

Splash Pad & Associated Infrastructure Improvements

Bennett Spring State Park

Lebanon, Missouri



OWNER: STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR

DEPARTMENT OF
NATURAL RESOURCES
DIVISION OF STATE PARKS

PROJECT
MANAGEMENT: OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT,
DESIGN AND CONSTRUCTION

DESIGNER: LANDWORKS STUDIO
BRIAN STURM, PLA
brian@landworksstudio.com
913-780-6707
102 S. CHERRY ST., OLATHE, KS 66061

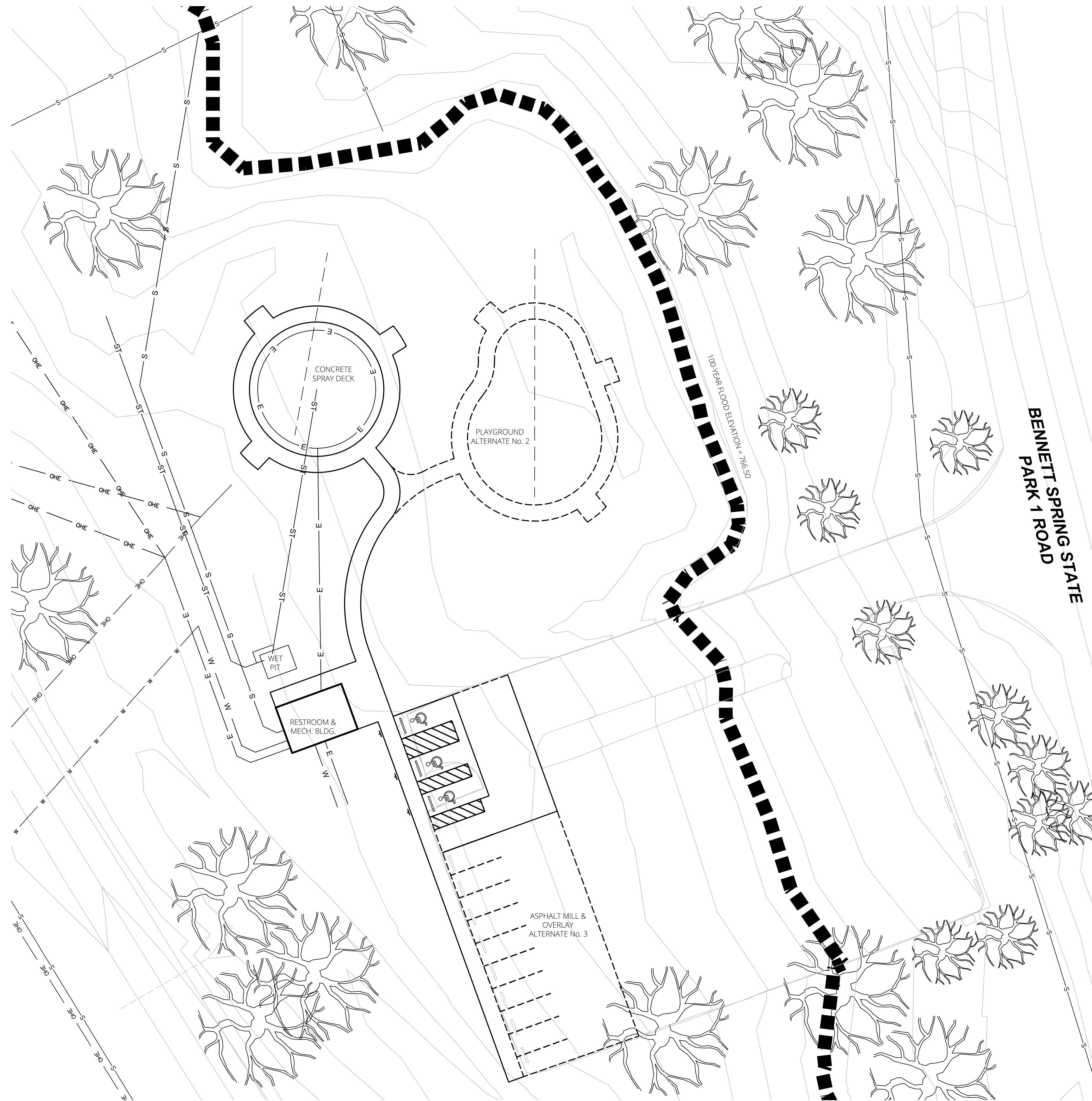
PROJECT NUMBER: X2228-01

SITE NUMBER: 5302
ASSET NUMBER: 7815302065

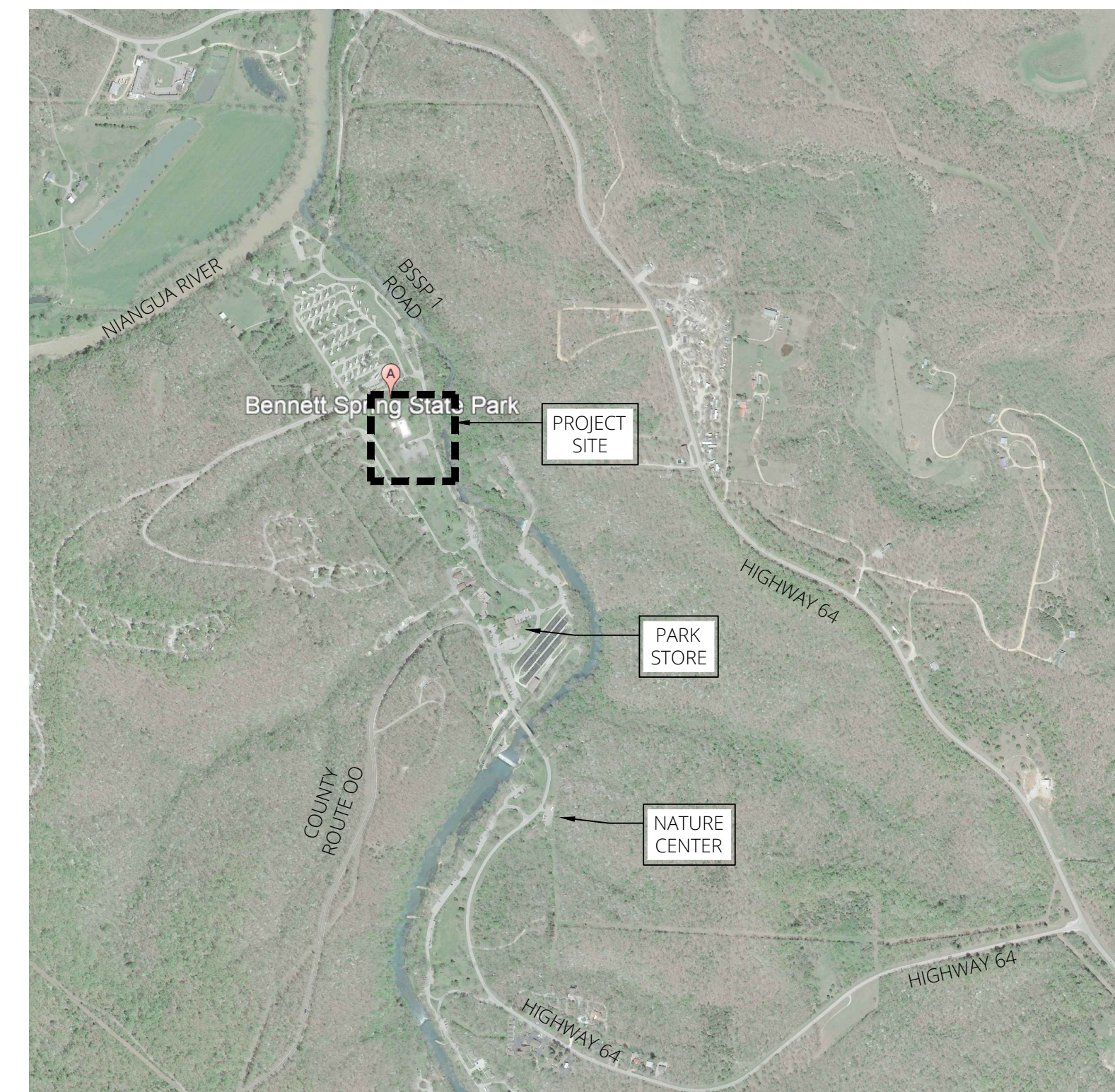
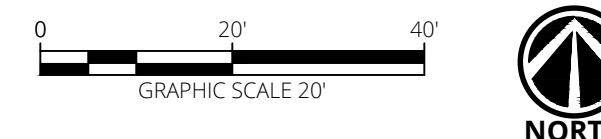
SHEET NUMBER:

G-000

1 OF 33 SHEETS
MARCH 29, 2024



1 OVERALL SITE PLAN
SCALE = 1" = 20'-0"



2 VICINITY MAP
SCALE = 1" = 1,000'
GRAPHIC SCALE 1000'
NORTH

PROJECT DESCRIPTION:

1. PROJECT LOCATION: BENNETT SPRING STATE PARK, 26250 HIGHWAY 64A, LEBANON, MO 65536
2. PROJECT OWNER: STATE OF MISSOURI, OFFICE OF ADMINISTRATION, DIVISION OF FACILITIES MANAGEMENT, DESIGN, AND CONSTRUCTION, HARRY S. TRUMAN STATE OFFICE BUILDING, P.O. BOX 809, 301 W. HIGH STREET, JEFFERSON CITY, MO 65102
3. PROJECT DESIGNER: LANDWORKS STUDIO; 120 S. CHERRY STREET, OLATHE, KS 66061; 913-780-6707
4. SITE AREA: 2.80 ACRES
5. AREA OF DISTURBANCE: 0.95 ACRES

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REVISION: _____
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ISSUE DATE: 3/29/2024

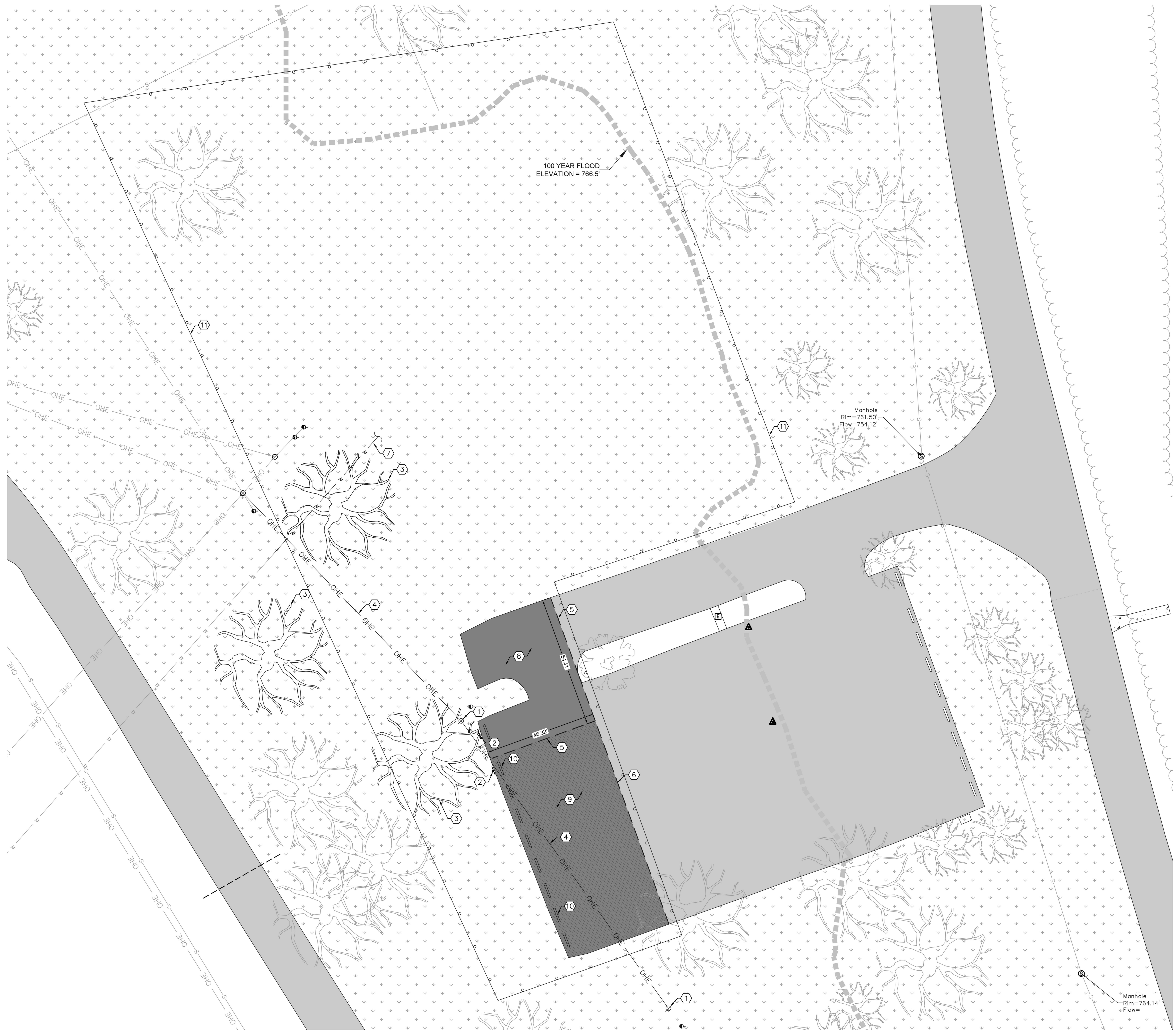
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DRAWN BY: BS
CHECKED BY: BS
DESIGNED BY: BS

SHEET TITLE:
**SITE PLAN &
ALTERNATES
PLAN**

SHEET NUMBER:

G-001

2 OF 33 SHEETS
3/29/2024



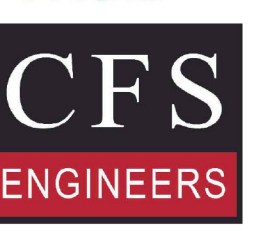
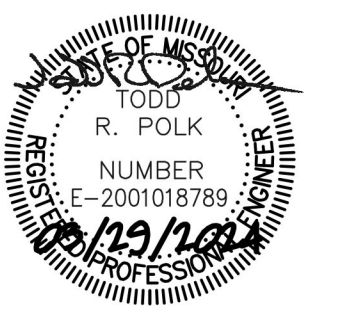
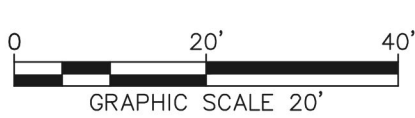
HATCH LEGEND:

- = ASPHALT PAVEMENT TO BE REMOVED. (BASE BID)
- = ASPHALT PAVEMENT MILL & OVERLAY. (ADD ALTERNATE 3)

KEY NOTES:

- ① REMOVE UTILITY POLE, GUY-WIRE, AND GROUND ANCHOR.
- ② PARK TO REMOVE EXISTING SIGN.
- ③ REMOVE EXISTING TREE.
- ④ REMOVE EXISTING OVERHEAD ELECTRIC.
- ⑤ SAWCUT EXISTING ASPHALT PAVEMENT. (BASE BID)
- ⑥ SAWCUT EXISTING ASPHALT PAVEMENT. (ADD ALTERNATE 3)
- ⑦ ABANDON IN PLACE UNKNOWN LINEAR FEET OF EXISTING WATERLINE FOR FUTURE CONNECTION.
- ⑧ REMOVE EXISTING ASPHALT. (BASE BID)
- ⑨ MILL & OVERLAY EXISTING ASPHALT. (ADD ALTERNATE 3)
- ⑩ PARK WILL REMOVE AND STORE EXISTING PARKING STOPS (ADD ALTERNATE 3)
- ⑪ INSTALL ±1,200LF OF TEMPORARY SAFETY CONSTRUCTION FENCING. SEE DETAIL 18, SHEET C-502

1 DEMOLITION PLAN
SCALE = 1"=20'-0"



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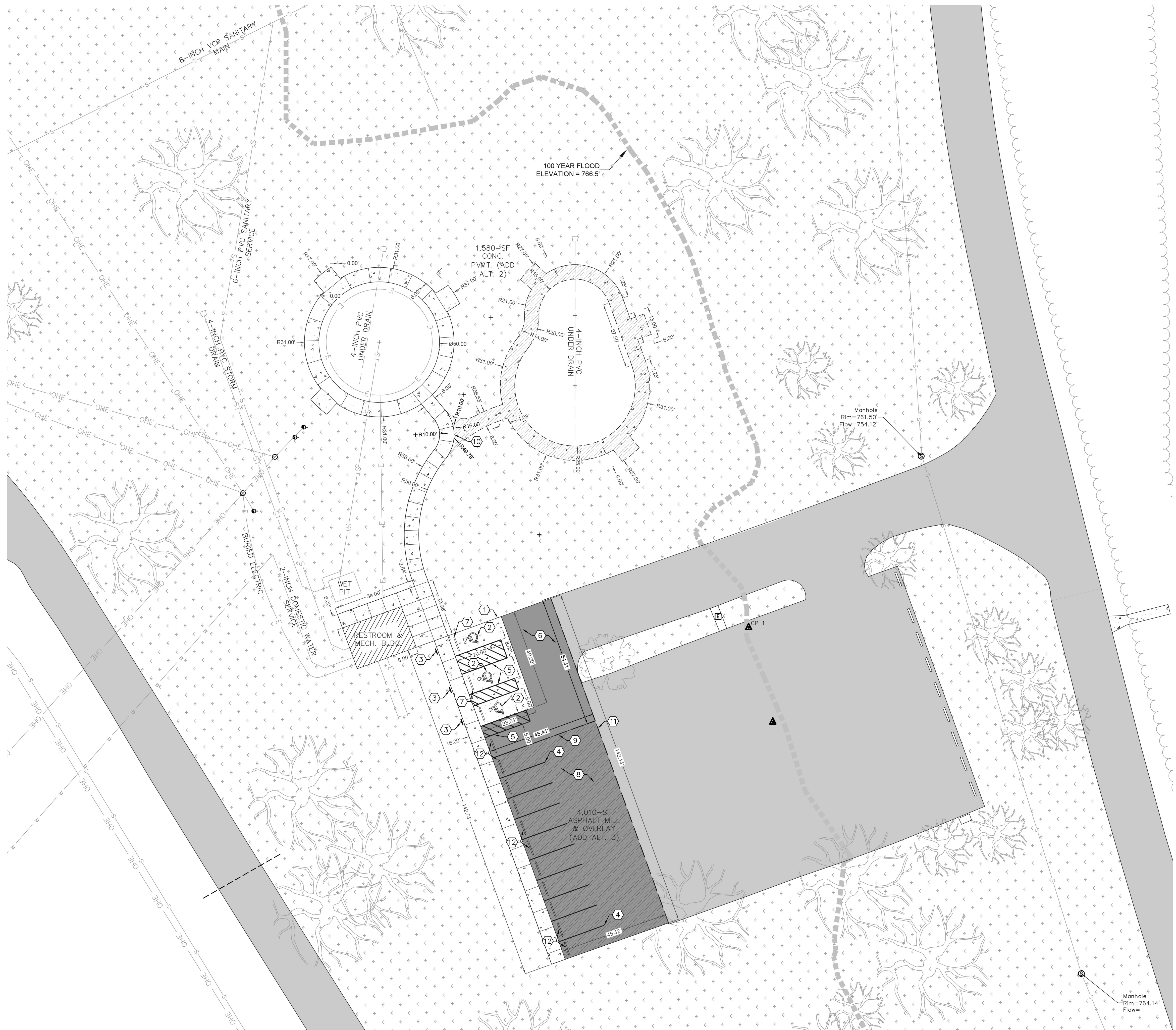
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DRAWN BY: DS
CHECKED BY: TP
DESIGNED BY: BS

SHEET TITLE:
DEMOLITION
PLAN &
ALTERNATE No. 3
DEMOLITION PLAN

SHEET NUMBER:

C-101

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March 29, 2024



HATCH LEGEND:

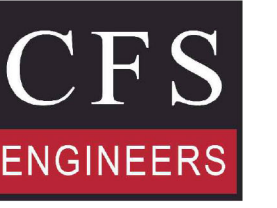
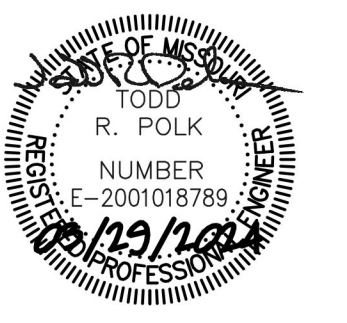
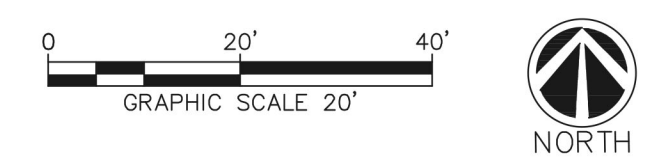
- ASPHALT PAVEMENT. SEE DETAIL 1, SHEET C-501 (BASE BID)
- ASPHALT MILL & OVERLAY. SEE DETAIL 2, SHEET C-501 (ADD ALTERNATE 3)
- CONCRETE PAVEMENT. SEE DETAIL 6 & 7, SHEET C-501 (BASE BID)
- CONCRETE SIDEWALK. SEE DETAIL 3, 4, & 5, SHEET C-501 (BASE BID)
- CONCRETE SIDEWALK. SEE DETAIL 3, SHEET C-501 (ADD ALTERNATE 2)

- KEY NOTES:**
- ① INSTALL CONCRETE PAVEMENT PER DETAIL 6, SHEET C-501. (BASE BID)
 - ② BLUE PAINTED ADA ACCESSIBLE PARKING SYMBOL, PER DETAIL 13, SHEET C-501.
 - ③ ADA ACCESSIBLE PARKING SIGN. INSTALLED BY OWNER.
 - ④ INSTALL 4" SOLID WHITE PAVEMENT MARKINGS FOR PARKING STALLS. REFER TO SPECIFICATION 321723-PAVEMENT MARKINGS (ADD ALTERNATE 3)
 - ⑤ INSTALL 4" SOLID BLUE PAVEMENT MARKINGS FOR ACCESSIBLE PARKING STALLS. SEE DETAIL 14, SHEET C-501. REFER TO SPECIFICATION 321723 PAVEMENT MARKINGS.
 - ⑥ INSTALL ASPHALT PAVEMENT PER DETAIL 1, SHEET C-501. (BASE BID)
 - ⑦ INSTALL CONCRETE WHEEL STOP(TYP) PER DETAIL 8, SHEET C-501.
 - ⑧ MILL AND OVERLAY ASPHALT PAVEMENT PER DETAIL 2, SHEET C-501. (ADD ALTERNATE 3)
 - ⑨ BASE BID & ADD ALT. 3 BOUNDARY LINE.
 - ⑩ BASE BID & ADD ALT. 2 BOUNDARY LINE.
 - ⑪ EXISTING ASPHALT & ADD ALT. 3 BOUNDARY LINE.
 - ⑫ INSTALL CONCRETE WHEEL STOP(TYP) PER DETAIL 8, SHEET C-501. INSTALLED BY OWNER. (ADD ALTERNATE 3)

CONTROL POINT TABLE

POINT NUMBER	NORTHING	EASTING	ELEVATION
CP 1	690488.3994	1536812.7561	766.45

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



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CAD DWG FILE: 23-5018.DWG
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SHEET TITLE:
SITE PLAN &
ALTERNATES
LAYOUT

SHEET NUMBER:

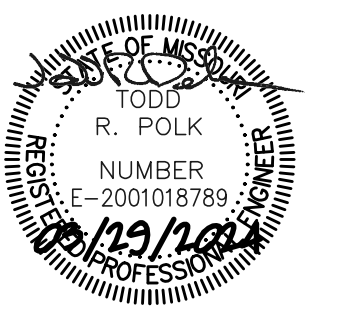
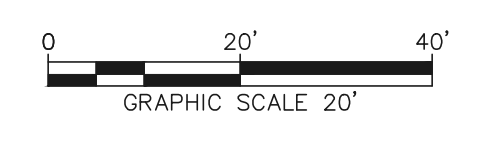
C-102

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March 29, 2024



- KEY NOTES:**
- ① INSTALL ±66LF 2" SCH. 80 PVC WATER LINE TO BE INSTALLED BY CONTRACTOR PER PIPE INSTALLATION DETAILS 10, SHEET C-501.
 - ② INSTALL APPROXIMATELY ±270LF OF 6" SDR 21 PVC SEWER SERVICE, AT A MINIMUM SLOPE OF 1.00%, PER PIPE INSTALLATION DETAIL 10, SHEET C-501. INSTALL TRACER WIRE ON SANITARY SEWER SERVICE.
 - ③ INSTALL SANITARY SEWER CLEANOUT PER DETAIL 12, SHEET C-501.
 - ④ INSTALL 6" 45° PVC BEND.
 - ⑤ INSTALL 6"x8" WYE CONNECTION PER DETAIL 11, SHEET C-501.
 - ⑥ SEE MEP PLAN SHEET E-101 FOR UNDERGROUND ELECTRICAL INSTALLATION.
 - ⑦ INSTALL APPROXIMATELY ±56LF OF 4" PERFORATED SCH. 40 PVC UNDER DRAIN WITH SCREEN ON THE END, AT A MINIMUM SLOPE OF 0.50%, SEE AQUATIC PLANS FOR DETAIL.
 - ⑧ INSTALL APPROXIMATELY ±172LF OF 4" SCH. 40 PVC STORM DRAIN WITH SCREEN ON THE INVERT, AT A MINIMUM SLOPE OF 0.50%, PER PIPE INSTALLATION DETAIL 10, SHEET C-501. INVERT = 769.99
 - ⑨ INSTALL 3,000 GALLON WET PIT, SEE AQUATIC PLANS FOR DETAIL.
 - ⑩ INSTALL APPROXIMATELY ±93LF OF 4" PERFORATED SCH. 40 PVC UNDER DRAIN WITH SCREEN ON THE END, AT A MINIMUM SLOPE OF 0.50%, SEE AQUATIC PLANS FOR DETAIL. (ADD ALTERNATE 2)
 - ⑪ INSTALL CONCRETE OUTLET STRUCTURE PER DETAIL 9, SHEET C-501.
 - ⑫ INSTALL EMPTY CONDUIT STUB UP FOR ELECTRIC SERVICE FOR FUTURE SHELTER.
 - ⑬ INSTALL ±25LF OF SCH.80 PVC AND CAP FOR WATER SERVICE FOR FUTURE SHELTER.

UTILITY PLAN
SCALE = 1"=20'-0"



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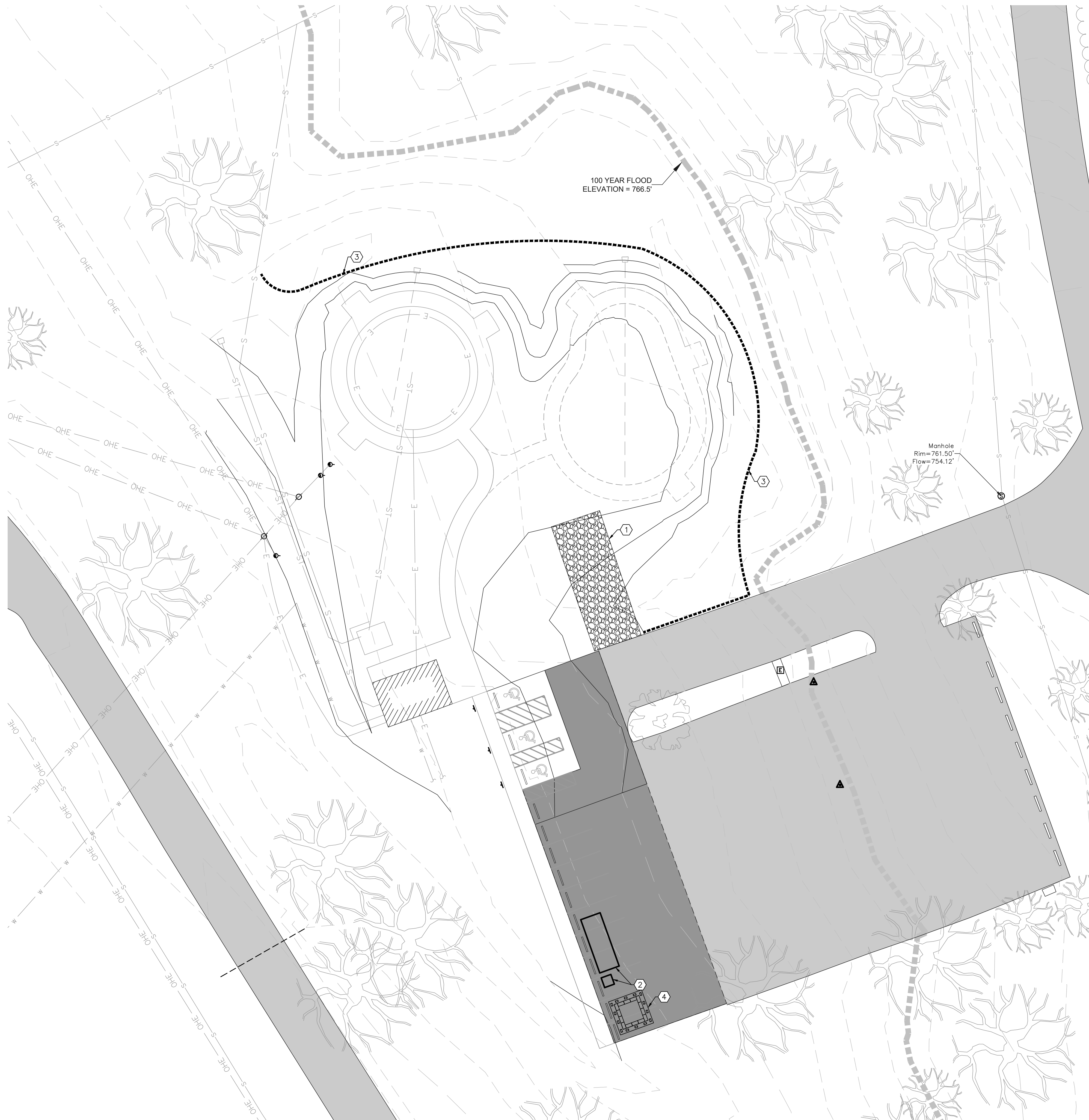
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SHEET TITLE:
**UTILITY
PLAN**

SHEET NUMBER:

C-104

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March 29, 2024



HATCH LEGEND:

CONSTRUCTION ENTRANCE.

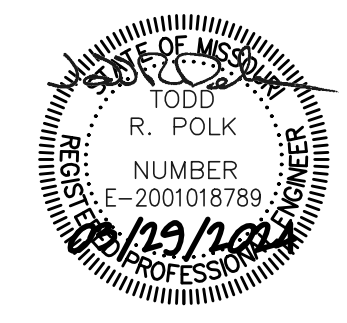
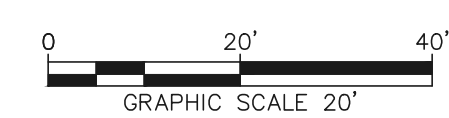
KEY NOTES:

- ① INSTALL TEMPORARY CONSTRUCTION ENTRANCE. CONTRACTOR SHALL APPLY ADDITIONAL TOP DRESSING OF 2-INCH STONE AS NEEDED TO MAINTAIN THE INTEGRITY OF THE ENTRANCE. SEE DETAIL 17, SHEET C-502 FOR DETAIL.
- ② DUMPSTER AND RESTROOM LOCATION.
- ③ INSTALL ±345LF OF EROSION CONTROL SILT SOCK. THE CONTRACTOR SHALL INSPECT ALL COMPOST FILTER SOCKS AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. THE CONTRACTOR SHALL IMMEDIATELY MAKE ANY REQUIRED REPAIR. THE CONTRACTOR SHALL REMOVE ALL SEDIMENT DEPOSITS TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN EVENT AND TO REDUCE THE PRESSURE ON THE FILTER SOCK DURING CLEANOUT. SEDIMENT ACCUMULATION SHALL NOT EXCEED 1/2 THE HEIGHT OF THE FILTER SOCK. SILT SOCKS SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES. SILT SOCKS SHALL BE SECURELY ANCHORED. SEE DETAIL 16, SHEET C-502.
- ④ CONCRETE WASH OR RINSEWATER FROM CONCRETE MIXING EQUIPMENT, TOOLS AND /OR READY-MIX TRUCKS, TOOLS, ETC., MAY NOT BE DISCHARGED INTO OR BE ALLOWED TO RUN DIRECTLY INTO ANY EXISTING WATER BODY OR STORM INLET. THE WASHING OF CONCRETE EQUIPMENT WILL NOT BE PERMITTED ON THE JOB SITE IF THE CONTRACTOR CHOOSES NOT TO HAVE A CONCRETE WASHOUT INSTALLED. SEE DETAIL 15, SHEET C-502.

EROSION CONTROL NOTES:

1. PRIOR TO BEGINNING CONSTRUCTION EROSION CONTROL MUST BE STABILIZED.
2. THE CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE THE COMPOST FILTER SOCK IF THE FABRIC TEARS, DECOMPOSES, OR BECOMES INEFFECTIVE.
3. EROSION CONTROL TO BE INSTALLED IN DISTURBED AREAS IN PHASES AS REQUIRED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES AND PHASES DURING CONSTRUCTION. IF THE STATE DETERMINES THAT THE BMP'S IN PLACE DO NOT PROVIDE ADEQUATE EROSION AND SEDIMENT CONTROL AT ANY TIME DURING THE PROJECT, THE CONTRACTOR SHALL INSTALL ADDITIONAL OR ALTERNATE MEASURES THAT PROVIDE EFFECTIVE CONTROL.
4. THE CONTRACTOR SHALL TEMPORARILY SEED ALL DISTURBED AREAS IF THERE HAS BEEN NO CONSTRUCTION ACTIVITY ON THEM FOR A PERIOD OF FOURTEEN (14) CALENDAR DAYS. IF THE ENGINEER DETERMINES THAT A SITE HAS A HIGH POTENTIAL FOR EROSION BASED ON PREVIOUS INFORMATION SUBMITTED, HE MAY DIRECT THAT DISTURBED SOIL BE STABILIZED AFTER PERIODS OF CONSTRUCTION INACTIVITY OF MORE THAN FORTY-EIGHT (48) HOURS.
5. UPON FINAL GRADING, ALL DISTURBED AREAS SHALL BE STABILIZED BY SEEDING WITHIN ONE (1) WEEK. WHEN THIS OCCURS OUTSIDE THE STANDARD SPECIFICATION SEEDING DATES, SEED SHALL CONSIST OF A TEMPORARY COVER CROP OF ANNUAL RYE OR WHEAT.
6. CHEMICALS OR MATERIALS CAPABLE OF CAUSING POLLUTION MAY ONLY BE STORED ONSITE IN THEIR ORIGINAL CONTAINER. MATERIALS STORED OUTSIDE MUST BE IN CLOSED AND SEALED WATER-PROOF CONTAINERS AND LOCATED OUTSIDE OF DRAINAGEWAYS OR AREAS SUBJECT TO FLOODING. LOCKS AND OTHER MEANS TO PREVENT OR REDUCE VANDALISM SHALL BE USED. SPILLS WILL BE REPORTED AS REQUIRED BY LAW AND IMMEDIATE ACTIONS TAKEN TO CONTAIN THEM.
7. STONE STABILIZED PADS SHALL BE CONSTRUCTED AT THE LOCATION SHOWN ON THE PLANS WHERE CONSTRUCTION AND PRIVATE VEHICULAR TRAFFIC WILL BE ALLOWED TO ENTER AND EXIT THE CONSTRUCTION SITE. CONSTRUCTION EQUIPMENT (INCLUDING PERSONAL VEHICLES) ARE NOT ALLOWED TO EXIT THE SITE DIRECTLY ONTO ARTERIAL OR COLLECTOR STREETS. ALL VEHICLES/CONSTRUCTION EQUIPMENT MUST USE THE STABILIZED CONSTRUCTION ENTRANCES SHOWN ON THE PLANS.

EROSION & SEDIMENT CONTROL PLAN
SCALE = 1"=20'-0"



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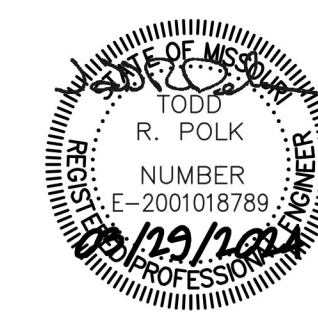
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CHECKED BY: TP
DESIGNED BY: BS

SHEET TITLE:
**EROSION CONTROL
PLAN**

SHEET NUMBER:

C-105

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March 29, 2024



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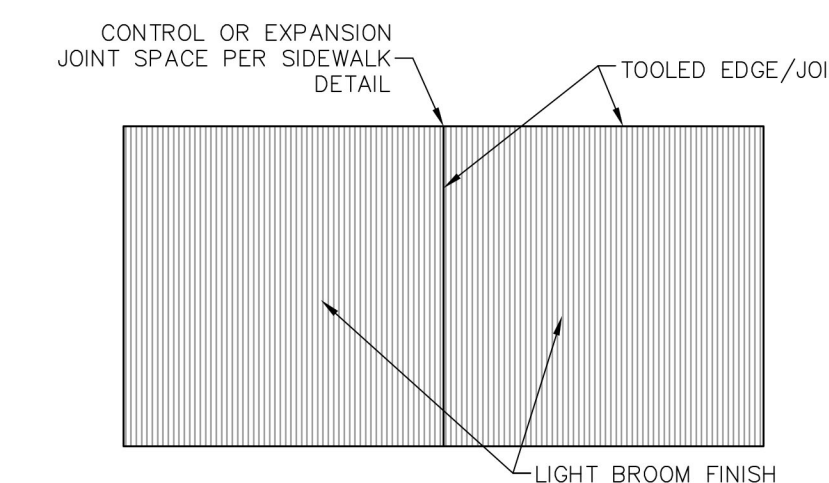
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SHEET TITLE:
DETAIL SHEET
& ALTERNATES
DETAIL

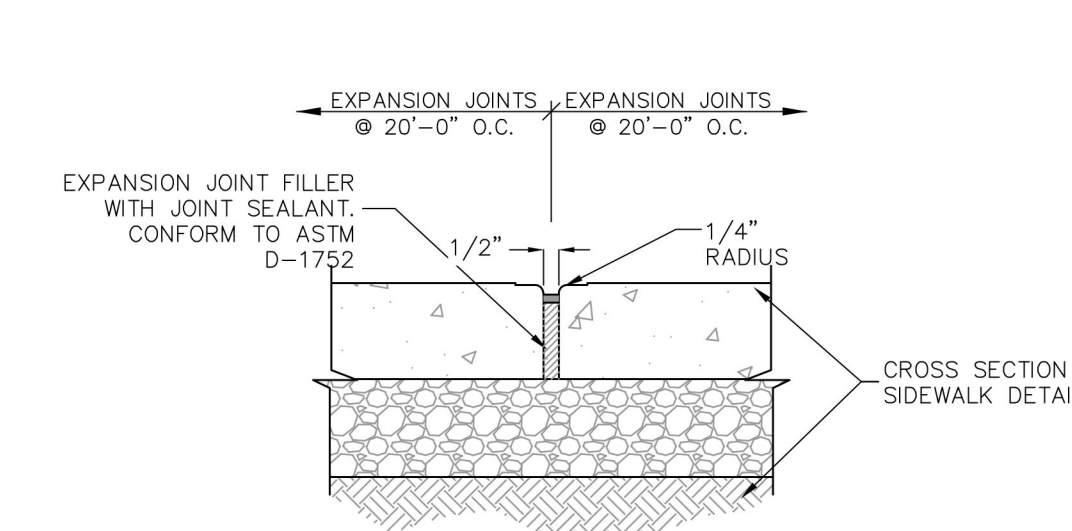
SHEET NUMBER:

C-501

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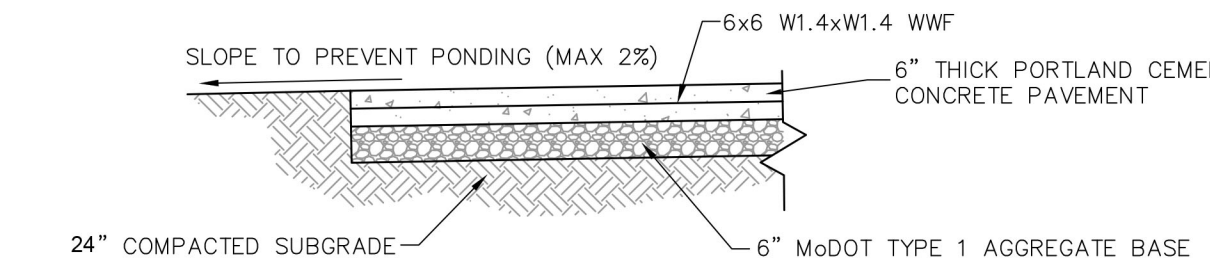


- NOTES:
- CONTRACTOR SHALL TOOL EDGES AND JOINTS AS SHOWN THEN LIGHTLY BROOM FINISH ENTIRE SIDEWALK SURFACE PERPENDICULAR TO TRAFFIC.



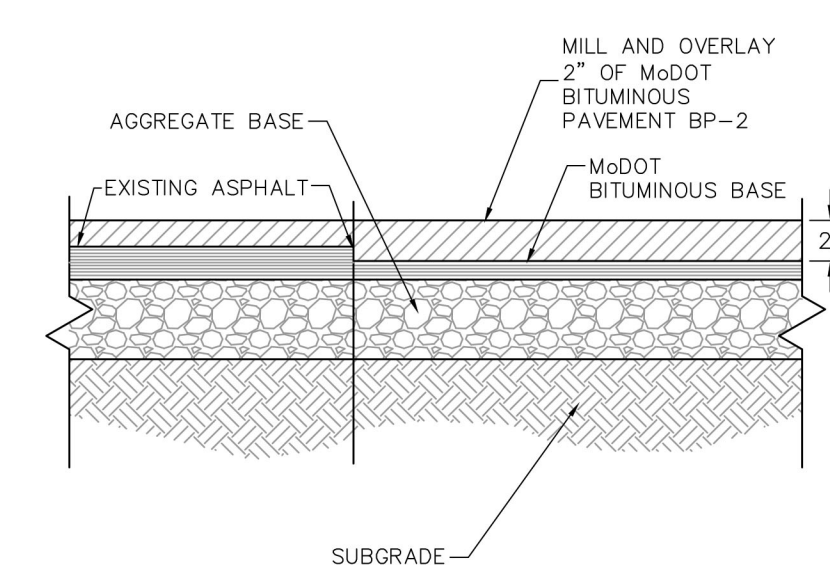
4. SIDEWALK EXPANSION JOINT
SCALE: NONE

5. SIDEWALK FINISH PLAN
SCALE: NONE

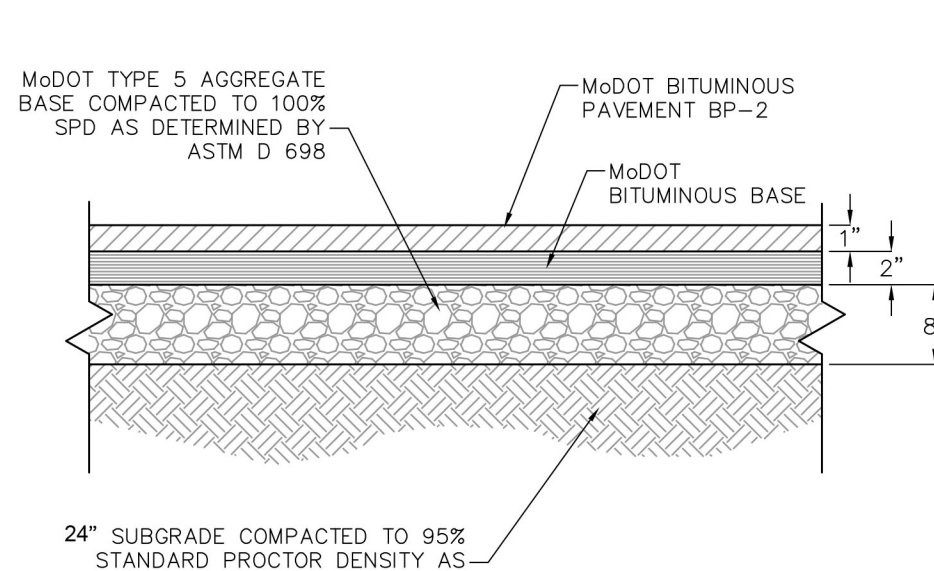


- NOTES:
- PROVIDE CONTROL JOINTS @ 5' O.C. MAX. OR WIDTH OF SIDEWALK. SEE JOINT DETAIL.
 - PROVIDE EXPANSION JOINTS @ 20' O.C. MAX. & AS INDICATED ON SITE PLAN.
 - WHERE WALK ABUTS ANOTHER WALK, CONCRETE CURBS, DRIVEWAYS AND SIMILAR STRUCTURES, PROVIDE 1/2" EXP. JOINT W/ FIBER BOARD AND SELF-LEVELING SEALANT.
 - KEY ALL CONSTRUCTION JOINTS. SEE CONCRETE PAVEMENT JOINT DETAIL.
 - PROVIDE NON-SLIP LIGHT BROOM FINISH.
 - MAXIMUM SIDEWALK CROSS SLOPE SHALL BE 1.75% MAXIMUM SLOPE OF SIDEWALK IN DIRECTION OF TRAVEL SHALL BE 4.75%.

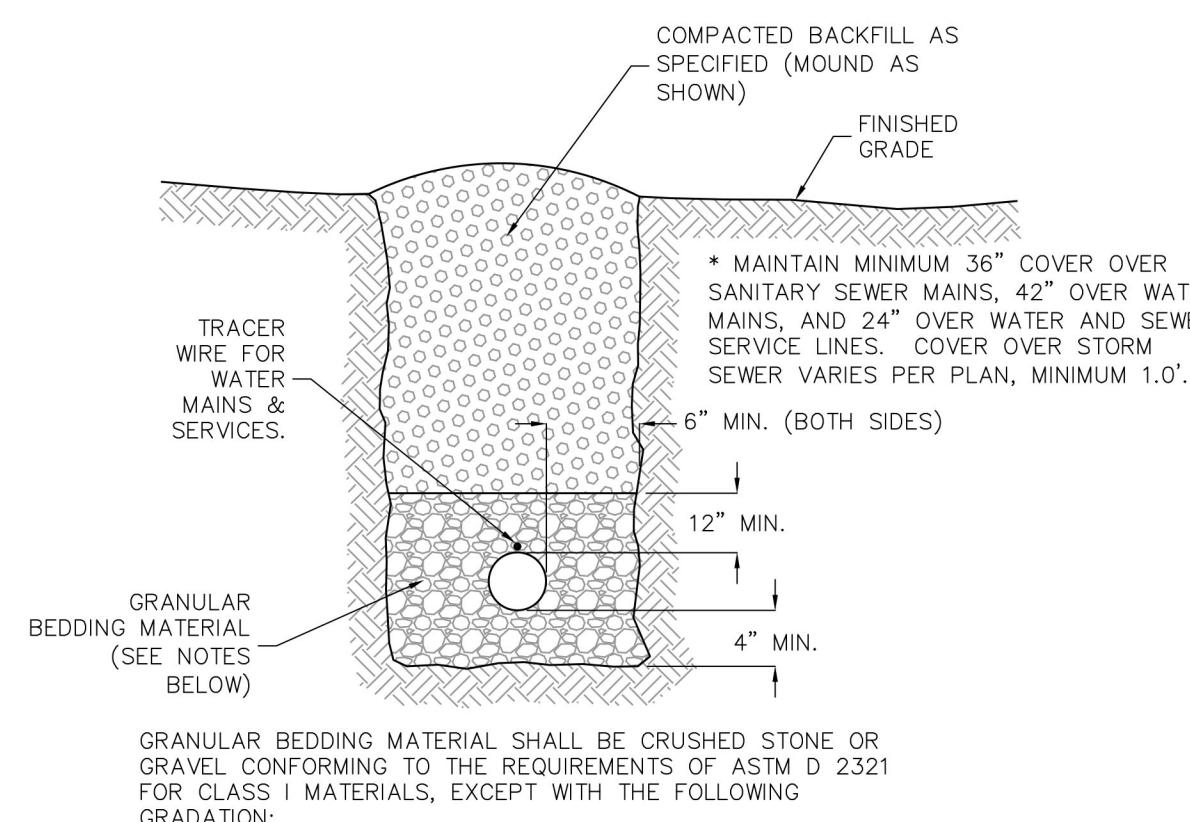
3. SIDEWALK DETAIL
SCALE: NONE



2. ASPHALT MILL & OVERLAY
SCALE: NONE (ALTERNATE No. 3)



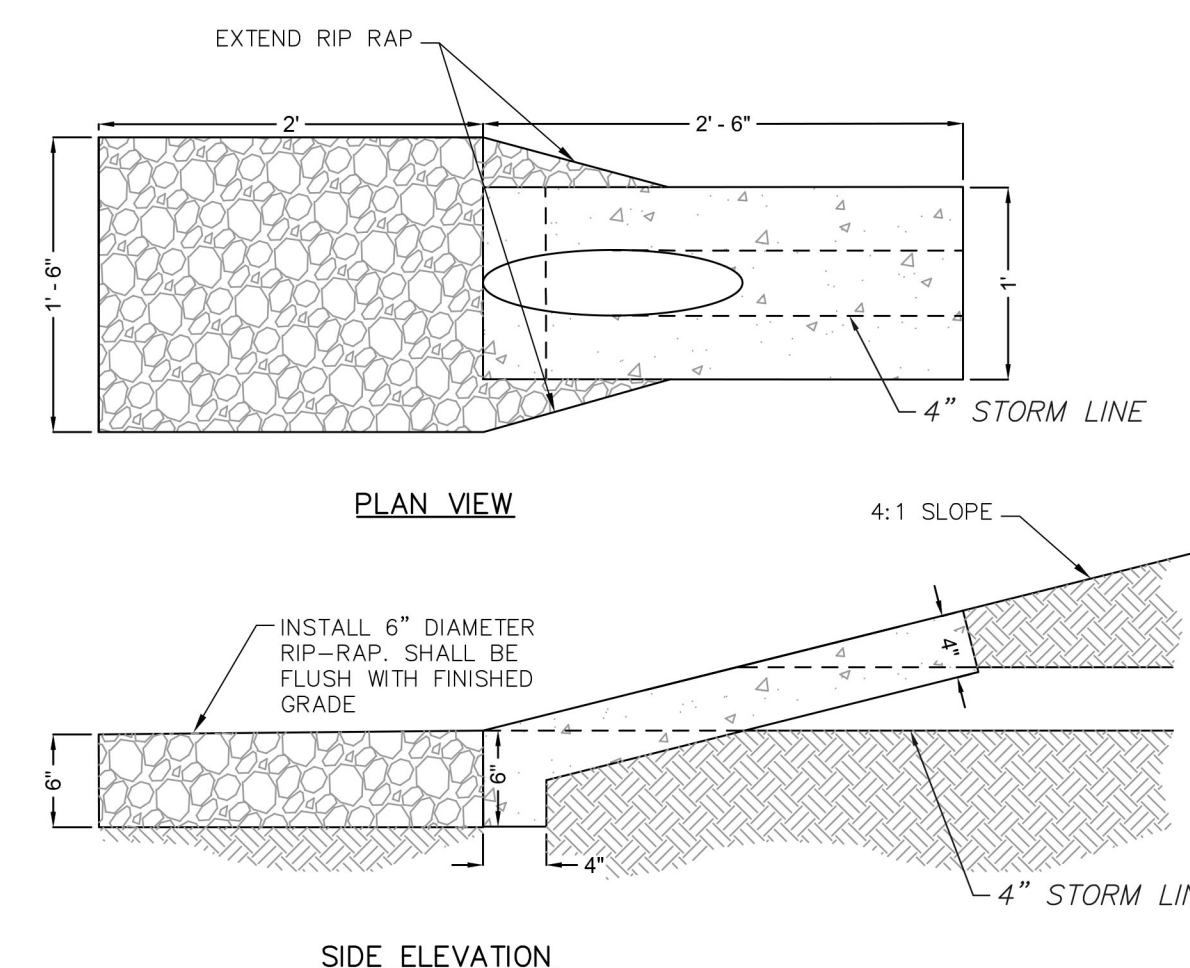
1. ASPHALT PAVEMENT
SCALE: NONE



PASSING	SIEVE SIZE	%
	1"	100
	3/4"	85-100
	3/8"	50-80
	No. 4	35-60
	No. 40	15-30
	No. 200	5-10

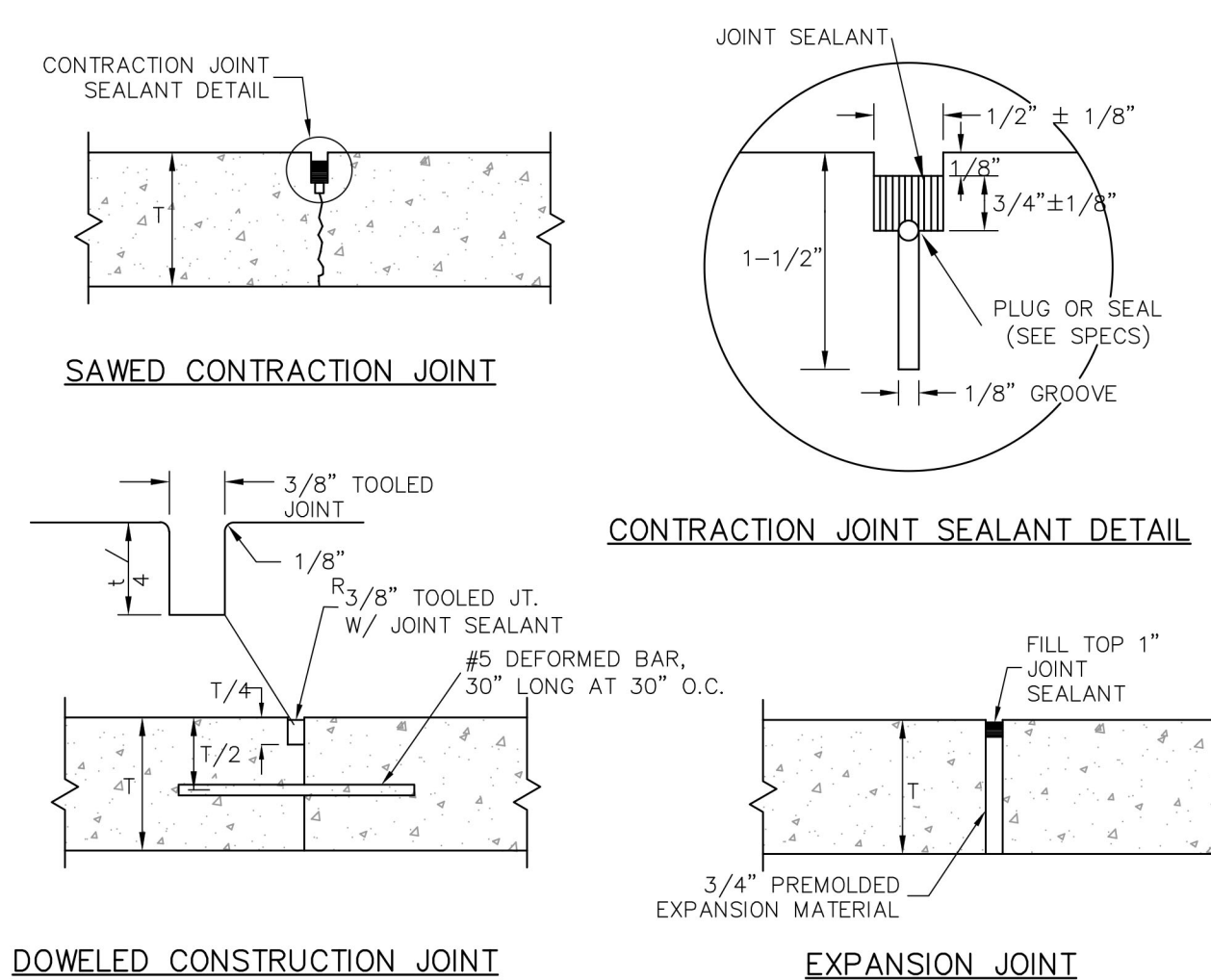
NOTE: SEE SPECIFICATION 333100, 334100

10. PIPE INSTALLATION DETAIL
SCALE: NONE

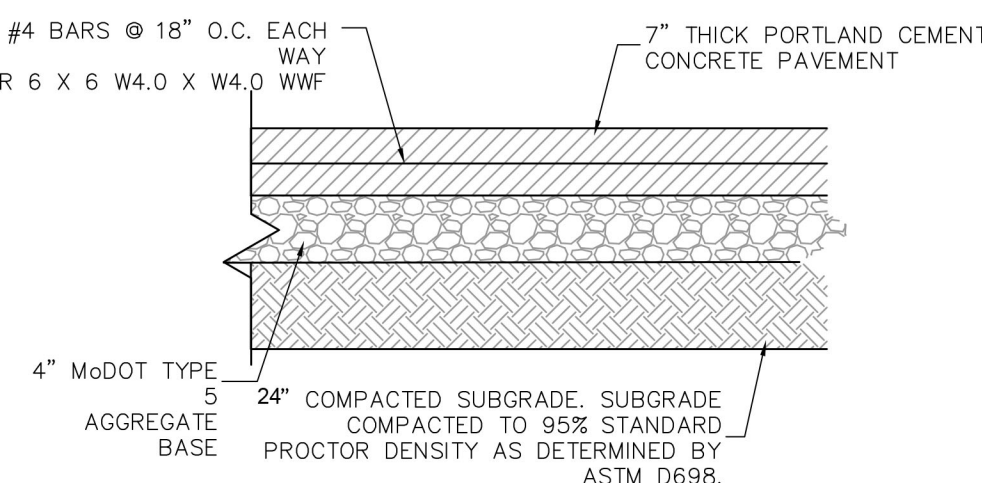


NOTE: SEE SPECIFICATION 321100--CAST-IN-PLACE CONCRETE FOR SITEWORK

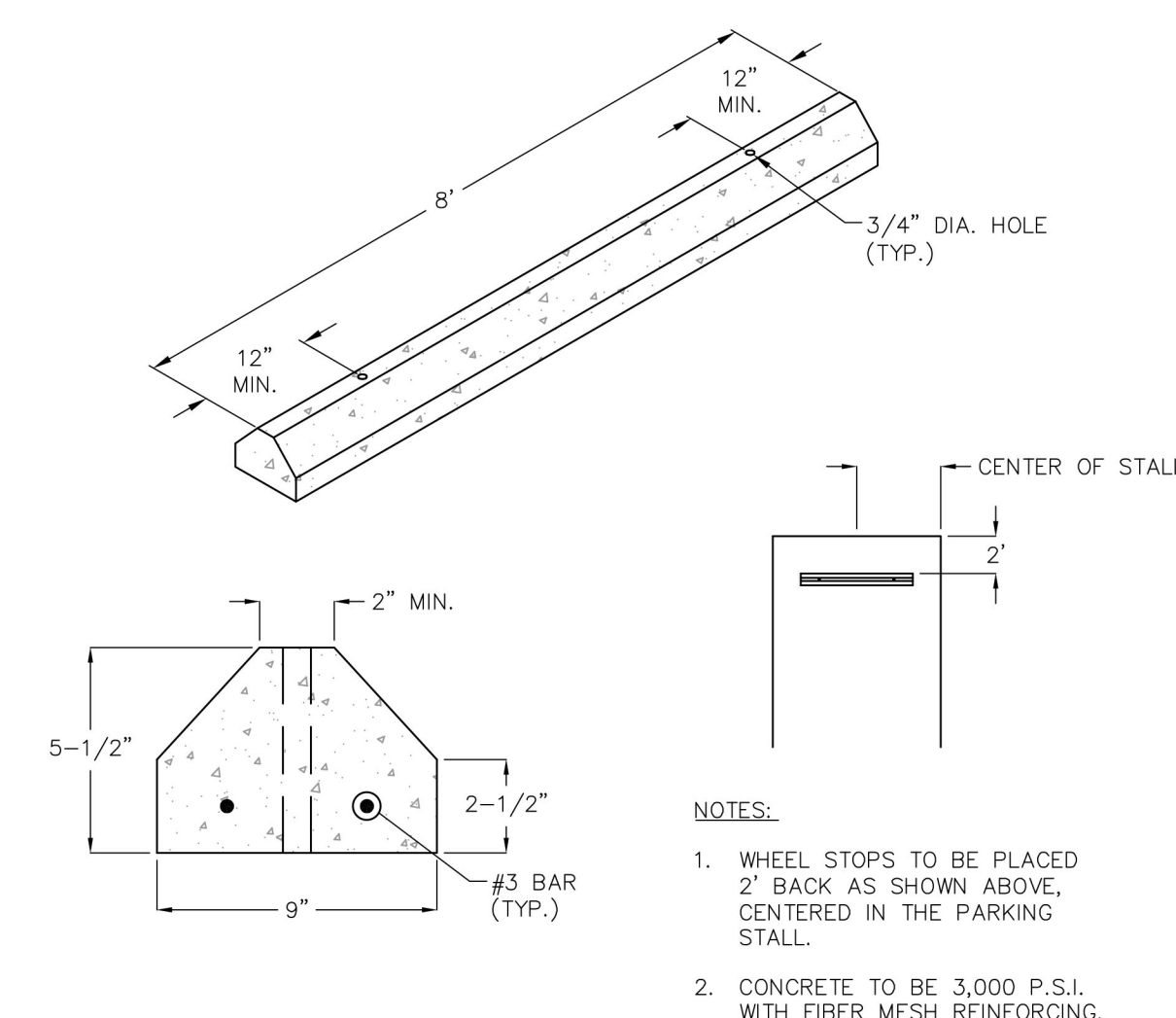
9. CONCRETE OUTLET STRUCTURE
SCALE: NONE



