION.
- ⑮ PROVIDE 1-1/2" RPZ BACKFLOW PREVENTER AND INSTALL 24" A.F.F. 4 6" FROM WALL. ROUTE DRAIN FROM RPZ BFP TO FLOOR DRAIN WITH AN AIR GAP.
- ⑯ PROVIDE ICE MAKER BOX WITH VALVE FOR CONNECTION TO REFRIGERATOR BY OTHERS.
- ⑰ 6" FIRE LINE, SEE CIVIL PLANS FOR CONTINUATION. MAINTAIN A MINIMUM 48" BURY FOR FREEZE PROTECTION.
- ⑱ ROUTE 6" FIRE LINE THRU FOUNDATION UP THRU FLOOR 24" AFF AND CAP FOR FUTURE EXTENSION BY SPRINKLER CONTRACTOR.



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12/22/2022



a new development for
Town Centre Lot 1
520 NE Town Centre Drive
Lee's Summit, Missouri 64064

date
05.19.22
drawn by
MA/FS
checked by
EK/DS
revisions
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sheet number

P2.0

drawing type
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PLUMBING FIXTURE BRANCH PIPING SCHEDULE				
FIXTURE	WASTE	VENT	GA	HA
WATER CLOSET (TANK TYPE)	4"	2"	1/2"	--
URINAL	2"	1-1/2"	3/4"	--
LAVATORY	1-1/4"	1-1/4"	1/2"	1/2"
SINK	1-1/2"	1-1/2"	1/2"	1/2"
FLOOR DRAIN	2"	2"	--	--
MOP BASIN	2"	2"	1/2"	1/2"
ELECTRIC WATER COOLER (BI-LEVEL)	1-1/2"	1-1/2"	1/2"	--

NOTE: INDIVIDUAL VENTS FOR FIXTURES ON PLANS AND RISER DIAGRAMS HAVE BEEN INCREASED WHERE HORIZONTAL VENT LENGTH IS IN EXCESS OF THE MAXIMUM DISTANCE INDICATED BY THE CODE.

PIPE HANGER SCHEDULE		
PIPE MATERIAL	MAXIMUM HANGER SPACING	HANGER ROD DIAMETER
ABS (All sizes)	4'	3/8"
PVC (All Sizes)	4'	3/8"
CPVC, 1 inch and smaller	3'	1/2"
CPVC, 1-1/4 inches and larger	4'	1/2"
Cast Iron (All Sizes)	5'	5/8"
Cast Iron (All Sizes) with 10 foot length of pipe	10'	5/8"
Copper Tube, 1-1/4 inches and smaller	6'	1/2"
Copper Tube, 1-1/2 inches and larger	10'	1/2"
Steel, 3 inches and smaller	12'	1/2"
Steel, 4 inches and larger	12'	5/8"
Pex, 1" and below without support channel	32"	3/8"
Pex, 1-1/4" and above without support channel	48"	3/8"
Pex 3/4" and below with support channel	6'	3/8"
Pex 1" and above with support channel	8'	3/8"

PLUMBING FIXTURE SCHEDULE:

HWC HANDICAP WATER CLOSET: TOTO, #CST144EL(R)/N, "DRAKE CLOSE COUPLED TOILET", 1.28 GALLON FLUSH, 16-1/2" HIGH ELONGATED BOWL, FLOOR MOUNTED, FLOOR OUTLET, TANK TYPE, VITREOUS CHINA, SIPHON-JET ACTION, #SC934 OPEN FRONT SEAT WITH CHECK HINGE AND LESS COVER, CHROME PLATED ANGLE STOP AND RISER, HANDLE ON WIDE SIDE OF FIXTURE.

WC WATER CLOSET: TOTO, #CST144E(R)/G/N, "DRAKE CLOSE COUPLED TOILET", 1.28 GALLON FLUSH, ELONGATED BOWL, FLOOR MOUNTED, FLOOR OUTLET, TANK TYPE, VITREOUS CHINA, SIPHON-JET ACTION, #SC934 OPEN FRONT SEAT WITH CHECK HINGE AND LESS COVER, CHROME PLATED ANGLE STOP AND RISER.

L1 NOT USED.

L2 HANDICAP LAVATORY, COUNTERTOP, TOTO, #LT501, VITREOUS CHINA, 20"x 11" OVAL BASIN, DELTA #501 FAUCET WITH SINGLE METAL LEVER HANDLE, OFFSET GRID DRAIN WITH 1-1/4" TAILPIECE, CHROME PLATED P-TRAP(MOUNTED PARALLEL WITH WALL), CHROME PLATED ANGLE STOPS AND RISERS,INSULATE EXPOSED DRAIN, WATER SUPPLIES, AND VALVES WITH PROWRAP SEAMLESS MOLDED CLOSED CELL VINYL INSULATION.

UI URINAL, WALL HUNG: TOTO, #UT44T.O1, VITREOUS CHINA, WASH OUT, WALL HUNG URINAL WITH 3/4" TOP SPID, #TMU1NNG-12 FLUSH VALVE, FLOOR MOUNTED FIXTURE SUPPORT, SET RIM HEIGHT PER ARCHITECTURAL DRAWINGS.

B1 NOT USED.

MB MOP BASIN: FIAT, #MSB-2424, MOLDED STONE MOP BASIN, 2" DRAIN, 24"x 24" BASIN, VINYL BUMPER GUARD, STERN WILLIAMS #T-10-VB FAUCET, SPRING CHECKS, VACUUM BREAKER, INTEGRAL STOPS, WALL BRACE & PAIL HOOK, WALL BRACKET WITH 30" HOSE.

ENC ELECTRIC WATER COOLER: OASIS, #P6BAGSL, BARRIER FREE TWO-STATION WATER COOLER, 8.0 GPH, 50 DEGREES F WATER WITH 90 DEGREES F AIR TEMPERATURE, 120 VOLT, COLOR TO BE SELECTED BY ARCHITECT AFTER AWARD OF CONTRACT, FRONT AND SIDE ANTIMICROBIAL PUSH PADS, ANTIMICROBIAL FLEX BUBBLERS, CHROME PLATED CAST BRASS P-TRAP WITH CLEANOUT, CHROME PLATED LOOSE KEY ANGLE STOP, FLOOR MOUNTED CARRIER AND CANE APRON.

FD FLOOR DRAIN: SIOUX CHIEF, #842, PVC FLOOR DRAIN WITH ADJUSTABLE TOP AND CAST BRASS STRAINER.

WH HOT WATER HEATER: AO SMITH #DEL-40, 40 GALLON STORAGE, 208 VOLT, SINGLE PHASE, (2) 4500 WATT ELEMENT, NON-SIMULTANEOUS, ASME TEMPERATURE AND PRESSURE RELIEF VALVE. SET TEMPERATURE TO 120°F.

ET HOT WATER EXPANSION TANK: AMTROL, #ST-8, 3.2 GALLON EXPANSION TANK WITH DIAPHRAGM.

MV NOT USED.

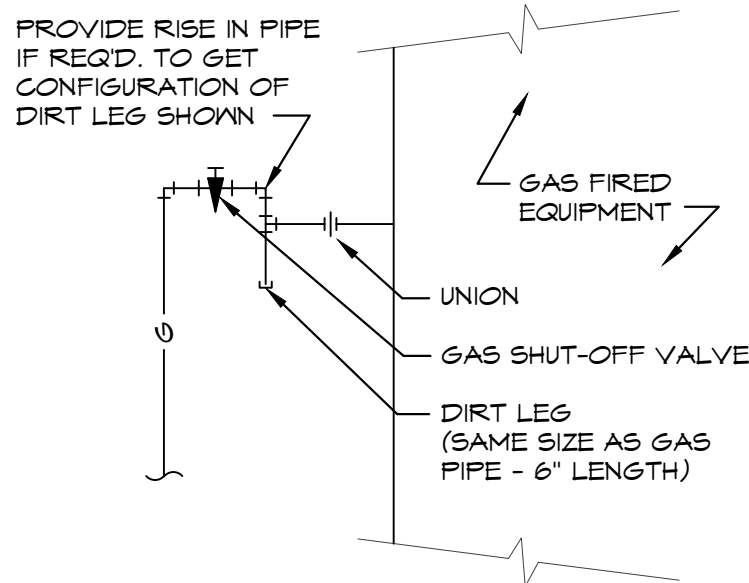
MV1 MIXING VALVE: MATTS, #LFMMV THERMOSTATIC CONTROLLED MIXING VALVE,LEAD FREE BRONZE BODY, LOCKED TEMPERATURE ADJUSTMENT CAP (VANDAL RESISTANT), SOLID MAX HYDRAULIC PRINCIPLE THERMOSTAT,INTEGRAL FILTER WASHERS AND CHECK VALVES ON HOT AND COLD INLETS,(SET TO 110°F) ASSE #101T,#1064,#1070

RPZ REDUCED ZONE PRESSURE BACKFLOW PREVENTOR: MATTS #LF004, LEAD FREE BRONZE BODY CONSTRUCTION, TWO, IN-LINE INDEPENDENT CHECK VALVES, REPLACEABLE CHECK SEATS WITH AN INTERMEDIATE RELIEF VALVE, AND BALL VALVE TEST COCKS.

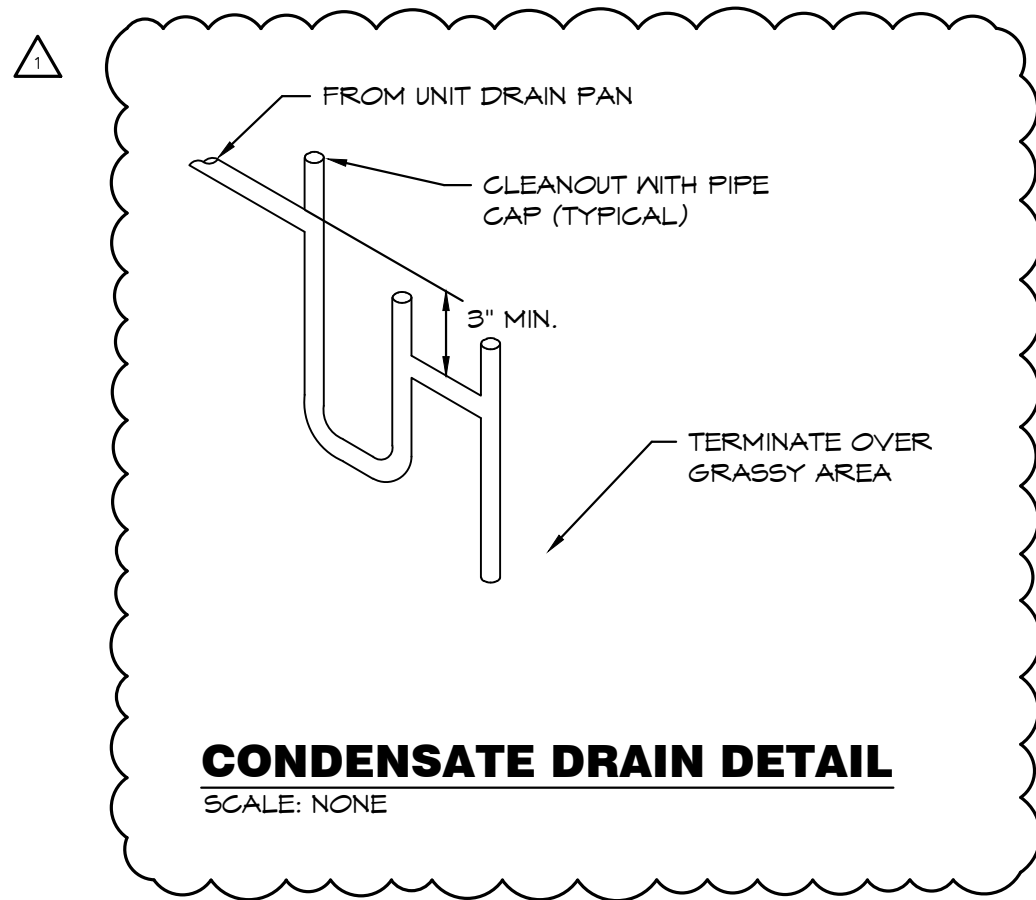
IB NOT USED.

FCO/NGO VINYL TILE FLOOR: JR SMITH #4140, OR EQUAL.
QUARRY TILE FLOOR: JR SMITH #4200, OR EQUAL.
CARPETED FLOOR: JR SMITH #4020-Y, OR EQUAL.
UNFINISHED FLOOR: JR SMITH #4020, OR EQUAL.
WALL: JR SMITH #44T2, OR EQUAL, 24" ABOVE THE FLOOR.

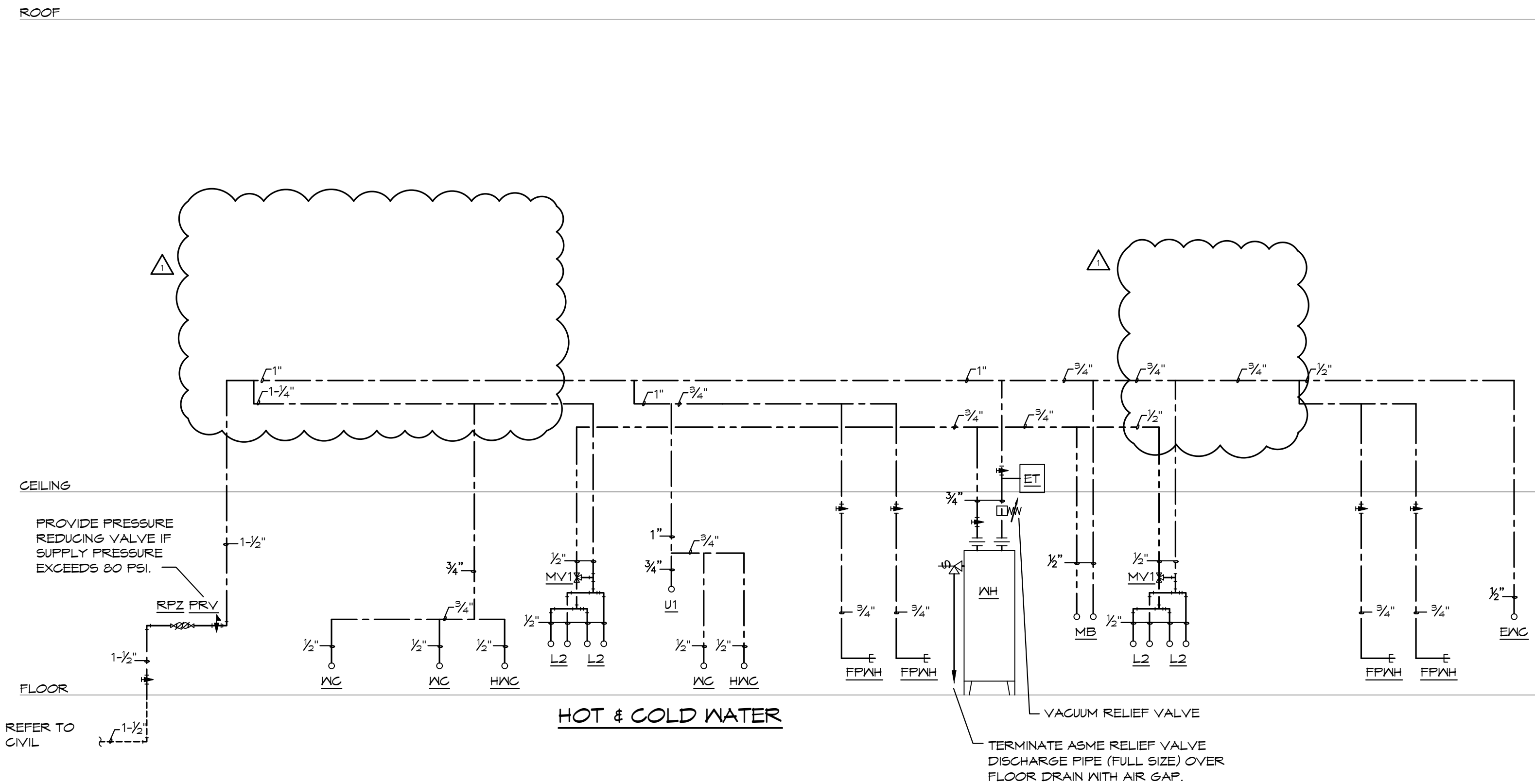
FPWH FREEZEPROOF WALL HYDRANT: JR SMITH #5609, 3/4" SIZE, NICKEL-BRONZE FACE, KEY OPERATED, INTEGRAL VACUUM BREAKER.



