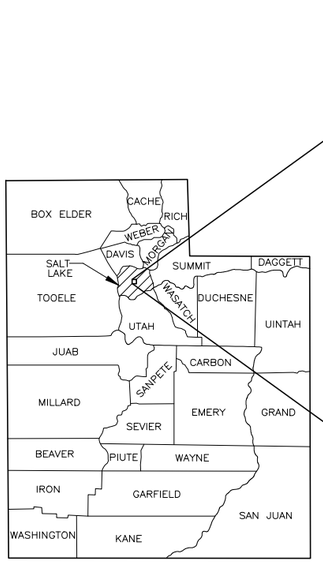
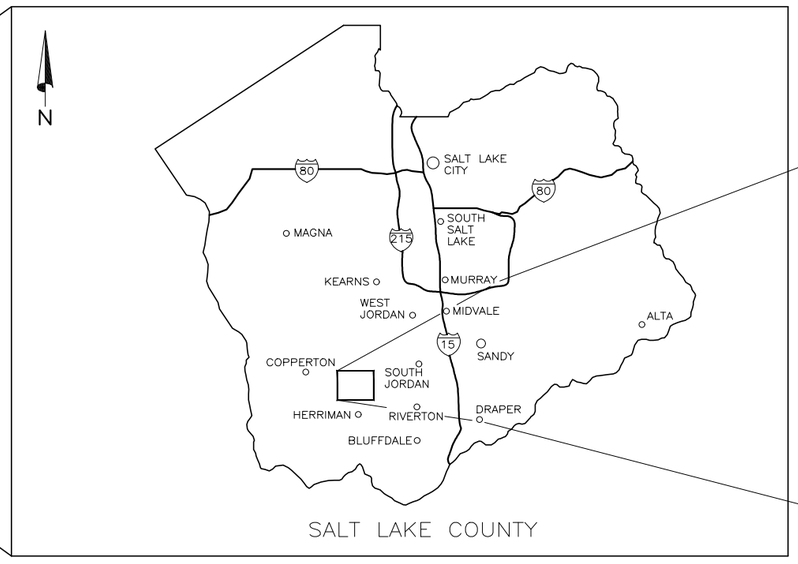
SOUTH JORDAN
UTAH

SOUTH JORDAN CITY

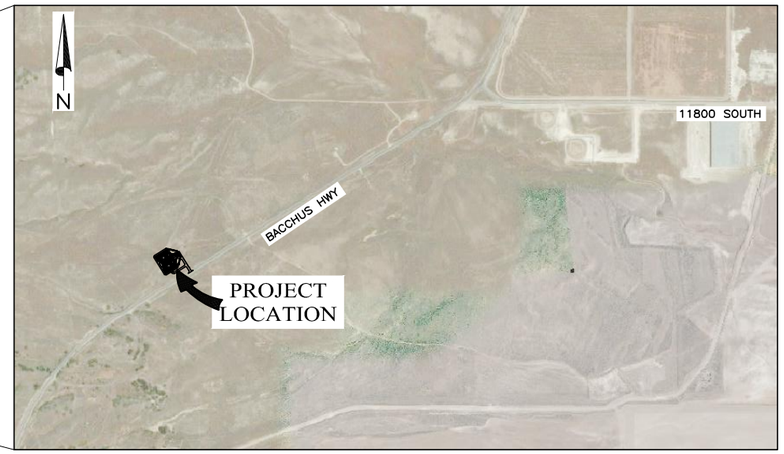
ZONES 7 & 8 - 8.4MG TANK
JULY 2025



STATE OF UTAH



VICINITY MAP



PROJECT LOCATION

PROFESSIONAL ENGINEER
No. 12390282-2202
GARRICK D. STEPHENSON
7-21-2025
STATE OF UTAH

PROFESSIONAL STRUCTURAL ENGINEER
No. 2774619
ROBERT C. CONDER
7-15-2025
STATE OF UTAH

HANSEN ALLEN & LUCE inc
ENGINEERS

HANSEN, ALLEN & LUCE DESIGN TEAM

MARVIN E. ALLEN, P.E. – PRINCIPAL IN CHARGE
TYLER G. ALLEN, P.E. – PROJECT MANAGER
GARRICK STEPHENSON, P.E. – PROJECT ENGINEER
ROBERT C. CONDER, S.E. – STRUCTURAL ENGINEER
(CONDER ENGINEERING)
KEITH B. HEGERHORST, P.E. – ELECTRICAL ENGINEER
(HPE INC. ELECTRICAL)
JAY R. MCQUIVEY, P.E. – GEOTECHHNICAL
(APPLIED GEOTECHNICAL ENGINEERING CONSULTANTS)
ERIC LYMAN – LANDSCAPE ARCHITECT
(EA LYMAN LANDSCAPE ARCHITECT)

FILE NAME: PROJECTS\176 – SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\G-1 COVER.DWG
FILE DATE: 7.15.2025 22:54:24 (GDS)

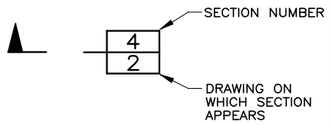
10

1/93

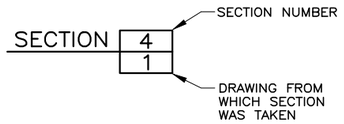
SECTION & DETAIL IDENTIFICATION

SECTION IDENTIFICATION

SECTION CUT ON DRAWING NO. 1:

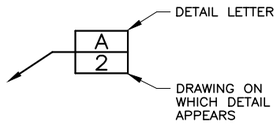


ON DRAWING NO. 2, THIS SECTION IS IDENTIFIED AS:

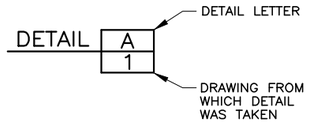


DETAIL IDENTIFICATION

DETAIL CALL-OUT ON DRAWING NO. 1:



ON DRAWING NO. 2, THIS DETAIL IS IDENTIFIED AS:



NOTES:

1. IF SECTION CUT AND SECTION OR DETAIL CALL-OUT AND DETAIL ARE SHOWN ON SAME DRAWING, DRAWING NUMBER IS REPLACED BY A LINE.
2. DETAIL LETTERS "I" AND "O" NOT USED.

LEGEND

EOC — EOC	EDGE OF CONCRETE SUB-BASE
UDOT — UDOT	EXISTING BURIED UDOT CABLE
T-UG	EXISTING TELEPHONE LINE
P-UG	EXISTING ELECTRIC LINE
	RIGHT OF WAY
2-G	EXISTING GAS LINE W/ DIAMETER
8-W	EXISTING WATER LINE W/ DIAMETER
8-SS	EXISTING SEWER LINE W/ DIAMETER
8-SD	EXISTING STORM DRAIN LINE W/ DIAMETER
FO	EXISTING FIBER OPTICS LINE
WS — WS — WS	EXISTING WATER SERVICE
GS — GS — GS	EXISTING GAS SERVICE
	NEW WATER LINE
	FENCE LINE
	MANHOLE
	POWER POLE
	LIGHT POLE
	FIRE HYDRANT
WM	WATER METER
V	WATER VALVE
	SURVEY MONUMENT
	TREE

INDEX OF DRAWINGS

GENERAL

CIVIL

PLAN & PROFILE

STRUCTURAL

ELECTRICAL

LANDSCAPE

FILE NAME: PROJECTS\176 – SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\G-2 LEGEND & DRAWING INDEX.DWG
FILE DATE: 7.15.2025 11:37:45 (DCL)

10/07

HANSEN ALLEN & LUCE inc. ENGINEERS

PROFESSIONAL ENGINEER No. 12390282-2202 GARRICK G. STEPHENSON 7-21-2025 STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS	3				
DRAFTED	BKC	2				
CHECKED	MEA	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

SCALE: NOT TO SCALE

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
GENERAL
LEGEND & INDEX OF DRAWINGS

SHEET G-2
176.41.100

CITY OF SOUTH JORDAN GENERAL NOTES

1) ALL WORK DONE OR IMPROVEMENTS INSTALLED WITHIN SOUTH JORDAN CITY INCLUDING BUT NOT LIMITED TO EXCAVATION, CONSTRUCTION, ROADWORK AND UTILITIES SHALL CONFORM TO THE SOUTH JORDAN CITY CONSTRUCTION STANDARDS AND SPECIFICATIONS, CITY MUNICIPAL CODE AND THE LATEST EDITION OF THE APWA MANUAL OF STANDARD SPECIFICATIONS AND MANUAL OF STANDARD PLANS, AND ANY STATE OR FEDERAL REGULATIONS AND PERMIT REQUIREMENTS OF VARIOUS GOVERNING BODIES. CONTRACTOR IS RESPONSIBLE TO HAVE A COPY OF THESE SPECIFICATIONS AND TO KNOW AND CONFORM TO THE APPROPRIATE CODES, REGULATIONS, DRAWINGS, STANDARDS AND SPECIFICATIONS.

2) THE EXISTENCE AND LOCATION OF ANY OVERHEAD OR UNDERGROUND UTILITY LINES, PIPES, OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A RESEARCH OF THE AVAILABLE RECORDS. EXISTING UTILITIES ARE LOCATED ON PLANS ONLY FOR THE CONVENIENCE OF CONTRACTOR. CONTRACTOR SHALL BEAR FULL RESPONSIBILITY FOR THE PROTECTION OF UTILITIES AND THE ENGINEER BEARS NO RESPONSIBILITY FOR UTILITIES NOT SHOWN ON THE PLANS OR NOT IN THE LOCATION SHOWN ON THE PLANS. THIS INCLUDES ALL SERVICE LATERALS OF ANY KIND. CONTRACTOR SHALL, AT HIS OWN EXPENSE, LOCATE ALL UNDERGROUND AND OVERHEAD INTERFERENCES, WHICH MAY AFFECT HIS OPERATION DURING CONSTRUCTION AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO SAME. CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR OVERHEAD UTILITIES SO AS TO SAFELY PROTECT ALL PERSONNEL AND EQUIPMENT, AND SHALL BE RESPONSIBLE FOR ALL COST AND LIABILITY IN CONNECTION THEREWITH.

3) CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING UTILITY LINES, STRUCTURES, SURVEY MONUMENTS AND STREET IMPROVEMENTS WHICH ARE TO REMAIN IN PLACE, FROM DAMAGE, AND ALL SUCH IMPROVEMENTS OR STRUCTURES DAMAGED BY CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED SATISFACTORY TO CITY ENGINEER AND OWNING UTILITY COMPANY AT THE EXPENSE OF CONTRACTOR.

4) ALL CONSTRUCTION SHALL BE AS SHOWN ON THESE PLANS, ANY REVISIONS SHALL HAVE THE PRIOR WRITTEN APPROVAL OF CITY ENGINEER.

5) PERMITS ARE REQUIRED FOR ANY WORK IN THE PUBLIC WAY. CONTRACTOR SHALL SECURE ALL PERMITS AND INSPECTIONS REQUIRED FOR THIS CONSTRUCTION.

6) CURB, GUTTER, AND SIDEWALK, FOUND TO BE UNACCEPTABLE PER CITY STANDARDS AND APWA SHALL BE REMOVED AND REPLACED.

7) CONTRACTOR SHALL PROVIDE ALL NECESSARY HORIZONTAL AND VERTICAL TRANSITIONS BETWEEN NEW CONSTRUCTION AND EXISTING SURFACES TO PROVIDE FOR PROPER DRAINAGE AND FOR INGRESS AND EGRESS TO NEW CONSTRUCTION. THE EXTENT OF TRANSITIONS TO BE AS SHOWN ON PLANS.

8) ANY SURVEY MONUMENTS DISTURBED SHALL BE REPLACED AND ADJUSTED PER SALT LAKE COUNTY SURVEYORS REQUIREMENTS.

9) ALL CONSTRUCTION MATERIALS PER APWA MUST BE SUBMITTED AND APPROVED BY CITY ENGINEER PRIOR TO THE PLACEMENT OF ASPHALT WITHIN CITY RIGHT OF WAY.

10) REQUEST FOR INSPECTION BY THE CITY OF SOUTH JORDAN ENGINEERING DEPT. SHALL BE MADE BY CONTRACTOR AT LEAST 48 HOURS BEFORE THE INSPECTION SERVICES WILL BE REQUIRED.

11) WORK IN PUBLIC WAY, ONCE BEGUN, SHALL BE PROSECUTED TO COMPLETION WITHOUT DELAY AS TO PROVIDE MINIMUM INCONVENIENCE TO ADJACENT PROPERTY OWNERS AND TO THE TRAVELING PUBLIC.

12) CONTRACTOR SHALL TAKE ALL NECESSARY AND PROPER PRECAUTIONS TO PROTECT ADJACENT PROPERTIES FROM ANY AND ALL DAMAGE THAT MAY OCCUR FROM STORM WATER RUNOFF AND/OR DEPOSITION OF DEBRIS RESULTING FROM ANY AND ALL WORK IN CONNECTION WITH CONSTRUCTION.

13) POWER POLES AND/OR OTHER EXISTING FACILITIES NOT IN PROPER LOCATION BASED ON PROPOSED IMPROVEMENTS SHOWN HEREON WILL BE RELOCATED AT NO EXPENSE TO THE CITY OF SOUTH JORDAN. POWER LINES AND ALL OTHER AERIAL UTILITIES ARE TO BE BURIED AND POLES REMOVED AS DETERMINED BY CITY ENGINEER.

14) CONTRACTOR TO FOLLOW SALT LAKE COUNTY NOISE ORDINANCE STANDARDS.

15) CONTRACTORS ARE RESPONSIBLE FOR ALL OSHA REQUIREMENTS ON THE PROJECT SITE.

CITY OF SOUTH JORDAN GENERAL NOTES -CONTINUED-

16) A UPDES (UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM) PERMIT IS REQUIRED FOR ALL CONSTRUCTION ACTIVITIES AS PER STATE LAW AS WELL AS PROVIDING A STORM WATER POLLUTION PREVENTION PLAN TO THE COUNTY.

17) ALL CITY MAINTAINED UTILITIES INCLUDING; WATERLINE, FIRE HYDRANTS, STREETLIGHT WIRING, AND STORM DRAIN MUST BE IN PUBLIC RIGHT OF WAY OR IN RECORDED EASEMENTS.

18) CONTRACTOR SHALL WORK SOUTH JORDAN CITY REGULAR WORKING HOURS OF MONDAY THROUGH FRIDAY. IF CONTRACTOR PERMITS OVERTIME WORK OR WORK ON A SATURDAY, SUNDAY OR ANY LEGAL HOLIDAY, CONTRACTOR SHALL RECEIVE PRIOR APPROVAL BY CITY ENGINEER. CONTRACTOR SHALL OBTAIN ALL PERMITS AND PAY OVERTIME INSPECTION FEE'S TO THE CITY OF SOUTH JORDAN ON THE THURSDAY PRIOR TO THE SATURDAY, SUNDAY OR LEGAL HOLIDAY REQUESTED.

19) FILTER FABRIC WRAPPED AROUND AN INLET GRATE IS NOT AN ACCEPTABLE INLET SEDIMENT BARRIER. SEE CHAPTER 9 OF SOUTH JORDAN CITY CONSTRUCTION STANDARDS AND SPECIFICATIONS FOR DETAILS OF APPROVED STORM WATER BMPS.

20) ASPHALT PAVING BETWEEN OCTOBER 15 AND MARCH 15 IS NOT ALLOWED WITHOUT A WRITTEN EXCEPTION FROM THE ENGINEERING DEPARTMENT.

CITY OF SOUTH JORDAN TRAFFIC NOTES

1) WHEN A DESIGNATED "SAFE ROUTE TO SCHOOL" IS ENCROACHED UPON BY A CONSTRUCTION WORK ZONE THE SAFE ROUTE SHALL BE MAINTAINED IN A MANNER ACCEPTABLE TO SOUTH JORDAN CITY AND THE JORDAN SCHOOL DISTRICT.

2) IF THE IMPROVEMENTS NECESSITATE THE OBLITERATION, TEMPORARY OBSTRUCTION, TEMPORARY REMOVAL OR RELOCATION OF ANY EXISTING TRAFFIC PAVEMENT MARKING, SUCH PAVEMENT MARKING SHALL BE RESTORED OR REPLACED WITH LIKE MATERIALS TO THE SATISFACTION OF CITY ENGINEER, PUBLIC WORKS DIRECTOR OR DESIGNEE.

3) ALL PERMANENT TRAFFIC CONTROL DEVICES CALLED FOR HEREON SHALL BE IN PLACE AND IN FINAL POSITION PRIOR TO ALLOWING ANY PUBLIC TRAFFIC ONTO THE PORTIONS OF THE ROAD(S) BEING IMPROVED HEREUNDER, REGARDLESS OF THE STATUS OF COMPLETION OF PAVING OR OTHER OFF-SITE IMPROVEMENTS CALLED FOR PER APPROVED CONSTRUCTION DRAWINGS UNLESS APPROVED BY CITY ENGINEER.

4) CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING UTAH TRANSIT AUTHORITY (UTA) IF THE CONSTRUCTION INTERRUPTS OR RELOCATES A BUS STOP OR HAS AN ADVERSE EFFECT ON BUS SERVICE ON THAT STREET TO ARRANGE FOR TEMPORARY RELOCATION OF STOP.

5) BEFORE ANY WORK IS STARTED IN THE RIGHT-OF-WAY, CONTRACTOR SHALL INSTALL ALL ADVANCE WARNING SIGNS FOR THE CONSTRUCTION ZONE. CONTRACTOR SHALL INSTALL TEMPORARY STOP SIGNS AT ALL NEW STREET ENCROACHMENTS INTO EXISTING PUBLIC STREETS. ALL CONSTRUCTION SIGNING, BARRICADING, AND TRAFFIC DELINEATION SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PER THE CURRENT EDITION ADOPTED BY UDOT AND BE APPROVED BY THE CITY OF SOUTH JORDAN BEFORE CONSTRUCTION BEGINS.

6) ALL SIGNS LARGER THAN 36" X 36" OR 1296 SQUARE INCHES PER SIGN POLE SHALL BE MOUNTED ON A SLIP BASE SYSTEM PER UDOT STANDARD DRAWING SN 10B (DETAIL DRAWING ATTACHED TO STANDARD DRAWINGS) WITH A "Z" BAR BACKING. SIGNS OF THIS SIZE ARE NOT ALLOWED TO BE MOUNTED ON A YIELDING POLE.

7) SIGN COMPONENTS SUCH AS SHEETING, EC FILM, INKS, LETTERS AND BORDERS ARE ALL REQUIRED TO BE FROM THE SAME MANUFACTURER. ONLY EC FILM MAY BE USED TO ACHIEVE COLOR. VINYL EC FILM IS NOT ACCEPTED.

CITY OF SOUTH JORDAN GRADING NOTES

1) IN THE EVENT THAT ANY UNFORESEEN CONDITIONS NOT COVERED BY THESE NOTES ARE ENCOUNTERED DURING GRADING OPERATIONS, THE OWNER AND CITY ENGINEER SHALL BE IMMEDIATELY NOTIFIED FOR DIRECTION.

2) IT SHALL BE THE RESPONSIBILITY OF CONTRACTOR TO PERFORM ALL NECESSARY CUTS AND FILLS WITHIN THE LIMITS OF THIS PROJECT AND THE RELATED OFF-SITE WORK, SO AS TO GENERATE THE DESIRED SUBGRADE, FINISH GRADES AND SLOPES SHOWN.

3) CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ALL EXCAVATION. ADEQUATE SHORING SHALL BE DESIGNED AND PROVIDED BY CONTRACTOR TO PREVENT UNDERMINING OF ANY ADJACENT FEATURES OR FACILITIES AND/OR CAVING OF THE EXCAVATION.

CITY OF SOUTH JORDAN GRADING NOTES -CONTINUED-

4) CONTRACTOR IS WARNED THAT AN EARTHWORK BALANCE WAS NOT NECESSARILY THE INTENT OF THIS PROJECT. ANY ADDITIONAL MATERIAL REQUIRED OR LEFTOVER MATERIAL FOLLOWING EARTHWORK OPERATIONS BECOMES THE RESPONSIBILITY OF CONTRACTOR.

5) CONTRACTOR SHALL GRADE TO THE LINES AND ELEVATIONS SHOWN ON THE PLANS WITHIN THE FOLLOWING HORIZONTAL AND VERTICAL TOLERANCES AND DEGREES OF COMPACTION, IN THE AREAS INDICATED:

		HORIZONTAL	VERTICAL	COMPACTION
a.	PAVEMENT AREA SUBGRADE	0.1'+	+0.0' TO -0.1'	SEE TECHNICAL SPECIFICATIONS
b.	ENGINEERED FILL	0.5'+	+0.1' TO -0.1'	SEE TECHNICAL SPECIFICATIONS

COMPACTION TESTING WILL BE PERFORMED BY CONTRACTOR OR HIS REPRESENTATIVE.

6) ALL CUT AND FILL SLOPES SHALL BE PROTECTED UNTIL EFFECTIVE EROSION CONTROL HAS BEEN ESTABLISHED.

7) THE USE OF POTABLE WATER WITHOUT A SPECIAL PERMIT FOR BUILDING OR CONSTRUCTION PURPOSES INCLUDING CONSOLIDATION OF BACKFILL OR DUST CONTROL IS PROHIBITED. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION WATER FROM THE PUBLIC WORKS DEPARTMENT.

8) CONTRACTOR SHALL MAINTAIN THE STREETS, SIDEWALKS AND ALL OTHER PUBLIC RIGHT-OF WAY IN A CLEAN, SAFE AND USABLE CONDITION. ALL SPILL OF SOIL, ROCK OR CONSTRUCTION DEBRIS SHALL BE PROMPTLY REMOVED FROM THE PUBLICLY OWNED PROPERTY DURING CONSTRUCTION AND UPON COMPLETION OF THE PROJECT. ALL ADJACENT PROPERTY, PRIVATE OR PUBLIC SHALL BE MAINTAINED IN A CLEAN, SAFE AND USABLE CONDITION.

9) IN THE EVENT THAT ANY TEMPORARY CONSTRUCTION ITEM IS REQUIRED THAT IS NOT SHOWN ON THESE DRAWINGS, CONTRACTOR AGREES TO PROVIDE AND INSTALL SUCH ITEM AT HIS OWN EXPENSE AND AT THE DIRECTION OF CITY ENGINEER. TEMPORARY CONSTRUCTION INCLUDES DITCHES, BERMS, ROAD SIGNS AND BARRICADES, ETC.

10) ALL GRADING WORK SHALL CONFORM TO THE SOILS REPORT AS PREPARED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY CITY ENGINEER AND AS SHOWN ON THESE PLANS.

CITY OF SOUTH JORDAN WATER NOTES

1) THE FOLLOWING SOUTH JORDAN CITY WATER NOTES ARE INTENDED FOR GENERAL WATER STANDARDS ONLY AND ARE NOT ALL INCLUSIVE. THE CITY HAS INCLUDED THE CULINARY WATER DESIGN AND CONSTRUCTION STANDARDS WITHIN THE CITY CONSTRUCTION STANDARDS AND SPECIFICATIONS.

2) NO WORK SHALL BEGIN UNTIL THE WATER PLANS HAVE BEEN RELEASED FOR CONSTRUCTION BY THE ENGINEERING DEPARTMENT. FOLLOWING WATER PLAN APPROVAL, FORTY-EIGHT (48) HOUR NOTICE SHALL BE GIVEN TO THE ENGINEERING INSPECTOR AND THE PUBLIC WORKS DEPARTMENT (253-5230) PRIOR TO THE START OF CONSTRUCTION. NOTICE MUST BE GIVEN BY 2:00 P.M. THE BUSINESS DAY PRIOR TO AN INSPECTION.

3) ALL WORK WITHIN SOUTH JORDAN CITY SHALL CONFORM TO SOUTH JORDAN CITY STANDARDS AND SPECIFICATIONS, AWWA AND APWA.

4) LANDSCAPING AND IRRIGATION ADJACENT TO VAULTS SHALL DRAIN AWAY FROM VAULTS.

5) SOUTH JORDAN PUBLIC WORKS DEPARTMENT MUST APPROVE WATER SHUT DOWN WHICH MAY REQUIRE EVENING AND WEEKEND SHUT DOWN AS DEEMED NECESSARY, REQUIRING CONTRACTOR TO BE BILLED FOR OVERTIME. 48 HOUR NOTICE IS REQUIRED.

6) ALL LINES TO BE PRESSURE TESTED ACCORDING TO SOUTH JORDAN CITY AND AWWA STANDARDS AND CHLORINATED PER AWWA C651 PRIOR TO USE AND FINAL ACCEPTANCE. (SEE SECTION 33 13 00)

7) ALL FITTINGS TO BE COATED WITH POLY FM GREASE AND WRAPPED WITH 8-MIL THICK POLYETHYLENE.

8) NO OTHER UTILITY LINES MAY BE PLACED IN THE SAME TRENCH WITH WATER LINE UNLESS APPROVED BY CITY ENGINEER.

9) ANY CONFLICT WITH EXISTING UTILITIES SHALL BE IMMEDIATELY CALLED TO THE ATTENTION OF CITY ENGINEER OR DESIGNEE.

10) ALL WATER VAULTS WILL BE CONSTRUCTED PER CITY OF SOUTH JORDAN STANDARD DRAWINGS AND SPECIFICATIONS. NO VAULTS ARE ALLOWED IN TRAFFIC AREAS WITHOUT PRIOR APPROVAL OF CITY ENGINEER.

11) ONCE THE WATERLINE HAS BEEN TESTED, APPROVED AND CITY WATER IS FLOWING THROUGH THE PIPE, ONLY CITY PERSONNEL ARE AUTHORIZED TO SHUT DOWN AND CHARGE THE WATERLINE.

12) MEGALUG FOLLOWING RING OR AN APPROVED EQUIVALENT SHALL BE USED ON ALL FITTINGS.

13) LANDSCAPING AND IRRIGATION ADJACENT TO VAULTS SHALL DRAIN AWAY FROM VAULTS

14) ALL WATER TREATMENT CHEMICALS SHALL MEET NSF 60 REQUIREMENTS.

15) ALL MATERIALS IN CONTRACT WITH POTABLE WATER SHALL MEET NSF 61 REQUIREMENTS.

16) CONTRACTOR SHALL CLEAN AND DISINFECT THE TANK PER AWWA C652 PRIOR TO BEING PLACED INTO SERVICE. HIGH CHLORINE CONCENTRATIONS SHALL BE DECHLORINATED PER UTAH ADMIN CODE R317. SUBMIT A PLAN PER SECTION 33 16 16.

ENGINEER GENERAL NOTES

1) CONTRACTOR SHALL MEET ALL UTAH STATE DEPARTMENT OF ENVIRONMENTAL QUALITY AND U.S. EPA REQUIREMENTS WITH RESPECT TO THEIR RULES AND REGULATIONS FOR DRINKING WATER SYSTEMS.

2) STATIONING, CURVE DATA, AND STRAIGHT SECTIONS AS LISTED ARE GROUND DISTANCES. HORIZONTAL AND VERTICAL CONTROL IS BASED ON SALT LAKE COUNTY MONUMENTS.

3) CONSTRUCTION OPERATIONS SHALL BE CONDUCTED, AND SIGNS, BARRICADES, AND FLASHERS SHALL BE PLACED; SO AS TO COMPLY WITH OSHA, UTAH STATE INDUSTRIAL COMMISSION, LOCAL SAFETY STANDARDS, AND MANUAL ON UNIFORM TRAFFIC CONTROL.

4) CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES, INCLUDING WATER LINES, IRRIGATION DRAIN LINES, TELEPHONE CABLES, GAS LINES, AND ANY OTHER OBSTRUCTION DURING THE COURSE OF CONSTRUCTION AND INSTALLATION OF THE PIPELINES AND RESERVOIR.

5) CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN RIGHTS OF INGRESS AND EGRESS SHOULD HE VENTURE ONTO PRIVATE PROPERTY WHICH IS NOT INCLUDED IN CITY ACQUIRED RIGHTS-OF-WAY AND EASEMENTS.

6) UNLESS DETAILED, SPECIFIED OR INDICATED OTHERWISE, CONSTRUCTION SHALL BE AS INDICATED IN THE APPLICABLE TYPICAL DETAILS AND GENERAL NOTES. TYPICAL DETAILS ARE MEANT TO APPLY EVEN THOUGH NOT REFERENCED AT SPECIFIC LOCATIONS OR IN SPECIFIC DRAWINGS.

7) CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL EXISTING IMPROVEMENTS DURING CONSTRUCTION AND SHALL REPLACE OR RESTORE ANY IMPROVEMENTS DAMAGED AS A RESULT OF THE CONSTRUCTION ACTIVITY AS DIRECTED BY ENGINEER.

8) THIS PROJECT IS LOCATED IN SALT LAKE COUNTY LIMITS. CONTRACTOR SHALL OBTAIN ALL APPLICABLE PERMITS AND APPROVALS FROM SALT LAKE COUNTY AND SHALL COMPLY WITH SALT LAKE COUNTY REGULATIONS FOR TRAFFIC CONTROL, SAFETY, EXCAVATION IN ITS RIGHTS OF WAY, ETC.

9) CONTRACTOR SHALL OBTAIN NOTICE OF INTENT, IMPLEMENT STORM WATER POLLUTION PREVENTION PLAN MEETING SALT LAKE COUNTY REQUIREMENTS, AND COMPLY WITH ALL UPDES REQUIRMENTS.

SURVEY CONTROL

SALT LAKE COUNTY POINT NAME	ADDRESS	NORTHING	EASTING	ELEVATION	DESCRIPTION
3S2W2101	11800 S 7200 W	7,364,818.444	1,484,037.417	5125.74	SECTION CORNER
3S2W2102	11800 S 7600 W	7,364,840.628	1,481,392.475	5170.32	1/4 SECTION CORNER

COORDINATE SYSTEM: UNITED STATES / STATE PLANE 1983 / UTAH CENTRAL 4302 (GRID)

DATUMS: NORTH AMERICAN DATUM 1983 (NAD 1983) / NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88)

GEOID MODEL: GEOID 12B (CONUS)

AVERAGE PROJECT HEIGHT: 5170.0 FEET

UNITS: US SURVEY FEET

CONTROL MONUMENTS: PUBLIC LAND SURVEY SYSTEM (PLSS)

SECTION 28, TOWNSHIP 3 SOUTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN

HANSEN ALLEN & LUCE inc. ENGINEERS

PROFESSIONAL ENGINEER No. 12390262-2202 GARRICK D. STEPHENSON 7-21-2025 STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS, RCC	3					
DRAFTED	BKC	2					
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

SCALE: NOT TO SCALE

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095
SOUTH JORDAN UTAH

ZONES 7 & 8 – 8.4MG TANK
GENERAL
GENERAL NOTES & SURVEY CONTROL

SHEET G-3
176.41.100

10/07

ABBREVIATIONS

@	AT
A	AIR/AMPERE
A/C	AIR CONDITIONING
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
AB	ANCHOR BOLT
ABAN	ABANDON
ABND	ABANDONED
ABBR	ABBREVIATION
AC	ASPHALTIC CONCRETE / ALTERNATING CURRENT
ACI	AMERICAN CONCRETE INTERNATIONAL
ACOUS	ACOUSTIC / ACOUSTICAL
ACP	ASBESTOS CEMENT PIPE / ASPHALTIC CONCRETE PAVEMENT
ADD	ADDITIONAL
ADH	ADHESIVE
ADJ	ADJUSTABLE / ADJACENT
AFF	ABOVE FINISHED FLOOR
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT	ALTERNATE
ALUM	ALUMINUM / ALUM
AMB	AMBIENT
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APA	AMERICAN PLYWOOD ASSOCIATION (ENGINEERED WOOD ASSOCIATION)
API	AMERICAN PETROLEUM INSTITUTE
APPD	APPROVED
APPROX	APPROXIMATE
APPURTS	APPURTENANCES
APWA	AMERICAN PUBLIC WORKS ASSOCIATION
ARV	AIR RELEASE VALVE
ARCH	ARCHITECTURE
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AT	ACOUSTICAL TILE
ATM	ATMOSPHERE
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AVAR	AIR VACUUM AND AIR RELEASE
AVE	AVENUE
AWG	AMERICAN WIRE GAGE
AWPA	AMERICAN WOOD PRESERVERS ASSOCIATION
AWS	AMERICAN WELDING SOCIETY
AWWA	AMERICAN WATER WORKS ASSOCIATION
B&S	BELL AND SPIGOT
B/W	BACK OF WALL / BACK OF WALK
BC	BEGIN CURVE / BOLT CIRCLE / BETWEEN CENTERS / BACK OF CURVE
BCR	BEGIN CURB RETURN
BDRY	BOUNDARY
BF	BLIND FLANGE
BFP	BACKFLOW PREVENTER
BFV	BUTTERFLY VALVE
BGS	BELOW GROUND SURFACE
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BLK	BLACK / BLOCK
BLKG	BLOCKING
BLVD	BOULEVARD
BM	BEAM / BENCHMARK
BOA	BLOW-OFF ASSEMBLY
BOO	BOTTOM OF OPENING
BOP	BOTTOM OF PIPE
BOT	BOTTOM
BPV	BACK PRESSURE VALVE
BRG	BEARING
BRK	BRICK / BREAK
BSMT	BASEMENT
BTU	BRITISH THERMAL UNIT
BV	BALL VALVE
BVC	BEGIN VERTICAL CURVE
BWV	BACK WATER VALVE
C	CENTIGRADE / CEMENT / CONDUIT
C&G	CURB AND GUTTER
CAB	CABINET / CRUSHED AGGREGATE BASE
CAP	CAPACITY
CATS	CASING TEST STATION
CB	CATCH BASIN / CHALKBOARD / CURB
CC	CENTER TO CENTER
CD	CEILING DIFFUSER
CEM	CEMENT
CF	CURB FACE / CUBIC FOOT
CFH	CUBIC FOOT PER HOUR
CFM	CUBIC FOOT PER MINUTE
CFS	CUBIC FOOT PER SECOND
CHEM	CHEMICAL
CHG	CHANGE
CHKD	CHECKERED
CI	CAST IRON
CIP	CAST IRON PIPE / CAST IN PLACE
CIPP	CURED IN PLACE PIPE
CISP	CAST IRON SOIL PIPE
CJ	CONSTRUCTION JOINT / CONTROL JOINT
CL	CENTERLINE / CHLORINE GAS / CHLORINATOR
CLF	CHAIN LINK FENCE
CLG	CEILING
CLR	CLEAR / CLEARANCE
CLSM	CONTROLLED LOW STRENGTH MATERIAL
CMC	CEMENT MORTAR-COATED
CML	CEMENT MORTAR-LINED
CMLC	CEMENT MORTAR-LINED AND COATED
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
COTG	CLEANOUT TO GRADE
COL	COLUMN
COMM	COMMUNICATION CABLE
COMP	COMPRESSOR
CONC	CONCRETE / CONCENTRIC
COND	CONDENSER / CONDENSATE
CONN	CONNECTION
CONST	CONSTRUCT / CONSTRUCTION
CONT	CONTINUED / CONTINUOUS
CONTR	CONTRACTOR
COORD	COORDINATE
COR	CORNER
CPLG	COUPLING
CPVC	CHLORINATE POLYVINYL PIPE
CSP	CORRUGATED STEEL PIPE
CT	CERAMIC TILE
CTR	CENTER
CTS	CORROSION TEST STATION
CTSK	COUNTERSINK
CU	COPPER / CUBIC
CV	CHECK VALVE
CY	CUBIC YARD
CYL	CYLINDER
d	PENNY
DAD	DOUBLE ACTING DOOR
DB	DIRECT BURY
DBL	DOUBLE
DEG	DEGREE
DET	DETAIL
DF	DRINKING FOUNTAIN / DOUGLAS FIR
DG	DOOR GRILL
DH	DOUBLE HUNG
DI	DUCTILE IRON
DIA	DIAMETER
DIAG	DIAGONAL
DIAPH	DIAPHRAGM
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DIPS	DUCTILE IRON PIPE SIZE
DIR	DIRECTION
DISCH	DISCHARGE
DIST	DISTANCE
DL	DEAD LOAD
DMH	DROP MANHOLE
DMJ	DISMANTLING JOINT
DN	DOWN
DO	DISSOLVED OXYGEN
DR	DOOR / DRAIN
DT	DRAIN TILE
DWG	DRAWING
DWLS	DOWELS
DWY	DRIVEWAY
E	EAST
E/O	EAST OF
EA	EACH
EB	EXPANSION BOLT OR ANCHOR
EC	END OF CURVE
ECC	ECCENTRIC
ECR	END CURB RETURN
EF	EACH FACE / EXHAUST FAN
EFF	EFFLUENT
EG	EXISTING GRADE / EDGE OF GUTTER / EXHAUST GRILLE / EXHAUST GAS
EGL	ENERGY GRADE LINE
EL	ELEVATION
ELEC	ELECTRIC / ELECTRONIC
EN	EDGE NAILING
ENCL	ENCLOSURE
ENG	ENGINE
ENGR	ENGINEER
ENT	ENTRANCE
EO	EDGE OF OIL / EMERGENCY OVERFLOW
EOP	EDGE OF PAVEMENT
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
EQ	EQUAL
EQUIP	EQUIPMENT
ES	EACH SIDE
ESEW	EMERGENCY SHOWER / EYE WASH
ESMT	EASEMENT
ETB	EMULSION TREATED BASE
ETC	ET CETERA
EUH	ELECTRIC UNIT HEATER
EVAP	EVAPORATOR
EVC	END VERTICAL CURVE
EW	EACH WAY / EYE WASH
EX	EXISTING
EXC	EXCAVATION / EXCAVATE
EXH	EXHAUST
EX-HY	EXTRA HEAVY
EXIST	EXISTING
EXP	EXPANSION / EXPOSED
EXT	EXTERIOR / EXTENSION
EXTR	EXTRUDED
F	FAHRENHEIT / FINISH
F TO F	FACE TO FACE
F&C	FRAME AND COVER
F&I	FURNISH AND INSTALL
FAB	FABRICATE / FABRICATION / FABRICATED
FAI	FRESH AIR INTAKE
FB	FLAT BAR / FLOOR BEAM / FIELD BLOCK
FC	FLEXIBLE COUPLING
FCA	FLANGE COUPLING ADAPTER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FDR	FEEDER
FE	FIRE EXTINGUISHER
FF	FLAT FACE / FAR FACE / FINISH FLOOR
FG	FINISH GRADE / FIBER GLASS
FH	FIRE HYDRANT / FLAT HEAD
FIG	FIGURE
FIN	FINISHED
FIX	FIXTURE
FL	FLOWLINE
FLEX	FLEXIBLE
FLG	FLANGE / FLOORING
FLGD	FLANGED
FLR	FLOOR
FLSG	FLASHING
FM	FACTORY MUTUAL (LAB APPROVED) / FORCE MAIN
FMH	FLEXIBLE METAL HOSE
FN	FIELD NAIL
FND	FOUNDATION
FOC	FACE OF CONCRETE / FIBER OPTIC CABLE
FOM	FACE OF MASONRY
FOS	FACE OF STUDS
FOW	FACE OF WALL
FPC	FLEXIBLE PIPE COUPLING
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FPT	FEMALE PIPE THREAD
FR	FRAME
FRP	FIBERGLASS REINFORCED PLASTIC
FS	FINISHD SURFACE / FAR SIDE / FLOOR SINK / FORGED STEEL
FT	FEET / FOOT
FTG	FOOTING
FUR	FURRING
FUT	FUTURE
FV	FIELD VERIFY
FW	FINISH WATER
FWD	FORWARD
G	GAS
GA	GAGE / GAUGE
GAL	GALLON
GALV	GALVANIZED
GB	GRADE BREAK
GC	GROOVED COUPLING
GE	GROOVED END
GEN	GENERAL / GENERATOR
GFA	GROOVED FLANGE ADAPTOR
GI	GALVANIZED IRON
GIP	GALVANIZED IRON PIPE
GL	GLASS / GROUND LINE / GRADE LINE
GLB	GLUE LAMINATED BEAM / GLULAM
GLV	GLOBE VALVE
GM	GAS METER
GP	GUY POLE
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GR	GRADE / GUARDRAIL
GRD	GROUND
GRTG	GRATING
GSP	GALVANIZED STEEL PIPE
GUH	GAS UNIT HEATER
GV	GATE VALVE
GVL	GRAVEL
GYP	GYPSUM
H	HIGH / HEIGHT
H&V	HEATING AND VENTILATING
HB	HOSE BIBB
HC	HOUSE CONNECTION
HD	HUB DRAIN
HDPE	HIGH-DENSITY POLYETHYLENE PIPE
HDR	HEADER
HDW	HARDWARE
HDWL	HEADWALL
HEX	HEXAGONAL
HG	MERCURY
HGL	HYDRAULIC GRADE LINE
HGR	HANGER
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HIGH POINT / HORSEPOWER / HIGH PRESSURE / HIGH PERFORMANCE
HPG	HIGH PRESSURE GAS
HR	HEAT RETURN / HOUR / HANDRAIL
HSL	HORIZONTALLY SLOTTED
HSS	HOLLOW STRUCTURAL SECTION
HTG	HEATING
HTR	HEATER
HV	HORIZONTAL AND VERTICAL CONTROL POINT
HVAC	HEATING, VENTILATION AND AIR CONDITIONING
HW	HOT WATER / HEADWORK
HWD	HARDWOOD
HWL	HIGH WATER LEVEL
HWO	HANDWHEEL OPERATED
HYD	HYDRAULIC / HYDRANT
IO	INPUT/OUTPUT
I&C	INSTRUMENTATION & CONTROL
I&O	INSIDE AND OUTSIDE
IBC	INTERNATIONAL BUILDING CODE
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
I.F.	INSIDE FACE
IJTS	INSULATING JOINT TEST STATION
IN	INCH
INCL	INCLUDE / INCLUDING
INF	INFLUENT
INSL	INSULATION / INSULATING / INSULATED
INSP	INSPECTION
INST	INSTRUMENT
INT	INTERIOR
INV	INVERT
IP	IRON PIPE
IPS	IRON PIPE SIZE
IRRIG	IRRIGATION
JCT	JUNCTION
JS	JUNCTION STRUCTURE
JSTS	JOISTS
JT	JOINT
k	KILO
kg	KILOGRAM
KIP	THOUSAND POUNDS
km	KILOMETER
kV	KILOVOLT
KVA	KILOVOLT AMPHERE
kW	KILOWATT
kWh	KILOWATT HOUR
L	LETTER / LENGTH / ANGLE
LAB	LABORATORY
LAM	LAMINATED
LAT	LATERAL
LAV	LAVATORY
LB	POUND
LCP	LOCAL CONTROL PANEL
LD	LOCAL DEPRESSION
LDG	LANDING
LF	LINEAR FOOT
LG	LENGTH / LONG
LH	LEFT HAND
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC	LOCATION
LOG	LIP OF GUTTER
LOL	LAYOUT LINE
LONG	LONGITUDINAL
LP	LOW POINT / LOW PRESSURE
LPG	LIQUID PETROLEUM GAS
LT	LEFT / LIGHT
LW	LOW WATER
LWL	LOW WATER LEVEL
LWR	LOWER
m	METER
mA	MILLIAMPS
MACH	MACHINE
MAG	MAGNETIC
MAINT	MAINTENANCE
MAN	MANUAL
MAS	MASONRY
MAT	MATERIAL
MAX	MAXIMUM
MB	MAILBOX / MACHINE BOLT
MCC	MOTOR CONTROL CENTER
MCJ	MASONRY CONTROL JOINT
MCR	MIDDLE OF CURB RETURN
MDD	MAXIMUM DRY DENSITY
MEAS	MEASURE
MECH	MECHANICAL
MED	MEDIUM
MEM	MEMBER
MFR	MANUFACTURER
MFRD	MANUFACTURED
MG	MILLION GALLON
MGD	MILLION GALLON PER DAY
MH	MANHOLE / MAINTENANCE HOLE
MHW	MEAN HIGH WATER
MI	MALLEABLE IRON / MILE
MICRON	1/1,000,000 METER
MIL	MILITARY / 1/1,000TH INCH
MIN	MINIMUM / MINUTE
MIR	MIRROR
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MK	MARK
MLW	MEAN LOW WATER
mm	MILLIMETER
MO	MOTOR OPERATED / MASONRY OPENING
MOD	MODEL
MON	MONUMENT
MOR	MORTAR
MOV	MOTOR OPERATED VALVE
MPT	MALE PIPE THREAD
MSL	MEAN SEA LEVEL
MTC	MECHANICAL-TYPE COUPLING
MTD	MOUNTED
MTG	MOUNTING
MTL	METAL / MATERIAL
MTR	MOTOR
MWS	MAXIMUM WATER SURFACE
N	NORTH
NaOCL	SODIUM HYPOCHLORITE
NaOH	SODIUM HYDROXIDE (CAUSTIC SODA)
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NF	NEAR FACE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NG	NATURAL GRADE / NATURAL GAS
NIC	NOT IN CONTRACT
NO.	NUMBER / NORMALLY OPEN
NOM	NOMINAL
NPS	NOMINAL PIPE SIZE
NPT	NATIONAL PIPE THREAD
NPW	NON-POTABLE WATER
NRCP	NON-REINFORCED CONCRETE PIPE
NRS	NON-RISING STEM
NS	NEAR SIDE
NTS	NOT TO SCALE
NW	NORTHWEST
OBJ	OBJECT
OC	ON CENTER / OVER-CROSSING
OD	OUTSIDE DIAMETER / OVERALL DIMENSION
OE	OUTER EDGE
O.F.	OVERFLOW / OUTSIDE FACE
OFD	OVERFLOW DRAIN
OG	ORIGINAL GROUND
OH	OVERHEAD
OHP	OVERHEAD POWER LINE
OHW	OVERHEAD POWER WIRE
OHWL	ORDINARY HIGH WATER LEVEL
OPER	OPERATOR / OPERATING
OPNG	OPENING
OPP	OPPOSITE
ORIG	ORIGINAL
OS&Y	OUTSIDE SCREW AND YOKE
OSA	OUTSIDE AIR
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OWG	OIL, WATER, GAS
OZ	OUNCE
P	POLE / PAGE / PIPE / PHASE
P/S	POLE AND SHELF
PA	PLANTING AREA
PART	PARTITION
PAVMT	PAVEMENT
PB	POLYBUTYLENE / PULL BOX
PC	POINT OF CURVATURE / PORTLAND CEMENT
PCC	PORTLAND CEMENT CONCRETE / POINT OF COMPOUND CURVE
PCOTG	PRESSURE CLEANOUT TO GRADE
PCVC	POINT OF COMPOUND VERTICAL CURVE
PE	POLYETHYLENE / PLAIN END / PLANT EFFLUENT
PG	PRESSURE GAGE
pH	HYDROGEN ION CONCENTRATION
PI	PLANT INFLUENT / POINT OF INTERSECTION
PK	PARKING
PL	PLATE / PROPERTY LINE /PLACE
PLAS	PLASTER / PLASTIC
PLT	PLANT
PLWD	PLYWOOD
PM	PRESSED METAL
PNEU	PNEUMATIC
PNL	PANEL
POB	POINT OF BEGINNING
POC	POINT OF CONNECTION
PP	POWER POLE / POLYPROPYLENE
PPD	POUNDS PER DAY
PPH	POUNDS PER HOUR
PPM	POUNDS PER MINUTE / PARTS PER MILLION
PR	PAIR
PRC	POINT OF REVERSE CURVE
PRCT	PRECAST
PREFAB	PREFABRICATED
PRESS	PRESSURE
PROF	PROFILE
PROP	PROPERTY
PRV	PRESSURE REGULATING, RELIEF, OR REDUCING VALVE
PRVC	POINT OF REVERSE VERTICAL CURVE
PS	PRESSURE SWITCH / PUMP STATION
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAUGE
PSV	PRESSURE SUSTAINING VALVE
PT	POINT OF TANGENCY / PAINT
PTFE	POLYTETRAFLUOROETHYLENE (TEFLON)
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE
PVDF	POLYVINYLIDENE FLUORIDE (KYNAR)
PW	POTABLE WATER
QTY	QUANTITY
QUAD	QUADRANGLE / QUADRANT
R	RADIUS / RISER / RATE OF SLOPE
R/W	RIGHT-OF-WAY
RAC	RECYCLED ASPHALT CONCRETE
RAG	RETURN AIR GRILLE
RAP	RECYLCED ASPHALT PAVEMENT
RC	REINFORCED CONCRETE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD / ROOF DRAIN / ROUND
RED	REDUCER / REDUCING
REF	REFERENCE / REFER / REFRIGERATOR
REG	REGULATING
REINF	REINFORCE / REINFORCED / REINFORCEMENT
REQD	REQUIRED
RESIL	RESILIENT
RET	RETAINING / RETURN
REV	REVISION
REW	RECLAIMED WATER
RF	ROOF / RAISED FOUNDATION / ROUGH FACE
RFG	ROOFING
RGE	REGISTERED GEOTECHNICAL ENGINEER
RH	RIGHT HAND
RM	ROOM
RMP	ROCKY MOUNTAIN POWER
RO	ROUGH OPENING / REVERSE OSMOSIS
RP	RADIUS POINT
RPM	REVOLUTIONS PER MINUTE
RR	RAILROAD
R/R	REMOVE AND REPLACE
RS	RISING STEM
RT	RIGHT
RTU	REMOTE TELEMETRY UNIT
RW	REDWOOD
RWL	RAINWATER LEADER
S	SOUTH / SINK / SECOND / SLOPE
S/O	SOUTH OF
SA	SAMPLE
SAN	SANITARY
SBR	STYRENE BUTADIENE (RUBBER)
SCCP	STEEL CYLINDER CONCRETE PIPE
SCR	SCREWED
SCFM	STANDARD CUBIC FEET PER MINUTE
SCH	SCHEDULE
SD	STORM DRAIN / SMOKE DETECTOR
SDR	STANDARD THERMOPLASTIC PIPE DIMENSION RATIO
SEC	SECONDARY / SECTION
SF	SQUARE FOOT (FEET)
SH	SHOWER
SHT	SHEET
SHTG	SHEATHING
SIM	SIMILAR
SLDG	SLIDING
SLG	SLUICE GATE
SOG	SLAB ON GRADE
SOL	SOLUTION
SP	STATIC PRESSURE
SPD	SUMP PUMP DRAIN
SPEC	SPECIFICATION
SQ	SQUARE
SQ IN	SQUARE INCH
SS	STAINLESS STEEL / SANITARY SEWER / SERVICE SINK
SSB	SELECT SUB-BASE
SSPWC	STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION
ST	STREET / STATE
STA	STATION
STC	SLEEVE-TYPE COUPLING
STD	STANDARD
STK	STAKE
STL	STEEL
STM	STEAM
STN	STAINLESS
STR	STRAIGHT / STRUCTURAL
STRUCT	STRUCTURE
SUBFL	SUB-FLOOR
SUCT	SUCTION
SUSP	SUSPEND / SUSPENDED
SV	SOLENOID VALVE
SW	SIDEWALK / SOUTHWEST
SWGR	SWITCHGEAR
SWR	SIDEWALL REGISTER
SY	SQUARE YARD
SYM	SYMMETRICAL / SYMBOL
T	THERMOSTAT / TREAD OF STAIR / TANGENT
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TAN	TANGENT
TBC	TOP BACK OF CURB
TBE	THREAD BOTH ENDS
TBG	TUBING
TBM	TEMPORARY BENCH MARK
TCE	TEMPORARY CONSTRUCTION EASEMENT
TCV	TEMPERATURE CONTROL VALVE
TDH	TOTAL DYNAMIC HEAD
TECH	TECHNICAL
TEL	TELEPHONE
TEMP	TEMPERATURE / TEMPORARY
TF	TOP OF FOOTING
TH	TEST HOLE
THK	THICK / THICKNESS
THR	THRESHOLD
THRD	THREADED
TK	TANK / TACK
TL	TRAVERSE LINE
TOB	TOP OF BAFFLE
TOC	TOP OF CONCRETE
TOE	THREAD ONE END
TOG	TOP OF GRATING
TOM	TOP OF MASONRY
TOP	TOP OF PIPE
TOPO	TOPOGRAPHIC
TOS	TOP OF STEEL / TOP OF SLAB
TOW	TOP OF WALL
TP	TELEPHONE POLE / TURNING POINT / TEST PIT
TRANS	TRANSMITTER / TRANSITION / TRANSMISSION
TS	TRAFFIC SIGNAL
TV	THERMOSTATIC VALVE
TW	THERMOMETER WELL / TRAVELED WAY
TWS	TRACER WIRE STATION
TYP	TYPICAL
UB	UNION BONNET
UBC	UNIFORM BUILDING CODE / UNTREATED BASE COURSE
UC	UNDER-CROSSING
UCE	UTILITY CORRIDOR EASEMENT
UDOT	UTAH DEPARTMENT OF TRANSPORTATION
UG	UNDERGROUND
UGC	UNDERGROUND CONDUIT
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES
UNID	UNIDENTIFIED
UNK	UNKNOWN
UNO	UNLESS NOTED OTHERWISE
UOI	UNLESS OTHERWISE INDICATED
UPS	UNINTERRUPTABLE POWER SUPPLY
USA	UNDERGROUND SERVICE ALERT
USGS	UNITED STATES GEOLOGICAL SURVEY
UW	UTILITY WATER
V	VALVE / VERTICAL / VENT / VOLT
VAC	VACUUM
VAR	VARIES / VARIABLE
VB	VALVE BOX
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
VPI	VERTICAL POINT OF INTERSECTION
VSL	VERTICALLY SLOTTED
VTR	VENT THRU ROOF
VWM	VERIFY WITH MANUFACTURER
W	WEST / WASTE / WIDTH / WATER
W/	WITH
W/O	WEST OF / WITHOUT
WC	WATER COLUMN / WATER CLOSET
WCO	WALL CLEANOUT
WD	WOOD
WDW	WINDOW
WF	WIDE FLANGE
WH	WATER HEATER
WI	WROUGHT IRON
WM	WATER METER
WOG	WATER, OIL, OR GAS
WP	WATERPROOFING / WORKING PRESSURE
WPJ	WEAKEN PLANE JOINT
WS	WATER SURFACE
WSP	WELDED STEEL PIPE
WSTP	WATERSTOP
WT	WEIGHT / WATER TIGHT
WWF	WELDED WIRE FABRIC
WWP	WORKING WATER PRESSURE
XCONN	CROSS CONNECTION
XFMR	TRANSFORMER
XS	EXTRA STRONG
XSEC	CROSS SECTION
XXS	DOUBLE EXTRA STRONG
YD	YARD
YR	YEAR
Z	ZERO / ZONE

FILE NAME: PROJECTS\176 - SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\G-4 ABBREVIATION SHEET.DWG
FILE DATE: 7.15.2025 11:34:00 (DCL)