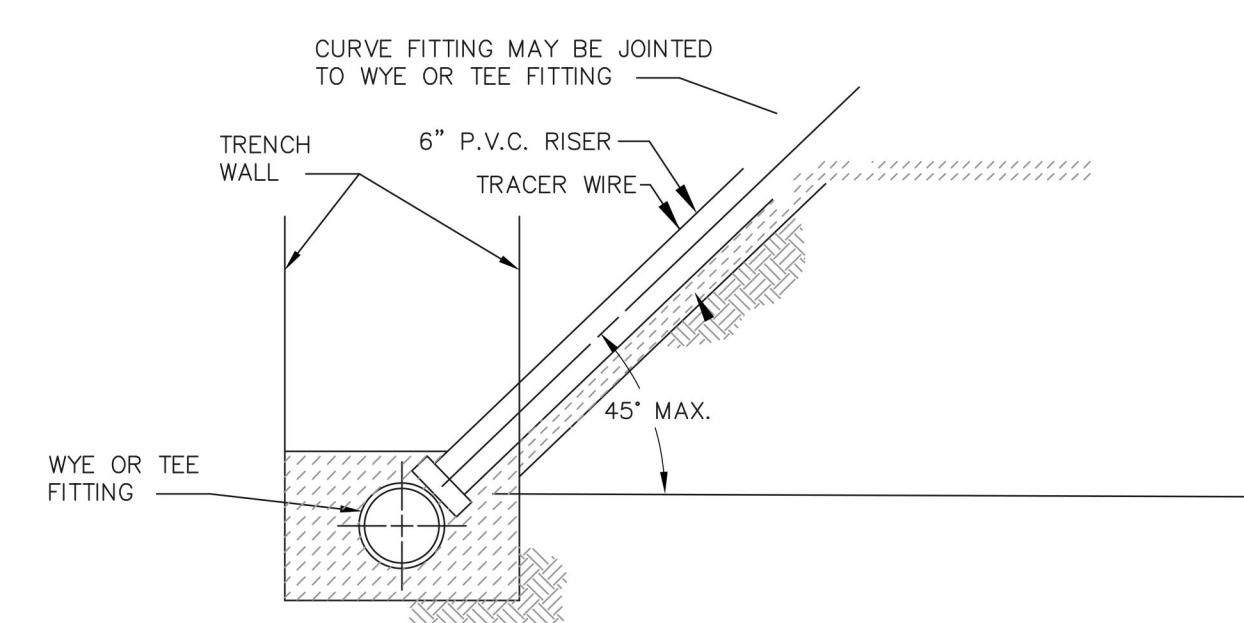
- CONCRETE JOINT NOTES:
- CONSTRUCTION JOINTS SHALL BE PLACED AS REQUIRED BY THE CONTRACTOR.
 - EXPANSION JOINTS SHALL BE PLACED WHERE CONCRETE ABUTS STRUCTURES OR EXISTING PAVEMENT AND AT 45 FEET ON CENTER, EACH DIRECTION (OR AS SHOWN ON PLAN).
 - CONTRACTION JOINTS SHALL BE PLACED AT 15 FEET MINIMUM SPACING IN EACH DIRECTION.
3. CONCRETE PAVEMENT JOINT DETAILS
SCALE: NONE



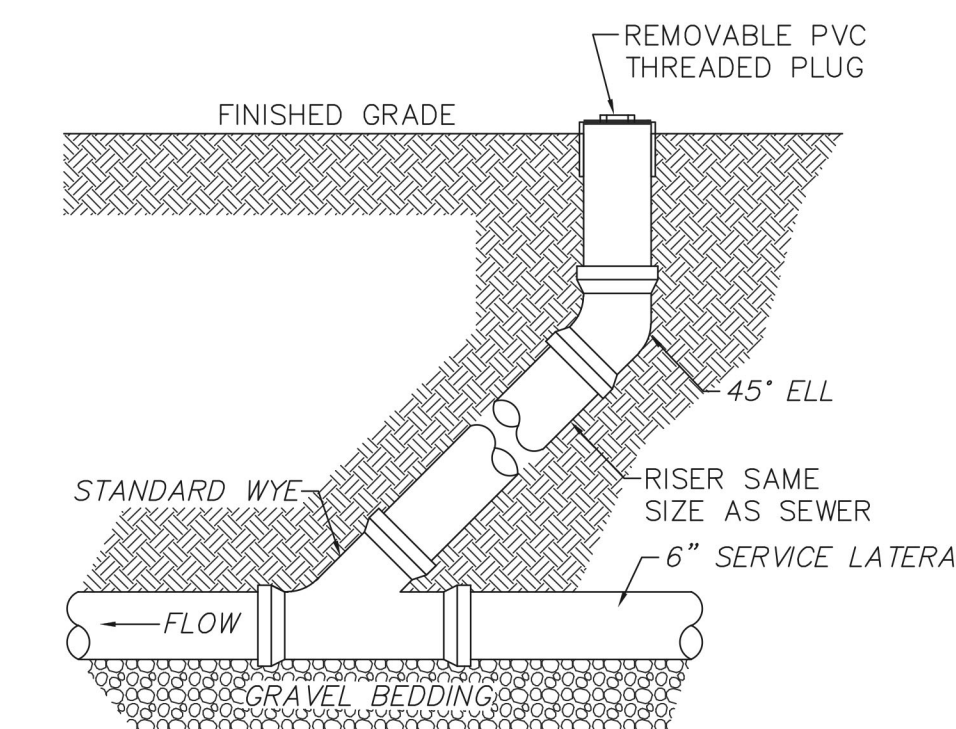
6. CONCRETE PAVEMENT
SCALE: NONE



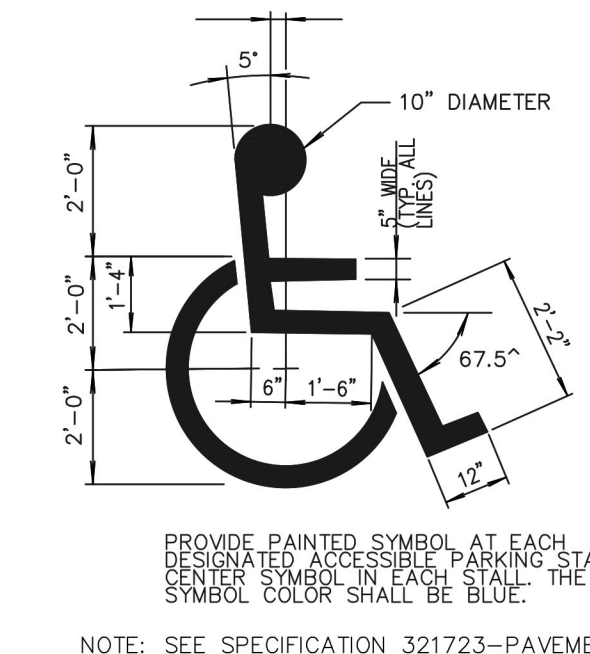
8. CONCRETE WHEEL STOP DETAIL
SCALE: NONE



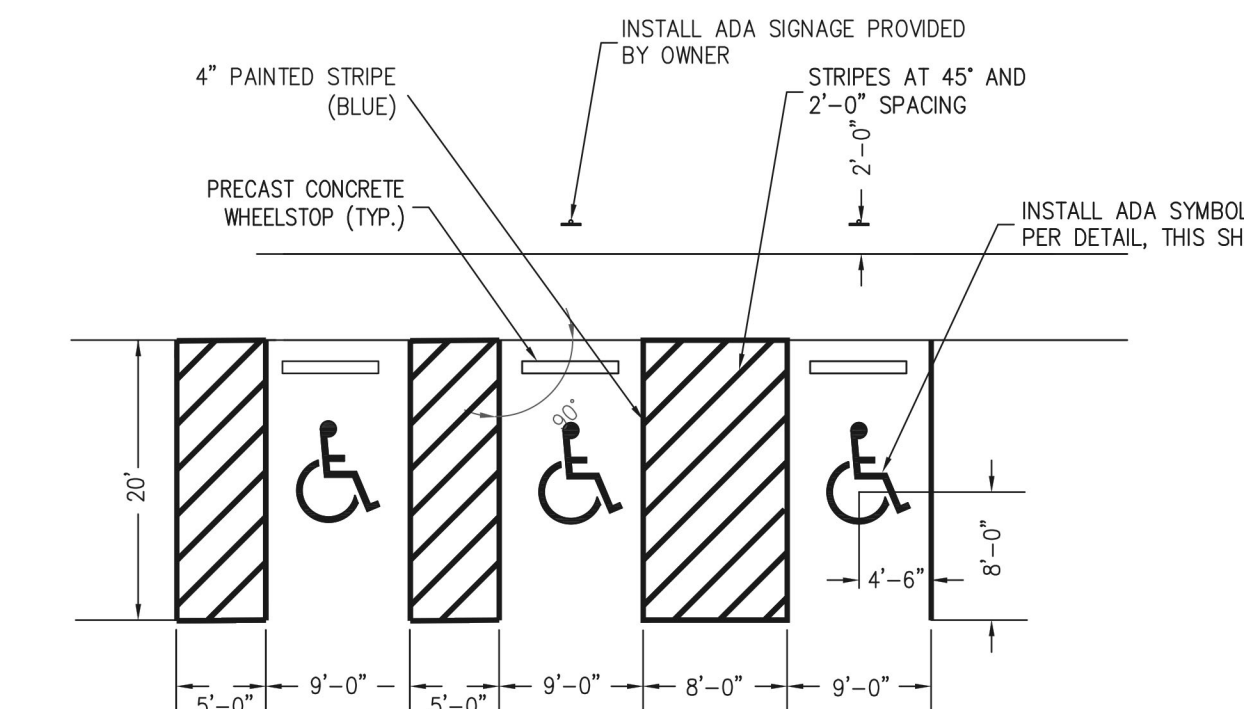
11. SEWER SERVICE CONNECTION
SCALE: NONE



12. INLINE CLEAN-OUT DETAIL
SCALE: NONE



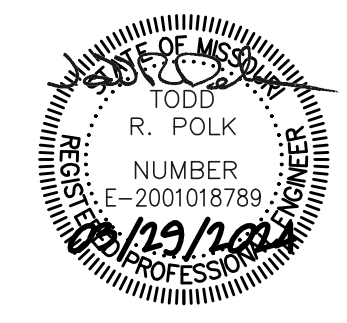
13. ACCESSIBLE PARKING SYMBOL
SCALE: NONE



NOTE: ACCESSIBLE PARKING STALLS AND AISLES SHALL BE CONSTRUCTED WITH MAXIMUM SLOPE OF 2% IN ALL DIRECTIONS

NOTE: SEE SPECIFICATION 321723--PAVEMENT MARKINGS

14. ACCESSIBLE PARKING SPACE PLAN
SCALE: NONE



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PROJECT No. X2228-01
SITE No. 5302
ASSET No. 7815302065

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DATE: _____
ISSUE DATE: 03/29/2024

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DRAWN BY: DS
CHECKED BY: TP
DESIGNED BY: BS

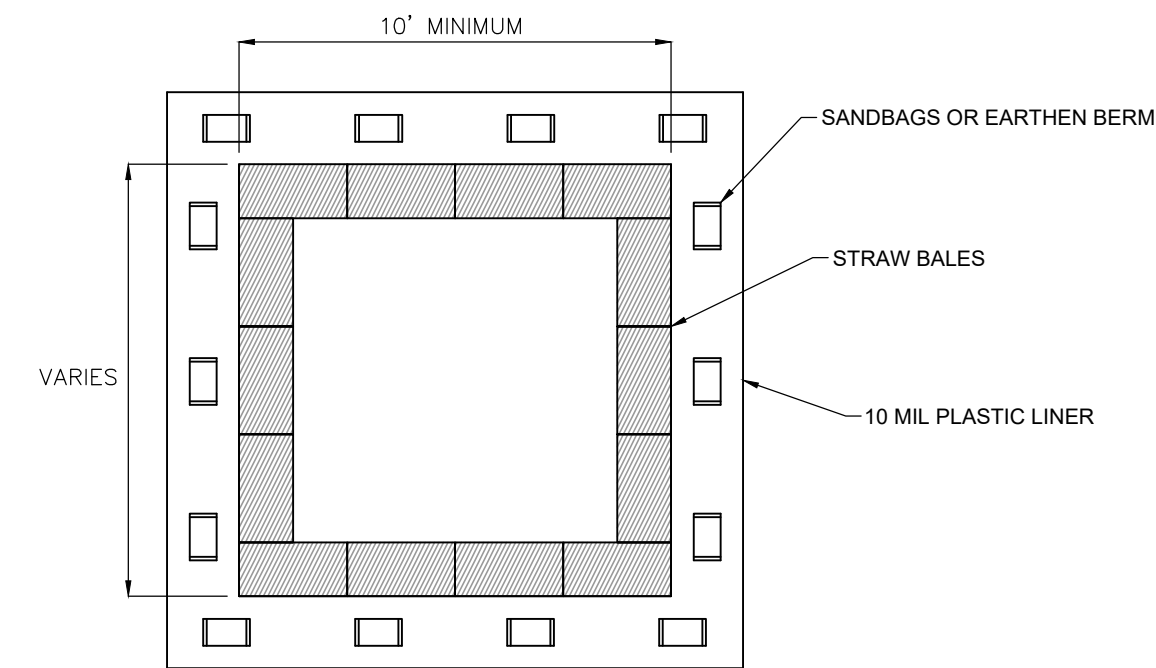
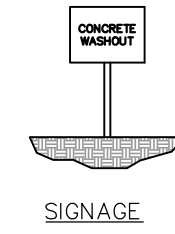
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SITE DETAILS

SHEET NUMBER:

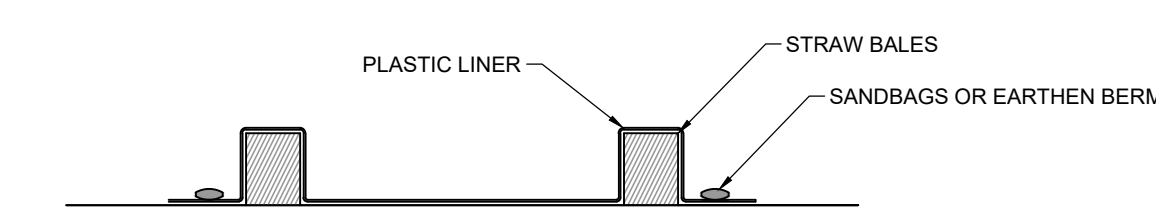
C-502

9 OF 33 SHEETS
March 29, 2024

- NOTES:
1. WASHOUT CONTAINMENT SHALL BE INSTALLED FOR DURATION OF CONCRETE WORK AND RETAIN CONCRETE AND OTHER WASHOUT LIQUIDS UNTIL EVAPORATION OR REMOVAL BY PUMP.
 2. CONTAINMENT SHALL BE SIZED FOR EXPECTED WASHOUT VOLUMES.
 3. AVOID PLACING NEAR STORM DRAINS, STREAMS, SINKHOLES, OUTFALLS OR OTHER LOW AREAS WHERE WATER PONDS OR FLOWS.
 4. OTHER APPROVED LEAK-PROOF CONTAINMENT IS ACCEPTABLE.
 5. TRAPS SHALL BE ROUTINELY MAINTAINED AT 75% CAPACITY AND REPLACED AS NECESSARY TO PERFORM.
 6. THE WASHOUT PIT SHALL BE COVERED BEFORE PREDICTED RAIN EVENTS TO PREVENT OVERFLOW.
 7. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30FT OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

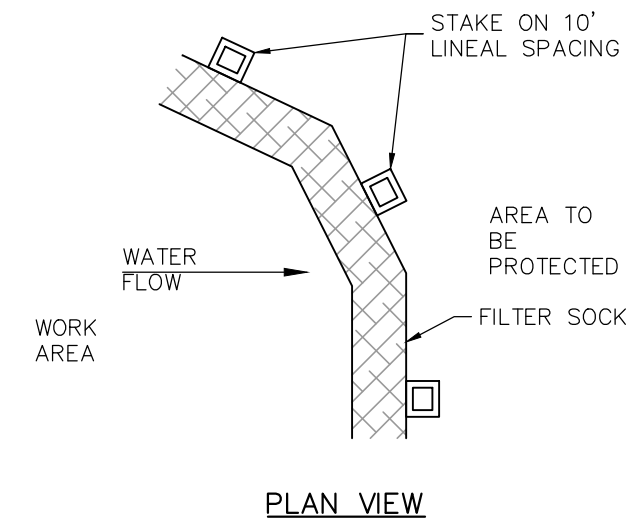


PLAN VIEW

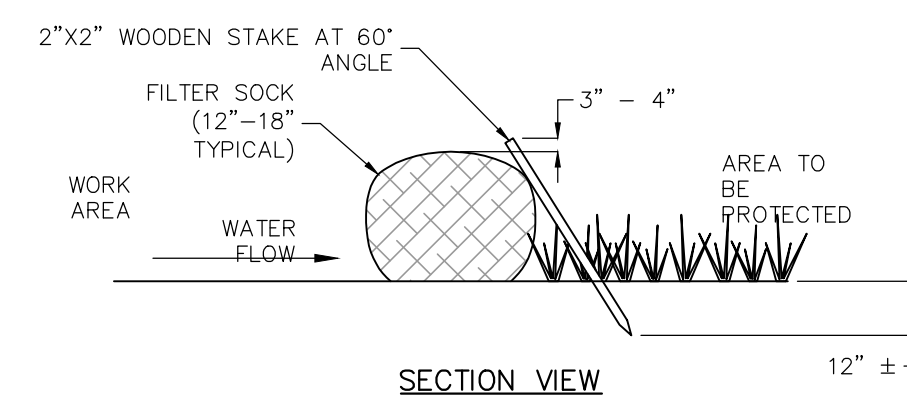


SECTION VIEW

15. CONCRETE WASHOUT
SCALE: NONE



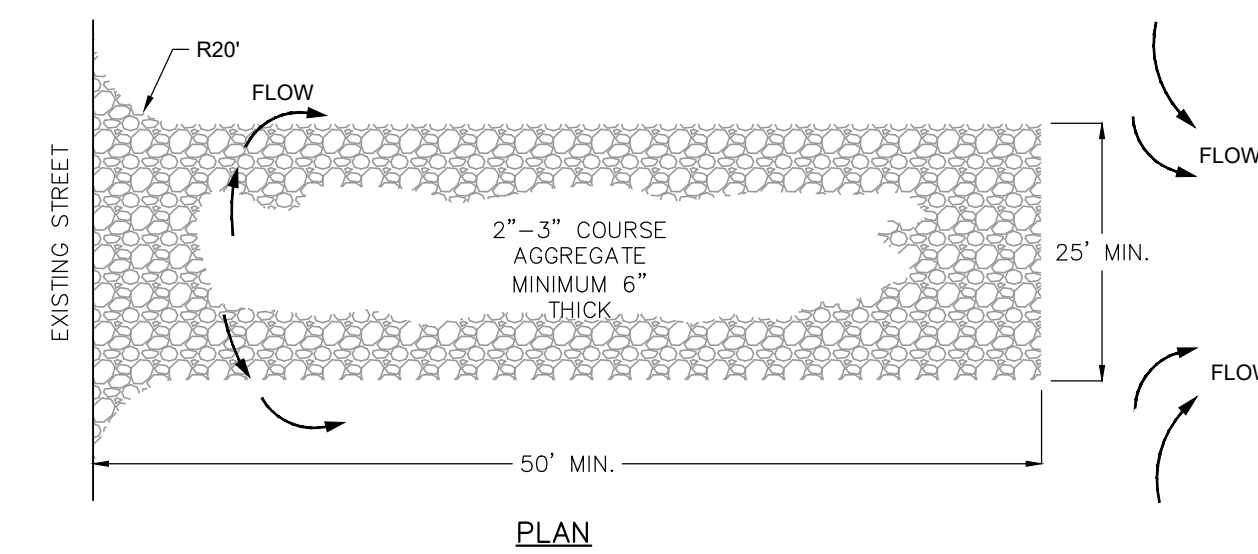
PLAN VIEW



SECTION VIEW

- NOTES:
1. ALL MATERIAL TO MEET WILDLIFE FRIENDLY EROSION CONTROL PRODUCT LIST.
 2. FILTER SOCK DEPICTED IS FOR MINIMUM SLOPES. GREATER SLOPES MAY REQUIRE LARGER SOCKS PER ENGINEER.

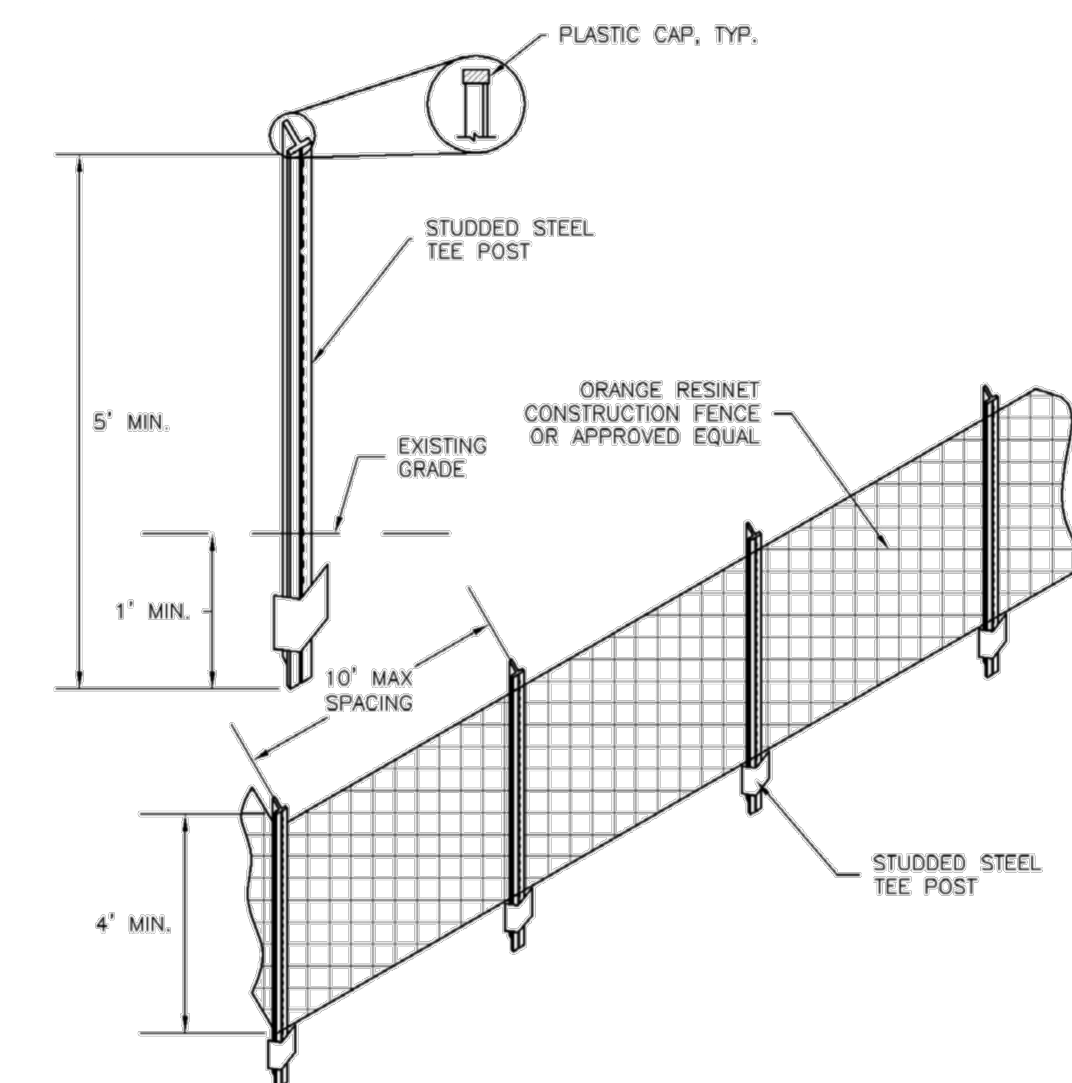
16. COMPOST FILTER SOCK DETAIL
SCALE: NONE



PLAN

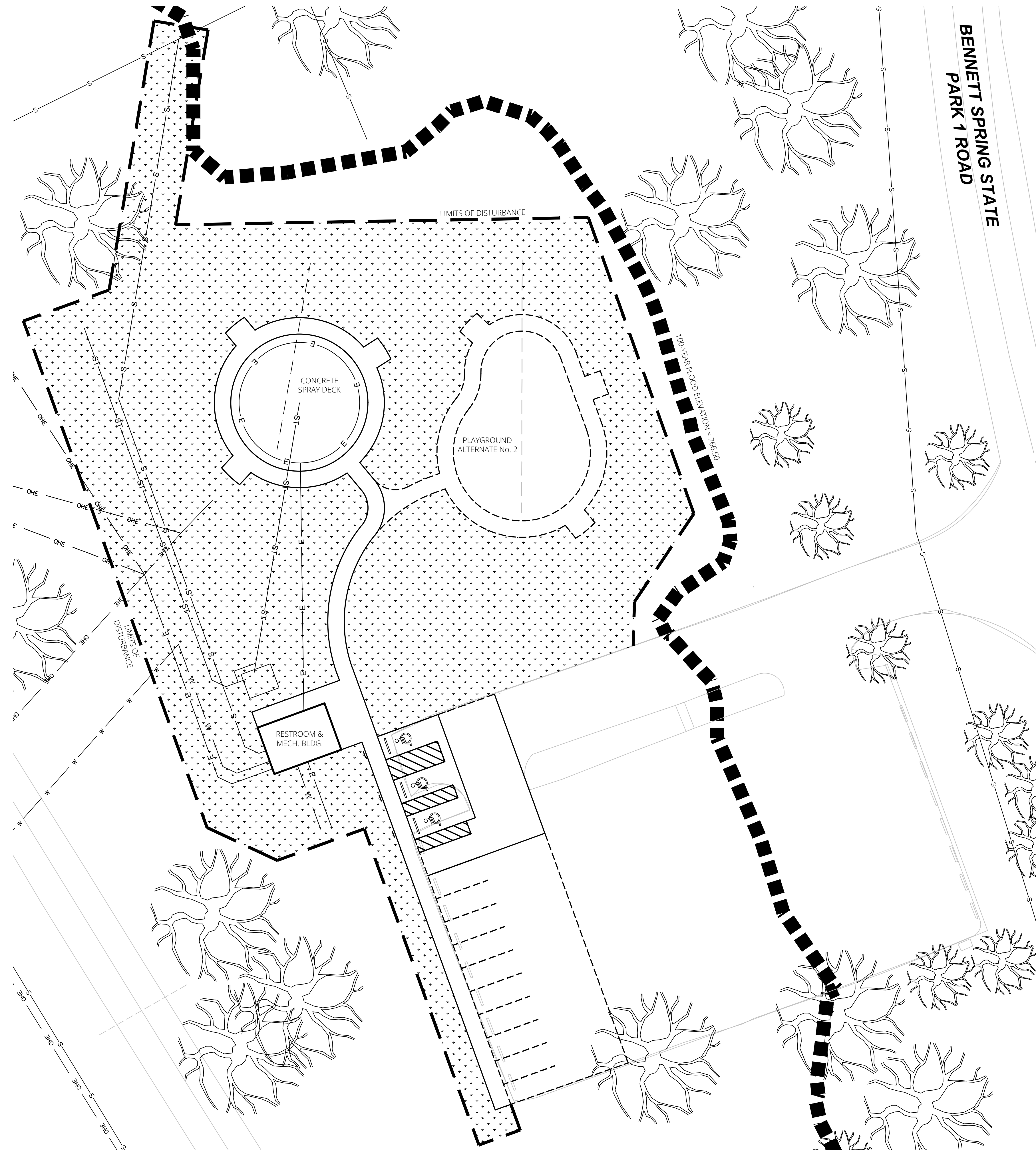
- NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
 2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
 3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

17. TEMPORARY CONSTRUCTION ENTRANCE
SCALE: NONE



- CONSTRUCTION FENCE INSTALLATION NOTES
1. SEE PLAN VIEW FOR: -LOCATION OF CONSTRUCTION FENCE.
 2. CONSTRUCTION FENCE SHOWN SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
 3. CONSTRUCTION FENCE SHALL BE COMPOSED OF ORANGE, CONTRACTOR-GRADE MATERIAL THAT IS AT LEAST 4' HIGH. METAL POSTS SHOULD HAVE A PLASTIC CAP FOR SAFETY.
 4. STUDDED STEEL TEE POSTS SHALL BE UTILIZED TO SUPPORT THE CONSTRUCTION FENCE. MAXIMUM SPACING FOR STEEL TEE POSTS SHALL BE 10'.
 5. CONSTRUCTION FENCE SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.

18. TEMPORARY CONSTRUCTION FENCING
SCALE: NONE

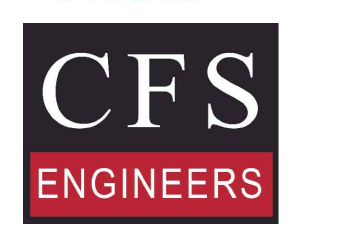


LANDSCAPE NOTES

1. CONTRACTOR SHALL LOCATE ALL UTILITIES BEFORE COMMENCING WORK. CONTACT THE MISSOURI ONE CALL SYSTEM AT 1-800-DIG-RITE OR 811 TO FILE A LOCATE REQUEST PRIOR TO ANY EXCAVATION. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE TO UTILITIES RESULTING FROM LANDSCAPE OPERATIONS. ANY UTILITIES SHOWN ON THIS PLAN ARE FOR REFERENCE ONLY AND MAY OR MAY NOT DEPICT THE ACTUAL LOCATION OF SERVICES.
2. QUANTITIES OF MATERIALS SHOWN ON THE SEEDING PLAN TAKE PRECEDENCE OVER QUANTITIES SHOWN IN THE PLANT SCHEDULE. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES ON THE LANDSCAPE PLAN PRIOR TO BIDDING.
3. REPORT ANY DISCREPANCIES IN THE SEEDING PLAN TO THE LANDSCAPE ARCHITECT, PRIOR TO PURCHASING MATERIALS OR STARTING CONSTRUCTION.
4. ALL DISTURBED AREAS DUE TO CONSTRUCTION WILL BE BROUGHT BACK TO ORIGINAL CONDITION OR BETTER USING THE MISSOURI STATE PARK SEED MIX: 20% BLUEGRASS, 70% OF 3 TYPES OF TALL FESCUE (NO KENTUCKY 31), 10% PERENNIAL RYE.
5. THE PROJECT AREA SHALL BE ALWAYS KEPT CLEAN AT ALL TIMES AND CARE SHALL BE TAKEN THAT USE OF THE PREMISES SHALL NOT BE UNDULY HAMPERED BY WORK HEREIN SPECIFIED.
6. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER APPLICATION OF THE FERTILIZER AND SEED. WATERING, WEEDING, RE-SEEDING, AND MOWING WILL BE THE RESPONSIBILITY OF THE OWNER AFTER PROPER APPLICATION OF THE SEED.
7. THE CONSTRUCTION ADMINISTRATOR SHALL INSPECT AND APPROVE THE SEEDED AREAS UPON COMPLETION OF SEEDING. SEEDED AREAS SHALL BE CONSIDERED ACCEPTABLE IF THE SPECIFIED QUANTITIES OF FERTILIZER AND SEED HAVE BEEN PROPERLY SPECIFIED. PLEASE REFER TO SECTION 329200 TURF AND GRASSES.

LANDSCAPE SCHEDULE

GROUND COVERS	CODE	COMMON / BOTANICAL NAME	CONT
	TE	TURF SEED / MISSOURI STATE PARK SEED MIX	SEED



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PROJECT No. X2228-01
SITE No. 5302
ASSET No. 7815302065

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DATE: _____

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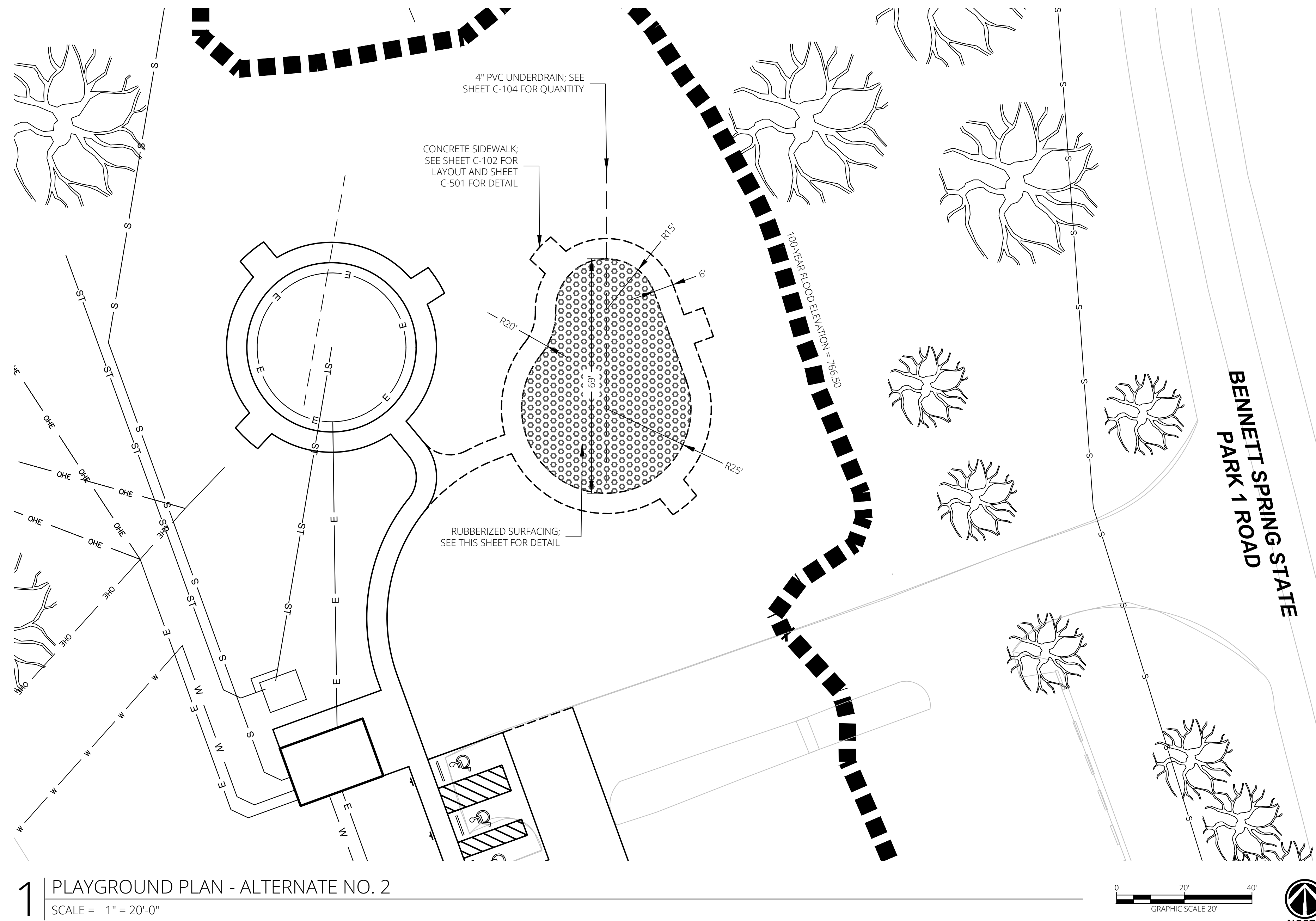
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CHECKED BY: BS
DESIGNED BY: BS

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**SEEDING
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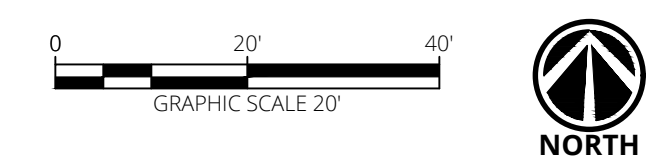
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10 OF 29 SHEETS
3/29/2024

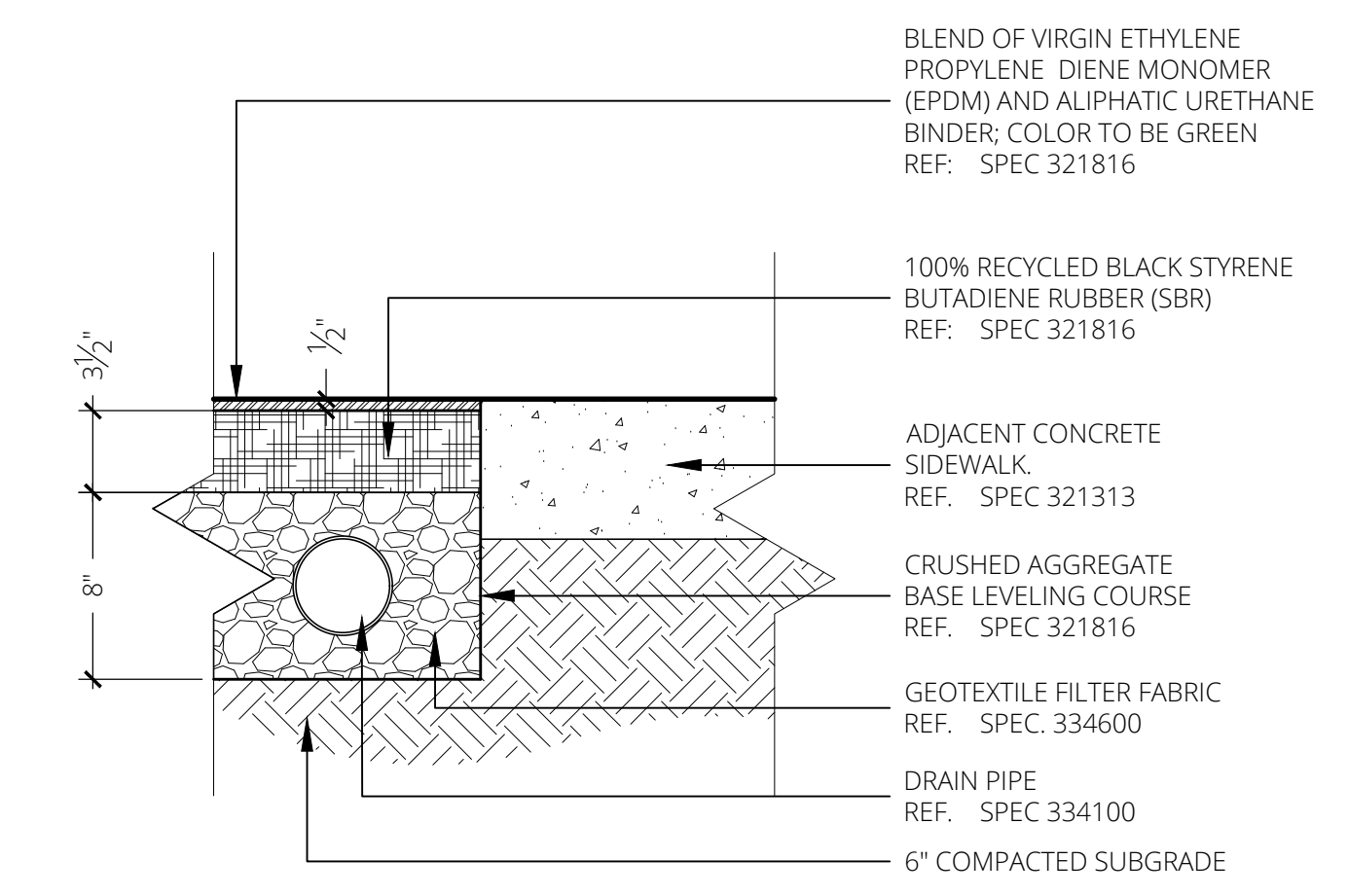


1 PLAYGROUND PLAN - ALTERNATE NO. 2
SCALE = 1" = 20'-0"



PLAYGROUND NOTES

1. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR PROPOSED PLAYGROUND LAYOUT AND EACH PIECE OF PROPOSED EQUIPMENT.
2. ACCEPTABLE PLAYGROUND EQUIPMENT MANUFACTURERS INCLUDE LANDSCAPE STRUCTURES, INC., KOMPAN, INC., AND BCI BURKE CO.
3. PLAYGROUND EQUIPMENT PROGRAM SHALL INCLUDE NO LESS THAN THE FOLLOWING PIECES OF EQUIPMENT:
 - 3.1. 1 SLIDE (72" MAX. FALL HEIGHT)
 - 3.2. 1 MULTI-CLIMBER (96" MAX. FALL HEIGHT)
 - 3.3. 1 SPINNER
 - 3.4. 2 BALANCE ELEMENTS
 - 3.5. 8 STEPPING ELEMENTS
 - 3.6. 3 BOUNCING/SPRINGING/WOBBLING ELEMENTS
4. INSTALL PER EQUIPMENT MANUFACTURER'S INSTRUCTIONS.
5. COORDINATE INSTALLED FALL HEIGHTS OF EQUIPMENT WITH FINISHED ELEVATIONS AND CRITICAL-HEIGHT VALUES OF RUBBERIZED SURFACING



2 RUBBERIZED SAFETY SURFACING - ALT. NO. 2
SCALE = 1 1/2" = 1'-0"



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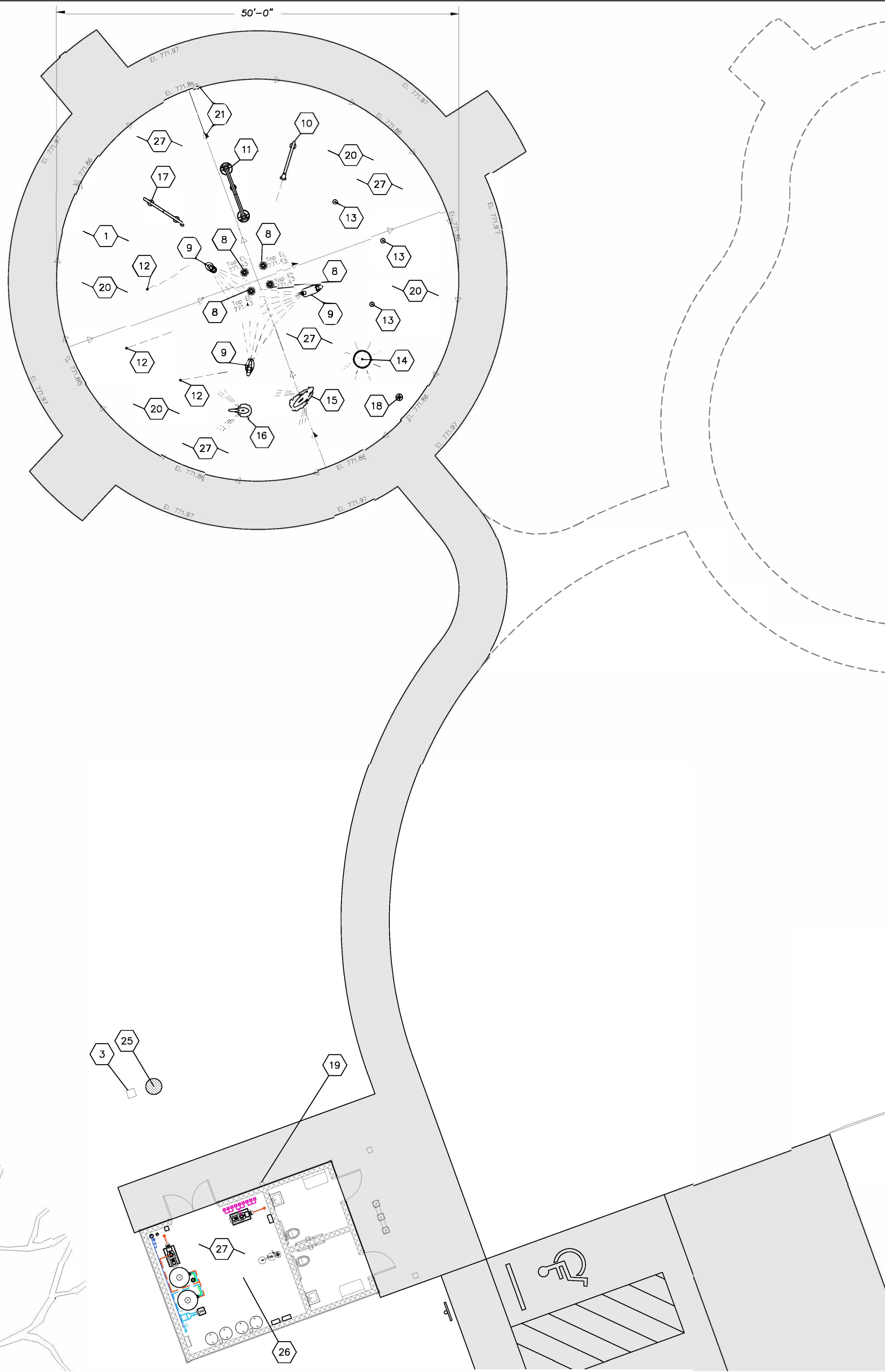
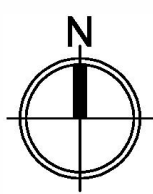
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ISSUE DATE: 3/29/2024

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DRAWN BY: BS
CHECKED BY: BS
DESIGNED BY: BS

SHEET TITLE:
**PLAYGROUND
PLAN
ALTERNATE NO. 2**

SHEET NUMBER:

Q-101

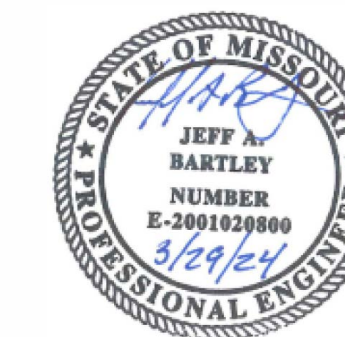


SPRAY GROUND AREA KEY NOTES

- 1 Subgrade ~ See Detail H-Q-501 (Spec 312323)
~ 12" depth of granular fill (top layer)
~ Geotextile fabric (middle layer)
~ 12" depth of structural fill (bottom layer)
~ Subgrade and backfill to be reviewed and revised as req'd by Engineer after receipt and review of Geotechnical Report
- 2 (see Sheet Q-103)
- 3 Off-season water diverter (Spec 131190)
~ Provide tee with eccentric reducer (flat side on bottom)
~ Provide valve box, with valve and operator
~ Valve normally closed, open for off-season
- 4 (see Sheet Q-103)
- 5 (see Sheet Q-103)
- 6 (see Sheet Q-103)
- 7 (see Sheet Q-103)
- 8 Drain ~ See Detail B-Q-501 (Spec 131420)
- 9 Cattails Too ~ See Detail F-Q-501, and Sheet Q-103 for data (Spec 131420)
- 10 Crooket ~ See Detail F-Q-501, and Sheet Q-103 for data (Spec 131420)
- 11 Dew Drop Buckets ~ See Detail F-Q-501, and Sheet Q-103 for data (Spec 131420)
- 12 Directional Eyeball ~ See Detail C-Q-501, and Sheet Q-103 for data (Spec 131420)
- 13 Jet Way ~ See Detail E-Q-501, and Sheet Q-103 for data (Spec 131420)
- 14 Large Stone ~ See Detail D-Q-501, and Sheet Q-103 for data (Spec 131420)
- 15 Trout Head ~ See Detail D-Q-501, and Sheet Q-103 for data (Spec 131420)
- 16 Trout Tail ~ See Detail D-Q-501, and Sheet Q-103 for data (Spec 131420)
- 17 Single Water Ring ~ See Detail F-Q-501, and Sheet Q-103 for data (Spec 131420)
- 18 Bollard activator ~ See Detail G-Q-501 (Spec 131420)
- 19 Rain and wind sensors connected to water feature controller ~ See Sheet Q-104 (Spec 131420)
- 20 6" Thick concrete deck at spray areas ~ See Detail H-Q-501 (Spec 131115)
~ Deck and drain finish surface elevations ~ Deck slopes shall be 1% min. / 2% max.
~ Water shall not be allowed to pond in any location
- 21 Construction joint ~ See Detail H-Q-501
~ Provide expansion joint between wet deck and sidewalk
- 22 (see Sheet Q-103)
- 23 (see Sheet Q-103)
- 24 (see Sheet Q-103)
- 25 Wet pit with manhole lid ~ See Sheet Q-104 (Spec 334910)
- 26 Filter area ~ See Sheet Q-104
- 27 Metallic items shall be electrically bonded per NEC 680-26 ~ See Sheet E-101

SPRAY GROUND DATA	
Spray Ground Area	1,803 S.F.

STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR



PROFESSIONAL SEAL



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PROJECT No. X2228-01
SITE No. 5302
ASSET No. 7815302065

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DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 03-29-24

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DRAWN BY: SRS
CHECKED BY: JAB
DESIGNED BY: SRS

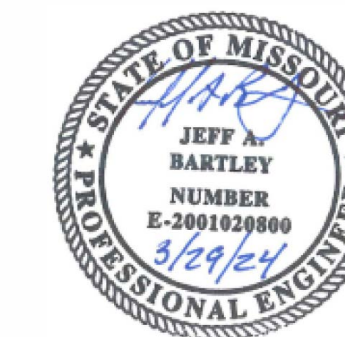
SHEET TITLE:
**SPRAY GROUND
PLAN**

SHEET NUMBER:

Q-102

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03-29-24

SPRAY GROUND PLAN
Scale: 1/8"=1'-0"



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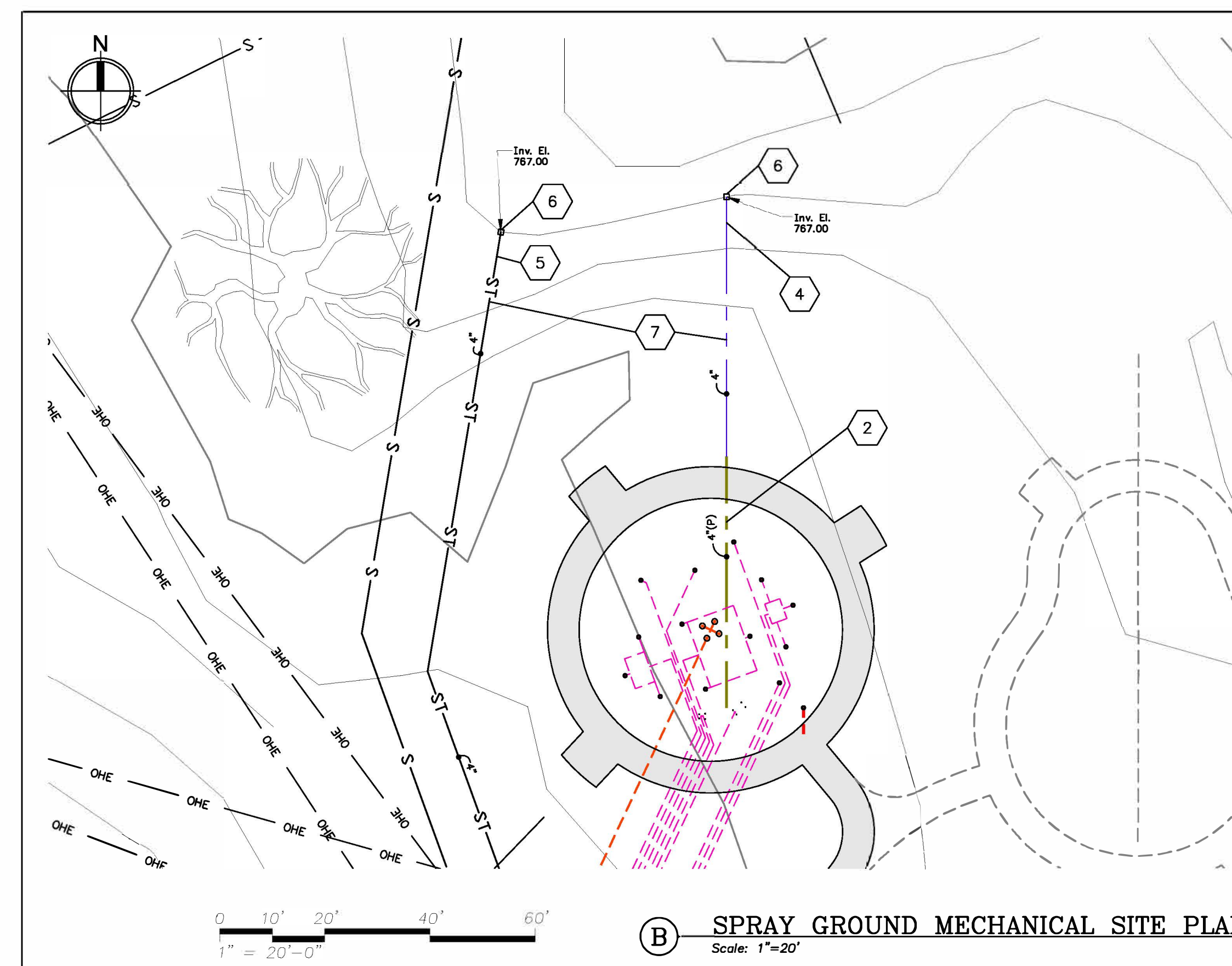
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SHEET TITLE:
**SPRAY GROUND
MECHANICAL
PLAN**

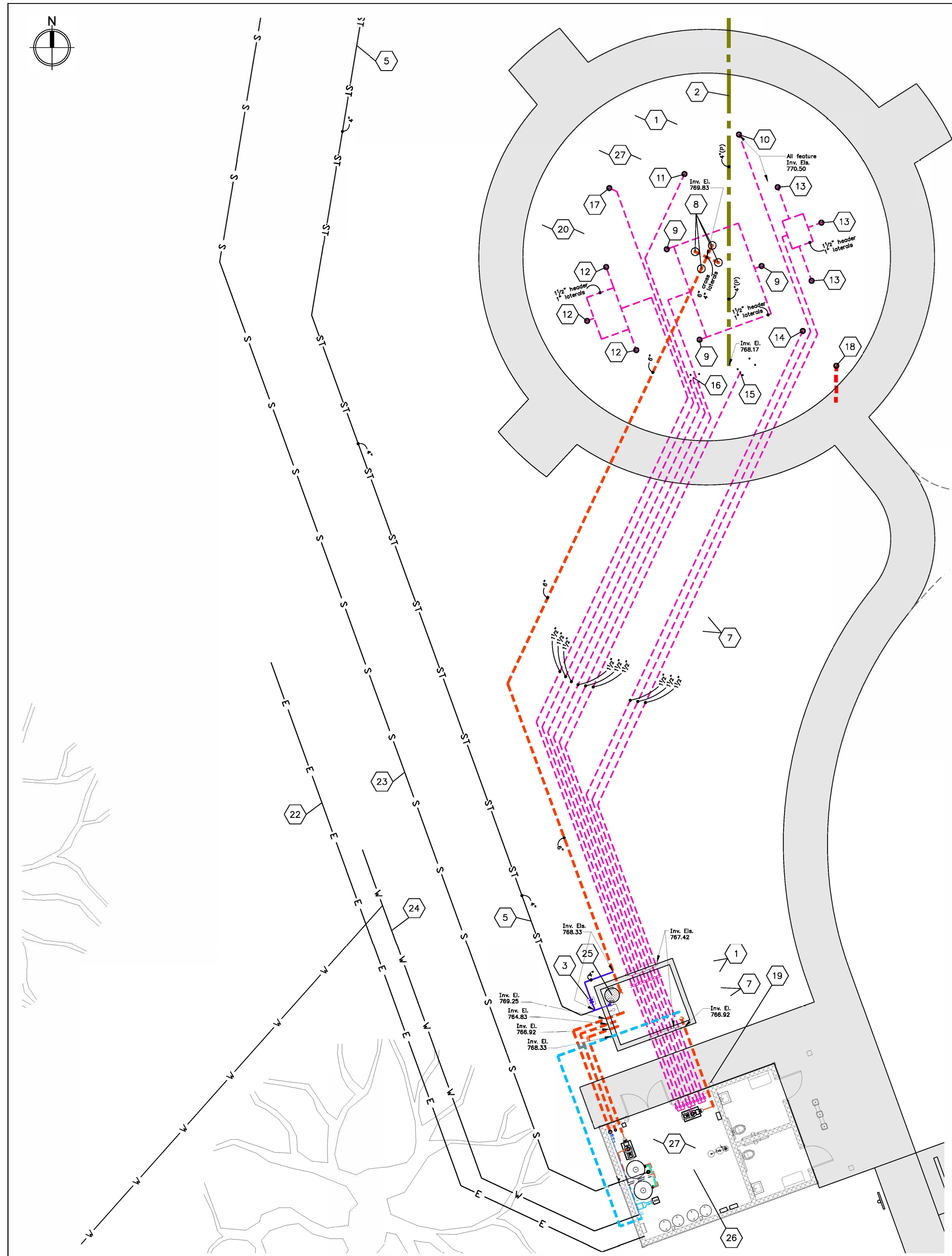
SHEET NUMBER:

Q-103

13 OF 33 SHEETS
03-29-24



B SPRAY GROUND MECHANICAL SITE PLAN
Scale: 1"=20'



A SPRAY GROUND MECHANICAL PLAN
Scale: 1/8"=1'-0"

SPRAY GROUND AREA KEY NOTES

- 1 Subgrade ~ See Detail H-Q-501 (Spec 312323)
~ 12" depth of granular fill (top layer)
~ Geotextile fabric (middle layer)
~ 12" depth of structural fill (bottom layer)
~ Subgrade and backfill to be reviewed and revised as req'd by Engineer after receipt and review of Geotechnical Report
- 2 Underdrain ~ See Detail A-Q-501 (Spec 334100)
- 3 Off-season water diverter (Spec 131190)
~ Provide tee with eccentric reducer (flat side on bottom)
~ Provide valve box, with valve and operator
~ Valve normally closed, open for off-season
- 4 Underdrain pipe to daylight (Spec 131190)
- 5 Overflow and off-season water diverter drain pipe to daylight (Spec 131190)
- 6 12" x 12" x 4" Thick concrete pad around pipe discharge ~ Provide HDG discharge screen
- 7 All piping shall slope uniformly to drain by gravity
- 8 Drain ~ See Detail B-Q-501 (Spec 131420)
- 9 Cattails Too ~ See Detail F-Q-501, and Sheet Q-103 for data (Spec 131420)
- 10 Crooket ~ See Detail F-Q-501, and Sheet Q-103 for data (Spec 131420)
- 11 Dew Drop Buckets ~ See Detail F-Q-501, and Sheet Q-103 for data (Spec 131420)
- 12 Directional Eyeball ~ See Detail C-Q-501, and Sheet Q-103 for data (Spec 131420)
- 13 Jet Way ~ See Detail E-Q-501, and Sheet Q-103 for data (Spec 131420)
- 14 Large Stone ~ See Detail D-Q-501, and Sheet Q-103 for data (Spec 131420)
- 15 Trout Head ~ See Detail D-Q-501, and Sheet Q-103 for data (Spec 131420)
- 16 Trout Tail ~ See Detail D-Q-501, and Sheet Q-103 for data (Spec 131420)
- 17 Single Water Ring ~ See Detail F-Q-501, and Sheet Q-103 for data (Spec 131420)
- 18 Ballard activator ~ See Detail G-Q-501 (Spec 131420)
- 19 Rain and wind sensors connected to water feature controller ~ See Sheet Q-104 (Spec 131420)
- 20 6" Thick concrete deck at spray areas ~ See Detail H-Q-501 (Spec 131115)
~ Deck and drain finish surface elevations ~ Deck slopes shall be 1% min. / 2% max.
~ Water shall not be allowed to pond in any location
- 21 (See Sheet Q-102)
- 22 Utility ~ Electric service ~ See Sheet C-104
- 23 Utility ~ Sanitary sewer service ~ See Sheet C-104
- 24 Utility ~ Water service ~ See Sheet C-104
- 25 Wet pit with manhole lid ~ See Sheet Q-104 (Spec 334910)
- 26 Filter area ~ See Sheet Q-104
- 27 Metallic items shall be electrically bonded per NEC 680-26 ~ See Sheet E-101

WATER FEATURE FLOW DATA				
Description	Flow	Quantity	Total Flow	Pressure
SPRAY GROUND				
Cattails Too	8 GPM	3	24 GPM	8 PSI
Crooket	18 GPM	1	18 GPM	20 PSI
Dew Drop Buckets	10 GPM	1	10 GPM	6 PSI
Directional Eyeball	4 GPM	3	12 GPM	3 PSI
Jet Way	9 GPM	3	27 GPM	4 PSI
Large Stone	10 GPM	1	10 GPM	3 PSI
Trout Head	6 GPM	1	6 GPM	3 PSI
Trout Tail	13 GPM	1	13 GPM	6 PSI
Single Water Ring	10 GPM	1	10 GPM	10 PSI
TOTAL		15	130 GPM	

PIPE TYPE NOTES	
	Spray ground system piping (main drain gutter recirc features) shall be: Sch 80 PVC
	Underdrain shall be: 4" Rigid perforated PVC ~ Indicated as 4"(RP)
	Drain piping shall be: SDR 21 PVC
	Electrical See Civil Sheets
	Sanitary sewer See Civil Sheets
	Storm sewer See Civil Sheets
	Water See Civil Sheets

- GENERAL SHEET NOTES**
1. All El.'s shown Inv. El. (+) or (-) are distances down from indicated Water El.
 2. All El.'s shown Inv. El. (+) or (-) are distances up from indicated Water El.
 3. All pipes shall slope to drain ~ Slope shall be uniform between Inv. El.'s shown, unless otherwise required to prevent piping conflicts
 4. Inv. El.'s at structures, adjacent to equipment (basket strainers, pumps, etc.), are approximate and may vary per mfr. ~ Contractor shall verify
 5. All piping through concrete structures shall be cast-in-place ~ No pipe sleeves or coring allowed
 6. Coordinate all items with piping ~ Example...fence post footings, shade column footings, etc.
 7. Tee fitting sizes shall match that of the largest connecting pipe size

FILTER AREA KEY NOTES

- 1 Precast wet pit subgrade ~ See Sheet Q-102, Key Note #1 similar (Spec 312323)
- 2 Precast wet pit with watertight pipe penetrations and designed to resist hydrostatic uplift (Spec 334910)
- 3 12"Ø x 7" deep sump
- 4 Manhole steps at 12" (Spec 334910)
- 5 Manhole ring and lid (Spec 334910)
- 8 Spray ground drain pipe to wet pit (Spec 131190)
- 7 Butterfly valve in wet pit for off-season water diverter to daylight ~ Valve normally open, closed for off-season (Spec 131190)
- 8 Butterfly valve in valve box for off-season water diverter to daylight ~ Provide tee with eccentric reducer (flat side on bottom) ~ Valve normally closed, open for off-season
- 9 Off-season water diverter pipe (Spec 131190)
- 10 Overflow elbow ~ Set rim at El. 769.50 (Spec 131190)
- 11 Overflow and off-season water diverter drain pipe to daylight (Spec 131190)
- 12 3" Recirc pump suction ~ Provide foot check valve, screen, and drain valve ~ Set suction 6" above pit floor (Spec 131190)
- 13 Recirc pump with integral basket strainer, valves on suction and discharge, and gauges on suction and discharge (Spec 131185)
- 14 3" Recirc pump discharge/filter influent (Spec 131190)
- 15 Flowmeter on recirc/water feature pump discharge (Spec 131185)
~ Provide sign by flowmeter readout
~ Recirc rate = 100 GPM ~ Backwash rate = 74 GPM
~ Water feature = 130 GPM
- 16 3" Filter face piping (Spec 131185)
- 17 2'-6" Diameter fiberglass filter with multiport valve, filter pressure gauges panel, and air release valves (Spec 131185)
- 18 3" Filter effluent/recirc pipe (Spec 131190)
- 19 Connection to chemical controller
- 20 Connection to UV system with isolation valve (tee and ball valve shall be Base Bid)
- 21 UV system cylinder (Alternate No. 1) (Spec 131185)
- 22 UV system inline strainer (Alternate No. 1) (Spec 131185)
- 23 Connection from UV system with isolation valve (tee and ball valve shall be Base Bid)
- 24 UV system bypass with isolation valve (Alternate No. 1)
- 25 UV system controller (Alternate No. 1) (Spec 131185)
- 26 Recirc throttling valve (Spec 131190)
- 27 Connection from muriatic acid feeder
- 28 Connection from sodium hypochlorite feeder
- 29 3" Recirc effluent discharge at water feature pump suction ~ Support with stainless steel anchors
- 30 3" Filter backwash discharge piping with throttling valve
- 31 8x6 Reducer funnel ~ 6" Drain pipe connected to existing sanitary sewer ~ Provide P-trap and vent ~ See Sheet C-104
- 32 Chemical controller ~ See Detail A-Q-502 (Spec 131187)

- 33 Sodium hypochlorite feeder ~ See Detail B-Q-502 (Spec 131185)
- 34 Sodium hypochlorite drum ~ See Detail B-Q-502 (Spec 131185)
- 35 Muriatic acid feeder ~ See Detail B-Q-502 (Spec 131185)
- 36 Muriatic acid drum ~ See Detail B-Q-502 (Spec 131185)
- 37 Emergency shower/eye wash (Spec 131192)
- 38 4" Water feature pump suction adjacent to filter/recirc effluent ~ Provide foot check valve, screen, and drain valve ~ Set suction 6" above pit floor
- 39 Water features pump with integral basket strainer on concrete base, valves on suction and discharge, and gauges on suction and discharge (Spec 131185)
- 40 3" Water feature pump discharge (Spec 131190)
- 41 Manifold with pressure gauge, inlet valve, ball valves, solenoid valves, air release valve, drain valves, and water hammer arrestor (Spec 131420)
- 42 1/2" Directional Eyeball feature supply (Spec 131190)
- 43 1/2" Water Ring feature supply (Spec 131190)
- 44 1/2" Dew Buckets feature supply (Spec 131190)
- 45 1/2" Trout Tail feature supply (Spec 131190)
- 46 1/2" CatTails Too feature supply (Spec 131190)
- 47 1/2" Trout Head feature supply (Spec 131190)
- 48 1/2" Large Stone feature supply (Spec 131190)
- 49 1/2" Crooket feature supply (Spec 131190)
- 50 1/2" Jet Way feature supply (Spec 131190)
- 51 Tee and 1/2" drain valve (Spec 131190)
- 52 Water feature controller (Spec 131420)
- 53 Water feature rain and wind sensor (Spec 131420)
- 54 Sump pump for wet pit ~ Install in wet pit only as needed during offseason ~ Provide quick connect in piping (Spec 131185)
- 55 1/2" Discharge pipe with ball valve to overflow 90 degree elbow (Spec 131190)
- 56 Low water cut-off float switch and baffle ~ See Detail C-Q-502 ~ Set cut-off 1'-6" above pit floor
- 57 2" water supply ~ See Sheet P-101
- 58 Isolation valve (Spec 131190)
- 59 2" wet pit water fill with ball valve ~ Provide 6" air gap (Spec 131190)
- 60 1" wet pit water make-up with solenoid valve and water meter ~ Provide 6" air gap (Spec 131190 and 131192)
- 61 4x6 Reducer funnel (Spec 131190)
- 62 4" Standpipe from filter area to wet pit for water fill, water make-up, and chemical controller discharge (Spec 131190)
- 63 2" Standpipe from filter area to wet pit for water make-up sensor probe ~ Set probe 2'-6" above pit floor (Spec 131190)
- 64 Water make-up controller ~ Receive signal from sensor probe ~ Send signal to solenoid valve (Spec 131185)
- 65 Provide 1/2" thick closed cell foam wrap around pipe penetrating building footings
- 66 Building ~ See Architectural and Structural Sheets

PUMP DATA							
Spray Ground Pump Description	Flow (gpm)	TDH (ft.)	Shut-off Head (max.) (ft.)	Efficiency +/- 5%	HP	RPM	VFD
Recirc	100	40	17	62	1.5	3,450	Stand Alone
Water Features	130	46	20	66	5	3,500	Stand Alone

FILTER DATA												
Location	Volume (gallons)	Recirc Rate (GPM)	Filter Size (dia.) (ft.)	Quantity or Cells	Filter Area Each (s.f.)	Filter Area Total (s.f.)	Filter Loading Rate (gpm/s.f.)	Average Turnover (hours)	Backwash Rate at 15 gpm*s.f. (gpm)	Backwash Time (minutes)	Backwash Volume Each (gal.)	Backwash Volume Total (gal.)
Spray Ground	3,000	100	2.50	2	4.91	9.81	10.19	0.50	74	5	368	736

MAXIMUM PIPE SUPPORT SPACING (Feet) **			
Pipe Size	Sch 80 PVC	Ductile Iron	Copper (L&K)
1/2"	4.5	-	5.0
3/4"	4.5	-	5.0
1"	5.0	-	6.0
1 1/4"	5.0	-	7.0
1 1/2"	5.5	-	8.0
2"	6.0	-	8.0
2 1/2"	6.0	-	9.0
3"	7.0	-	10.0
4"	7.5	*	12.0
5"	-	-	13.0
6"	9.0	*	14.0
8"	9.5	*	16.0
10"	10.0	*	18.0
12"	11.5	*	19.0
14"	-	*	-
16"	-	*	-

* Maximum support spacing of 20 Ft. Provide a minimum of 1 hanger as close as practical to the joint behind the bell, and at changes of direction and branch connections.