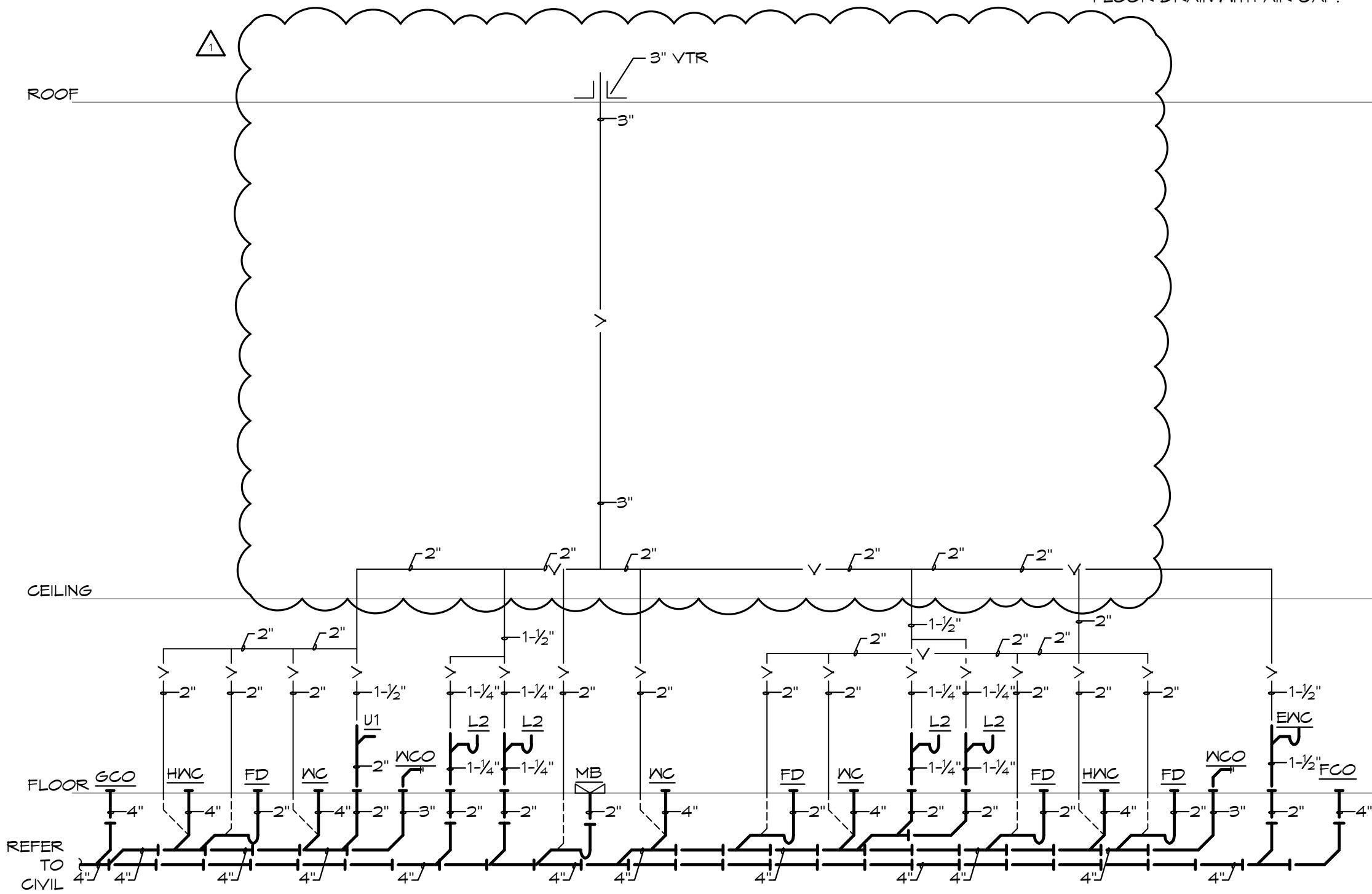
GAS CONNECTION DETAIL
SCALE: NONE



CONDENSATE DRAIN DETAIL
SCALE: NONE



HOT & COLD WATER



WASTE & VENT

PLUMBING RISER DIAGRAMS
SCALE: NONE

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MISSOURI PE COA #2009003629
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12/22/2022



a new development for
Town Centre Lot 1
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MECHANICAL GENERAL NOTES:

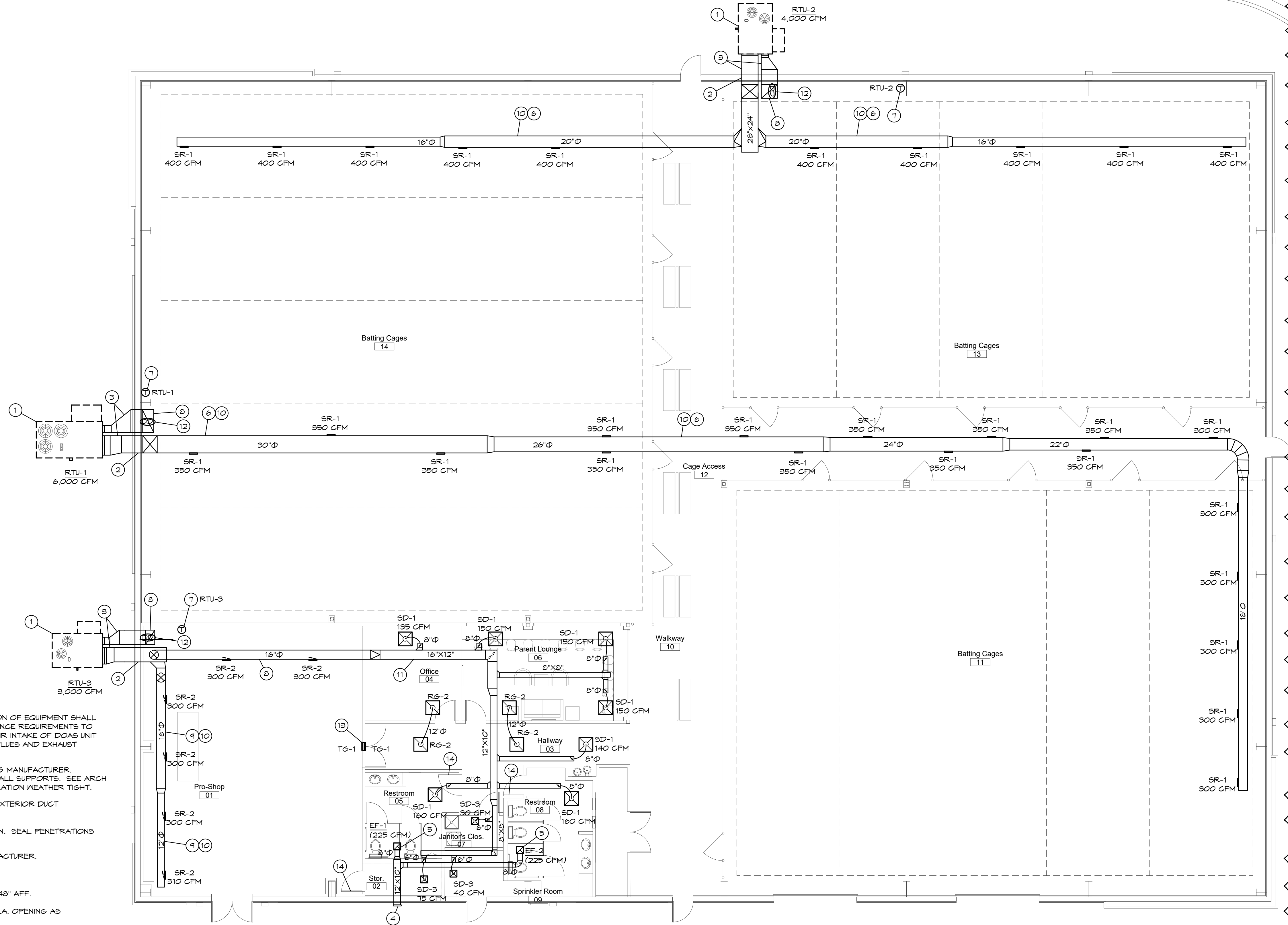
- COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACES AVAILABLE, AND WITHOUT INTERFERENCES.
- THIS CONTRACTOR SHALL PERFORM ALL WORK INDICATED AND/OR AS REQUIRED FOR THE PROPER INSTALLATION AND OPERATION OF THE MECHANICAL SYSTEMS.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF DIFFUSERS.
- INSTALL ALL DUCT, PIPE, ETC. AS HIGH AS POSSIBLE.
- DUCT SIZES SHOWN ARE ACTUAL SHEET METAL SIZES AND INCLUDE AN ALLOWANCE FOR DUCT LINER WHERE APPLICABLE.
- PROVIDE FLEXIBLE CONNECTION BETWEEN DUCTWORK AND ROOFTOP UNITS, EXHAUST FANS, AND OTHER MOTORIZED EQUIPMENT.
- NO DUCT SHALL BE ROUTED OVER THE TOP OF ELECTRICAL PANELS.
- ALL MATERIALS WITHIN PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84.
- ALL MECHANICAL SYSTEMS SHALL BE BALANCED BY A CERTIFIED BALANCING CONTRACTOR. REFER TO SPECIFICATIONS FOR DETAILS.

MECHANICAL SYMBOLS

- NEW SUPPLY DIFFUSER
- NEW RETURN AIR GRILLE
- EXHAUST GRILLE/FAN
- REMOTE TEMPERATURE SENSOR
- THERMOSTAT, MOUNTED AT 48" AFF
- DUCT-MOUNTED SMOKE DETECTOR
- NEW DUCTWORK
- 32"x14" SIZE OF RECTANGULAR DUCT
- 6"Ø SIZE OF ROUND DUCT
- FLEXIBLE DUCTWORK
- FLEXIBLE CONNECTION TO FAN
- FLOOR PLAN NOTE DESIGNATION
- S.A. SUPPLY AIR
- R.A. RETURN AIR
- EXH. EXHAUST AIR
- TRANSITION IN DUCT SIZE
- ELBOW WITH TURNING VANES
- MANUAL VOLUME DAMPER
- MANUAL VOLUME DAMPER
- SUPPLY AIR DUCT UP/DOWN
- RETURN AIR DUCT UP/DOWN
- EXHAUST AIR DUCT UP/DOWN
- CHANGE IN ELEVATION UP (UP) DOWN (DN) IN DIRECTION OF FLOW
- RTU-1 SCHEDULED MECHANICAL EQUIPMENT

MECHANICAL PLAN NOTES:

- PROVIDE GROUND MOUNTED RTU WHERE SHOWN ON PLAN. INSTALLATION OF EQUIPMENT SHALL COMPLY WITH EQUIPMENT MANUFACTURER'S INSTALLATION AND CLEARANCE REQUIREMENTS TO ALLOW FOR INSPECTION, SERVICE, REPAIR OR REPLACEMENT. FRESH AIR INTAKE OF DOAS UNIT SHALL BE LOCATED A MINIMUM OF 10 FOOT FROM VENT THRU ROOF, FLUES AND EXHAUST FANS.
- COORDINATE PENETRATION FOR HVAC EQUIPMENT WITH METAL BUILDING MANUFACTURER. COORDINATE FINAL ELEVATION OF EQUIPMENT WITH WALL GIRTS AND WALL SUPPORTS. SEE ARCH ELEVATION FOR DETAILS. COORDINATE WITH SC TO SEAL WALL PENETRATION WEATHER TIGHT.
- ALL EXTERIOR DUCT SHALL BE PROVIDED WITH R-8 INSULATION. SEAL EXTERIOR DUCT PENETRATION WEATHER TIGHT.
- PROVIDE WALL VENT GAP WITH BACKDRAFT DAMPER FOR EXHAUST FAN. SEAL PENETRATIONS WEATHER TIGHT.
- SUPPORT EXHAUST FAN FROM STRUCTURE AS REQUIRED BY THE MANUFACTURER.
- ROUTE DUCTWORK UP TO AS HIGH AS POSSIBLE.
- PROVIDE T-DAY PROGRAMMABLE AUTO/HEAT/COOL THERMOSTAT AT 48" AFF.
- TURN UP RETURN DUCT TO 4" OF CEILING. INSTALL BIRDSCREEN OVER R.A. OPENING AS REQUIRED.
- INSTALL BOTTOM OF DUCT AT 12'-6" AFF.
- INSTALL EXPOSED SPIRAL DUCTWORK IN OPEN CEILING AREA. DUCT SIZES SHOWN ARE OUTER DIAMETER OF DUCTWORK AND INCLUDES AN ALLOWANCE FOR DUCT LINER WHERE APPLICABLE. COORDINATE INSTALLATION OF DUCTWORK WITH LIGHTING LAYOUT.
- PROVIDE CONCEALED SUPPLY DUCTWORK ABOVE CEILING. ROUTE DUCTWORK UP HIGH AND SUPPORT FROM THE STRUCTURE. ALL DUCTWORK SHALL BE INSTALLED IN ACCORDANCE WITH SHACNA STANDARDS. COORDINATE ROUTING OF DUCTWORK WITH LIGHT HOUSINGS, ELECTRICAL CONDUIT, PIPING ETC. TO AVOID CONFLICT. DUCTWORK INSULATION SHALL BE AT LEAST 3" FROM LIGHT HOUSINGS. PROVIDE TRANSITION AS REQUIRED TO INSTALL DUCTWORK BETWEEN JOISTS.
- LOCATION OF DUCT MOUNTED SMOKE DETECTOR. PROVIDE REMOTE ENUNCIATOR AUDIO/VISUAL. VERIFY LOCATION WITH FIRE MARSHALL PRIOR TO INSTALLATION. REFER TO SPECIFICATION SHEET MPO.0 FOR ADDITIONAL INFORMATION.
- PROVIDE TRANSFER GRILLE ON BOTH SIDES AT 8'-0" AFF.
- UNDERCUT DOOR TO ALLOW FOR TRANSFER AIR PATH.