10/07

HANSEN ALLEN & LUCE inc. ENGINEERS

PROFESSIONAL ENGINEER No. 12390262-2202 GARRICK D. STEPHENSON 7-21-2025 STATE OF UTAH
PROJECT ENGINEER

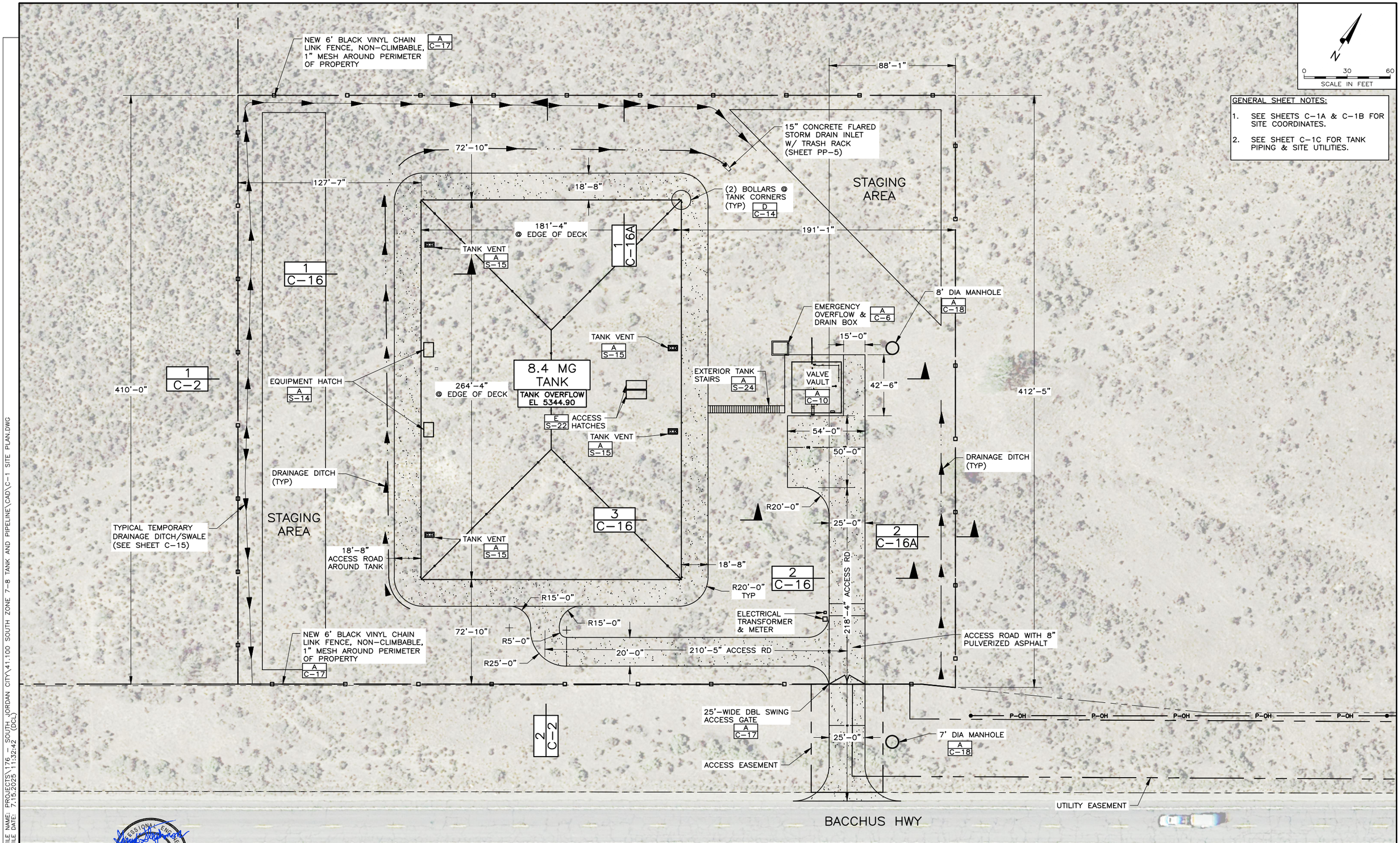
DESIGNED	GDS	3				
DRAFTED	BKC	2				
CHECKED	MEA	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

SCALE: NOT TO SCALE

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
GENERAL
ABBREVIATIONS

SHEET: G-4
176.41.100



GENERAL SHEET NOTES:

1. SEE SHEETS C-1A & C-1B FOR SITE COORDINATES.
2. SEE SHEET C-1C FOR TANK PIPING & SITE UTILITIES.

FILE NAME: PROJECTS\176 - SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\C-1 SITE PLAN.DWG
FILE DATE: 7.15.2025 11:32:42 (DCL)

HANSEN ALLEN & LUCE inc. ENGINEERS

PROFESSIONAL ENGINEER No. 12390282-2202 GARRICK D. STEPHENSON 7-21-2025 STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS	3				
DRAFTED	GDS	2				
CHECKED	MEA	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

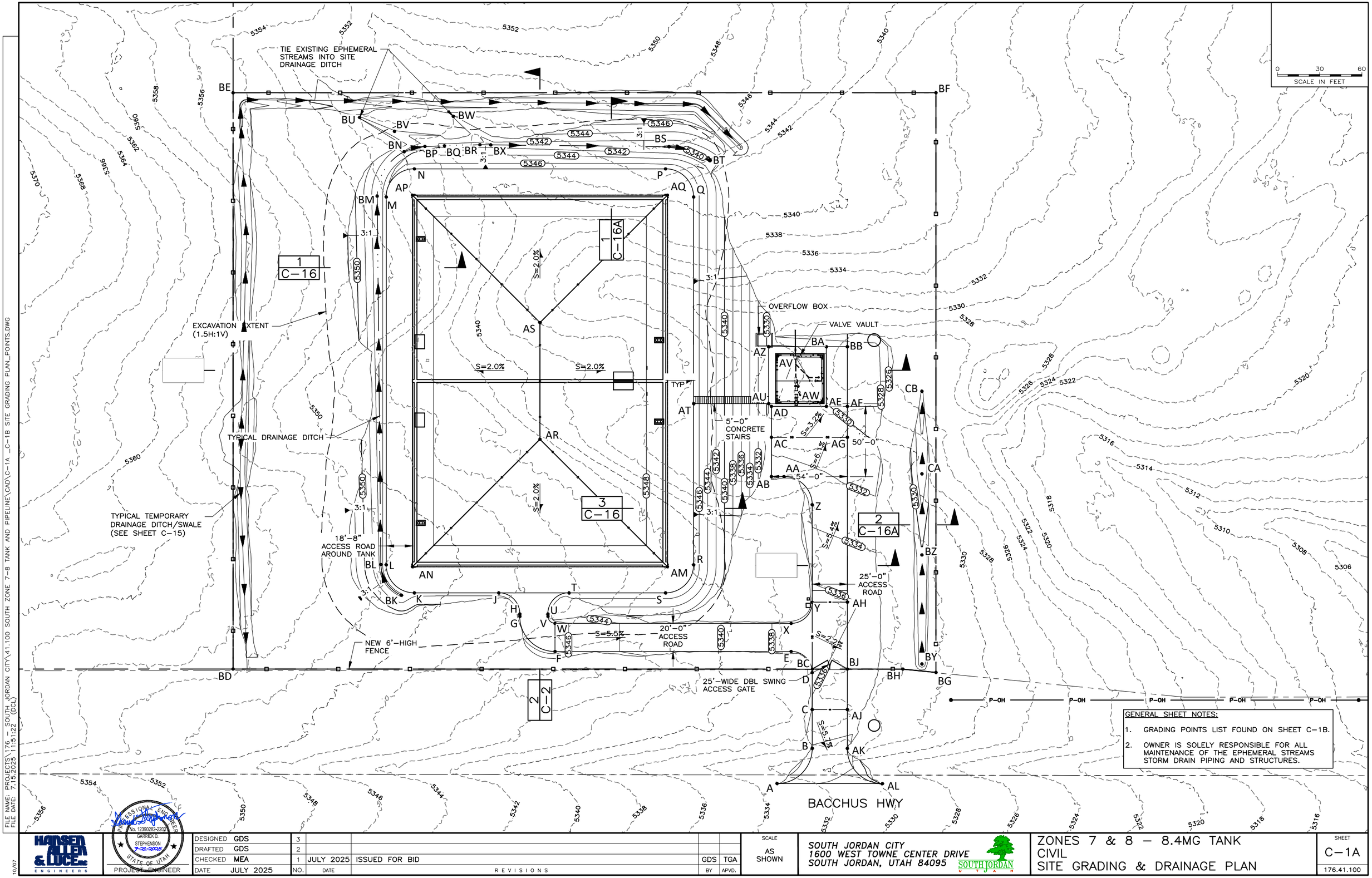
SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
CIVIL
SITE PLAN

SHEET C-1
176.41.100

10/07



GENERAL SHEET NOTES:

1. GRADING POINTS LIST FOUND ON SHEET C-1B.
2. OWNER IS SOLELY RESPONSIBLE FOR ALL MAINTENANCE OF THE EPHEMERAL STREAMS STORM DRAIN PIPING AND STRUCTURES.

FILE NAME: PROJECTS\176 - SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\C-1A _C-1B SITE GRADING PLAN_POINTS.DWG
FILE DATE: 7.15.2025 11:51:22 (DCL)

10/07

HANSEN ALLEN & LUCE inc. ENGINEERS

PROFESSIONAL ENGINEER No. 12390282-2202 GARRICK G. STEPHENSON 7-21-2025 STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS
DRAFTED	GDS
CHECKED	MEA
DATE	JULY 2025

NO.	DATE	REVISIONS	BY	APVD.
3				
2				
1	JULY 2025	ISSUED FOR BID	GDS	TGA

SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
CIVIL
SITE GRADING & DRAINAGE PLAN

SHEET C-1A
176.41.100

POINT ID	NORTHING	EASTING	ELEVATION	DESCRIPTION
A	7,362,592.00	1,478,166.71	5333.21	ACCESS PC, R=25'
B	7,362,626.44	1,478,174.76	5333.81	ACCESS PT
C	7,362,649.90	1,478,160.18	5335.90	ACCESS GB
D	7,362,672.24	1,478,146.30	5336.16	ACCESS GB/PC, R=15'
E	7,362,677.06	1,478,125.64	5337.24	ACCESS PT
F	7,362,588.42	1,477,983.00	5346.53	ACCESS PC, R=25'
G	7,362,596.46	1,477,948.57	5347.00	ACCESS PT
H	7,362,597.88	1,477,947.68	5347.03	ACCESS PC, R=15'
J	7,362,602.70	1,477,927.03	5347.33	ACCESS, PT
K	7,362,571.01	1,477,876.02	5347.33	ACCESS PC, R=20'
L	7,362,577.44	1,477,848.48	5347.33	ACCESS PT
M	7,362,799.68	1,477,710.36	5347.33	ACCESS PC, R=20'
N	7,362,827.23	1,477,716.79	5347.33	ACCESS PT
P	7,362,921.53	1,477,868.54	5347.33	ACCESS PC, R=20'
Q	7,362,915.10	1,477,896.09	5347.33	ACCESS PT
R	7,362,692.86	1,478,034.20	5347.33	ACCESS PC, R=20'
S	7,362,665.31	1,478,027.77	5347.33	ACCESS PT
T	7,362,629.09	1,477,969.49	5347.33	ACCESS PC, R=15'
U	7,362,608.44	1,477,964.67	5347.03	ACCESS PT
V	7,362,607.01	1,477,965.56	5347.00	ACCESS PC, R=5'
W	7,362,605.41	1,477,972.44	5346.53	ACCESS GB/PT
X	7,362,694.05	1,478,115.08	5337.24	ACCESS PC, R=15'
Y	7,362,714.71	1,478,119.91	5336.66	ACCESS GB/PT
Z	7,362,773.68	1,478,083.26	5333.20	ACCESS PC, R=20'
AA	7,362,780.11	1,478,055.72	5332.60	ACCESS PT
AB	7,362,775.37	1,478,048.06	5332.78	ACCESS PI
AC	7,362,799.13	1,478,033.29	5331.38	ACCESS GB
AD	7,362,817.82	1,478,021.68	5330.83	ACCESS PI
AE	7,362,838.44	1,478,054.86	5330.05	ACCESS PI
AF	7,362,846.33	1,478,067.55	5329.75	ACCESS PI
AG	7,362,827.64	1,478,079.16	5330.30	ACCESS GB
AH	7,362,728.04	1,478,141.05	5336.16	ACCESS GB
AJ	7,362,663.09	1,478,181.42	5335.40	ACCESS GB
AK	7,362,639.60	1,478,196.02	5333.31	ACCESS PC, R=25'
AL	7,362,631.55	1,478,230.43	5329.83	ACCESS PT
AM	7,362,681.87	1,478,019.05	5346.71	EDGE OF TANK TOC
AN	7,362,586.16	1,477,865.04	5346.71	EDGE OF TANK TOC
AP	7,362,810.67	1,477,725.51	5346.71	EDGE OF TANK TOC
AQ	7,362,906.38	1,477,879.53	5346.71	EDGE OF TANK TOC
AR	7,362,711.02	1,477,894.19	5348.52	RIDGE TOC
AS	7,362,781.52	1,477,850.38	5348.52	RIDGE TOC
AT	7,362,790.26	1,477,973.69	5347.33	STAIRS TOP
AU	7,362,818.42	1,478,019.01	5330.77	STAIRS BOT
AV	7,362,850.73	1,478,006.58	N/A	INSIDE NW CNR VAULT
AW	7,362,839.75	1,478,050.49	N/A	INSIDE SE CNR VAULT
AX	NOT USED	NOT USED	NOT USED	NOT USED
AY	NOT USED	NOT USED	NOT USED	NOT USED
AZ	7,362,852.82	1,477,997.63	5330.32	GB
BA	7,362,874.47	1,478,032.47	5329.60	GB
BB	7,362,882.35	1,478,045.15	5329.30	GB

POINT ID	NORTHING	EASTING	ELEVATION	DESCRIPTION
BC	7,362,674.36	1,478,144.98	5336.19	FENCE GATE
BD	7,362,456.93	1,477,795.10	5354.28	FENCE CNR
BE	7,362,805.18	1,477,578.67	5354.58	FENCE CNR
BF	7,363,069.09	1,478,003.35	5336.86	FENCE CNR
BG	7,362,718.84	1,478,221.01	5332.70	FENCE CNR
BH	7,362,708.39	1,478,199.72	5333.99	FENCE PI
BJ	7,362,687.56	1,478,166.21	5335.69	FENCE GATE
BK	7,362,564.77	1,477,869.06	5345.77	FL PC, R=24'
BL	7,362,575.61	1,477,845.11	5345.63	FL PT
BM	7,362,796.86	1,477,704.52	5344.32	FL PC, R=35'
BN	7,362,833.79	1,477,704.14	5344.12	FL GB
BP	7,362,844.79	1,477,714.71	5342.80	FL PT
BQ	7,362,852.49	1,477,726.30	5341.60	FL GB
BR	7,362,866.44	1,477,747.31	5341.34	FL PI
BS	7,362,936.29	1,477,862.32	5339.96	FL PC, R=50'
BT	7,362,943.44	1,477,891.65	5339.65	FL PT
BU	7,362,837.76	1,477,664.43	5346.00	TIE-IN DRAINAGE
BV	7,362,842.44	1,477,690.69	5345.00	TIE-IN DRAINAGE
BW	7,362,873.60	1,477,720.63	5344.00	TIE-IN DRAINAGE
BX	7,362,870.43	1,477,753.89	5341.28	TIE-IN DRAINAGE
BY	7,362,718.66	1,478,209.35	5331.09	FL
BZ	7,362,784.53	1,478,168.42	5330.39	FL/GB
CA	7,362,833.54	1,478,137.96	5326.52	FL/GB
CB	7,362,883.43	1,478,106.95	5324.70	FL

PROFESSIONAL ENGINEER
No. 12390282-2202
GARRICK D. STEPHENSON
7-21-2025
STATE OF UTAH

FILE NAME: PROJECTS\176 - SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\C-1A _C-1B SITE GRADING PLAN_POINTS.DWG
FILE DATE: 7.15.2025 11:54:99 (DCL)

10/07

HANSEN ALLER & CURTIS ENGINEERS

PROJECT ENGINEER

DESIGNED	GDS	3					
DRAFTED	GDS	2					
CHECKED	MEA	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

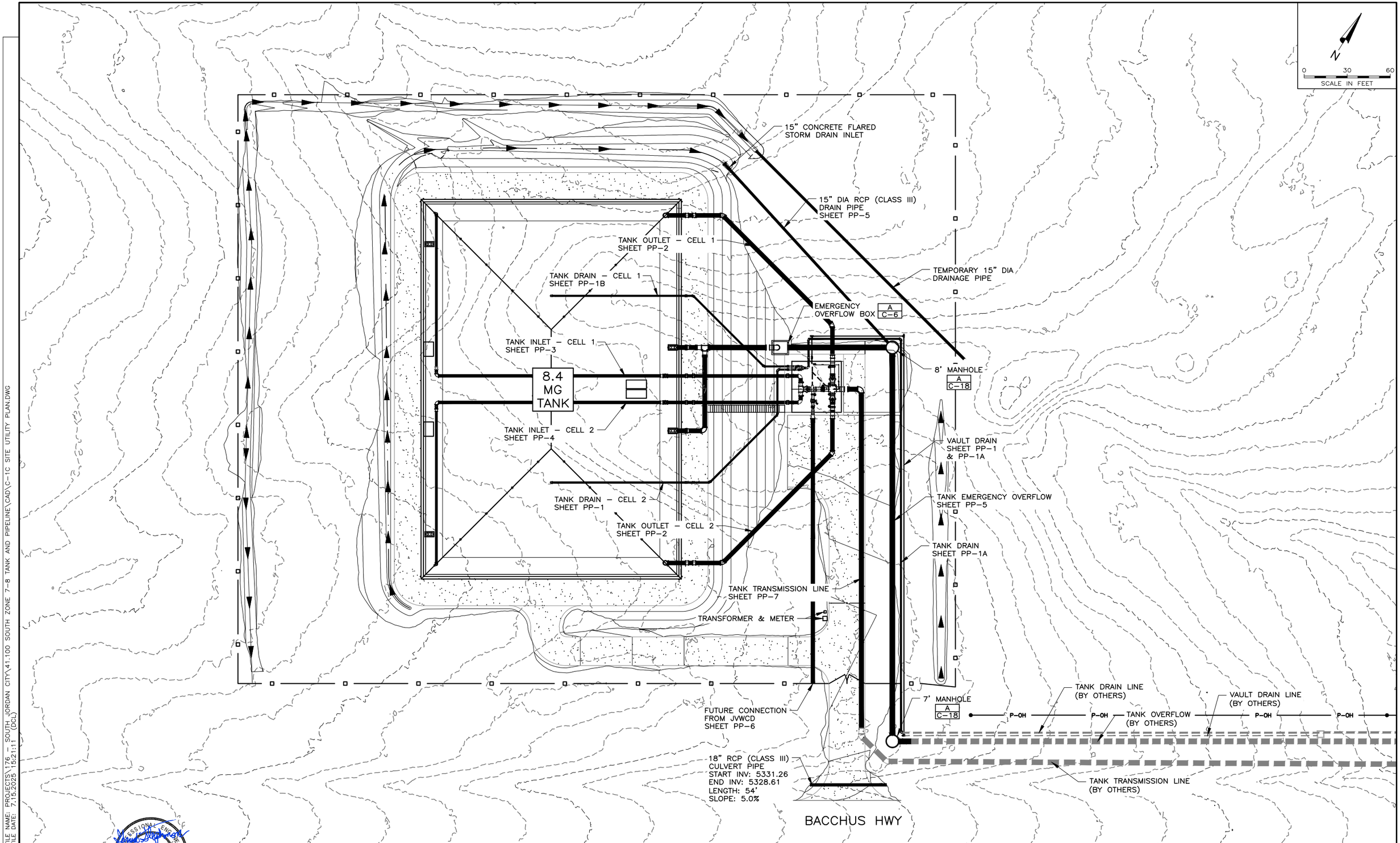
SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

SOUTH JORDAN UTAH

ZONES 7 & 8 – 8.4MG TANK
CIVIL
GRADING & DRAINAGE POINT TABLE

SHEET C-1B
176.41.100



FILE NAME: PROJECTS\176 - SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\C-1C SITE UTILITY PLAN.DWG
FILE DATE: 7.15.2025 15:21:11 (DCL)

HANSEN ALLEN & LUCE inc. ENGINEERS

PROFESSIONAL ENGINEER No. 12390282-2202 GARRICK D. STEPHENSON 7-21-2025 STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS	3					
DRAFTED	GDS	2					
CHECKED	MEA	1	JULY 2025	ISSUED FOR BID		GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS		BY	APVD.

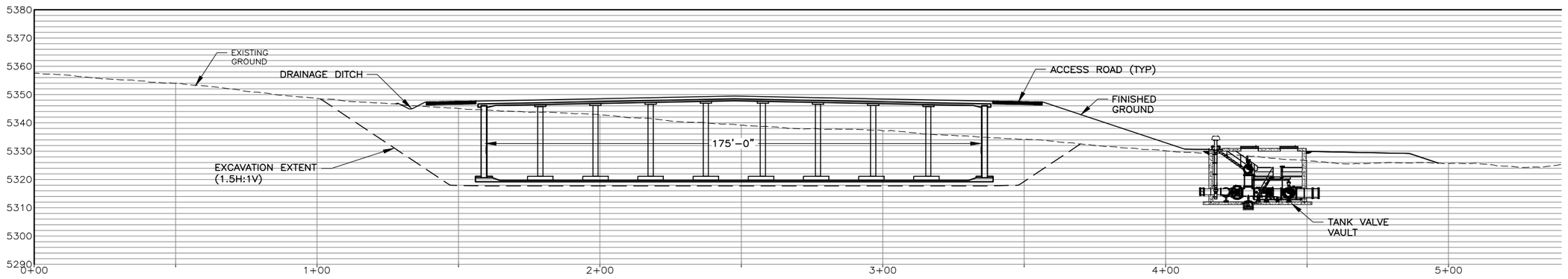
SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 - 8.4MG TANK
CIVIL
SITE UTILITIES PLAN

SHEET C-1C
176.41.100

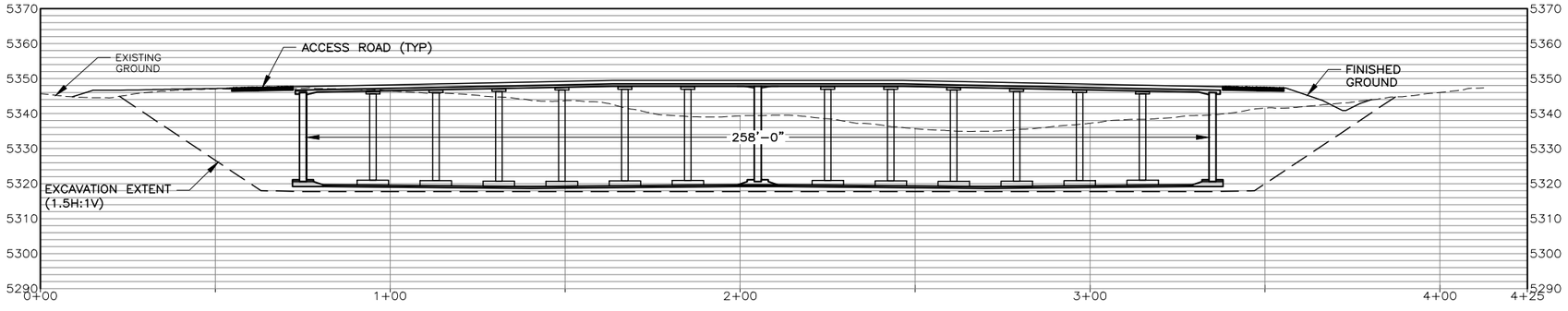
10/07



TANK SECTION W TO E — NTS — 1 / C-1 — 1 / C-1A

GENERAL SHEET NOTES:

1. FOOTING AND FOUNDATION EXCAVATIONS SHALL BE INSPECTED AND APPROVED IN WRITING BY A QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF CONCRETE FORMS OR REBAR.



TANK SECTION S TO N — NTS — 2 / C-1 — 2 / C-1A

FILE NAME: PROJECTS\176 - SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\C-2 TANK CROSS SECTIONS.DWG
FILE DATE: 7.15.2025 12:41:08 (DCL)

10/07

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROFESSIONAL ENGINEER — No. 12390282-2202 — GARRICK D. STEPHENSON — 7-21-2025 — STATE OF UTAH

PROJECT ENGINEER

DESIGNED GDS	3					
DRAFTED GDS	2					
CHECKED MEA	1	JULY 2025	ISSUED FOR BID	GDS	TGA	
DATE JULY 2025	NO.	DATE	REVISIONS	BY	APVD.	

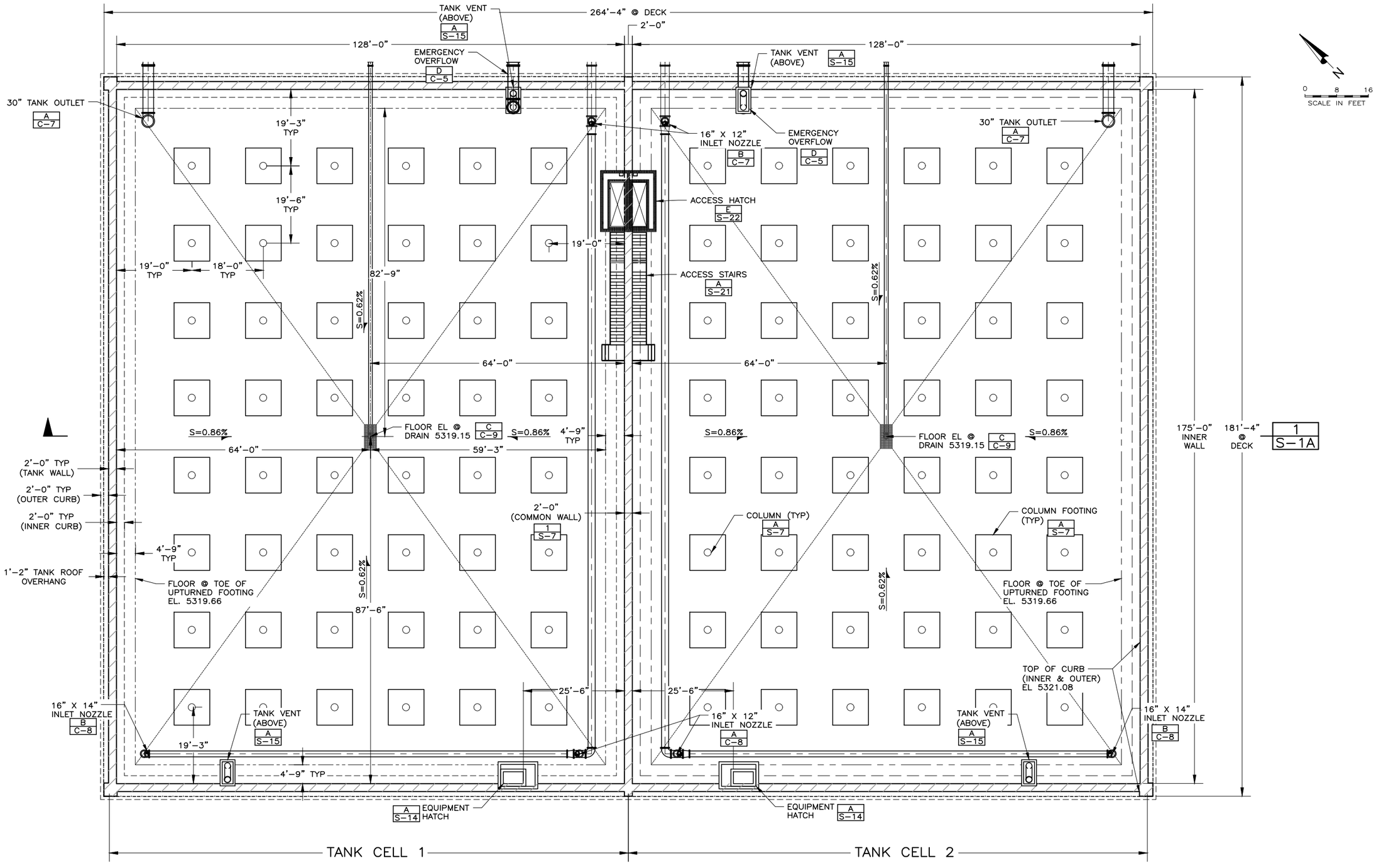
SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
CIVIL
TANK SECTIONS

SHEET C-2

176.41.100



DETAIL NOTE:

ALL DIMENSIONS AND DETAILS FOR EACH TANK CELL ARE EQUAL TO THE OTHER UNLESS NOTED OTHERWISE.