** Unless shown or noted otherwise

- | PIPING NOTES | |
|--------------|---|
| 1. | Pipe type shall be Sch 80 PVC unless noted otherwise |
| 2. | Pipe type shall be CPVC for all piping downstream of pool heaters |
| 3. | Refer to Pool Mechanical Sheets for pipe types beyond the building |
| 4. | Pipe sizes are identified in inches on the drawings |
| 5. | Pipe connection hardware shall be S.S. within Pool Mechanical Room |
| 6. | Contractor shall provide and install uniflanges/unions as req'd |
| 7. | Sch 80 PVC fittings may be solvent weld or flanged at Contractor's option shall be flanged |
| 8. | All piping and fittings at equipment (filters, pumps, valves, etc.) shall be flanged ~ PVC flanges at fittings shall be male type as shown |
| 9. | Refer to Maximum Pipe Support Spacing Schedule for frequency and spacing of pipe supports ~ At minimum, Contractor shall support piping as indicated on schedule which may require more supports than indicated on drawings |
| 10. | All pipe supports shall be 316 S.S. or FRP |
| 11. | All hardware shall be S.S. |
| 12. | Provide air release valve at all high loops in piping |
| 13. | All piping shall slope to drain by gravity |
| 14. | Provide drain valve at all low points in piping |
| 15. | Provide drain valve at normally closed solenoid valve or check valve, or provide true unions, to allow for winter drainage |
| 16. | All piping through concrete structures shall be cast-in-place ~ No pipe sleeves or coring allowed |
| 17. | Provide compound pressure gauge on all pump suction |
| 18. | Provide pressure gauge on all pump discharges |
| 19. | All piping and conduit shall be mounted along wall, ceiling, etc. (not in foot traffic) |

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SPLASH PAD
AND ASSOCIATED
INFRASTRUCTURE
IMPROVEMENTS
BENNETT SPRING
STATE PARK
26250 HWY 64A
LEBANON, MO 65536

PROJECT No. X2228-01
SITE No. 5302
ASSET No. 7815302065

REVISION: _____
DATE: _____
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DATE: _____
ISSUE DATE: 03-29-24

CAD DWG FILE: cpn01.dwg
DRAWN BY: SRS
CHECKED BY: JAB
DESIGNED BY: SRS

SHEET TITLE:
**FILTER AREA
KEY NOTES
AND DATA**

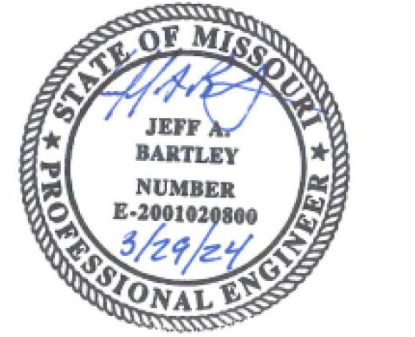
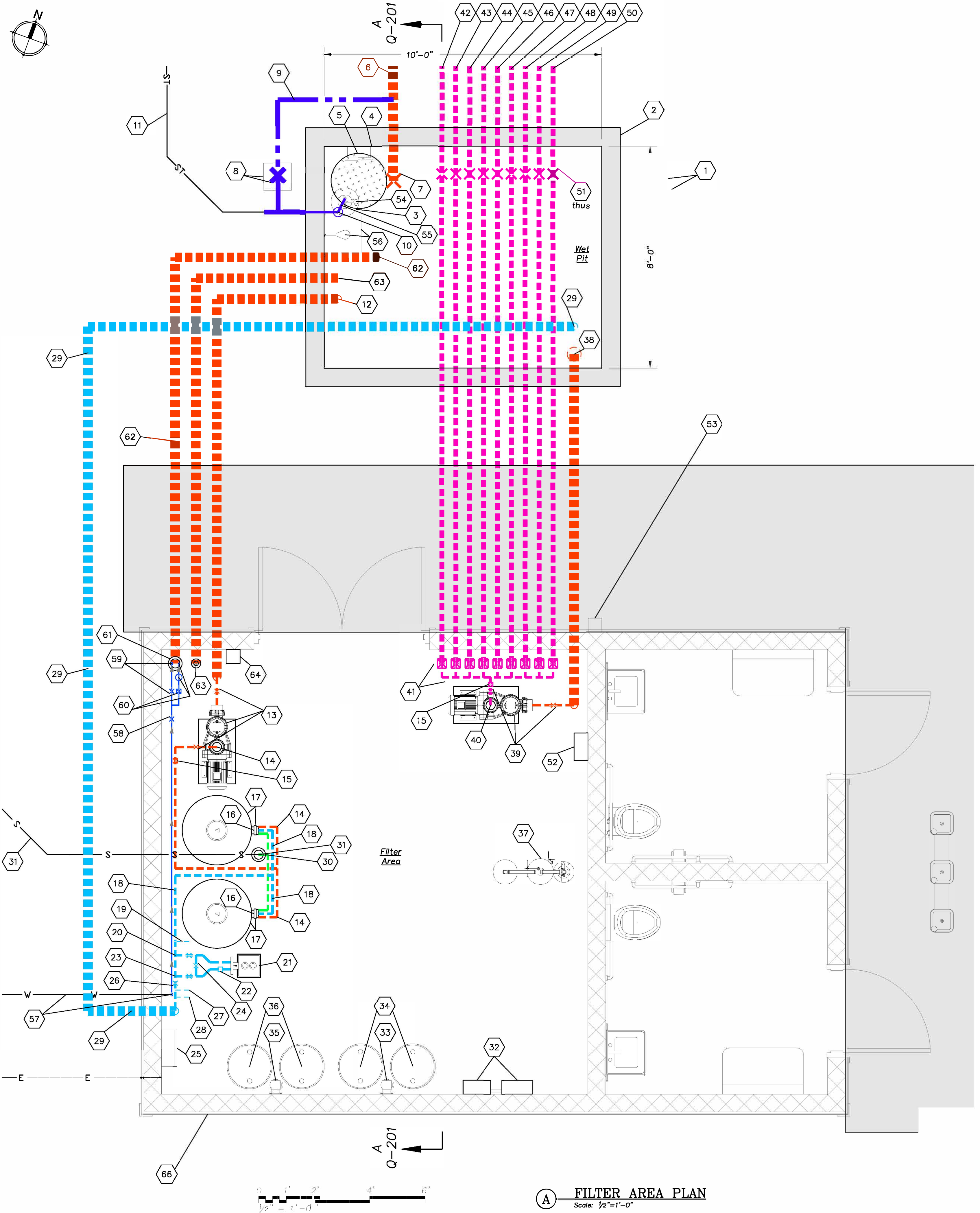
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14 OF 33 SHEETS
03-29-24

FILTER AREA KEY NOTES

- 1 Precast wet pit subgrade ~ See Sheet Q-102, Key Note #1 similar (Spec 312323)
- 2 Precast wet pit with watertight pipe penetrations and designed to resist hydrostatic uplift (Spec 334910)
- 3 12" x 7" deep sump
- 4 Manhole steps at 12" (Spec 334910)
- 5 Manhole ring and lid (Spec 334910)
- 6 Spray ground drain pipe to wet pit (Spec 131190)
- 7 Butterfly valve in wet pit for off-season water diverter to daylight ~ Valve normally open, closed for off-season (Spec 131190)
- 8 Butterfly valve in valve box for off-season water diverter to daylight ~ Provide tee with eccentric reducer (flat side on bottom) ~ Valve normally closed, open for off-season
- 9 Off-season water diverter pipe (Spec 131190)
- 10 Overflow elbow ~ Set rim at El. 769.50 (Spec 131190)
- 11 Overflow and off-season water diverter drain pipe to daylight (Spec 131190)
- 12 3" Recirc pump suction ~ Provide foot check valve, screen, and drain valve ~ Set suction 6" above pit floor (Spec 131190)
- 13 Recirc pump with integral basket strainer, valves on suction and discharge, and gauges on suction and discharge (Spec 131185)
- 14 3" Recirc pump discharge/filter influent (Spec 131190)
- 15 Flowmeter on recirc/water feature pump discharge (Spec 131185)
~ Provide sign by flowmeter readout
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~ Water feature = 130 GPM
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- 20 Connection to UV system with isolation valve (tee and ball valve shall be Base Bid)
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- 24 UV system bypass with isolation valve (Alternate No. 1)
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- 26 Recirc throttling valve (Spec 131190)
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- 33 Sodium hypochlorite feeder ~ See Detail B-Q-502 (Spec 131185)
- 34 Sodium hypochlorite drum ~ See Detail B-Q-502 (Spec 131185)
- 35 Muriatic acid feeder ~ See Detail B-Q-502 (Spec 131185)
- 36 Muriatic acid drum ~ See Detail B-Q-502 (Spec 131185)
- 37 Emergency shower/eye wash (Spec 131192)
- 38 4" Water feature pump suction adjacent to filter/recirc effluent ~ Provide foot check valve, screen, and drain valve ~ Set suction 6" above pit floor
- 39 Water features pump with integral basket strainer on concrete base, valves on suction and discharge, and gauges on suction and discharge (Spec 131185)
- 40 3" Water feature pump discharge (Spec 131190)
- 41 Manifold with pressure gauge, inlet valve, ball valves, solenoid valves, air release valve, drain valves, and water hammer arrestor (Spec 131420)
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- 55 1/2" Discharge pipe with ball valve to overflow 90 degree elbow (Spec 131190)
- 56 Low water cut-off float switch and baffle ~ See Detail C-Q-502 ~ Set cut-off 1'-6" above pit floor
- 57 2" water supply ~ See Sheet P-101
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- 64 Water make-up controller ~ Receive signal from sensor probe ~ Send signal to solenoid valve (Spec 131185)
- 65 (see Sheet Q-201)
- 66 Building ~ See Architectural and Structural Sheets



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LEBANON, MO 65536

PROJECT No. X2228-01
SITE No. 5302
ASSET No. 7815302065

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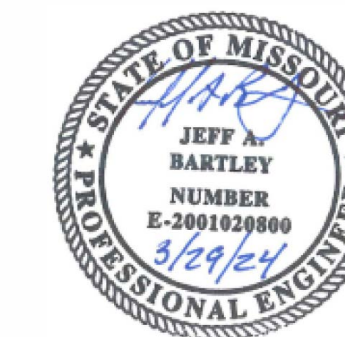
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CHECKED BY: JAB
DESIGNED BY: SRS

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**FILTER
AREA
PLAN**

SHEET NUMBER:

Q-104

15 OF 33 SHEETS
03-29-24



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SHEET TITLE:
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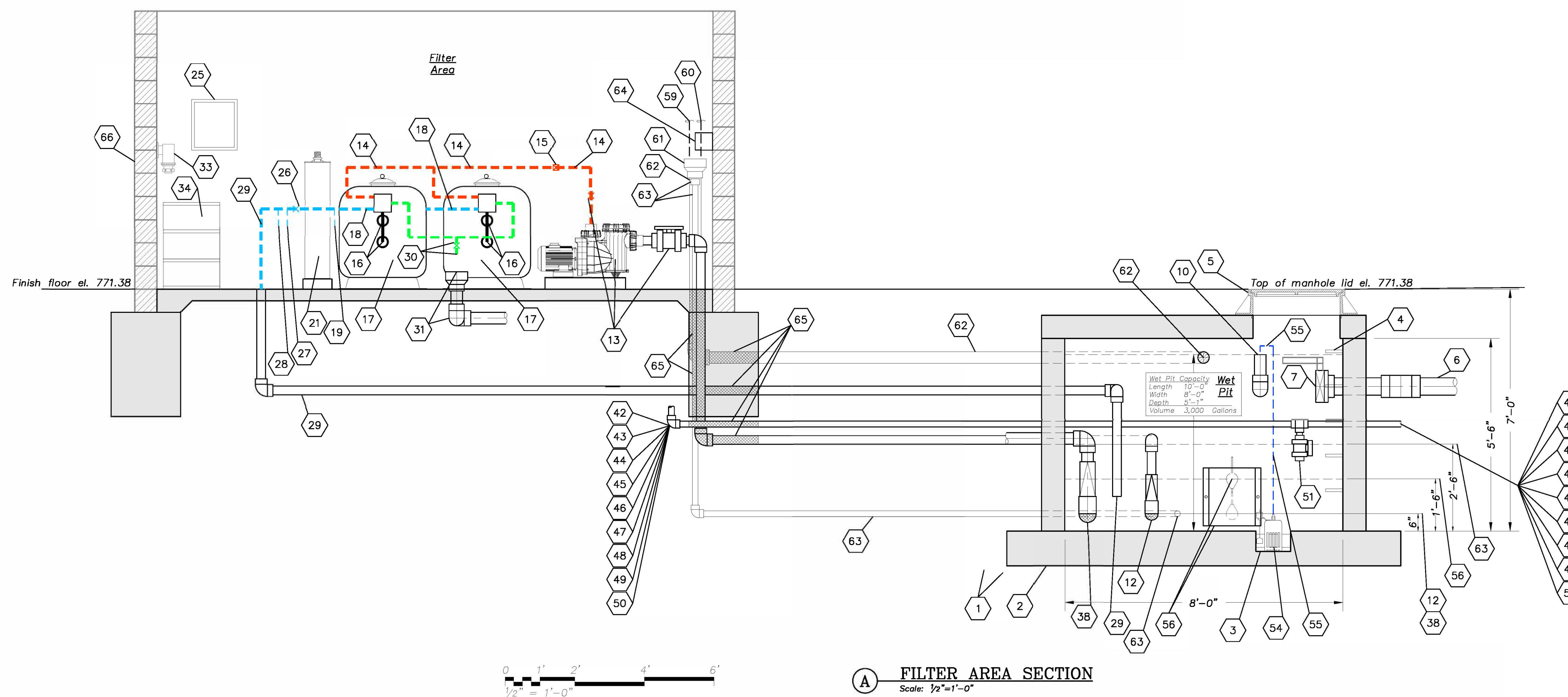
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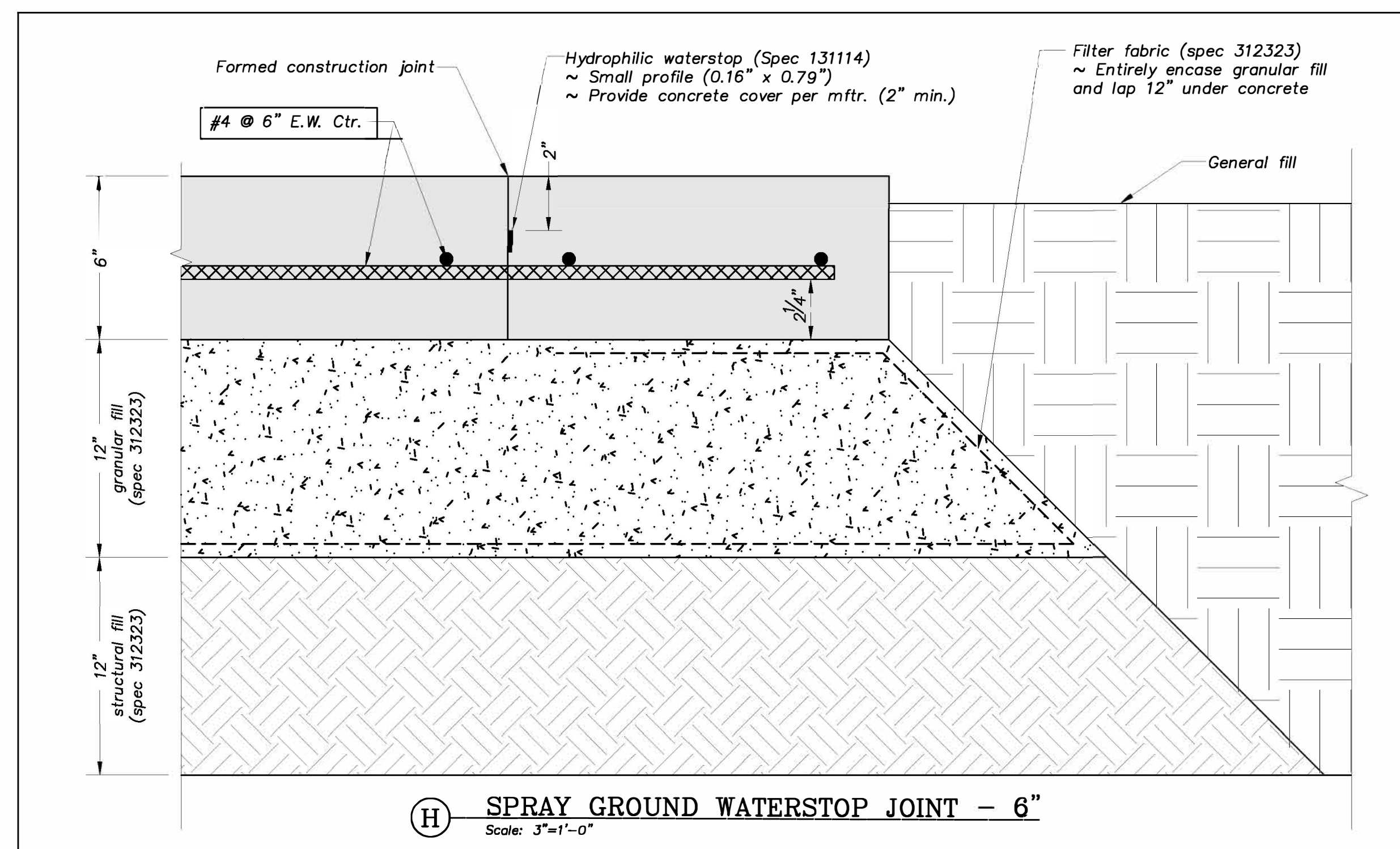
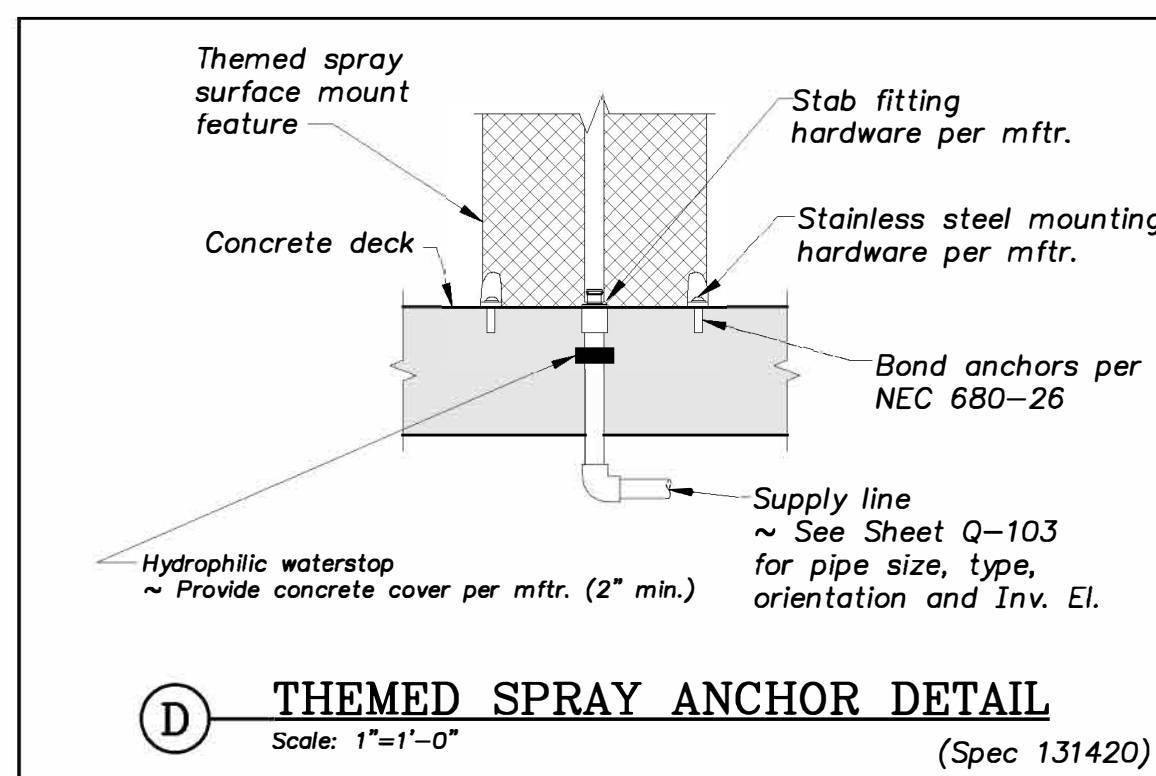
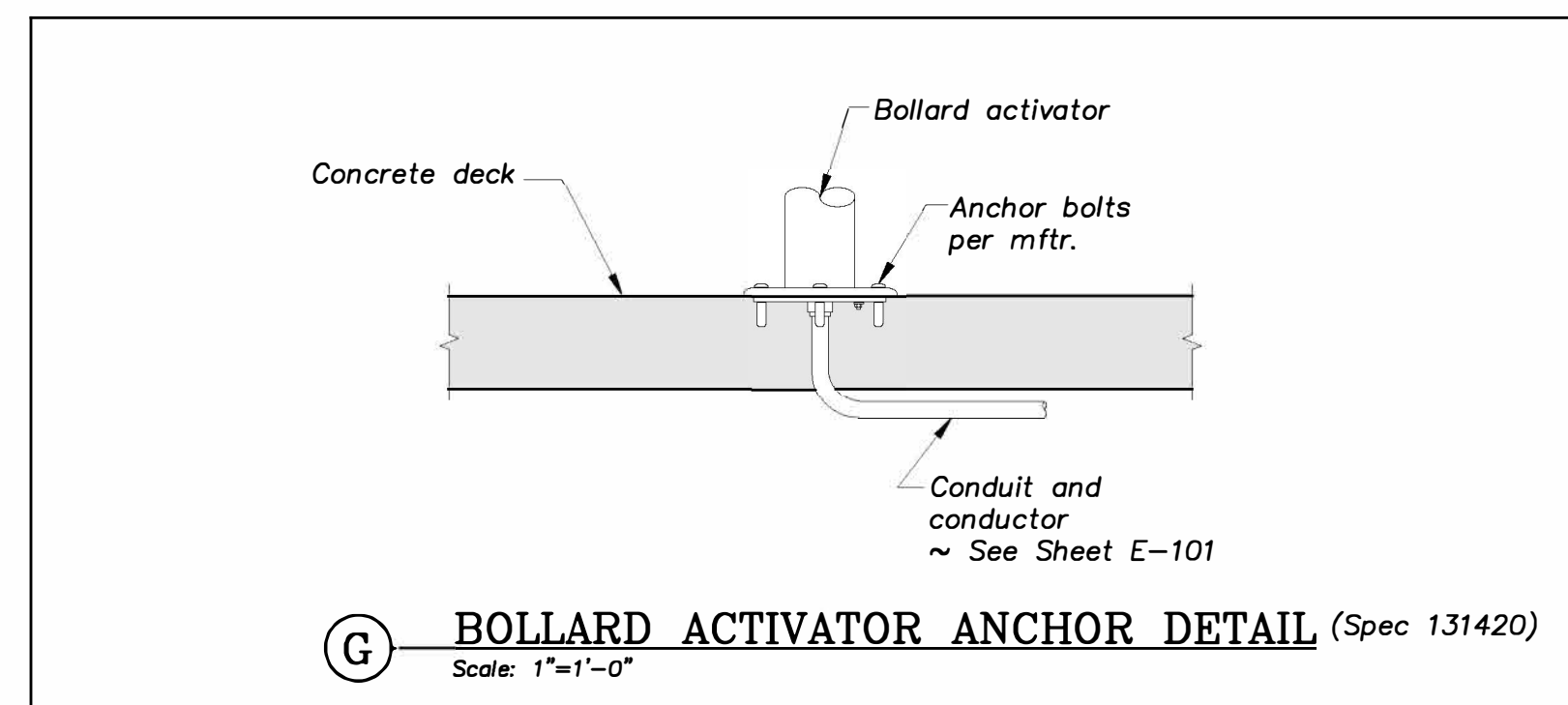
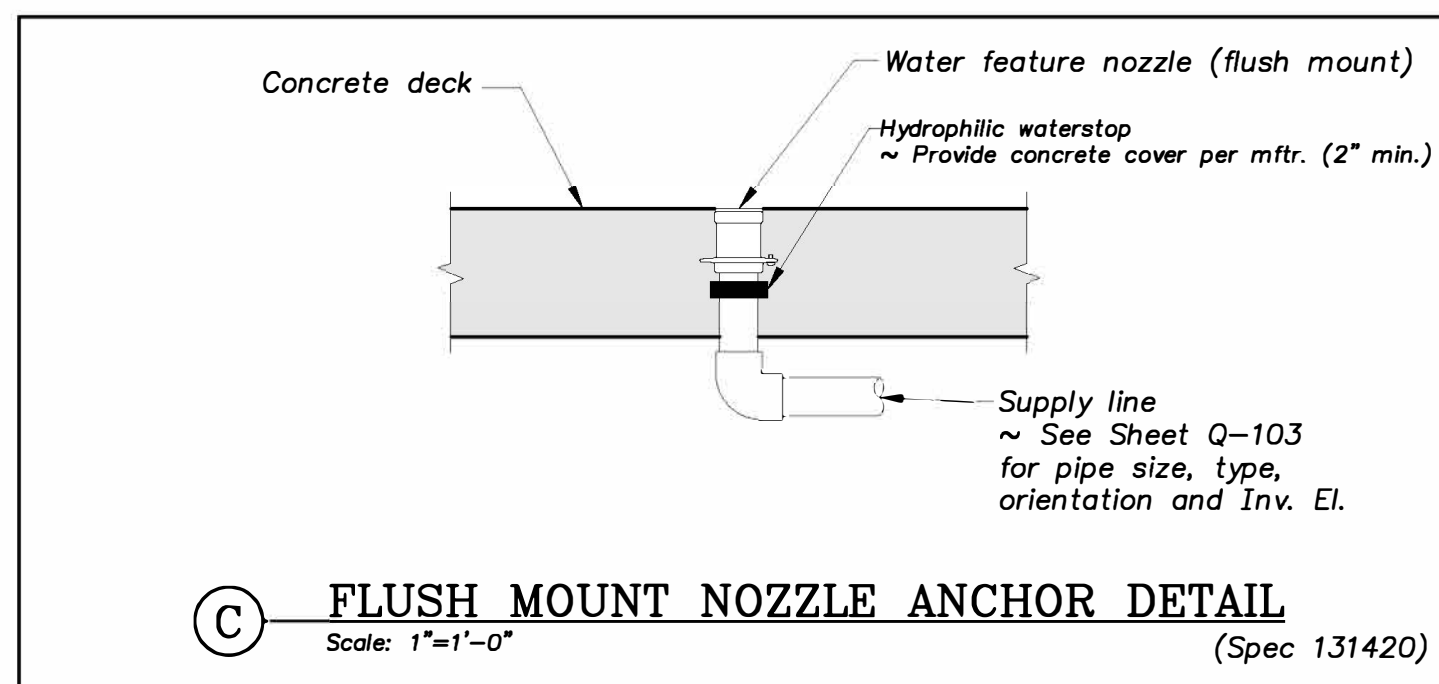
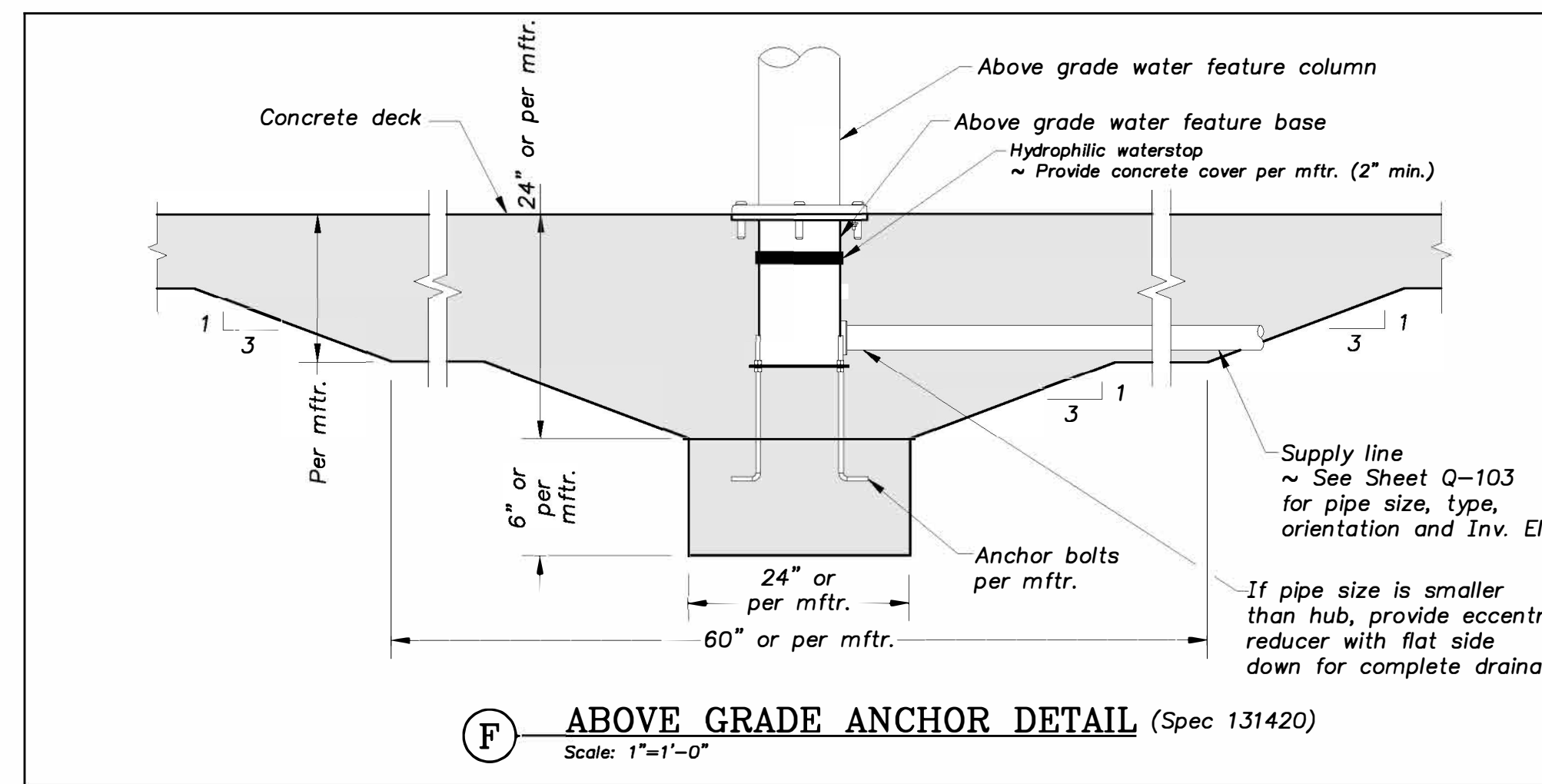
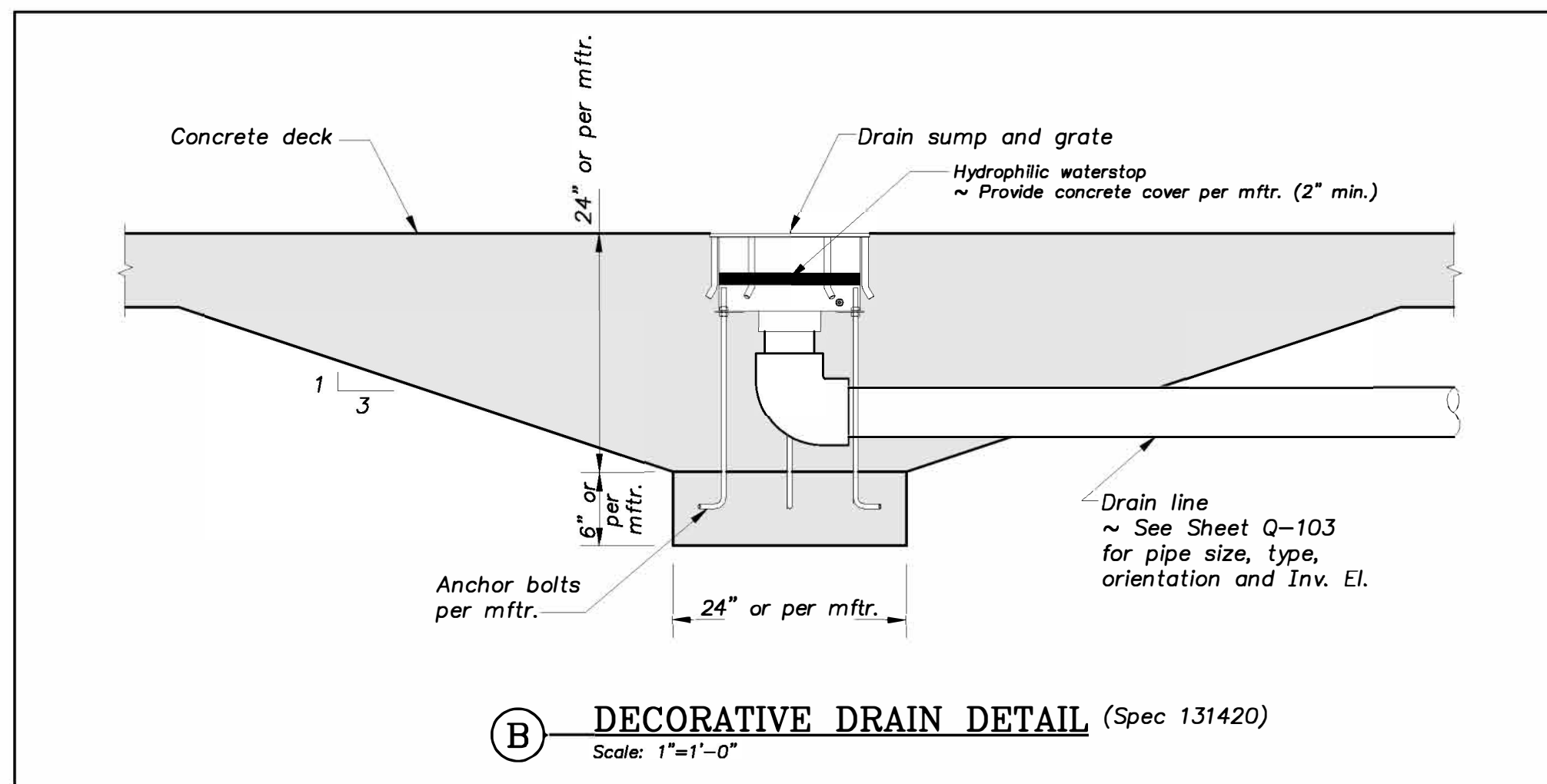
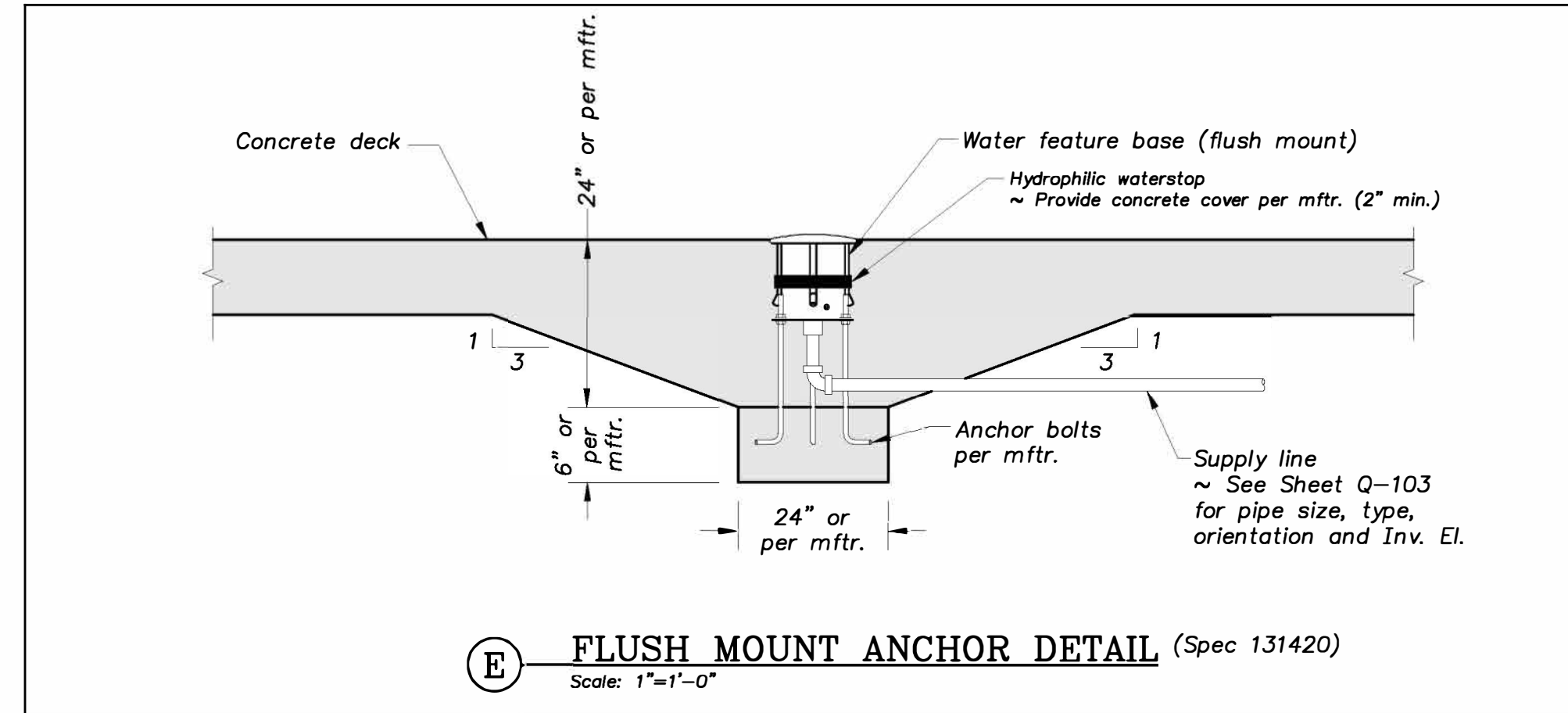
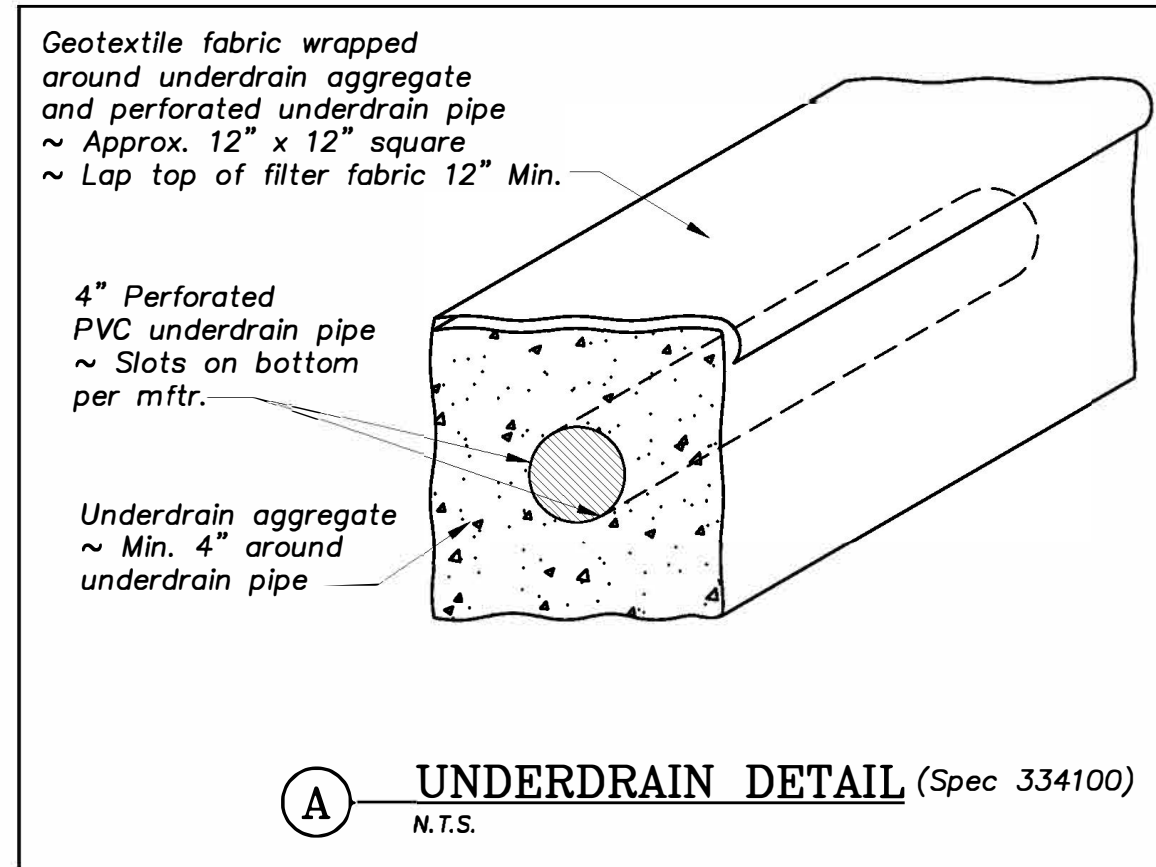
Q-201

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03-29-24

FILTER AREA KEY NOTES

- | | |
|--|---|
| <p>1 Precast wet pit subgrade ~ See Sheet Q-102, Key Note #1 similar (Spec 312323)</p> <p>2 Precast wet pit with watertight pipe penetrations and designed to resist hydrostatic uplift (Spec 334910)</p> <p>3 12"Ø x 7" deep sump</p> <p>4 Manhole steps at 12" (Spec 334910)</p> <p>5 Manhole ring and lid (Spec 334910)</p> <p>6 Spray ground drain pipe to wet pit (Spec 131190)</p> <p>7 Butterfly valve in wet pit for off-season water diverter to daylight ~ Valve normally open, closed for off-season (Spec 131190)</p> <p>8 (see Sheet Q-104)</p> <p>9 (see Sheet Q-104)</p> <p>10 Overflow elbow ~ Set rim at El. 769.50 (Spec 131190)</p> <p>11 (see Sheet Q-104)</p> <p>12 3" Recirc pump suction ~ Provide foot check valve, screen, and drain valve ~ Set suction 6" above pit floor (Spec 131190)</p> <p>13 Recirc pump with integral basket strainer, valves on suction and discharge, and gauges on suction and discharge (Spec 131185)</p> <p>14 3" Recirc pump discharge/filter influent (Spec 131190)</p> <p>15 Flowmeter on recirc/water feature pump discharge (Spec 131185)
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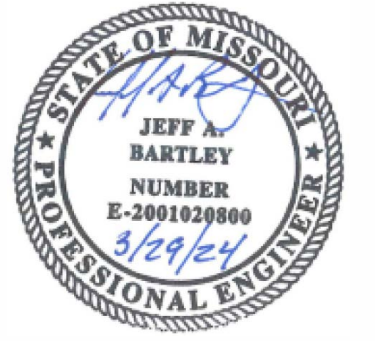
LAP LENGTH SCHEDULE		
BAR SIZE	LAP LENGTH	HOOK LENGTH
#3	19"	7"
#4	26"	10"
#5	31"	12"
#6	37"	15"
#7	54"	17"
#8	62"	19"

- NOTES:
- Bar lap length of smaller diameter bar shall be used when splicing different size bars.
 - Lap splices shall be wired in contact.
 - Tabulated values are based on 4000 psi, normal weight concrete with Grade 60 reinf.

CONCRETE PROTECTION FOR REINFORCEMENT	
CONDITION	MIN. COVER (INCHES)
Concrete cast against and permanently exposed to earth, subgrade, or granular fill	3"
Formed or top surfaces exposed to weather, submerged, or in contact with earth, including stirrups, ties, or spirals	2"
Formed concrete not exposed to earth, liquids, or weather:	
Slabs, walls, and joists	1 1/2"
Beams and columns primary reinforcement, ties, stirrups, and spirals	1 1/2"

- NOTES:
- The above minimum concrete cover shall be provided for reinforcement unless noted otherwise.
 - Placing reinforcement tolerances:
 - For members less than or equal to 8" Tolerance = (± 3/8")
 - For members greater than 8" Tolerance = (± 1/2")

- GENERAL SHEET NOTES
- All El.'s shown (-).xx', are distances down from indicated Water El.
 - All El.'s shown (+).xx', are distances up from indicated Water El.
 - Form savers may be used at Contractor's option.
 - Hold waterstop 1/2" clear Min. from reinforcing. Tie to reinforcing/tie rod @ 6" O.C.
 - All form ties shall be 1/2" deep, cone snap type



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SPLASH PAD
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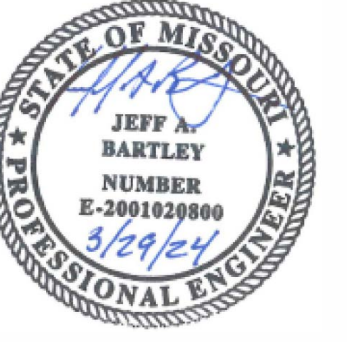
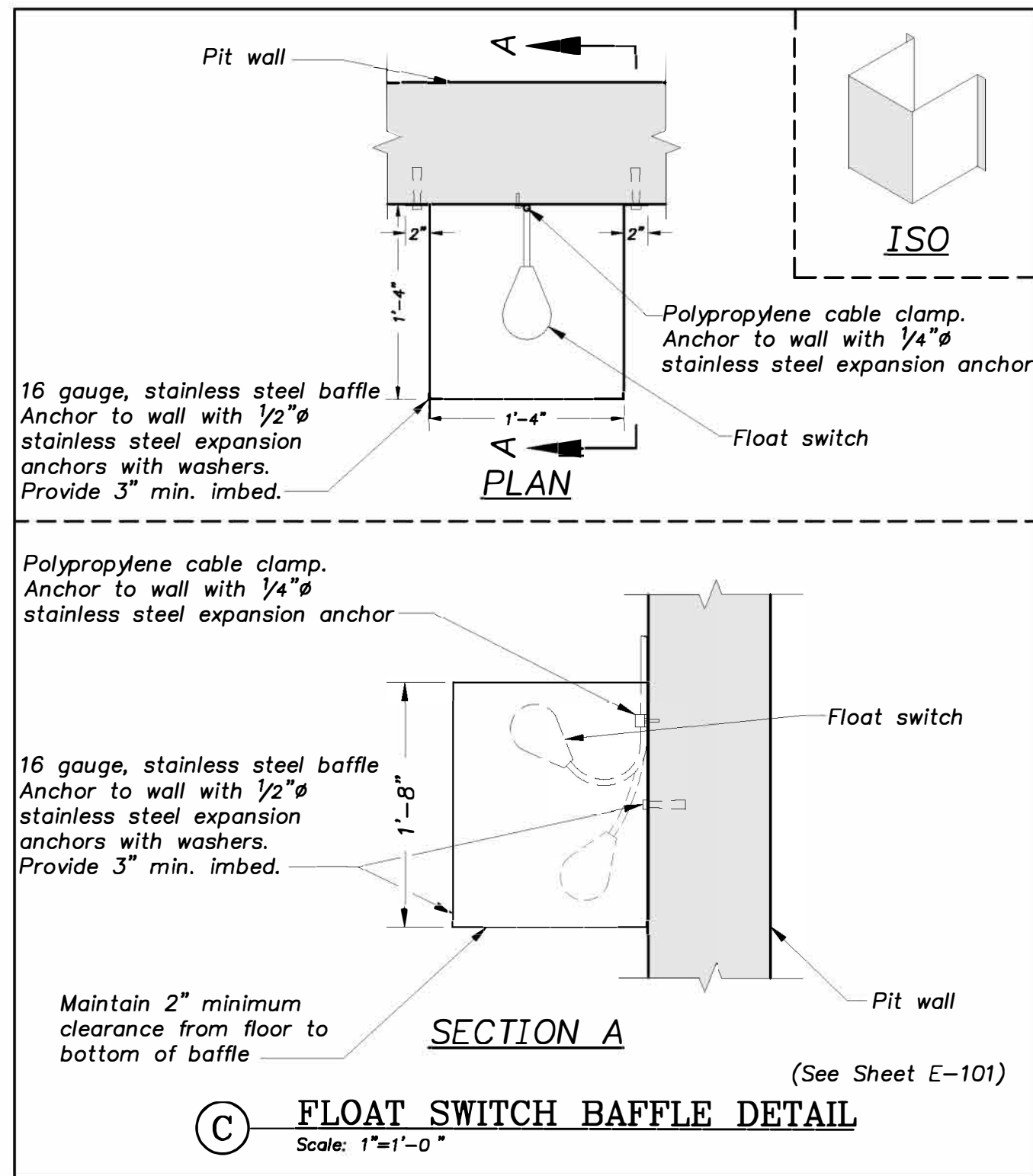
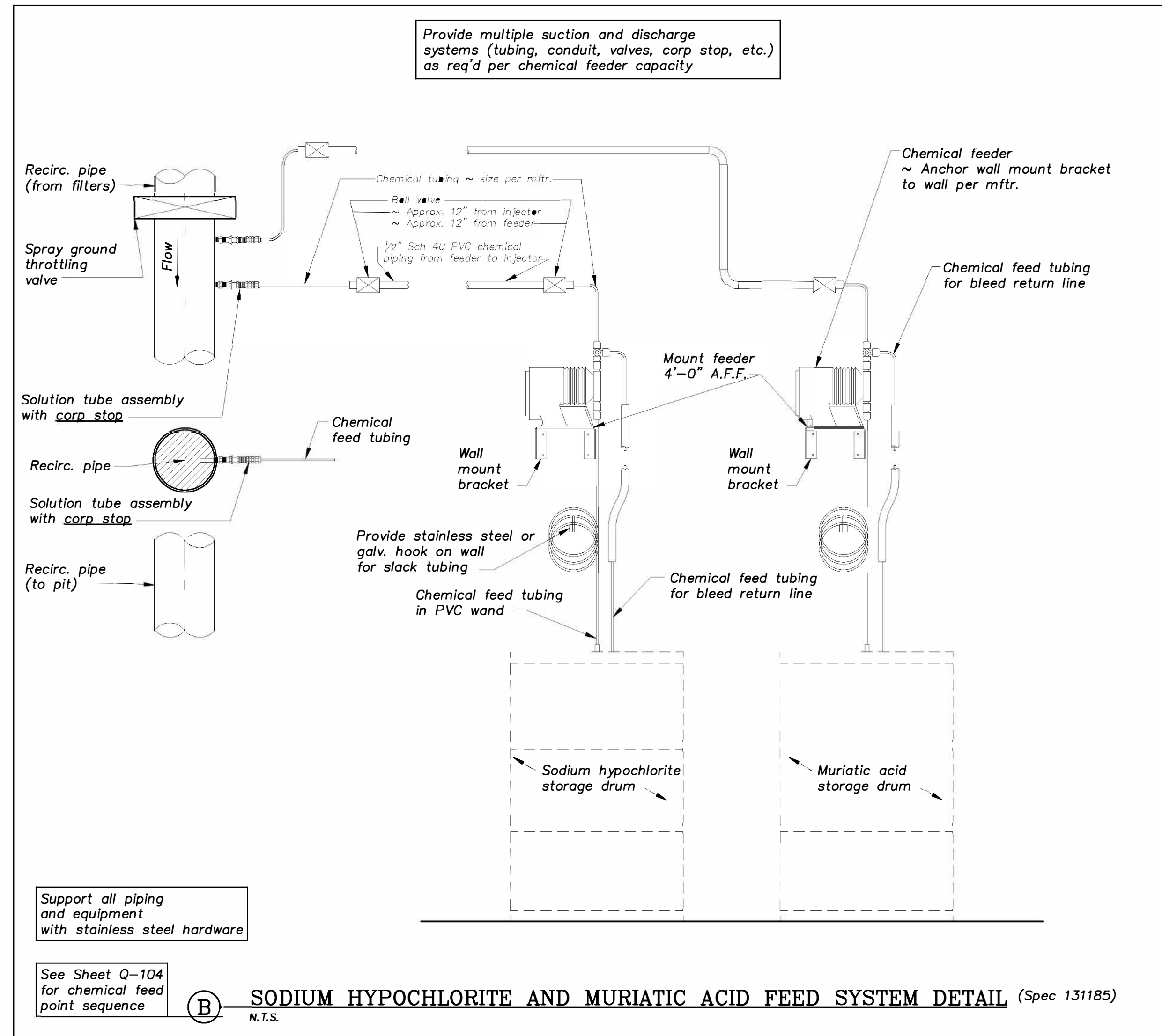
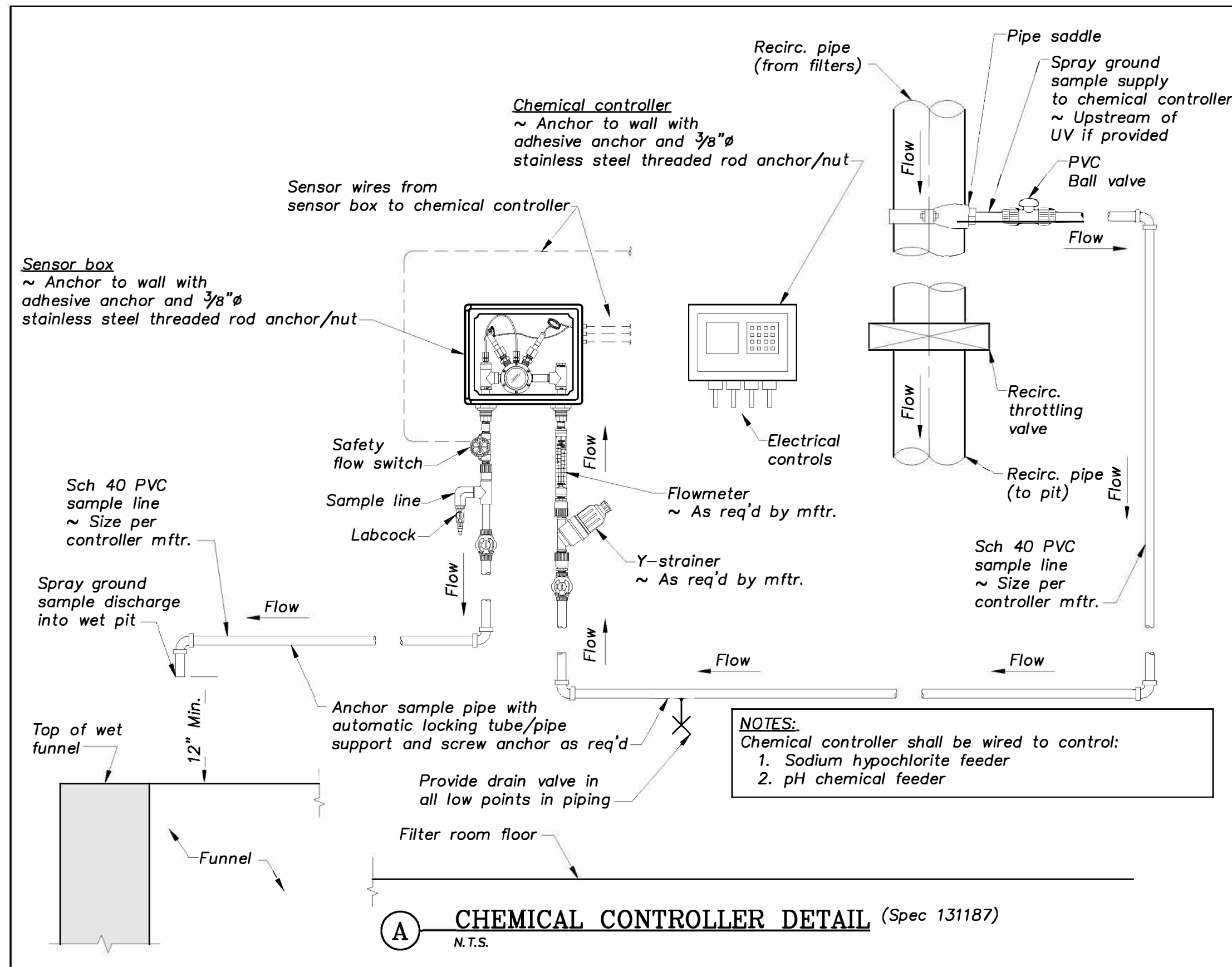
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DRAWN BY: SRS
CHECKED BY: JAB
DESIGNED BY: SRS

SHEET TITLE:
**SPRAY GROUND
MECHANICAL
DETAILS**

SHEET NUMBER:

Q-501

17 OF 33 SHEETS
03-29-24



PROFESSIONAL SEAL



sfsarchitecture



STAND



HOSS & BROWN

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26250 HWY 64A
LEBANON, MO 65536

PROJECT No. X2228-01
SITE No. 5302
ASSET No. 7815302065

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____

ISSUE DATE: 03-29-24

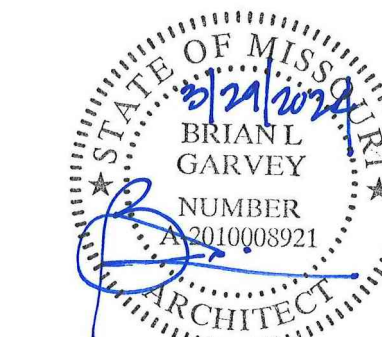
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DRAWN BY: SRS
CHECKED BY: JAB
DESIGNED BY: SRS

SHEET TITLE:
**FILTER
AREA
DETAILS**

SHEET NUMBER:

Q-502

18 OF 33 SHEETS
03-29-24



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PROJECT NO. X2228-01
SITE NO. 5302
ASSET NO. 7815

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE: 03/29/2024

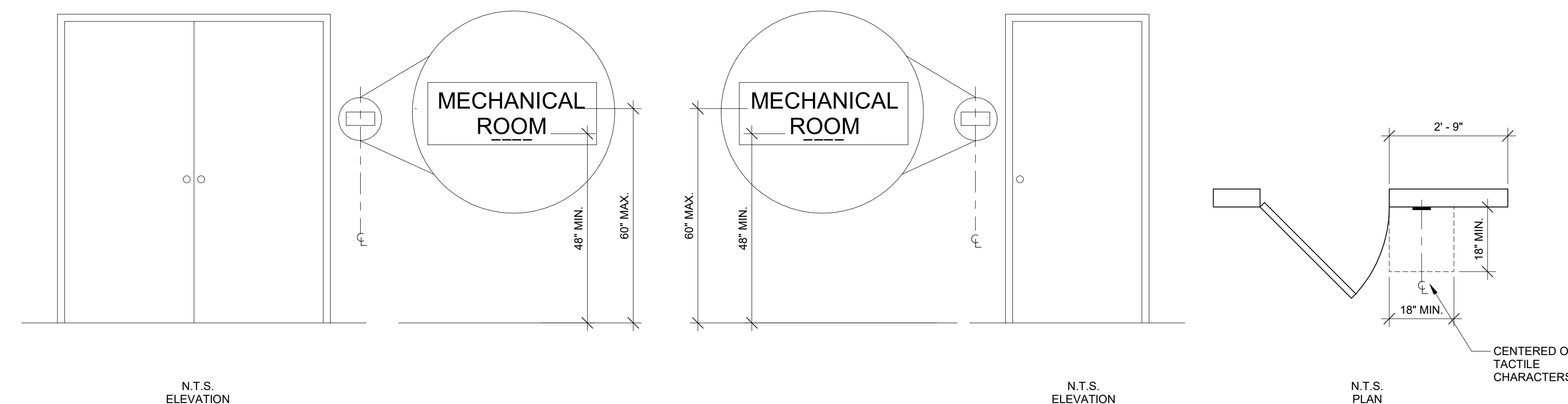
CAD DWG FILE: X2228-01-A-001.dwg
DRAWN BY: SFS
CHECKED BY: SFS
DESIGNED BY: SFS

SHEET TITLE:
**TYPICAL
CLEARANCES &
MOUNTING HTS**

SHEET NUMBER:

A-001

19 OF 33 SHEETS
03/29/2024



WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS WITH TWO ACTIVE LEAFS, THE SIGN SHALL BE LOCATED TO THE RIGHT OF THE RIGHT HAND DOOR.