NORTH
MECHANICAL FLOOR PLAN
SCALE: 1/8" = 1'-0"

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12/22/2022



a new development for
Town Centre Lot 1
520 NE Town Centre Drive
Lee's Summit, Missouri 64064

date 05.19.22
drawn by MA/FS
checked by EK/DS
revisions 12.20.22 REV 1



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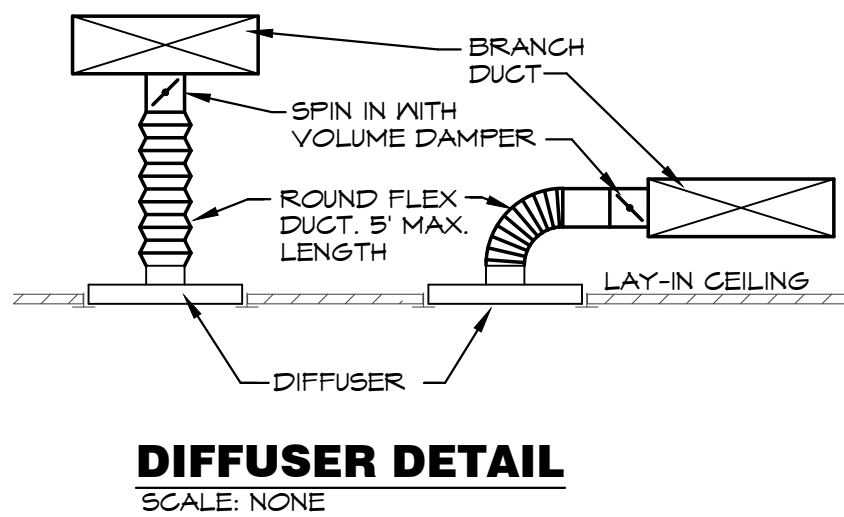
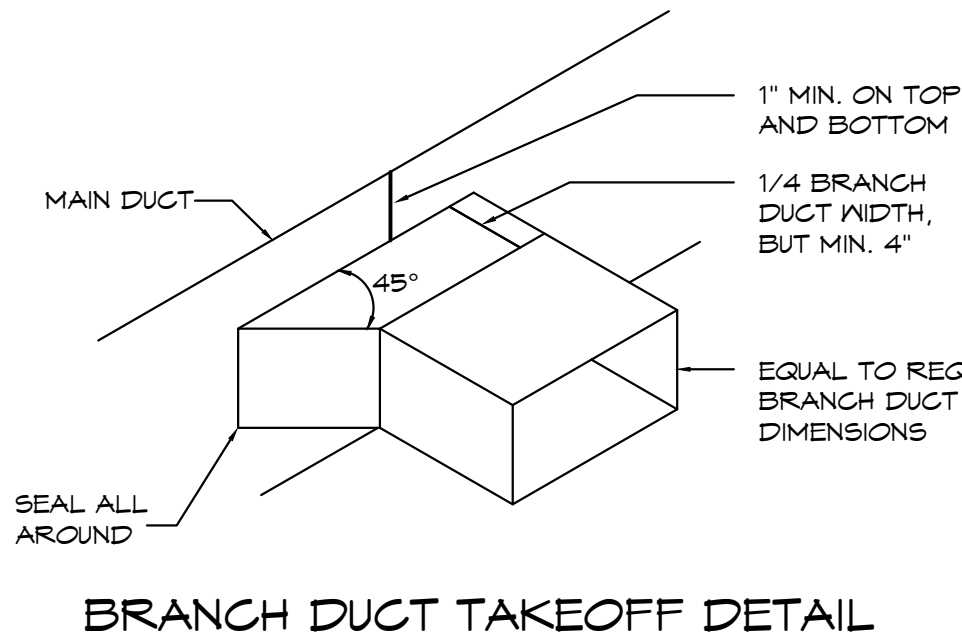
EXHAUST FAN SCHEDULE										
MARK	MFR	MODEL	CFM	EXTERNAL STATIC P. IN. WG.	RPM	ELECTRICAL		FAN TYPE	CONTROLS	NOTES
						VOLT/Ø/HZ	PHR			
EF-1	COOK	6C-182	225	0.25	1,400	120/1/60	167 W	CEILING EXH.	SWITCH	1
EF-2	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓

NOTES: 1. PROVIDE CEILING GRILLE, INTEGRAL BACK DRAFT DAMPER, VARI-SPEED CONTROLLER (NEAR FAN AND ABOVE CEILING), AND WALL CAP.

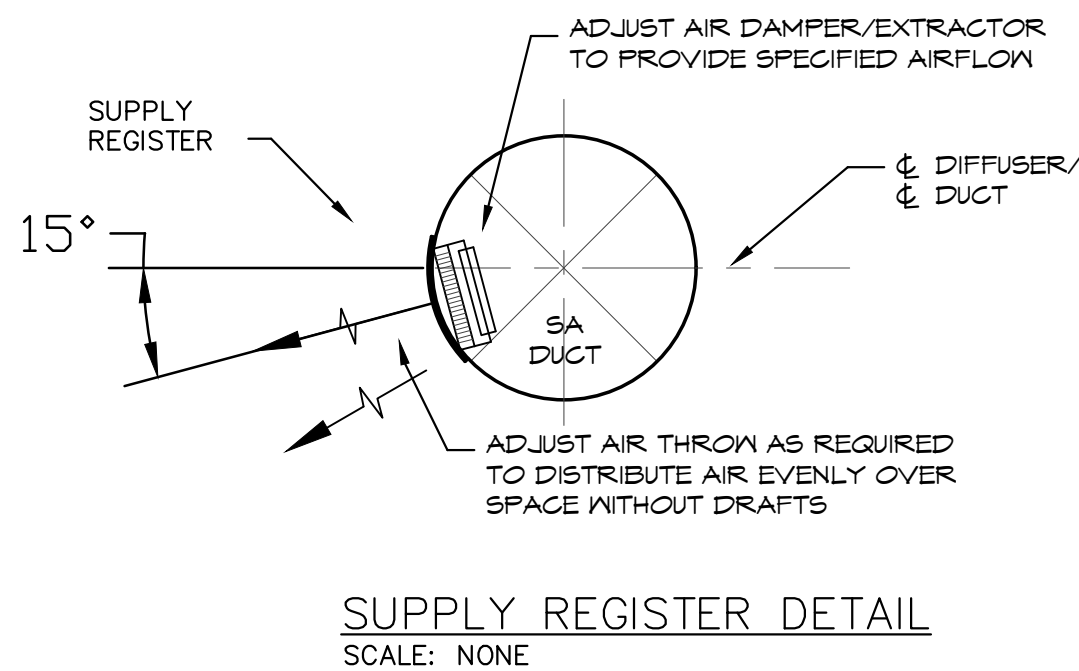
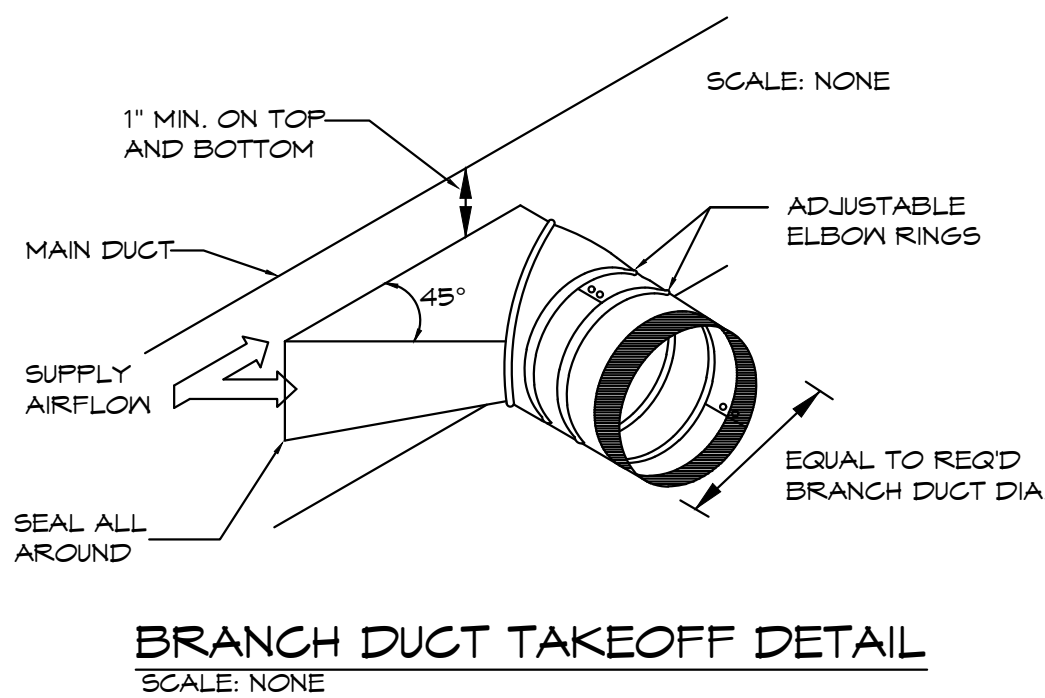
ROOFTOP UNIT SCHEDULE																											
MARK	MFR.	MODEL NO.	NOM. TONS	EVAP CFM	EXT. STATIC P. IN. WG. (NOTE 2)	COOLING					HOT GAS REHEAT	HEATING (GAS)			ELECTRICAL					UNIT CONTROLS	BLOWER DRIVE TYPE	ECONOMIZER + BAROMETRIC RELIEF		MINIMUM OUTDOOR AIR (CFM) *	SEER /EER	TOTAL HEIGHT (LBS)	NOTES
						COOLING STAGES	TOTAL BTUH	SENS. BTUH	AMB.	EVAP EAT DB/WB		BTUH INPUT	BTUH OUTPUT	HEATING STAGES	VOLT/Ø/HZ	BLOWER MOTOR	POWER EXHAUST	MCA (AMPS)	MCPG (AMPS)			TYPE	CONTROLLER				
RTU-1	CARRIER	48TCED16A2A5	15	6,000	0.5	2	184,780	137,040	105	80/67	N	240,000	195,000	2	208/3/60	6.1 HP	N	71	80	DIGITAL	CAV	STANDARD	SENSIBLE	450	- / 11.2	1760	1,2,3,4,5,6
RTU-2	↓	48TCED12A2A5	10	4,000	0.5	2	124,100	96,200	105	80/67	N	224,000	184,000	2	208/3/60	4.7 HP	N	49	60	DIGITAL	CAV	STANDARD	SENSIBLE	450	- / 11	1149	1,2,3,4,5,6
RTU-3	↓	48FCMO8A2A5	7.5	3,000	0.5	2	90,000	66,020	105	80/67	N	180,000	148,000	2	208/3/60	3 HP	N	39	50	DIGITAL	CAV	STANDARD	SENSIBLE	425	- / 11.2	914	1,2,3,4,5,6

- NOTES:
- PROVIDE HINGED ACCESS DOORS, SCROLL COMPRESSORS WITH CRANKCASE HEATER, HIGH PRESSURE SWITCHES, FREEZE/STAT, HAIL GUARDS. STANDARD COOLING DOWN TO 30°F. OUTDOOR AIR DAMPER TO FULLY CLOSE W/ FAN SHUTDOWN FOR ALL UNITS.
 - EXTERNAL STATIC PRESSURE LISTED REPRESENTS STATIC PRESSURE REQUIRED FOR DUCTWORK AND DIFFUSERS OUTSIDE THE HVAC UNIT COMPLETELY INDEPENDENT OF ANY PRESSURE DROP THROUGH THE HVAC EQUIPMENT INCLUDING BUT NOT LIMITED TO FILTERS, COILS AND ECONOMIZERS. THE FAN AND MOTOR SHALL BE SIZED APPROPRIATELY TO MEET THIS DEFINITION OF EXTERNAL STATIC PRESSURE.
 - PROVIDE COMMERCIAL, 7-DAY PROGRAMMABLE HEAT/COOL/AUTO CHANGEOVER TOUCHSCREEN THERMOSTAT WITH OPTIMUM START CONTROLS. OUTDOOR AIR DAMPER IS TO CLOSE DURING UNOCCUPIED HOURS.
 - PROVIDE NEW 2" MERV 8 FILTERS UPON COMPLETION OF CONSTRUCTION.
 - PROVIDE 14" PRE-FABRICATED GROUND MOUNTED CURB.
 - MECHANICAL CONTRACTOR SHALL COORDINATE ALL UNIT MOCPS OF ACTUAL INSTALLED EQUIPMENT WITH ELECTRICAL CONTRACTOR.
 - OCCUPANCY FOR BATTING CAGES IS 30 PEOPLE. 30*30 = 900 CFM MINIMUM REQUIRED FOR BATTING CAGE AREA.