FILE NAME: PROJECTS\176 – SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\C-3 TANK PLAN.DWG
FILE DATE: 7.15.2025 12:51:42 (DCL)

10/07

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROFESSIONAL ENGINEER No. 12390282-2202 GARRICK D. STEPHENSON 7-24-2025 STATE OF UTAH

PROJECT ENGINEER

DESIGNED	GDS	3				
DRAFTED	GDS, BKC	2				
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

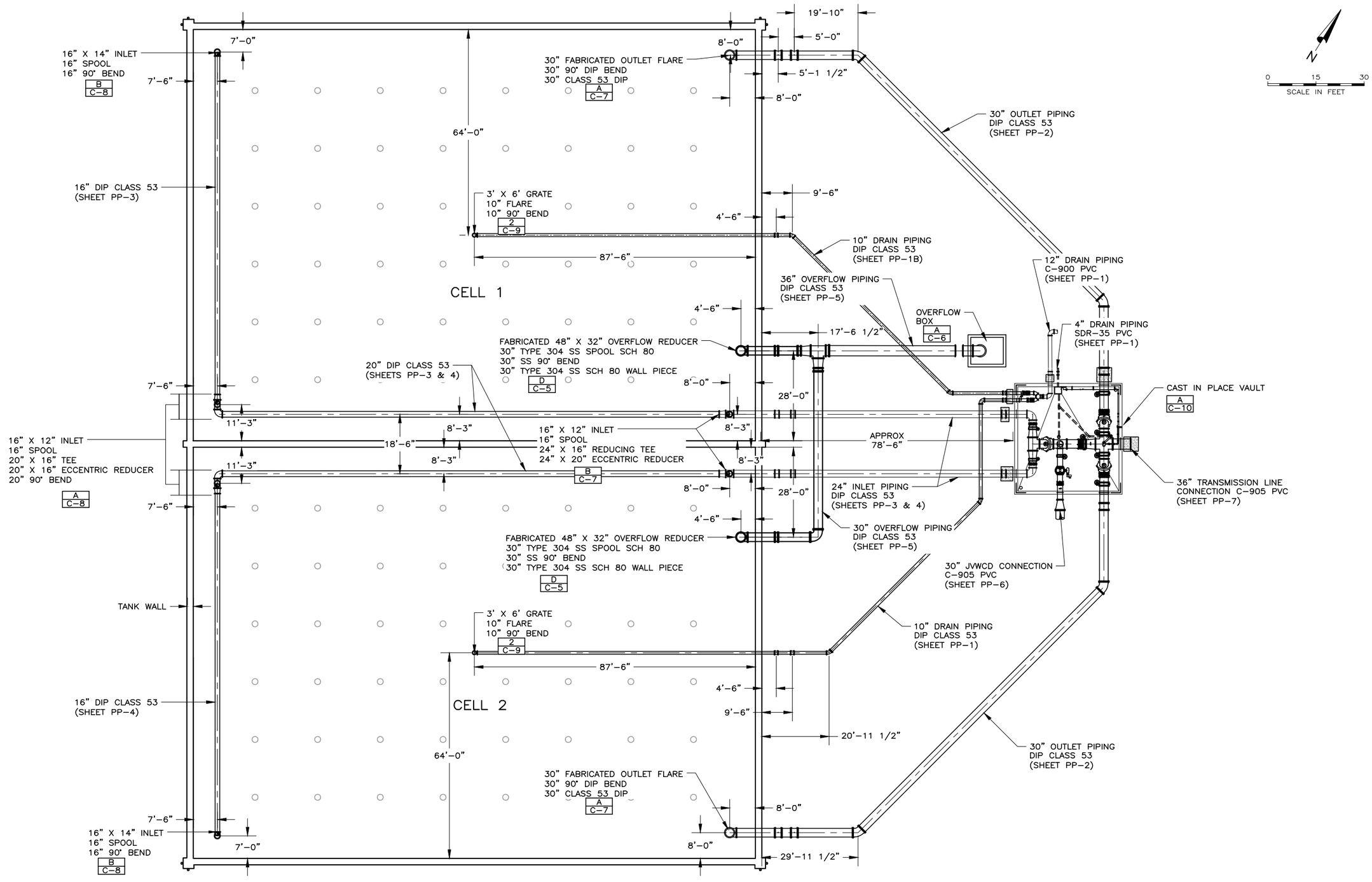
SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
CIVIL
TANK PLAN

SHEET C-3

176.41.100



PLAN

FILE NAME: PROJECTS\176 - SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\C-4 TANK PIPING PLAN.DWG
FILE DATE: 7.15.2025 12:58:35 (DCL)

10/07

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROFESSIONAL ENGINEER No. 12390282-2202 GARRICK D. STEPHENSON 7-21-2025 STATE OF UTAH
PROJECT ENGINEER

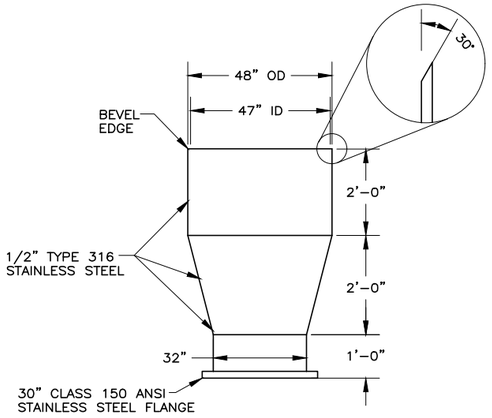
DESIGNED	GDS	3				
DRAFTED	GDS, BKC	2				
CHECKED	MEA	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

SCALE: AS SHOWN

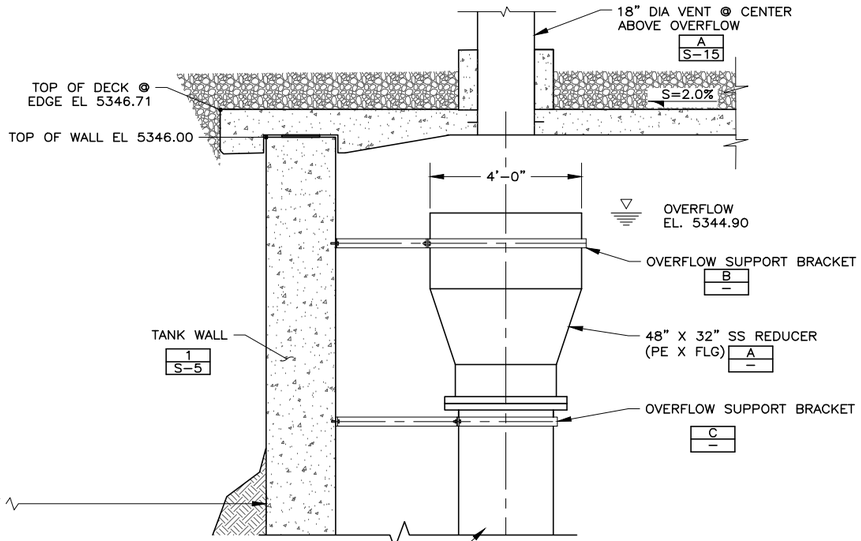
SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

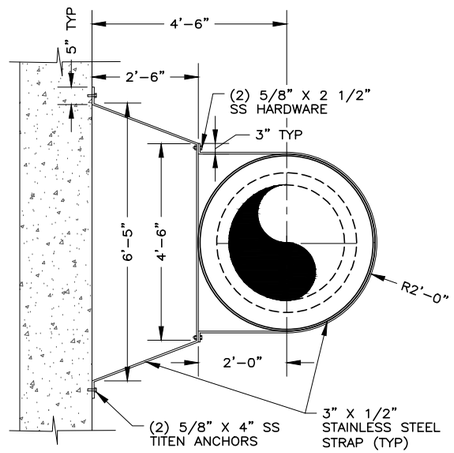
ZONES 7 & 8 – 8.4MG TANK
CIVIL
TANK PIPING PLAN

SHEET C-4
176.41.100

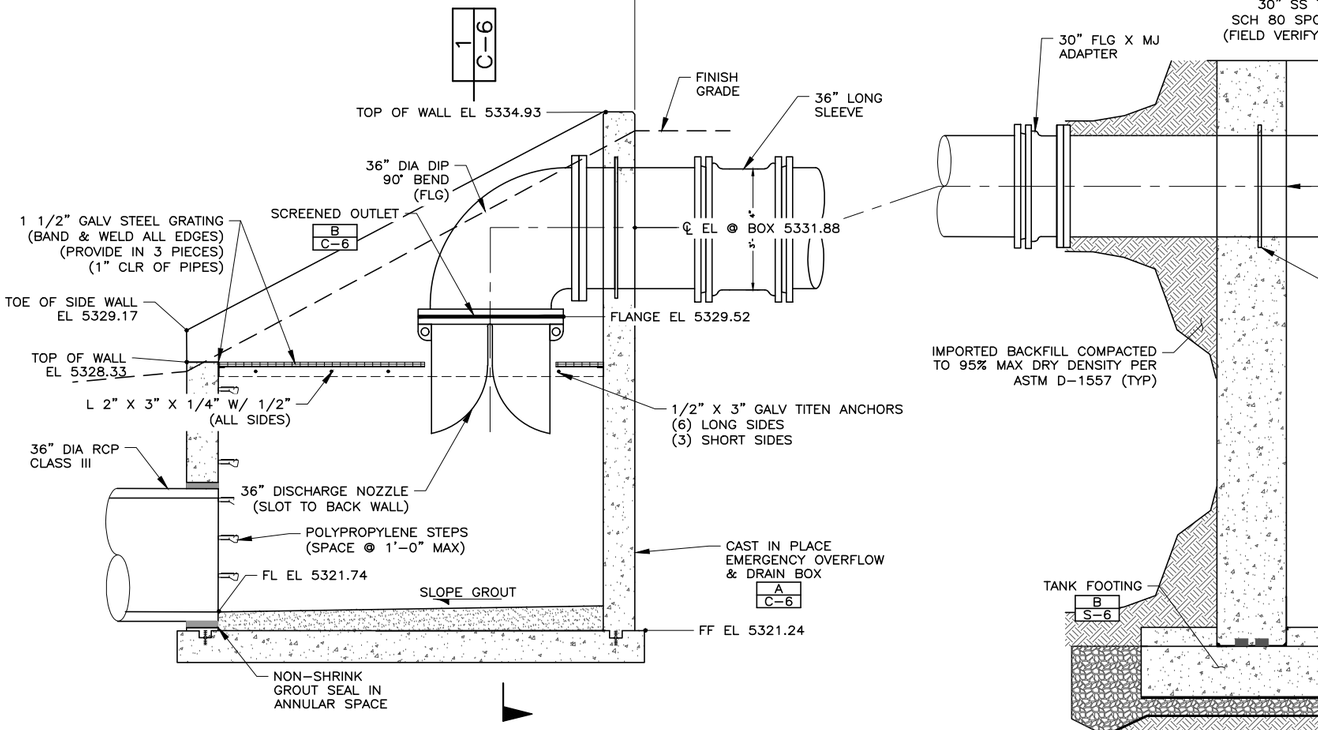


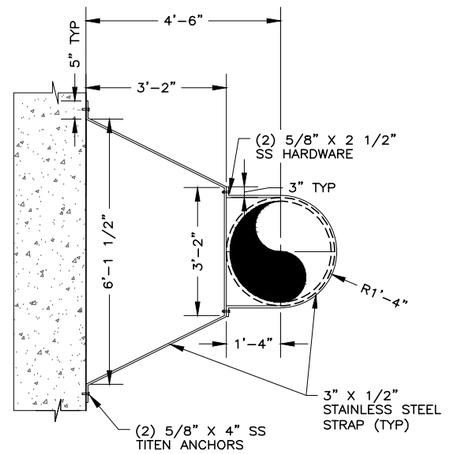
OVERFLOW REDUCER A
NTS





OVERFLOW BRACKET B —
0 1 2
SCALE IN FEET





OVERFLOW BRACKET C —
0 1 2
SCALE IN FEET

EMERGENCY OVERFLOW & DRAIN BOX D C-3 | D C-4 | D PP-5
NTS

GENERAL SHEET NOTES:

1. ENSURE TITEN ANCHORS DO NOT IMPACT WALL TENDONS.
2. SEE SHEET S-20 FOR REBAR REINFORCEMENT.

FILE NAME: PROJECTS\176-- SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\C-5 TANK OVERFLOW BOX - DETAILS 1.DWG
FILE DATE: 7.15.2025 13:02:12 (DCL)

10/07

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROFESSIONAL ENGINEER No. 12390282-2202 GARRICK D. STEPHENSON 7-24-2025 STATE OF UTAH
PROJECT ENGINEER

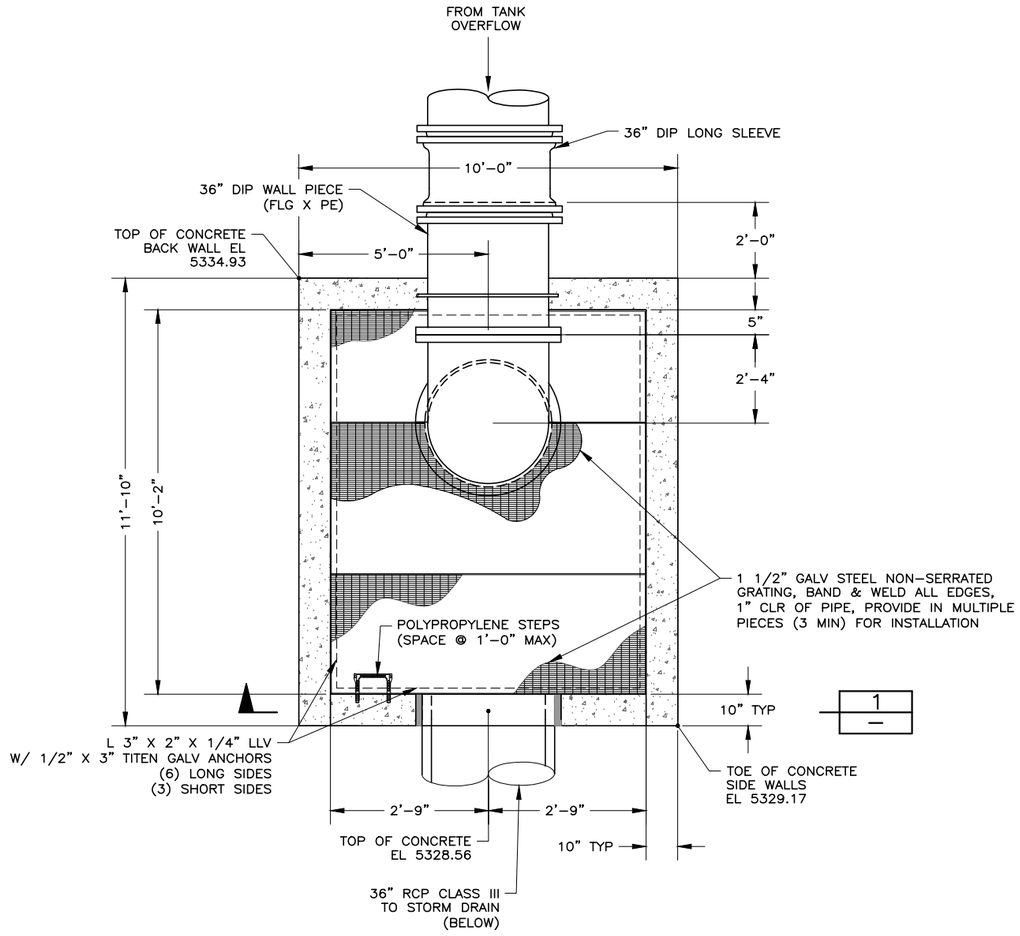
DESIGNED	GDS	3			
DRAFTED	BKC	2			
CHECKED	MEA	1	JULY 2025	ISSUED FOR BID	GDS TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY APVD.

SCALE AS SHOWN

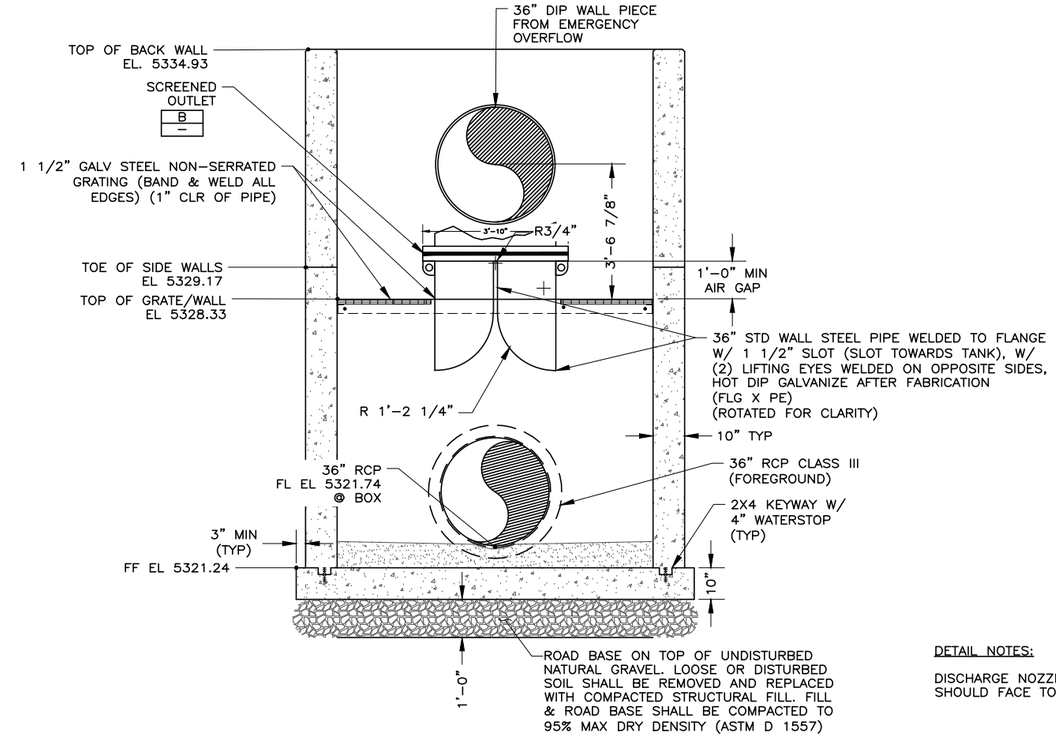
SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
CIVIL
TANK OVERFLOW PIPING & DETAILS I

SHEET C-5
176.41.100



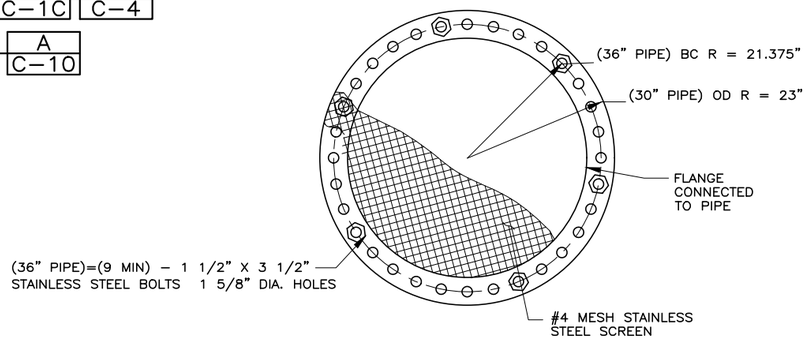
EMERGENCY OVERFLOW & DRAIN BOX — 1 — SCALE IN FEET (0 1 2)



SECTION 1 — 1 — SCALE IN FEET (0 1 2)

DETAIL NOTES:

DISCHARGE NOZZLE SLOT SHOULD FACE TO BACK WALL.



36" SCREENED OUTLET DETAIL — B — C-5 — NTS

GENERAL SHEET NOTES:

1. ALL EXPOSED EDGES OF CONCRETE SHALL HAVE 3/4" CHAMFER.
2. SEE SHEET S-20 FOR REBAR REINFORCEMENT.
3. PROVIDE JOINT RESTRAINT ON ALL FITTINGS ON THIS SHEET.

FILE NAME: PROJECTS\176 – SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\C-6 TANK OVERFLOW BOX-DETAILS II.DWG
FILE DATE: 7.16.2025 13:09:45 (DCL)

10/07

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROFESSIONAL ENGINEER — No. 12390282-2202 — GARRICK O. STEPHENSON — 7-21-2025 — STATE OF UTAH

PROJECT ENGINEER

DESIGNED	GDS	3				
DRAFTED	BKC	2				
CHECKED	MEA	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

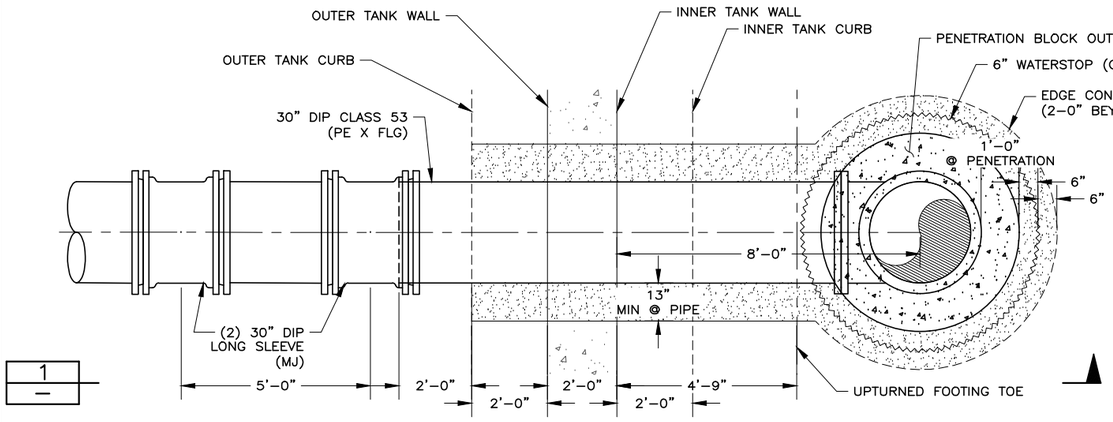
SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

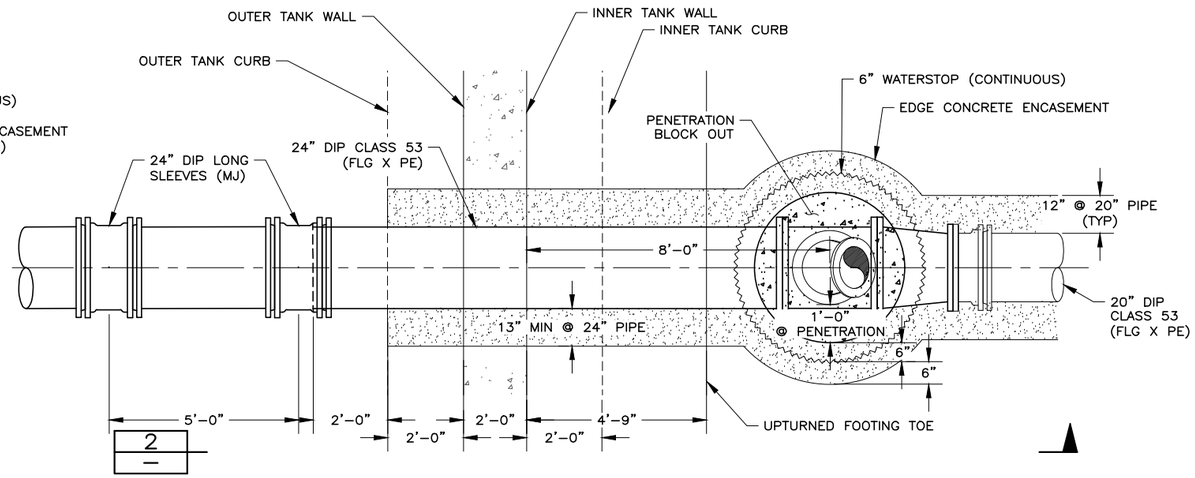
ZONES 7 & 8 – 8.4MG TANK
CIVIL
TANK OVERFLOW PIPING & DETAILS II

SHEET C-6

176.41.100



1
—



2
—

30" OUTLET PLAN

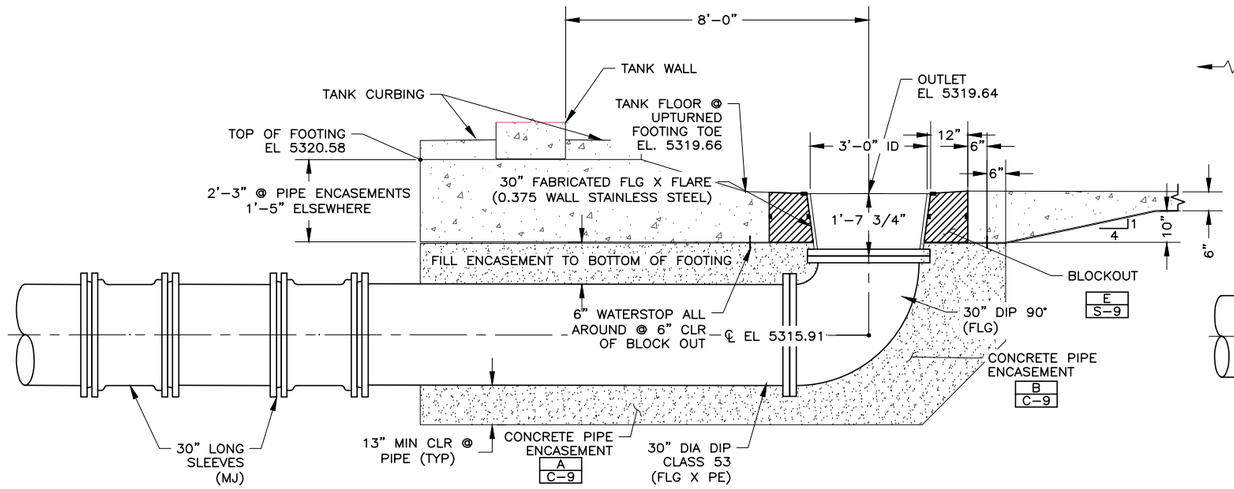
A	A	A
C-3	C-4	PP-2
A	A	
S-3	S-13	

0 1 2
SCALE IN FEET

24" INLET PLAN

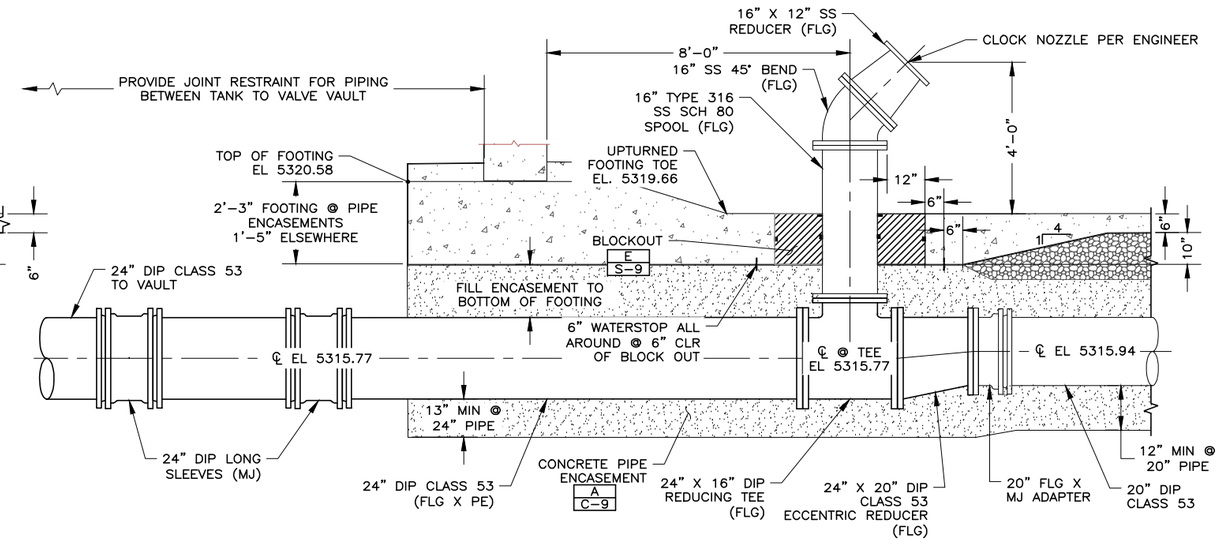
B	B	B
C-3	C-4	PP-3
B	B	B
PP-4	S-3	S-13

0 1 2
SCALE IN FEET



SECTION 1
—

0 1 2
SCALE IN FEET



SECTION 2
—

0 1 2
SCALE IN FEET

GENERAL SHEET NOTES:

1. PROVIDE JOINT RESTRAINT ON ALL FITTINGS ON THIS SHEET.

FILE NAME: PROJECTS\176 - SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\C-7 TANK INLET & OUTLET PIPING 1.DWG
FILE DATE: 7.15.2025 13:12:45 (DCL)

10/07

HANSEN ALLEN & LUCE ENGINEERS

PROFESSIONAL ENGINEER No. 12390282-2202 GARRICK D. STEPHENSON 7-21-2025 STATE OF UTAH
PROJECT ENGINEER

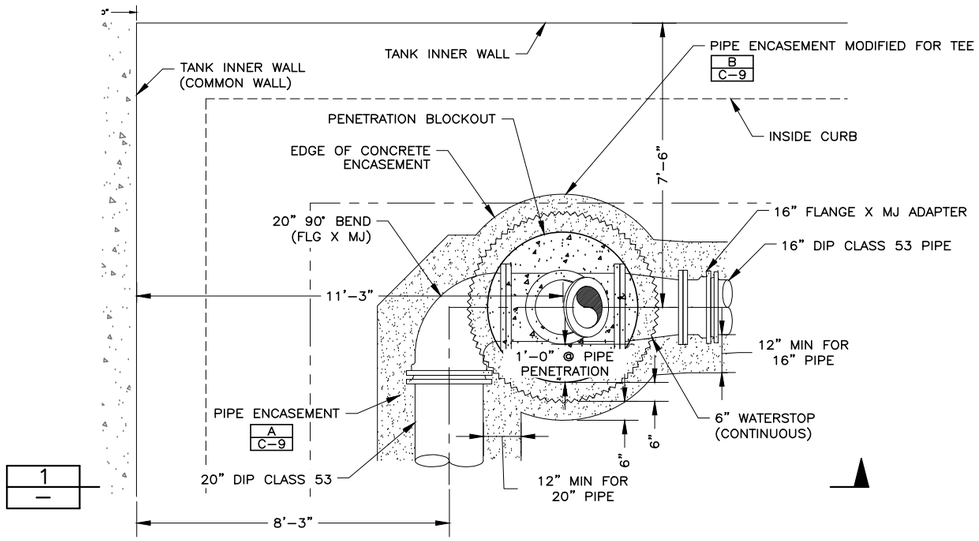
DESIGNED	GDS	3				
DRAFTED	BKC	2				
CHECKED	MEA	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
CIVIL
TANK INLET & OUTLET PIPING DETAILS I

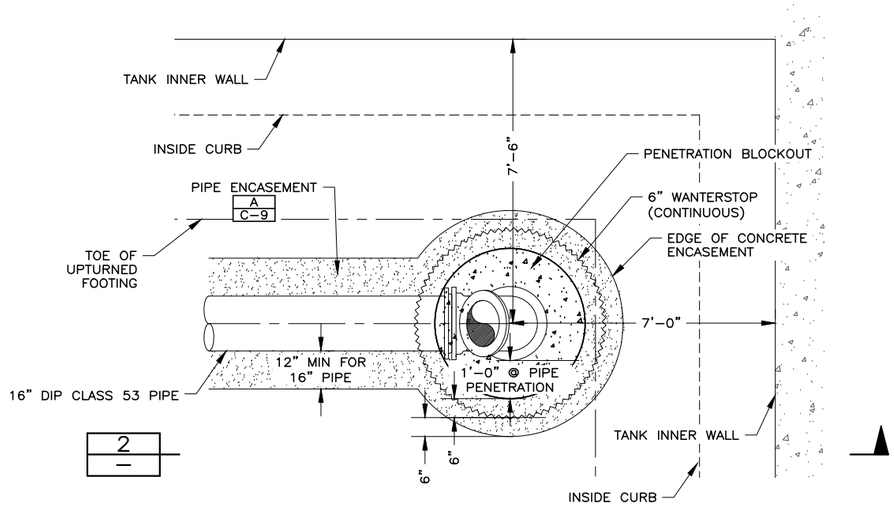
SHEET C-7
176.41.100



1
—

20" X 16" INLET PLAN | A C-3 | A C-4 | A PP-3 | A PP-4 | A S-3 | A S-13

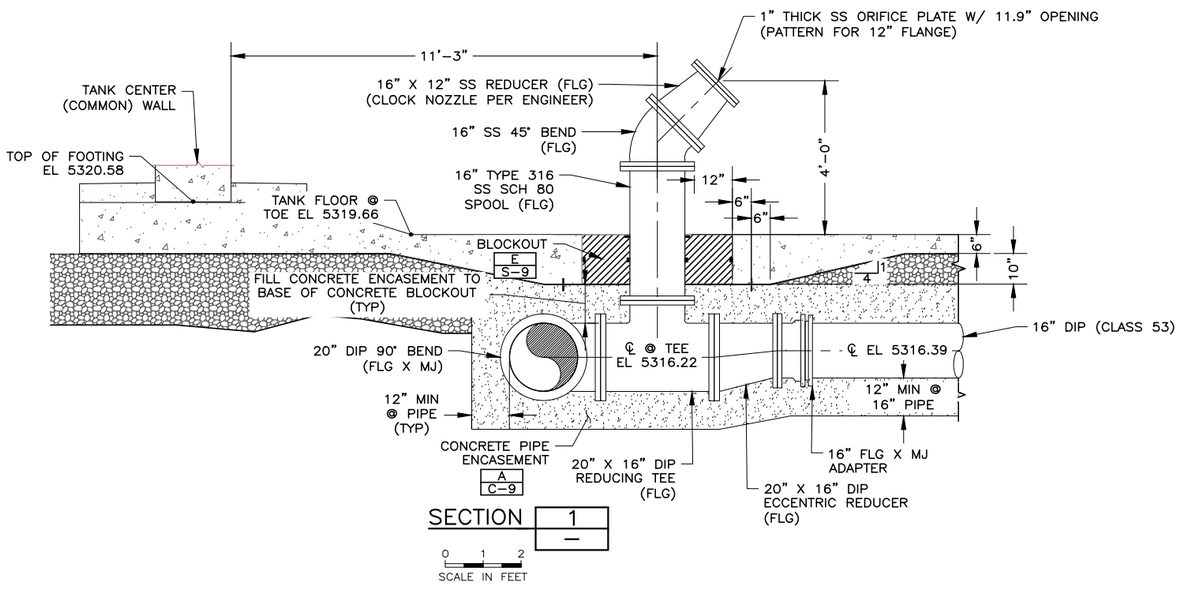
0 1 2
SCALE IN FEET



2
—

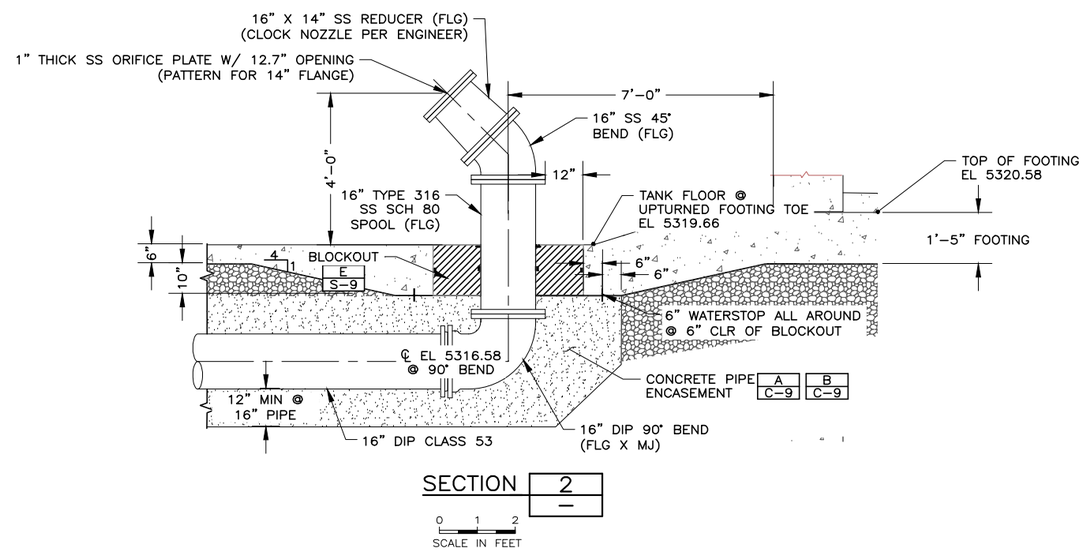
16" X 14" INLET PLAN | B C-3 | B C-4 | B PP-3 | B PP-4 | B S-3 | B S-13

0 1 2
SCALE IN FEET



SECTION 1
—

0 1 2
SCALE IN FEET



SECTION 2
—

0 1 2
SCALE IN FEET

FILE NAME: PROJECTS\176 – SOUTH JORDAN CITY\41.100 SOUTH ZONE 7–8 TANK AND PIPELINE\CAD\C–8 TANK INLET & OUTLET PIPING II.DWG
FILE DATE: 7.15.2025 13:16:25 (DCL)

10/07

HANSEN ALLEN & LUCE ENGINEERS

PROFESSIONAL ENGINEER No. 12390282-2202 GARRICK D. STEPHENSON 7-21-2025 STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS
DRAFTED	BKC
CHECKED	MEA
DATE	JULY 2025

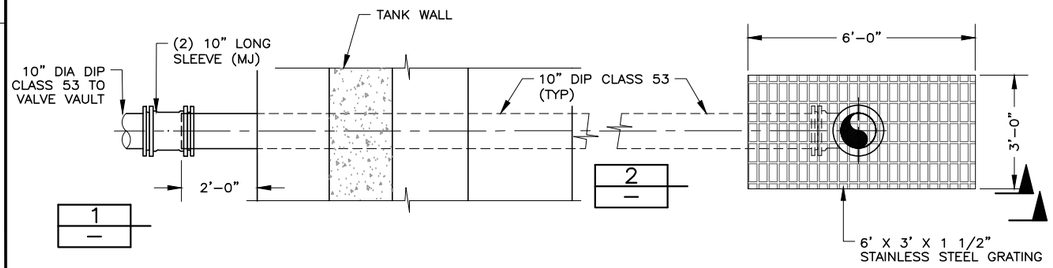
NO.	DATE	REVISIONS	BY	APVD.
3				
2				
1	JULY 2025	ISSUED FOR BID	GDS	TGA

SCALE AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

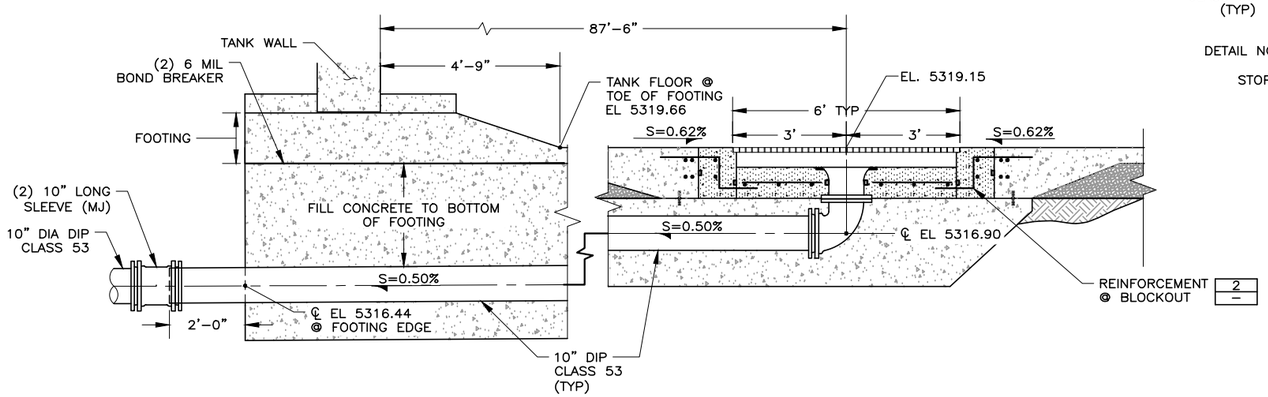
ZONES 7 & 8 – 8.4MG TANK
CIVIL
TANK INLET & OUTLET PIPING DETAILS II

SHEET C–8
176.41.100



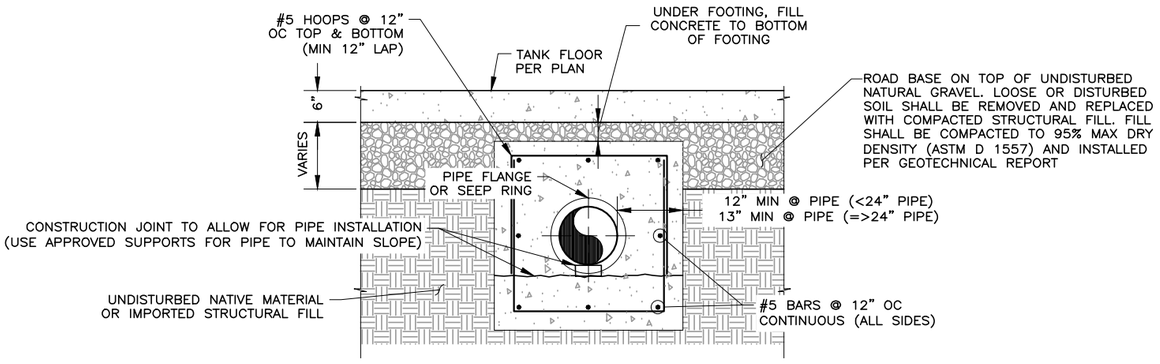
DRAIN DETAIL PLAN | C C-3 | C PP-1 | C PP-1B | C S-3 | C S-13

0 1 2
SCALE IN FEET



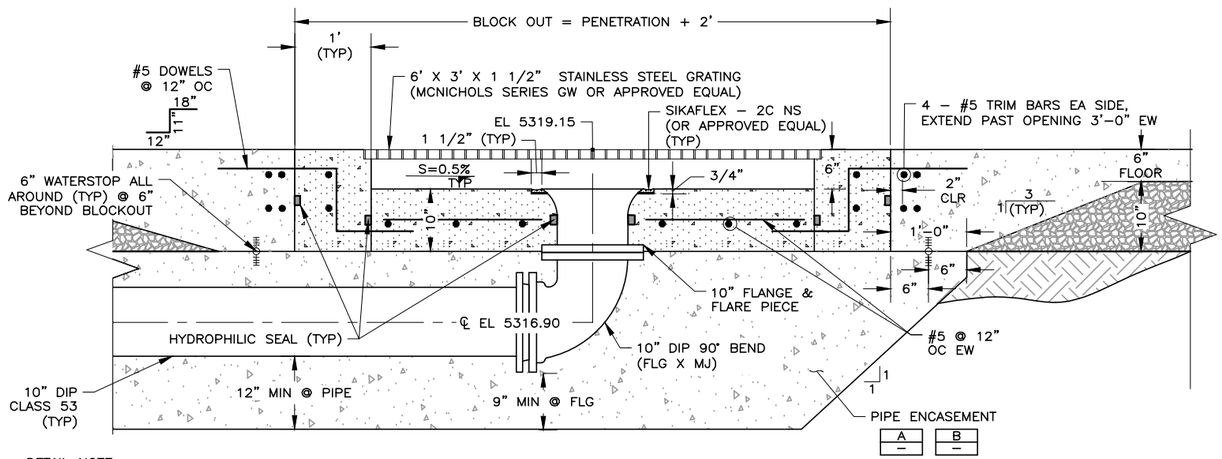
10" DRAIN DETAIL SECTION | 1 | —

0 1 2
SCALE IN FEET



TYPICAL PIPE ENCASEMENT SECTION	A —	A C-7	A C-8	A S-9

NTS

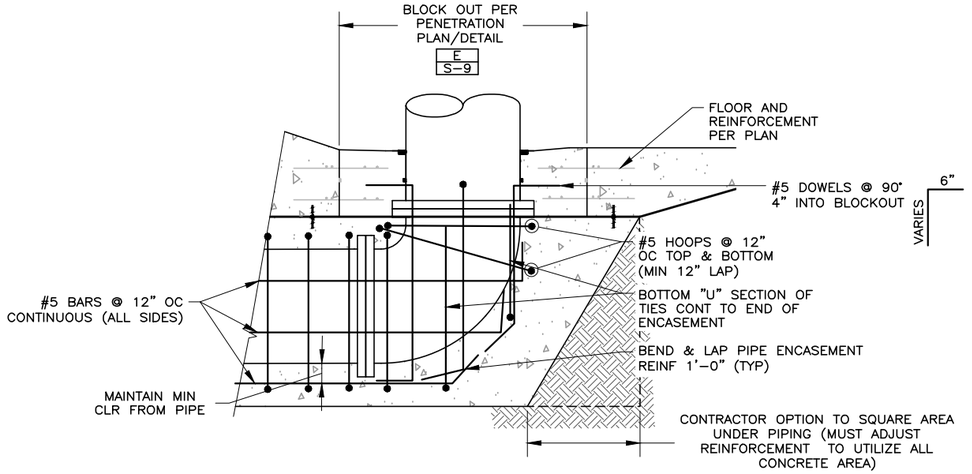


DETAIL NOTE:

STOP ALL FLOOR STEEL THAT INTERSECTS PIPE 2" CLEAR OF PIPE. ADD 4 EXTRA #5 X 5'-0" LONG DIAGONALS AROUND FLOOR PIPE PENETRATIONS. (TYP)

FLARED END 90° ELL PIPE DRAIN THROUGH FLOOR DETAIL | 2 — | 2 C-4

0 1
SCALE IN FEET



TYPICAL PIPE REINFORCEMENT ENCASEMENT SECTION @ BEND	B —	B C-7	B C-8	B S-9

NTS

GENERAL SHEET NOTE:

PROVIDE JOINT RESTRAINT FOR ALL FITTINGS THIS SHEET.

FILE NAME: PROJECTS\176 — SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\C-9 TANK DRAIN PIPING & DETAILS.DWG
FILE DATE: 7.15.2025 13:20:25 (DCL)

10/07

HANSEN ALLEN & LUCE inc ENGINEERS

PROFESSIONAL ENGINEER No. 12390282-2202 GARRICK D. STEPHENSON 7-21-2025 STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS, RCC	3					
DRAFTED	BKC	2					
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

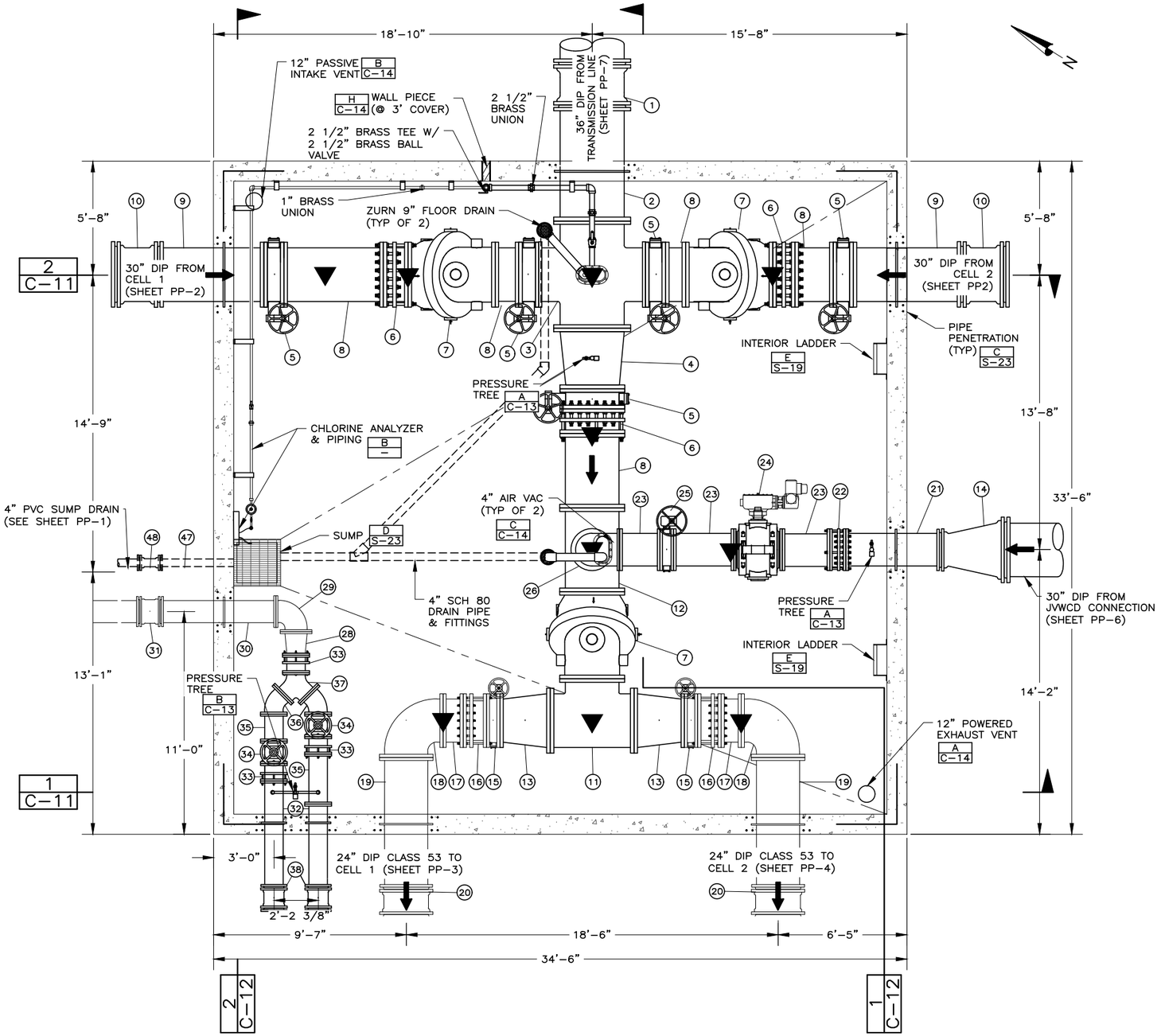
SCALE AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
CIVIL
TANK DRAIN OUTLET SECTION & DETAILS

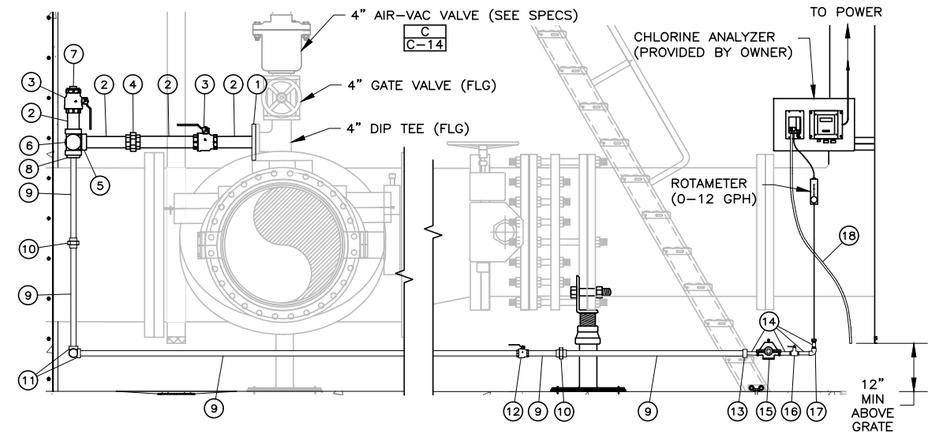
SHEET C-9

176.41.100



VALVE VAULT A C-1 / A C-4

SCALE IN FEET



CHLORINE ANALYZER & PIPING B —

NTS

WASHDOWN & PUMP SYSTEM SCHEDULE

#	ITEM NAME	SIZE	JOINT	REMARKS
1	THREADED FLANGE REDUCER	4 X 2 1/2	FLG X THD	
2	PIPE, BRASS	2 1/2"	THD	
3	BALL VALVE, BRASS	2 1/2"	THD	
4	UNION, BRASS	2 1/2"	THD	
5	90° BEND, BRASS	2 1/2"	THD	
6	TEE, BRASS	2 1/2"	THD	
7	PLUG, BRASS	2 1/2"	THD	
8	REDUCING BUSHNG, BRASS	2 1/2" X 1"	THD	
9	PIPE, BRASS	1"	THD	
10	UNION, BRASS	1"	THD	
11	90° BEND, BRASS	1"	THD	
12	BALL VALVE, BRASS	1"	THD	
13	REDUCING BUSHING, BRASS	1" X 1/2"	THD	
14	PIPE, BRASS	1/2"	THD	SUPPORTS AS REQUIRED
15	REDUCING PRESSURE VALVE	1/2"	THD	SET TO 40 PSI
16	BALL VALVE, BRASS	1/2"	THD	
17	90° BEND, BRASS	1/2"	THD	
18	TUBING TO DRAIN	1/2"	—	SUPPORTS AS REQUIRED

GENEREAL SHEET NOTES:

1. SEE SHEET C-13 FOR VALVE VAULT FITTING SCHEDULE.
2. SEE SHEET C-16 & S-17 FOR VAULT REINFORCEMENT PLAN.
3. PIPES AND VALVES TO BE LABELED PER SPECIFICATION 33 05 26.