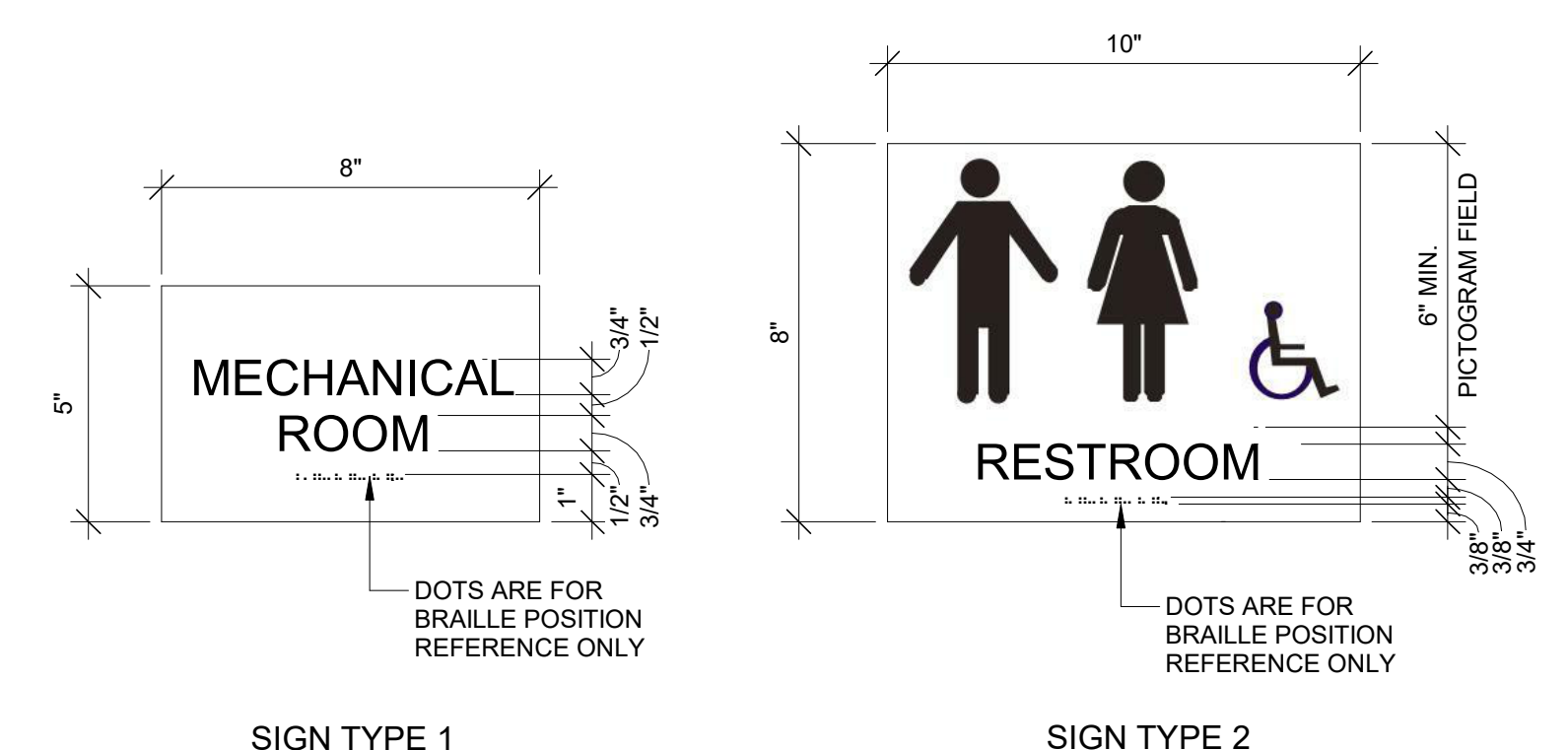
WHERE THERE IS NO WALL SPACE ON THE RIGHT SIDE OF THE DOUBLE DOORS WITH TWO ACTIVE LEAFS, SIGN TO BE LOCATED ON THE NEAREST ADJACENT WALL.

NOTIFY ARCHITECT IF MOUNTING PER DIAGRAM IS NOT FEASIBLE.

WHERE A TACTILE SIGN IS PROVIDED AT A DOOR, THE SIGN SHALL BE LOCATED ALONGSIDE THE DOOR AT THE LATCH SIDE.

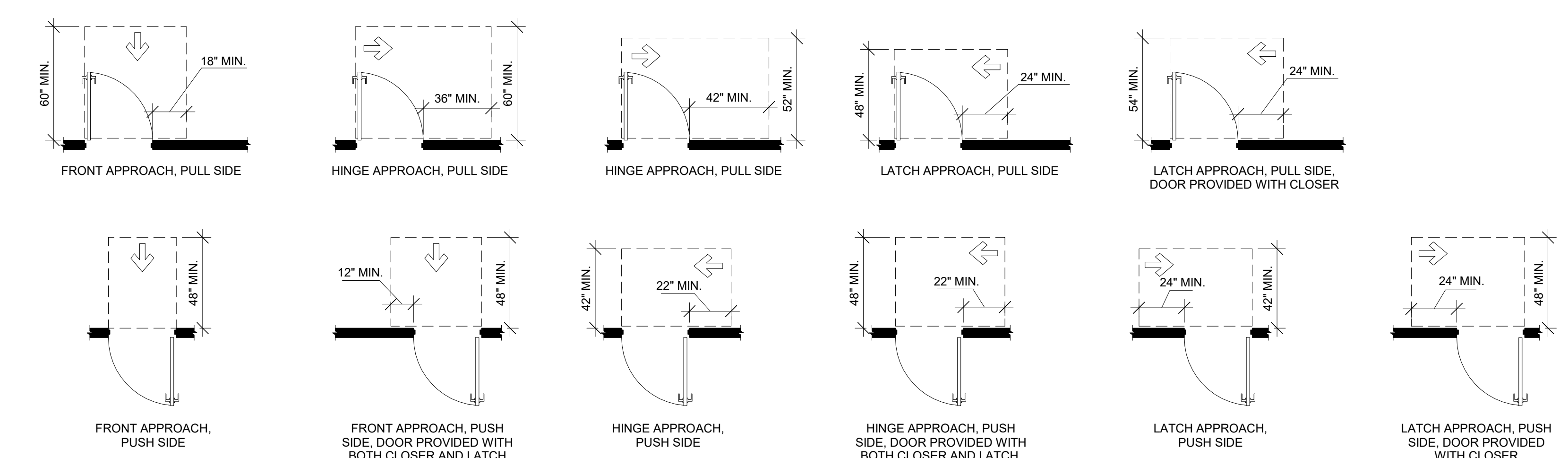
WHERE THERE IS NO WALL SPACE AT THE LATCH SIDE OF A SINGLE DOOR, SIGNS SHALL BE LOCATED ON THE NEAREST ADJACENT WALL.

NOTIFY ARCHITECT IF MOUNTING PER DIAGRAM IS NOT FEASIBLE.

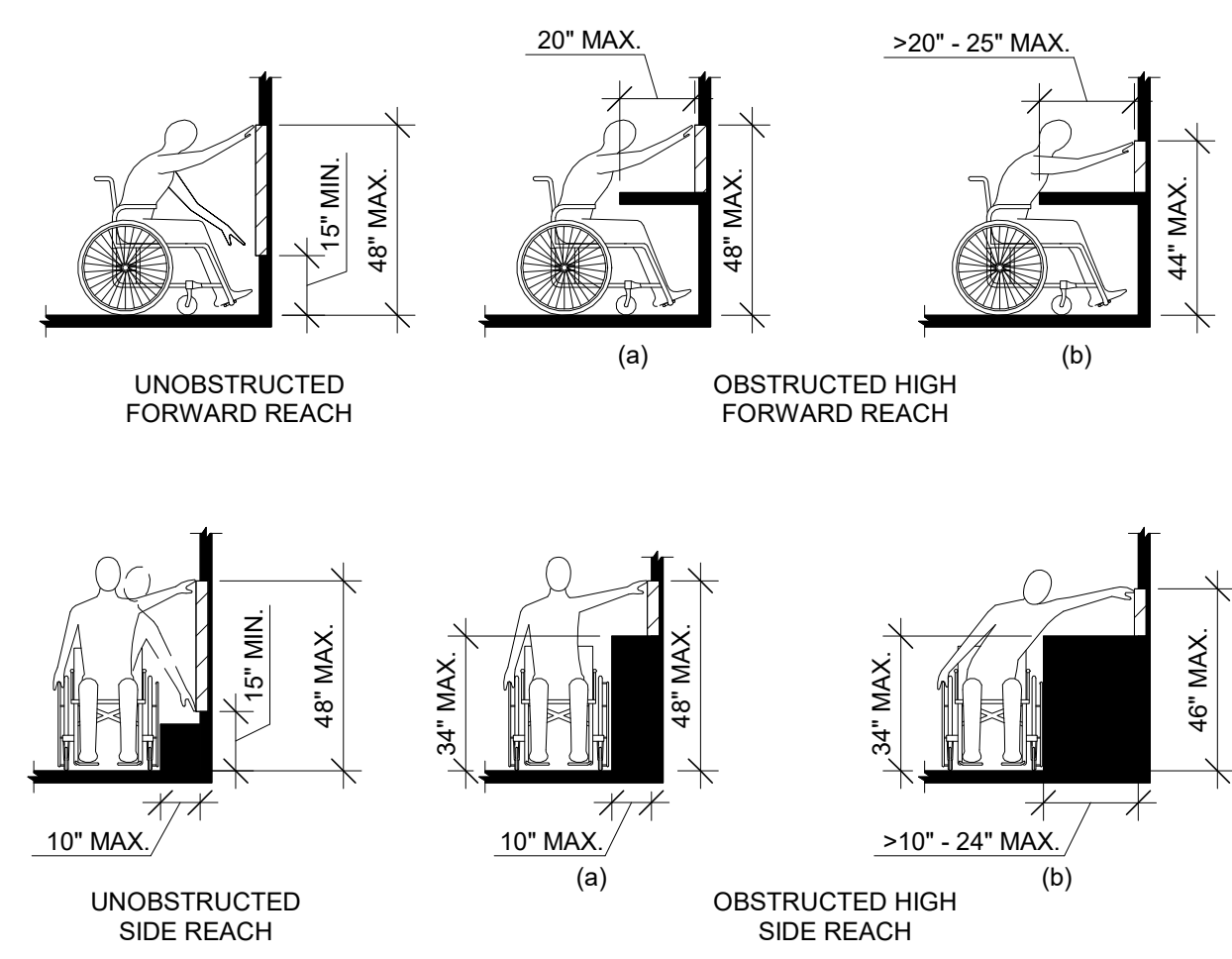


- SIGN TYPE 1**
SIGN TYPE 2
- GENERAL NOTES - SIGNAGE (10 1400)**
- SIGN CONSTRUCTION SHALL BE AS FOLLOWS (LISTED IN ORDER, FROM FRONT FACE TO BACK FACE / WALL):
 - 1/32" BLACK, RAISED CHARACTERS, GLYPHS, AND RASTER GRADE 2 BRAILLE
 - CLEAR PHOTOPOLYMER FRONT PLATE
 - 0.025" ± ALUMINUM MID-LAYER WITH VERTICAL BRUSH FINISH LAMINATED TO BACKING MATERIAL
 - 3/16" BLACK ACRYLIC BACKING MATERIAL
 - VHB MOUNTING TAPE
 - MINIMUM OF 3/8" CLEARANCE AROUND ALL 4 SIDES OF BRAILLE.
 - BRAILLE SHALL BE CONTRACTED (GRADE 2) AND SHALL COMPLY WITH 2010 ADA 703.3 AND 703.4
 - SIGNS MANUFACTURED IN COMPLIANCE WITH ALL LOCAL AND ADA CODE REQUIREMENTS FOR BACKGROUND AND LETTER CONTRAST, CHARACTER HEIGHTS AND WIDTHS, MOUNTING LOCATIONS, ETC.
 - SIGNS MOUNTED TO GLASS SHALL RECEIVE 1/16" BLACK ACRYLIC BACKING MATERIAL, SAME PROFILE AS FRONT, TO CONCEAL VHB TAPE FROM VIEW

1 LEGEND - SIGN MOUNTING DIAGRAM
1/2" = 1'-0"

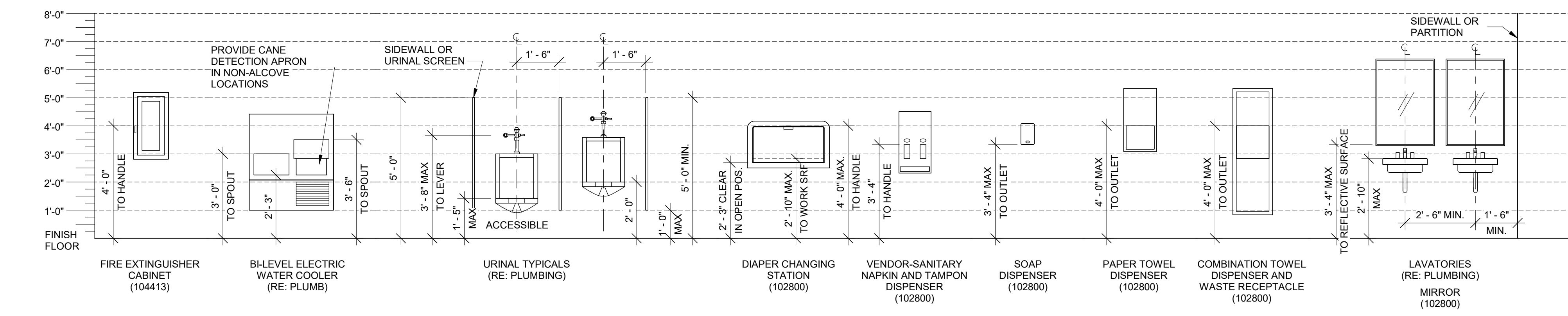


2 LEGEND - SIGN TYPES
3" = 1'-0"

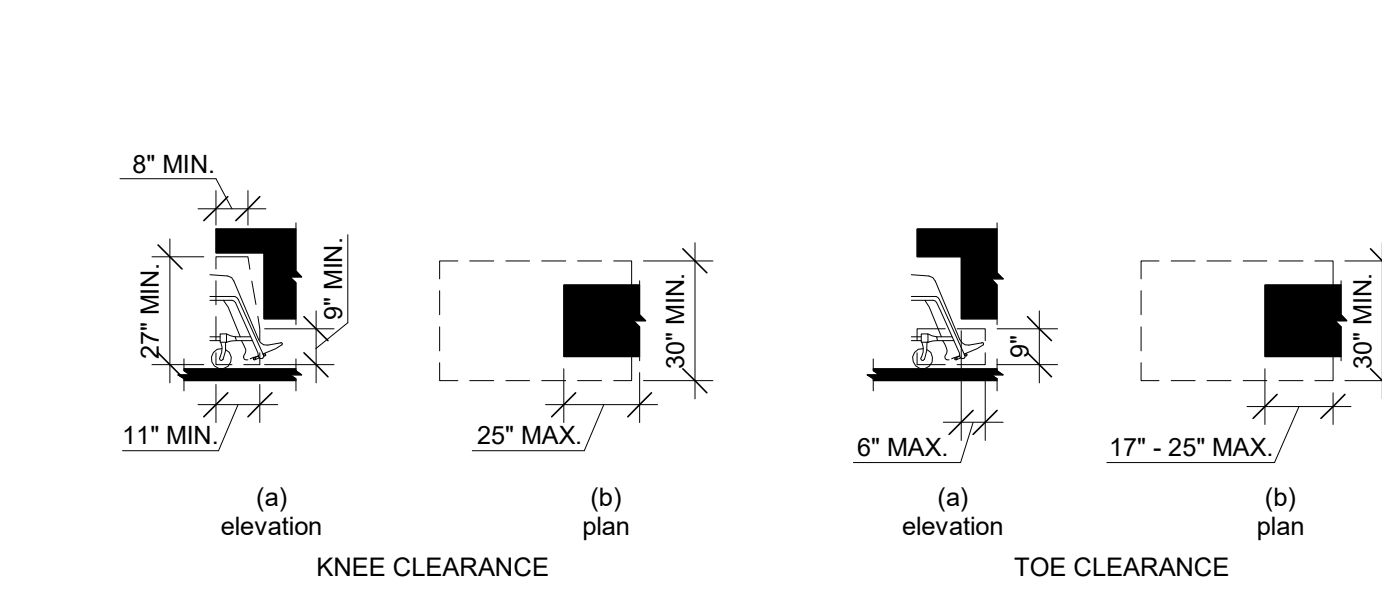


3 LEGEND - TYPICAL ADA DOOR CLEARANCES
1/4" = 1'-0"

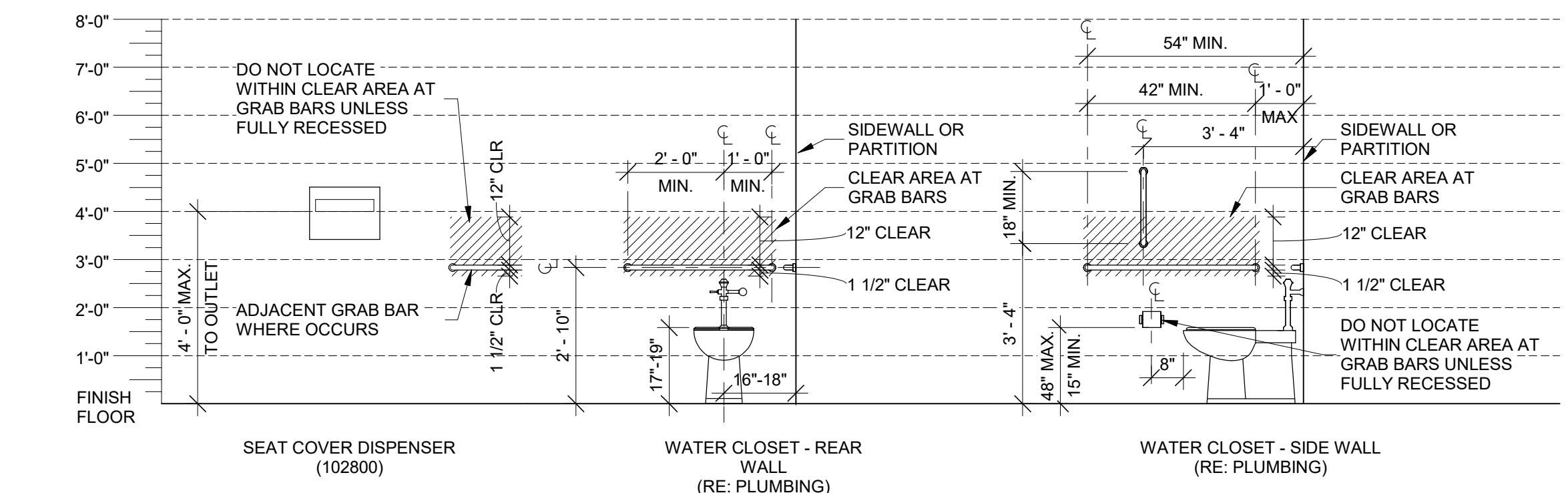
LEGEND - TYPICAL TOILET ACCESSORY AND PLUMBING FIXTURE HEIGHTS



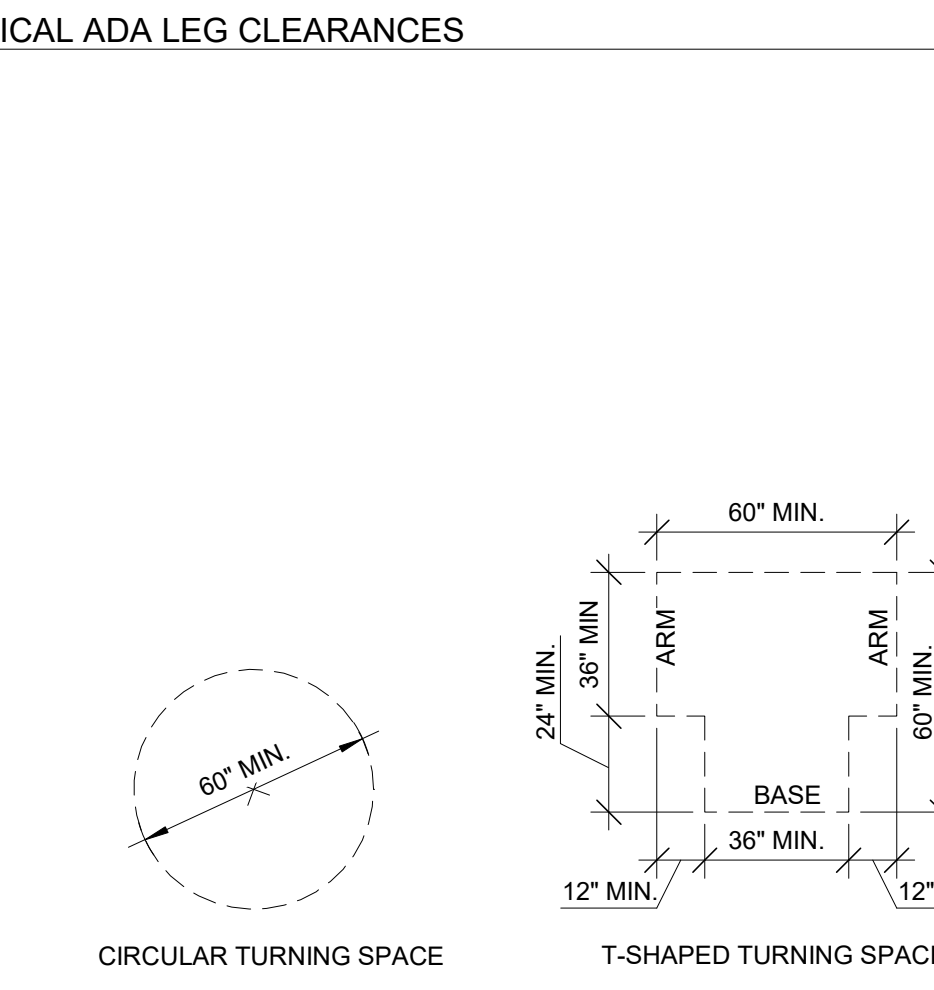
4 LEGEND - TYPICAL ADA REACH RANGES
1/4" = 1'-0"



5 LEGEND - TYPICAL ADA LEG CLEARANCES
1/4" = 1'-0"



6 LEGEND - TYPICAL FIXTURE HEIGHTS
3/8" = 1'-0"



7 LEGEND - TYPICAL ADA TURNING CLEARANCES
1/4" = 1'-0"



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STATE PARK
26250 HWY 64A
LEBANON, MO 65536

PROJECT NO. X2228-01
SITE NO. 5302
ASSET NO. 7815302065

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE: 03/29/2024

CAD DWG FILE: X2228-01-A-101.dwg
DRAWN BY: AL
CHECKED BY: BG
DESIGNED BY: SFS

SHEET TITLE:
**RESTROOM FLOOR
PLAN & INTERIOR
ELEVATIONS**

SHEET NUMBER:

A-101

20 OF 33 SHEETS
03/29/2024

GENERAL NOTES - FLOOR PLAN

- DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS ONLY. VERIFY ALL DIMENSION PRIOR TO START OF WORK. IN THE EVENT OF DISCREPANCY, NOTIFY ARCHITECT AND OBTAIN RESOLUTION BEFORE PROCEEDING.
- CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS, ELEVATIONS, AND DETAIL SHOWN ON THE DRAWINGS. ANY DISCREPANCIES WHICH WILL PREVENT THE ACCOMPLISHMENT OF INTENT SHOWN ON DRAWINGS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT. INDICATED CONDITIONS ARE NOT INTENDED AS REPRESENTATIONS OR WARRANTIES OF ACCURACY. IT IS EXPRESSLY UNDERSTOOD THAT THE OWNER WILL NOT BE RESPONSIBLE FOR INTERPRETATIONS OR CONCLUSIONS DRAWN BY THE CONTRACTOR.
- (### ####) INDICATES REFERENCED SPECIFICATIONS FOR PRODUCTS AND MATERIALS SHOWN ON THE DRAWINGS AND SPECIFIED IN THE PROJECT MANUAL.

PROJECT INFORMATION

PROJECT NAME: SPLASH PAD & ASSOCIATED INFRASTRUCTURE IMPROVEMENTS
OWNER: STATE OF MISSOURI
LOCATION: BENNETT SPRING STATE PARK, 26250 STATE HWY 64A, LEBANON, MO
DESCRIPTION: NEW CONSTRUCTION, V6, NON-SPRINKLERED

APPLICABLE DESIGN BUILDING CODES AND STANDARDS

- 2018: INTERNATIONAL BUILDING CODE (IBC)
- 2018: INTERNATIONAL FIRE CODE (IFC)
- 2017: NATIONAL ELECTRICAL CODE (NEC); NFPA 70
- 2018: INTERNATIONAL PLUMBING CODE (IPC)
- 2018: INTERNATIONAL MECHANICAL CODE (IMC)
- 2010: ADA ACCESSIBILITY GUIDELINES (ADAAG)

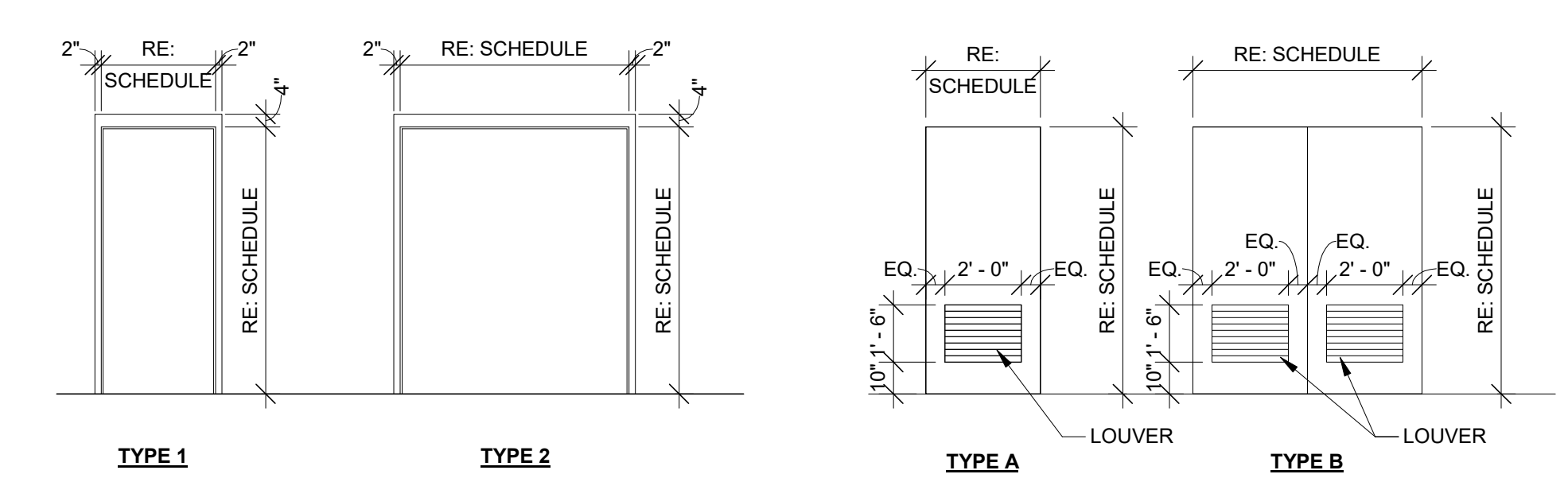
PROJECT DATA SUMMARY (SECTIONS 304, 310, AND 311 TABLES 504.3, 504.4, 506.2, AND 506.3)

OCCUPANCY CLASSIFICATION:	U, UTILITY
CONSTRUCTION TYPE:	V-B
ALLOWABLE AREA:	9,625 SQUARE FEET
ACTUAL AREA:	437 SQUARE FEET
ALLOWABLE HEIGHT:	1 STORY, 40 FEET (ABOVE GRADE PLANE)
ACTUAL HEIGHT:	1 STORY, 14 FEET 2 INCHES (ABOVE GRADE PLANE)

FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HRS) - (TABLE 601)

STRUCTURAL FRAME (COLUMNS, GIRDERS, BEAMS, TRUSSES SPANDRELS):	0 HRS
BEARING WALLS (EXTERIOR):	0 HRS
BEARING WALLS (INTERIOR):	0 HRS
NON-BEARING WALLS (EXTERIOR):	0 HRS
NON-BEARING WALLS (INTERIOR):	0 HRS
FLOOR CONSTRUCTION (BEAMS, JOISTS, DECKING):	0 HRS
ROOF CONSTRUCTION (BEAMS, JOISTS, DECKING):	0 HRS

DOOR & FRAME SCHEDULE										
DOOR NUMBER	DOOR					FRAME			HARDWARE	REFERENCED GENERAL NOTES
	TYPE	MATERIAL	WIDTH	HEIGHT	THICKNESS	MATERIAL	TYPE			
101	A	HM	3'-0"	7'-0"	1 3/4"	HM	1	1		
102	A	HM	3'-0"	7'-0"	1 3/4"	HM	1	1		
103	B	HM	6'-0"	7'-0"	1 3/4"	HM	2	2		



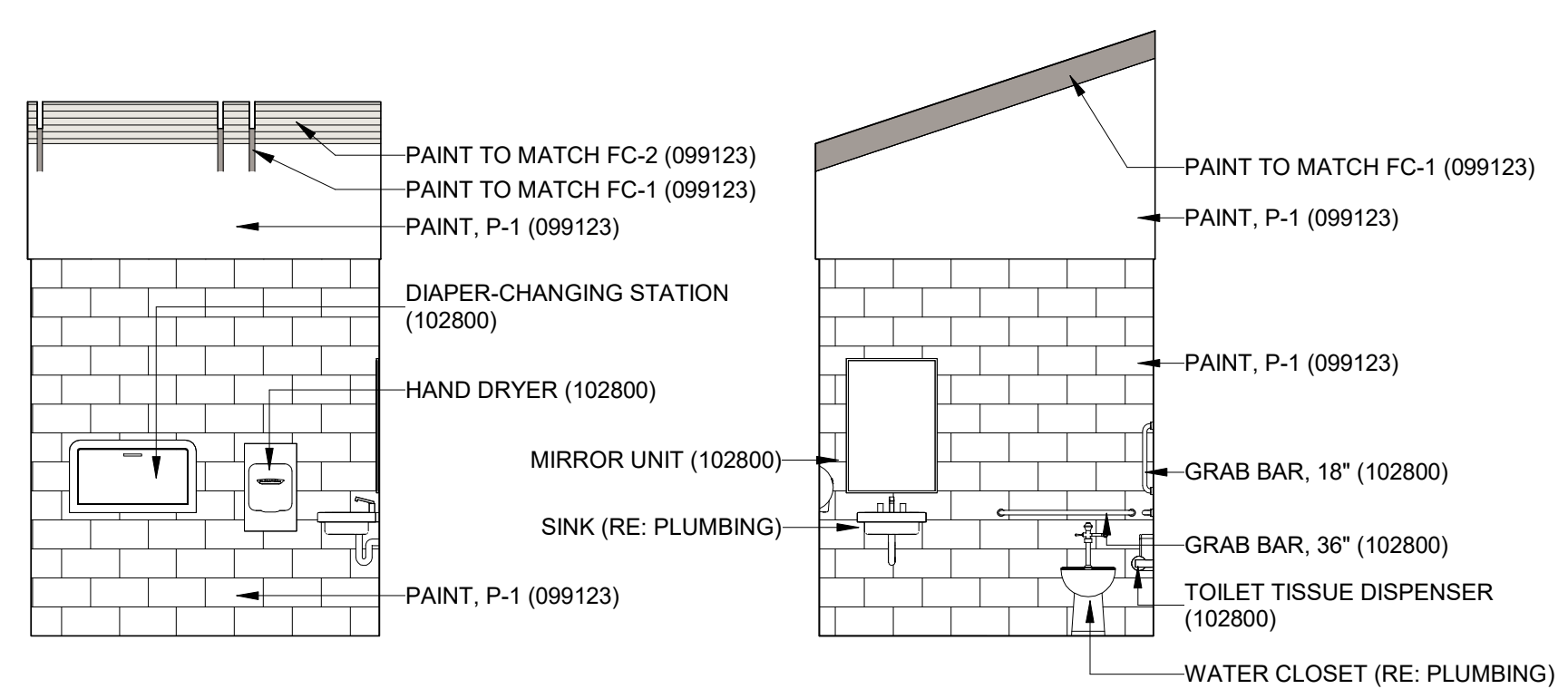
TYPES - FRAMES

TYPES - DOORS

DOOR HARDWARE (087100)

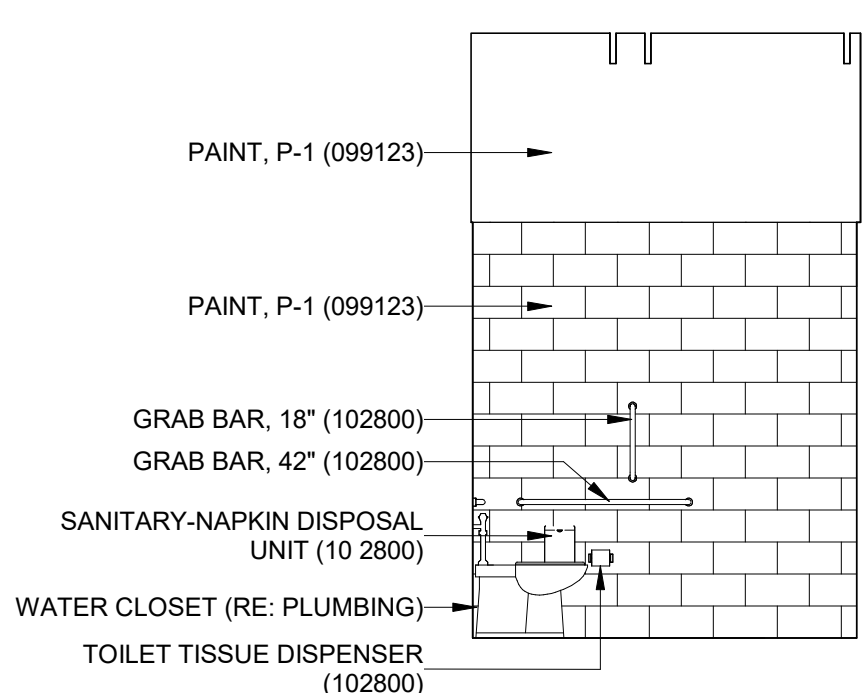
REFERENCE 087100 FOR MANUFACTURER INFORMATION

- SET 1:
- HINGES: 3 HEAVY DUTY
 - LOCKSET: MORTISE LOCK WITH KEYED CYLINDER
 - CLOSER: KICK PLATE
 - THRESHOLD: WEATHER STRIPPING
 - GASKETING: WEATHER STRIPPING
 - SILENCERS: GASKETING
- SET 2:
- HINGES: 3 HEAVY DUTY PER DOOR
 - LOCKSET: MANUAL FLUSH BOLT ON INACTIVE LEAF WITH ASTRAGAL AND COORDINATOR
 - CLOSER: KICK PLATE
 - THRESHOLD: WEATHER STRIPPING
 - GASKETING: WEATHER STRIPPING
 - SILENCERS: GASKETING

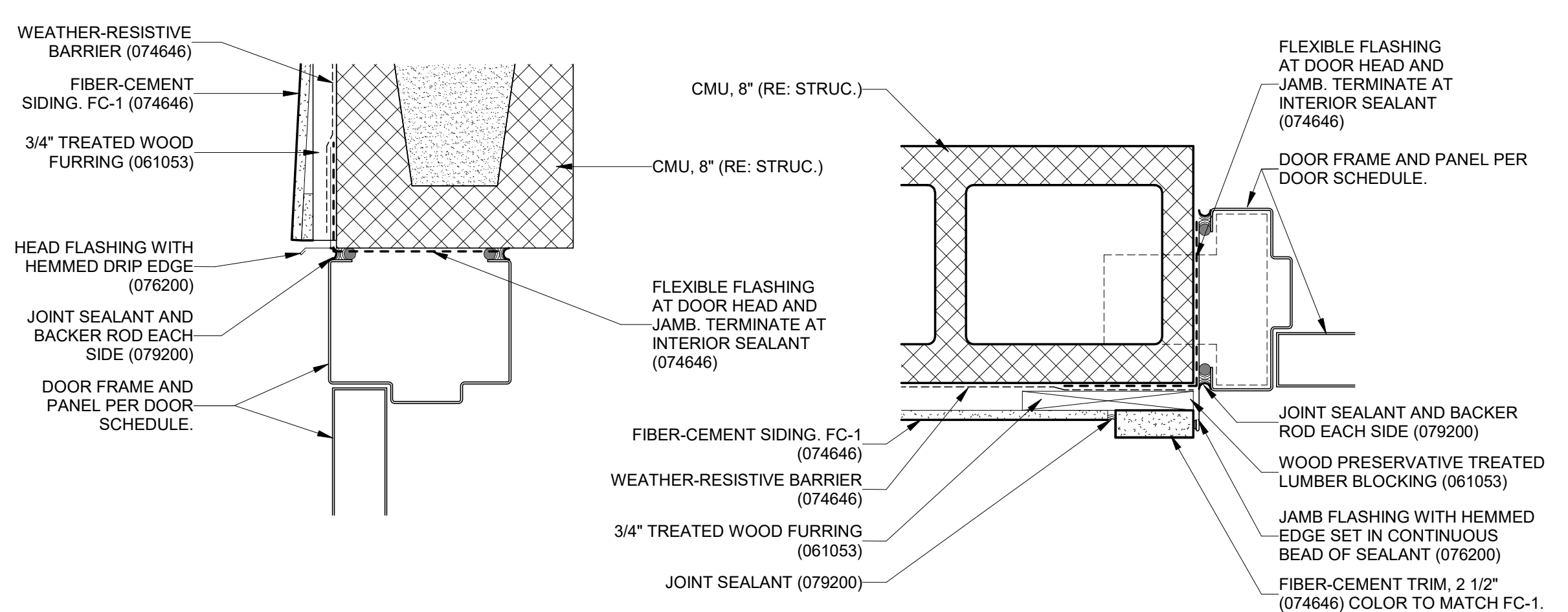


1 RR ELEVATION - A
A-101 1/4" = 1'-0"

2 RR ELEVATION - B
A-101 1/4" = 1'-0"

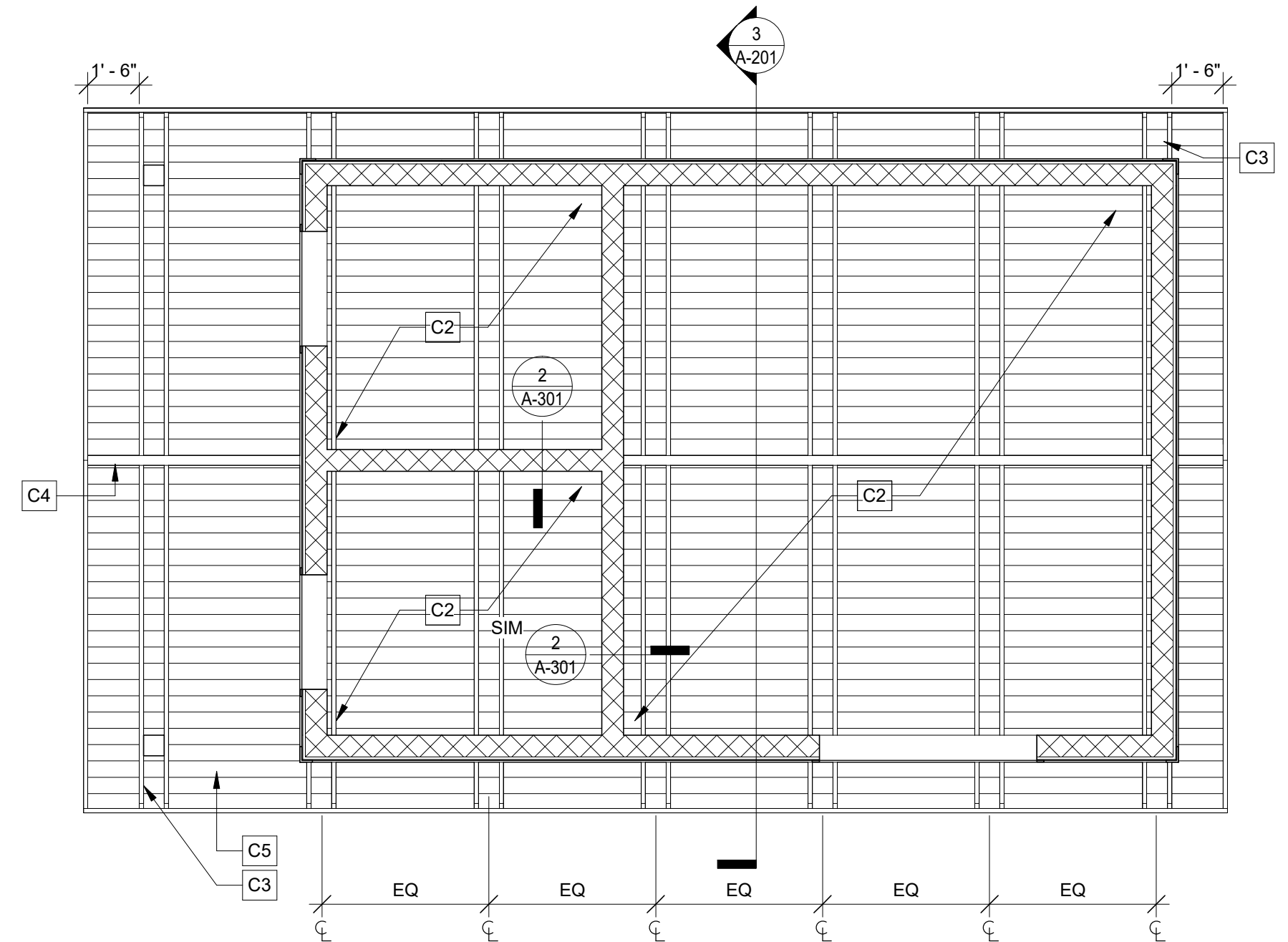


3 RR ELEVATION - C
A-101 1/4" = 1'-0"

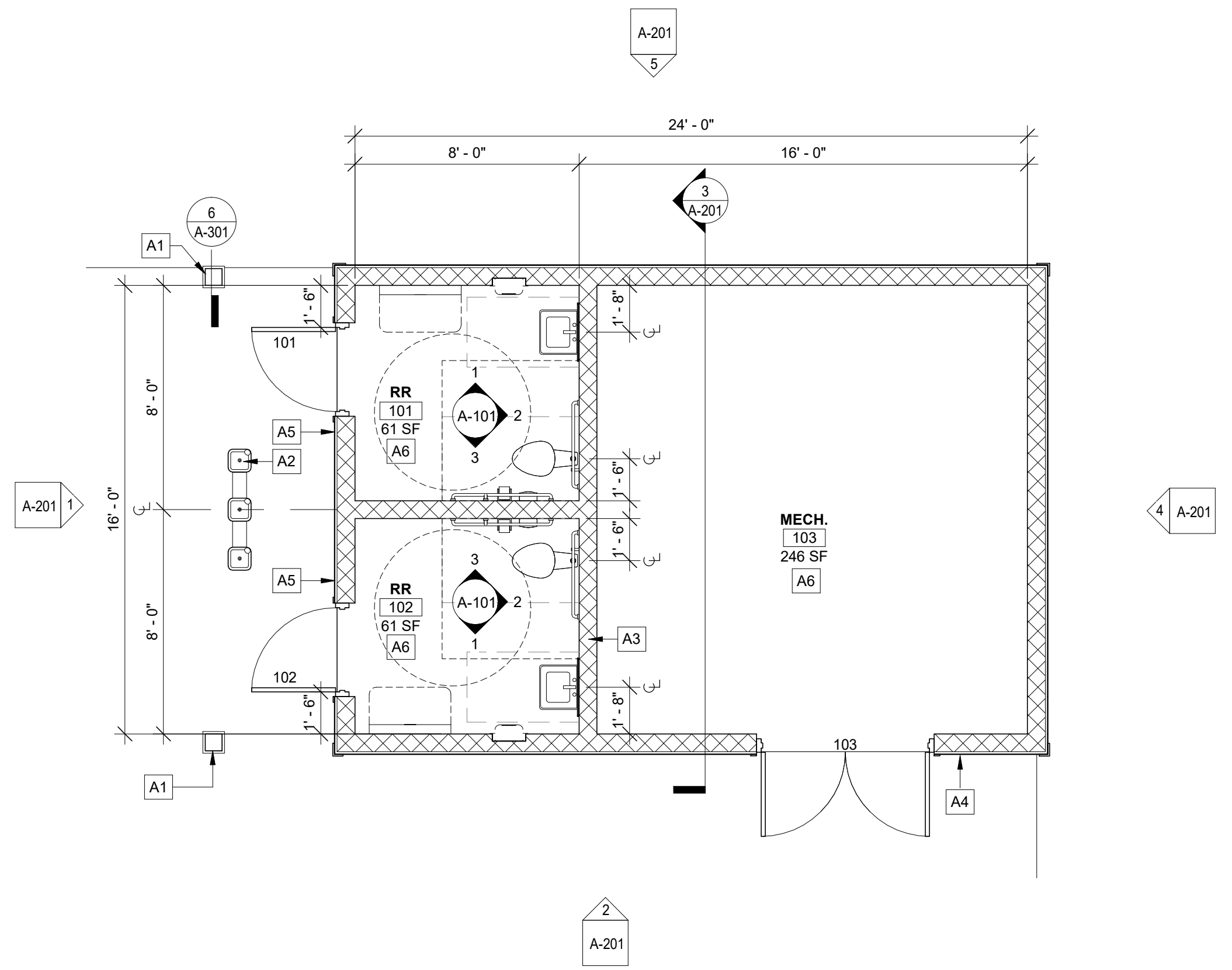


4 HEAD DETAIL
A-101 3" = 1'-0"

5 JAMB DETAIL
A-101 3" = 1'-0"



6 REFLECTED CEILING PLAN
A-101 1/4" = 1'-0"



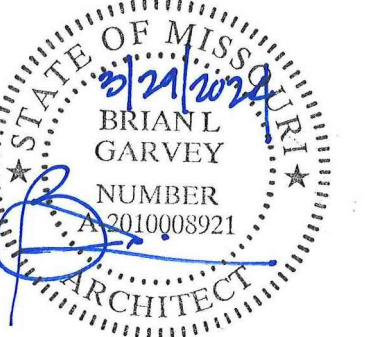
7 FLOOR PLAN
A-101 1/4" = 1'-0"

FLOOR PLAN SYMBOLS

- NEW CONSTRUCTION
- ROOM NAME AND NUMBER
- CENTER LINE
- DOOR INDICATION TAG
- PLAN KEYNOTES
- SPOT ELEVATION
- DRAWING REVISION

LEGEND - KEYNOTES

Key Value	Keynote Text
A1	NOM. 8X8 WOOD POST (RE: STRUC.) PAINT TO MATCH FC-1.
A2	PEDESTAL HI-LO DRINKING FOUNTAIN WITH INTEGRATED BOTTLE FILLER.
A3	CMU, 8" (RE: STRUC.)
A4	ADA SIGNAGE, SIGN TYPE 1 (RE: A001)
A5	ADA SIGNAGE, SIGN TYPE 2 (RE: A001)
A6	SEALED CONCRETE SLAB-ON-GRADE, SC-1 (033511).
C2	OPEN TO ROOF STRUCTURE ABOVE.
C3	PAIRED NOMINAL ROOF RAFTER FRAMING (RE: STRUC.), CUT ENDS SQUARE. MAINTAIN 7 1/4" SPACE BETWEEN PAIRED RAFTERS. PAINT TO MATCH FC-1.
C4	RIDGE BEAM, PAINT TO MATCH FC-1.
C5	NOMINAL TONGUE AND GROOVE WOOD DECKING, PAINT TO MATCH FC-2.



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PROJECT NO. X2228-01
SITE NO. 5302
ASSET NO. 7815302065

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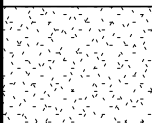


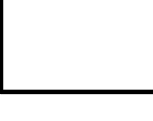
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DRAWN BY: AL
CHECKED BY: BG
DESIGNED BY: SFS

SHEET TITLE:
**RESTROOM
ELEVATIONS &
BUILDING SECTIONS**

SHEET NUMBER:

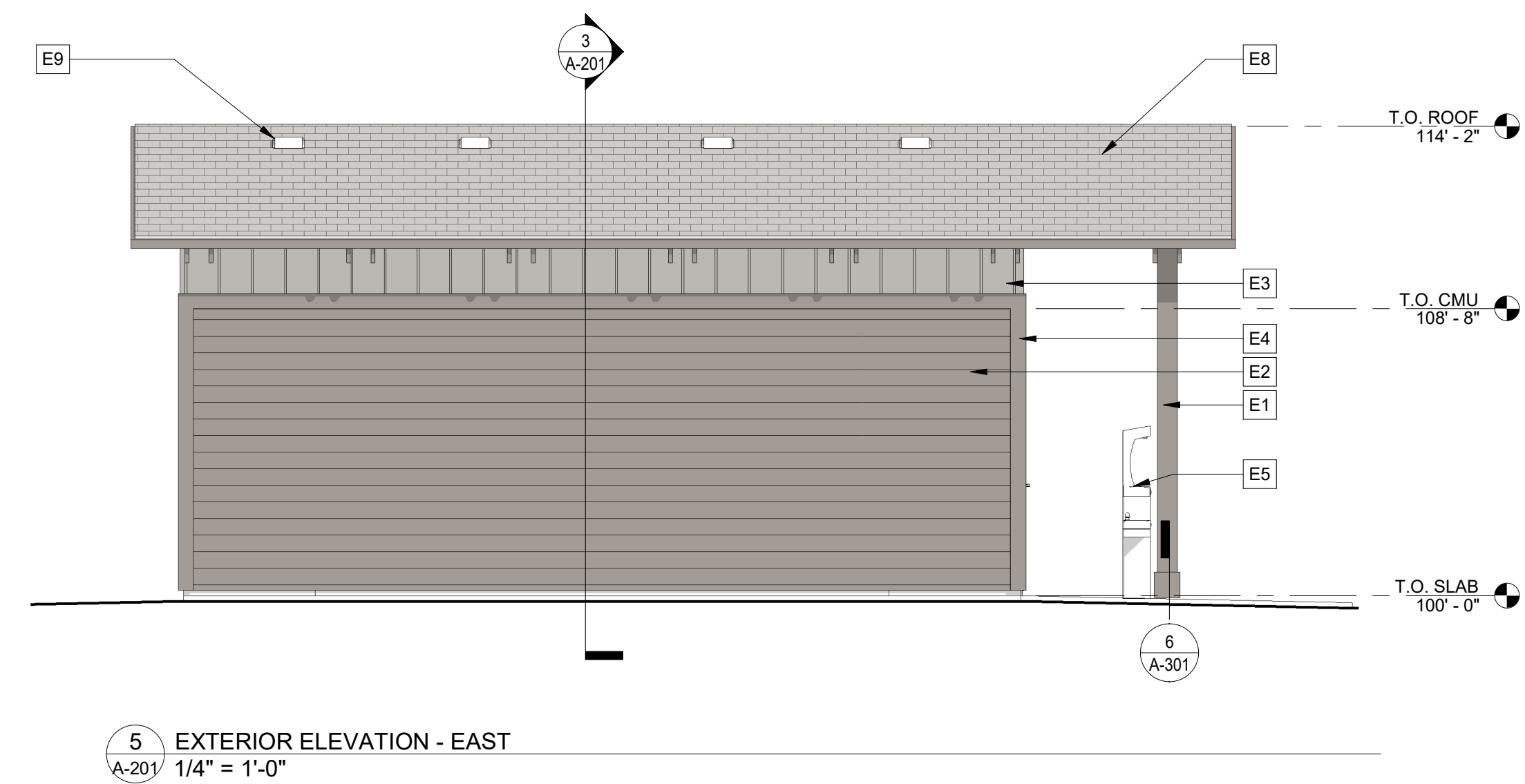
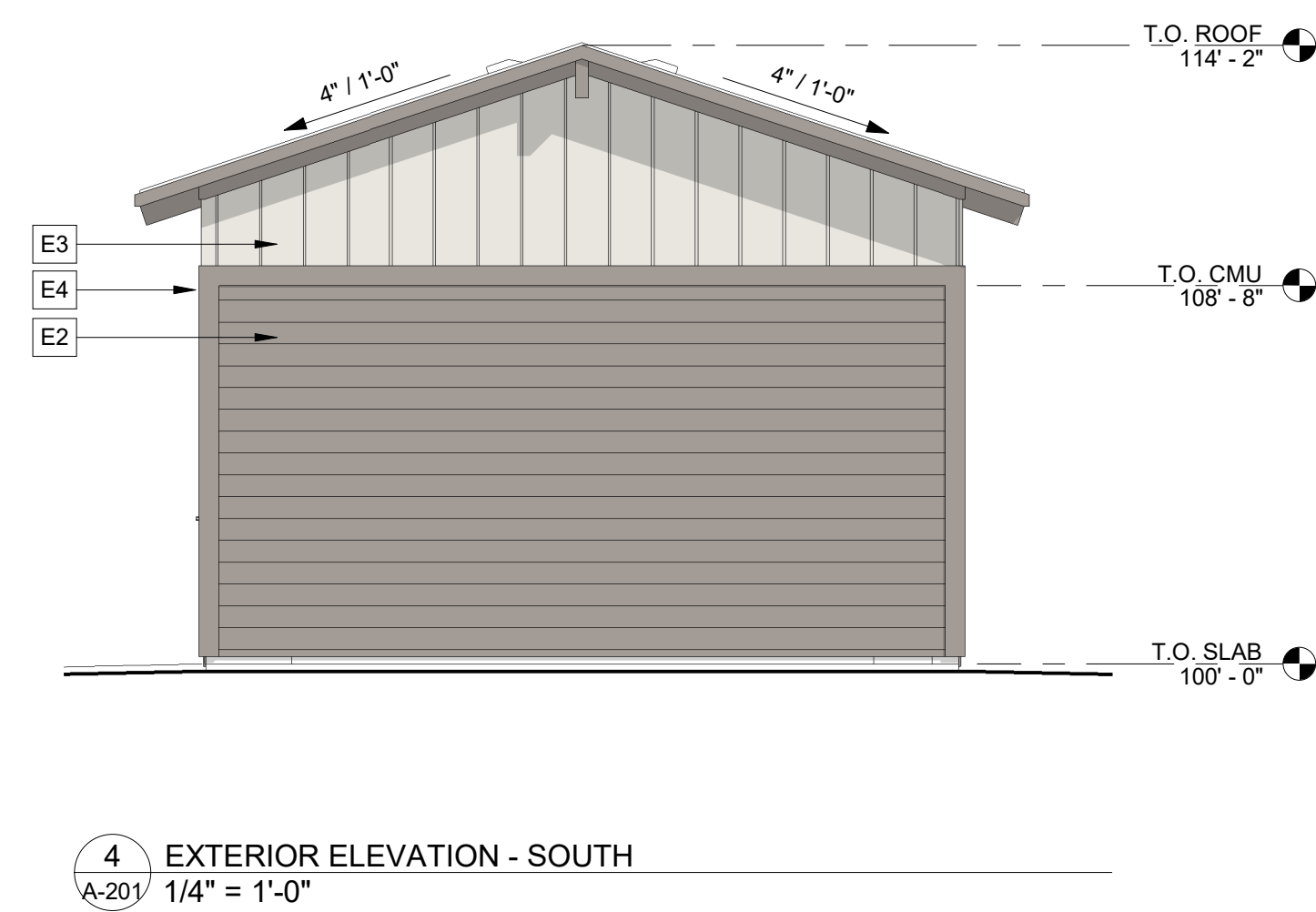
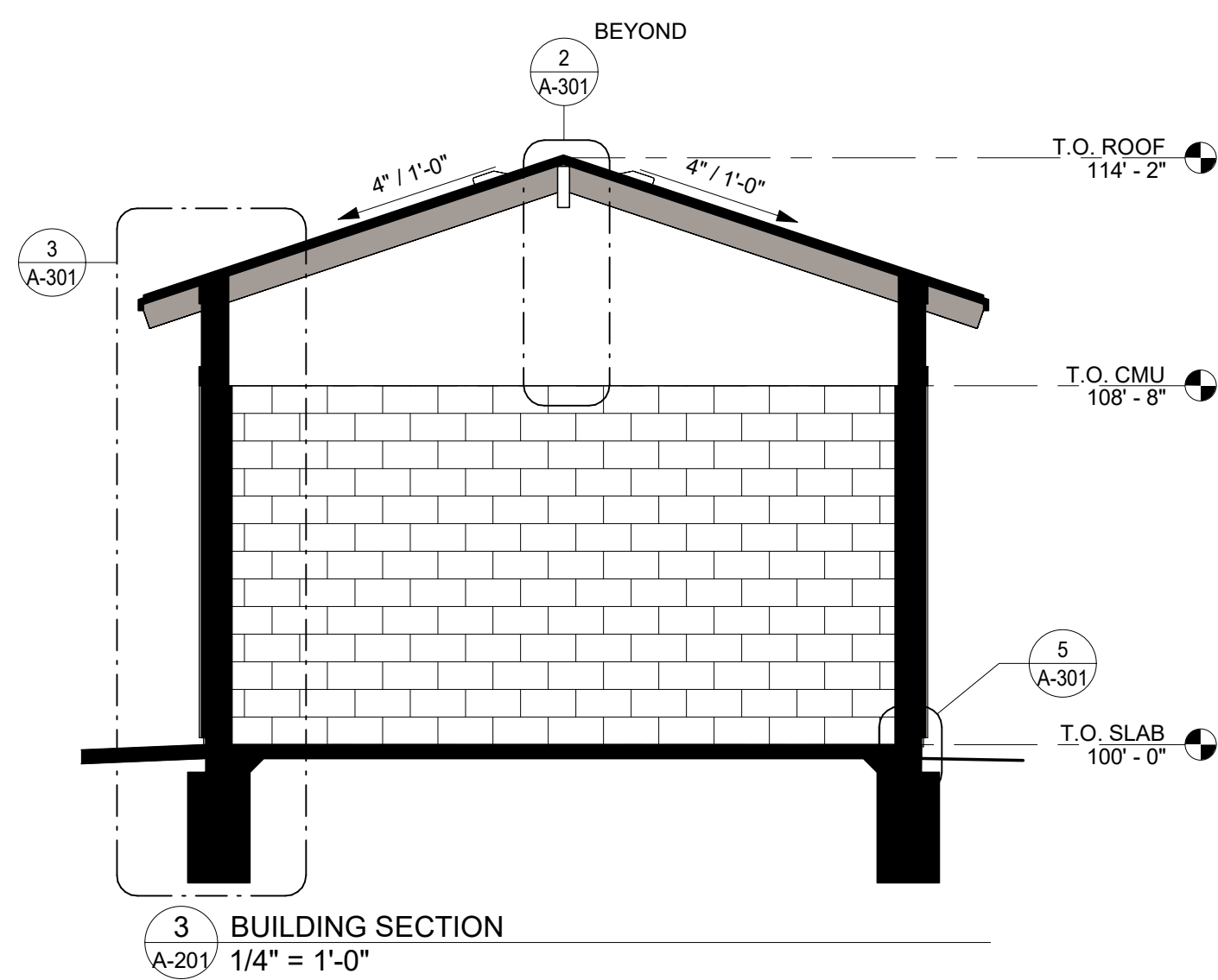
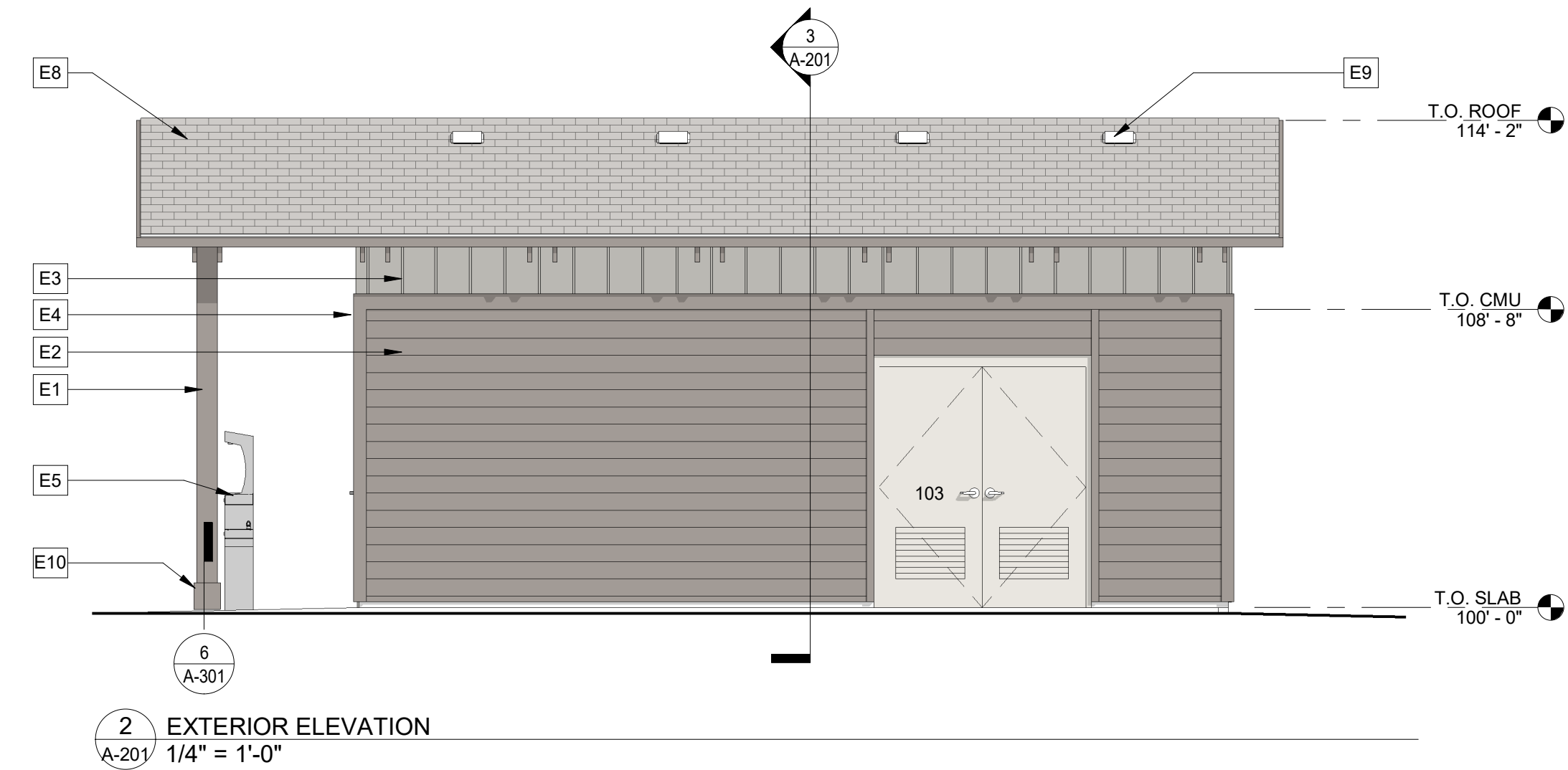
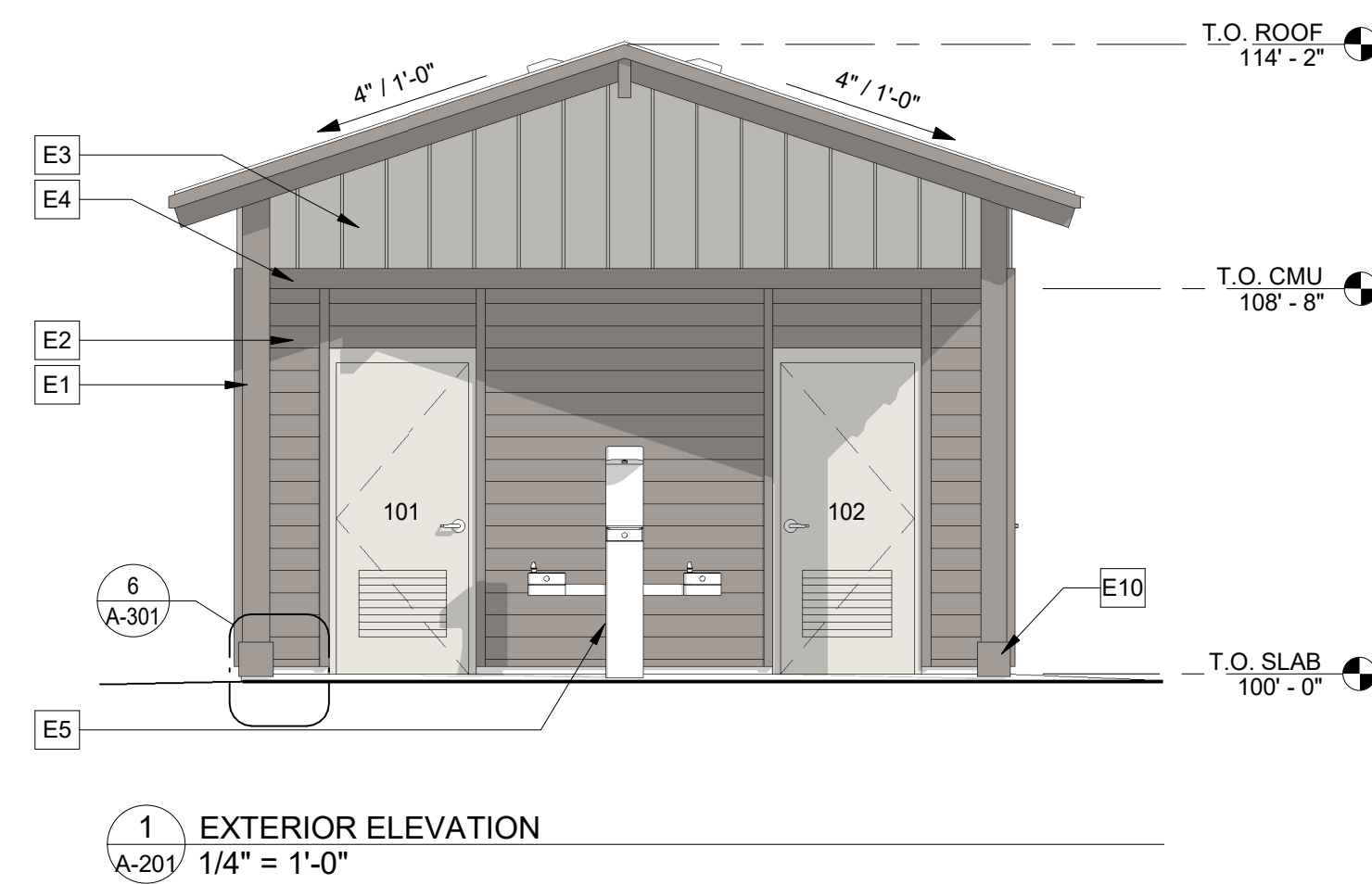
A-201