DIFFUSER SCHEDULE									
MARK	MFR	MODEL	BORDER TYPE	NECK SIZE	FACE SIZE	FINISH	DAMPER	ACCESSORIES	NOTES
SD-1	TITUS	TMS	3	8"Ø	24"x24"	WHITE	-	-	-
SD-2		↓		↓	↓		OB DAMPER	TRM KIT	-
SD-3		↓		6"Ø	12"x12"		-	-	-
SD-4		↓		↓	↓		OB DAMPER	TRM KIT	-
RG-1		PAR		18"x18"	24"x24"		-	-	-
RG-2		↓		12"Ø	24"x24"		-	-	-
SR-1		300FS		12"x10"	-	↓	OB DAMPER	-	-
SR-2		3300FS		20"x4"	-	ANODIZED	FULL LENGTH VOLUME DAMPER	-	-
TG-1		350RL		-	14"x14"	WHITE	-	-	-



OUTDOOR AIR CALCULATIONS									
UNIT	Area (sqft)	OCCUPANCY CLASSIFICATION	Occupant Density #/1000 sqft	People outdoor airflow rate in breathing zone, (Rp) cfm/person	Area outdoor airflow rate in breathing zone, (Ra) cfm/sqft	Exhaust airflow rate cfm/sqft	Breathing zone outdoor airflow (Vbz)	Zone air distribution effectiveness (Ez)	Zone outdoor airflow (cfm)
RTU-3	1230	Sales	15	7.5	0.12		286	0.8	357
	1015	Conference rooms	50	5	0.06		315	0.8	393
	336	Conference/meeting	50	5	0.06		104	0.8	130
	188	Office spaces	5	5	0.06		16	0.8	20
	320	Corridors	0	0	0.06		19	0.8	24
							Total		925



a new development for
Town Centre Lot 1
520 NE Town Centre Drive
Lee's Summit, Missouri 64064

date
05.19.22
drawn by
MA/FS
checked by
EK/DS
revisions
12.20.22 REV 1

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a new development for
Town Centre Lot 1
520 NE Town Centre Drive
Lee's Summit, Missouri 64064

date
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drawn by
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SPECIFICATIONS AND
LEGEND

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ELECTRICAL SPECIFICATIONS

1. GENERAL PROVISIONS:

- PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, NECESSARY FOR THE COMPLETE INSTALLATION OF THE ELECTRICAL SYSTEMS OUTLINED.
- OBTAIN ALL PERMITS, FEES, LICENSES, INSPECTIONS, AND CERTIFICATES OF COMPLIANCE OR APPROVAL AS REQUIRED BY THE AUTHORITIES.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST APPROVED EDITION OF THE NATIONAL ELECTRIC CODE (NEC), AND ALL APPLICABLE LAWS, CODES AND REGULATIONS OF THE GOVERNMENTAL BODIES HAVING JURISDICTION OVER THE SITE.
- ALL TESTING REQUIRED BY AUTHORITIES SHALL BE CONSIDERED PART OF THIS WORK.
- DURING CONSTRUCTION, ALL FIXTURES, EQUIPMENT, CONDUIT, ETC. SHALL BE COVERED, PLUGGED, OR CAPPED AS REQUIRED TO KEEP CLEAN AND UNDAMAGED. ALL DAMAGED ITEMS SHALL BE RESTORED TO ORIGINAL CONDITION OR REPLACED. ALL PROTECTIVE COVERINGS SHALL BE REMOVED BEFORE FINAL ACCEPTANCE.
- PROVIDE ALL NECESSARY CUTTING AND PATCHING OF WALLS, FLOORS, CEILINGS, AND ROOFS AS NECESSARY. PATCH AROUND ALL OPENINGS SHALL MATCH ADJACENT AREA. COORDINATE ALL ROOFING WORK WITH OWNER OR RESPONSIBLE PARTY, SO THAT THE EXISTING ROOFING WARRANTY WILL BE MAINTAINED.
- CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS AGAINST DEFECTS FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE.
- CONTRACTOR SHALL PROVIDE ACCESS PANELS WHERE NECESSARY FOR CONCEALED ELECTRICAL COMPONENTS.

2. OPERATION AND MAINTENANCE MANUALS:

- DURING THE COURSE OF CONSTRUCTION, COLLECT AND COMPILE OPERATING INSTRUCTIONS, WIRING DIAGRAMS, CATALOG CUTS, LUBRICATION AND PREVENTIVE MAINTENANCE INSTRUCTIONS, PARTS LISTS, ETC. FOR ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT.
- ALL LITERATURE AND INSTRUCTIONS SHIPPED WITH THE EQUIPMENT SHALL BE SAVED FOR INCLUSION IN THE OPERATION AND MAINTENANCE MANUALS.
- ALL LITERATURE LISTED ABOVE AND ALL PAPERS LISTING WARRANTIES, ETC. SHALL BE COLLATED AND LABELED WITH THE PROJECT NAME, ADDRESS, ARCHITECT, ENGINEER, CONTRACTORS, ETC. CONTRACTORS, ETC. DOCUMENTS SHALL BE COMPILED AND BOUND IN DIGITAL FILE OR 3 RING BINDER.

3. MANUFACTURERS:

- MANUFACTURERS, MODEL NUMBERS, ETC. INDICATED OR SCHEDULED ON THE DRAWINGS SHALL BE INTERPRETED AS HAVING ESTABLISHED A STANDARD OF QUALITY AND SHALL NOT BE CONSIDERED AS LIMITING COMPETITION. ARTICLES, FIXTURES, ETC. OF EQUAL QUALITY BY MANUFACTURERS SHALL BE ACCEPTABLE, SUBJECT TO STRUCTURAL AND ELECTRICAL CONSTRAINTS OF THE PROJECT DESIGN, UNLESS NOTED OTHERWISE.

4. TESTING, AND BALANCING:

- ALL CIRCUITS SHALL BE TESTED FOR CONTINUITY, SHORTS, AND GROUNDS BEFORE CONNECTING TO THE PROPER PHASE AS DESIGNED TO BALANCE THE LOADING BETWEEN PHASES.
- POWER AND LIGHTING PANELS SHALL BE PROPERLY PHASED TO DISTRIBUTE THE LOAD AND SHALL BE CONNECTED AND ADJUSTED TO OPERATE AS SPECIFIED.
- ALL MOTORS AND SIMILAR EQUIPMENT SHALL BE CHECKED FOR PROPER PHASE ROTATION AND OPERATION.

5. RACEWAYS:

- CONDUIT INSIDE THE BUILDING SHALL BE METALLIC TUBING (EMT), BEARING THE UL LABEL, WITH COMPRESSION TYPE FITTINGS OR SCREEN SET FITTINGS.
- CONDUIT EXPOSED TO THE WEATHER, INSTALLED UNDERGROUND, IN CONCRETE, OR USED FOR SERVICE ENTRANCE SHALL BE STANDARD RIGID CONDUIT (GALVANIZED) WITH THREADED FITTINGS.
- UNDERGROUND CONDUIT MAY BE POLYVINYL CHLORIDE WITH A DEFLECTION TEMPERATURE, UNDER LOAD AT 264 PSI, OF 75 DEGREES C, AND A TENSILE STRENGTH OF 5,200 PSI. JOINTS SHALL BE FLUSH, SOLVENT WELDED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. CONDUIT SHALL BE EQUAL TO CARLON POWER AND COMMUNICATIONS DUCT TYPE DB (DIRECT BURIAL). CONDUIT AND FITTINGS SHALL BE PROVIDED BY THE SAME MANUFACTURER.
- FLEXIBLE METAL CONDUIT SHALL ONLY BE USED FOR CONNECTIONS TO MOTORS, TRANSFORMERS, AND LIGHT FIXTURES. MAXIMUM LENGTH SHALL BE 6'-0".

6. CONDUCTORS:

- WIRES SHALL BE CONTINUOUS WITHOUT SPLICES OR TAPS IN CONDUIT RUNS. ALL SPLICES SHALL BE MADE IN JUNCTION, PULL, OR OUTLET BOXES. ALL WIRES SHALL BE INSTALLED IN CONDUIT, RISERS, OR OTHER PROTECTIVE COVERS SANCTIONED BY CODES.
- CONDUCTORS FOR LIGHTING AND POWER SHALL BE COPPER, MINIMUM NO. 12 AWG, 600 VOLT.
- NO. 10 GAUGE AND SMALLER CONDUCTORS SHALL BE TYPE THIN (NET LOCATIONS) OR THIN (DRY LOCATIONS), SOLID CONDUCTOR, UNLESS OTHERWISE INDICATED.
- NO. 3 GAUGE AND LARGER CONDUCTORS SHALL BE TYPE THIN (NET LOCATIONS) OR THIN (DRY LOCATIONS), STRANDED, UNLESS OTHERWISE INDICATED.
- SERVICE ENTRANCE AND PANEL FEEDER CONDUCTORS, NO. 3 GAUGE AND LARGER SHALL BE TYPE XHHW-2 (NET LOCATIONS) OR THIN (DRY LOCATIONS), STRANDED COPPER, UNLESS OTHERWISE INDICATED.
- ALUMINUM SERVICE WIRE MAY BE USED FOR SERVICE ENTRANCE CONDUCTORS AND/OR PANEL FEEDERS ONLY. ALL OTHER WIRING SHALL BE COPPER CONDUCTORS AS HEREBEFORE SPECIFIED.
- ALUMINUM CONDUCTORS SHALL BE TYPE XHHW-2, ALCAN, "STABLOK" TYPE ALLOY WHICH CONDUCTORS UTILIZING AA-8030" ALUMINUM ALLOY. CONDUCTORS SHALL BE UL LISTED.
- ALL ALUMINUM CONDUCTORS SHALL BE TERMINATED IN CONNECTIONS OR LUGS WHICH ARE DUAL RATED (AL2G OR AL3G) AND ARE LISTED BY UL FOR USE WITH ALUMINUM OR COPPER CONDUCTORS AND SHALL BE SIZED TO ACCEPT ALUMINUM CONDUCTORS OF THE AMPACITY SPECIFIED.

7. MC CABLE:

- MC CABLE SHALL CONSIST OF INTERLOCK ARMORED CABLE MADE OF THREE OR FOUR TYPE THIN SOLID (16 AWG AND LARGER MAY BE STRANDED) COPPER CONDUCTORS RATED 90°C FOR DRY LOCATIONS, WITH NYLON OR EQUIVALENT UL LISTED JACKET, PER UL STANDARD 53 THE THREE CONDUCTORS SHALL BE TWISTED TOGETHER WITH THE COPPER GROUNDING CONDUCTOR, SUITABLE FILLERS, AND WRAPPED IN BINDER TAPES. THE ASSEMBLY SHALL BE ARMORED WITH SPIRALLY WRAPPED INTERLOCKED ARMOR OF ALUMINUM OR GALVANIZED STEEL.
- CABLES SHALL BE TESTED IN ACCORDANCE WITH UL STANDARD 1564 FOR TYPE MC CABLE AND RATED AT 600 VOLTS, 90 DEGS. C FOR DRY LOCATIONS AND 75 DEGS. C FOR NET LOCATIONS.

8. WIRING DEVICES:

- WALL SWITCHES SHALL BE SPECIFICATION GRADE, QUIET TYPE, FLUSH TOGGLE SWITCH, RATED FOR 20 AMPS, WITH THERMOPLASTIC COVER PLATES.
 - SINGLE POLE: HUBBELL #S1221-X, OR EQUAL.
 - THREE WAY: HUBBELL #S1225-X, OR EQUAL.
 - AS SPECIFIED ON PLANS.
- RECEPTACLES SHALL BE SPECIFICATION GRADE, DUPLEX, GROUNDING, TYPE WAGO SWITCH, RATED FOR 20 AMPS, WITH THERMOPLASTIC COVER PLATES, HUBBELL #CR5952-X, OR EQUAL.
- GROUND FAULT INTERRUPTER RECEPTACLES (GFI) SHALL BE HUBBELL #SF20-XL. DEVICE COVER PLATES SHALL BE AS HEREBEFORE SPECIFIED.
- ISOLATED GROUND RECEPTACLES (IG) SHALL BE HUBBELL #CR5552IG, ORANGE COLOR. DEVICE COVER PLATES SHALL BE AS HEREBEFORE SPECIFIED.
- RECEPTACLES OUTSIDE BUILDINGS AND WHERE NOTED AS WEATHERPROOF, SHALL BE LISTED WEATHER-RESISTANT HUBBELL #SFTR20-X OR EQUAL AND SHALL BE INSTALLED IN A WEATHERPROOF ENCLOSURE WHICH SHALL BE INTERMATIC INV1010AND OR INV1010AND DECAT-METAL WEATHERPROOF RECEPTACLE COVER. COVER SHALL BE WEATHER PROOF RATED WHILE IN USE.
- VERIFY DEVICES AND DEVICE COVER PLATES COLOR AND STYLE WITH ARCHITECT.

9. BOXES:

- HOT DIPPED GALVANIZED STEEL BOXES. PROVIDE TYPE TO SUIT CONDITIONS FOR INSTALLATION.
- ALL BOXES SHALL BE FLUSH MOUNTED, UNLESS INDICATED OTHERWISE.

ELECTRICAL SPECIFICATIONS (CONTINUED)

10. PANELBOARDS:

- FURNISH AND INSTALL CIRCUIT BREAKER PANELBOARDS AS SHOWN ON THE DRAWINGS. PANELBOARDS SHALL BE LISTED AND SHALL BE FULLY RATED FOR THE VOLTAGE AND CURRENT CAPACITY INDICATED ON THE PANEL SCHEDULE. PANELBOARDS SHALL BE EQUAL TO SQUARE D TYPE NG OR NF WITH BOLT IN TYPE BREAKERS. PANELBOARD LUGS SHALL BE RATED AT 75°C.
 - CIRCUIT BREAKER INTERRUPTING CAPACITIES SHALL MEET OR EXCEED THE AVAILABLE RMS SYMMETRICAL FAULT CURRENTS INDICATED AND AS REQUIRED TO MEET OR EXCEED THE AVAILABLE FAULT CURRENT FROM LOCAL UTILITY.
- CIRCUIT BREAKERS SHALL MEET APPLICABLE PORTIONS OF UL STANDARD 484 AND NEMA AB-1. CIRCUIT BREAKERS SHALL BE BOLT-ON, GROUP MOUNTED, AMBIENT MAGNETIC, WITH COMMON TRIP, UL RATED TO CARRY 50% OF NAMEPLATE RATING CONTINUOUSLY IN FREE AIR AT 40°C. CIRCUIT BREAKERS SHALL BE TRIP INDICATING AND FULLY INTERCHANGEABLE WITHOUT DISTURBING ADJACENT UNITS. WIRE TERMINALS SHALL BE RATED 75 DEGREES C. THE OPERATING MECHANISM SHALL BE TRIP-FREE SO THAT CONTACTS CANNOT BE HELD CLOSED AGAINST ANY ABNORMAL OVERCURRENT OR SHORT CIRCUIT CONDITION.
- BREAKERS SHALL MEET APPLICABLE NEMA AND/OR UL SPECIFICATIONS.
- PANELBOARD BOXES SHALL BE GALVANIZED SHEET STEEL WITH AMPLIFIED WIRING GUTTER SPACE IN ACCORDANCE WITH NEC. FRONTS SHALL BE OF SHEET STEEL, PAINTED LIGHT GREY OVER A SUITABLE RUST INHIBITOR PRIMER. PANELBOARDS SHALL BE EQUIPPED WITH ONE PIECE DOOR, CYLINDER TUMBLER TYPE LOCK, DIRECTORY CARD-HOLDER AND QUARTER-TURN ADJUSTABLE TRIM CLAMPS.
- PANELBOARD INTERIORS SHALL CONSIST OF REINFORCED GALVANIZED SHEET STEEL FRAMES WITH ALUMINUM BUS BARS AND CIRCUIT BREAKERS, PROPERLY SUPPORTED TO PREVENT VIBRATIONS AND BREAKAGE IN HANDLING. BUS BARS SHALL BE SEQUENCE PHASED. PANELBOARD SHALL HAVE A FULL SIZED SOLID ALUMINUM NEUTRAL AND GROUND BUS.
- BUS BAR BRACING SHALL BE UL LISTED AS INDICATED ON DRAWINGS. ADDITIONAL BRACING SHALL BE PROVIDED AS REQUIRED TO MEET OR EXCEED INDICATED AVAILABLE FAULT CURRENTS.
- DIRECTORY CARDS SHALL BE COMPLETELY FILLED IN BY TYPEWRITER, LISTING CIRCUIT NUMBERS AND LOAD SERVED, INCLUDING EXISTING CIRCUITS. CIRCUIT BREAKERS SHALL BE IDENTIFIED BY CIRCUIT NUMBER LABELS AS HEREBEFORE SPECIFIED.