FILE NAME: PROJECTS\176 — SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\C-10 VALVE VAULT PLAN.DWG
FILE DATE: 7.15.2025 13:22:17 (DCL)

10/07

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROFESSIONAL ENGINEER No. 12390282-2202 GARRICK D. STEPHENSON 7-21-2025 STATE OF UTAH

PROJECT ENGINEER

DESIGNED	GDS	3				
DRAFTED	BKC	2				
CHECKED	MEA	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

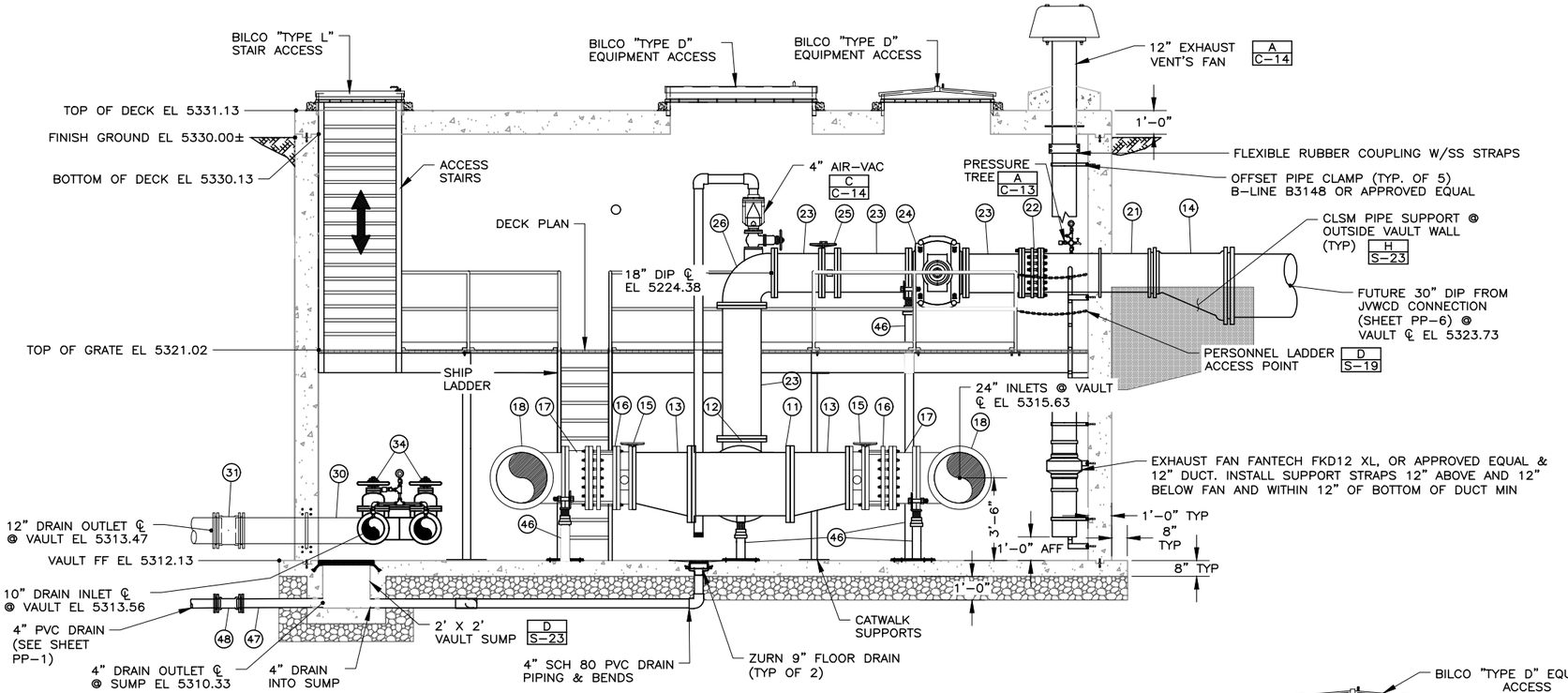
SCALE AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 — 8.4MG TANK
CIVIL
VALVE VAULT PLAN & PIPE DETAIL

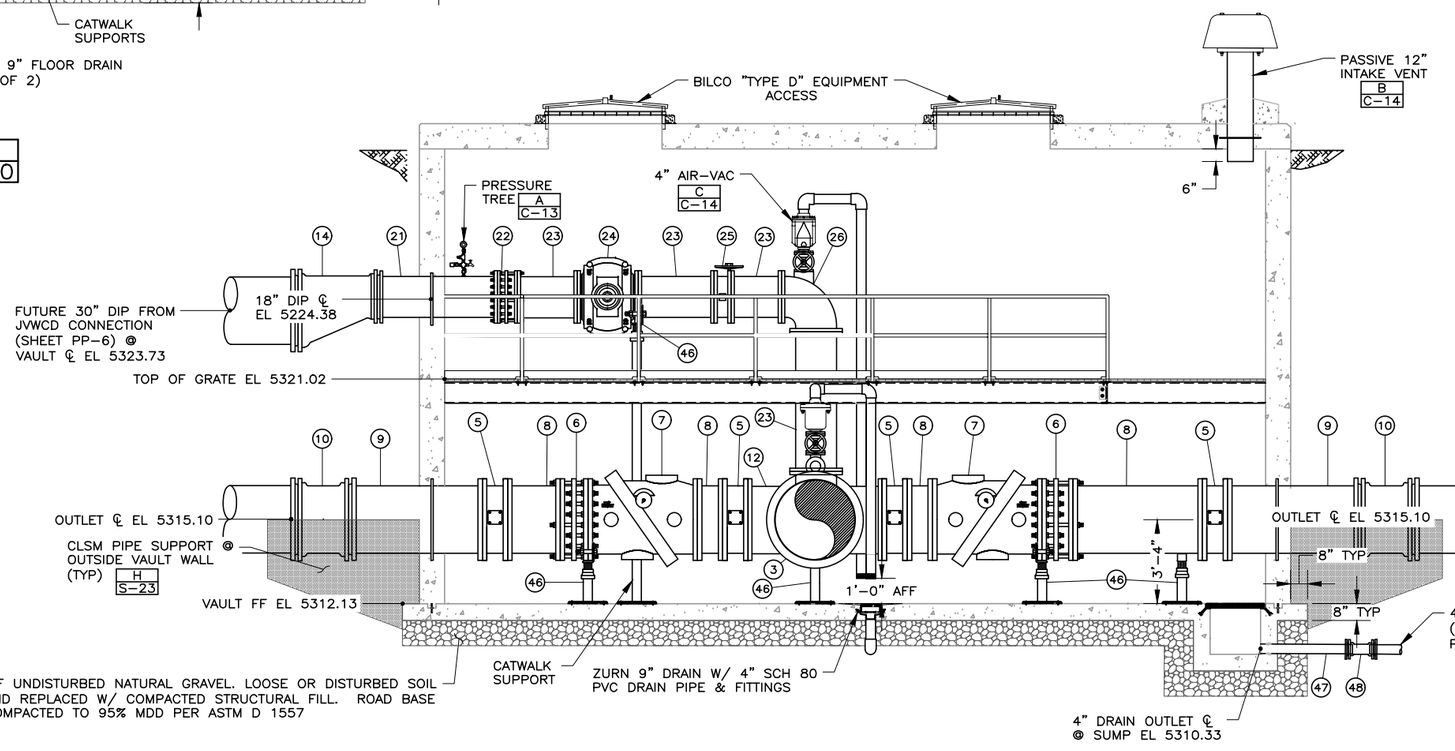
SHEET C—10

176.41.100



SECTION 1 C-10

0 2 4
SCALE IN FEET



ROAD BASE ON TOP OF UNDISTURBED NATURAL GRAVEL. LOOSE OR DISTURBED SOIL SHALL BE REMOVED AND REPLACED W/ COMPACTED STRUCTURAL FILL. ROAD BASE AND FILL SHALL BE COMPACTED TO 95% MDD PER ASTM D 1557

SECTION 2 C-10

0 2 4
SCALE IN FEET

GENERAL SHEET NOTES:

PIPE AND FITTING SCHEDULE FOUND ON SHEET C-13.

FILE NAME:PROJECTS\176 - SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\C-11 VALVE VAULT SECTIONS 1.DWG
FILE DATE: 7.15.2025 13:58:00 (DDL)

10/07

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROFESSIONAL ENGINEER No. 12390282-2202 GARRICK D. STEPHENSON 7-24-2025 STATE OF UTAH
PROJECT ENGINEER

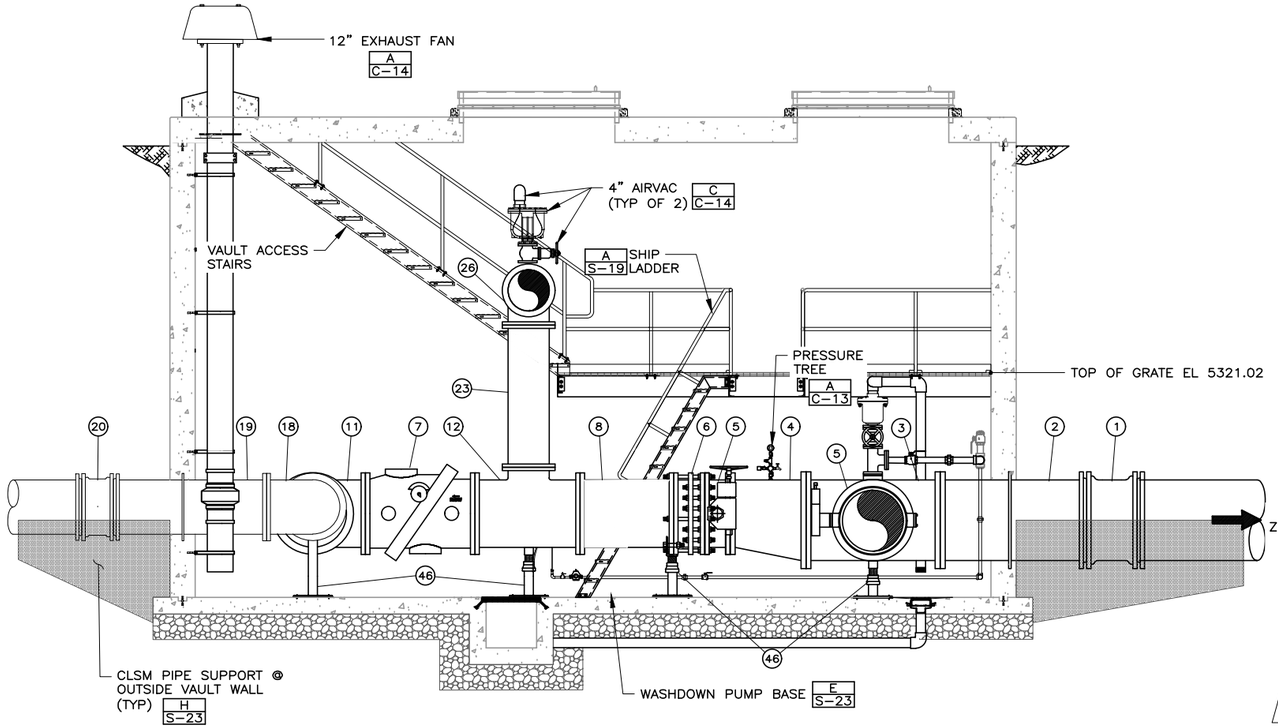
DESIGNED	GDS	3				
DRAFTED	BKC	2				
CHECKED	MEA	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

SCALE AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

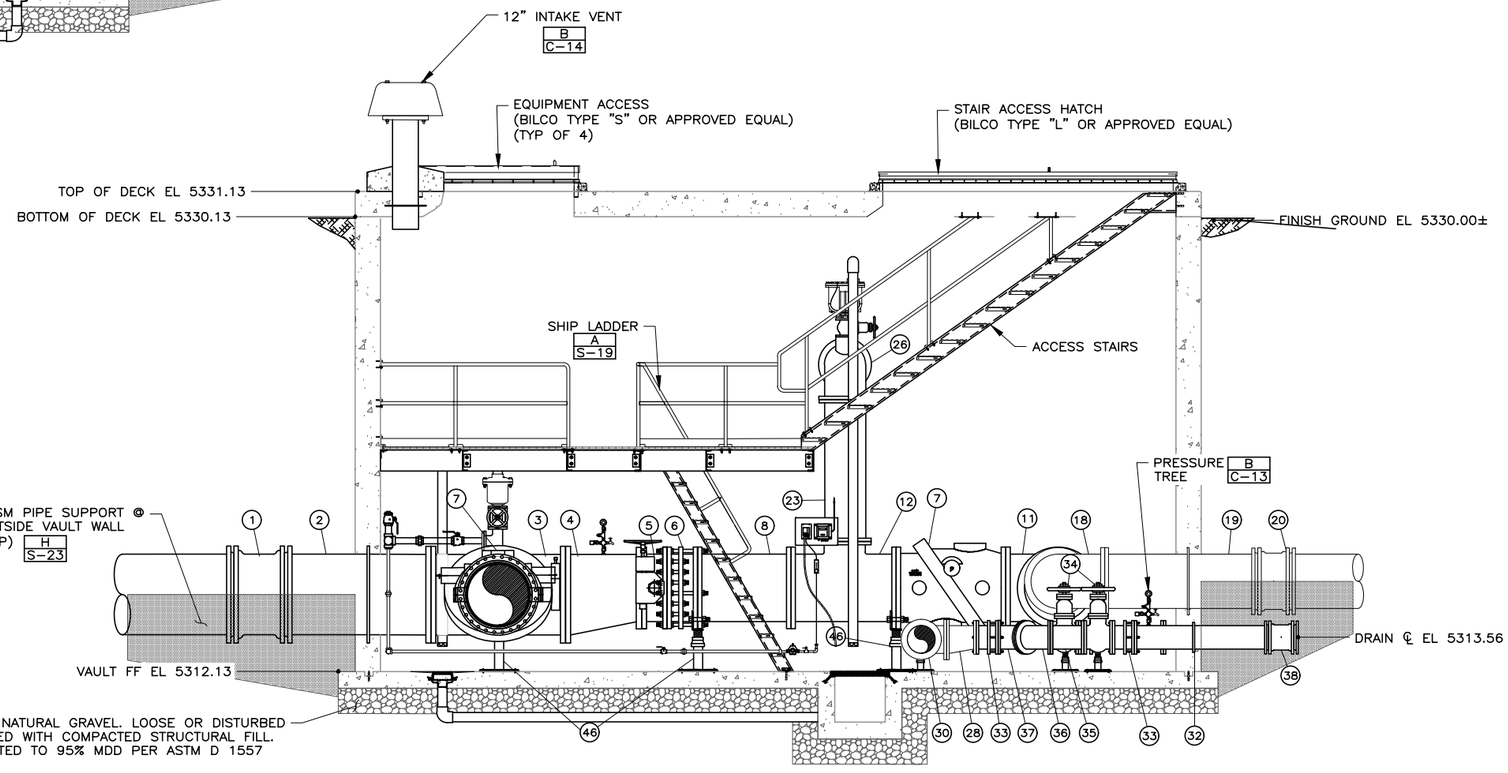
ZONES 7 & 8 – 8.4MG TANK
CIVIL
VALVE VAULT SECTIONS 1

SHEET C-11
176.41.100



SECTION 1 C-10

SCALE IN FEET 0 2 4



SECTION 2 C-10

SCALE IN FEET 0 2 4

GENERAL SHEET NOTES:

PIPE AND FITTING SCHEDULE FOUND ON SHEET C-13.

FILE NAME:PROJECTS\176 – SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\C-12 VALVE VAULT SECTIONS II.DWG
FILE DATE: 7.15.2025 14:08:09 (DCL)

10/07

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROFESSIONAL ENGINEER No. 12390282-2202 GARRICK D. STEPHENSON 7-21-2025 STATE OF UTAH

PROJECT ENGINEER

DESIGNED	GDS	3				
DRAFTED	BKC	2				
CHECKED	MEA	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

SCALE AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

SOUTH JORDAN UTAH

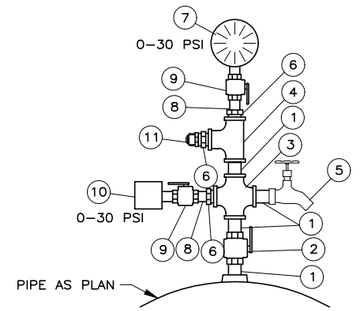
ZONES 7 & 8 – 8.4MG TANK
CIVIL
VALVE VAULT SECTIONS II

SHEET C-12

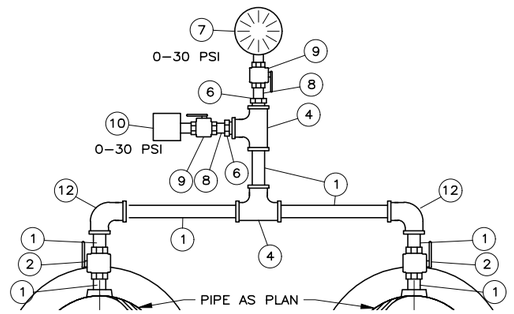
176.41.100

PIPE, VALVE & FITTING SCHEDULE

#	ITEM NAME	SIZE	JOINT	REMARKS
1	LONG SLEEVE, DIP	36"	MJ	
2	WALL PIECE, DIP, CLASS 53	36"	FLG X PE	
3	CROSS, DIP, W/ 4" BOSS	36" X 30"	FLG	DRILL BOSS FOR 4" AIR-VAC
4	ECCENTRIC REDUCER, DIP	36" X 30"	FLG	
5	BUTTERFLY VALVE	30"	FLG	
6	DISMANTLING JOINT W/ TIE RODS	30"	FLG	ROMAC RJ 400 OR APPROVED EQUAL
7	CHECK VALVE, SLANT DISK	30"	FLG	
8	SPOOL, DIP, CLASS 53	30"	FLG	
9	WALL PIECE, DIP, CLASS 53	30"	FLG X PE	
10	LONG SLEEVE, DIP	30"	MJ	
11	TEE, DIP	30"	FLG	
12	TEE, DIP	30" X 18"	FLG	
13	ECCENTRIC REDUCER, DIP	30" X 24"	FLG	
14	ECCENTRIC REDUCER, DIP	30" X 18"	MJ	
15	BUTTERFLY VALVE	24"	FLG	
16	DISMANTLING JOINT W/ TIE RODS	24"	FLG	ROMAC RJ 400 OR APPROVED EQUAL
17	SPOOL, DIP, CLASS 53	24"	FLG	
18	BEND, 90°, DIP	24"	FLG	
19	WALL PIECE, DIP, CLASS 53	24"	FLG X PE	
20	LONG SLEEVE, DIP, CLASS 53	24"	FLG	
21	WALL PIECE, DIP, CLASS 53	18"	FLG X PE	
22	DISMANTLING JOINT W/ TIE RODS	18"	FLG	ROMAC RJ 400 OR APPROVED EQUAL
23	SPOOL, DIP, CLASS 53	18"	FLG	
24	BALL VALVE (AUTOMATED)	18"	FLG	W/ IQS SINGLE PHASE UNIT & GEARBOX W/ MOTOR INPUT FLANGE
25	BUTTERFLY VALVE	18"	FLG	
26	BEND, DIP, 90°, W/ 4" BOSS	18"	FLG	
27	NOT USED	–	–	
28	REDUCER, DIP	12" X 10"	FLG	
29	BEND, 90° DIP	12"	FLG	
30	WALL PIECE, DIP, CLASS 53	12"	FLG X PE	
31	LONG SLEEVE, DIP	12"	MJ	
32	WALL PIECE, DIP, CLASS 53	10"	FLG X PE	
33	DISMANTLING JOINT W/ TIE RODS	10"	FLG	ROMAC RJ 400 OR APPROVED EQUAL
34	GATE VALVE	10"	FLG	
35	SPOOL, DIP, CLASS 53	10"	FLG	
36	BEND, DIP, 45°	10"	FLG	
37	WYE, DIP	10"	FLG	
38	LONG SLEEVE, DIP	10"	MJ	
39	PIPE & FITTINGS, SCH 80 PVC	4"	SW	
40	PIPE NIPPLES, BRASS	4"	THD	
41	VALVE, GATE W/ HANDWHEEL	4"	THD	
42	AIR-VAC COMBO VALVE	4"	THD	
43	REDUCER FITTING (SS)	3" X 2"	THD	
44	TRANSITION FITTING (SS)	3"	THD X HDPE	
45	HDPE PIPE DR 11 (IPS SIZE)	3"	FUSED	
46	PIPE SUPPORT	AS REQ'D		SEE F S-23
47	DIP CLASS 53	4"	PE	
48	LONG SLEEVE, DIP	4"	MJ	



PRESSURE TREE NTS — A C-10 | A C-11 | A C-12



PRESSURE TREE NTS — B C-10 | B C-12

PRESSURE TREE SCHEDULE

#	ITEM NAME	SIZE	JOINT	REMARKS
1	NIPPLE (BRASS)	3/4"	THD	
2	BALL VALVE (BRONZE)	3/4"	THD	
3	CROSS (BRASS)	3/4"	THD	
4	TEE (BRASS)	3/4"	THD	
* 5	SAMPLE TAP (BRASS) SMOOTH NOSE	3/4"	THD	
6	BUSHING (BRASS)	3/4" X 1/2"	THD	
7	PRESSURE GAUGE (0-30 PSI)	1/2"	THD	
8	NIPPLE (BRASS)	1/2"	THD	
9	BALL VALVE (BRONZE)	1/2"	THD	
10	PRESSURE TRANSMITTER (0-30 PSI)	1/2"	THD	
11	DRAIN COCK	1/2"	THD	
12	90 DEGREE BEND (BRASS)	3/4"	THD	

* REPLACE SAMPLE TAP WITH HOSE BIBB IF REQUIRED.

GENERAL SHEET NOTE:

SEE SHEET C-10 FOR VAULT PLAN & DETAIL SCHEDULE CALL OUTS.

PROJECT ENGINEER

DESIGNED	GDS	3				
DRAFTED	BKC	2				
CHECKED	MEA	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

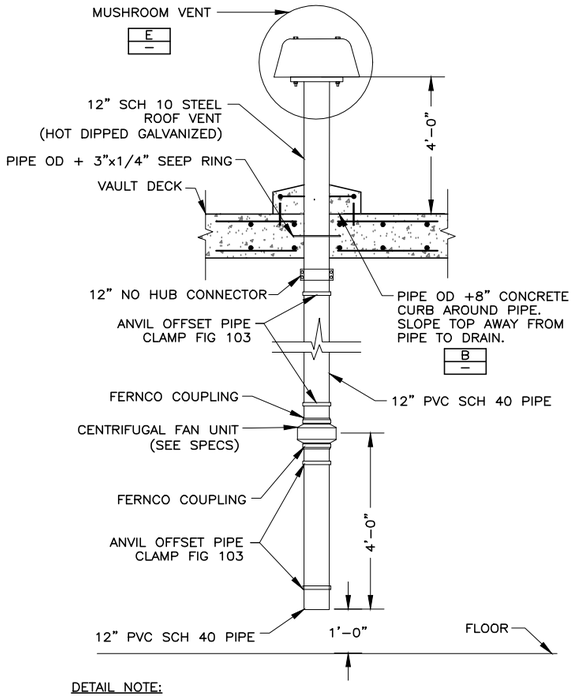
SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
CIVIL
VALVE VAULT FITTING SCHEDULE & DETAIL

SHEET C-13
176.41.100

FILE NAME: PROJECTS\176 - SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\C-13 VALVE VAULT FITTING SCHEDULE.DWG
FILE DATE: 7.15.2025 14:12:45 (DCL)
10/07

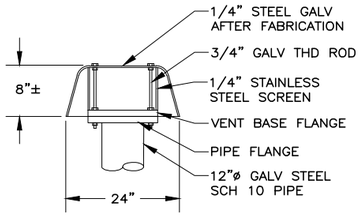


DETAIL NOTE:

DECK REINFORCEMENT NOT TO BE CUT AT VENT LOCATIONS, BARS TO BE BENT AROUND VENTS.

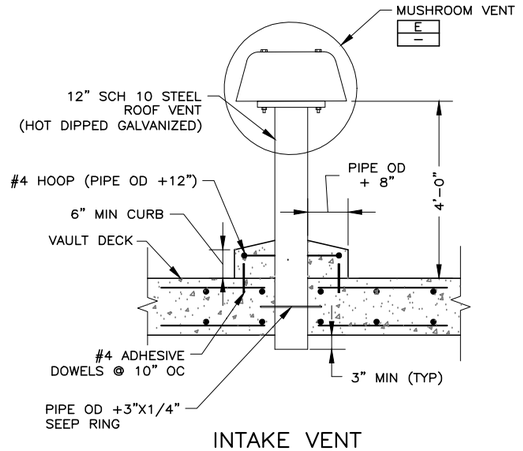
12" EXHAUST VENT & FAN DETAIL
NTS

A	A
C–10	C–11
A	A
C–12	S–17



MUSHROOM VENT
NTS

E
—



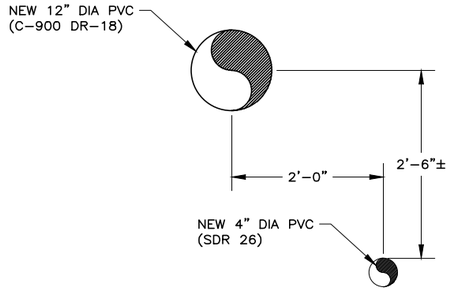
INTAKE VENT

DETAIL NOTE:

DECK REINFORCEMENT NOT TO BE CUT AT VENT LOCATIONS, BARS TO BE BENT AROUND VENTS.

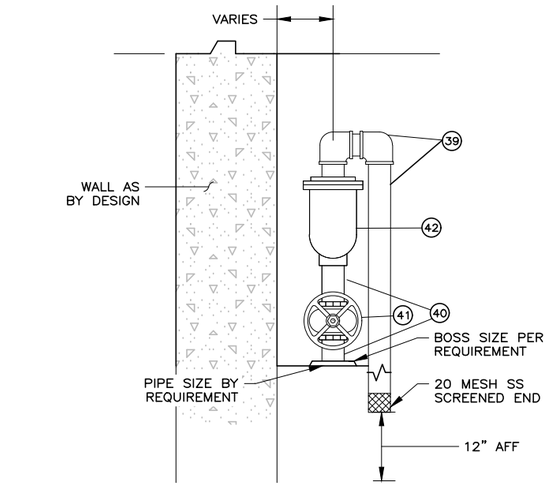
12" INTAKE VENT DETAIL
NTS

B	B	B
—	C–10	C–11
B	B	
C–12	S–17	



TYPICAL DUAL DRAIN TRENCH SECTION
NTS

F	F
PP–1	PP–1A

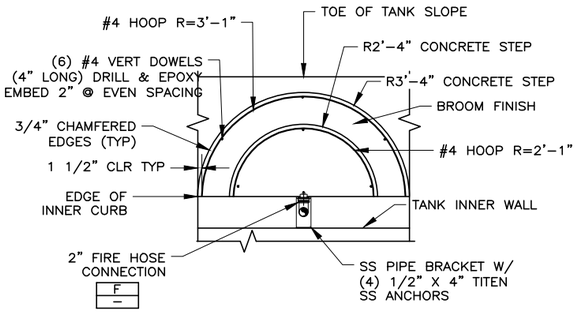


DETAIL NOTES:

1. ADD FLANGED 4" TEE FOR WASHDOWN PIPE FOR AIR–VAC ON 36" X 30" CROSS.
2. PIPE & FITTING SCHEDULE ON SHEET C–13.

TYPICAL AIR VAC DETAIL
NTS

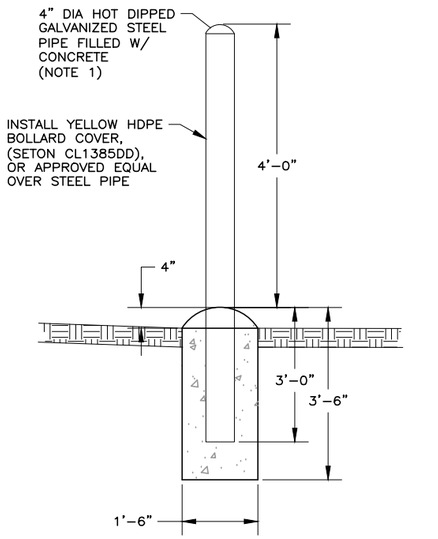
C	C
C–10	C–11
C	
C–12	



F
—

TANK INTERIOR WASHDOWN CONNECTION PLAN
NTS

G
—

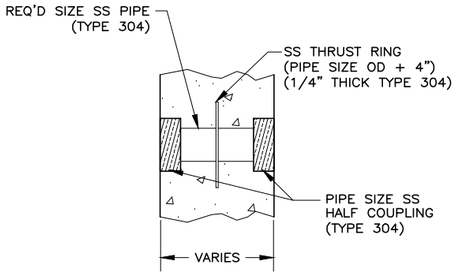


DETAIL NOTE:

REMOVABLE BOLLARDS WHERE IDENTIFIED ON THE PLANS SHALL BE SETON STYLE NO. L8660H03, OR APPROVED EQUAL.