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03/29/2024

MATERIALS LEGEND		
SC-1	SEALED CONCRETE TYPE - 1	033511
	REFER TO SPECIFICATIONS	
FC-1	FIBER CEMENT TYPE - 1	074646
	LAP SIDING PRIMED FOR FIELD PAINTING PAINT TO MATCH SW 6006 BLACK BEAN (09 9113)	
FC-2	FIBER CEMENT TYPE - 2	074646
	BOARD AND BATTEN SIDING PRIMED FOR FIELD PAINTING PAINT TO MATCH SW 7553 FRAGILE BEAUTY (09 9113)	
P-1	PAINT COLOR TYPE - 1	099123
	PAINT TO MATCH SW 6126 NAVAJO WHITE	

LEGEND - KEYNOTES

Key Value	Keynote Text
E1	NOM. 8X8 WOOD POST (RE: STRUC.) PAINT TO MATCH FC-1.
E2	FIBER-CEMENT SIDING, FC-1 (074646)
E3	FIBER-CEMENT SIDING, FC-2 (074646)
E4	FIBER-CEMENT TRIM, 6" (074646) COLOR TO MATCH FC-1.
E5	PEDESTAL DRINKING FOUNTAIN (RE: MEP)
E8	ASPHALT SHINGLES (073113).
E9	12X12 ROOF VENT (077200), COLOR TO MATCH SHINGLES.
E10	CEDAR BASE TRIM AT POST BASE. PAINT TO MATCH ADJACENT POST





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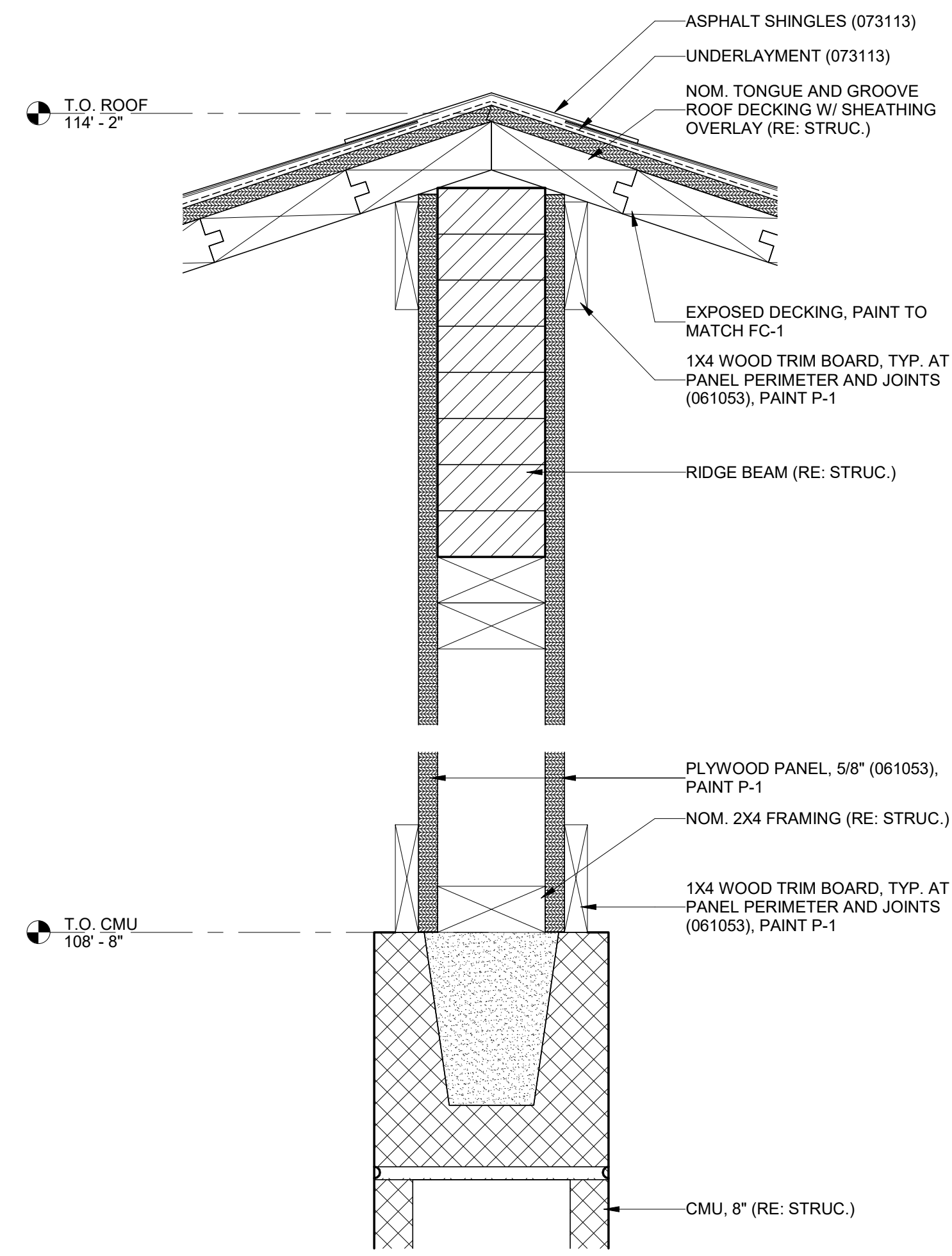
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SHEET TITLE:
**RESTROOM
SECTIONS &
DETAILS**

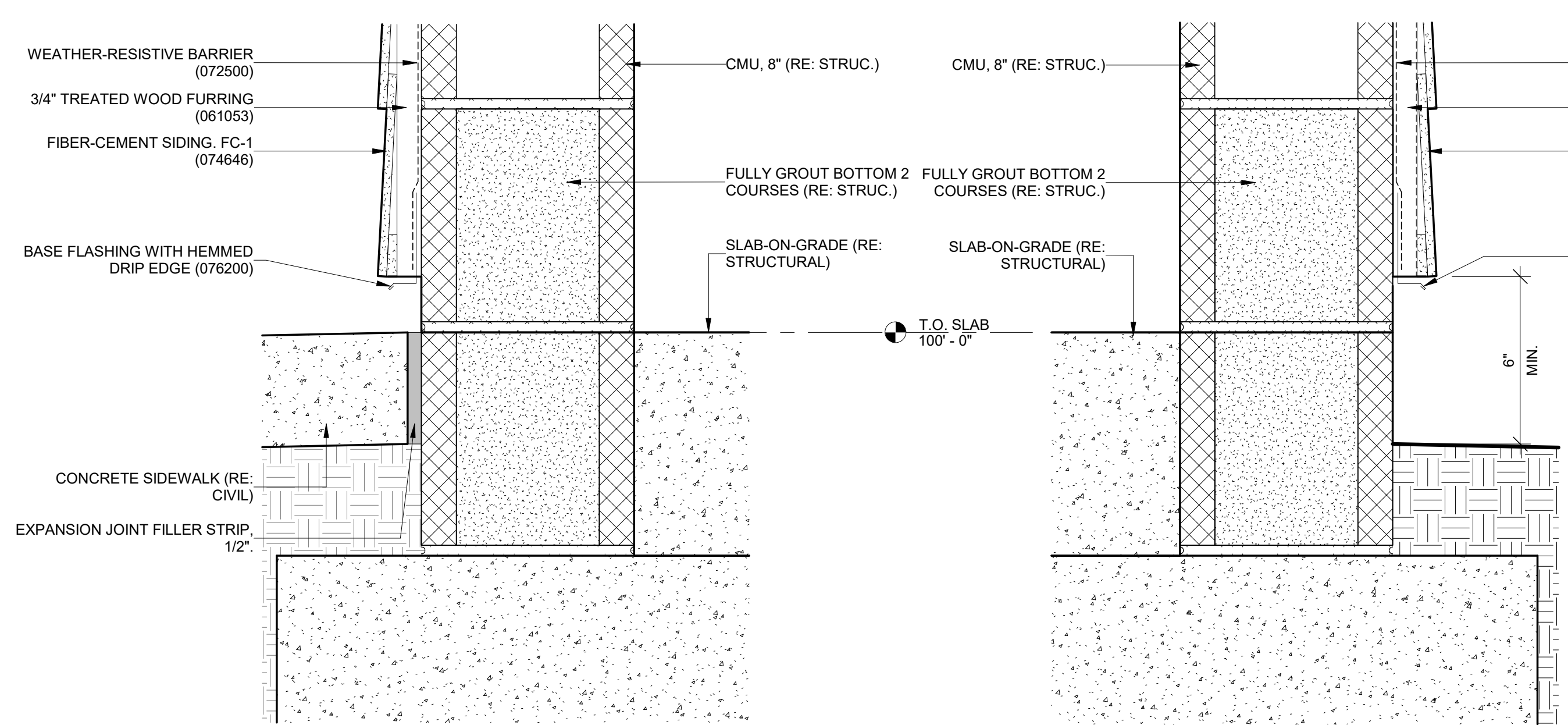
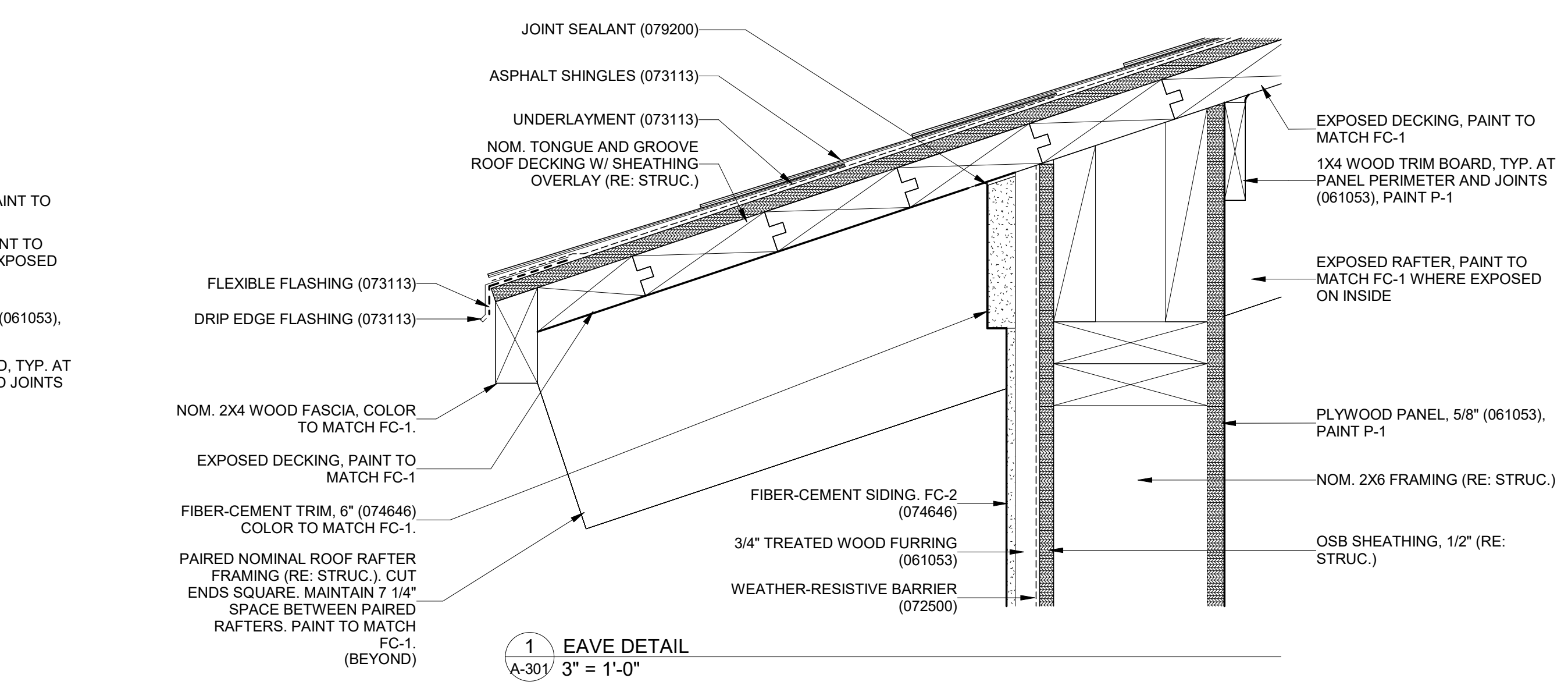
SHEET NUMBER:

A-301

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03/29/2024

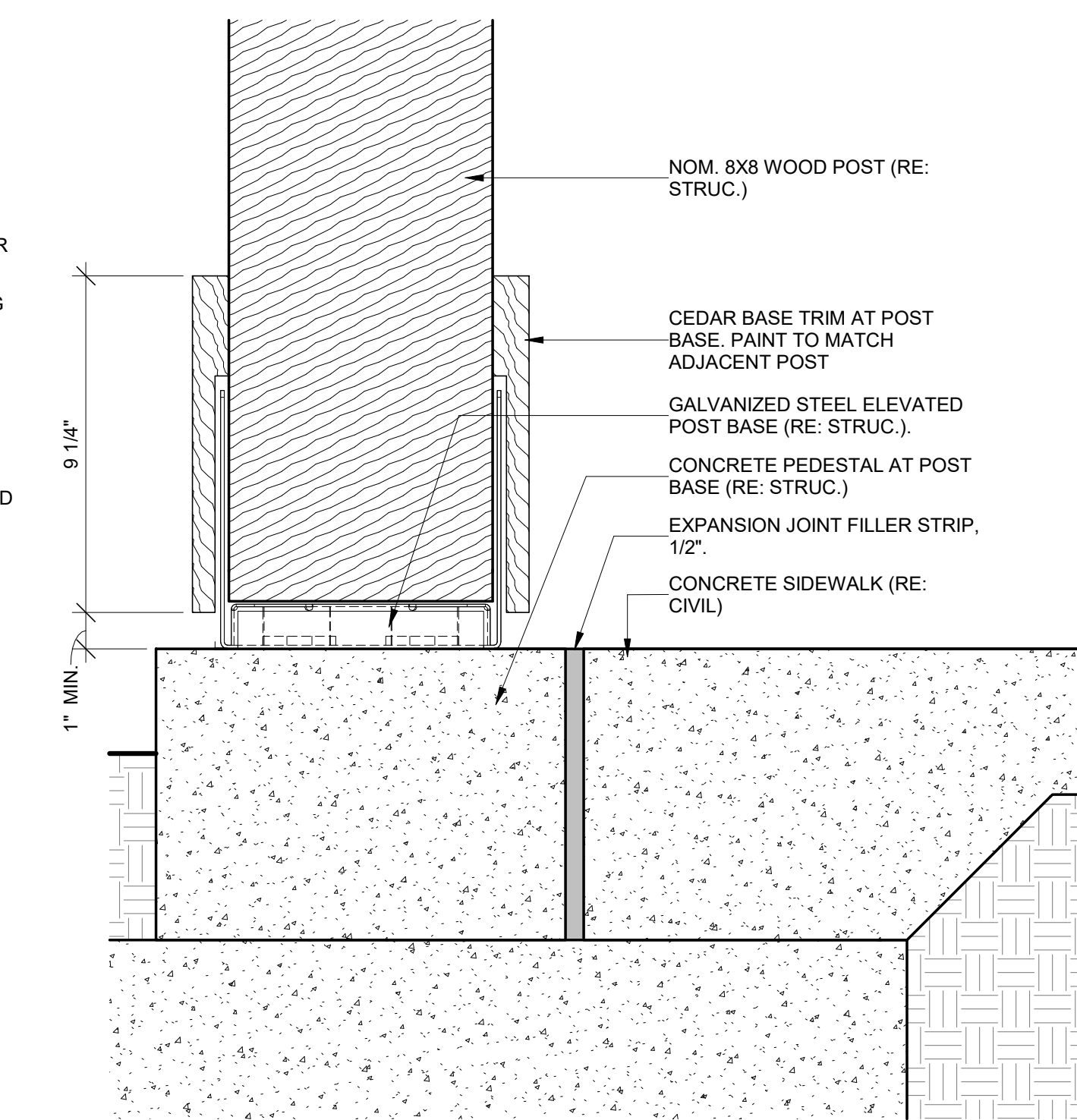


2 SECTION DETAIL AT INTERNAL WALL
A-301 3" = 1'-0"

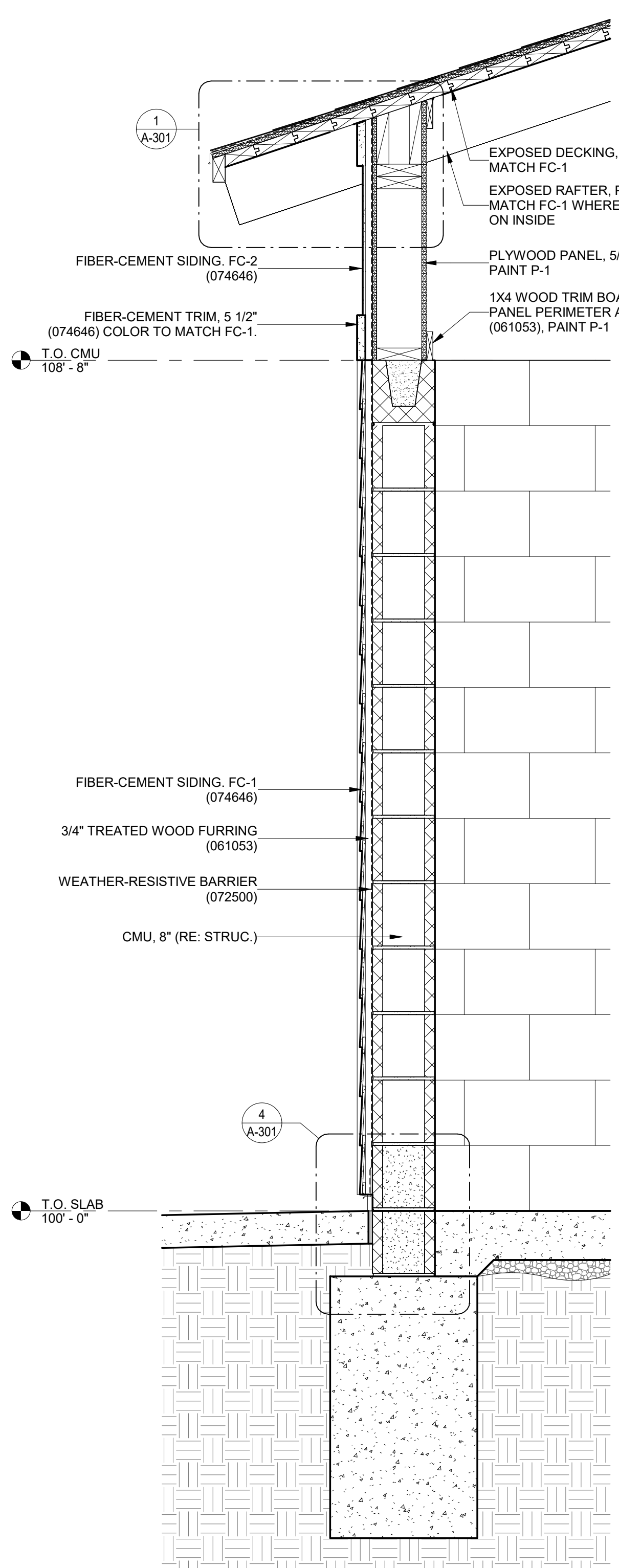


4 BASE DETAIL - AT SIDEWALK
A-301 3" = 1'-0"

5 BASE DETAIL - AT GRADE
A-301 3" = 1'-0"



6 SECTION DETAIL AT POST BASE
A-301 3" = 1'-0"



3 WALL SECTION
A-301 1" = 1'-0"

ABBREVIATION SCHEDULE	
ABBREVIATION	MEANING
+/-	PLUS OR MINUS
ADDNL	ADDITIONAL
ADJ	ADJACENT
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
AR	ANCHOR ROD
ARCH	ARCHITECT OR ARCHITECTURAL
B	BOTTOM OF
BTW	BETWEEN
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
BOT	BOTTOM
BRG	BEARING
BWP	BRACED WALL PANEL
CFS	COLD FORMED STEEL
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CL	CENTERLINE
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
CTR	CENTER
db	DIA OF REINF BAR, DIA OF BOLT
DBA	DEFORMED BAR ANCHOR
DIA or Ø	DIAMETER
DIAG	DIAGONAL
DIR	DIRECTION
DWL	DOWEL
EA	EACH
EJ	EXPANSION JOINT
ELEV	ELEVATION
EN	EDGE NAILING
ENGR	ENGINEER
EOO	EDGE OF DECK
EOS	EDGE OF SLAB
EQUAL	EQUAL
EW	EACH WAY
EXIST	EXISTING
EXT	EXTERIOR
FDN	FOUNDATION
FLG	FLANGE
FLR	FLOOR
FS	FAR SIDE
FTG	FOOTING
FV	FIELD VERIFY
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GC	GENERAL CONTRACTOR
HORIZ	HORIZONTAL
HSS	HOLLOW STRUCTURAL SECTION
IF	INSIDE FACE
INT	INTERIOR
JST	JOIST
K	KIPS (1000 LBS)
LCE	COMPRESSION EMBEDMENT LENGTH
LCS	COMPRESSION LAP SPICE LENGTH
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LSH	LONG SLOTTED HOLE
LTE	TENSION EMBEDMENT LENGTH
LTS	TENSION LAP SLICE LENGTH
LW	LIGHTWEIGHT
MFCR	MANUFACTURER
MTL	METAL
NIC	NOT IN CONTRACT
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTER
OF	OUTSIDE FACE
OPP	OPPOSITE
OVS	OVERSIZED
PC	PRECAST
PAF	POWDER ACTUATED FASTENER
PAR	PARALLEL
PEMB	PRE-ENGINEERED METAL BUILDING
PERP	PERPENDICULAR
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PREFAB	PREFABRICATED
PRELIM	PRELIMINARY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
RC	REINFORCED CONCRETE
RE	REFER TO
REINF	REINFORCING
REQD	REQUIRED
RF	RIGID FRAME
SC	SLIP CRITICAL
SDS	SELF DRILLING SCREW
SIM	SIMILAR
SLV	SHORT LEG VERTICAL
SOG	SLAB ON GRADE
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STR	STRIPPUS
STL	STEEL
SW	SHEAR WALL
SYM	SYMMETRIC
T&B	TOP AND BOTTOM
T	TOP OF
TRANS	TRANSVERSE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W	WITH
W/O	WITHOUT
WF	WIDE FLANGE
WP	WORK POINT
WWR	WELDED WIRE REINFORCEMENT

STRUCTURAL DESIGN CRITERIA (2018 IBC AND ASCE 7-16):

- BUILDING OCCUPANCY RISK CATEGORY II.
- LIVE LOADS [UNIFORM (PSF) / POINT LOADS (KIPS)]:
 - ROOF: 20 PSF / 300#
 - SLAB-ON-GRADE: 100 PSF / 2 K
- ROOF SNOW LOAD:
 - GROUND SNOW LOAD (Pg): 20 PSF
 - FLAT ROOF SNOW LOAD (P): 15.4 PSF + DRIFT PER PLAN
 - MIN UNIFORM ROOF SNOW LOAD (Pm): 20 PSF (NO DRIFT OR RAIN)
 - RAIN ON SNOW SURCHARGE (Prs): 5.0 PSF
 - SNOW EXPOSURE FACTOR (Ce): 1.0
 - SNOW LOAD IMPORTANCE FACTOR (Is): 1.0
 - THERMAL FACTOR (Ct): 1.1
 - SLOPE FACTOR (Cs): 1.0
- WIND DESIGN DATA:
 - BASIC WIND SPEED (3 SEC GUST): 108 MPH
 - ASD WIND SPEED (V (ASD)): 87 MPH
 - WIND EXPOSURE: C
 - GROUND ELEVATION ABOVE SEA LEVEL: 874 FT
 - DIRECTIONALITY FACTOR (Kd): 0.85
 - INTERNAL PRESSURE COEFF: 0.18
- EARTHQUAKE DESIGN DATA:
 - SEISMIC IMPORTANCE FACTOR (Ie): 1.0
 - MAPPED SPECTRAL RESP ACCEL (Ss / S1): 0.195 / 0.108
 - SITE CLASS: D
 - SPECTRAL RESPONSE COEFF (Sds / Sd1): 0.208 / 0.171
 - SEISMIC DESIGN CATEGORY: C
 - SEISMIC FORCE RESISTING SYSTEM: R=2, ORDINARY CMU
 - DESIGN BASE SHEAR: 1.5 K (ELF AND ASD)
 - SEISMIC RESPONSE COEFF (Cs): 0.104
 - ANALYSIS PROCEDURE: ELF
- RAIN LOAD DATA:
 - 15-MIN RAIN INTENSITY: 6.94 IN/HR
 - 60-MIN RAIN INTENSITY: 3.29 IN/HR
 DESIGN ASSUMES APPROPRIATE ROOF SLOPE AND DRAINAGE (INCLUDING OVERFLOWS) ARE PROVIDED. ROOF IS DESIGNED FOR LIVE LOAD INDICATED ABOVE
- GUARD RAILS: 50 PLF, AND/OR 200# CONCENTRATED LOAD APPLIED IN ANY DIRECTION.

STRUCTURAL GENERAL NOTES:

- DESIGN AND CONSTRUCTION SHALL CONFORM TO THE "INTERNATIONAL BUILDING CODE, 2018 EDITION" AS AMENDED BY THE AUTHORITY HAVING JURISDICTION FOR THE PROJECT. REFER TO THE SPECIAL STRUCTURAL INSPECTION NOTES FOR ADDITIONAL REQUIREMENTS.
- CONTRACTOR TO VERIFY ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO COMMENCING WORK.
- IF DISCREPANCIES EXIST BETWEEN STRUCTURAL PLANS, ARCHITECTURAL PLANS, OTHER PLANS, OR SPECIFICATIONS, THE CONTRACTOR OR SUBCONTRACTOR SHALL PROVIDE A WRITTEN REQUEST FOR CLARIFICATION FROM THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
- THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO EXECUTE AND DETERMINE FINAL ERECTION PROCEDURES, SEQUENCING AND TO ENSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES WHATEVER SHORING, SHEETING, TEMPORARY BRACING, GUYING OR THE DOWNS WHICH MIGHT BE NECESSARY.
- THE STRUCTURE AND FOUNDATIONS ARE NOT DESIGNED FOR FUTURE EXPANSION.
- FABRICATORS AND SUPPLIERS SHALL CLEARLY NOTE AND HIGHLIGHT CHANGES MADE IN SHOP DRAWINGS, WHICH DO NOT COMPLY WITH THE CONTRACT DOCUMENTS.
- COLUMNS, BEAMS, JOISTS, OR TRUSSES SHALL NOT BE FIELD CUT OR TRIMMED FOR ANY REASON WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
- HOLES, PIPES, SLEEVES, ETC. NOT SHOWN ON THE DRAWINGS MUST BE REVIEWED BY THE ARCHITECT/ENGINEER BEFORE PLACEMENT THROUGH STRUCTURAL MEMBERS.
- IF MECHANICAL AND ELECTRICAL EQUIPMENT SIZES, WEIGHTS, OR LOCATIONS DO NOT COINCIDE WITH EQUIPMENT SHOWN ON THE PLANS, COORDINATE ADJUSTMENTS WITH THE ARCHITECT.
- NO AREA OF THE STRUCTURE SHALL BE LOADED WITH CONSTRUCTION MATERIALS OR EQUIPMENT THAT EXCEEDS FINAL DESIGN CRITERIA.
- BEAMS, COLUMNS, WALLS AND FOOTING CENTERS SHALL BE CENTERED UNDER SUPPORTING MEMBERS (TYPICAL UNLESS NOTED OTHERWISE).
- TYPICAL DETAILS ARE SHOWN ON SHEETS DESIGNATED S-501. THE INCLUDED TYPICAL DETAILS MAY OR MAY NOT BE CUT / REFERENCED ON PLANS OR SECTIONS, BUT ARE TO BE USED AS APPLICABLE.

EARTHWORK AND FOUNDATIONS:

- ALL FOOTINGS SHALL BEAR ON FIRM NATIVE MATERIALS, COMPACTED OR ENGINEERED FILL CAPABLE OF SUPPORTING AN ALLOWABLE BEARING PRESSURE OF 2,000 PSF. DEEPEN FOOTINGS, AND REMOVE AND REPLACE UNACCEPTABLE SOILS WITH ENGINEERED FILL AS REQUIRED TO PROVIDE THIS MINIMUM DEPTH AND SUITABLE BEARING.
- PERIMETER AND EXTERIOR FOOTINGS SHALL BEAR AT A MINIMUM OF 3'-0" BELOW ADJACENT GRADE.
- UNDERCUT THE PAD TO A DEPTH OF 24-INCHES BELOW BOTTOM OF FLOOR SLAB ELEVATION AND REPLACE WITH LOW-VOLUME-CHANGE (LVC) MATERIALS. LVC MATERIAL SHALL HAVE A LIQUID LIMIT (LL) LESS THAN 45 AND A PLASTICITY INDEX (PI) BETWEEN 10 AND 25
- FILL PLACEMENT, COMPACTION, AND SOIL BEARING TESTS SHALL BE PERFORMED BY A GEOTECHNICAL ENGINEER PRIOR TO INSTALLING FOOTINGS TO ENSURE DESIGN ALLOWABLE BEARING VALUES AND SLAB SUBGRADE REQUIREMENTS ARE SATISFIED. IF ACTUAL SITE CONDITIONS DO NOT SATISFY THESE REQUIREMENTS, COORDINATE ADJUSTMENTS WITH ARCHITECT/ENGINEER/ GEOTECHNICAL ENGINEER
- SURFACE WATER SHALL NOT BE ALLOWED TO STAND ADJACENT TO OR DRAIN TOWARDS THE FOUNDATION AND SLAB SUBGRADES UNDER ANY CIRCUMSTANCES. PAVEMENTS OR GRADED SOILS AT THE PERIMETER OF THE BUILDING, EXCEPT AS REQUIRED AT EXITS OR AS NOTED, SHALL BE SLOPED AWAY AT 5% OR 6" MIN FOR THE FIRST TEN FEET AND AS REQUIRED TO PROVIDE POSITIVE DRAINAGE.
- FOOTINGS MAY BE POURED TO NEAT LINES OF EXCAVATIONS PROVIDING VERTICAL LINES OF EXCAVATIONS CAN BE MAINTAINED DURING CONCRETE PLACEMENT.
- FOUNDATION WALL BACKFILL SHALL NOT BE UNBALANCED BY MORE THAN TWO FEET ON EITHER SIDE AT ANY TIME. BASEMENT WALL AND RESTRAINED RETAINING WALL BACKFILL SHALL NOT BE PLACED, UNLESS THE WALL IS ADEQUATELY BRACED. RETAINING WALL AND BASEMENT WALL BACKFILL SHALL BE FREE DRAINING GRANULAR BACKFILL ACCEPTABLE TO THE GEOTECHNICAL ENGINEER.
- DO NOT PLACE CONCRETE UNLESS FOOTING EXCAVATIONS ARE FREE OF ALL WATER, FROST, ICE AND LOOSE SOIL. CONCRETE SHALL BE PLACED AS SOON AS POSSIBLE AFTER EXCAVATION SO THAT EXCESSIVE DRYING OF BEARING MATERIALS DOES NOT OCCUR. BEARING MATERIAL SHALL BE INSPECTED BY A QUALIFIED INDEPENDENT TESTING LAB PRIOR TO PLACEMENT OF CONCRETE.

CONCRETE AND MASONRY REINFORCING STEEL:

- SUBMIT SHOP DRAWINGS FOR REBAR. ALL REINFORCING BARS SHALL MEET ASTM A615 GRADE 60.
- ALL MESH SHALL MEET ASTM A-185 LAP A MINIMUM OF 8" OR ONE FULL MESH, WHICHEVER IS GREATER.
- REINFORCING BAR QUANTITIES SHOWN ARE FOR ESTIMATING PURPOSES ONLY.
- PROVIDE AN ADDITIONAL ALLOWANCE OF 1% OF THE TOTAL REINFORCING SHOWN ON THE FINAL DRAWINGS TO BE FABRICATED AND ERECTED DURING THE PROGRESS OF THE WORK AT THE DIRECTION OF THE STRUCTURAL ENGINEER. FOR THE ADDITIONAL REINFORCING ALLOWANCE, INCLUDE BOTH THE COST OF THE REINFORCING AND THE LABOR TO PLACE IT.
- CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE 3/4" CLEAR FOR SLABS, 2" CLEAR FOR FORMED SURFACES AND 3" CLEAR FOR FOOTINGS (TYPICAL UNLESS NOTED).
- CONTRACTOR SHALL VERIFY THAT ALL REINFORCEMENT, SLAB DOWELS, INSERTS, SLEEVES AND EMBEDDED ITEMS ARE PROPERLY LOCATED AND RIGIDLY SECURED PRIOR TO CONCRETE PLACEMENT, "WEY STICKING" DOWELS WILL NOT BE ALLOWED.
- REINFORCEMENT SHALL BE DETAILED IN ACCORDANCE WITH THE LATEST A.C.I. DETAILING MANUAL BY A QUALIFIED AND EXPERIENCED FIRM AND PERSON. PLACE AND SUPPORT REINFORCEMENT WITH ACCESSORIES, MAXIMUM SPACING - 48" CENTERS (PLASTIC-TIPPED LEGS FOR EXPOSED SURFACES). USE 3" SBP SUPPORTS AT ALL FOOTINGS.
- ALL STRUCTURAL ADHESIVE SHALL BE SIMPSON SET 3G OR HILTI HY-200 OR DEWALT PURE110+. ALL STRUCTURAL ADHESIVE SHALL BE INSTALLED PER THE MANUFACTURER'S REQUIREMENTS. SUBSTITUTIONS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL WITH APPROPRIATE ICBO EVALUATION REPORTS.

CAST IN PLACE CONCRETE:

- SUBMIT PROPOSED MIXED DESIGNS OF EACH TYPE FOR REVIEW. REQUIRED MINIMUM CONCRETE COMPRESSIVE STRENGTHS AT 28 DAYS:
 - A. FOOTING AND GRADE BEAM CONCRETE: 4500 PSI
 - B. SLAB ON GRADE: 4500 PSI
- ALL CONCRETE MIX DESIGNS SHALL HAVE WATER TO CEMENT RATIOS LESS THAN 0.45, WITH A MAXIMUM 60/40 FINE TO COARSE AGGREGATE RATIO. CONCRETE MIX DESIGNS THAT DO NOT CONFORM TO THE ABOVE STANDARD AND/OR CONTAIN WATER REDUCING ADMIXTURES SHALL BE SUBMITTED WITH APPROPRIATE TEST DATA PER A.C.I. ALL CONCRETE SHALL BE IN CONFORMANCE WITH THE A.C.I. 301 STANDARD THAT IS REFERENCED IN THE BUILDING CODE AT THE TIME OF PERMITTING THE PROJECT.
- EXTERIOR CONCRETE (FLOOR SLABS, WALLS, ETC) SHALL HAVE 6% ± 1% AIR ENTRAINMENT.
- CHAMFER ALL EXPOSED CONCRETE EDGES 3/4" (VERIFY WITH ARCHITECT).
- NO ALUMINUM SHALL BE EMBEDDED IN ANY CONCRETE.
- NO CALCIUM CHLORIDE SHALL BE USED IN CONCRETE
- THE DESIGN, CONSTRUCTION, AND SAFETY OF ALL FORMWORK IS THE RESPONSIBILITY OF THE CONTRACTOR
- ALL CONCRETE IS REINFORCED UNLESS SPECIFICALLY NOTED AS UNREINFORCED. REINFORCE ALL CONCRETE NOT OTHERWISE SHOWN WITH THE SAME REINFORCING AS SIMILAR SECTIONS OR AREAS.
- CONSTRUCTION JOINTS IN GRADE BEAMS, CONTINUOUS FOOTINGS, AND WALLS THAT DO NOT CHANGE DIRECTION SHALL BE SPACED NO GREATER THAN 60'-0". INTERMEDIATE CONTROL JOINTS SHALL BE SPACED AT 25'-0" MAX FOR WALLS. CONTROL JOINTS IN WALLS SHALL ALSO BE LOCATED 15'-0" FROM CORNERS AND AT CHANGES IN WALL THICKNESS
- WHERE FRESH CONCRETE IS DEPOSITED AGAINST HARDENED CONCRETE (GREATER THAN 8 HRS OLD), CLEAN EXISTING SURFACE OF LAITANCE AND FOREIGN MATERIAL AND DAMPEN THE EXISTING SURFACE. IF REQUIRED, ROUGHEN EXISTING CONCRETE TO 1/2" AMPLITUDE.
- SLABS ON GRADE SHALL BE 6" THICK MINIMUM ON 4" OF GRANULAR FILL. REINF SLAB WITH 6 X 6-W2 1xW2 1 WWR OR #3 BARS @ 18" OC EA WAY. PLACE REINF IN UPPER 1/3 OF SLAB THICKNESS. AT INTERIOR SLABS, A 10 MIL VAPOR BARRIER SHALL BE PLACED BETWEEN THE CONCRETE AND GRANULAR BASE AND CARE SHOULD BE TAKEN DURING CURING TO PREVENT SLAB CURLING. THIS NOTE SHALL BE TYPICAL UNLESS NOTED OTHERWISE
- SAW CUT JOINTS OR KEVED CONTROL JOINTS IN SLABS ON GRADE SHALL BE SPACED TO DIVIDE THE SLAB INTO PANELS NOT TO EXCEED 225 SQUARE FEET. THE LONGER DIMENSION OF EACH PANEL SHALL NOT EXCEED THE SHORTER DIMENSIONS BY MORE THAN 40%. JOINTS SHALL BE LOCATED AT COLUMN CENTERLINES WHERE POSSIBLE. SPACING BETWEEN JOINTS SHALL NOT EXCEED 15 FEET. CONTRACTOR SHALL SUBMIT JOINT LAYOUT TO ARCHITECT FOR APPROVAL. REFER TO TYPICAL DETAILS.
- REINFORCEMENT SHALL BE CONTINUOUS AND LAPPED PER TYPICAL DETAIL (2'-6" MIN) EXCEPT AS NOTED AND PROVIDE CORNER BARS OF SAME SIZE AND SPACING.
- FOUNDATION CONTRACTOR TO ENSURE PROPER ANCHOR ROD PROJECTION AND THAT ANCHOR RODS ARE HELD SECURELY IN POSITION PRIOR TO CONCRETE PLACEMENT. INSTALL ANCHOR RODS TO THE STRICT DIMENSIONAL TOLERANCES PER AISC REQUIREMENTS. STRUCTURAL STEEL COLUMN ANCHOR RODS SHALL BE SET WITH A RIGID TEMPLATE.
- AGGREGATES AND/OR CONCRETE MIXES SHALL BE CERTIFIED TO BE FREE OF AND ELIMINATE DAMAGE OF CONCRETE DUE TO ALKALI-SILICA REACTION OR ALKALI-AGGREGATE REACTIONS WHEN EXPOSED TO SOILS AND/OR AN EXTERIOR ENVIRONMENT.

CONCRETE MASONRY UNITS:

- ALL MASONRY SHALL BE IN ACCORDANCE WITH ACI 530 / TMS 402. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR NON-STRUCTURAL BRICK REQUIREMENTS. INDIVIDUAL CMU'S SHALL BE PER ASTM C90 (2650 PSI), GROUT SHALL BE PER ASTM C476, MORTAR SHALL BE PER ASTM C270.
 - A. USE OF MASONRY CEMENT IS PROHIBITED.
 - B. USE OF AIR-ENTRAINING ADMIXTURES IS PROHIBITED.
- MASONRY MATERIALS SHALL BE AS FOLLOWS:
 - A. fm = 2,000 PSI MINIMUM. ALL UNITS SHALL BE NORMAL-WEIGHT BLOCK.
 - B. GROUT STRENGTH NOT LESS THAN 2,000 PSI.
 - C. MORTAR TYPE S. (USE TYPE M OR S, OR BETTER FOR PORTIONS BELOW-GRADE).
- WHERE NOT OTHERWISE SHOWN, MINIMUM WALL REINFORCEMENT SHALL BE (1) #4 VERT AT 48" OC MAX. PROVIDE NOT LESS THAN 9-GAUGE HORIZONTAL LADDER-TYPE REINFORCEMENT AT NOT MORE THAN 16" OC VERTICALLY, LAPPED 8" MINIMUM. DISCONTINUE HORIZ REINF AT CONTROL JOINT LOCATIONS. REBAR POSITIONERS SHALL BE PROVIDED FOR ALL VERTICAL BARS SUCH THAT A MINIMUM 3" OF SPACE IS MAINTAINED CLEAR FOR PLACEMENT OF GROUT.
- ALL BLOCKS SHALL BE LAID IN RUNNING BOND.
- GROUT ALL BLOCK CORES CONTAINING VERTICAL BARS, HORIZONTAL BOND BEAMS, AND/OR ANCHOR RODS. IN ADDITION:
 - GROUT SOLID ALL UNITS LOCATED BELOW GRADE AND/OR LOCATED IN CONTACT WITH SOIL.
 - GROUT POUR HEIGHTS SHALL NOT EXCEED 5'-0" UNLESS CLEAN-OUTS ARE PROVIDED AND INSPECTED. THE MAXIMUM GROUT POUR HEIGHT WITH CLEANOUTS SHALL NOT EXCEED 12'-6". STOP GROUT POURS AT 1'-12" BELOW THE TOP OF THE CMU COURSE. CONSOLIDATE GROUT WITH VIBRATOR.

CONCRETE MASONRY UNITS (CONT):

- ALL OPENINGS IN NEW CONCRETE MASONRY WORK REQUIRE A BOND-BEAM LINTEL PER TYPICAL DETAILS AND PLANS
 - A. GALVANIZED LOOSE-ANGLE STEEL LINTELS SHALL BE UTILIZED TO SUPPORT BRICK VENEER IN NEW SECTIONS OF WALL AND WHERE CUTTING IN NEW OPENINGS IN EXISTING BRICK AND TILE WALLS UNLESS NOTED OTHERWISE.
- PROVIDE CONTROL JOINTS AS SHOWN ON ARCHITECTURAL AND/OR STRUCTURAL DRAWINGS. WHERE NOT SHOWN OR OTHERWISE DENOTED, PROVIDE CONTROL JOINTS AT NOT MORE THAN 25'-0" OC, LOCATED AT OPENINGS, AND NEAR CORNERS, AS SHOWN ON TYPICAL DETAILS. PROVIDE VERTICAL REINFORCEMENT ON EACH SIDE OF CONTROL JOINTS.
- PLACEMENT OF REINFORCEMENT SHALL OCCUR PRIOR TO PLACEMENT OF GROUT. ALL REINFORCEMENT IN STRUCTURAL AND SHEAR WALLS SHALL BE INSPECTED PRIOR TO GROUTING, AND ALL MATERIALS AND MATERIAL PLACEMENT INSPECTED AND TESTED.
- REINFORCEMENT SHALL HAVE A MINIMUM LAP SPLICE OF 18" FOR #3 BARS, 24" FOR #4 BARS, AND 32" FOR #5 BARS, UNO
- EXTEND HORIZONTAL REINFORCEMENT IN BOND BEAMS, LINTELS AND SILLS NOT LESS THAN 2'-0" PAST ENDS OF ALL OPENINGS. REINFORCEMENT IN BOND BEAMS IN LINTELS SHALL BE CONTINUOUS BARS AND SHALL NOT BE LAP SPLICED
- REINFORCE BOND BEAMS W/ (2) #4 BAR MIN, UNLESS NOTED OTHERWISE.

WOOD:

- FRAMING MATERIAL: ALL WOOD FRAMING SHALL MEET OR EXCEED THE FOLLOWING:
 - A. NOMINAL STRUCTURAL LUMBER. DOUG. FIR - NO 2 OR BETTER, KILN-DRIED, MIN Fb = 900 PSI, MIN E = 1400 KSI.
 - B. EXPOSED TO WEATHER: NOMINAL STRUCT LUMBER - PRESS TREATED NO 2 OR BETTER, MIN Fb = 1000 PSI, MIN E = 1300 KSI
 - C. MICROLAM LVL (LAMINATED VENEER LUMBER) BEAMS SHALL MEET TRUS JOIST SPECIFICATIONS: MINIMUM Fb = 2600 PSI AND MINIMUM E = 1900 KSI.
 - D. TIMBERSTRAND LSL (LAMINATED STRAND LUMBER) BEAMS SHALL MEET TRUS JOIST SPECIFICATIONS: MINIMUM Fb = 2600 PSI AND MINIMUM E = 1550 KSI.
 - E. GLULAM FRAMING: 24F-V4 DOUGLAS FIR, ARCHITECTURAL FINISH (COORDINATE WITH ARCH), BASIS OF DESIGN IS ROSBORO X-BEAM.
- ALL LUMBER IN DIRECT CONTACT WITH CONCRETE OR MASONRY, SUCH AS SILL PLATES AND BEARING PLATES BELOW BEAMS POCKETED IN CMU, SHALL BE TREATED LUMBER.
- WOOD SHEATHING:
 - A. ROOF SHEATHING SHALL BE 15/32" OR 1/2" WITH AN APA SPAN RATING OF 32/16, EXPOSURE 1, MINIMUM 2 SPAN, FASTEN WITH 10d COMMON NAILS AT 6" CENTERS AT ALL PANEL EDGES AND 12" CENTERS MAXIMUM AT INTERMEDIATE FRAMING MEMBERS (IN THE FIELD). USE PLYCLIPS AT MIDSPAN.
 - B. FLOOR SHEATHING SHALL BE TONGUE AND GROOVE SHEATHING, EXPOSURE 1, MINIMUM 2 SPAN, FASTEN WITH APA APPROVED ADHESIVE AND 10d RING SHANKED NAILS AT 6" ON CENTERS AT ALL PANEL EDGES AND AT 10" ON CENTERS MAXIMUM AT INTERMEDIATE FRAMING MEMBERS (IN THE FIELD).
 - WHEN CLEAR DISTANCE BETWEEN FLOOR JOISTS OR FLOOR TRUSSES IS 16" OR LESS USE 3/4" SHEATHING WITH AN APA SPAN RATING OF 48/24
 - WHEN CLEAR DISTANCE BETWEEN FLOOR JOISTS OR FLOOR TRUSSES IS GREATER THAN 16" USE 7/8" SHEATHING WITH AN APA SPAN RATING OF 60/32.
 - C. WALL SHEATHING FOR EXTERIOR WALLS SHALL BE 7/16" WITH AN APA SPAN RATING OF 24/16, UNLESS NOTED OTHERWISE. ALL PANEL EDGES SHALL BE BACKED WITH 2 INCH NOMINAL OR WIDER FRAMING. FASTEN WITH 8d COMMON NAILS AT 6" OC MAXIMUM AT ALL TOP PLATES, BLOCKING, BOUNDARIES AND 12" OC MAXIMUM IN THE FIELD.
- ALL WOOD SHEATHING TO BE STAGGERED 4'X8' SHEETS, ORIENTED PERPENDICULAR TO SUPPORTING MEMBERS.
- PROVIDE 1/8" GAP AT ALL SHEATHING PANEL EDGES AND END JOINTS UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER. DUE TO CONSTRUCTION CONDITIONS, TEMPORARY EXPANSION JOINTS MAY BE REQUIRED IN FLOOR/ROOF SHEATHING.
- ALL HEADERS IN EXTERIOR OR INTERIOR BEARING WALLS SPANNING MORE THAN 3'-8" SHALL BE SUPPORTED ON DOUBLE STUDS UNLESS NOTED.
- MINIMUM NAILING SHALL CONFORM TO IBC TABLE 2304.10.1. USE COMMON NAILS EXCEPT WHERE NOTED. ALL FASTENERS (BOLTS, SCREWS, NAILS, ETC) IN CONTACT WITH PRESSURE TREATED LUMBER SHALL BE HOT DIP GALVANIZED.
- LIGHT GAUGE WOOD FRAMING CONNECTORS AS NOTED ON THE PLANS FOR WOOD JOISTS, COLUMNS, BEAMS AND TRUSSES SHALL BE "STRONG - TIE" CONNECTORS BY THE SIMPSON CO. OR REVIEWED EQUIVALENT. CONNECTORS IN DIRECT CONTACT WITH PRESSURE TREATED LUMBER SHALL HAVE "ZMAX" G185 HOT DIP GALVANIZED COATINGS OR REVIEWED EQUIVALENT.
- CONNECTORS IN DIRECT CONTACT WITH PRESSURE TREATED LUMBER SHALL HAVE "ZMAX" G185 HOT DIP GALVANIZED COATING OR REVIEWED EQUIVALENT.
- STAINLESS STEEL FASTENERS, ANCHOR BOLTS, LIGHT GAUGE CONNECTORS, ETC. MAY BE SUBSTITUTED FOR HOT DIP GALVANIZED MATERIALS AT THE CONTRACTORS OPTION.
- PROVIDE UPLIFT CONNECTORS AT EACH ROOF TRUSS TO WALL CONNECTIONS PER IBC.
- STUDS SHALL BE CONTINUOUS BETWEEN EACH DIAPHRAGM LEVEL. EXTERIOR WALL STUDS AT GROUND FLOOR SHALL BE BRACED BY KICKERS AND/OR STRUCTURAL CEILING FRAMING.
- TYPICAL SILL ANCHOR RODS SHALL BE GALVANIZED 5/8" DIAMETER EMBEDDED 6" MIN INTO CONCRETE, SPACED NO FURTHER THAN 3'-0" OC, AND SHALL OCCUR WITHIN 12" OF THE ENDS OF A SILL PLATE. SPACE ANCHOR RODS MORE CLOSELY TOGETHER AT SHEAR WALLS AS SHOWN ON THE DRAWINGS. EACH SILL PLATE SHALL HAVE A MINIMUM OF 2 ANCHOR RODS. PROVIDE 2" SQUARE PLATE WASHERS AND NUTS.
- SUBSTITUTIONS OF SPECIFIED WOOD MEMBERS SHALL NOT BE MADE WITHOUT REVIEW OF THE ARCHITECT/ENGINEER.
- CUT ENDS OF EXTERIOR WOOD POSTS SHALL BE FIELD TREATED WITH AN APPROVED PRESERVATIVE (SUCH AS COPPER NAPHTHENATE) AT ATTACHMENT OF THE BEAM TO THE SIDE OF THE POST WITHOUT NOTCHING IS PROHIBITED. ALL 3-PLY BEAMS SHALL BE CONNECTED TO THE POST BY A POST CAP PLATE.

SPECIAL INSPECTIONS:

- THE OWNER SHALL ENGAGE A THIRD PARTY MEETING THE REQUIREMENTS OF CHAPTER 17 OF THE BUILDING CODE AND THE BUILDING OFFICIAL TO PROVIDE SPECIAL STRUCTURAL INSPECTIONS AND VERIFICATIONS
- SPECIAL INSPECTORS SHALL BE QUALIFIED AND FURNISH THEIR REPORTS IN A TIMELY MANNER TO THE CONTRACTOR, BUILDING OFFICIALS, ARCHITECT, AND/OR ENGINEER
- SHOULD INSPECTOR IDENTIFY ANY DISCREPANCY, THEY SHALL NOTIFY CONTRACTOR FIRST, AND THEN ARCHITECT IMMEDIATELY THEREAFTER IF CORRECTIVE ACTION IS NEEDED.
- SPECIAL INSPECTIONS AS REQUIRED BY CODE:
 - A. STEEL: SECTION 1705.2, AND AISC 360
 - B. CONCRETE: SECTION 1705.3 AND TABLE 1705.3. CONCRETE MATERIAL SAMPLING AND TESTING, REBAR OBSERVATIONS. TAKE SET OF (3) CYLINDERS FOR EVERY 50 C.Y., BUT NOT LESS THAN ONE SET OF SAMPLES PER DAY'S WORK AND PER MIX.
 - C. SOILS: SECTION 1705.6. FOUNDATION BEARING, EXCAVATION, FILL PLACEMENT.
 - D. MASONRY: SECTION 1705.4 AND TMS 602 TABLE 4. LEVEL 2
 - F. WOOD CONSTRUCTION: SECTION 1705.5.
- A SUMMARY OF THE ANTICIPATED SPECIAL INSPECTIONS REQUIRED FOR THE PROJECT ARE PROVIDED IN THE TABLES BELOW.