11. DISCONNECTS:

- DISCONNECTS SHALL BE EXTERNALLY OPERATED, QUICK-MAKE, QUICK-BREAK, SAFETY, WITH PROVISIONS FOR PAD LOCKING. FUSED AND NON-FUSED DISCONNECT SWITCHES SHALL BE PROVIDED AS INDICATED.
- INDOOR SWITCHES SHALL BE NEMA 1 AND OUTDOOR SWITCHES SHALL BE NEMA 3B, UNLESS INDICATED OTHERWISE.

12. FUSES:

- FUSES PROTECTING CIRCUIT BREAKER PANELS SHALL BE CURRENT LIMITING UL CLASS RK-1 FUSES WITH 200,000 AMPERES RMS SYM INTERRUPTING CAPACITY. FUSING ELEMENTS SHALL BE SILVER FOR RATINGS ABOVE 60 AMPERES.
- ALL OTHER FUSES SHALL BE UL CLASS RK-5, DUAL-ELEMENT WITH A MINIMUM TIME-DELAY OF 10 SECONDS AT 800% RATING. FUSES SHALL HAVE CURRENT-LIMITING SHORT-CIRCUIT LINKS AND 200,000 AMPERES RMS SYM INTERRUPTING CAPACITY. FUSING ELEMENTS SHALL BE COPPER.

13. LIGHT FIXTURES:

- WHERE LIGHT FIXTURES ARE MOUNTED IN A LAY-IN CEILING, PROVIDE A MINIMUM OF 2 SUPPORT WIRES ATTACHED DIRECTLY BETWEEN EACH LIGHT FIXTURE AND THE BUILDING STRUCTURE. SUPPORT WIRES SHALL BE A MINIMUM OF 12 GAUGE GALVANIZED STEEL WIRE, SOFT ANNEALED.
- FIXTURES ARE REQUIRED AT ALL LIGHTING OUTLETS SHOWN ON THE DRAWINGS. APPROVED LIGHTING FIXTURE WIRE IS REQUIRED IN ALL FIXTURES AND FIXTURE RACEWAYS. WEATHERPROOF WIRING IS REQUIRED FOR EXTERIOR FIXTURES. ALL PARTS OF FIXTURES AND WIRING SHALL BE IN ACCORDANCE WITH NEC REQUIREMENTS.
- ALL FIXTURES SHALL CARRY UL AND ETL LABELS.

14. SLEEVES:

- PROVIDE, SET, AND PROPERLY LOCATE PIPE SLEEVES AS REQUIRED FOR THIS WORK.
- INTERIOR PARTITIONS: 16 GAUGE GALVANIZED STEEL, PACK BETWEEN CONDUIT AND SLEEVE WITH FIRE SAFING AND CAULK AT EACH END WITH FIRE RESISTANT SEALANT.
- ROOF: PROSET OR EQUAL, MANUFACTURED PVC SCHEDULE 40 PIPE SLEEVE WITH WEATHERPROOF SEAL. COORDINATE WITH ROOFING CONTRACTOR AND FLASH AS REQUIRED TO MAINTAIN ROOF WARRANTY.

15. GROUNDING:

- GROUND ALL ELECTRICAL APPARATUS IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC) 250, AND ANY LOCAL REQUIREMENTS. INSURE CONTINUOUS BOND WHERE FLEXIBLE CONDUIT IS USED. PROVIDE BONDING JUMPER INSIDE ALL FLEXIBLE CONDUIT.
- BOND METAL PIPING SYSTEMS IN COMPLIANCE WITH NEC 250.4(A)(4).

16. REMODELING WORK:

- DEMOLITION, DISCONNECT, DEMOLISH AND REMOVE ABANDONED ELECTRICAL MATERIALS AND EQUIPMENT INDICATED TO BE REMOVED AND NOT INDICATED TO BE SALVAGED OR REMAIN.
- EQUIPMENT TO BE SALVAGED:
 - DISCONNECT AND REMOVE EXISTING ELECTRICAL EQUIPMENT INDICATED TO BE REMOVED AND SALVAGED. DELIVER EQUIPMENT TO THE LOCATION DESIGNATED BY THE OWNER FOR STORAGE.
 - ALL MATERIALS AND EQUIPMENT DESIGNATED TO BE REUSED OR RELOCATED SHALL BE CAREFULLY REMOVED, AND STORED UNTIL NEEDED FOR REMODELING WORK. ALL ITEMS SHALL BE RESTORED TO LIKE NEW CONDITION WITH RUST OR CORROSION REMOVED, SURFACE PAINT TOUCHED UP OR REPAINTED AS REQUIRED TO MATCH NEW CONSTRUCTION, AND THOROUGHLY CLEANED AND INSPECTED. ANY ITEMS WHICH BECOME DAMAGED BEYOND REPAIR AS A RESULT OF CONSTRUCTION OR DEMOLITION ACTIVITY SHALL BE REPLACED WITH NEW MATERIAL EQUIVALENT IN EVERY RESPECT.
 - DISPOSAL AND CLEANUP: REMOVE FROM THE SITE AND LEGALLY DISPOSE OF DEMOLISHED MATERIALS AND EQUIPMENT NOT INDICATED TO BE SALVAGED.
- PROTECT ADJACENT MATERIALS INDICATED TO REMAIN. INSTALL AND MAINTAIN DUST AND NOISE BARRIERS TO KEEP DIRT, DUST, AND NOISE FROM BEING TRANSMITTED TO ADJACENT AREAS. REMOVE PROTECTION AND BARRIERS AFTER REMODELING OPERATIONS ARE COMPLETE.
- PROVIDE ALL ALTERATIONS AND REWORK INDICATED AND/OR REQUIRED FOR THE PROPER INSTALLATION AND OPERATION OF ALL EXISTING ELECTRICAL SYSTEMS, INTEGRATING THE NEW AND EXISTING AREAS. LOCATE, IDENTIFY, AND PROTECT ELECTRICAL SERVICES PASSING THROUGH REMODELING AREA AND SERVING OTHER AREAS OUTSIDE THE REMODELING LIMITS. MAINTAIN SERVICES TO AREAS OUTSIDE REMODELING LIMITS. WHEN SERVICES MUST BE INTERRUPTED, INSTALL TEMPORARY SERVICES FOR AFFECTED AREAS.

- ABANDONED CONDUIT SHALL HAVE WIRE REMOVED AND SHALL BE CAPPED. ABANDONED OUTLETS IN WALLS OR PARTITIONS SHALL HAVE DEVICES AND WIRE REMOVED, AND SHALL BE COVERED.
- WHERE EXISTING CONDUITS TERMINATE AT AN EXISTING OUTLET IN A WALL, CEILING, OR FLOOR TO BE REMOVED, DISCONNECT AND REMOVE DEVICE AND WIRE FROM CONDUIT. CONDUIT SHALL BE CUT BACK AND CAPPED (BELOW THE FLOOR OR ABOVE THE CEILING) SO NOT TO CREATE AN OBSTRUCTION. PATCH FLOOR TO MATCH EXISTING.
- WHERE EXISTING CIRCUITS EXTEND BEYOND THE OUTLET IN THE EXISTING WALL, CEILING, OR FLOOR TO BE REMOVED, FURNISH AND INSTALL NEW CONDUIT AND WIRE TO EITHER REROUTE THE CIRCUIT OR FEED THE REMAINING OUTLET(S) FROM ANOTHER ELECTRICAL SOURCE, BUT IN SUCH A MANNER AS NOT TO REVISE THE CIRCUIT. ALL REROUTED CONDUIT SHALL BE APPROVED BY THE ARCHITECT.
- WHERE EXISTING OUTLETS IN A WALL, CEILING, OR FLOOR TO BE REMOVED ARE ESSENTIAL TO MAINTAIN OPERATION OF OTHER REMAINING OUTLETS, RELOCATE THE OUTLET TO A NEW CONVENIENT LOCATION. EXISTING WIRING DEVICES SHALL NOT BE REUSED, UNLESS OTHERWISE INDICATED.
- WHERE LIGHTING FIXTURES ARE INDICATED TO BE DEMOLISHED, REMOVE ALL WIRE AND MODIFY THE EXISTING CONDUIT (IF APPLICABLE) FOR THE NEW LIGHTING. ALL UNUSED CONDUIT SHALL BE REMOVED.
- WHERE A TELEPHONE CIRCUIT EXTENDS BEYOND AN OUTLET IN AN EXISTING WALL, CEILING, OR FLOOR TO BE REMOVED, PROVIDE NECESSARY EMPTY CONDUIT AND NOTIFY THE OWNER WHO WILL REQUEST THE OWNER TO ARRANGE WITH THE TELEPHONE COMPANY FOR NEW WIRING TO OUTLETS THAT REMAIN.

- WHERE EXISTING CONDUIT AND WIRE RUNS ARE LOCATED IN OR ATTACHED TO AN EXISTING WALL, CEILING OR FLOOR TO BE REMOVED, THEY SHALL BE REMOVED IN EITHER NEW OR EXISTING CONSTRUCTION TO MAINTAIN CONTINUITY OF CIRCUITS UNLESS OTHERWISE INDICATED.
- CONDUIT SHALL BE CONCEALED WITHIN THE EXISTING BUILDING CONSTRUCTION WHEREVER POSSIBLE, EXCEPT WHERE OTHERWISE INDICATED.
- EXISTING WIRE SHALL BE DISCONNECTED AND REMOVED WHEREVER EXISTING CIRCUITS ARE ABANDONED.

17. BOXES IN FIRE RATED ASSEMBLIES:

- OUTLET BOXES THAT DO NOT EXCEED 16 SQUARE INCHES AND INSTALLED IN FIRE RATED WALLS SHALL NOT BE INSTALLED CLOSER THAN 24" HORIZONTAL INCHES TO OTHER OUTLET BOXES.
 - IF BOXES MUST BE INSTALLED WITHIN 24" OF EACH OTHER THAN BOTH OUTLET BOXES SHALL BE PROTECTED WITH LISTED PUTTY PADS, 3M FIRE BARRIER MOLDABLE PUTTY + OR EQUAL.
- FIRE ALARM SYSTEM:

- ELECTRICAL CONTRACTOR SHALL PROVIDE DESIGN BUILD ENGINEERED SHOP DRAWINGS OF FIRE ALARM SYSTEM TO BE INSTALLED. PROVIDE DEVICES, CONDUIT, WIRES, CABLE, PROGRAMMING AND TESTING AS DIRECTED BY EQUIPMENT MANUFACTURER AND LOCAL FIRE DEPARTMENT FOR A CODE COMPLIANT FIRE ALARM/DETECTION SYSTEM. MATERIALS, EQUIPMENT, AND WORKMANSHIP SHALL MEET PREVAILING CODES. THE SYSTEM SHALL BE COMPLETE AND OPERABLE. SUBMIT ONE LINE DIAGRAM OF SYSTEM WITH SIZES AND BATTERIES. EQUIPMENT TO BE NEW AND SHALL BE STAMPED, SIGNED, CALIBRATION AND TESTED BY FACTORY CERTIFIED TECHNICIAN. FIRE ALARM DEVICES ARE SHOWN FOR INTENT ONLY FOR PERMITTING PROCESS. CONTRACTOR IS RESPONSIBLE FOR INCLUDING IN BID/DESIGN ALL NECESSARY DEVICES (ANNUNCIATOR(S)), NOTIFICATION APPLIANCES, INITIATING DEVICES, AND ADDITIONAL COMPONENTS.

ELECTRICAL SYMBOLS LIST

CIRCUITING & NOTES

+48"	SPECIAL MOUNTING HEIGHT FOR ASSOCIATED DEVICE (CENTERLINE OF DEVICE)
GFI	GROUND FAULT CIRCUIT INTERRUPTER DEVICE
WP	WEATHERPROOF ENCLOSURE ON DEVICE
WR	WEATHERPROOF RESISTANT DEVICE
IG	ISOLATED GROUND DEVICE
EM	EMERGENCY BATTERY BACKUP
TR	TAMPER RESISTANT OUTLET
USB	COOPER #TRT756-X OR EQUAL DUPLEX RECEPTACLE WITH DUAL USB CHARGING PORTS. PROVIDE 2-1/8" DEEP BACK BOX.
(TIE)	PARTIAL HOMERUN. REFER TO PLANS FOR ADDITIONAL DEVICES CONNECTED TO THIS CIRCUIT.
X	ELECTRICAL FLOOR PLAN NOTE WITH DESIGNATION
2 LF	CONDUIT CONCEALED WHERE POSSIBLE OR AS NOTED, ARROWS INDICATE HOME RUN TO PANEL. CIRCUIT NUMBERS INDICATED
⚡	#12 WIRE IN CONDUIT, UNLESS NOTED OTHERWISE ON DRAWINGS OR SPECIFICATION

⚡	GROUNDING CONDUCTOR, #12 WIRE UNLESS NOTED OTHERWISE ON DRAWINGS OR SPECIFICATION
---	CONDUIT ROUTED UNDER FLOOR/GRADE

LIGHTING

⚡	EMERGENCY TWIN HEAD LIGHT FIXTURE
⚡	EXIT LIGHT WITH DIRECTIONAL ARROWS INDICATED
⚡	STRIP FIXTURE WITH TYPE DESIGNATION
A •	RECESSED OR SURFACE MOUNTED FIXTURE WITH TYPE DESIGNATION
A NL	NIGHT LIGHT, CONNECT TO UNSWITCHED CIRCUIT
A □	CEILING OR RECESSED FIXTURE WITH TYPE DESIGNATION
A □	WALL MOUNTED FIXTURE WITH TYPE DESIGNATION

POWER DEVICES

⚡	DUPLEX RECEPTACLE, BOTTOM OF BOX AT 16" AFF, UNLESS NOTED OTHERWISE
⚡	FOURPLEX RECEPTACLE, BOTTOM OF BOX AT 16" AFF, UNLESS NOTED OTHERWISE
⚡⚡	TVSS SURGE SUPPRESSION RECEPTACLE
⚡	HEAVY DUTY OUTLET - NEMA CONFIGURATION SIZE PER EQUIPMENT MANUFACTURER'S RECOMMENDATION
⚡	PANEL BOARD, TOP OF BOX 6'-0" AFF
⊙	JUNCTION BOX
⊞	NON-FUSED DISCONNECT SWITCH
⊞	FUSED DISCONNECT SWITCH
⊞	MOTOR WITH DESIGNATION
⊞	FLOOR BOX

CONTROLS

S	SINGLE POLE WALL SWITCH, TOP OF BOX AT 48" AFF
S ₃	THREE-WAY WALL SWITCH, TOP OF BOX AT 48" AFF
S _D	DIMMER SWITCH, TOP OF BOX AT 48" AFF
S _M	MANUAL MOTOR STARTER WITH OVERLOADS

OCCUPANCY SENSORS

- DUAL TECHNOLOGY/ULTRASONIC CEILING SENSORS SHALL BE MOUNTED 6' FROM SUPPLY/EXHAUST AIR DIFFUSERS.
- LOW VOLTAGE CEILING SENSORS SHALL BE PROVIDED WITH 6' SLACK CONDUCTOR COILED AT SENSOR.