TYPICAL BOLLARD DETAIL
NTS

D
C–1



DETAIL NOTES:

1. NO REBAR IS TO BE CUT FOR THIS PIPING & AVOID TENDONS.
2. ALL STAINLESS STEEL PIPE & FITTINGS SHALL BE TYPE 316 SCH 40 STAINLESS STEEL PIPE UNO.

WALL PIECE DETAIL
NTS

H	H	H
—	C–10	S–16

FILE NAME: PROJECTS\176 – SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\C-14 MISC DETAILS I.DWG
FILE DATE: 7.15.2025 14:15:34 (DOL)

10/07

HANSEN ALLEN & LUCE ENGINEERS

PROFESSIONAL ENGINEER — No. 12390282-2202 — GARRICK D. STEPHENSON — 7-21-2025 — STATE OF UTAH
PROJECT ENGINEER

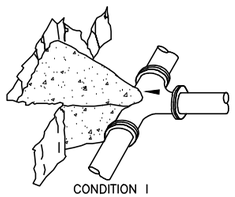
DESIGNED	GDS, RCC	3				
DRAFTED	BKC	2				
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

SCALE: NOT TO SCALE

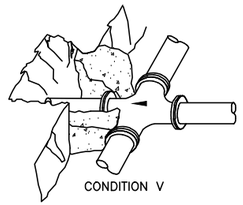
SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
CIVIL
MISCELLANEOUS DETAILS I

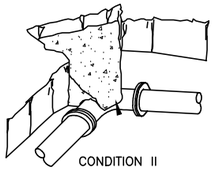
SHEET
C–14
176.41.100



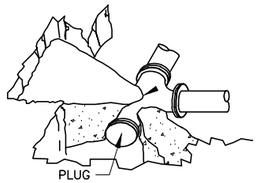
CONDITION I



CONDITION V

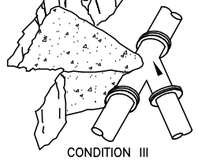


CONDITION II

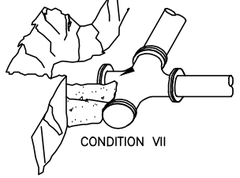


PLUG

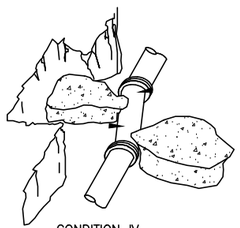
CONDITION VI



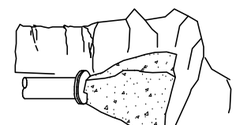
CONDITION III



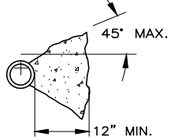
CONDITION VII



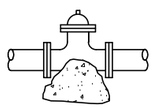
CONDITION IV



CONDITION VIII



TYPICAL SECTION THROUGH THRUST BLOCKS



VALVE ANCHOR REQUIRED FOR VALVES 8" OR LARGER

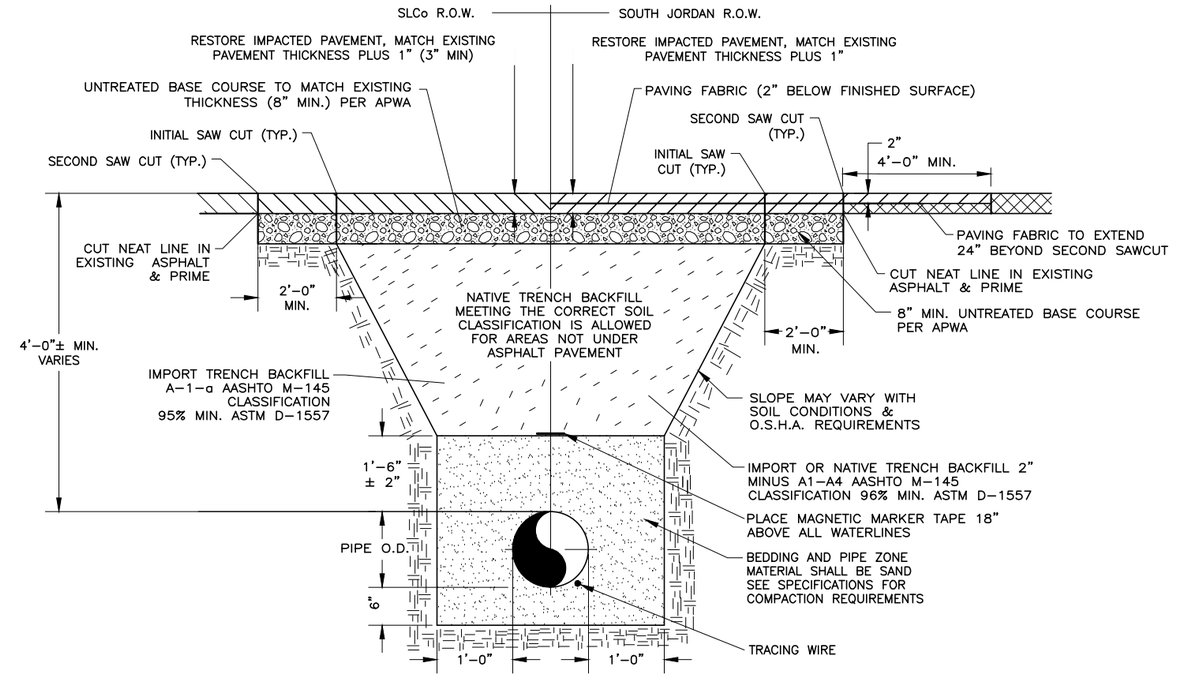
THRUST BLOCK BEARING AREA IN SQ. FEET								
PIPE SIZE (IN.)	CONDITION							
	I	II	III	IV	V	VI	VII	VIII
4	1.6	2.3	1.2	1.3	0.8	1.6	2.3	1.6
6	3.6	5.1	2.6	2.8	1.8	3.6	5.1	3.6
8	6.5	9.1	4.6	4.9	3.25	6.5	9.1	6.5
10	9.9	14.0	7.0	7.6	4.95	9.9	14.0	9.9
12	14.1	20.0	10.0	10.8	7.05	14.1	20.0	14.1
14	19.2	27.1	13.6	14.7	9.6	19.2	27.1	19.2
16	24.9	35.3	17.6	19.1	12.45	24.9	35.3	24.9
18	31.5	44.5	22.5	24.1	15.75	31.5	44.5	31.5
20	38.7	54.8	27.4	29.7	19.35	38.7	54.8	38.7
24	55.5	78.5	39.2	42.5	27.75	55.5	78.5	55.5
30	85.8	121.3	60.7	65.7	42.9	85.8	121.3	85.8

NOTES:

1. ALL THRUST BLOCK BEARING FACES SHALL BE POURED AGAINST UNDISTURBED SOIL OR APPROVED COMPACTED BACKFILL.
2. CONCRETE SHALL BE CLASS 6.0–B–3000.
3. ALL THRUST BLOCK SIDES SHALL BE FORMED.
4. CALCULATED ON 150 LB. TEST PRESSURE AND ALLOWABLE BEARING PRESSURE OF 2000 LBS. PER SQUARE FOOT.
5. IN POORER SOILS SPECIAL DESIGN IS REQUIRED.
6. THRUST RESTRAINT TO INCLUDE THRUST BLOCK AND JOINT RESTRAINT AT ALL BENDS.
7. BRASS PIPE TO BE STANDARD "RED" BRASS PIPE MEETING ASTM B43.

TYPICAL THRUST BLOCKING

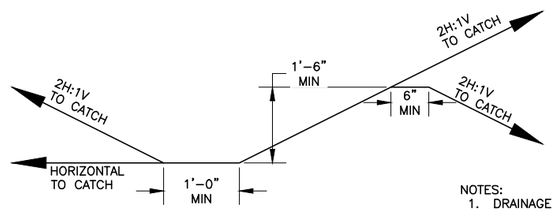
NTS



TYPICAL TRENCH DETAIL

NOTES:

1. TRENCH BACKFILL AND ASPHALT REQUIREMENTS WITHIN SALT LAKE COUNTY RIGHT–OF–WAY ALONG HIGHWAY U–111 R.O.W. SHALL BE PER SALT LAKE COUNTY REQUIREMENTS (SEE SLCo STANDARD DRAWING 240 FOR ADDITIONAL REQUIREMENTS).
2. TRENCH BACKFILL WITHIN CITY–OBTAINED EASEMENTS AND WITHIN SOUTH JORDAN CITY RIGHT–OF–WAY SHALL BE PER SOUTH JORDAN CITY REQUIREMENTS.
3. FOR UNIMPROVED AREAS WITHIN CITY–OBTAINED EASEMENTS, STRIP THE TOP 8–INCHES OF TOPSOIL AND REPLACE (COMPACT TO 85% MODIFIED PROCTOR DENSITY, ASTM D–1557) AND RE–SEED.
4. FOR AREAS IN THE NON–ASPHALT SHOULDER, THE TOP LAYER SHALL BE 8" MIN. OF UNTREATED BASE COURSE (96% MIN, ASTM D–1557)



NOTES:

1. DRAINAGE IS TO SLOPE 0.5% MIN WITH NO LOCAL LOW OR HIGH POINTS UNLESS NOTED OTHERWISE.
2. DRAINAGE DITCH/SWALE SHALL BE REMOVED AND RESTORED TO PRE–CONSTRUCTION CONDITION AFTER THE TANK CONSTUCTION AND GRADING IS COMPLETE.

TYPICAL TEMPORARY DRAINAGE DITCH/SWALE

PROJECT ENGINEER

DESIGNED	GDS, RCC	3				
DRAFTED	BKC	2				
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

SCALE: NOT TO SCALE

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

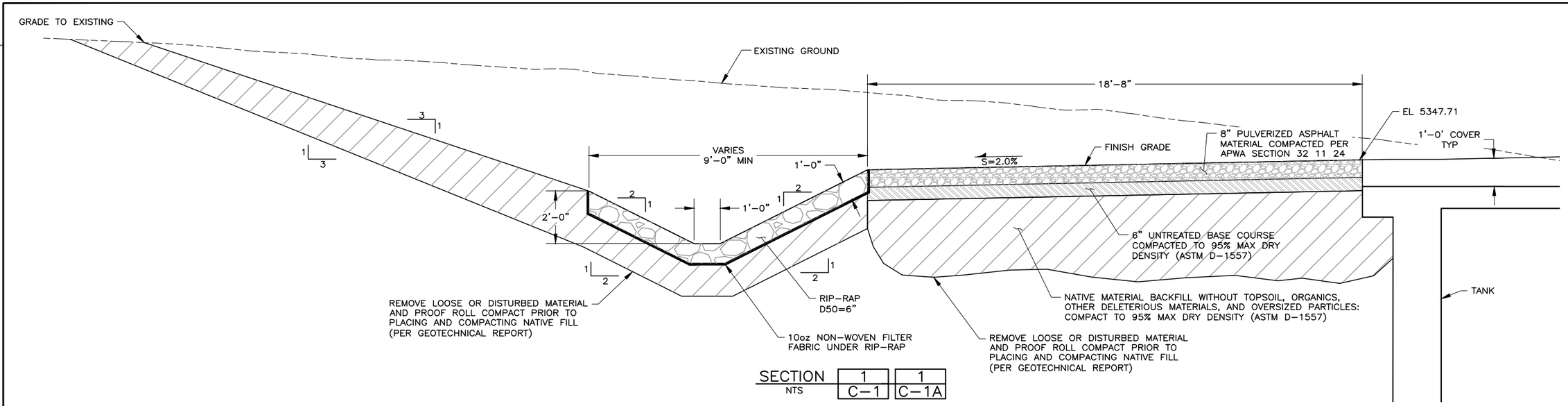
ZONES 7 & 8 – 8.4MG TANK
CIVIL
MISCELANIOUS DETAILS II

SHEET C–15

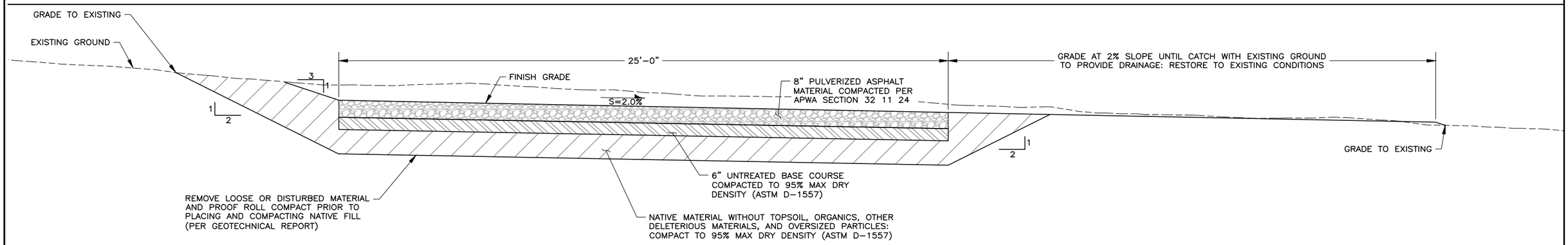
176.41.100

FILE NAME: PROJECTS\176 – SOUTH JORDAN CITY\41.100 SOUTH ZONE 7–8 TANK AND PIPELINE\CAD\C–15 MISC DETAILS II.DWG
FILE DATE: 7.15.2025 14:18:41 (DCL)

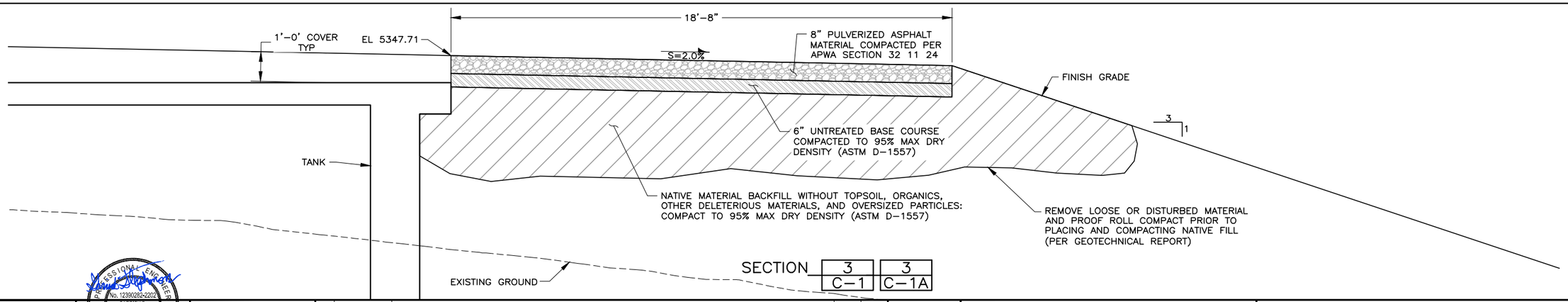
10/07



SECTION 1 | 1 / C-1 | C-1A
NTS



SECTION 2 | 2 / C-1 | C-1A
NTS



SECTION 3 | 3 / C-1 | C-1A

FILE NAME: PROJECTS\176 - SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\C-16 ACCESS ROAD DETAILS I.DWG
FILE DATE: 7.15.2025 14:21:32 (DCL)

HANSEN ALLEN & LUCE ENGINEERS

PROFESSIONAL ENGINEER No. 12390282-2202 GARRICK D. STEPHENSON 7-21-2025 STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS	3			
DRAFTED	GDS	2			
CHECKED	MEA	1	JULY 2025	ISSUED FOR BID	GDS / TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY / APVD.

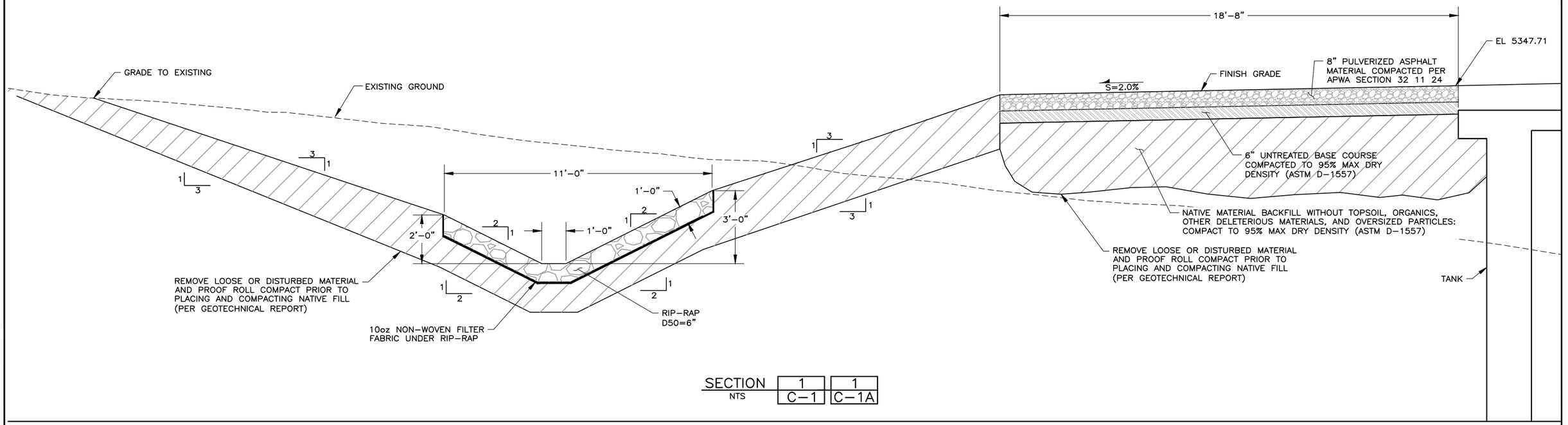
SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

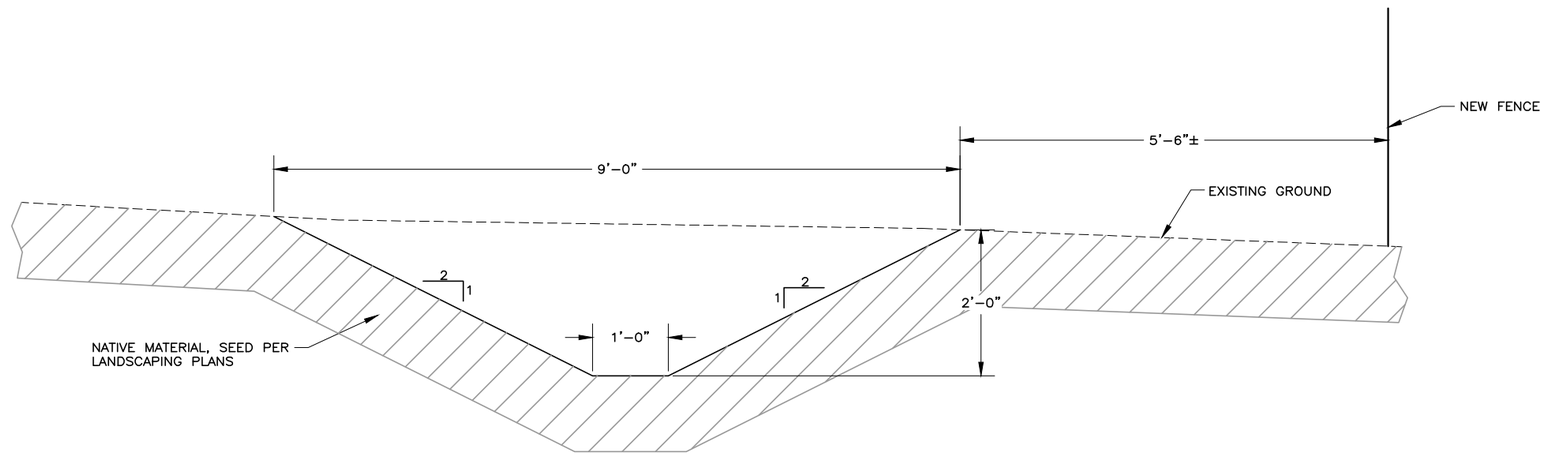
ZONES 7 & 8 – 8.4MG TANK
CIVIL
ACCESS ROAD DETAILS I

SHEET C-16
176.41.100

10/07



SECTION 1 / C–1 | 1 / C–1A
NTS



SECTION 2 / C–1 | 2 / C–1A
NTS

FILE NAME: PROJECTS\176 – SOUTH JORDAN CITY\41.100 SOUTH ZONE 7–8 TANK AND PIPELINE\CAD\C–16A ACCESS ROAD DETAILS II.DWG
FILE DATE: 7.15.2025 14:25:51 (DCL)

HANSEN ALLEN & LUCE ENGINEERS

PROFESSIONAL ENGINEER No. 12390282-2202 GARRICK D. STEPHENSON 7-21-2025 STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS	3				
DRAFTED	GDS	2				
CHECKED	MEA	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

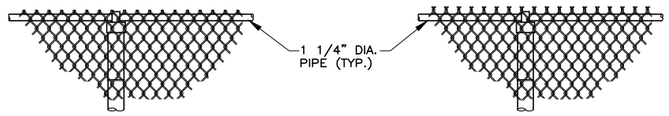
SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095
SOUTH JORDAN UTAH

ZONES 7 & 8 – 8.4MG TANK
CIVIL
ACCESS ROAD DETAILS II

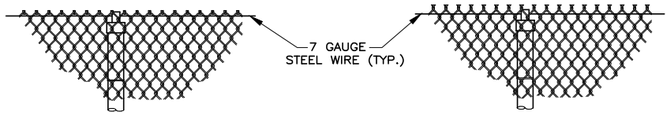
SHEET C–16A
176.41.100

10/07



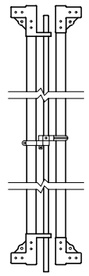
KNUCKLED SELVAGE
TYPE I

TWISTED & BARBED SELVAGE
TYPE II

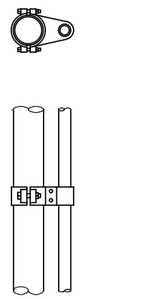


KNUCKLED SELVAGE WITH TENSION WIRE
TYPE III

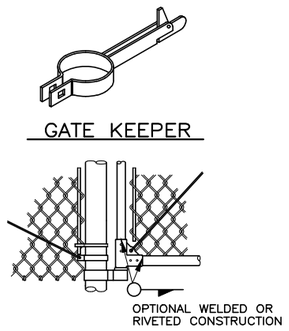
TWISTED & BARBED SELVAGE WITH TENSION WIRE
TYPE IV



DROP ROD ASSEMBLY

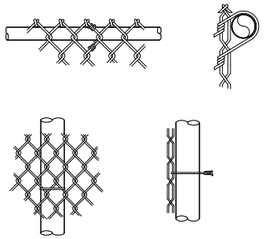


TOP GATE HINGE

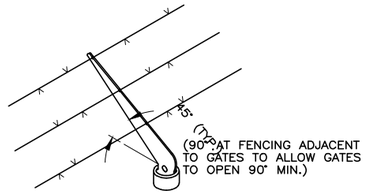


GATE KEEPER

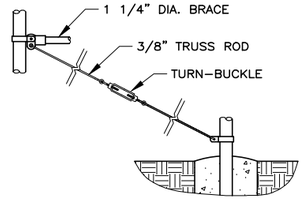
BOTTOM GATE HINGE AND GATE DETAIL



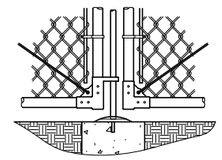
PIPE POST TIE



COMBINATION CAP AND BARBED WIRE SUPPORTING ARM



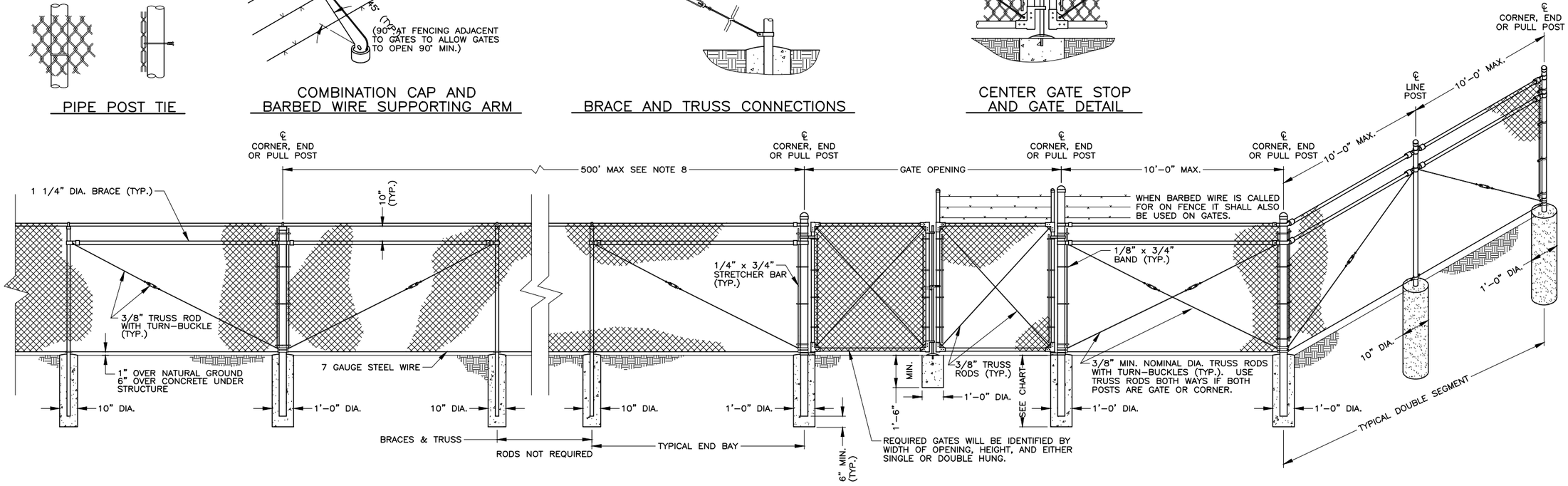
BRACE AND TRUSS CONNECTIONS



CENTER GATE STOP AND GATE DETAIL

NOTES:

1. MATERIALS, CONSTRUCTION, AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH PROJECT STANDARD SPECIFICATIONS.
2. USE TYPE II TOP SUPPORT.
3. BARB SIRE SHALL BE USED ONLY WHEN DESIGNATED ON THE PLANS OR IN THE SPECIFICATIONS.
4. TWISTED AND BARBED SELVAGE TOP AND BOTTOM SHALL BE USED ON FENCES 5–FEET HIGH OR GREATER.
5. KNUCKLED SELVAGE ON TOP AND TWISTED AND BARBED ON BOTTOM SHALL BE USED ON FENCES LESS THAN 5–FEET.
6. ALL STEEL PIPE MEMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION F 1083 SCHEDULE 40 HOT DIPPED ZINC COATED HIGH TENSILE STEEL PIPE OR TRIPLE COATED PIPE MADE FROM STEEL CONFORMING TO ASTM F 1043.
7. POSTS SHALL BE STEEL SCHEDULE 40 PIPE OR TRIPLE COATED HIGH TENSILE STEEL PIPE OF THE SIZE SHOWN IN THE CHART. WEIGHT IN POUNDS PER FOOT WITH A TOLERANCE OF 5%.
8. LINE POSTS SHALL BE LOCATED AT EQUAL SPACING FOR EACH SEGMENT WITH A MAXIMUM SPACING AS FOLLOWS:
   A. TANGENT SECTIONS TO 500–FOOT RADIUS NOT MORE THAN 10–FEET.
   B. UNDER 500–FOOT RADIUS TO 200–FOOT RADIUS NOT MORE THAN 8–FEET.
   C. UNDER 200–FOOT RADIUS TO 100–FOOT RADIUS NOT MORE THAN 6–FEET.
   D. UNDER 100–FOOT RADIUS NOT MORE THAN 5–FEET.
9. TRUSS RODS AND BRACES SHALL NOT BE REQUIRED FOR FABRIC HEIGHT LESS THAN 5–FEET.
10. TENSION WIRE SHALL BE 7 GAUGE ZINC– OR ALUMINUM–COATED COIL SPRING STEEL TENSION WIRE.
11. ALL PIPES, WIRES AND FABRICS TO BE BLACK VINYL COATED PVC.