SPECIAL INSPECTION OF CONCRETE CONSTRUCTION - TABLE 1704.4			
REQD	VERIFICATION & INSPECTION	CONTINUOUS	PERIODIC
X	1. INSPECTION OF REINFORCING STEEL & PLACEMENT		X
	2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE W/ TABLE 1704.3 ITEM 5B	X	
X	3. INSPECT BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO & DURING PLACEMENT OF CONCRETE	X	
X	4. VERIFYING USE OF REQUIRED MIX DESIGN		X
X	5. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLIP & AIR CONTENT TESTS, & DETERMINE THE TEMPERATURE OF THE CONCRETE	X	
X	6. INSPECTION OF CONCRETE & SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X	
X	7. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE & TECHNIQUES		X
	8. INSPECTION OF PRESTRESSED CONCRETE		X
	9. ERECTION OF PRECAST CONCRETE MEMBERS		X
X	10. VERIFICATION OF IN-SITU CONCRETE STRENGTH PRIOR TO REMOVAL OF SHORES & FORMS FROM BEAMS & STRUCTURAL SLABS		X
X	11. INSPECT FORMWORK FOR SHAPE, LOCATION, & DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED		X

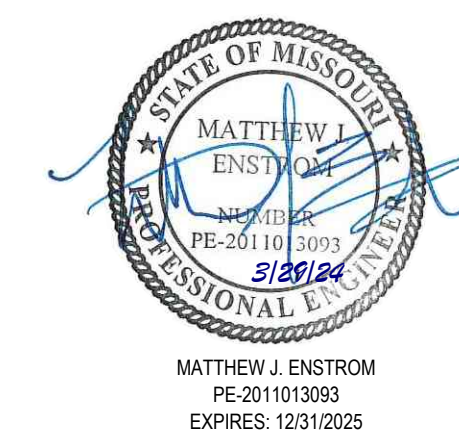
SPECIAL INSPECTION OF SOILS - TABLE 1704.7			
REQD	VERIFICATION & INSPECTION	CONTINUOUS	PERIODIC
X	1. VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY		X
X	2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH & HAVE REACHED PROPER MATERIAL		X
X	3. PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS		X
X	4. VERIFY USE OF PROPER MATERIALS, DESITIES & LIFT THICKNESSES DURING PLACEMENT & COMPACTION OF CONTROLLED FILL	X	
X	5. PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY		X

SPECIAL INSPECTION OF MASONRY CONSTRUCTION - TMS 602 LEVEL 2			
REQD	VERIFICATION & INSPECTION	CONTINUOUS	PERIODIC
1. AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:			
X	A. PROPORTIONS OF SITE-PREPARED MORTAR		X
	B. GRADE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGES		X
X	C. GRADE, TYPE AND SIZE OF REINFORCEMENT, CONNECTORS, ANCHOR BOLTS, AND PRESTRESSING TENDONS AND ANCHORAGES		X
	D. PRESTRESSING TECHNIQUE		X
	E. PROPERTIES OF THIN-BED MORTAR FOR AAC MASONRY	FOR FIRST 5000 SQFT OF MASONRY	X AFTER FIRST 5000 SQFT OF MASONRY
	F. SAMPLE PANEL CONSTRUCTION		X
2. PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:			
X	A. GROUT SPACE		X
	B. PLACEMENT OF PRESTRESSING TENDONS AND ANCHORAGES		X
X	C. PLACEMENT OF REINFORCEMENT, CONNECTORS, AND ANCHOR BOLTS		X
X	D. PROPORTIONS OF SITE-PREPARED GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS		X
3. VERIFY COMPLIANCE OF THE FOLLOWING DURING CONSTRUCTION:			
X	A. MATERIALS AND PROCEDURES WITH THE APPROVED SUBMITTALS		X
X	B. PLACEMENT OF MASONRY UNITS AND MORTAR JOINT CONSTRUCTION		X
X	C. SIZE AND LOCATION OF STRUCTURAL MEMBERS		X
X	D. TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION		X
	E. WELDING OF REINFORCEMENT	X	
X	F. PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMP BELOW 40°F) OR HOT WEATHER (TEMP ABOVE 90°F)		X
	G. APPLICATION AND MEASUREMENT OF PRESTRESSING FORCE	X	
X	H. PLACEMENT OF GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS IS IN COMPLIANCE	X	
	I. PLACEMENT OF AAC MASONRY UNITS AND CONSTRUCTION OF THIN-BED MORTAR JOINTS	X FOR FIRST 5000 SQFT OF MASONRY	X AFTER FIRST 5000 SQFT OF MASONRY
4. OBSERVE PREPARATION OF THE FOLLOWING:			
X	A. GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS		X

**STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR**



8234 Robinson Street
Overland Park, KS 66204
913-214-2169
stand-sei.com



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BENNETT SPRING
STATE PARK
26250 HWY 64A
LEBANON, MO 65536

PROJECT NO. X2228-01
SITE NO. 5302
ASSET NO. 7815302065

REVISION: _____
DATE: _____
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DATE: _____
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DATE: _____
ISSUE DATE: 03.29.2024

CAD DWG FILE: XXX
DRAWN BY: TJS
CHECKED BY: CRG
DESIGNED BY: MJE

SHEET TITLE:
RESTROOM PLANS

SHEET NUMBER:

S-101

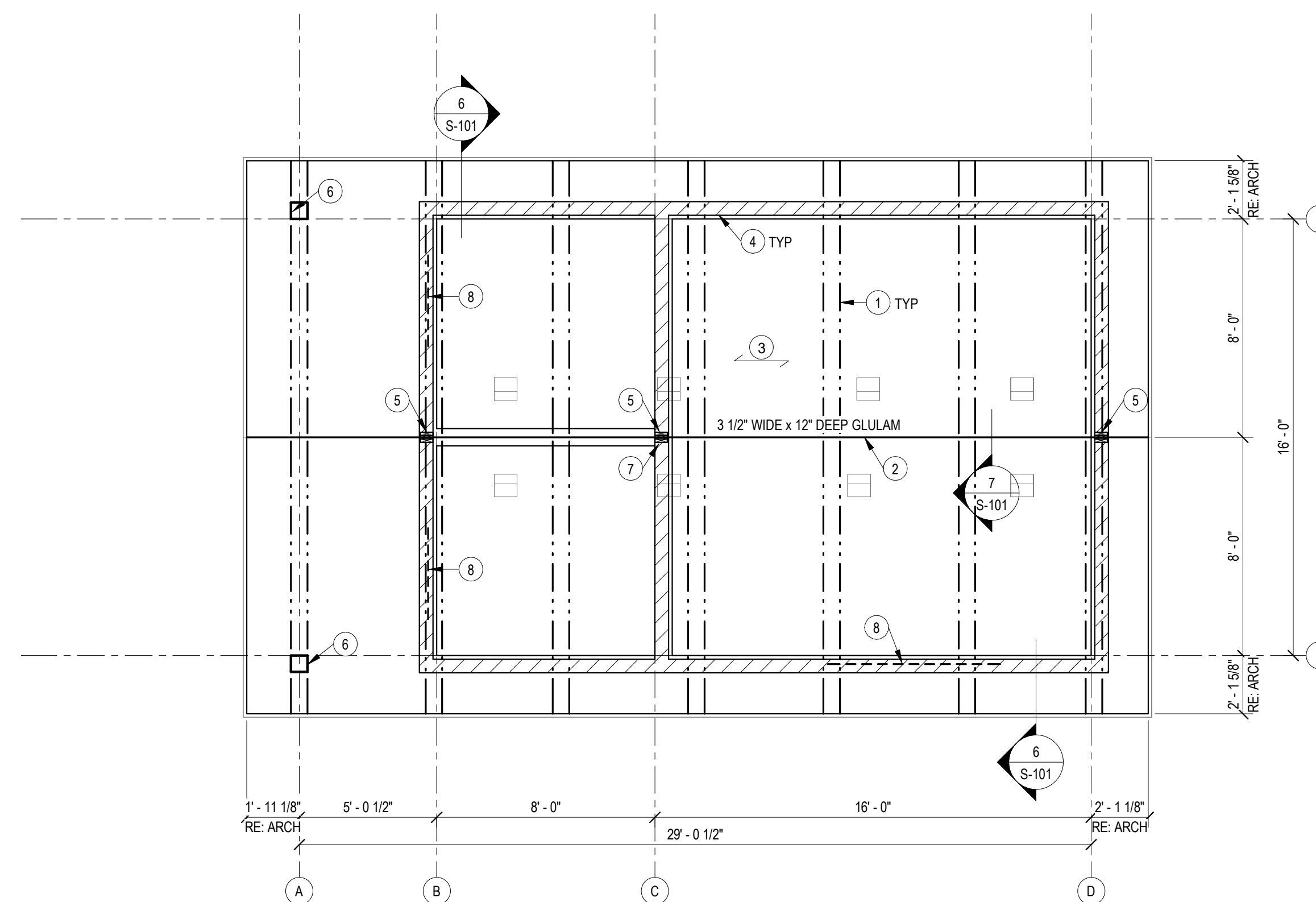
24 OF 33 SHEETS
03.29.2024

SHEET NOTES:

- A. REFERENCE SHEET S-001 FOR STRUCTURAL GENERAL NOTES AND S-501 FOR TYPICAL DETAILS. REVIEW NOTES & DETAILS FOR APPLICABILITY.
- B. SEE ARCHITECTURAL DRAWING FOR DETAILS & DIMENSIONS NOT SHOWN.
- C. TOP OF SLAB ELEVATION = 100'-0" UNO.
- D. TOP OF FOOTING ELEVATION = 99'-4" UNO. THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE 3'-0" MIN BELOW GRADE, DEEPEN FOOTINGS AS REQUIRED.
- E. SPREAD FOOTINGS DENOTED ON PLAN BY "Fxx". REFER TO SCHEDULE ON S-101 FOR SIZE AND REINFORCING.
- F. TCMU WALL = 108'-8", UNO

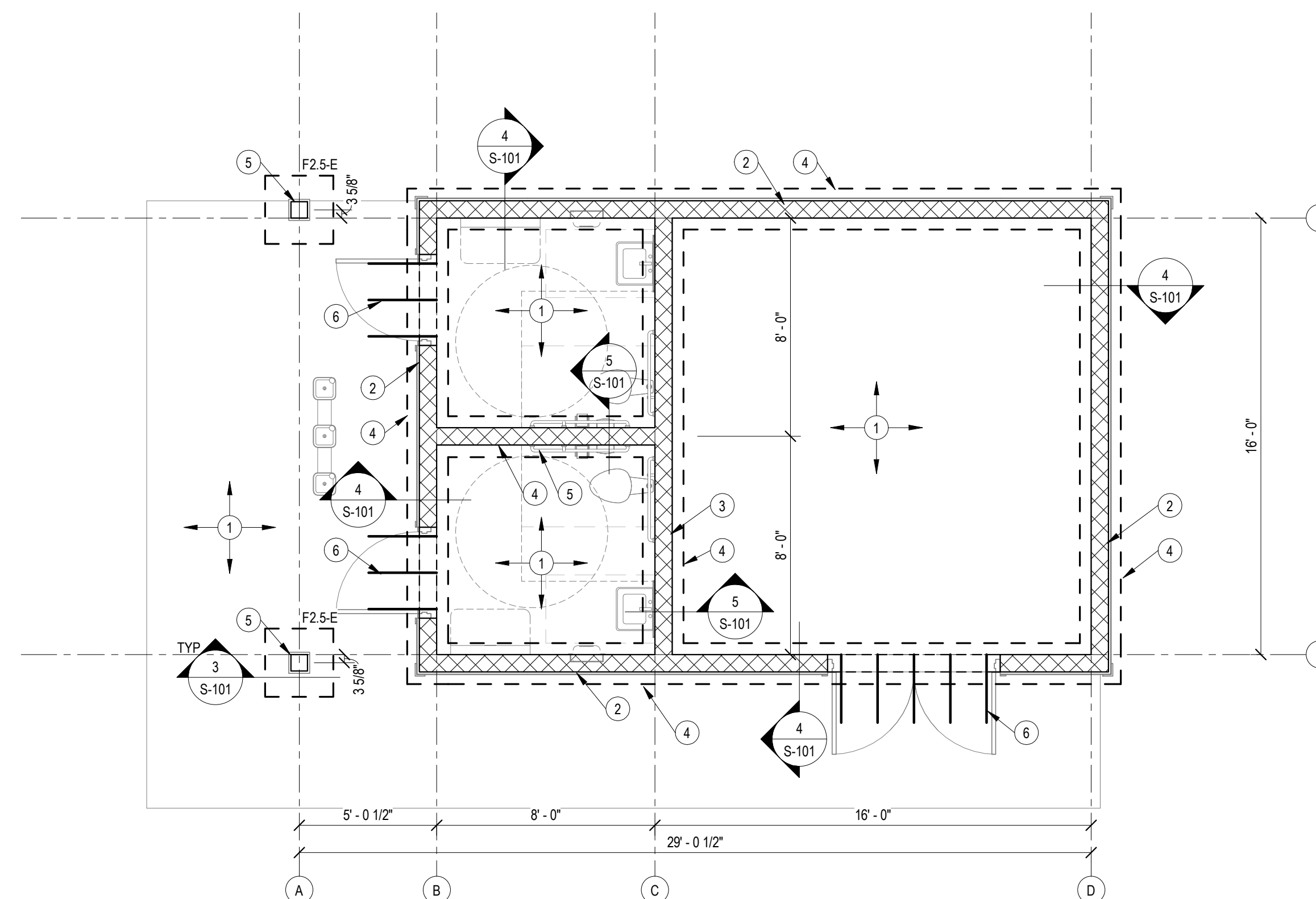
FRAMING PLAN NOTES:

- 1 2x8 RAFTER PAIRS, SPACING PER ARCH
- 2 STRUCTURAL RIDGE BEAM
- 3 2X6 DOUGLAS FIR T&G ROOF DECKING W/ 1/2" OSB SHEATHING OVERLAY
- 4 2X6 @ 16" OC FRAMED WALL FROM T/ CMU TO UNDERSIDE OF ROOF W/ 1/2" NOMINAL OSB SHEATHING
- 5 (3) 2x6 @ RIDGE BEARING
- 6 ATTACH RAFTERS TO SIDE OF POST W/ (2) (2) 0.22"x 4" LONG EXTERIOR GRADE TIMBER SCREWS
- 7 RIDGE BEAM SPLICE LOCATION (CONTRACTOR'S OPTION)
- 8 BOND BEAM LINTEL ABOVE OPENING, RE: TYP DTL



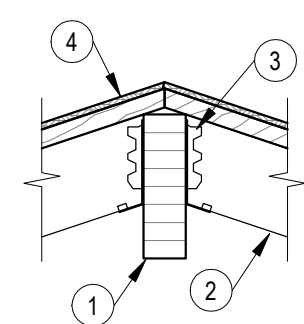
2 ROOF FRAMING PLAN

1/4" = 1'-0"
NORTH



1 FOUNDATION PLAN

1/4" = 1'-0"
NORTH

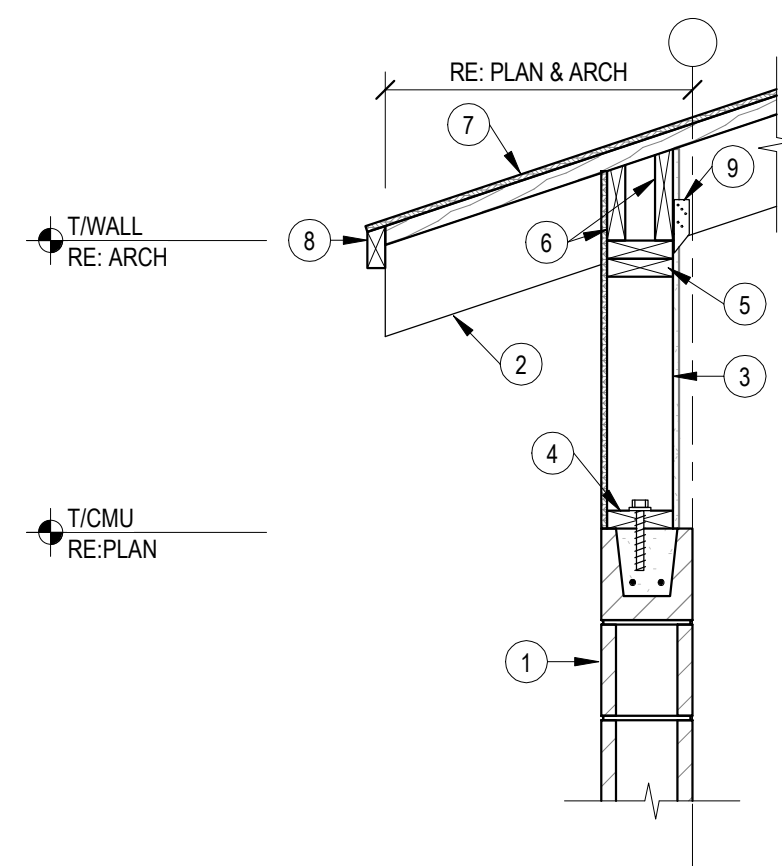


DETAIL NOTES:

- 1 GLULAM RIDGE BEAM, RE: PLAN
- 2 RAFTER, RE: PLAN
- 3 SLOPING RAFTER HANGER @ EA RAFTER, 960 LB MIN CAPACITY
- 4 ROOF DECKING @ SHEATHING OVERLAY, RE: PLAN

7 TYP RIDGE DTL

3/4" = 1'-0"



DETAIL NOTES:

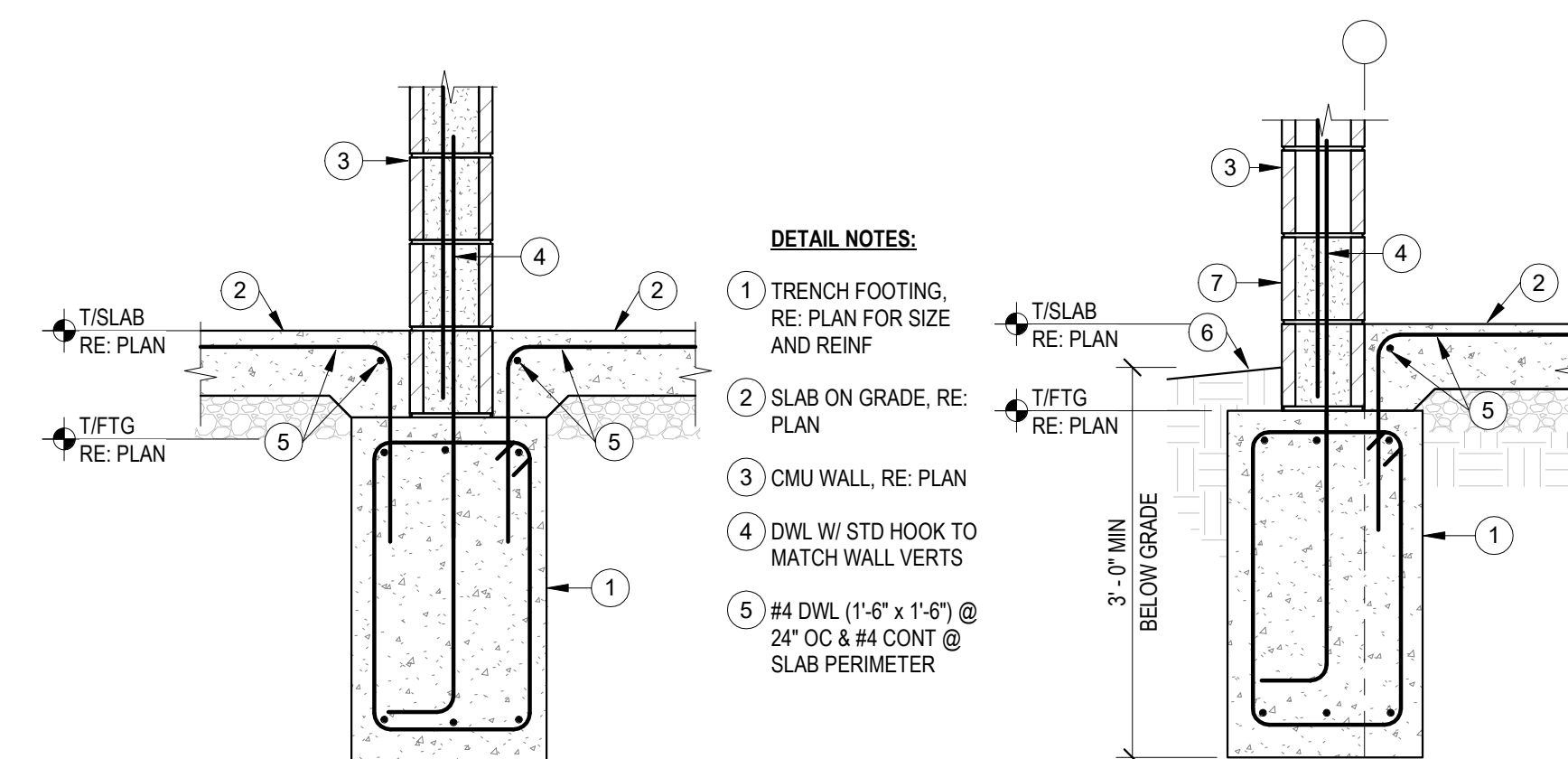
- 1 CMU WALL W/ BOND BEAM @ TOP, RE: PLAN
- 2 RAFTER, RE: PLAN
- 3 WOOD FRAMED WALL W/ OSB SHEATHING, RE: PLAN
- 4 CONT TREATED 2x PLATE W/ 5/8" Ø x 5" LONG CONCRETE / MASONRY SCREW ANCHOR @ 32" OC
- 5 CONT DBL TOP PL
- 6 BLOCKING BTWN JOISTS, RE: ARCH A-301
- 7 ROOF DECKING AND SHEATHING OVERLAY, RE: PLAN
- 8 2x FASCIA, RE: ARCH A-301
- 9 SIMPSON H2.5A OR EQUIVALENT @ EA RAFTER

6 TYP ROOF PERIMETER

3/4" = 1'-0"

DETAIL NOTES:

- 1 TRENCH FOOTING, RE: PLAN FOR SIZE AND REINF
- 2 SLAB ON GRADE, RE: PLAN
- 3 CMU WALL, RE: PLAN
- 4 DWL W/ STD HOOK TO MATCH WALL VERTS
- 5 #4 DWL (1'-6" x 1'-6") @ 24" OC & #4 CONT @ SLAB PERIMETER
- 6 GRADE, RE: C-103
- 7 GROUT SOLID BOTTOM TWO COURSES



4 TYP WALL FOUNDATION

3/4" = 1'-0"

DETAIL NOTES:

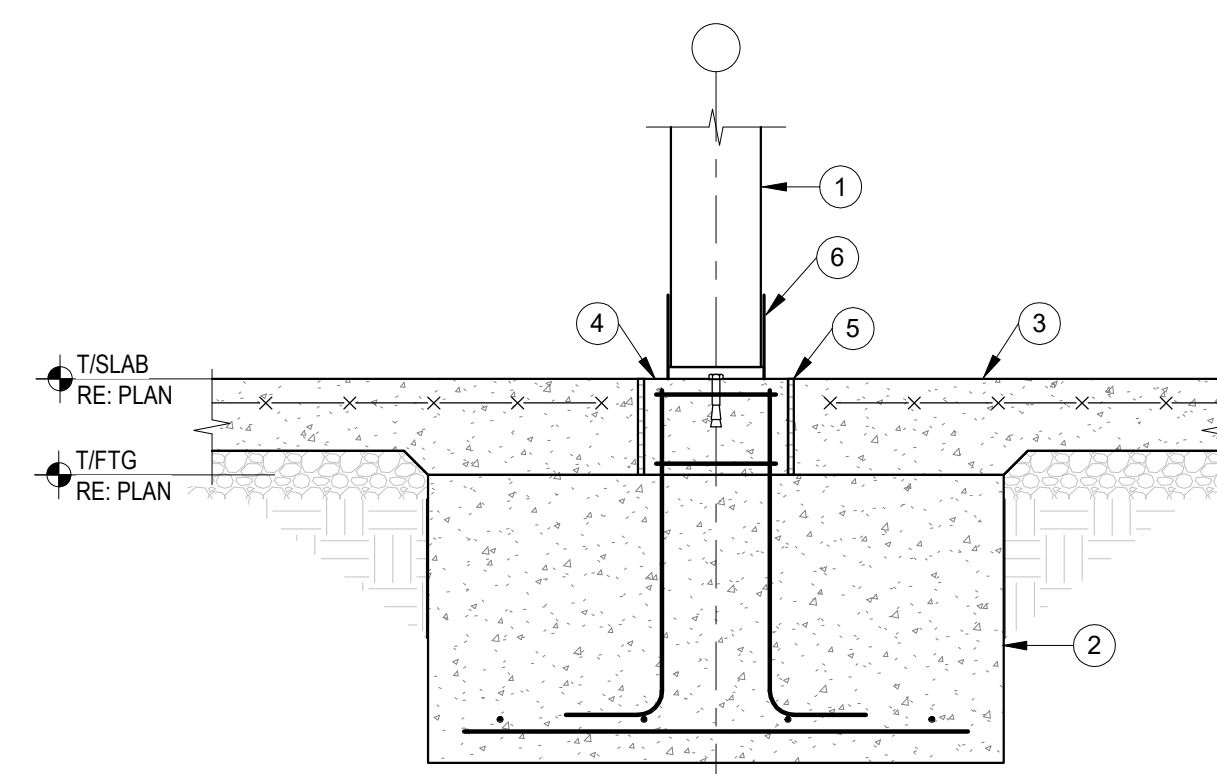
- 1 TRENCH FOOTING, RE: PLAN FOR SIZE AND REINF
- 2 SLAB ON GRADE, RE: PLAN
- 3 CMU WALL, RE: PLAN
- 4 DWL W/ STD HOOK TO MATCH WALL VERTS
- 5 #4 DWL (1'-6" x 1'-6") @ 24" OC & #4 CONT @ SLAB PERIMETER

5 TRENCH FTG @ INT

3/4" = 1'-0"

DETAIL NOTES:

- 1 COLUMN, RE: PLAN
- 2 FOOTING, RE: PLAN
- 3 PAVING, RE: C-102
- 4 12" SQ PEDESTAL W/ (4) #4 VERT AND (2) #3 CLOSED TIES
- 5 1/2" COMPRESSIBLE JOINT AND SEALANT
- 6 STANDOFF POST BASE W/ EXPANSION ANCHORS PER MFCR

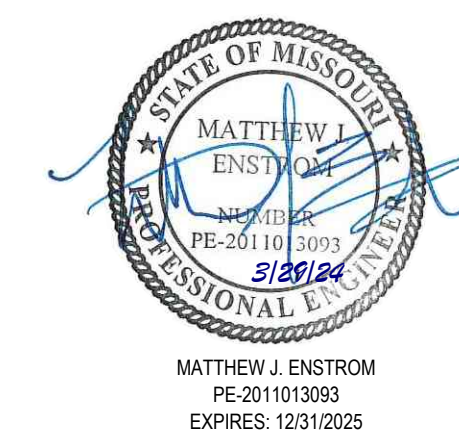


3 TYP COL FOOTING

3/4" = 1'-0"

SCHEDULE - SPREAD FOOTING

TYPE MARK	LENGTH	WIDTH	THICKNESS	REINF
F2.5-E	2'-6"	2'-6"	2'-8"	(4) #4 EA WAY, BOTT

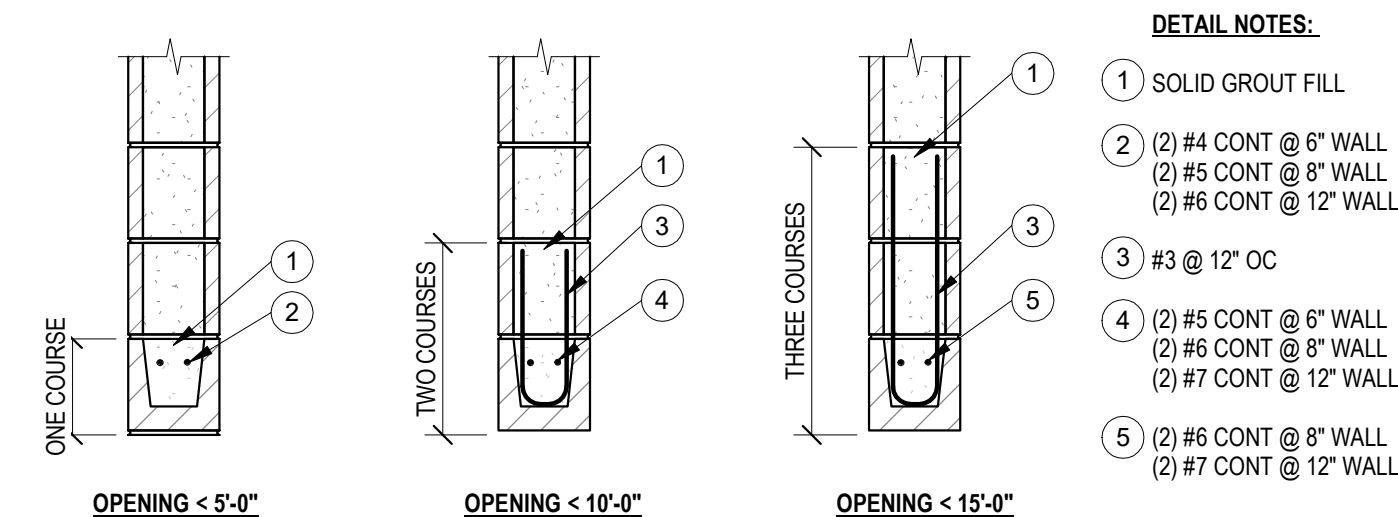


BAR SIZE	BAR CENTERED IN CELL			BAR @ EDGE OF CELL
	6" BLOCK	8" BLOCK	10" & 12" BLOCK	ALL BLOCK SIZES
	3	24	24	24
4	32	32	32	4"
5	40	40	40	4"
6	48	48	48	4"
7	56	56	56	8"

NOTES:
1. VALUES APPLY ONLY FOR MASONRY COMPRESSIVE STRENGTH (FM) OF 1500 PSI.
2. LAP LENGTHS IN TABLE ABOVE ARE GIVEN IN INCHES
3. VALUES ONLY APPLY WHEN A SINGLE BAR IS WITHIN CELL
4. PROVIDE MECHANICAL SPLICES FOR #8 BARS AND LARGER

4 MASONRY LAP SPLICE

1/2" = 1'-0"

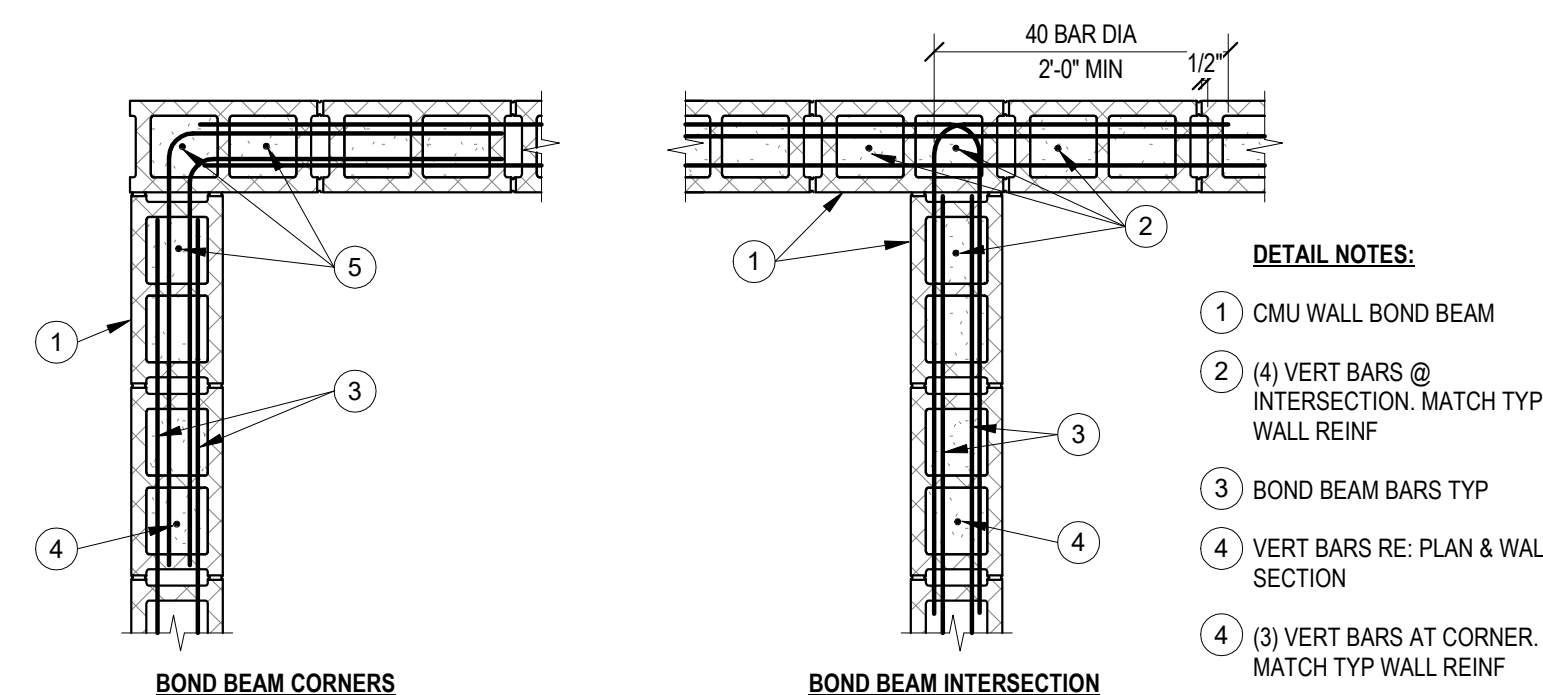


OPENING < 5'-0" OPENING < 10'-0" OPENING < 15'-0"

NOTES:
PROVIDE BLOCK LINTELS FOR ALL OPENINGS IN INT & EXT BLOCK WALLS FOR WHICH STEEL LINTELS ARE NOT SCHEDULED. SEE ARCH DRAWINGS FOR SIZE & LOCATION OF OPENINGS
PROVIDE 8" MIN BRG EA END OF LINTEL
PROVIDE (2) #5 VERT IN FULLY GROUTED CELLS AT EA JAMB

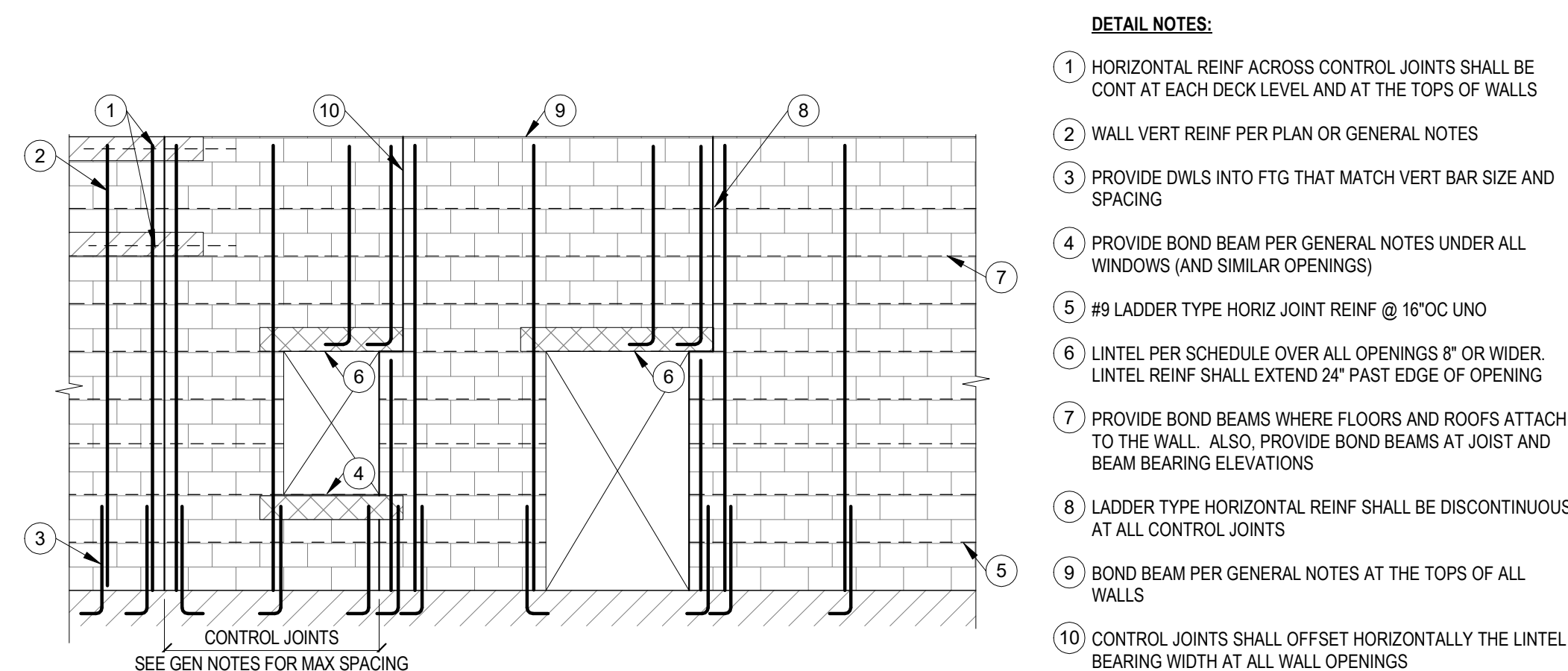
3 MASONRY LINTEL SCHEDULE

3/4" = 1'-0"



2 MASONRY BOND BEAM

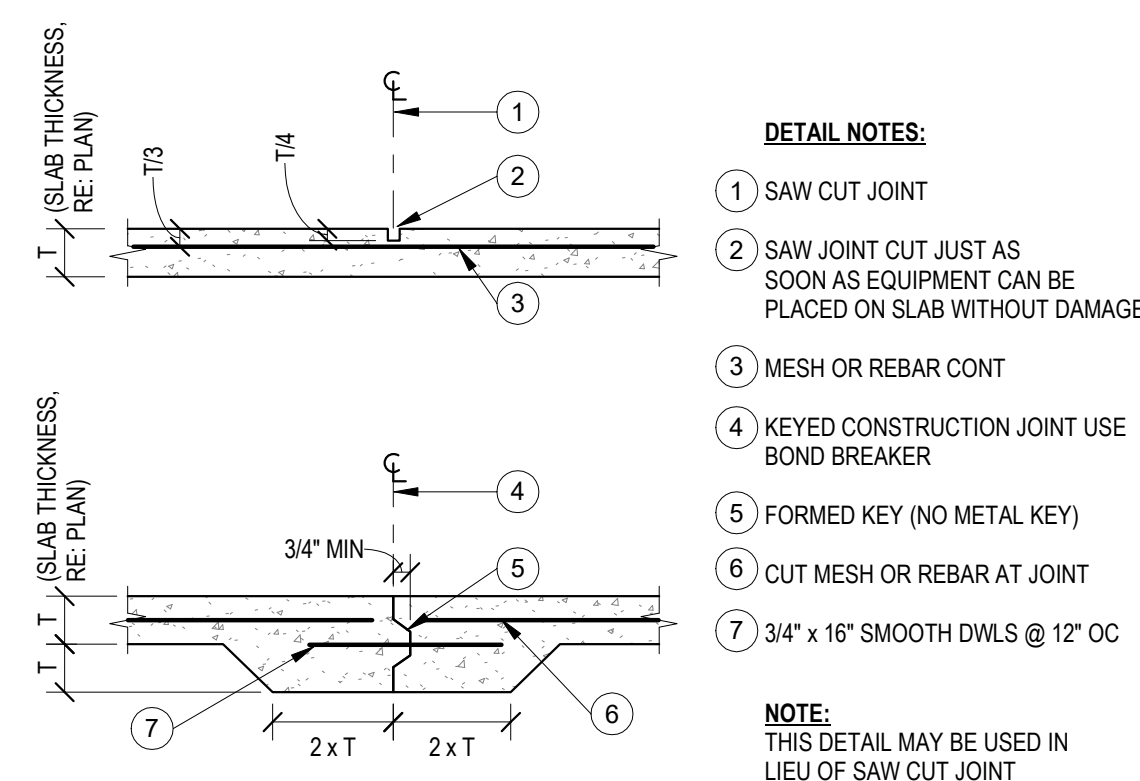
3/4" = 1'-0"



NOTES:
A. CONTRACTOR SHALL COORD W/ ENGINEER ANY CONDITION & LOCATIONS WHERE OPENING DIMENSIONS EXCEED THOSE SHOWN ON PLANS
B. LINTELS AND BOND BEAMS ARE REQ ABOVE AND BELOW ANY OPENING EXCEEDING 8" IN EITHER THE HORIZONTAL OR VERTICAL DIMENSION. THIS INCLUDES, BUT IS NOT LIMITED TO MECHANICAL, ELECTRICAL, PLUMBING, DOOR OR WINDOW OPENINGS

1 MASONRY WALL REINF

1/4" = 1'-0"



6 SLAB ON GRADE CONTROL JOINTS

3/4" = 1'-0"

BAR	F _c =3000 psi							F _c =4000 psi						
	EMBEDMENT		LAP SPLICE			HOOK		EMBEDMENT		LAP SPLICE			HOOK	
	(LCE)	TOP OTHER	COMPRESSION (LCS)	TENSION (LTS)	TOP OTHER (LDH)			(LCE)	TOP OTHER	(LCS)	TOP OTHER	(LDH)		
#3	8	13	12	12	28	21	6	8	12	12	12	16	16	7
#4	11	21	16	15	37	28	8	9	18	14	15	24	18	9
#5	14	31	24	19	46	36	10	12	27	21	19	35	27	12
#6	16	43	33	23	56	43	12	14	37	28	23	48	37	14
#7	19	69	53	26	81	62	13	17	60	46	26	78	60	17
#8	22	85	66	30	93	71	15	19	74	57	30	96	74	19
#9	25	103	80	34	105	80	17	21	90	69	34	116	90	21
#10	28	124	96	38	118	90	19	24	108	83	38	140	108	24
#11	31	146	112	42	131	100	22	27	126	97	42	164	126	27

NOTES (PERTAINING TO TABLE):
A. TOP BARS ARE HORIZONTAL BARS THAT HAVE MORE THAN 12" OF FRESH CONCRETE CAST BELOW THEM.
B. ALL BARS THAT ARE NOT "TOP BARS" ARE "OTHER" BARS
C. ABBREVIATIONS:
- LCE - COMPRESSION EMBEDMENT LENGTH
- LTE - TENSION EMBEDMENT LENGTH
- LCS - COMPRESSION LAP SPLICE LENGTH
- LTS - TENSION LAP SPLICE LENGTH
- LDH - HOOKED BAR TENSION EMBEDMENT LENGTH

NOTES (GENERAL):
A. STAGGER ALL SPLICES 12 db MIN, BUT NOT LESS THAN 12"
B. ALL DIMENSIONS INDICATED IN TABLE ARE IN INCHES
C. BARS GREATER THAN #11 SHALL BE MECHANICALLY SPLICED
D. ALL SPLICES SHALL BE WIRED IN CONTACT STACKED VERTICAL

MULTIPLIERS:
ALL EMBEDMENT AND LAP SPLICE LENGTHS SHALL BE INCREASED AS REQ'D BY THE MULTIPLIERS BELOW. APPLY MULTIPLE MULTIPLIERS IF APPLICABLE
1.3 - IF CONC CONTAINS LIGHT WEIGHT AGGREGATES
1.3 - IF EPOXY COATED REBAR USED

5 SPLICE & DEVELOPMENT SCHEDULE

3/4" = 1'-0"

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ISSUE DATE: 03.29.2024

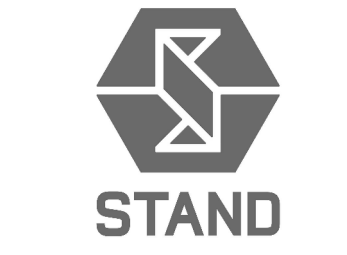
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CHECKED BY: Checker
DESIGNED BY: MJE

SHEET TITLE:
STRUCTURAL
DETAILS

SHEET NUMBER:

S-501

25 OF 33 SHEETS
03.29.2024



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PROJECT NO. X2228-01
SITE NO. 5302
ASSET NO. 7815302065

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____

ISSUE DATE: 3/29/2024

CAD DWG FILE: X2228-01-M-001.dwg
DRAWN BY: JJP
CHECKED BY: CJS
DESIGNED BY: JJP

SHEET TITLE:

MPE SYMBOLS
LEGEND

SHEET NUMBER:

M-001

26 OF 33 SHEETS
3/29/2024

MPE SYMBOLS LEGEND

STANDARD MOUNTING HEIGHTS	TEMPERATURE CONTROLS	WIRING DEVICES & OUTLETS	PLUMBING EQUIPMENT	MECHANICAL PIPING	ABBREVIATIONS (CONT.)
<p>CONTROLS (TOP OF DEVICE) 48"</p> <p>RECEPTACLES 18"</p> <p>RECEPTACLES (EXTERIOR) 24"</p> <p>RECEPTACLES (GARAGES) 24"</p> <p>RECEPTACLES (ABOVE COUNTER) 4" ABOVE BACKSPLASH/COUNTER</p> <p>RECEPTACLES IN EQUIPMENT ROOMS 44"</p> <p>DATA OUTLETS SAME AS ADJACENT DEVICE, UNO</p> <p>TELEVISION OUTLETS REFER TO ARCH DRAWINGS</p> <p>DEFAULT MOUNTING HEIGHTS SHOWN ABOVE TO BE USED UNLESS NOTED OTHERWISE BY ARCHITECT OR IN CONSTRUCTION DOCUMENTS. ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH CURRENT ADA AND LOCAL REQUIREMENTS.</p> <p>INSTALLATION HEIGHT OF ALL FIRE ALARM DEVICES SHALL BE AS REQUIRED BY THE LATEST EDITION OF NFPA 72. COORDINATE WITH EQUIPMENT MANUFACTURER BASED ON ACTUAL PROVIDED EQUIPMENT.</p> <p>CONTROLS (TOP OF DEVICE) 48" AFF</p> <p>DEFAULT MOUNTING HEIGHTS SHOWN ABOVE TO BE USED UNLESS NOTED OTHERWISE BY ARCHITECT OR IN CONSTRUCTION DOCUMENTS. ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH CURRENT ADA AND LOCAL REQUIREMENTS.</p> <p>REFER TO ARCHITECTURAL ELEVATIONS FOR PLUMBING FIXTURE MOUNTING HEIGHTS, UNO.</p> <p>WALL CLEANOUT 12" AFF</p> <p>TOILET COLD WATER SUPPLY ROUGH-IN 12" AFF</p> <p>HOSE BIBBS 36" AFF TO CENTER</p>	<p>RTU 1</p> <p>THERMOSTAT / TEMPERATURE SENSOR SERVING RTU 1</p> <p>HUMIDITY SENSOR / HUMIDISTAT</p> <p>REMOTE TEMPERATURE SENSOR</p> <p>REMOTE HUMIDITY SENSOR</p> <p>CO2 CARBON DIOXIDE SENSOR</p> <p>OCC OCCUPANCY SENSOR</p> <p>CO CARBON MONOXIDE SENSOR</p> <p>SP STATIC PRESSURE SENSOR</p> <p>DPT DIFFERENTIAL PRESSURE TRANSMITTER</p> <p>FM FLOW METER</p> <p>DS DUCT SMOKE DETECTOR</p> <p>LIGHTING</p> <p>LIGHT FIXTURE</p> <p>CENTER LINE INDICATES ARCHITECTURAL BASKET ORIENTATION, WHERE APPLICABLE</p> <p>ARROW INDICATES AIMING DIRECTION</p> <p>SUSPENDED LIGHT FIXTURE</p> <p>LIGHT FIXTURE CIRCUITED AS NIGHT LIGHT</p> <p>EMERGENCY LIGHT FIXTURE WITH EMERGENCY BATTERY PACK OR CONNECTED TO EMERGENCY SOURCE</p> <p>NIGHT LIGHT/EMERGENCY LIGHT FIXTURE WITH EMERGENCY BATTERY PACK OR CONNECTED TO EMERGENCY SOURCE</p> <p>A = LIGHT FIXTURE TYPE</p> <p>a = LIGHT FIXTURE CONTROL</p> <p>C.# = LIGHTING CONTACTOR #</p> <p>15 = CIRCUIT</p> <p>LIGHTING TRACK WITH LIGHT FIXTURE TYPES AS INDICATED</p> <p>EXTERIOR SITE PARKING LOT LIGHT FIXTURE WITH NUMBER OF HEADS INDICATED</p> <p>EXIT SIGN - CEILING / WALL MOUNTED, ARROWS AS INDICATED, FACE HATCHED</p> <p>EMERGENCY LIGHTING UNIT EQUIPMENT WITH BATTERY PACK - CEILING / WALL MOUNTED</p> <p>CEILING FAN</p> <p>LIGHTING CONTROL DEVICES</p> <p>SINGLE POLE SWITCH</p> <p>SWITCH, LETTER DESIGNATION AS FOLLOWS:</p> <p>2 = TWO POLE</p> <p>3 = THREE-WAY</p> <p>4 = FOUR-WAY</p> <p>D = DIMMER</p> <p>K = KEYPAD</p> <p>LV = LOW VOLTAGE</p> <p>M = MOMENTARY CONTACT</p> <p>OS = OCCUPANCY SENSOR</p> <p>VA = VACANCY SENSOR</p> <p>WP = WEATHERPROOF</p> <p>CEILING MOUNT OCCUPANCY/VACANCY SENSOR</p> <p>WALL MOUNT OCCUPANCY/VACANCY SENSOR</p> <p>EL EMERGENCY LIGHTING AUTOMATIC LOAD CONTROL DEVICE</p> <p>ROOM CONTROLLER - REFER TO SCHEDULE FOR MORE INFORMATION</p> <p>POWER PACK - REFER TO SCHEDULE FOR MORE INFORMATION</p> <p>REFER TO LIGHTING DEVICE SCHEDULE FOR MORE DEVICE INFORMATION.</p> <p>POWER EQUIPMENT</p> <p>ELECTRICAL PANELBOARD (SURFACE OR FLUSH MOUNTED)</p> <p>ELECTRICAL DISTRIBUTION PANELBOARD</p> <p>TRANSFORMER - THIN OUTLINE INDICATES EQUIPMENT PAD EXTENDING 6" FROM EQUIPMENT WHERE FLOOR MOUNTED</p> <p>DISCONNECT SWITCH - "60/3/60/3R" DENOTES AMPERES/POLE/FUSE/NEMA ENCLOSURE RATING, NF = NON-FUSED, CB = CIRCUIT BREAKER, INT = INTEGRAL DISCONNECT, NO VALUE FOR NEMA ENCLOSURE MEANS STANDARD NEMA 1 RATING</p> <p>COMBINATION DISCONNECT SWITCH - "60/3/60/0/3R" DENOTES AMPERES/POLE/FUSE/STARTER SIZE/NEMA ENCLOSURE RATING, NF = NON-FUSED, CB = CIRCUIT BREAKER, INT = INTEGRAL DISCONNECT, NO VALUE FOR NEMA ENCLOSURE MEANS STANDARD NEMA 1 RATING</p> <p>HOME RUN</p> <p>CONDUIT</p> <p>CONDUIT TURNING UP</p> <p>CONDUIT TURNING DOWN</p>	<p>SIMPLEX RECEPTACLE</p> <p>DUPLEX RECEPTACLE</p> <p>GFCI DUPLEX RECEPTACLE</p> <p>DOUBLE DUPLEX RECEPTACLE</p> <p>DOUBLE DUPLEX GFCI RECEPTACLE</p> <p>SPECIAL TYPE RECEPTACLE - NEMA TYPE AS NOTED</p> <p>CONTROLLED RECEPTACLE</p> <p>INDICATES RECEPTACLE PROTECTED BY GFCI BREAKER</p> <p>RECEPTACLE INSTALLED ABOVE COUNTER OR BACKSPLASH</p> <p>RECEPTACLE INSTALLED VIA DROP CORD</p> <p>RECEPTACLE, LETTER DESIGNATION AS FOLLOWS:</p> <p>EM = EMERGENCY RECEPTACLE</p> <p>H = HORIZONTALLY MOUNTED</p> <p>IG = ISOLATED GROUND</p> <p>USB = USB/DUPLEX</p> <p>WP = WEATHER PROOF COVER</p> <p>WR = WEATHER RESISTANT</p> <p>TR = TAMPER RESISTANT</p> <p>TV = TELEVISION</p> <p>60" = MOUNTING HEIGHT TO CENTER OF DEVICE</p> <p>TOGGLE DISCONNECT SWITCH, RATING AS INDICATED</p> <p>M = MOTOR RATED</p> <p>INT = INTEGRAL DISCONNECT</p> <p>TELEPHONE OUTLET</p> <p>DATA OUTLET</p> <p>DATA / TELEPHONE COMBINATION OUTLET</p> <p>DATA OUTLET INSTALLED ABOVE COUNTER OR BACKSPLASH</p> <p>COAX OUTLET</p> <p>COAX OUTLET INSTALLED ABOVE COUNTER OR BACKSPLASH</p> <p>MULTI-SERVICE FLOOR BOX WITH DATA AND POWER OUTLETS, SEE SCHEDULE FOR MORE INFORMATION.</p> <p>MULTI-SERVICE POKE THROUGH WITH DATA AND POWER OUTLETS, SEE SCHEDULE FOR MORE INFORMATION.</p> <p>MULTI-SERVICE WALL BOX WITH DATA AND POWER OUTLETS, SEE SCHEDULE FOR MORE INFORMATION.</p> <p>JUNCTION BOX (JBOX)</p> <p>SINGLE POINT ELECTRICAL CONNECTION</p> <p>EMERGENCY POWER OFF BUTTON</p> <p>FURNITURE POWER BASE FEED</p> <p>FURNITURE DATA BASE FEED</p> <p>CEILING MOUNTED DEVICE</p> <p>ELECTRICAL ONE-LINE & RISER DIAGRAM</p> <p>FEEDER SYMBOL - REFER TO FEEDER SCHEDULE</p> <p>UTILITY METER (AS REQUIRED BY UTILITY)</p> <p>SURGE PROTECTION DEVICE</p> <p>GROUND CONNECTION</p> <p>MOTOR</p> <p>CIRCUIT BREAKER (RATING AS INDICATED)</p> <p>FUSED DISCONNECT SWITCH (RATING AS INDICATED)</p> <p>TRANSFORMER (TYPE AND RATINGS AS INDICATED)</p> <p>AUTOMATIC TRANSFER SWITCH (RATINGS AS INDICATED)</p> <p>GENERATOR (RATINGS AS INDICATED)</p> <p>NON-SEPARATELY DERIVED SOURCE</p> <p>SEPARATELY DERIVED SOURCE</p> <p>PANELBOARD, MULTIPLE SECTIONS WHERE SHOWN (REFER TO SCHEDULES)</p>	<p>FLUSH FLOOR CLEANOUT</p> <p>FLUSH GRADE CLEANOUT</p> <p>WALL CLEANOUT</p> <p>ROOF DRAIN</p> <p>FLUSH DRAIN</p> <p>FLOOR SINK</p> <p>WALL HYDRANT</p> <p>PLUMBING FIXTURE (REFER TO SCHEDULE)</p> <p>PIPE FITTINGS AND VALVES</p> <p>SHUT-OFF VALVE</p> <p>CHECK VALVE</p> <p>CIRCUIT BALANCE VALVE</p> <p>TRIPLE DUTY VALVE</p> <p>SOLENOID VALVE</p> <p>STRAINER</p> <p>STRAINER WITH BLOWOFF</p> <p>TWO-WAY CONTROL VALVE</p> <p>THREE-WAY CONTROL VALVE</p> <p>PRESSURE REDUCING VALVE</p> <p>PRESSURE GAUGE</p> <p>THERMOMETER</p> <p>BACKFLOW PREVENTER</p> <p>EXPANSION JOINT</p> <p>PIPE ANCHOR</p> <p>UNION</p> <p>REDUCER</p> <p>CAP</p> <p>ELBOW UP</p> <p>ELBOW DOWN</p> <p>TEE UP</p> <p>TEE DOWN</p> <p>FIRE DEPARTMENT CONNECTION</p> <p>PLUMBING PIPING</p> <p>WASTE LINE ABOVE FLOOR</p> <p>WASTE LINE BELOW FLOOR</p> <p>GREASE WASTE LINE ABOVE FLOOR</p> <p>GREASE WASTE LINE BELOW FLOOR</p> <p>VENT LINE</p> <p>DOMESTIC COLD WATER</p> <p>DOMESTIC WATER SERVICE</p> <p>DOMESTIC HOT WATER</p> <p>DOMESTIC HOT WATER RECIRC.</p> <p>DOMESTIC TEMPERED HOT WATER</p> <p>140 DEGREE DOMESTIC HOT WATER</p> <p>ROOF DRAIN ABOVE FLOOR</p> <p>ROOF DRAIN BELOW FLOOR</p> <p>OVERFLOW ROOF DRAIN ABOVE FLOOR</p> <p>ACID WASTE ABOVE FLOOR</p> <p>ACID WASTE BELOW FLOOR</p> <p>ACID VENT</p> <p>COMPRESSED AIR</p> <p>NATURAL GAS</p> <p>SUMP PUMP ABOVE FLOOR</p> <p>SUMP PUMP BELOW FLOOR</p>	<p>CHWS CHILLED WATER SUPPLY</p> <p>CHWR CHILLED WATER RETURN</p> <p>HCS HOT-CHILLED WATER SUPPLY</p> <p>HCR HOT-CHILLED WATER RETURN</p> <p>HWS HEATING HOT WATER SUPPLY</p> <p>HWR HEATING HOT WATER RETURN</p> <p>HPS HEAT PUMP SUPPLY</p> <p>HPR HEAT PUMP RETURN</p> <p>CD CONDENSATE DRAIN</p> <p>RL REFRIGERANT LIQUID</p> <p>RS REFRIGERANT SUCTION</p> <p>LPS LOW PRESSURE STEAM</p> <p>SC STEAM CONDENSATE</p> <p>LINETYPE LEGEND</p> <p>EXISTING TO REMAIN</p> <p>NEW WORK</p> <p>DEMOLISH</p> <p>NURSE CALL</p> <p>NCM S NURSE CALL MASTER STATION</p> <p>NCA NURSE CALL ANNUNCIATION PANEL</p> <p>SL S NURSE CALL SWITCH PANEL</p> <p>W SLH NURSE CALL ROOM STATUS CORRIDOR LIGHT - WALL MOUNT</p> <p>C SL NURSE CALL ROOM STATUS CORRIDOR LIGHT - CEILING MOUNT</p> <p>W (N) NURSE CALL CORRIDOR LIGHT - WALL MOUNT</p> <p>C (N) NURSE CALL CORRIDOR LIGHT - CEILING MOUNT</p> <p>N 1 NURSE CALL PATIENT STATION - SINGLE CALL CORD</p> <p>N 2 NURSE CALL PATIENT STATION - DOUBLE CALL CORD</p> <p>N D NURSE CALL DUTY STATION</p> <p>N E NURSE CALL EMERGENCY STATION - PULL CORD</p> <p>N PB NURSE CALL EMERGENCY STATION - PUSH BUTTON</p> <p>N CB NURSE CALL CODE BLUE STATION</p> <p>COMMUNICATION</p> <p>S CEILING MOUNTED INTERCOM SPEAKER</p> <p>(S) WALL MOUNTED INTERCOM SPEAKER</p> <p>(WAP) CEILING MOUNTED WIRELESS ACCESS POINT</p> <p>(WAP) WALL MOUNTED WIRELESS ACCESS POINT</p> <p>(M) CEILING MOUNTED MICROPHONE</p> <p>(M) WALL MOUNTED MICROPHONE</p> <p>(REC) RECEIVER</p> <p>ABBREVIATIONS</p> <p>A/C AIR CONDITIONING</p> <p>ADA ACCESS DOOR</p> <p>AF AMERICANS WITH DISABILITIES ACT</p> <p>AF AMPERE FRAME SIZE</p> <p>AFC ABOVE FINISHED CEILING</p> <p>AFB ABOVE FINISHED FLOOR</p> <p>AFG ABOVE FINISHED GRADE</p> <p>AHJ AUTHORITY HAVING JURISDICTION</p> <p>AHU AIR HANDLING UNIT</p> <p>AIC AMPERE INTERRUPTING CAPACITY</p> <p>AP ACCESS PANEL</p> <p>APD AIR PRESSURE DROP</p> <p>AS AMPERE SWITCH</p> <p>AT AMPERE TRIP SETTING</p> <p>ATS AUTOMATIC TRANSFER SWITCH</p> <p>BAS BUILDING AUTOMATION SYSTEM</p> <p>BCU BLOWER COIL UNIT</p> <p>BFF BELOW FINISHED FLOOR</p> <p>BFG BELOW FINISHED GRADE</p> <p>BHP BRAKE HORSEPOWER</p> <p>BOD BOTTOM OF DUCT</p> <p>BOP BOTTOM OF PIPE</p> <p>BOS BOTTOM OF STRUCTURE</p> <p>BTUH BRITISH THERMAL UNITS PER HOUR</p> <p>C CONDUIT</p> <p>CAV CONSTANT AIR VOLUME</p> <p>CFH CUBIC FEET PER HOUR</p> <p>CFM CUBIC FEET PER MINUTE</p> <p>CH CHILLER</p> <p>CKT CIRCUIT</p> <p>CO CARBON MONOXIDE</p> <p>CO2 CARBON DIOXIDE</p> <p>CP CONDENSATE PUMP</p> <p>CT CURRENT TRANSFORMER, COOLING TOWER</p> <p>CU CONDENSING UNIT</p> <p>CUH CABINET UNIT HEATER</p> <p>DDC DIRECT DIGITAL CONTROL</p> <p>DEMO DEMOLITION</p> <p>DF DRAINAGE FIXTURE UNIT</p> <p>DN DOWN</p> <p>DS DOWNSPOUT</p> <p>DX DIRECT EXPANSION</p> <p>EA EXHAUST AIR</p> <p>EAT ENTERING AIR TEMPERATURE</p> <p>EC ELECTRICAL CONTRACTOR</p> <p>EDB ENTERING DRY BULB</p> <p>EF EXHAUST FAN</p> <p>EJ EXPANSION JOINT</p> <p>EM EMERGENCY</p> <p>EQ EQUAL</p> <p>ESP EXTERNAL STATIC PRESSURE</p> <p>ETR EXISTING TO REMAIN</p> <p>EWB ENTERING WET BULB</p> <p>EWC ELECTRIC WATER COOLER</p> <p>FCA FAULT CURRENT AMPS AVAILABLE</p> <p>FCU FAN COIL UNIT</p> <p>FD FLOOR DRAIN</p> <p>FFA FROM FLOOR ABOVE</p> <p>FFB FROM FLOOR BELOW</p> <p>FL FLOW LINE</p> <p>FLA FULL LOAD AMPS</p> <p>FR FROM</p> <p>FTU FAN TERMINAL UNIT</p> <p>G GALLONS PER MINUTE</p> <p>GC GENERAL CONTRACTOR</p> <p>GEC GROUNDING ELECTRODE CONDUCTOR</p> <p>GPM GALLONS PER MINUTE</p> <p>HD HEAD, HUB DRAIN</p> <p>HP HEAT PUMP</p> <p>HSTAT HUMIDISTAT</p> <p>HTG HEATING</p> <p>HTR HEATER</p> <p>IE INVERT ELEVATION</p> <p>IN, WC INCHES OF WATER COLUMN</p> <p>LAT LEAVING AIR TEMPERATURE</p> <p>LDB LEAVING DRY BULB</p> <p>LWB LEAVING WET BULB</p> <p>LWT LEAVING WATER TEMPERATURE</p> <p>MAU MAKE-UP AIR UNIT</p> <p>MBH 1000 BTU PER HOUR</p> <p>MC MECHANICAL CONTRACTOR</p> <p>MCA MINIMUM CIRCUIT AMPACITY</p> <p>MCB MAIN CIRCUIT BREAKER</p> <p>MCC MOTOR CONTROL CENTER</p> <p>MGB MAIN GROUNDING BUSBAR</p> <p>MH MANHOLE</p> <p>MLO MAIN LUGS ONLY</p> <p>MOCPP MAXIMUM OVERCURRENT PROTECTION</p> <p>NIA NOT APPLICABLE</p> <p>NC NOISE CRITERIA</p> <p>NF NON-FUSED</p> <p>NIC NOT IN CONTRACT</p> <p>NL NIGHT LIGHT (24 HR ON)</p> <p>N/O, NIC NORMALLY OPEN, NORMALLY CLOSED</p> <p>OA OUTSIDE AIR</p> <p>ORD OVERFLOW ROOF DRAIN</p> <p>P POLE</p> <p>PD PRESSURE DROP (FEET OF WATER)</p> <p>PH/Ø PHASE</p> <p>PNLBD PANELBOARD</p> <p>PROVIDE FURNISH AND INSTALL</p> <p>PRV PRESSURE REDUCING VALVE</p> <p>PSI POUNDS PER SQUARE INCH</p> <p>PT POTENTIAL TRANSFORMER</p> <p>Q QUANTITY</p> <p>RA RETURN AIR</p> <p>RCP REINFORCED CONCRETE PIPE</p> <p>RCPT RECEPTACLE</p> <p>RD ROOF DRAIN</p> <p>RF RETURN FAN</p> <p>RH RELATIVE HUMIDITY</p> <p>RLA RUNNING LOAD AMPS</p> <p>RTU ROOFTOP UNIT</p> <p>SCCR SHORT CIRCUIT CURRENT RATING</p> <p>SA SUPPLY AIR</p> <p>SD SMOKE DETECTOR</p> <p>SF SQUARE FEET, SUPPLY FAN</p> <p>SP STATIC PRESSURE, SUMP PUMP</p> <p>SPD SURGE PROTECTION DEVICE</p> <p>SS STAINLESS STEEL, SERVICE SINK, SANITARY SEWER</p> <p>ST SHUNT TRIP</p> <p>STC SOUND TRANSMISSION CLASS</p> <p>STM STEAM</p> <p>SWBD SWITCHBOARD</p> <p>SWGR SWITCHGEAR</p> <p>TBB TELECOMMUNICATIONS BONDING BACKBONE</p> <p>TDH TOTAL DYNAMIC HEAD</p> <p>TFA TO FLOOR ABOVE</p> <p>TFB TO FLOOR BELOW</p> <p>TGB TELECOMMUNICATIONS GROUND BUSBAR</p> <p>TMGB TELECOMMUNICATIONS MAIN GROUND BUSBAR</p> <p>TSP TOTAL STATIC PRESSURE</p> <p>TSTAT THERMOSTAT</p> <p>TU TERMINAL UNIT</p> <p>TYP TYPICAL</p> <p>UH UNIT HEATER</p> <p>UL UNDERWRITERS LABORATORIES, INC.</p> <p>UNO UNLESS NOTED OTHERWISE</p> <p>UPS UNINTERRUPTIBLE POWER SUPPLY</p> <p>VAV VARIABLE AIR VOLUME</p> <p>VD VOLTAGE DROP, VOLUME DAMPER</p> <p>VFD VARIABLE FREQUENCY DRIVE</p> <p>VS VENT STACK</p> <p>VTR VENT THROUGH ROOF</p> <p>W WIRE, WASTE</p> <p>WB WET BULB</p> <p>WC WATER COLUMN, WATER CLOSET</p> <p>WH WALL HYDRANT</p> <p>WPD WATER PRESSURE DROP</p> <p>WS WASTE STACK</p> <p>WT WEIGHT</p>	

DIFFUSER, GRILLE, OR REGISTER TYPE

CFM

100

6" CONNECTION SIZE



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26250 HWY 64A
LEBANON, MO 65536

PROJECT NO. X2228-01
SITE NO. 5302
ASSET NO. 7815302065

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 3/29/2024

CAD DWG FILE: X2228-01-M-101.dwg
DRAWN BY: JJP
CHECKED BY: CJS
DESIGNED BY: JJP

SHEET TITLE:
MECHANICAL PLAN

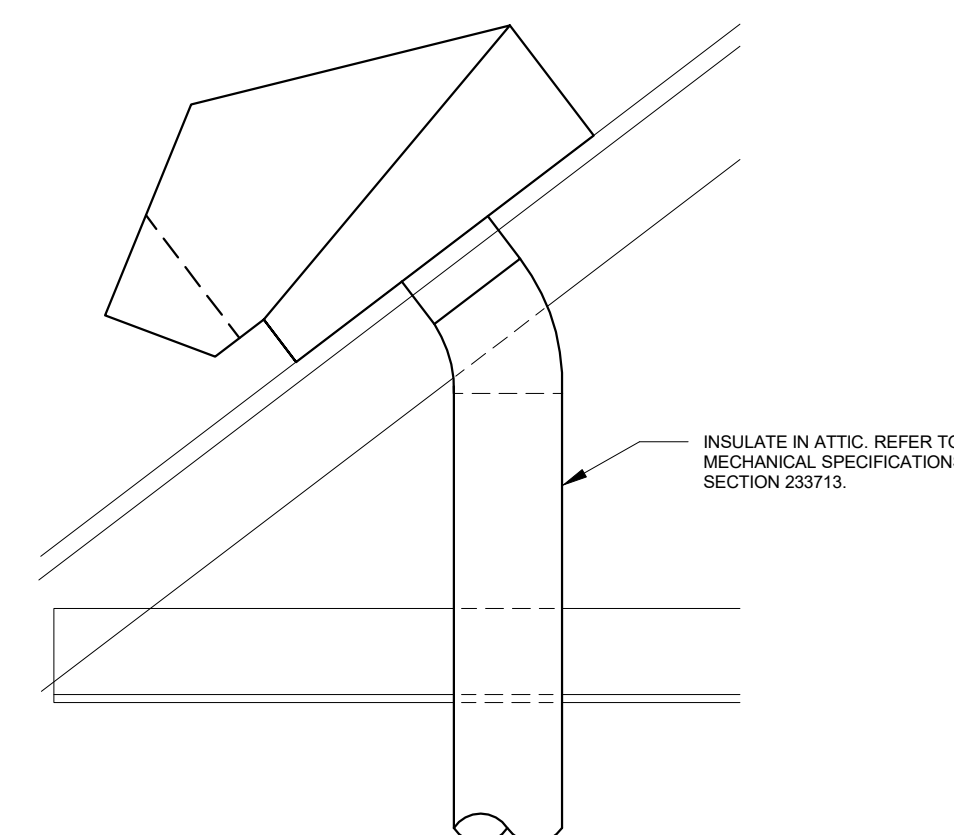
SHEET NUMBER:

M-101

27 OF 33 SHEETS
3/29/2024

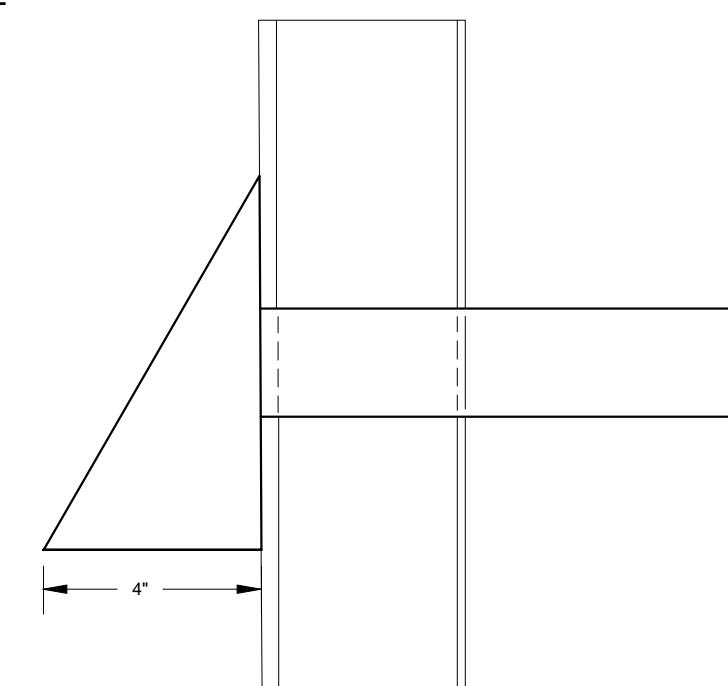
MECHANICAL PLAN NOTES:

- 1 PROVIDE EXHAUST WALL CAP WITH BIRD SCREEN AND GRAVITY BACK DRAFT DAMPER.
- 2 ELECTRICAL EQUIPMENT SHOWN FOR REFERENCE.
- 3 PROVIDE EXHAUST ROOF CAP WITH BIRD SCREEN AND GRAVITY BACK DRAFT DAMPER.
- 4 COORDINATE WITH ARCHITECT TO PROVIDE A 24" X 18" LOUVERED DOOR.