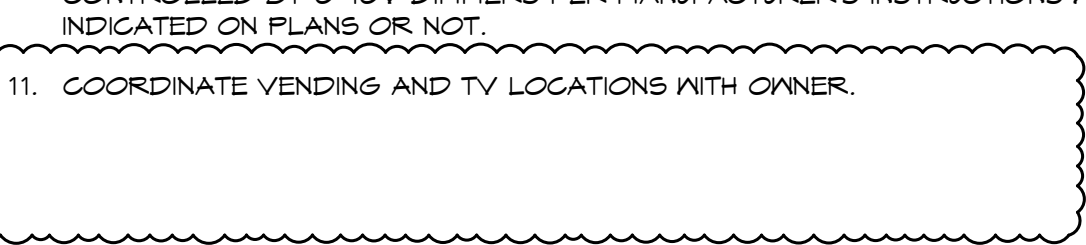
S _o	WALL MOUNTED DUAL-TECHNOLOGY OCCUPANCY SENSOR, MATT STOPPER #DW-100, TOP OF BOX AT 48" AFF
⊞	DUAL TECHNOLOGY CEILING MOUNT OCCUPANCY SENSORS, MATTSTOPPER DT-300
⊞	OCCUPANCY SENSOR POWER PACK, MATTSTOPPER BZ-150 OR EQUAL, PROVIDE LOW VOLTAGE WIRING TO OCCUPANCY SENSORS AND MOMENTARY SWITCHES
S _{MO}	MOMENTARY SWITCH, TOP OF BOX AT 48" AFF

COMMUNICATIONS

▼	DATA/TELEPHONE OUTLET WITH MINIMUM 3/4" CONDUIT STUBBED UP TO ABOVE ACCESSIBLE CEILING, BOTTOM OF BOX AT 16", UNLESS NOTED OTHERWISE. PROVIDE WITH FULL STRING
TV	FLAT SCREEN TELEVISION - PROVIDE AND INSTALL ONE (1) HUBBELL #RR1510X RECESSED TAMPER-RESISTANT DUPLEX RECEPTACLE WITH COVERPLATE AND ONE(1) HUBBELL #HBL260 TWO GANG LARGE CAPACITY WALL BOX (UP TO 2" KNOCKOUT) IV/ MUD RING AND COVERPLATE FOR DATA. PROVIDE 2"C WITH FULL STRING TO ABOVE ACCESSIBLE CEILING FOR DATA CABLES. MOUNT BOX AT 7'-6" AFF UNLESS NOTED OTHERWISE (VERIFY)

ELECTRICAL GENERAL NOTES:

- COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED WITHIN THE CONFINES OF THE SPACES AVAILABLE, AND WITHOUT INTERFERENCES.
- WHERE CONDUIT IS SHOWN UNDER FLOOR, VERIFY IF FLOOR IS STRUCTURAL SLAB OR SLAB ON GRADE. IF STRUCTURAL SLAB, CORE DRILL PENETRATION, AND ROUTE CONDUIT IN SPACE BELOW. IF SLAB ON GRADE, SAW CUT EXISTING FLOOR SLAB AS REQUIRED FOR INSTALLATION OF UNDER FLOOR CONDUIT. NO STRUCTURAL ELEMENTS SHALL BE CORE DRILLED OR SAW CUT, WHEN SAW CUTTING, PATCH FLOOR TO MATCH EXISTING SURFACE AS REQUIRED.
- IT IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY TO PROPERLY BALANCE ALL BRANCH CIRCUITS BETWEEN THE PHASES OF THE SYSTEM REGARDLESS OF CIRCUITING INDICATED.
- ALL EXPOSED RACEWAYS SHALL BE EMT CONDUIT, MC CABLE IS NOT PERMITTED IN EXPOSED AREAS.
- ELECTRICAL CONTRACTOR TO COORDINATE MANUFACTURER ELECTRICAL REQUIREMENTS FOR HVAC EQUIPMENT BEING FURNISHED WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. EQUIPMENT DISCONNECTS TO BE PROVIDED BY ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE IN MECHANICAL SCHEDULES.
- ALL MATERIALS EXPOSED WITHIN PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84.
- EACH BRANCH CIRCUIT SHALL HAVE A DEDICATED NEUTRAL PER NEC 210.4.
- FIRE ALARM SYSTEM IS SHOWN FOR SCHEMATIC PURPOSES. THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR PROVIDING DESIGN AND SHOP DRAWINGS SUBMITTAL TO FIRE MARSHAL FOR APPROVAL AS REQUIRED BY THE FIRE MARSHAL. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE ADDITIONAL DEVICES, POWER SUPPLIES, ETC FOR COMPLIANCE WITH CODE.
- ALL BRANCH CIRCUITS SHALL BE SIZED TO ALLOW FOR A MAXIMUM OF 3% VOLTAGE DROP. ALL FEEDERS SHALL BE SIZED TO ALLOW FOR A MAXIMUM OF 2% VOLTAGE DROP. ELECTRICAL CONTRACTOR SHALL VERIFY WIRING INDICATED IS SUFFICIENT AND INCREASE CONDUCTOR SIZE AS REQUIRED BASED OFF ACTUAL INSTALLED LENGTH OF CONDUCTORS.
- PROVIDE LOW VOLTAGE WIRING BETWEEN ALL 0-10V DIMMING DRIVERS CONTROLLED BY 0-10V DIMMERS PER MANUFACTURER'S INSTRUCTIONS WHETHER INDICATED ON PLANS OR NOT.
- COORDINATE VENDING AND TV LOCATIONS WITH OWNER.



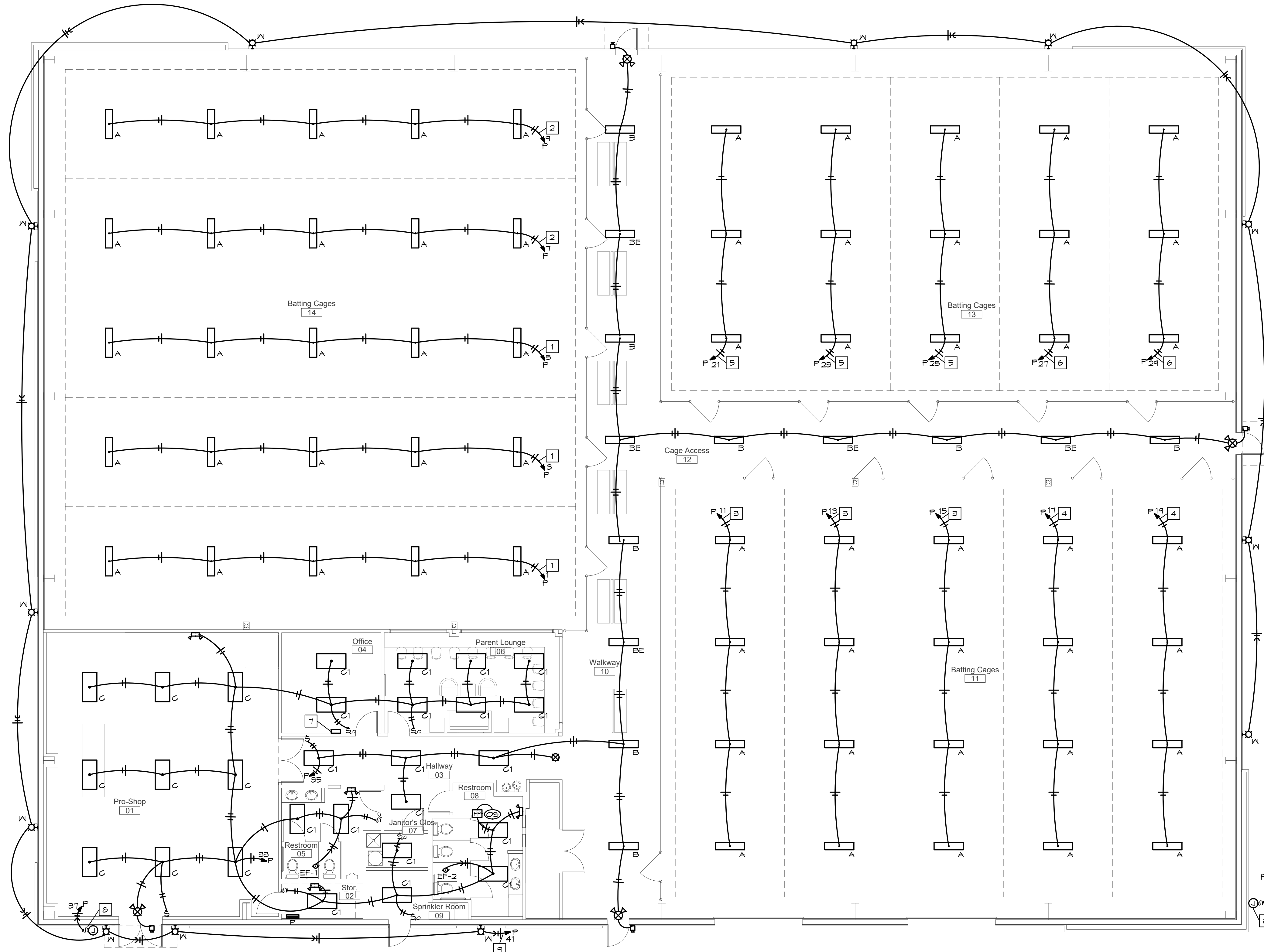
ELECTRICAL SYMBOLS LIST

FIRE ALARM	
⊞	CEILING MOUNT SMOKE DETECTOR
⊞	DUCT MOUNT SMOKE DETECTOR
⊞	FIRE ALARM FULL STATION, TOP OF BOX AT 48" AFF
⊞	FIRE ALARM HORN/STROBE COMBINATION SIGNAL, CENTERLINE AT 6'-8" AFF
⊞	FIRE ALARM HORN/STROBE COMBINATION SIGNAL, PENDANT MOUNTED
⊞	FIRE ALARM VISUAL STROBE, CENTERLINE AT 6'-8" AFF
⊞	WATER FLOW SWITCH
⊞	TAMPER SWITCH

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MISSOURI PE COA #2009003629
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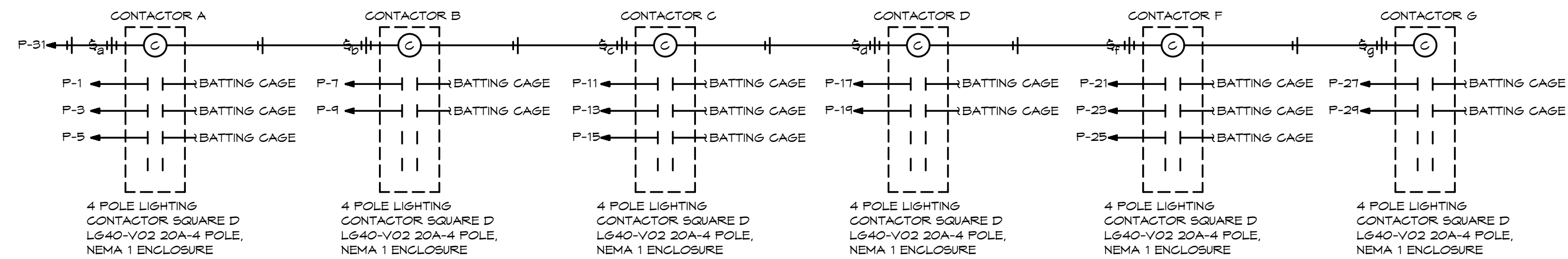
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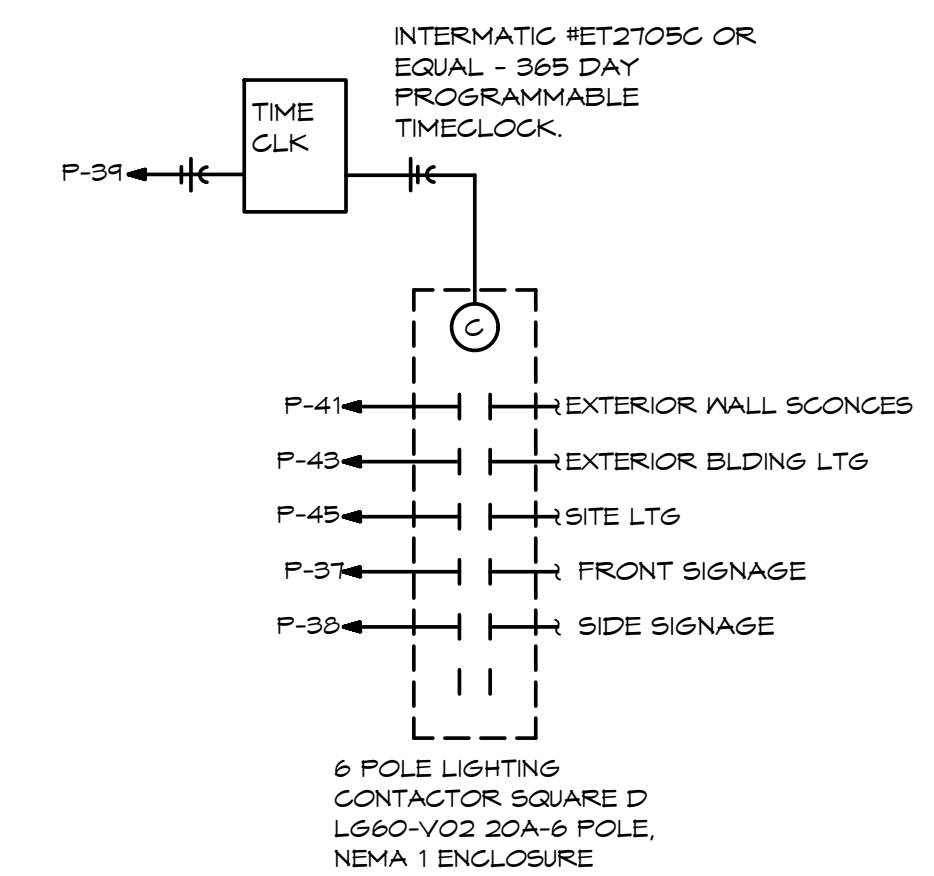


- LIGHTING PLAN NOTES:**
- 1 ROUTE CIRCUIT THROUGH CONTACTOR A FOR CONTROL OF BATTING CAGE LIGHTS. SEE DETAIL, THIS SHEET.
 - 2 ROUTE CIRCUIT THROUGH CONTACTOR B FOR CONTROL OF BATTING CAGE LIGHTS. SEE DETAIL, THIS SHEET.
 - 3 ROUTE CIRCUIT THROUGH CONTACTOR C FOR CONTROL OF BATTING CAGE LIGHTS. SEE DETAIL, THIS SHEET.
 - 4 ROUTE CIRCUIT THROUGH CONTACTOR D FOR CONTROL OF BATTING CAGE LIGHTS. SEE DETAIL, THIS SHEET.
 - 5 ROUTE CIRCUIT THROUGH CONTACTOR F FOR CONTROL OF BATTING CAGE LIGHTS. SEE DETAIL, THIS SHEET.
 - 6 ROUTE CIRCUIT THROUGH CONTACTOR G FOR CONTROL OF BATTING CAGE LIGHTS. SEE DETAIL, THIS SHEET.
 - 7 VERIFY BATTING CAGE SWITCHBANK LOCATION WITH OWNER PRIOR TO ROUGH-IN.
 - 8 JUNCTION BOX WITH DISCONNECTING MEANS PER NEC FOR CONNECTION TO BUILDING MOUNTED SIGNAGE. VERIFY EXACT LOCATION AND CONNECT TO SIGN PER MANUFACTURER'S INSTRUCTIONS. ROUTE CIRCUIT THRU TIMECLOCK, SEE DETAIL, THIS SHEET.
 - 9 ROUTE THRU EXTERIOR LIGHTING CONTROLS. SEE DETAIL, THIS SHEET.

ELECTRICAL LIGHTING PLAN
SCALE: 1/8" = 1'-0"
NORTH



LIGHTING CONTROL DIAGRAM
SCALE: NONE



EXTERIOR LIGHTING CONTROL DIAGRAM
SCALE: NONE

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a new development for
Town Centre Lot 1
520 NE Town Centre Drive
Lee's Summit, Missouri 64064

date 05.19.22
drawn by MA/FS
checked by EK/DS
revisions
12.20.22 REV 1

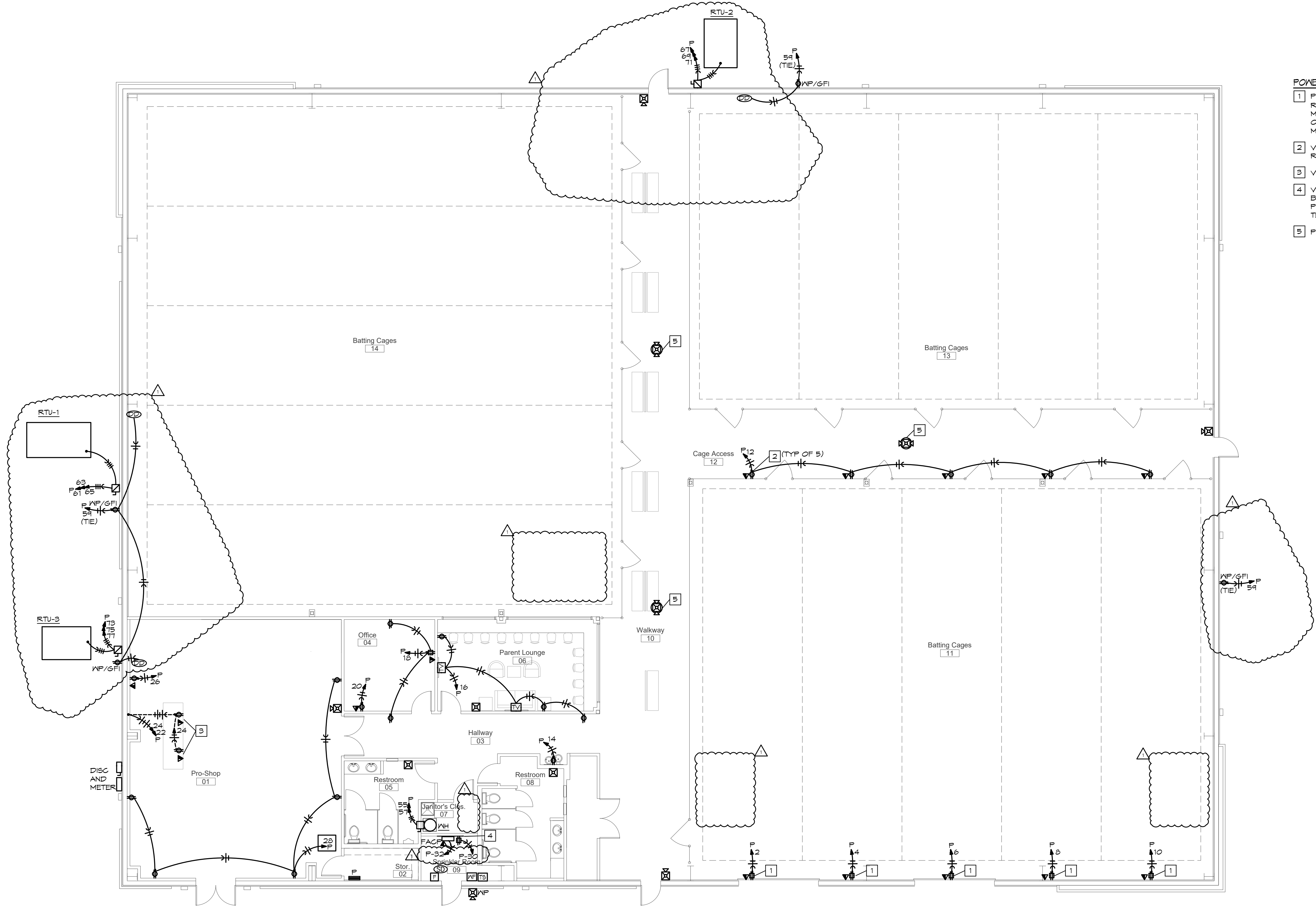
sheet number
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LIGHTING PLAN

drawing type
permit

project number
20231

POWER PLAN NOTES:

1. PROVIDE QUAD RECEPTACLE AND DATA TO EACH PITCHING MACHINE. EACH MACHINE REQUIRES (2) ETHERNET CABLES AND (1) MULTI CABLE WIRE, SUPPLIED BY PITCHING MACHINE COMPANY, IN CONDUIT FROM THE PITCHING MACHINE TO THE CARD OPERATED BOX KIOSK. VERIFY ALL ELECTRICAL SPECIFICATIONS WITH PITCHING MACHINE COMPANY PRIOR TO ROUGH-IN.
2. VERIFY LOCATION OF CARD OPERATED BOX KIOSK WITH OWNER PRIOR TO ROUGH-IN.
3. VERIFY EXACT LOCATION OF ELECTRICAL DEVICES IN MOUNTED IN CASEWORK.
4. VERIFY LOCATION OF 2'X4'X3/4" FIRE RETARDANT FLYWOOD TELEPHONE BACKBOARD WITH GROUND BAR AND #6 CU BOND TO BUILDING ELECTRODE SYSTEM PROVIDE 4" C TO PROPERTY LINE FOR BUILDING TELEPHONE AND INTERNET SERVICE. TERMINATE AS DIRECTED BY SERVICE PROVIDER. VERIFY ROUTING AND DISTANCE.
5. PENDANT MOUNT FIRE ALARM DEVICE.



ELECTRICAL POWER PLAN
SCALE: 1/8" = 1'-0"
NORTH

a new development for
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520 NE Town Centre Drive
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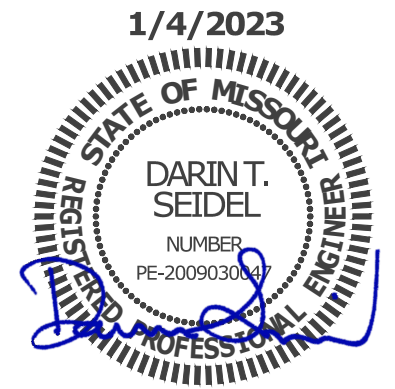
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revisions 12.20.22 REV 1

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POWER PLAN
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a new development for
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520 NE Town Centre Drive
Lee's Summit, Missouri 64064

date
05.19.22
drawn by
MA/FS
checked by
EK/DS
revisions
12.20.22 REV 1

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drawing type
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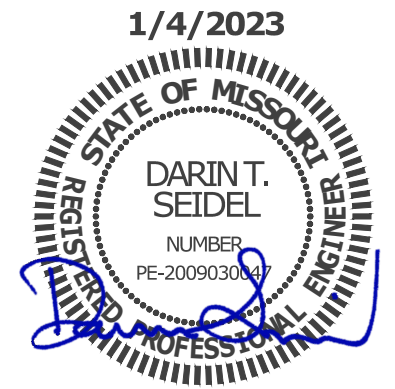
LIGHT FIXTURE SCHEDULE					
MARK NO.	MANUFACTURER & CATALOG NUMBER	VOLTS WATTS	LIGHT SOURCE	DESCRIPTION	EQUIVALENT MANUFACTURERS
A	LUX DYNAMICS IK10 SERIES E 3 D A 850 4 U10 CP B 33Y X 6YM	120 229	LED 36,000LUM 5000K	3 LIGHT BAR 2 CHANNEL LED 36,000 LUMEN, 5,000 KELVIN, 2-POINT Y CABLE MOUNT, VERIFY FINISH COLOR, MOUNT BOTTOM OF FIXTURE AT 22' AFF. ORDER CABLE TO LENGTH REQUIRED	WILLIAMS COLUMBIA OR EQUAL
B	LUX DYNAMICS IK10 SERIES E 1 S A 850 4 U10 CP B 33Y X 6YM	120 78	LED 11,000LUM 5000K	1 LIGHT BAR 1 CHANNEL LED 11,000 LUMEN, 5,000 KELVIN, 2-POINT Y CABLE MOUNT, VERIFY FINISH COLOR, MOUNT BOTTOM OF FIXTURE AT 22' AFF. ORDER CABLE TO LENGTH REQUIRED	WILLIAMS COLUMBIA OR EQUAL
BE	LUX DYNAMICS IK10 SERIES E 1 S A 850 4 U10 CP B E15 33Y X 6YM	120 78	LED 11,000LUM 5000K	1 LIGHT BAR 1 CHANNEL LED 11,000 LUMEN, 5,000 KELVIN, 2-POINT Y CABLE MOUNT WITH EMERGENCY DRIVER, 2,561 LUMEN. VERIFY FINISH COLOR, MOUNT BOTTOM OF FIXTURE AT 22' AFF. ORDER CABLE TO LENGTH REQUIRED	WILLIAMS COLUMBIA OR EQUAL
C	LITHONIA EPANL 2X4 4000LM 80CRI 50K EZT MVOLT	120 38	LED 4000LUM 5000K	LED FLAT PANEL, 4000 LUMEN, 5000 KELVIN, VERIFY MOUNTING REQUIREMENTS AND HEIGHTS	WILLIAMS COLUMBIA OR EQUAL
C1	LITHONIA EPANL 2X4 3000LM 80CRI 50K EZT MVOLT	120 29	LED 3000LUM 5000K	LED FLAT PANEL, 3000 LUMEN, 5000 KELVIN, VERIFY MOUNTING REQUIREMENTS AND HEIGHTS	WILLIAMS COLUMBIA OR EQUAL
DE	LITHONIA GLX L48 4000LM SEF RDL 120 EZ1 40K 80CRI FS1050 WH	120 28	LED 4000LUM 4000K	4' LED STRIP FIXTURE WITH ROUND LENS, 4000 LUMEN, 4000 KELVIN, WALL MOUNTED	WILLIAMS COLUMBIA OR EQUAL
W	EXTERIOR SCONCE, VERIFY FINISH WITH OWNER	120	LED LUM K	LED SCONCE	
W1	CREE LIGHTING XSPN-B-WM-4ME-AL-40K-UNV	120 31	LED 4270LUM 4000K	WALL MOUNTED LED BUILDING LIGHT WITH TYPE IV MEDIUM THROW OPTIC. VERIFY FINISH COLOR WITH ARCHITECT	
SA	CREE LIGHTING OSQ-M-B-9L-40K7-4M-UNV-NM MOUNT-SQG-ML-B-DA SHIELD-OSQ-BLSMT POLE-SSS-4-11-12-CN-B5-1D-C	120 130	LED 7075LUM 4000K	POLE MOUNTED WITH HOUSE SIDE SHIELD LED AREA LIGHT WITH TYPE IV MEDIUM THROW OPTIC. MOUNT ON 12'X4" SQUARE STEEL POLE WITH 3' CONCRETE BASE. VERIFY FINISH COLOR WITH ARCHITECT	
SB	CREE LIGHTING OSQ-M-B-9L-40K7-5Q-UNV-NM MOUNT-SQG-ML-B-DA POLE-SSS-4-11-12-CN-B5-2D1B-C	120 120	LED 10250LUM 4000K	POLE MOUNTED LED 180 DEGREE AREA LIGHT WITH TYPE V SQUARE OPTIC. MOUNT ON 12'X4" SQUARE STEEL POLE WITH 3' CONCRETE BASE. VERIFY FINISH COLOR WITH ARCHITECT	
EL	DUAL-LITE EV2	120 1	INCL	EMERGENCY LIGHT WITH TWIN ADJUSTABLE 1 WATT LED HEADS AND BATTERY, MOUNT AT T-6", TO CLEAR OBSTACLES. (PROVIDES 1 FC AVG. ON 2T CENTER FIXTURE SPACING)	SURE-LITES LITHONIA OR EQUAL
EL	DUAL-LITE EVE-U-R-N-VR53	120 1	INCL	EXIT LIGHT WITH LED LAMPS, RED LETTERS ON WHITE BACKGROUND, UNIVERSAL MOUNT, BATTERY BACKUP, WITH VANDAL RESISTANT SHIELD	SURE-LITES LITHONIA OR EQUAL
EL	DUAL-LITE EVC-U-R-N-VR53	120 3	INCL	COMBINATION EMERGENCY/EXIT LIGHT WITH LED LAMPS, RED LETTERS ON WHITE BACKGROUND, TWIN LED EMERGENCY LIGHT HEADS, UNIVERSAL MOUNT, BATTERY BACKUP, WITH VANDAL RESISTANT SHIELD	SURE-LITES LITHONIA OR EQUAL
EL	DUAL-LITE EVC-U-R-M-D4-VR53 WITH EVO-D-X	120 5	INCL	COMBINATION EMERGENCY/EXIT LIGHT WITH LED LAMPS, RED LETTERS ON WHITE BACKGROUND, TWIN 6W EMERGENCY LIGHT HEADS, UNIVERSAL MOUNT, HIGH CAPACITY BATTERY BACKUP, VANDAL RESISTANT SHIELD AND REMOTE TWIN HEAD OUTDOOR RATED FIXTURE	SURE-LITES LITHONIA OR EQUAL
EX	LITHONIA A1FF-OEL-XX-UVOLT-LTP-SDRT-WT-CN	120 12	LED INCL 4000K	ARCHITECTURAL EXTERIOR LED EMERGENCY LIGHT WITH COLD WEATHER BATTERY, COORDINATE FINISH TO MATCH BUILDING	SURE-LITES LITHONIA OR EQUAL
NOTES:					