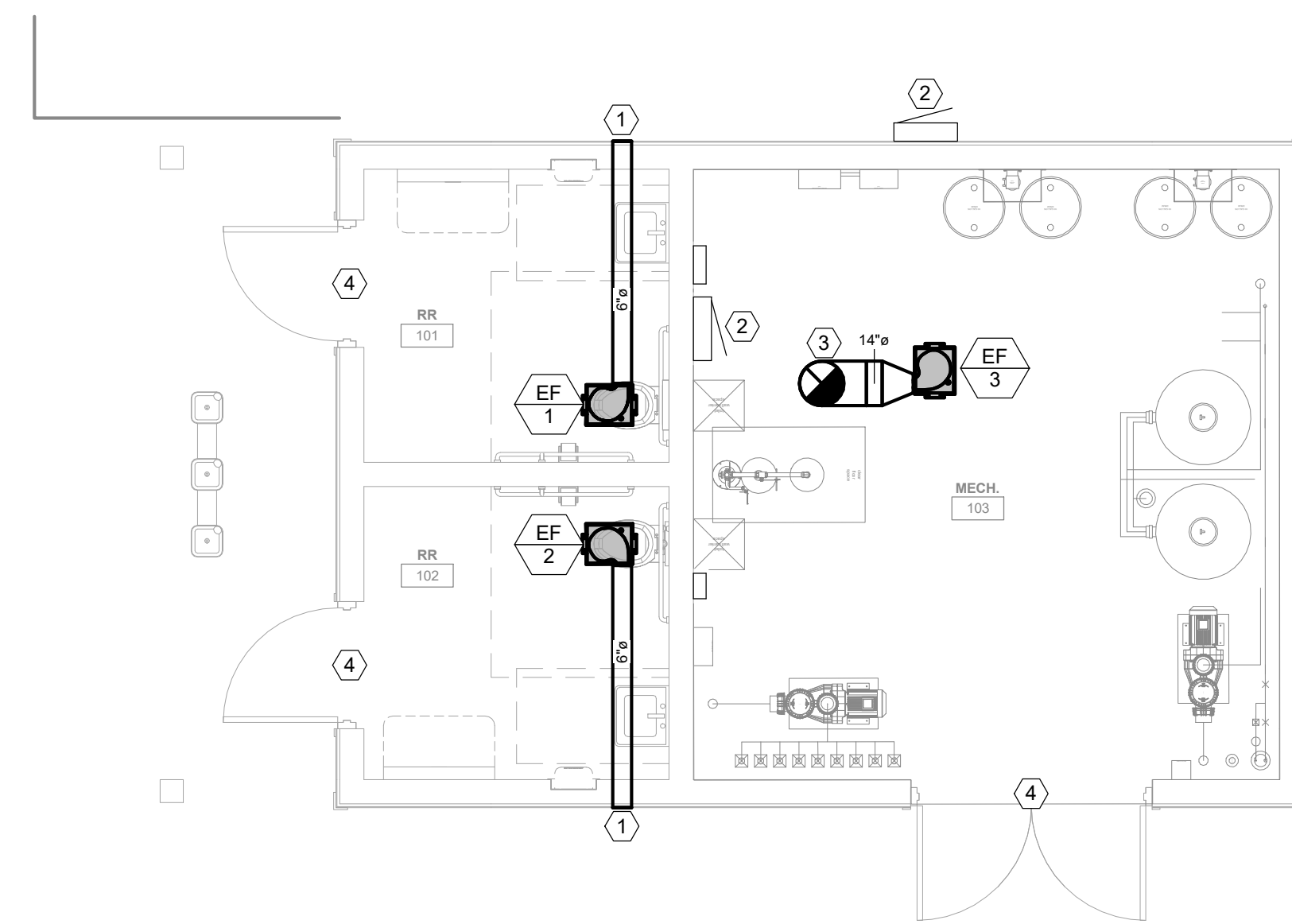
- NOTES:**
1. DUCT SIZES SHALL BE AS INDICATED ON THE PLANS.
 2. PROVIDE ROOFING AND FLASHING PER ARCHITECTURAL AND/OR ROOF MANUFACTURER'S REQUIREMENTS.
 3. THE MALE END OF THE DUCT AT OVERLAPPED DUCT JOINTS SHALL EXTEND IN THE DIRECTION OF AIRFLOW.
 4. CAP SHALL BE SHIPPED FROM THE MANUFACTURER IN THE COLOR SPECIFIED BY THE ARCHITECT. FIELD PAINTING WILL NOT BE ACCEPTED.

3 ROOF BATHROOM EXHAUST DETAIL
NOT TO SCALE



- NOTES:**
1. DUCT SIZES SHALL BE AS INDICATED ON THE PLANS.
 2. PROVIDE SIDING AND FLASHING PER ARCHITECTURAL AND/OR SIDING MANUFACTURER'S REQUIREMENTS.
 3. THE MALE END OF THE DUCT AT OVERLAPPED DUCT JOINTS SHALL EXTEND IN THE DIRECTION OF AIRFLOW.
 4. ALL WALL CAPS TO BE PAINTABLE.
 5. PROVIDE BUG SCREENS FOR BATHROOM EXHAUST.
 6. PROVIDE BACKDRAFT DAMPERS FOR BATHROOM EXHAUST.

2 EXTERIOR WALL BATHROOM WALL DETAIL
NOT TO SCALE



1 FIRST FLOOR HVAC PLAN
1/4" = 1'-0"

FAN SCHEDULE

EQUIPMENT MARK	MANUFACTURER	MODEL	CFM	STATIC PRESSURE (IN WG)	DRIVE	BHP	VOLTS	PHASE
EF 1	Loren Cook Company	GC-146	50	0.50	DIRECT	0.25	120	1
EF 2	Loren Cook Company	GC-146	50	0.50	DIRECT	0.25	120	1
EF 3	Loren Cook Company	GC-822	750	0.50	DIRECT	0.33	120	1

GENERAL NOTES:

- A. PROVIDE WITH FACTORY INSTALLED AND WIRED DISCONNECT.
- B. PROVIDE WITH BACKDRAFT DAMPER.
- C. PROVIDE BIRD SCREEN.
- D. ALTERNATE MANUFACTURER MAY BE GREENHECK, DAYTON.



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CAD DWG FILE: X2228-01-P-101.dwg
DRAWN BY: JJP
CHECKED BY: CJS
DESIGNED BY: JJP

SHEET TITLE:
PLUMBING PLAN

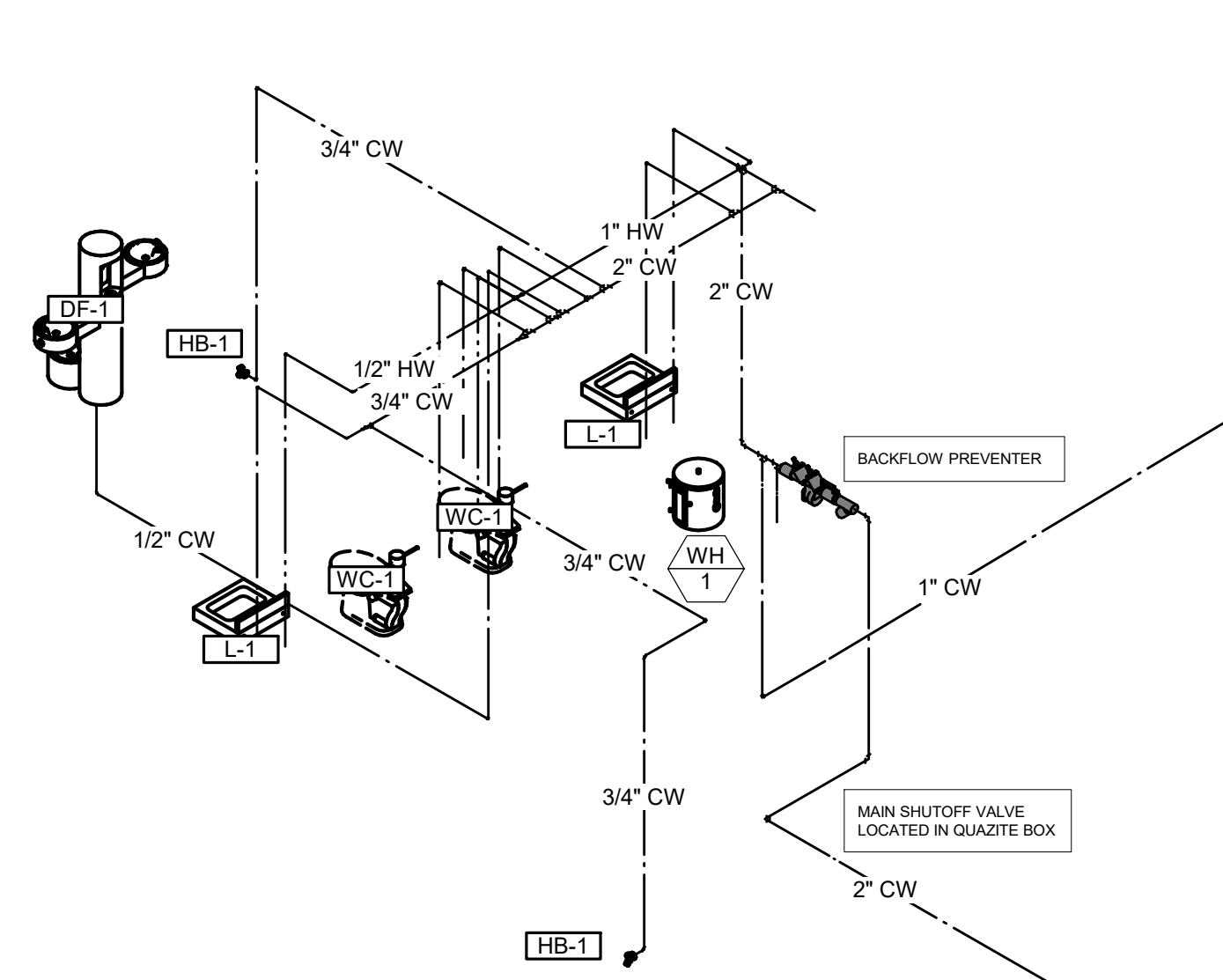
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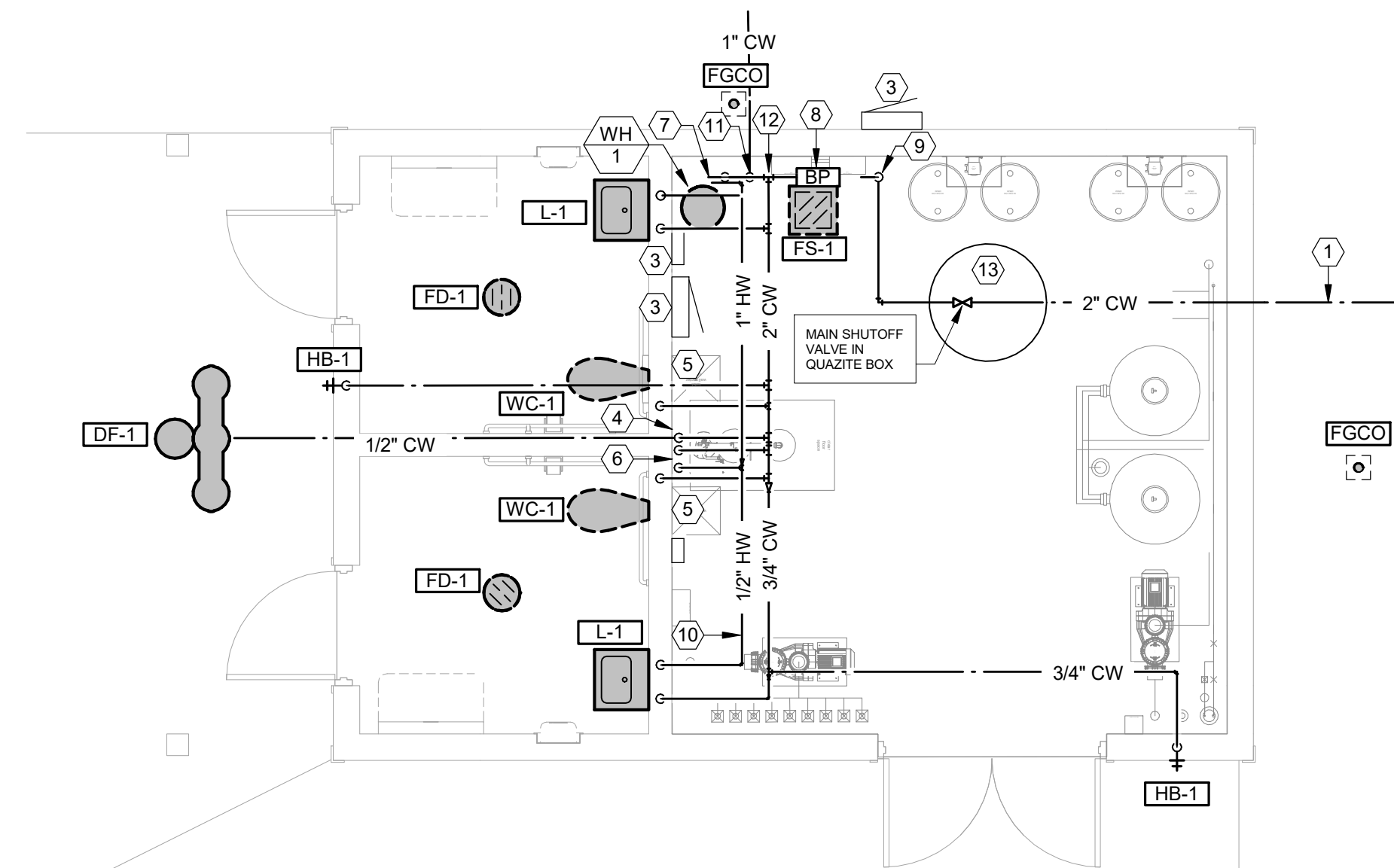
28 OF 33 SHEETS
3/29/2024

PLUMBING PLAN NOTES:

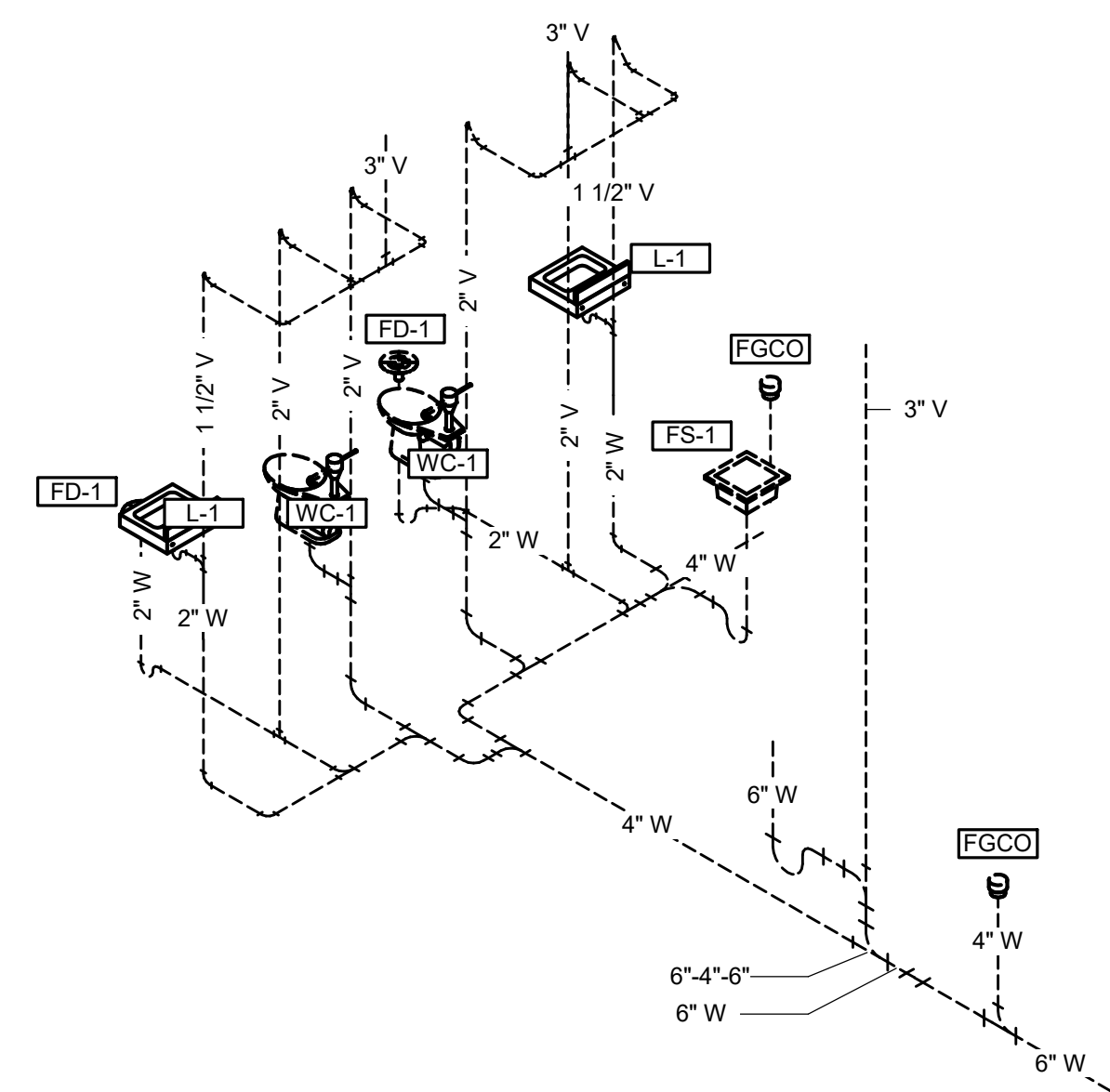
- 1 RE: CIVIL SHEET FOR CONTINUATION, UTILITY PLAN SHEET C-104.
- 2 VENT THROUGH ROOF.
- 3 ELECTRICAL EQUIPMENT SHOWN FOR REFERENCE.
- 4 PIPE DOWN WALL AND ROUTE PIPE BELOW GRADE TO PEDESTAL DRINKING FOUNTAIN. COORDINATE ROUTING WITH STRUCTURAL FOOTINGS AND MECHANICAL ROOM EQUIPMENT. RE: MANUFACTURER'S INSTRUCTIONS FOR FURTHER INFORMATION.
- 5 KEEP WALL SPACE CLEAR FOR WATER CLOSET CARRIER SYSTEM.
- 6 MIXING VALVE TO BE PROVIDED WITH EMERGENCY EYEWASH/SHOWER SPECIFIED BY SPLASH PAD DESIGNER AND TO BE LOCATED AT EYEWASH/SHOWER. SET MIXING VALVE TO 65F.
- 7 RE: DETAILS SHEET P-601 DETAIL 2 FOR WATER HEATER CONNECTION.
- 8 INSTALL BACKFLOW PREVENTER AT THIS LOCATION. COORDINATE WITH LOCAL SPLASH PAD EQUIPMENT AND WALL MOUNTED CONTROLLERS. MAINTAIN ALL REQUIRED CLEARANCE.
- 9 DOMESTIC WATER SERVICE ENTRANCE STUB UP FROM BELOW GRADE. COORDINATE WITH LOCAL EQUIPMENT.
- 10 PROVIDE HEAT TAPE ON ALL HOT WATER BRANCH PIPING. COORDINATE WITH ELECTRICAL CONTRACTOR FOR ELECTRICAL ROUGH IN.
- 11 STUB OUT PIPE BELOW GRADE FOR FUTURE SHELTER. PROVIDE SHUT OFF VALVE AND LEAVE IN OFF POSITION. PROVIDE LABEL ON PIPE AND NOTE "FUTURE SHELTER".
- 12 INSTALL DRAIN LINE AT LOW POINT OF SYSTEM DOWN STREAM OF BACKFLOW PREVENTER FOR SEASONAL WINTERIZATION. INSTALL SHUT OFF VALVE AND CAP. TAG VALVE "DRAIN VALVE". VALVE SHALL BE NORMALLY OFF.
- 13 INSTALL HUBBELL QUAZITE BOX, STYLE ROUND, SIZE 39, DEPTH 48, TIER 8. PROVIDE SHUT OFF VALVE FOR SEASONAL WINTERIZATION. DOMESTIC WATER LINE SHALL ENTER A MINIMUM OF 6" BELOW THE FROST LINE.
- 15 STUB UP PIPE FOR BACKWASH. RE: Q SHEETS FOR FURTHER INFORMATION.
- 16 TRANSITION TO 6" PIPE AT THE CONNECTION OF THE BACKWASH PIPE TO THE SANITARY WASTE. RE: WASTE AND VENT PLUMBING RISER DETAIL 3 SHEET P-101 FOR FURTHER INFORMATION.



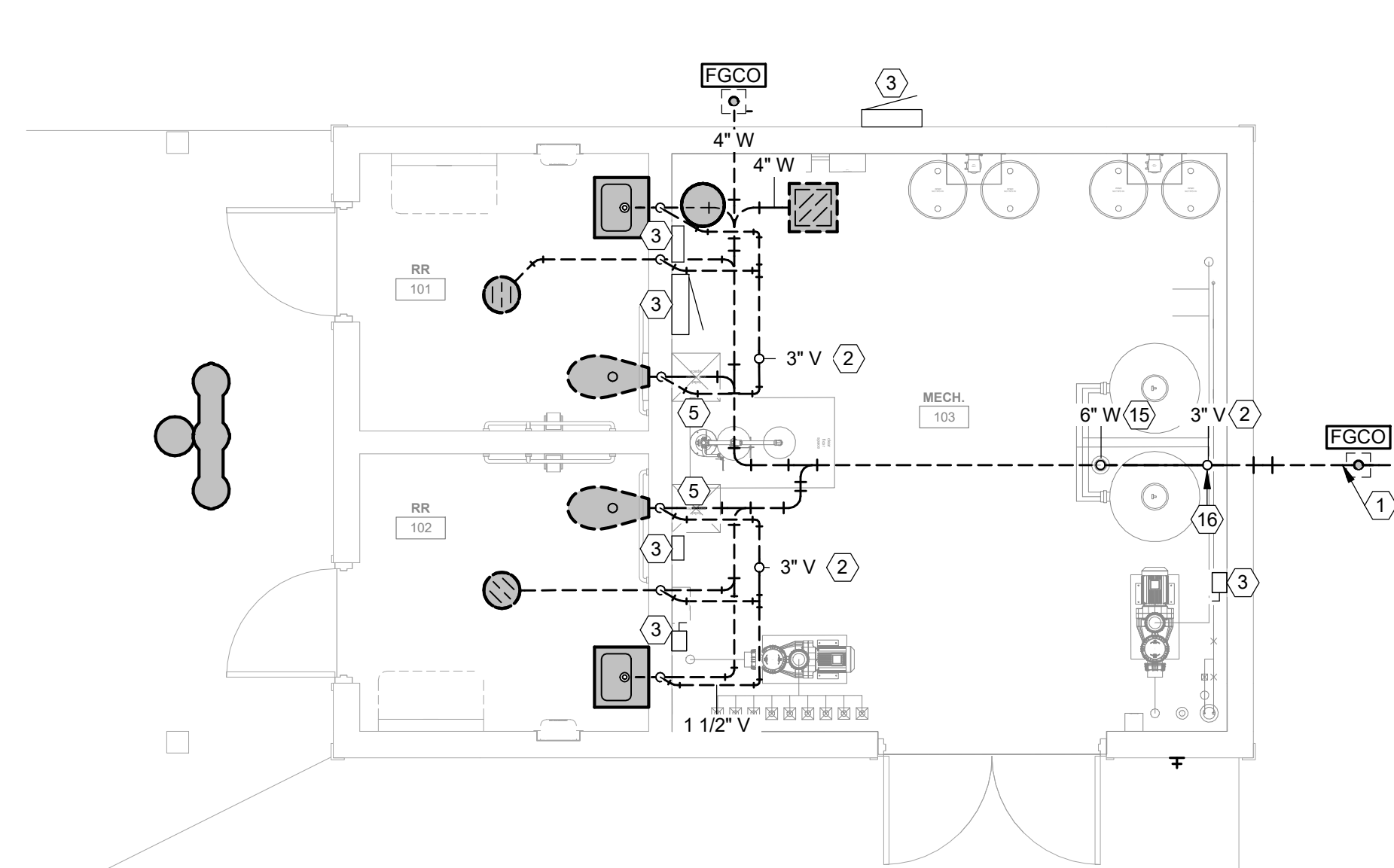
4 DOMESTIC WATER PLUMBING RISER
NOT TO SCALE



2 DOMESTIC WATER PLUMBING PLAN
1/4" = 1'-0"



3 WASTE AND VENT PLUMBING RISER
NOT TO SCALE



1 WASTE & VENT PLAN
1/4" = 1'-0"



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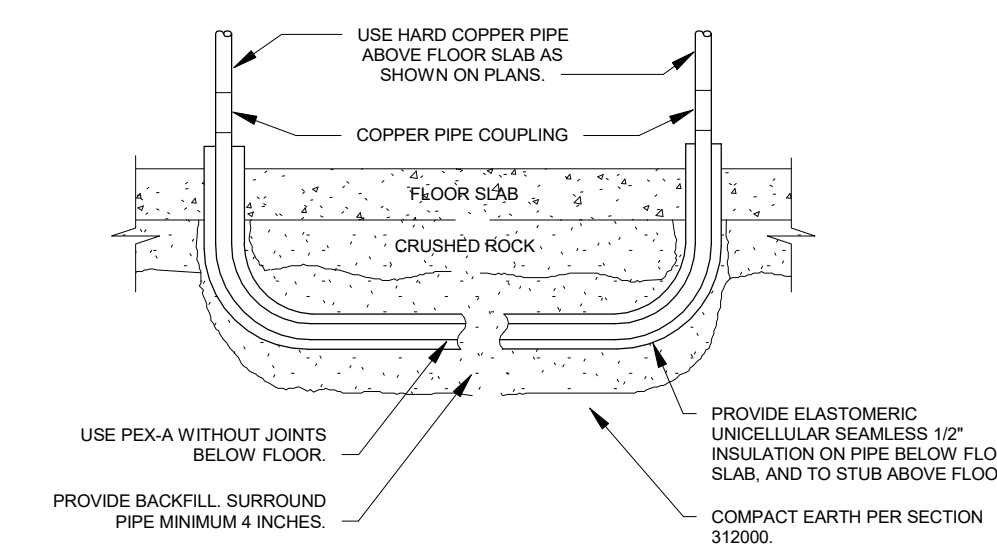
CAD DWG FILE: X2228-01-P-601.dwg
DRAWN BY: JJP
CHECKED BY: CJS
DESIGNED BY: JJP

SHEET TITLE:
**PLUMBING
SCHEDULES**

SHEET NUMBER:

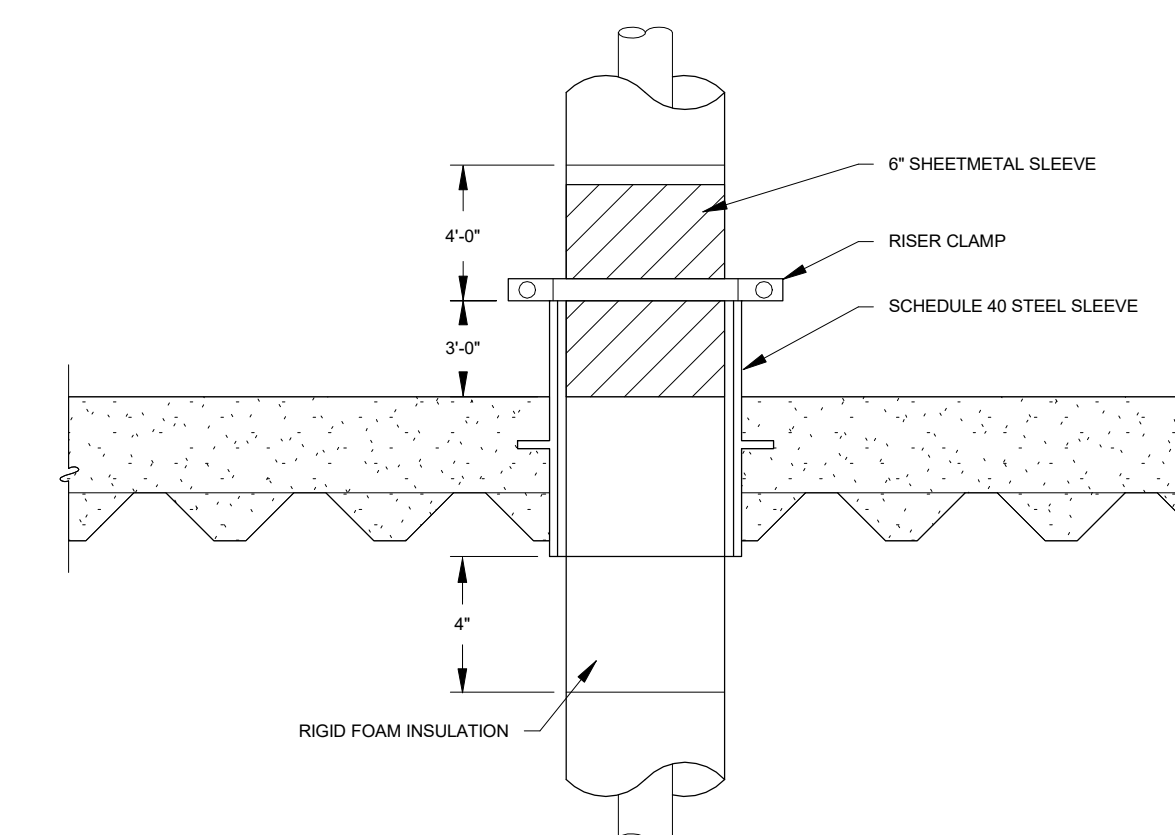
P-601

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3/29/2024



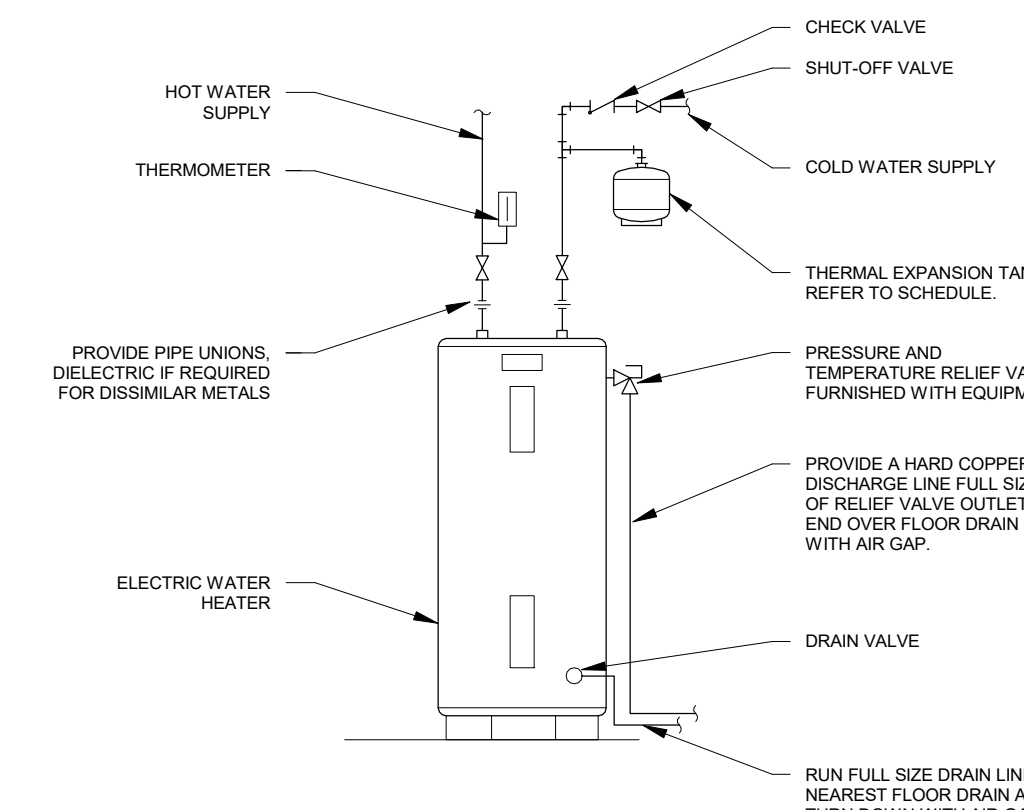
- NOTES:
- IF FLOOR SLAB IS EXISTING, SAW CUT IT, EXCAVATE, BACKFILL, REPAIR VAPOR BARRIER, AND PATCH SLAB. PIPE SHALL HAVE LONG RADIUS WITH OTHER PIPE, CONDUIT, OR REINFORCING STEEL. DO NOT USE FLARED OR COMPRESSION JOINTS BELOW SLAB. USE WROUGHT COPPER FITTINGS WITH BRAZED JOINTS ONLY WHEN JOINTS ARE UNAVOIDABLE.

4 UNDER SLAB WATER PIPE
NOT TO SCALE



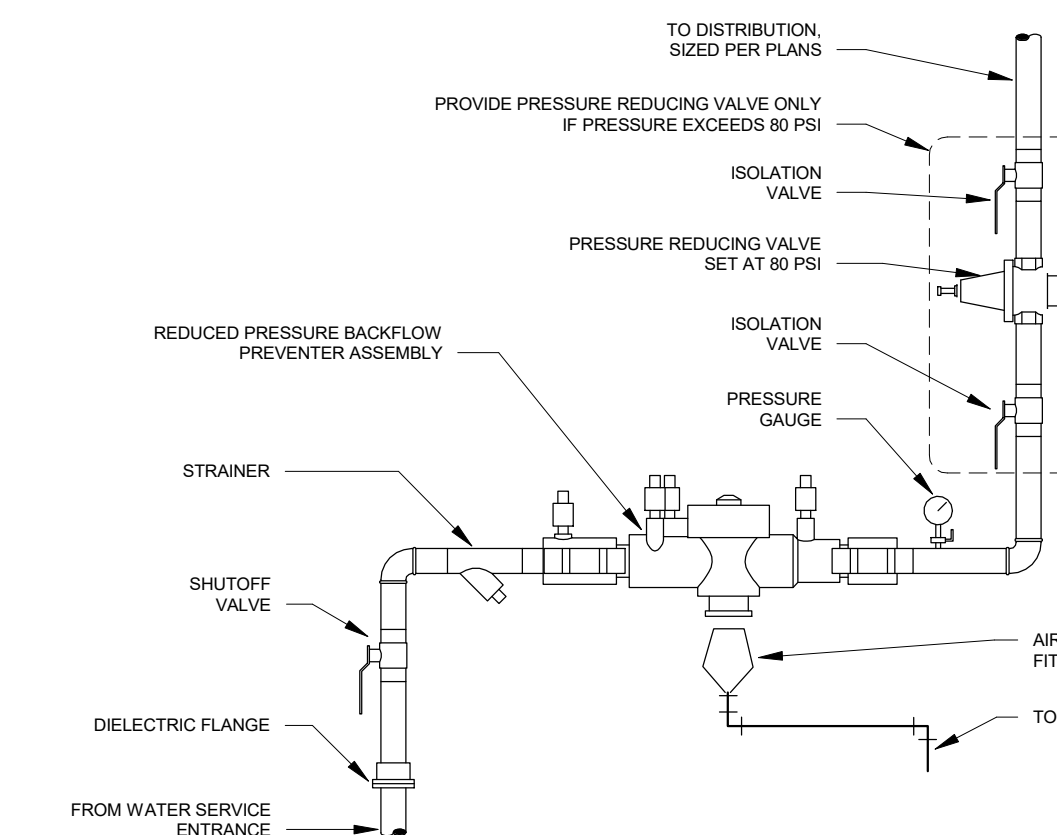
- NOTES:
- FIRESTOP AS REQUIRED BY ASSEMBLY. REFER TO ARCH. REFER TO FIRESTOP SPECIFICATION AND MANUFACTURER'S APPROVED UL DETAIL.

3 FLOOR SLEEVE
NOT TO SCALE



- NOTES:
- PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. REFER TO FLOOR PLANS FOR PIPE SIZES. SET HEATER THERMOSTAT AT 120F. PROVIDE CLEARANCES RECOMMENDED BY MANUFACTURER.

2 ELECTRIC WATER HEATER
NOT TO SCALE



- NOTE:
- PROVIDE REDUCED PRESSURE BACKFLOW PREVENTER OF TYPE AND MANUFACTURER AS APPROVED BY LOCAL AUTHORITIES. INSTALL BFP IN HORIZONTAL UPRIGHT POSITION. UNLESS NOTED OTHERWISE, STRAINER AND REDUCING VALVES MAY BE INSTALLED IN VERTICAL PIPE IF SPACE LIMITATIONS REQUIRE. CLEAN STRAINER BEFORE TURNING BUILDING OVER TO OWNER. PROVIDE ANY REQUIRED CERTIFICATION TEST OF BFP TO ENGINEER. ALL ITEMS SHALL BE APPROVED FOR DOMESTIC WATER SERVICE. ARRANGEMENT SHOWN IS SCHEMATIC. MODIFY TO SUIT CONDITIONS. INSTALL BFP SO IT CAN BE EASILY SERVICED AND TESTED. SUPPORT ASSEMBLY FROM WALL BRACKET OR FLOOR STAND.

1 WATER SERVICE
NOT TO SCALE

WATER HEATER SCHEDULE

EQUIPMENT MARK	MANUFACTURER	MODEL	CAPACITY (GAL)	RECOVERY (GPH)	ELECTRICAL		
					ELEMENT WATTAGE	VOLTAGE	PHASE
WH 1	A.O. SMITH	DEL-6	6	15.0	3000.0	240	1

GENERAL NOTES:

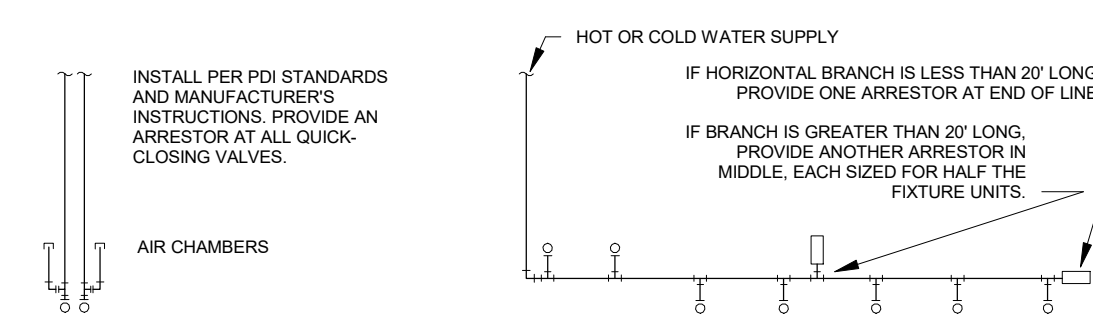
- PROVIDE ASME PRESSURE AND TEMPERATURE RELIEF VALVE.
- PROVIDE DIELECTRIC CONNECTIONS AT WATER HEATER.
- RESTROOM RECOVERY BASED ON 90 DEGREE TEMPERATURE RISE.
- RE: SPECIFICATION SECTION 223300 FOR ALTERNATE MANUFACTURERS.

PLUMBING FIXTURE SCHEDULE

EQUIPMENT MARK	DESCRIPTION	MANUFACTURER	MODEL	TRIM	CONNECTIONS				NOTES
					CW (IN)	HW (IN)	W (IN)	V (IN)	
WC-1	ADA FLOOR MOUNTED, ELONGATED, FLUSH VALVE, WATER CLOSET	AMERICAN STANDARD	MADERA 2854.016	FLUSH VALVE (INCLUDED); 1.6 GPF, MANUAL, EXTRA HEAVY DUTY OPEN FRONT SEAT AMERICAN STANDARD #5905.100	1.25	-	4	2	5, 6
L-1	ADA WALL HUNG LAVATORY	AMERICAN STANDARD	9141.011	20x27 BASIN, CONCEALED ARM CARRIER, FAUCET: AMERICAN STANDARD INNSBROOK SELECTRONIC, HARDWARE KIT PK00.HAC, VANDAL RESISTANT, GRID DRAIN, MIXING VALVE: LEONARD Z70-LF, 0.5 GPM MIN.	0.5	0.5	1.5	1.5	1, 2, 3, 6, 8
HB-1	HOSE BIBB IN RECESSED BOX	WOODFORD	MODEL B24	VACUUM BREAKER, LOOSE CONTROL KEY, WALL CLAMP, RECESSED BOX.	0.75	-	-	-	
FD-1	HEAVY-DUTY ROUND FLOOR DRAIN	ZURN	ZN539-VP	CAST IRON 12" FLOOR DRAIN, WITH DUCTILE IRON GRATE, ALUMINUM SEDIMENT BUCKET, VANDAL PROOF.	-	-	2	-	4, 7
FS-1	8" SQUARE FLOOR SINK	ZURN	ZN1910	FULL GRATE, 6-1/4" DEEP BODY, ENAMELED, INTERIOR, SEDIMENT BUCKET, NICKEL BRONZE RIM AND GRATE.	-	-	-	-	4, 7
DF-1	PEDESTAL MOUNTED BOTTLE FILLER, BI-LEVEL DRINKING FOUNTAIN, PET FOUNTAIN	MURDOCK	GYQ85-PF	GREEN POWDER-COAT FINISH.	0.5				6

- NOTES:**
- FIXTURE IS ADA COMPLIANT. REFER TO ARCHITECTURAL DRAWINGS FOR ACTUAL MOUNTING HEIGHT.
 - FAUCET HOLES TO MATCH FAUCET SPECIFIED.
 - MOUNT WITH HANDICAPPED RECEPTOR RIM 34" ABOVE FLOOR.
 - PIPE SIZE AS SHOWN ON DRAWING.
 - COORDINATE SPUD SIZE WITH FLUSH VALVE SUPPLIED.
 - FIXTURE ASSEMBLY MUST BE APPROVED BY AND INSTALLED PER ADA.
 - PROVIDE SURESEAL SSX000V INLINE FLOOR DRAIN TRAP SEAL WITH ASSE 1072 RATING.
 - SET MIXING VALVE TO 105 DEGREES F.

- GENERAL NOTES:**
- PROVIDE INSULATION KIT ON ALL ADA FIXTURES WITH EXPOSED TRAP AND SUPPLIES.
 - VERIFY FLUSH CONTROLS TO BE MOUNTED ON THE WIDE SIDE OF THE TOILET AREA OPPOSITE GRAB BAR WALL FOR ALL ADA UNITS.
 - RE: SPECIFICATION SECTION 224200.2 FOR ALTERNATE MANUFACTURERS.



SINGLE/DOUBLE FIXTURE			MULTIPLE FIXTURES		
PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD	FIXTURE UNIT TABULATION		
			FIXTURE	COLD	HOT
A	1/2"	1-11	FLUSH VALVE WATER CLOSET	10	--
B	3/4"	12-32	TANK WATER CLOSET	5	--
C	1"	33-60	FLUSH VALVE URINAL	5	--
D	1-1/4"	61-113	LAVATORY/SINK	1.5	1.5
E	1-1/2"	114-154	JANITOR'S SINK	3	3
F	2"	154-330	SHOWER/BATH TUB	2	2

- NOTES:
- INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE UNITS AS SHOWN ON THE DRAWINGS AND/OR PER THE TABLES SHOWN ABOVE. PROVIDE ACCESS TO ALL WATER HAMMER ARRESTORS.

5 WATER HAMMER ARRESTOR
NOT TO SCALE

1 WATER SERVICE
NOT TO SCALE



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PROJECT NO. X2228-01
SITE NO. 5302
ASSET NO. 7815302065

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CHECKED BY: CJS
DESIGNED BY: JJP

SHEET TITLE:
ELECTRICAL SITE
PLAN

SHEET NUMBER:

E-101

30 OF 33 SHEETS
3/29/2024

MPE PLAN NOTES:

- 1 RE: CIVIL SHEETS FOR CONTINUATION
- 2 RE: ENLARGED PLANS FOR CONTINUATION INTO BUILDING.
- 3 RE: LIGHTING RCP FOR BUILDING MOUNTED LIGHTS.
- 4 EXISTING POLE MOUNTED TRANSFORMER. REMOVE ALL INACTIVE METERS AND ASSOCIATED INFRASTRUCTURE. COORDINATE WITH THE UTILITY PRIOR TO CONSTRUCTION. NEW POLE MOUNTED METER TO BE INSTALLED TO SERVICE NEW SERVICE ENTRANCE. RE: RISER DIAGRAM FOR FURTHER INFORMATION. RE: SHEET E-601.
- 5 NEW BELOW GRADE SECONDARY CONDUIT(S) INTO MECHANICAL ROOM. RE: ONE LINE RISER DIAGRAM AND PANEL SCHEDULES FOR FURTHER INFORMATION. RE: E-601.
- 6 SPLASH PAD BONDING LOOP - #8 SOLID BARE COPPER SPLASH PAD BONDING LOOP. BOND ALL METALLIC ITEMS AS REQUIRED BY THE NATIONAL ELECTRIC CODE, 680.26. INSTALL BONDING LOOP 18"-24" FROM INSIDE FACE OF SPLASH PAD AND NO DEEPER THAN 6" BELOW THE FINISHED DECK ELEVATION. SEE EQUIPOTENTIAL BONDING SCHEMATIC FOR MORE INFORMATION.
- 7 SPLASH PAD PUMP BOND - EXTEND #8 BONDING WIRE INTO FILTER / PUMP AREA AND BOND TO PUMPS.
- 8 SPLASH PAD BOND - EXTEND #8 BONDING WIRE TO APPLICABLE ITEMS AS NOTED IN DETAILS AND SPECIFICATIONS.
- 9 PROVIDE (1) 3/4" CONDUIT SCHEDULE 40 PVC CONDUIT WITH (2) #12 CONTROL CONDUCTORS BELOW GRADE AND CONNECT TO FEATURE CONTROLLER. COORDINATE ACTIVATION BOLLARD / BUTTON LOCATION WITH SPLASH PAD ENGINEER.
- 10 PROVIDE MADISON M189 SERIES LOW WATER CUTOFF FLOAT SWITCH TO REMOVE POWER FROM PUMP UPON LOW WATER LEVEL IN PIT. SET FLOAT SWITCH APPROXIMATELY 3'-0" AFF OF SURGE PIT WITH ABILITY TO MAKE ELEVATION ADJUSTMENTS. PUMP SHALL NOT AUTO START. ALTERNATE FLOAT SWITCH BY DWYER, OR SJE-RHOMBUS.
- 11 PROVIDE POWER TO MANHOLE PIT SUMP PUMP. RE: SPLASH PAD DRAWING DETAILS FOR FURTHER INFORMATION. RE: SPLASH PAD DRAWINGS FOR EXACT LOCATION.
- 12 PROVIDE EMPTY CONDUIT CONNECTED TO PANEL L1 FOR FUTURE SHELTER. EXTEND TO 25 FEET FROM BUILDING
- 13 WATER STUB OUT FOR FUTURE SHELTER. INSTALL STUB OUT 42" BELOW GRADE OR A MINIMUM OF 6" BELOW THE FROST LINE. CAP PIPE FOR FUTURE USE. EXTEND TO 25 FEET FROM BUILDING.
- 14 DOMESTIC WATER SERVICE SHALL ENTER 42" BELOW GRADE OR MINIMUM OF 6" BELOW THE FROST LINE.

ELECTRICAL GENERAL NOTES:

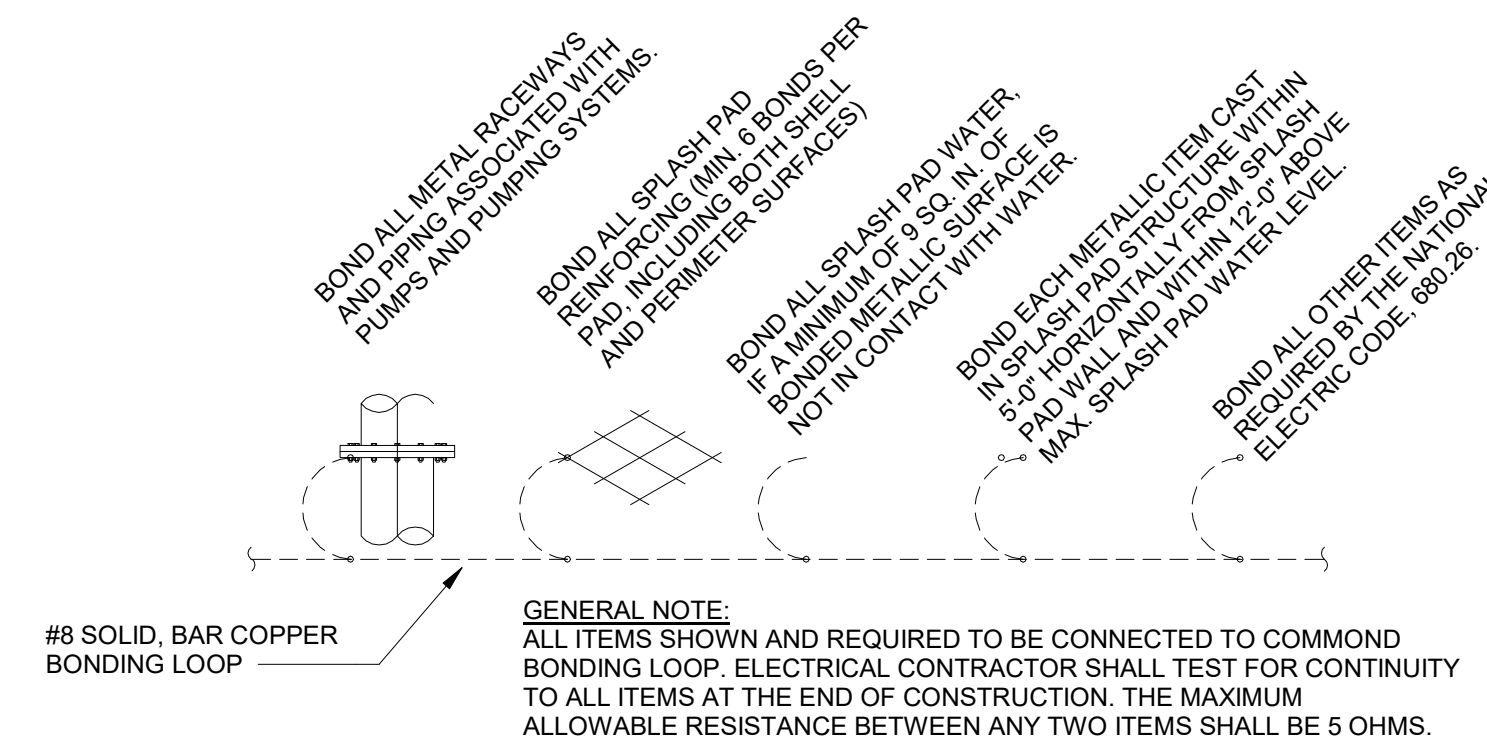
- A. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND INDICATE THE GENERAL EXTENT OF THE WORK. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL PULL BOXES, JUNCTION BOXES AND INCIDENTAL MATERIALS AND LABOR FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM.
- B. ELECTRICAL CONTRACTOR SHALL DE-RATE CONDUCTORS AS REQUIRED BY THE N.E.C. WHEN GROUPED IN COMMON RACEWAYS.
- C. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH CONTRACTOR PROVIDED SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN THE SUBMITTALS AND ELECTRICAL DRAWINGS.
- D. CONTRACTOR SHALL OFFSET OUTLET BOXES ON OPPOSITE SIDES OF A COMMON WALL TO PREVENT SOUND TRANSMISSION BETWEEN ADJOINING ROOMS. BOXES SHALL BE A MINIMUM OF 12" APART, AND MUST BE INSTALLED IN SEPARATE STUD CAVITIES.
- E. ALL LOW VOLTAGE WIRES NOT ROUTED IN CONDUIT SHALL BE PROVIDED AS PLENUM RATED CABLES.
- F. PROVIDE JUNCTION BOXES AND 3/4" CONDUIT WITH PULL STRINGS UP TO ACCESSIBLE LOCATION IN PLENUM AT ALL VOICE AND DATA OUTLET LOCATIONS.
- G. WHERE BOXES ARE INSTALLED IN CONCRETE BLOCK WALLS, THE BOX MOUNTING HEIGHT SHALL BE AT THE BLOCK JOINT AND THE DEVICES SHALL BE PROVIDED WITH A JUMBO COVERPLATE.
- H. ALL WIRES RUN BELOW GRADE, IN CONCRETE THAT IS IN DIRECT CONTACT WITH THE EARTH, OR MASONRY THAT IS IN DIRECT CONTACT WITH THE EARTH SHALL BE WET LOCATION LISTED.
- I. GROUND FAULT INTERRUPTER PROTECTION SHALL BE PROVIDED IN ALL LOCATIONS AS REQUIRED IN SECTION 210.8 OF THE LATEST ADOPTED VERSION OF THE NEC.
- J. ARC FAULT INTERRUPTER PROTECTION SHALL BE PROVIDED IN ALL LOCATIONS AS REQUIRED IN SECTION 210.12 OF THE LATEST ADOPTED VERSION OF THE NEC.
- K. FURNITURE LAYOUTS ARE FOR REFERENCE ONLY. COORDINATE THE FINAL LOCATION OF ELECTRICAL DEVICES AND OUTLETS WITH ARCHITECT, OWNER AND FINAL FURNITURE PLANS PRIOR TO INSTALLATION.
- L. E.C. TO PROVIDE NEW WIRING DEVICES AND COVER PLATES FOR ALL WIRING DEVICES LOCATED IN EXISTING WALLS.
- M. E.C. TO MAINTAIN ALL EXISTING CIRCUIT CONTINUITIES.
- N. ONE WAY 120 VOLT CIRCUIT LENGTH CONDUCTOR SIZING UP TO AND INCLUDING 100 LINEAL FEET SHALL BE #12 AWG. FROM 100 LINEAL FEET TO 150 LINEAL FEET SHALL BE #10 AWG AND FROM 150 LINEAL FEET TO 200 LINEAL FEET SHALL BE #8 AWG.
- O. NO CONDUIT SHALL BE SURFACE MOUNTED ON THE DECK WITHOUT PRIOR APPROVAL FROM SPLASH PAD ENGINEER.

MECHANICAL GENERAL NOTES:

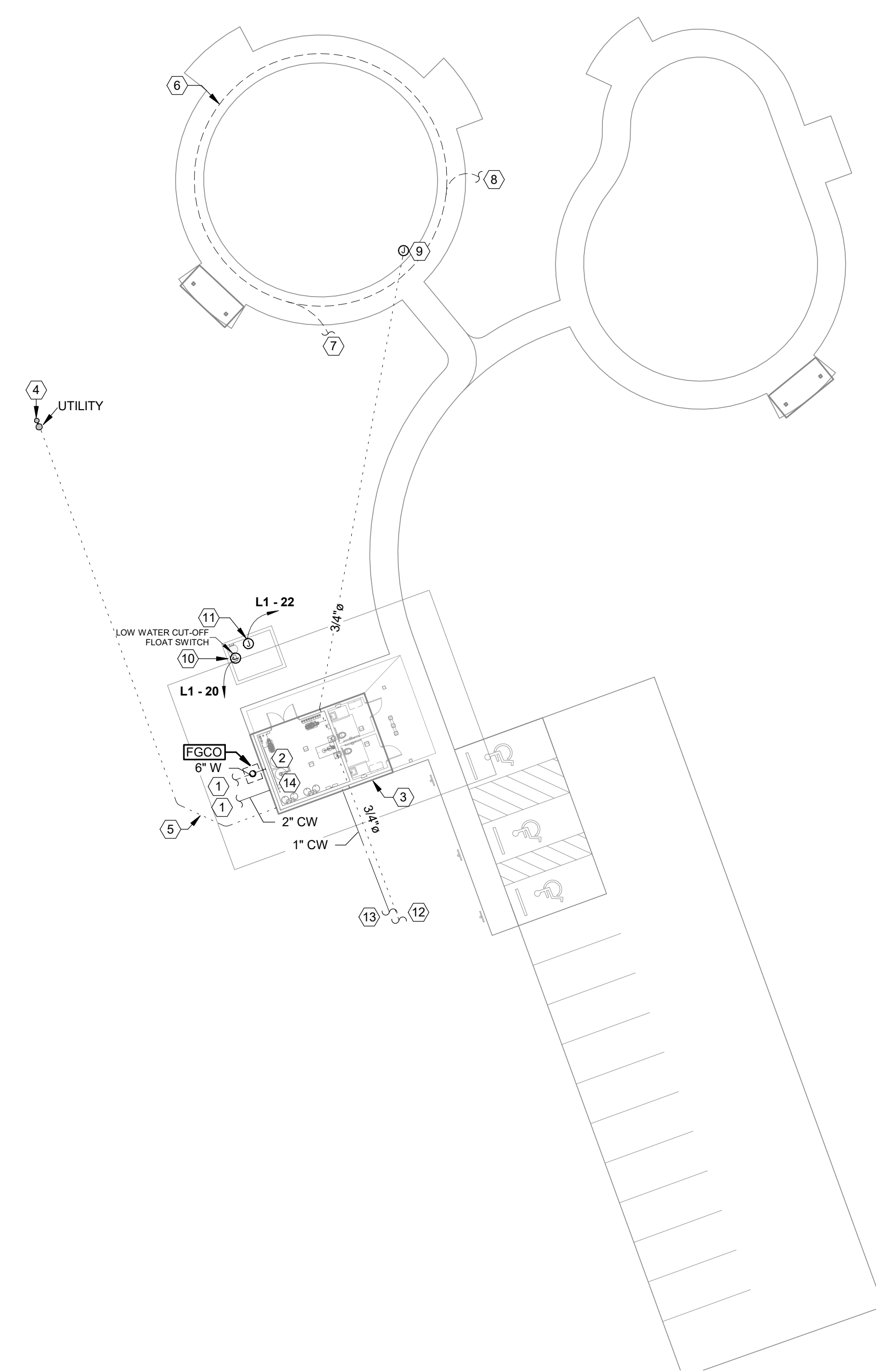
- A. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. PROVIDE SHEET METAL SYSTEMS COMPLETE AND PER APPLICABLE CODES INCLUDING ALL NECESSARY OFFSETS, FITTINGS AND SPECIAL RADIUS OR MITERED ELBOWS WHICH ARE REQUIRED DUE TO SPACE CONSTRAINTS OR OTHER CONDITIONS.
- B. COORDINATE THE INSTALLATION OF THE DUCTWORK AND EQUIPMENT WITH THE WORK OF ALL OTHER TRADES. VERIFY ALL CLEARANCES PRIOR TO THE FABRICATION OF ANY SYSTEM COMPONENTS.
- C. DUCTWORK SHALL NOT BE LOCATED OVER ELECTRICAL EQUIPMENT OR PANELS. PROVIDE THE CODE REQUIRED WORKING CLEARANCE AROUND ALL ELECTRICAL EQUIPMENT AND PANELS.
- D. PROVIDE ALL MISCELLANEOUS SUPPORTING STEEL, ETC. FOR THE PROPER INSTALLATION OF ALL MECHANICAL SYSTEMS.
- E. COORDINATE FLOOR, WALL, ROOF PENETRATIONS, LOUVER SIZES, PAD LOCATIONS, ETC. WITH THE ARCHITECTURAL TRADES.
- F. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS AND WALL ELEVATIONS FOR EXACT LOCATION OF GRILLES, REGISTERS, AND DIFFUSERS.
- G. BRANCH DUCTWORK TO DIFFUSERS, REGISTERS OR GRILLES SHALL BE NECK SIZE UNLESS NOTED OTHERWISE.
- H. ALL RUNOUTS TO SUPPLY DIFFUSERS SHALL BE PROVIDED WITH BALANCING DAMPERS. PROVIDE CONCEALED DAMPER OPERATORS WHERE LOCATED ABOVE HARD CEILINGS.
- I. ALL DUCTWORK DIMENSIONS INDICATE THE INSIDE CLEAR DIMENSION.
- J. PROVIDE ACCESS DOORS IN HARD CEILING AREAS FOR ACCESS TO TERMINAL UNITS, BALANCING DAMPERS, TERMINAL UNIT HEATING COIL PIPING, ETC. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES. COORDINATE WITH THE ARCHITECTURAL TRADES.