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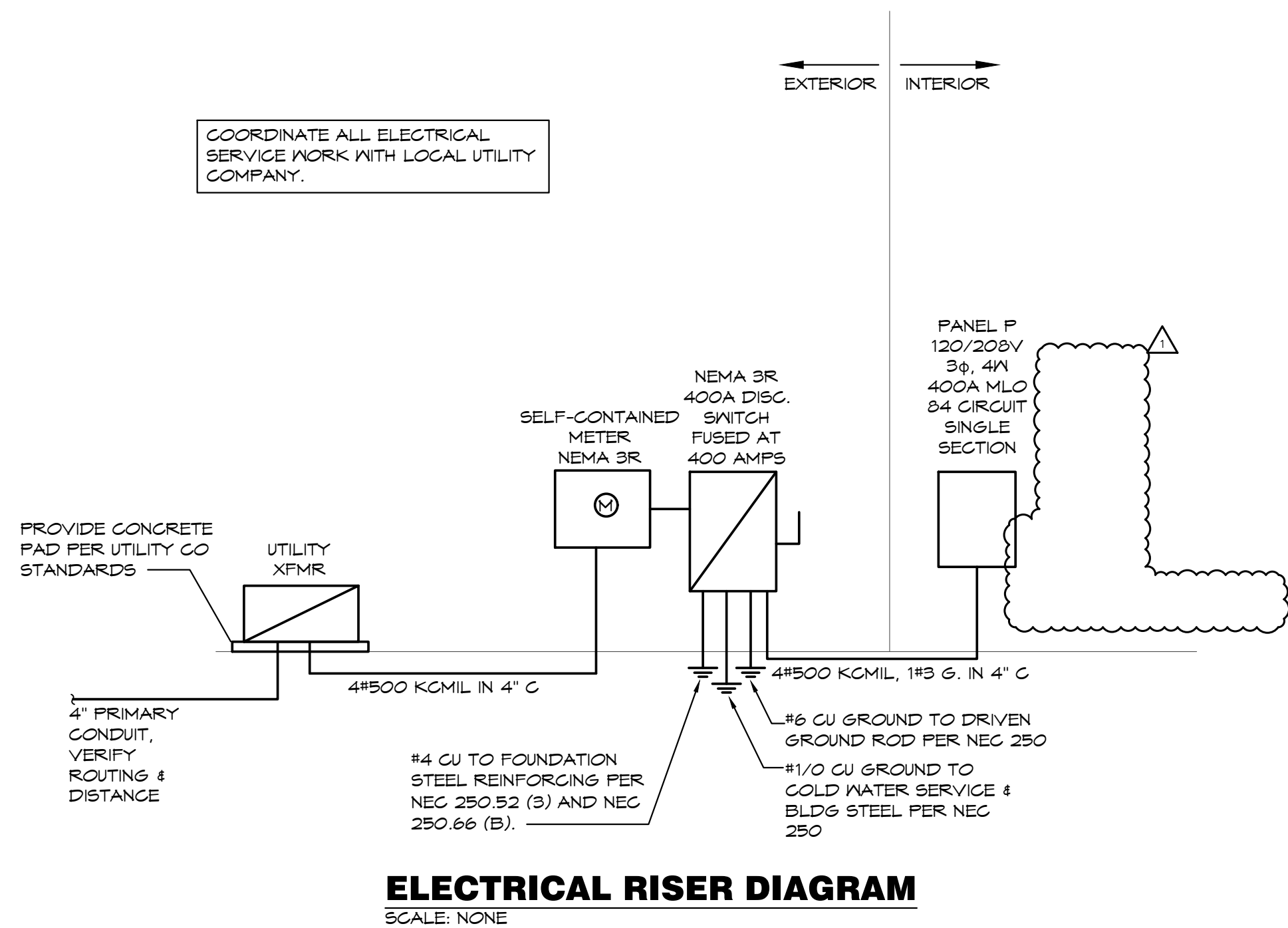
4301 Indian Creek Parkway
Overland Park, KS 66207
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a new development for
Town Centre Lot 1
520 NE Town Centre Drive
Lee's Summit, Missouri 64064

date
05.19.22
drawn by
MA/FS
checked by
EK/DS
revisions
12.20.22 REV 1

sheet number
E4
RISER DIAGRAM, DETAILS
AND PANEL SCHEDULES
drawing type
permit
project number
20231

PANEL: P		VOLTS: 120/208V			PH: 3Ø		WIRE: 4W		LOCATION:			STORAGE:		MOUNTING: SURFACE			
BUS: 400A		MAIN: 400A MLO			IC: 22,000		RMS SYM AMPS							FEEDER: SEE RISER DIAGRAM			
CKT	DESCRIPTION	AMPS	POLE	WIRE	ØA	ØB	ØC	ØA	ØB	ØC	WIRE	POLE	AMPS	DESCRIPTION	CKT NO		
1	BATTING CASE LTS	20	1	12	1,145			360			12	1	20	PITCHING MACHINE	2		
3	BATTING CASE LTS	20	1	12		1,145			360		12	1	20	PITCHING MACHINE	4		
5	BATTING CASE LTS	20	1	12			1,145			360	12	1	20	PITCHING MACHINE	6		
7	BATTING CASE LTS	20	1	12	1,145			360			12	1	20	PITCHING MACHINE	8		
9	BATTING CASE LTS	20	1	12		1,145			360		12	1	20	PITCHING MACHINE	10		
11	BATTING CASE LTS	20	1	12			916			900	12	1	20	PITCHING MACHINE KIOSKS	12		
13	BATTING CASE LTS	20	1	12	916			600			12	1	20	DRINKING FOUNTAIN (6F)	14		
15	BATTING CASE LTS	20	1	12		916			900		12	1	20	PARENT LOUSE RCPT	16		
17	BATTING CASE LTS	20	1	12			916			720	12	1	20	OFFICE RCPT	18		
19	BATTING CASE LTS	20	1	12	916			600			12	1	20	OFFICE COPIER	20		
21	BATTING CASE LTS	20	1	12		687			180		12	1	20	PRO-SHOP POS RCPT	22		
23	BATTING CASE LTS	20	1	12			687			180	12	1	20	PRO-SHOP POS RCPT	24		
25	BATTING CASE LTS	20	1	12	687			600			12	1	20	PRO-SHOP COPIER	26		
27	BATTING CASE LTS	20	1	12		687			900		12	1	20	PRO-SHOP CONV RCPT	28		
29	BATTING CASE LTS	20	1	12			687			360	12	1	20	PHONEBOARD RCPT	30		
31	BC LTS CONTACTORS	20	1	12	200			200			12	1	20	FACP (HL)	32		
33	PRO-SHOP/OFFICE LTS	20	1	12		777					1	20		SPARE	34		
35	HALL/CASE ACCESS LTS	20	1	12			1,190				1	20		SPARE	36		
37	FRONT SIGNAGE	20	1	12	1,200			1,200			12	1	20	SIDE SIGNAGE	38		
39	EXTERIOR TIMECLOCK	20	1	12		200					1	20		SPARE	40		
41	EXTERIOR WALL SCONCES	20	1	12			480				1	20		SPARE	42		
43	EXT BUILDING/SITE LTS	20	1	10	875						1	20		SPARE	44		
45	SITE LTS	20	1	10		760					1	20		SPARE	46		
47	SPARE	20	1								1	20		SPARE	48		
49	SPARE	20	1								1	20		SPARE	50		
51	SPARE	20	1								1	20		SPARE	52		
53	SPARE	20	1								1	20		SPARE	54		
55	WATER HEATER	30	2	10	2,250						1	20		SPARE	56		
57						2,250					1	20		SPARE	58		
59	EXTERIOR CONV RCPT	20	1	12			720				1	20		SPARE	60		
61					8,520						1	20		SPARE	62		
63	RTU-1	80	3	4		8,520					1	20		SPARE	64		
65							8,520				1	20		SPARE	66		
67					5,880						1	20		SPARE	68		
69	RTU-2	60	3	6		5,880					1	20		SPARE	70		
71							5,880				1	20		SPARE	72		
73					4,680						1	20		SPARE	74		
75	RTU-3	50	3	6		4,680					1	20		SPARE	76		
77							4,680				1	20		SPARE	78		
79	SPARE	20	1								1	20		SPARE	80		
81	SPARE	20	1								1	20		SPARE	82		
83	SPARE	20	1								1	20		SPARE	84		
NOTES: (6F)-(6FC) BRKR 5mA, (HL)-HANDLE LOCK					28,412	27,647	25,761	3,920	2,700	2,520	TOTAL CONNECTED LOAD:					90,960	VA
					32,332		30,347		28,281	NEC DEMAND LOAD:					97,225	VA	
					DEMAND AMPS @ 208 VOLT / 3Ø:					264.87					A		



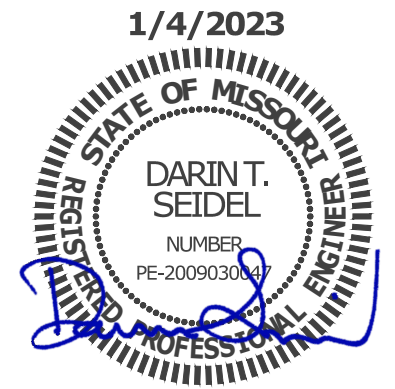
BC PROJECT #: 22323
MISSOURI PE COA #2009003629

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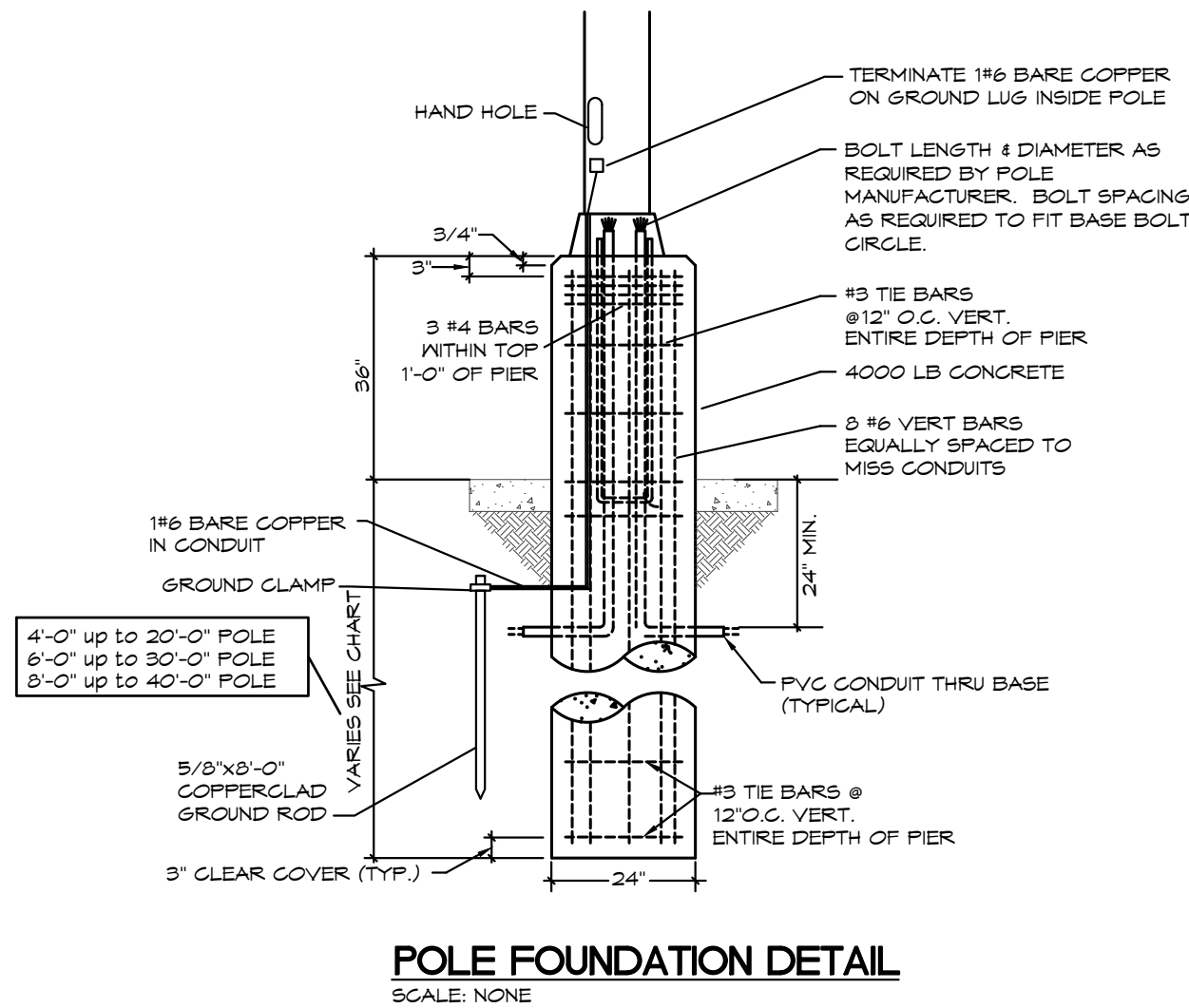
BC ENGINEERS INCORPORATED

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- SITE PLAN NOTES:
- 1 ROUTE THRU EXTERIOR LIGHTING CONTACTOR, SEE DETAIL, SHEET E1.
 - 2 PROPOSED LOCATION OF ELECTRICAL SERVICE ENTRANCE GEAR. REFER TO RISER DIAGRAM, SHEET E4 FOR MORE INFORMATION.
 - 3 ELECTRICAL PRIMARY CONDUIT AS DIRECTED BY LOCAL UTILITY CO. REFER TO RISER DIAGRAM, SHEET E4 FOR MORE INFORMATION.
 - 4 PROPOSED LOCATION OF PAD MOUNTED TRANSFORMER. REFER TO RISER DIAGRAM, SHEET E4 FOR MORE INFORMATION.
 - 5 ELECTRICAL SECONDARY FEEDER. REFER TO RISER DIAGRAM, SHEET E4 FOR MORE INFORMATION.
 - 6 PHONE DEMARK AND INTERNET PROVIDER, VERIFY LOCATION AND CONDUIT REQUIREMENTS WITH SERVICE PROVIDERS.



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

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520 NE Town Centre Drive
Lee's Summit, Missouri 64064

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