PLUMBING GENERAL NOTES:

- A. GENERAL EXTENT OF THE WORK. PROVIDE PLUMBING SYSTEMS COMPLETE AND PER APPLICABLE CODES INCLUDING ALL NECESSARY COMPONENTS AND OFFSETS WHICH ARE REQUIRED DUE TO SPACE CONSTRAINTS OR OTHER CONDITIONS.
- B. REFER TO THE ARCHITECTURAL PLANS FOR THE EXACT LOCATIONS OF PLUMBING FIXTURES.
- C. COORDINATE THE INSTALLATION OF PLUMBING AND PIPING WITH THE WORK OF ALL OTHER TRADES.
- D. PIPING SHALL NOT BE LOCATED OVER ELECTRICAL EQUIPMENT OR PANELS. PROVIDE THE CODE REQUIRED WORKING CLEARANCE AROUND ALL ELECTRICAL EQUIPMENT AND PANELS.
- E. THE CONTRACTOR SHALL NOT LOCATE PIPING BELOW DUCT MOUNTED AIR TERMINAL UNITS, TERMINAL HEATING COILS, OR OTHER EQUIPMENT.
- F. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL PLUMBING SYSTEMS.
- G. COORDINATE THE SHUT DOWN OF ANY EXISTING SERVICES AND/OR EQUIPMENT WITH THE OWNER'S REPRESENTATIVE.
- H. PLUMBING VENT PIPING THROUGH THE ROOF SHALL BE LOCATED A MINIMUM OF 10'-0" AWAY FROM ANY FRESH AIR INTAKE LOCATION AND A MINIMUM OF 18" CLEAR FROM THE INSIDE FACE OF THE PARAPET.
- I. PROVIDE THE CODE REQUIRED CLEARANCE FOR ALL CLEANOUTS INSTALLED IN SANITARY WASTE AND VENT PIPING.
- J. MINIMUM UNDERGROUND PIPE SIZE SHALL BE 2".
- K. WHERE WALL MOUNTED FLUSH VALVE SENSORS ARE USED, THE PLUMBING CONTRACTOR SHALL COORDINATE THE LOCATION OF THE SENSORS WITH THE ELECTRICAL AND ARCHITECTURAL TRADES TO AVOID CONFLICTS WITH GRAB BARS OR ANY OTHER ACCESSORIES.



2 EQUIPOTENTIAL BONDING DETAIL
NOT TO SCALE



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





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ASSET NO. 7815302065

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CHECKED BY: CJS
DESIGNED BY: JJP

SHEET TITLE:
LIGHTING & POWER
PLAN

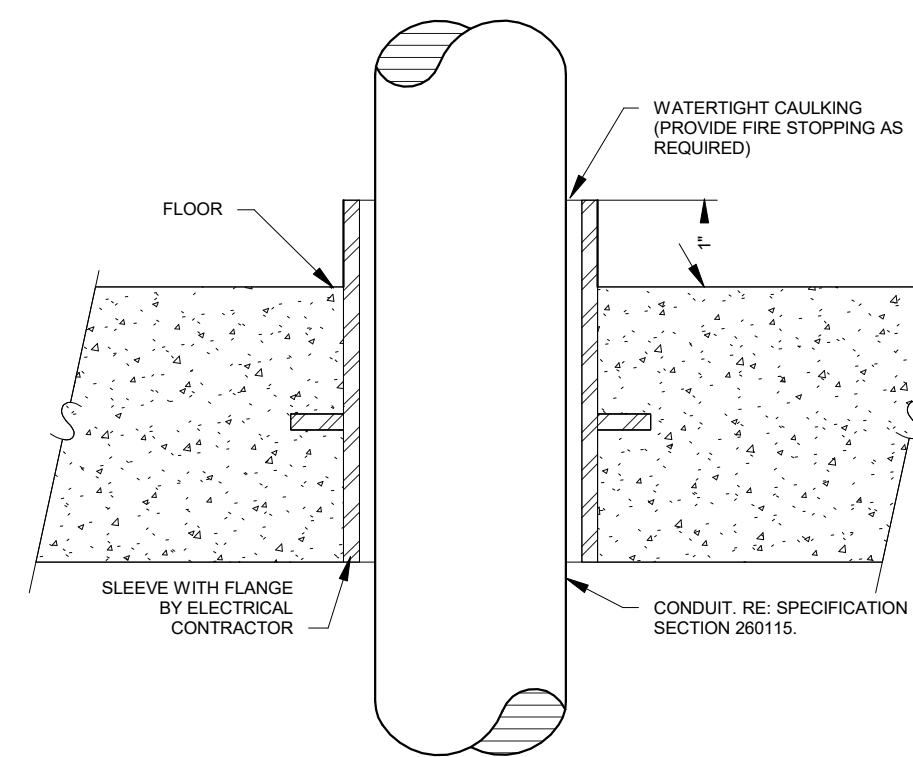
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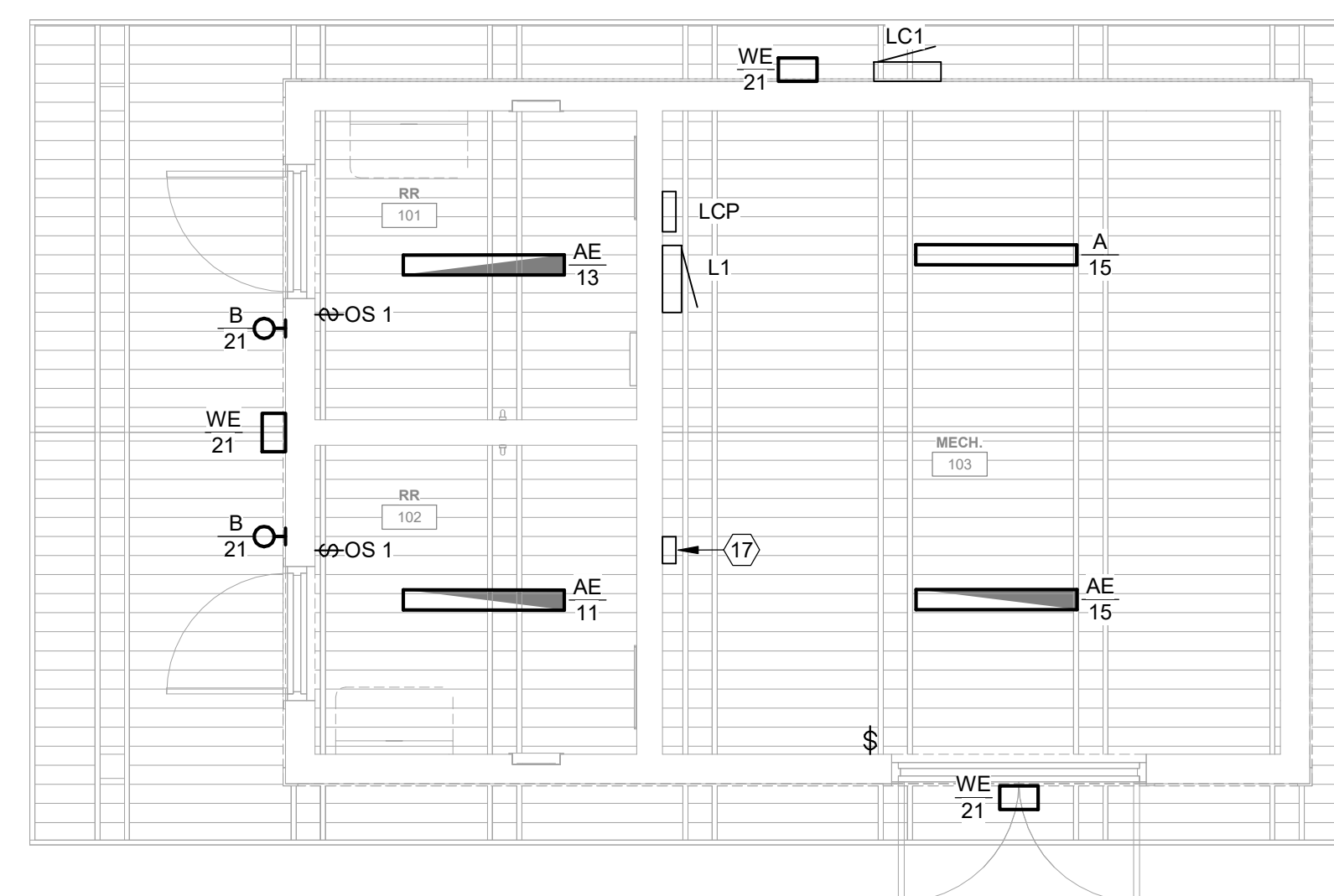
31 OF 33 SHEETS
3/29/2024

ELECTRICAL PLAN NOTES:

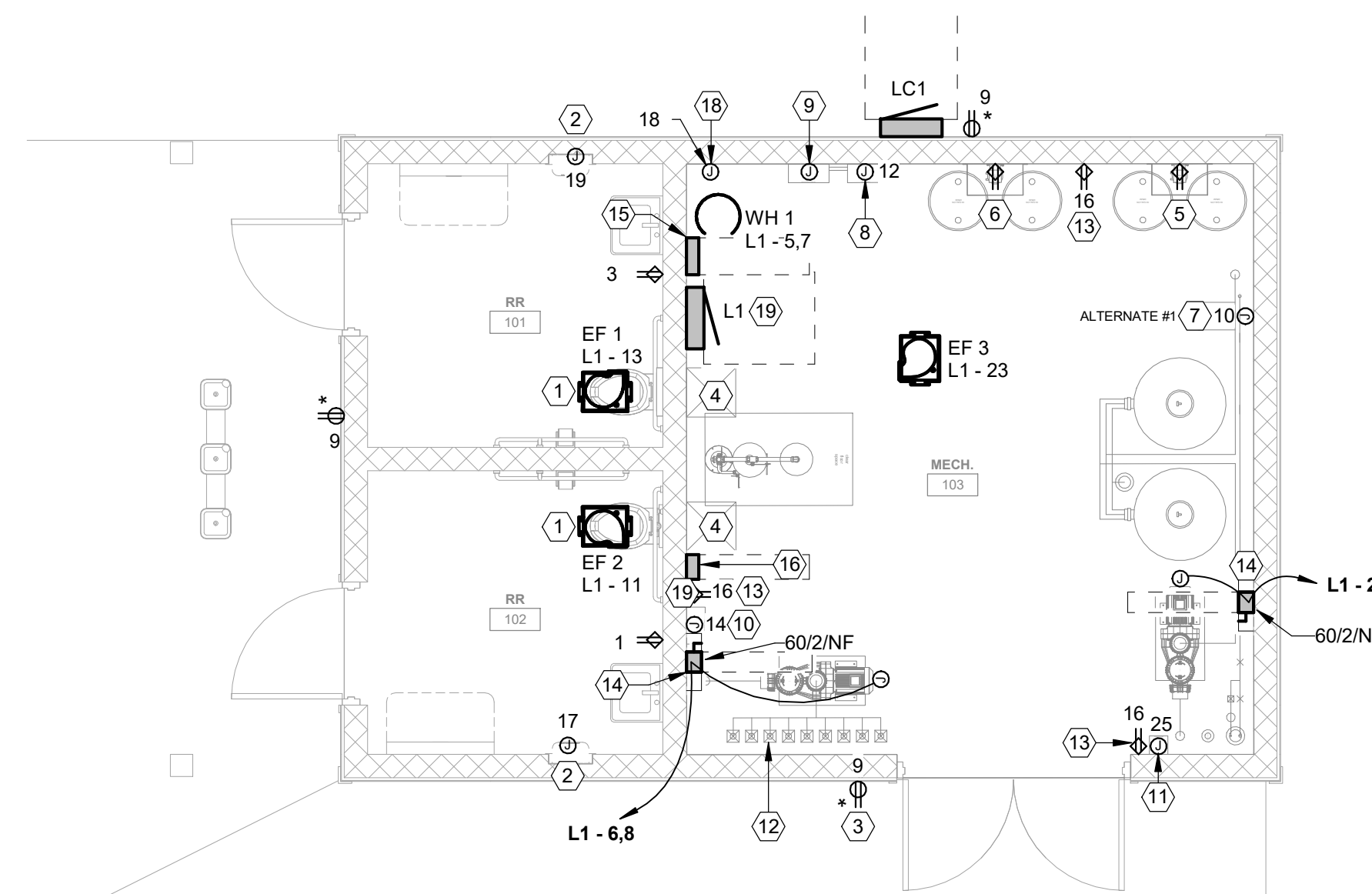
- 1 INTERLOCK FAN WITH LIGHTING.
- 2 PROVIDE POWER TO HAND DRYER. RE: ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHT PRIOR TO ROUGH IN.
- 3 SODIUM HYPOCHLORITE FEEDER RECEPTACLE. CONNECT CIRCUIT TO CHEMICAL CONTROLLER. SEE CIRCULATION PUMP CONTROL SCHEMATIC FOR MORE INFORMATION. PROVIDE ENGRAVED COVERPLATE DENOTING SODIUM HYPOCHLORITE FEEDER. INSTALL RECEPTACLE IN A NEMA 3R WEATHERPROOF ENCLOSURE. TYPICAL OF ALL EXTERIOR OUTLETS.
- 4 KEEP WALL SPACE CLEAR FOR WATER CLOSET CARRIER SYSTEM.
- 5 NEW MURIATIC ACID FEEDER RECEPTACLE. CONNECT CIRCUIT TO CHEMICAL CONTROLLER. RE: CIRCULATION PUMP CONTROL SCHEMATIC FOR MORE INFORMATION. PROVIDE ENGRAVED COVERPLATE DENOTING MURIATIC ACID FEEDER.
- 6 INSTALL RECEPTACLE IN A NEMA 3R WEATHERPROOF ENCLOSURE. TYPICAL OF ALL EXTERIOR OUTLETS.
- 7 PROVIDE POWER FOR UV SYSTEM. COORDINATE EXACT LOCATION AND POWER REQUIREMENTS WITH SPLASH PAD CONTRACTOR. CONTRACTOR SHALL BID THIS AS ADD ALTERNATE 1.
- 8 PROVIDE GFCI BREAKER IN PANEL FOR CHEMICAL CONTROLLER. PROVIDE ENGRAVED COVERPLATE DENOTING AREA SERVED AND CHEMICAL CONTROLLER.
- 9 PROVIDE ROUGH IN FOR SENSOR BOX. COORDINATE ALL POWER REQUIREMENTS PRIOR TO ROUGH IN.
- 10 PROVIDE POWER TO FEATURES CONTROLLER. COORDINATE WITH SPLASH PAD ENGINEER FOR ALL WIRING TO PUMPS.
- 11 PROVIDE LINE VOLTAGE TO WATER LEVEL CONTROLLER. PROVIDE ALL LOW VOLTAGE WIRING TO SOLENOID VALVES AS NECESSARY. COORDINATE WITH SPLASH PAD ENGINEER FOR ALL WIRING TO SENSOR, METER, AND ACCESSORIES.
- 12 PROVIDE LOW VOLTAGE WIRING FROM WATER FEATURE CONTROLLER TO SOLENOID VALVES.
- 13 PROVIDE GENERAL RECEPTACLE FOR MECHANICAL ROOM. COORDINATE LOCATION WITH ALL LOCAL SPLASH PAD EQUIPMENT. MAINTAIN ALL REQUIRED CLEARANCES.
- 14 COORDINATE DISCONNECT LOCATION WITH ALL LOCAL SPLASH PAD EQUIPMENT. MAINTAIN ALL REQUIRED CLEARANCES.
- 15 SPACE RESERVED FOR TIME CLOCK.
- 16 SPACE RESERVED FOR PUMP START / STOP STATION. COORDINATE FINAL LOCATION WITH SPLASH PAD ENGINEER.
- 17 PUMP START / STOP STATION SHOWN FOR REFERENCE.
- 18 PROVIDE ROUGH IN FOR HEAT TAPE POWER. COORDINATE WITH PC FOR EXACT LOCATION.
- 19 TAG EMPTY CONDUIT FOR FUTURE SHELTER WITH LABEL "FUTURE SHELTER".



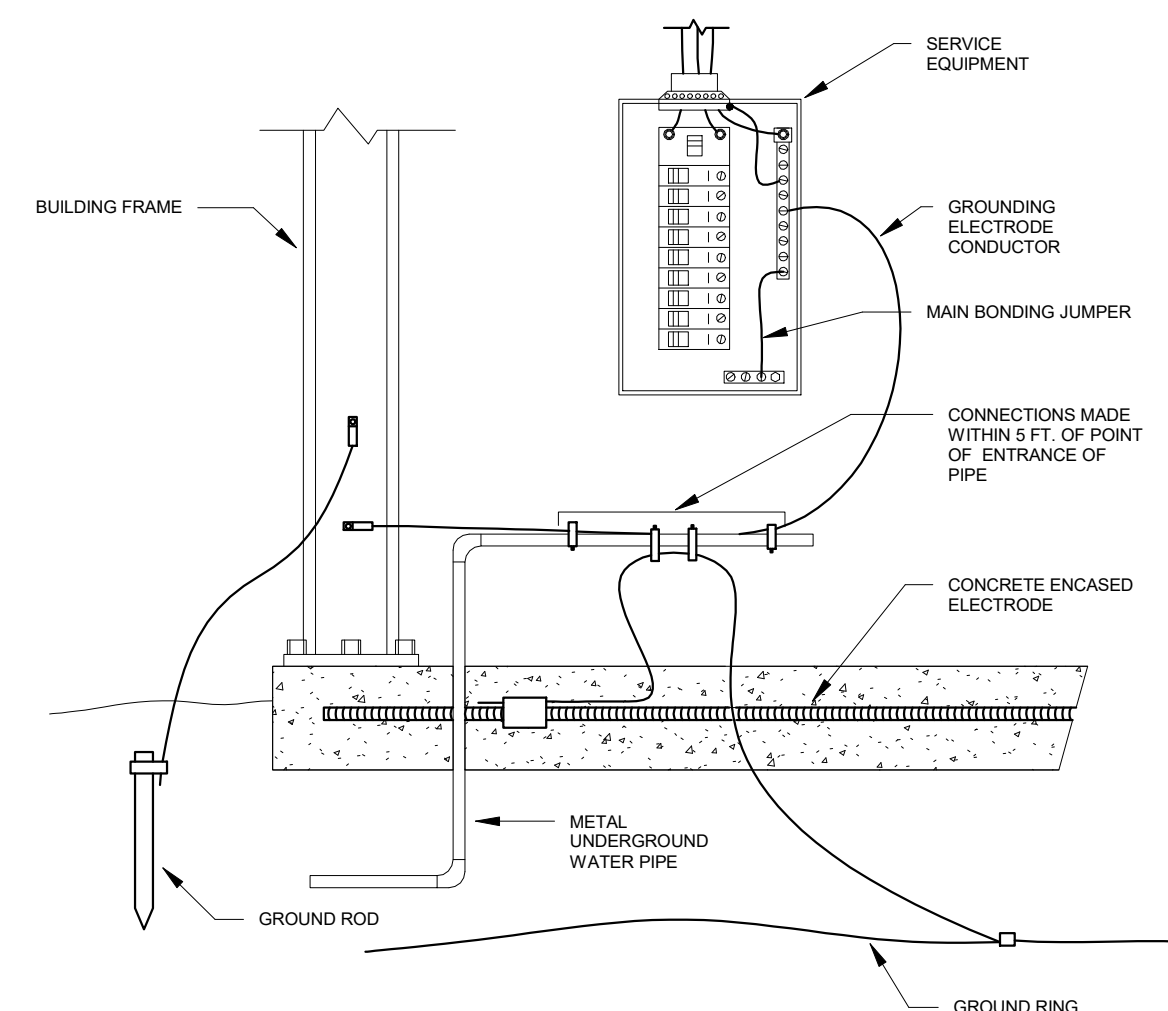
3 CONDUIT PENETRATION THROUGH FLOOR
NOT TO SCALE



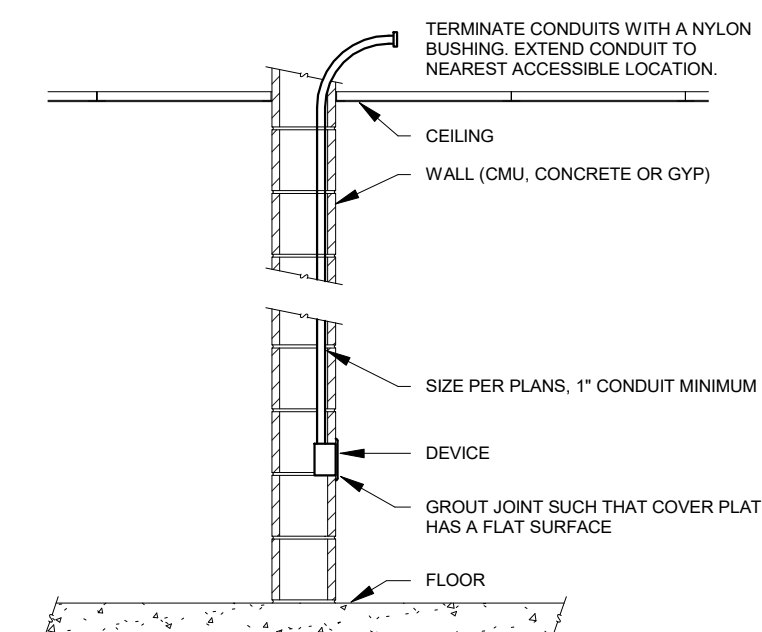
2 LIGHTING RCP
1/4" = 1'-0"



1 POWER PLAN
1/4" = 1'-0"

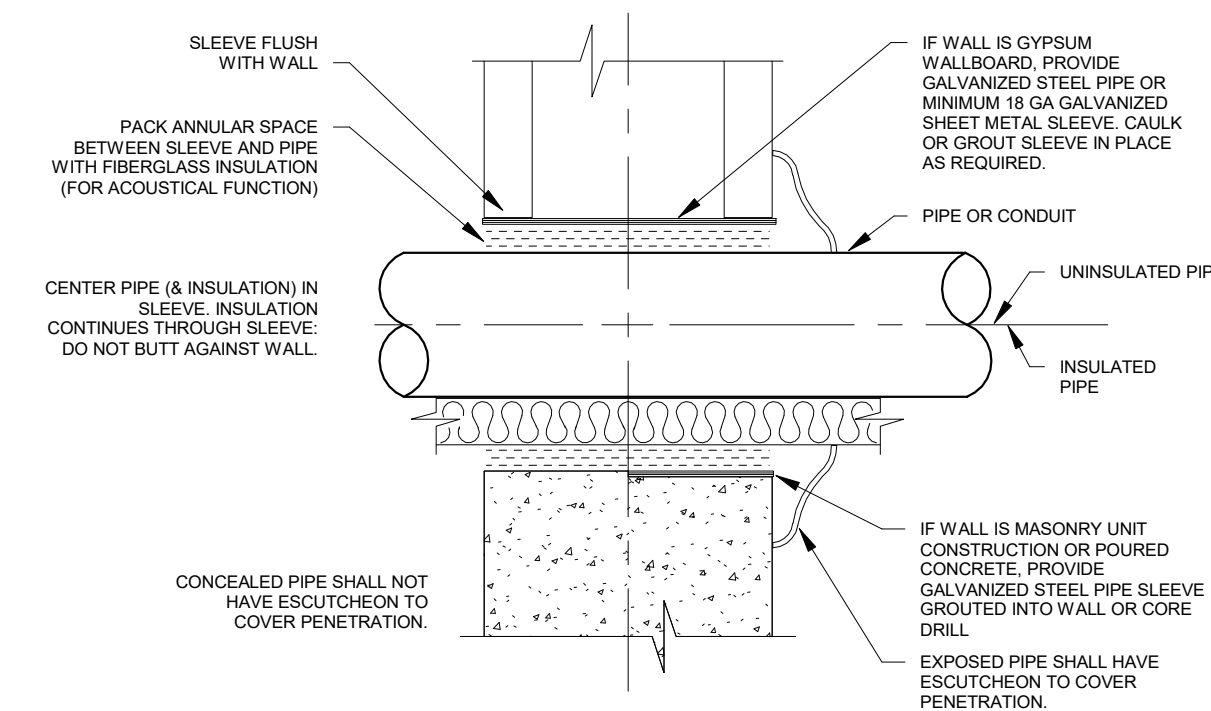


6 GROUNDING ELECTRODE SYSTEM
NOT TO SCALE



- NOTES:
1. DEVICE MOUNTED AT NORMAL RECEPTACLE HEIGHT UNLESS NOTED OTHERWISE. REFER TO PLANS FOR MOUNTING HEIGHTS.
 2. REFER TO SPECS FOR ADDITIONAL INSTALLATION REQUIREMENTS.

5 DATA CONDUIT AND BACK BOX
NOT TO SCALE



- NOTES:
1. REFER TO ARCHITECTURAL DRAWINGS FOR WALL LOCATIONS. REFER TO SPECIFICATIONS FOR ALTERNATIVE INSTALLATIONS. COORDINATE REQUIREMENTS WITH GENERAL CONTRACTOR.

4 CONDUIT PENETRATION THROUGH NON-FIRE RATED WALL
NOT TO SCALE



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SITE NO. 5302
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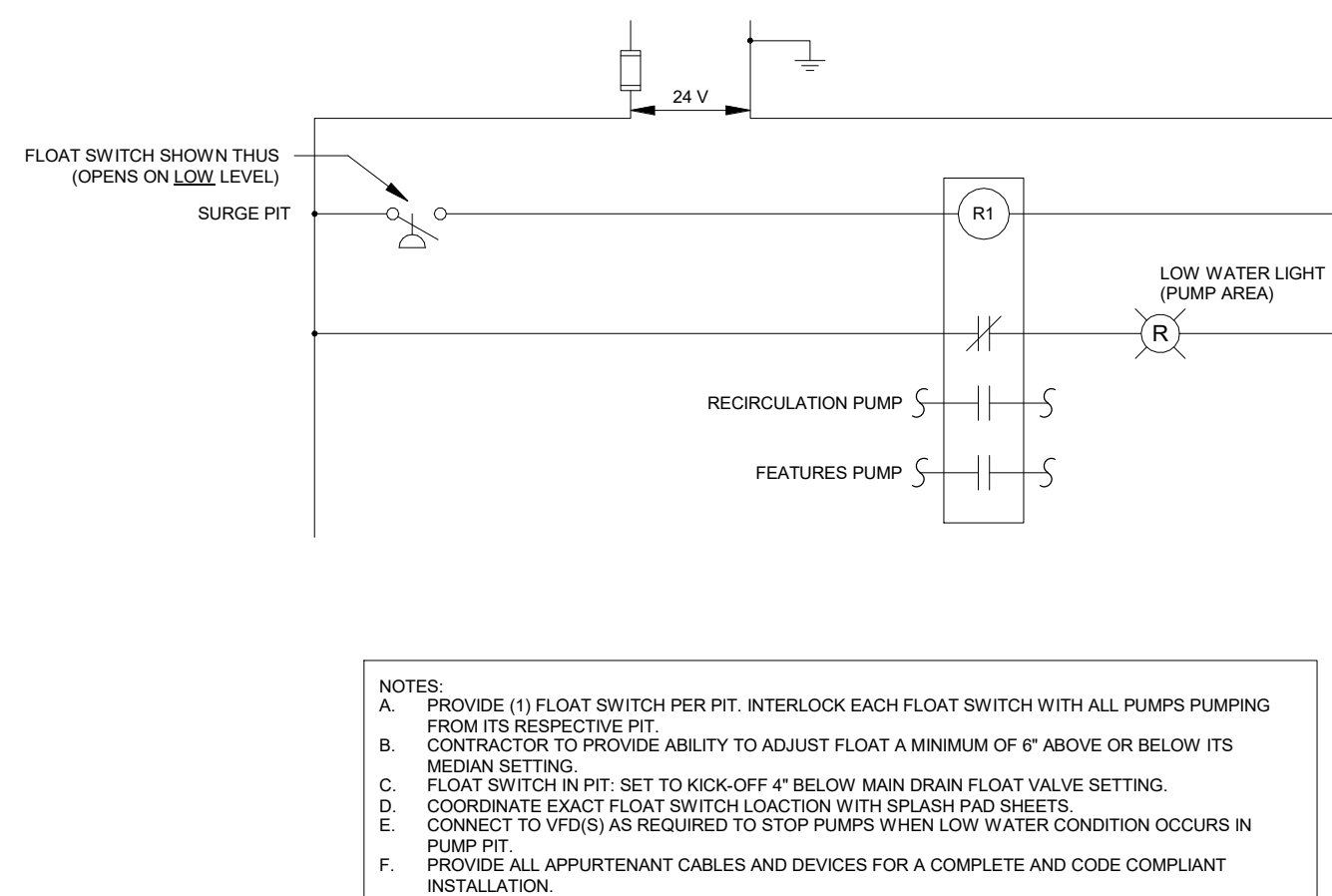
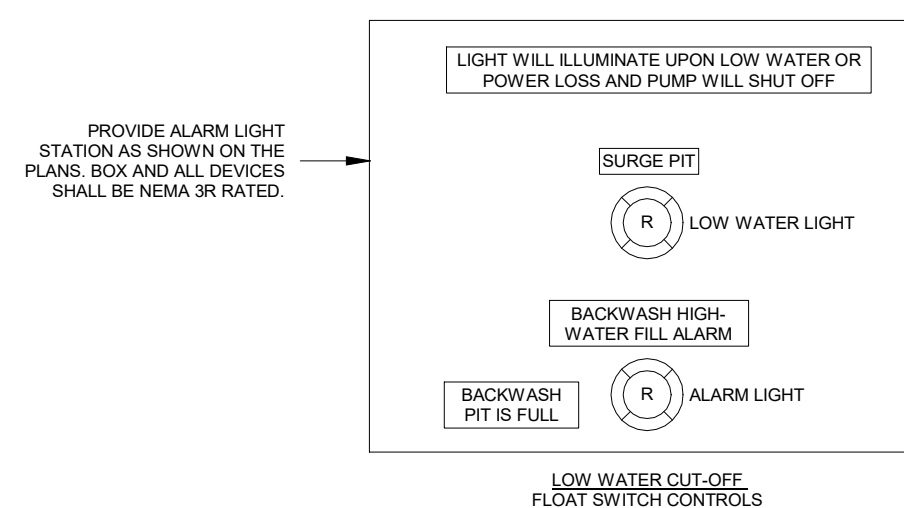
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DRAWN BY: JJP
CHECKED BY: CJS
DESIGNED BY: JJP

SHEET TITLE:
ELECTRICAL DETAILS

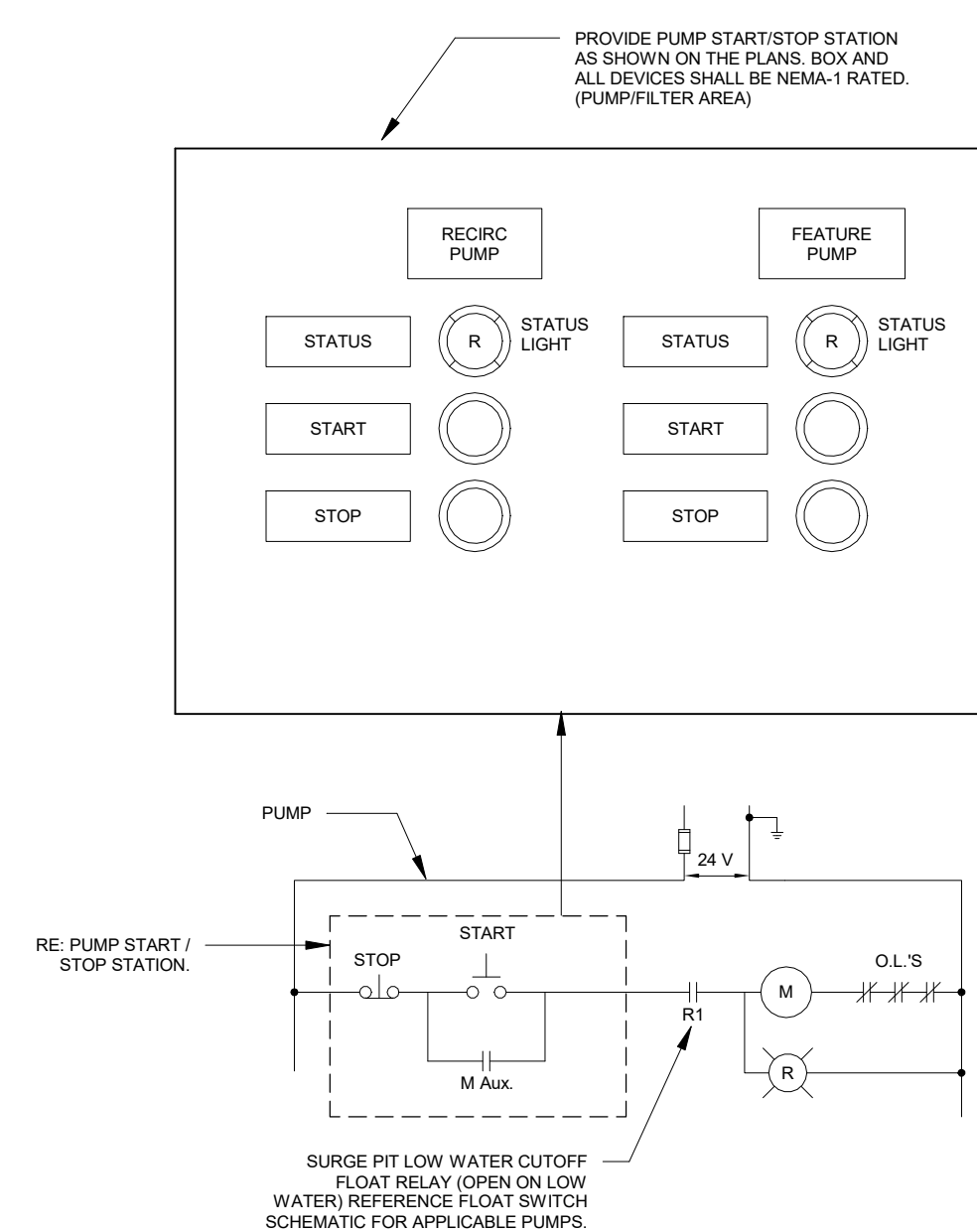
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E-501

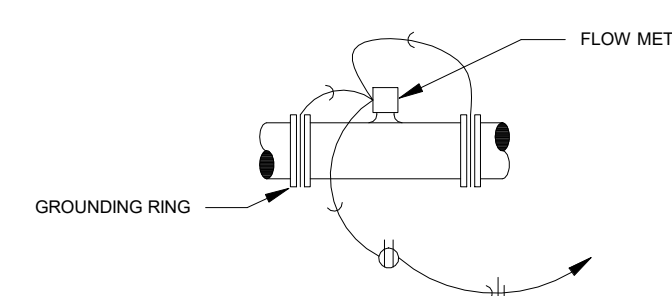
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3/29/2024



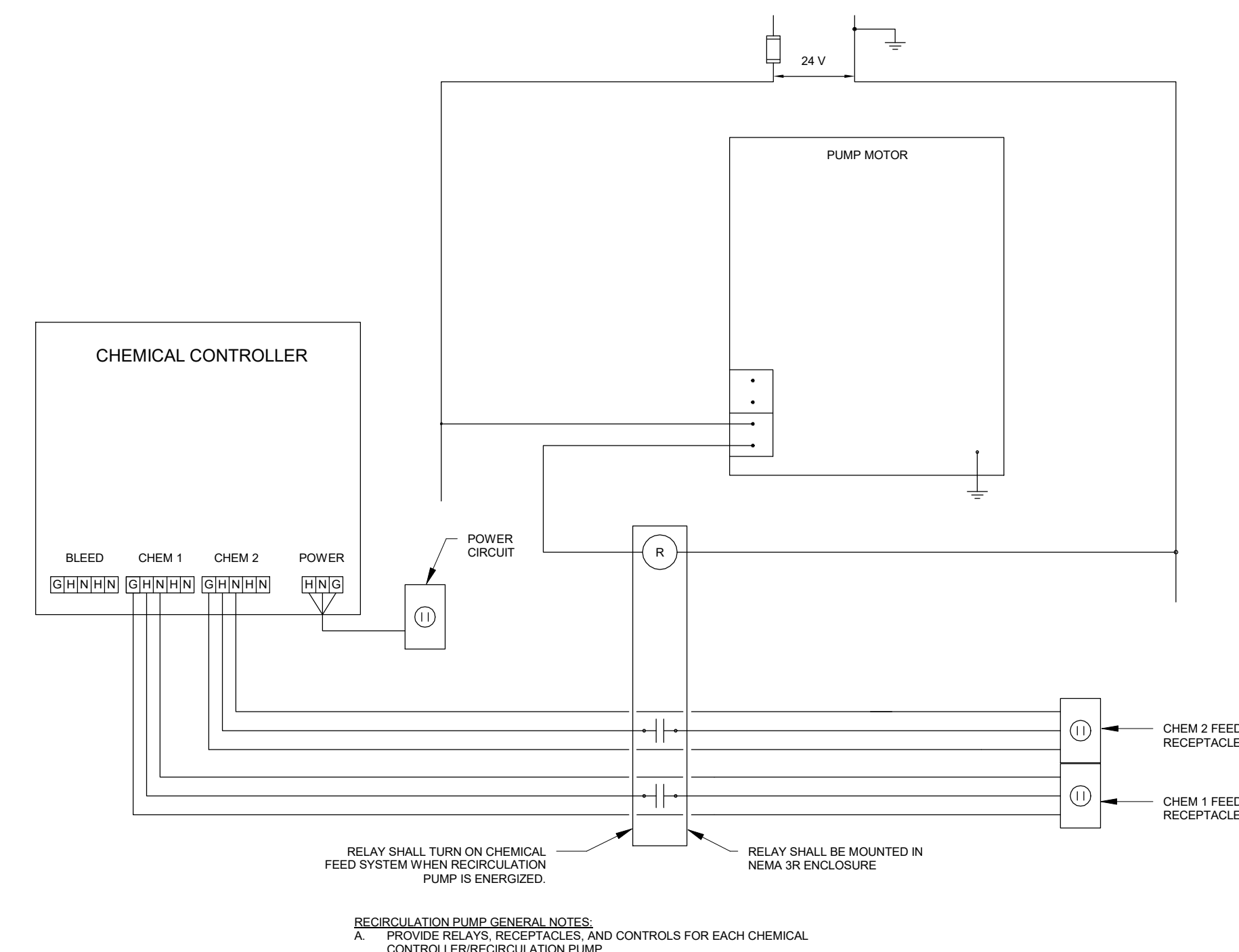
5 FLOAT SWITCH SCHEMATIC
NOT TO SCALE



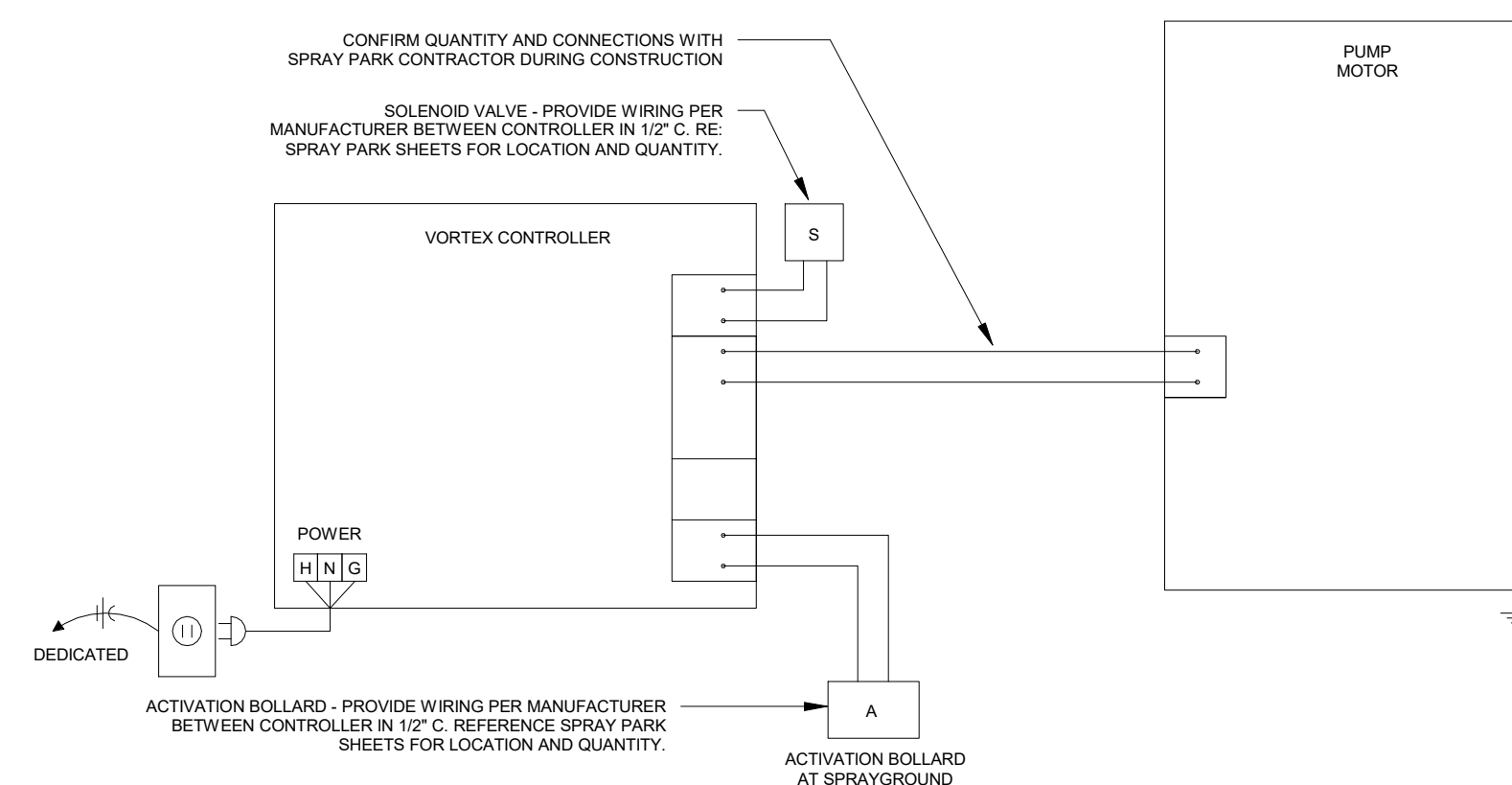
4 START/STOP STATION DETAIL
NOT TO SCALE



3 FLOW METER GROUNDING DETAIL
NOT TO SCALE



2 RECIRCULATION PUMP CONTROL SCHEMATIC
NOT TO SCALE



1 FEATURES PUMP CONTROL SCHEMATIC
NOT TO SCALE



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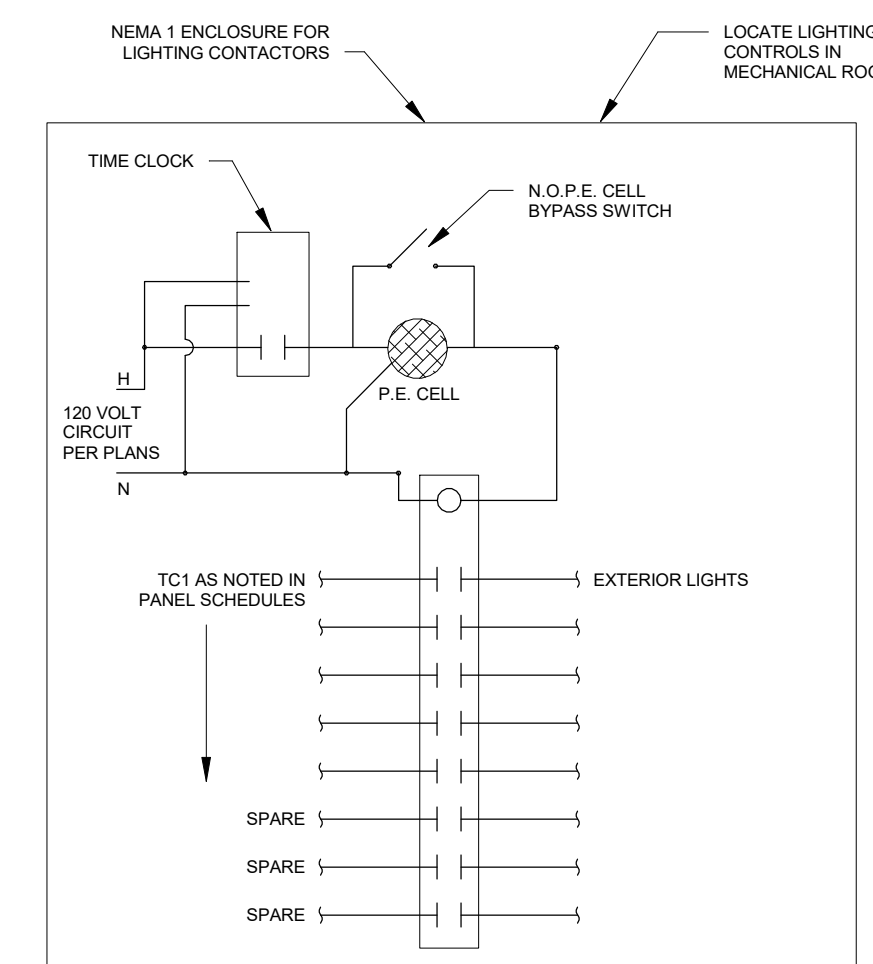
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ELECTRICAL
SCHEDULES

SHEET NUMBER:

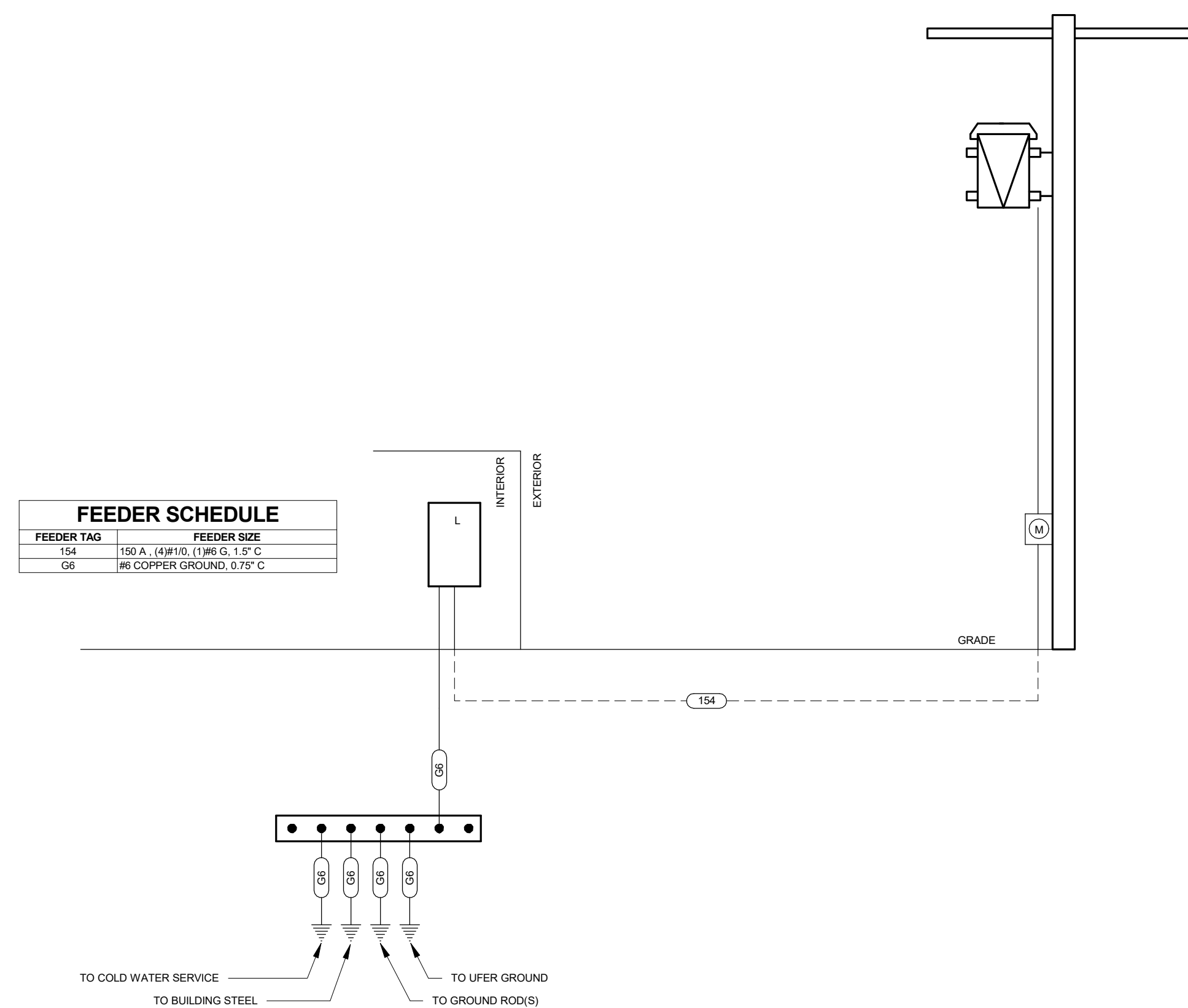
E-601

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3/29/2024



1 TC1 LIGHTING CONTACTOR DETAIL
NOT TO SCALE

PANELBOARD SCHEDULE LEGEND	
OL	REFER TO ONE-LINE DIAGRAM
AF	ARC FAULT CIRCUIT BREAKER
GF	GROUND FAULT CIRCUIT BREAKER
GFEP	GROUND FAULT EQUIPMENT PROTECTION BREAKER
FA	PROVIDE RED HANDLE-ON CLAMP FOR FIRE ALARM CIRCUIT
HLO	PROVIDE PAD LOCKABLE-OFF DEVICE CAPABLE OF SECURING BREAKER HANDLE IN THE OFF POSITION.
ST	PROVIDE SHUNT TRIP DEVICE FOR BREAKER
T	BREAKER SHALL BE CAPABLE OF ACCEPTING HANDLE TIES
TC#	ROUTE CIRCUIT THROUGH TIME CLOCK AS NOTED IN DETAILS.



2 ELECTRICAL RISER DIAGRAM
NOT TO SCALE

LIGHTING DEVICE SCHEDULE										
DEVICE TAG	MANUFACTURER	MODEL	DESCRIPTION	DIMMING	ON MODE	SENSOR TYPE	TIME DELAY	MAX LOAD	MOUNTING TYPE	VOLTAGE
OS 1	WATTSTOPPER	DSW-301	PERSONAL CONTROL - DUAL TECH OCC SENSOR	-	AUTO	DUAL	15 MINUTES	8 A	WALL	120

GENERAL CONTROL NOTES:

- AUTO ON (OCCUPANCY MODE): LOAD TURNS ON AND OFF AUTOMATICALLY BASED ON OCCUPANCY. IF LOAD IS TURNED OFF MANUALLY, LOAD REMAINS OFF UNTIL 5 MINUTES AFTER OCCUPANT DETECTION, IT THEN REVERTS TO AUTO ON MODE.
- MANUAL ON (VACANCY MODE): OCCUPANT MUST MANUALLY PRESS ON/OFF BUTTON TO ENERGIZE THE LOAD. LOAD REMAINS ENERGIZED UNTIL NO MOTION IS DETECTED FOR THE SELECTED TIME DELAY.

GENERAL NOTES:

- PROVIDE ALL REQUIRED WIRING FOR A COMPLETE INSTALLATION. REFERENCE MANUFACTURER'S WIRING DIAGRAMS FOR ALL REQUIRED WIRING.
- DUAL TECHNOLOGY SENSORS OCCUPANCY LOGIC SHALL BE SELECTED FOR DETECTION BY EITHER TECHNOLOGY AND SHOULD ONLY REQUIRE ONE FOR INITIAL AND MAINTAINED OCCUPANCY AND RE-TRIGGER WHEN OPTION IS AVAILABLE.
- ALL WALL SWITCHES WITH MORE THAN TWO BUTTONS OR BUTTONS FOR DIMMING SHALL BE ENGRAVED WITH THE SCENE FUNCTION. TEXT SHALL BE SELECTED DURING THE SUBMITTAL PROCESS.
- PROVIDE TWO DIGITAL WIRELESS CONFIGURATION TOOLS, WATTSTOPPER MODEL LMCT-100.
- ARCHITECT SHALL SELECT COLOR FROM MANUFACTURER'S COLOR PALETTE DURING THE SUBMITTAL PROCESS.
- RE: SPECIFICATION SECTION 260939 FOR ALTERNATE MANUFACTURERS.

LIGHT FIXTURE SCHEDULE													
FITURE TAG	MANUFACTURER	MODEL	LIGHT SOURCE			DIMMING TYPE	MOUNTING TYPE	VOLTAGE	VOLTAGE	INPUT WATTS	INPUT VA	DESCRIPTION	NOTES
			TYPE	LUMENS	COLOR TEMP								
A	H.E. WILLIAMS	96-4-HIAFR-TP	LED	4000	3500 K	80	-	UNIVERSAL	120	30	33	4 FT LINEAR, WET LISTED, TAMPER & IMPACT RESISTANT.	5
AE	H.E. WILLIAMS	96-4-HAIFR-TP-EM/6WC	LED	4000	3500 K	80	-	UNIVERSAL	120	30	33	4 FT LINEAR, WET LISTED, TAMPER & IMPACT RESISTANT. COLD WEATHER EM BATTERY	2, 5
B	HI-LITE	H-CGU-HB-91-FR-BCM-LED3	LED	1400	3000 K	80	-	WALL	120	12	13	DECORATIVE WALL SCENCE.	3, 4
WE	ACUITY	W4PLED-10C1000-30K-T3M-120-PCB-TPS-ELCW-LVG-BKSDP	LED	2030	3000 K	0	-		120	26	29	EXTERIOR WALL PACK WITH COLD-WEATHER EM BATTERY	1, 2

NOTES:

- PROVIDE WITH SELF-TESTING / SELF-DIAGNOSTICS.
- PROVIDE FIXTURE WITH INTEGRAL COLD WEATHER RATED BATTERY.
- PROVIDE WITH MANUFACTURER'S LED3 BULB FOR FIXTURE.
- FIXTURE SHALL BE MOUNTED AT 8'-0" AFF TO CENTER OF FIXTURE. COORDINATE EXACT LOCATION WITH ARCHITECTURAL ELEVATIONS.
- PROVIDE OWNER WITH 2 OF MANUFACTURER'S TPTG TOOL ACCESSORY.
- FIXTURE SHALL BE MOUNTED AT 9'-8" AFF TO CENTER OF FIXTURE. COORDINATE EXACT LOCATION WITH ARCHITECTURAL ELEVATIONS.

GENERAL NOTES:

- PROVIDE ALL REQUIRED ACCESSORIES FOR A COMPLETE INSTALLATION.
- CONTRACTOR SHALL VERIFY FINISH WITH ARCHITECT PRIOR TO ORDERING.
- REFERENCE PLANS FOR FIXTURES REQUIRING EMERGENCY DRIVERS.
- CONTRACTOR SHALL VERIFY CEILING TYPE PRIOR TO ORDERING ALL FIXTURES.
- RE: SPECIFICATION SECTION 265113 FOR ALTERNATE MANUFACTURERS.

PANELBOARD: LC1															
LOCATION: L1			VOLTS/PHASE 240/120V, 1Ph, 3W			EQUIPMENT GROUND BUS									
FED FROM: L1			MIN AIC RATING: 10 KAIC												
MOUNTING: SURFACE			BUS AMPS: 50 A												
			MCB RATING: MLO												
CKT	LOAD DESCRIPTION	WIRE SIZE	GND SIZE	TYPE	BKR AMP	P	A	B	P	BKR AMP	TYPE	GND SIZE	WIRE SIZE	LOAD DESCRIPTION	CKT
1	SPARE	--	--	--	20	1	0	0		1	20	--	--	SPARE	2
3	SPARE	--	--	--	20	1		0	0	1	20	--	--	SPARE	4
5	SPARE	--	--	--	20	1	0	0		1	20	--	--	SPARE	6
7	SPARE	--	--	--	20	1		0	0	1	20	--	--	SPARE	8
9	SPARE	--	--	--	20	1	0	0		1	20	--	--	SPARE	10
11	SPARE	--	--	--	20	1		0	0	1	20	--	--	SPARE	12
TOTAL LOAD (VA):							0 VA	0 VA							
TOTAL AMPS:							0 A	0 A							
LOAD TYPE	CONNECTED LOAD	DEMAND FACTOR	NEC DEMAND	PANELBOARD NOTES				PANELBOARD TOTALS							
EXISTING LOAD				NEMA 3R, LOCKABLE.				TOTAL CONNECTED LOAD: 0 VA							
COOLING		0%	0 VA					TOTAL NEC DEMAND: 0 VA							
HEATING		0%	0 VA					TOTAL CONNECTED CURRENT: 0 A							
LIGHTING								TOTAL NEC DEMAND CURRENT: 0 A							
RECEPTACLES															
MOTORS (125% OF LARGEST)															
KITCHEN EQUIPMENT															
MISCELLANEOUS															
SUPPLEMENTAL HEAT															
SIGNAGE															

PANELBOARD: L1															
LOCATION: MECH, 103			VOLTS/PHASE 240/120V, 1Ph, 3W			EQUIPMENT GROUND BUS									
FED FROM: UTILITY			MIN AIC RATING: 65 KAIC												
MOUNTING: SURFACE			BUS AMPS: 150 A												
			MCB RATING: 150 A												
CKT	LOAD DESCRIPTION	WIRE SIZE	GND SIZE	TYPE	BKR AMP	P	A	B	P	BKR AMP	TYPE	GND SIZE	WIRE SIZE	LOAD DESCRIPTION	CKT
1	RR RCPT	12	12		20	1	180	3360		2	60		8	RECIRC PUMP (5HP)	2
3	RR RCPT	12	12		20	1		180	3360	--	--	--	--		4
5	WATER HEATER	12	12		20	2	1500	3360		2	60		8	WATER FEATURE PUMP (SHP)	6
7	--	--	--	--	--	--	--	1500	3360	--	--	--	--		8
9	EXT RCPT	12	12	GF	20	1	540	500		1	20	GF	12	UV CONTROLLER	10
11	RR LTG FAN	12	12		20	1		219	500	1	20	GF	12	CHEM CONTROLLER	12
13	RR LTG FAN	12	12		20	1	219	500		1	20	GF	12	WATER FEATURE CONTROLLER	14
15	MECH LTG	12	12		20	1		67	540	1	20		12	GEN RCPT	16
17	RR HAND DRYER	12	12	HLO	20	1	1500	500		1	20	GF	12	HEAT TAPE	18
19	RR HAND DRYER	12	12	HLO	20	1		1500	500	1	20	GF	12	FLOAT SWITCH	20
21	EXT LTG	12	12	TC1	20	1	113	500		1	20	GF	12	SUMP PUMP	22
23	EF 3	12	12		20	1		246	--	1	--	--	--	FUTURE SHELTER - 20A SPARE	24
25	WATER LEVEL CONTROLLER	12	12	GF	20	1	180	0		1	20	--	--	SPARE	26
27	LC1	6	10	HLO	50	2		0	0	1	20	--	--	SPARE	28
29	--	--	--	--	--	--	0	0		1	20	--	--	SPARE	30
TOTAL LOAD (VA):							12953 VA	11972 VA							
TOTAL AMPS:							108 A	100 A							
LOAD TYPE	CONNECTED LOAD	DEMAND FACTOR	NEC DEMAND	PANELBOARD NOTES				PANELBOARD TOTALS							
EXISTING LOAD								TOTAL CONNECTED LOAD: 24925 VA							
COOLING		0%	0 VA					TOTAL NEC DEMAND: 25048 VA							
HEATING		0%	0 VA					TOTAL CONNECTED CURRENT: 104 A							
LIGHTING	247 VA	125%	308 VA					TOTAL NEC DEMAND CURRENT: 104 A							
RECEPTACLES	1620 VA	100%	1620 VA												
MOTORS (125% OF LARGEST)	618 VA	110%	680 VA												
KITCHEN EQUIPMENT															
MISCELLANEOUS	22440 VA	100%	22440 VA												
SUPPLEMENTAL HEAT															
SIGNAGE															