HEIGHT	GATE OPENING	GATE POST	GATE FRAME
UNDER 6 FEET	SINGLE TO 6' OR DOUBLE TO 12'	2"	1"
	SINGLE OVER 6' TO 8' OR DOUBLE OVER 12' TO 16'	2 1/2"	1 1/2"
	SINGLE OVER 8' TO 12' OR DOUBLE 16' TO 24'	3 1/2"	
6 FEET AND OVER	SINGLE OVER 6' OR DOUBLE TO 12'	2 1/2"	1 1/2"
	SINGLE OVER 6' TO 12' OR DOUBLE OVER 12' TO 24'	3 1/2"	
	SINGLE OVER 12' TO 18' OR DOUBLE OVER 24' TO 36'	6"	
	SINGLE OVER 18' OR DOUBLE OVER 36'	8"	

CHAIN LINK FENCE | A | C–1

HEIGHT OF FABRIC	DEPTH OF POSTS	LENGTH OF END, CORNER OR PULL POST	LENGTH OF LINE POST HOLES	SIZE OF POSTS							
				END, CORNER, & PULL POSTS				LINE POST MIN. SIZE			
				NOM. SIZE	OUTSIDE DIA.	PIPE WEIGHT ASTM A–120	PIPE WEIGHT TRIPLE COATED	NOM. SIZE	OUTSIDE DIA.	PIPE WEIGHT ASTM A–120	PIPE WEIGHT TRIPLE COATED
7'	3'	10'	9'–8"	2 1/2"	2.875"	5.79	4.64	2"	2.375"	3.65	3.11
6'	3'	9'	8'–8"	2 1/2"	2.875"	5.79	4.64	2"	2.375"	3.65	3.11
5'	3'	8'	7'–8"	2"	2.375"	3.65	3.11	1 1/2"	1.900"	2.72	2.23
4'	3'	6'	5'–8"	2"	2.375"	3.65	3.11	1 1/2"	1.900"	2.72	2.23
3'	3'	5'	4'–8"	2"	2.375"	3.65	3.11	1 1/2"	1.900"	2.72	2.23

PROFESSIONAL ENGINEER — No. 12390282-2202 — GARRICK D. STEPHENSON — 7-21-2025 — STATE OF UTAH

PROJECT ENGINEER

DESIGNED	GDS, RCC	3				
DRAFTED	BKC	2				
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

SCALE: NOT TO SCALE

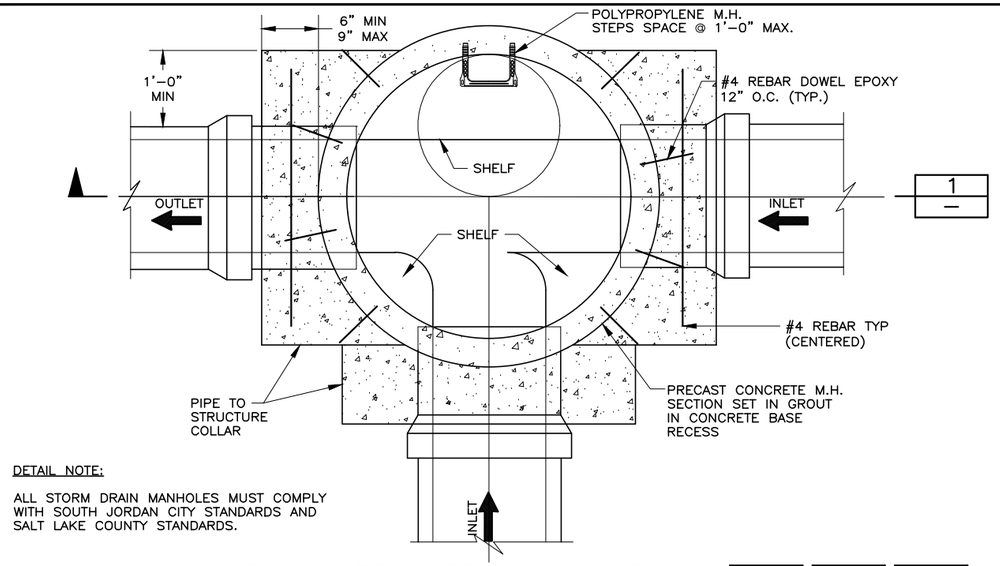
SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
CIVIL
CHAIN LINK FENCING & DETAILS

SHEET C–17
176.41.100

FILE NAME: PROJECTS\176 – SOUTH JORDAN CITY\41.100 SOUTH ZONE 7–8 TANK AND PIPELINE\CAD\C–17 CHAIN LINK FENCE DETAILS.DWG
FILE DATE: 7.15.2025 14:28:41 (DCL)

10/07

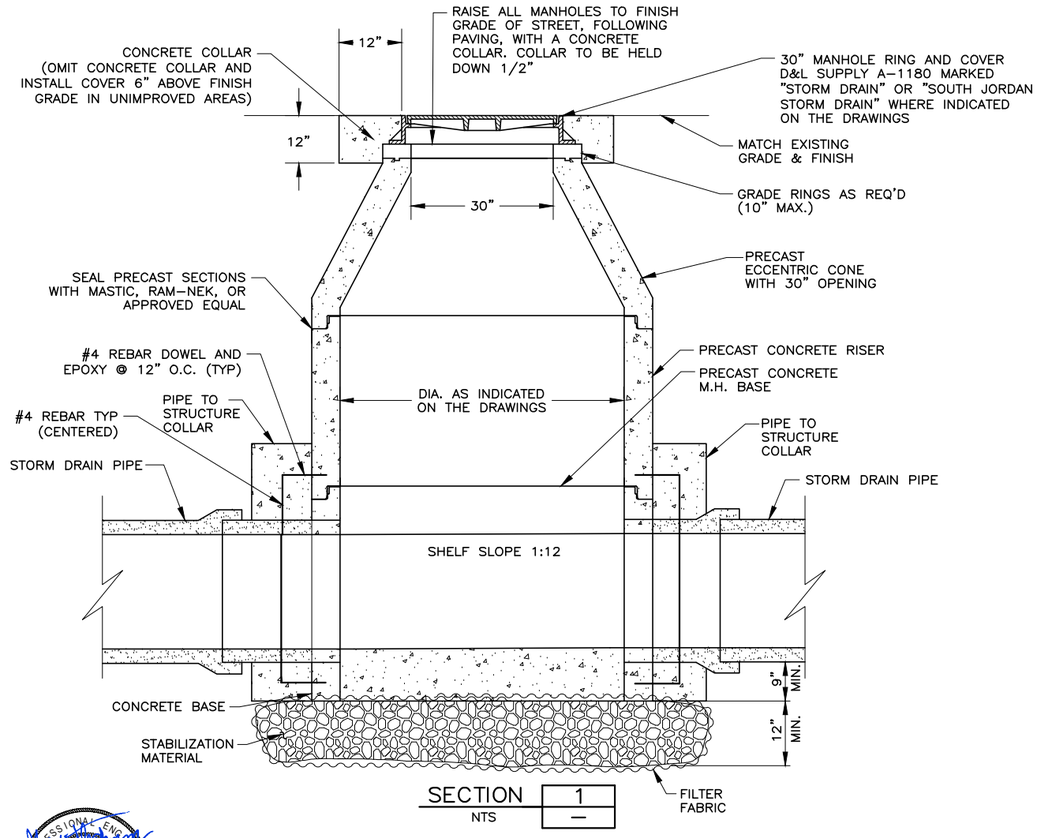


DETAIL NOTE:

ALL STORM DRAIN MANHOLES MUST COMPLY WITH SOUTH JORDAN CITY STANDARDS AND SALT LAKE COUNTY STANDARDS.

TYPICAL STORM DRAIN MANHOLE PLAN — NTS

A	A	A
C-1	C-1C	PP-5



SECTION 1 — NTS

PROFESSIONAL ENGINEER — No. 12390262-2202 — GARRICK D. STEPHENSON — 7-21-2025 — STATE OF UTAH

PROJECT ENGINEER

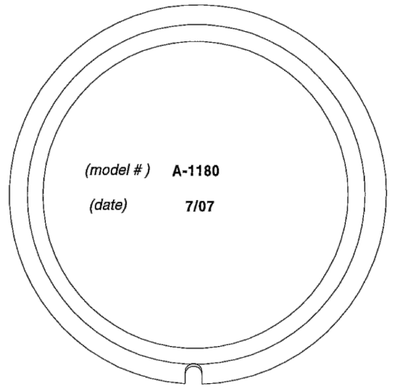
A-1180

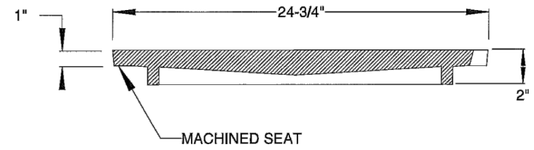
WITH UNIVERSAL HOLE

SOUTH JORDAN UTAH

Storm Drain Manhole Cover

(Platen-bottom cover)





COVER EXCEEDS A COMPRESSION TEST OF UP TO 50,000 LBS.

CAST IRON conforms to ASTM A-48-93 Class 35B Meets H-20 Wheel Loading	D&L model No. A-1180	D&L Foundry & Supply
Designation: A-1180 — Date: July 2007	Prepared by: Jesse Walker — D&L Foundry & Supply Inc. (not to scale) — WITH UNIVERSAL HOLE	CA Sales: (707) 557-4525 Fax: (707) 557-4655 UT Sales: (801) 785-5015 Fax: (801) 785-0835 WA Sales: (509) 765-7952 Fax: (509) 765-8124

FILE NAME: PROJECTS\176 - SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\C-18 STORM DRAIN DETAILS.DWG
FILE DATE: 7.15.2025 14:30:54 (DCL)

10/07

HANSEN ALLEN & LUCE Inc. ENGINEERS

DESIGNED	GDS, RCC	3					
DRAFTED	BKC	2					
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

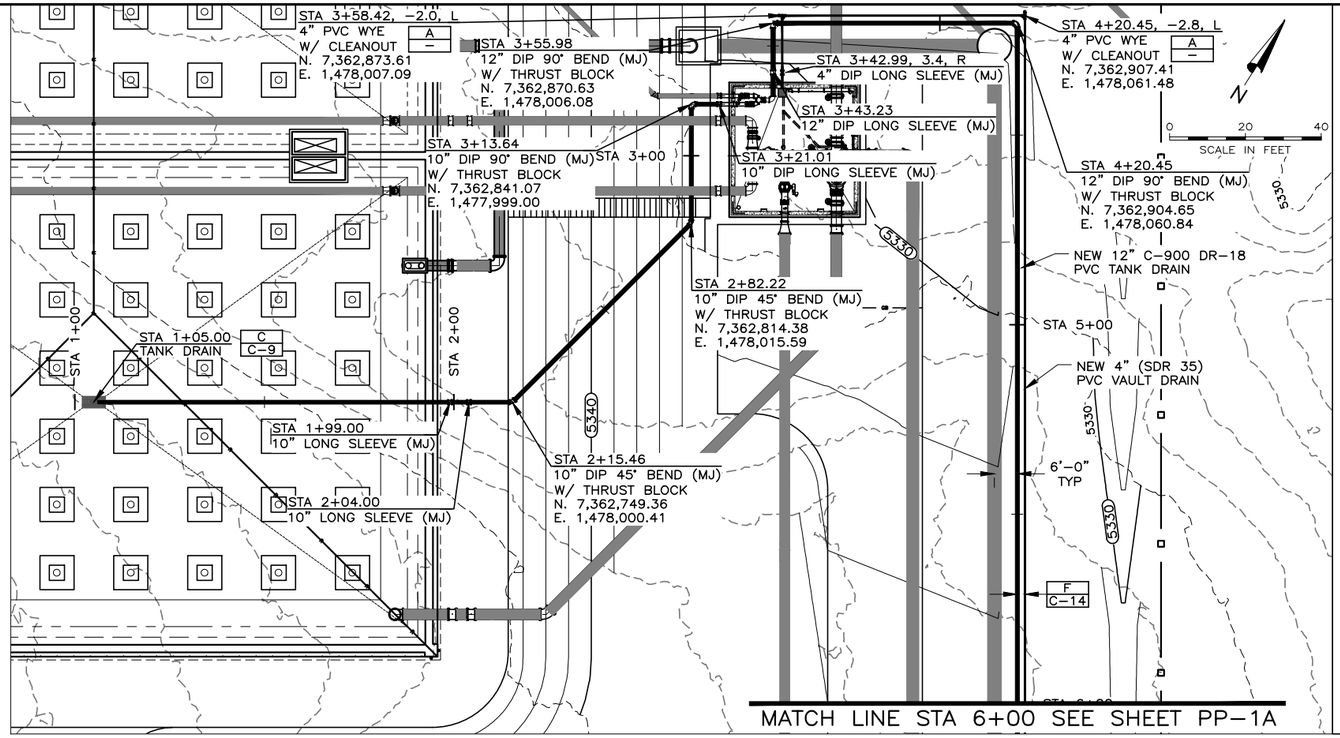
SCALE: NOT TO SCALE

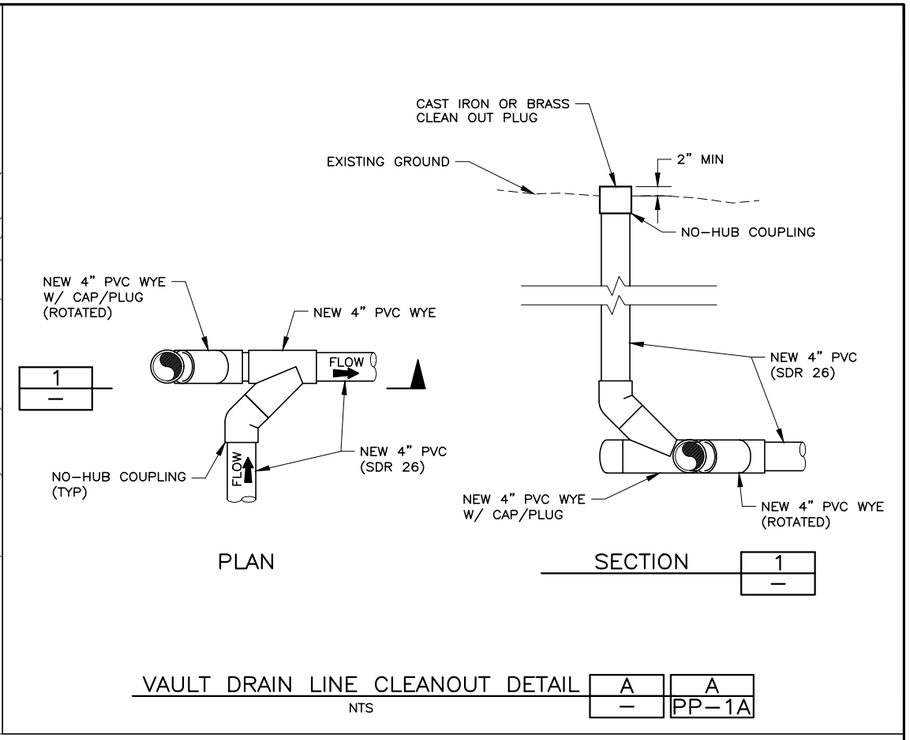
SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 — 8.4MG TANK
CIVIL
STORM DRAIN DETAILS

SHEET C-18

176.41.100



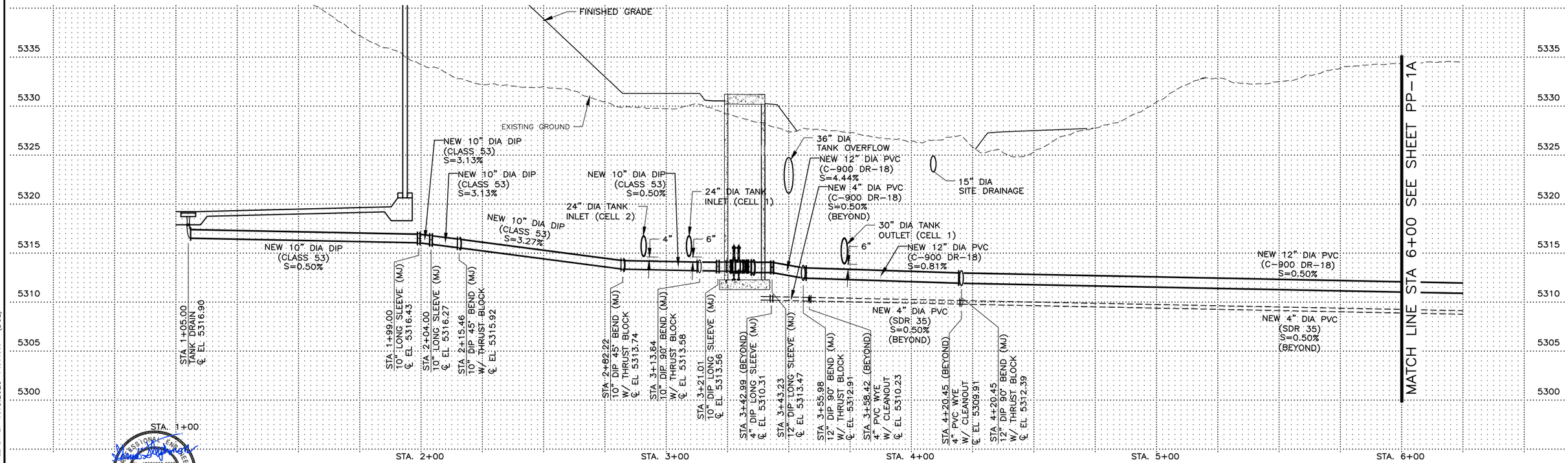


VAULT DRAIN LINE CLEANOUT DETAIL — NTS

A	A
—	PP-1A

NOTE: FOR LOCATIONS OF PIPE INSIDE OF TANK, SEE SHEET C-4

TANK DRAIN – CELL 2



HANSEN ALLEN & LUCE inc. ENGINEERS

PROFESSIONAL ENGINEER — No. 12390252-2202 — GARRICK D. STEPHENSON — 7-21-2025 — STATE OF UTAH — PROJECT ENGINEER

DESIGNED	GDS	3				
DRAFTED	GDS	2				
CHECKED	MEA	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

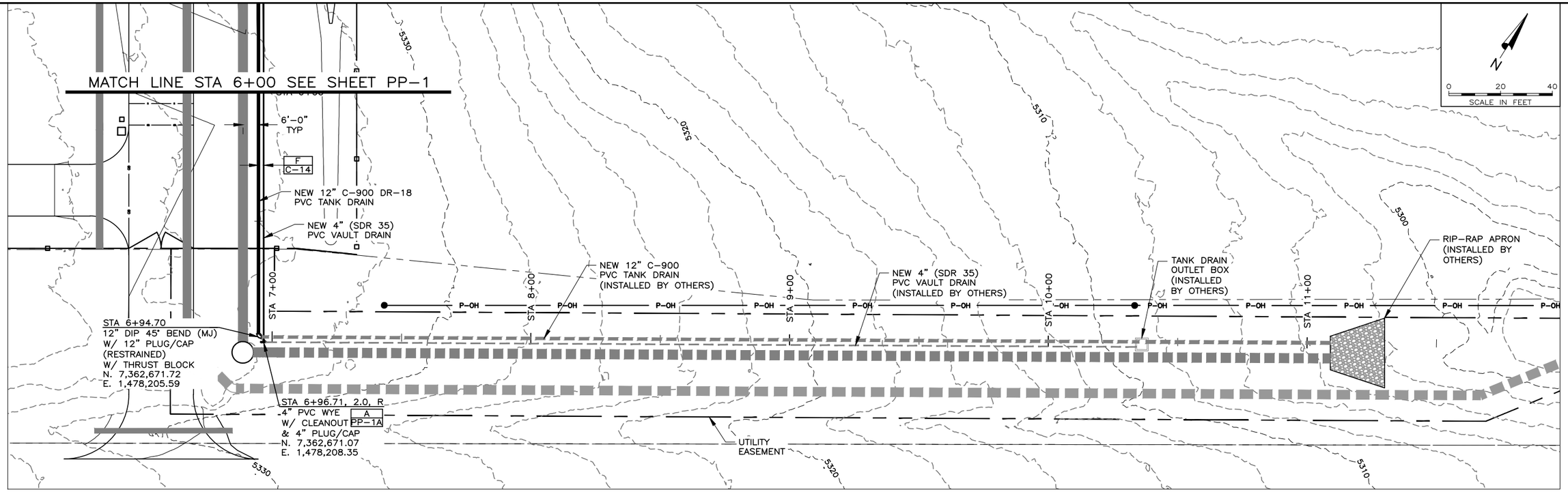
SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

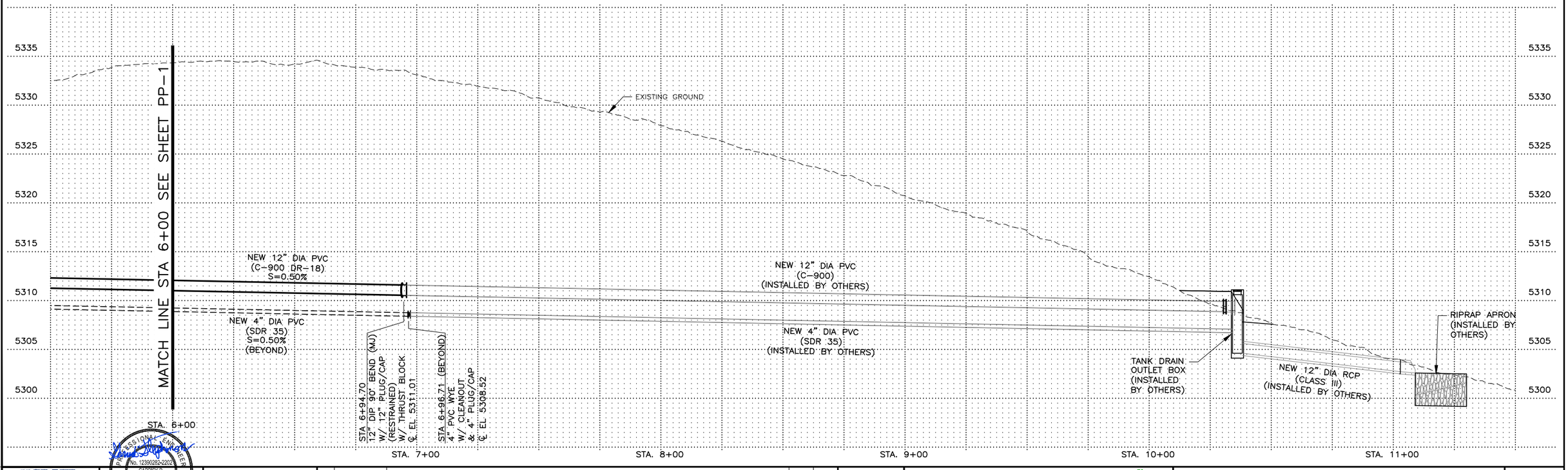
ZONES 7 & 8 – 8.4MG TANK
PLAN & PROFILE
TANK DRAIN (CELL 2)

SHEET: PP-1
176.41.100

10/07



TANK DRAIN



FILE NAME: PROJECTS\176 - SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\PP-1A TANK DRAINS-GRAVITY.DWG
FILE DATE: 7.15.2025 14:47:52 (DCL)

10/07

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROFESSIONAL ENGINEER — No. 12390282-2202 — GARRICK D. STEPHENSON — 7-21-2025 — STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS	3				
DRAFTED	GDS	2				
CHECKED	MEA	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

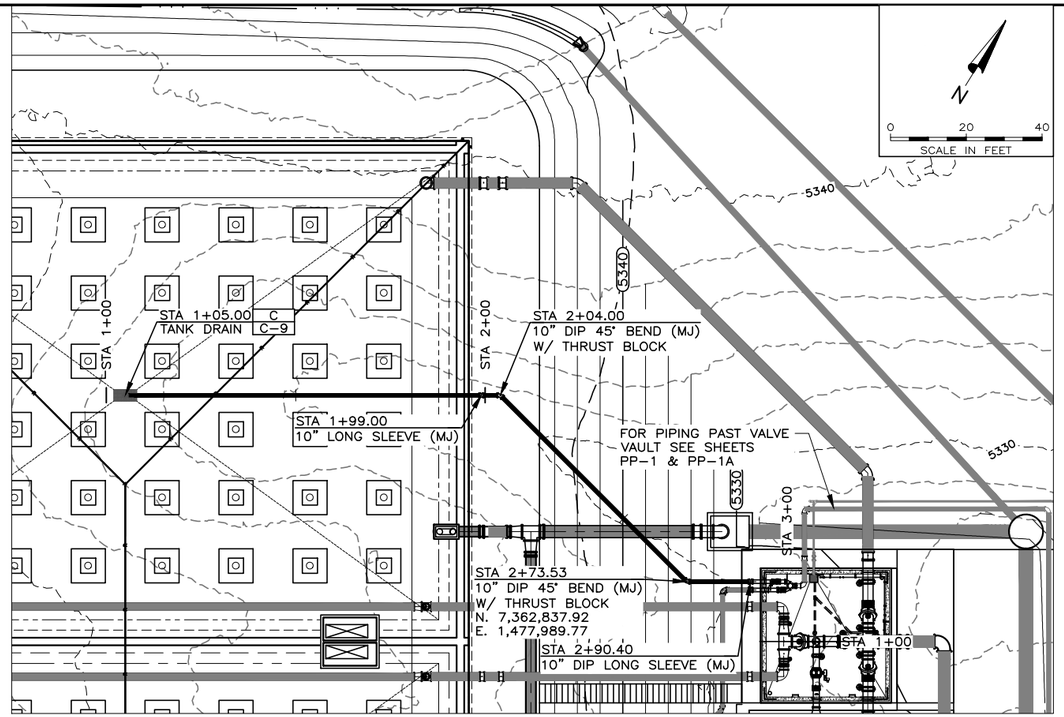
SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

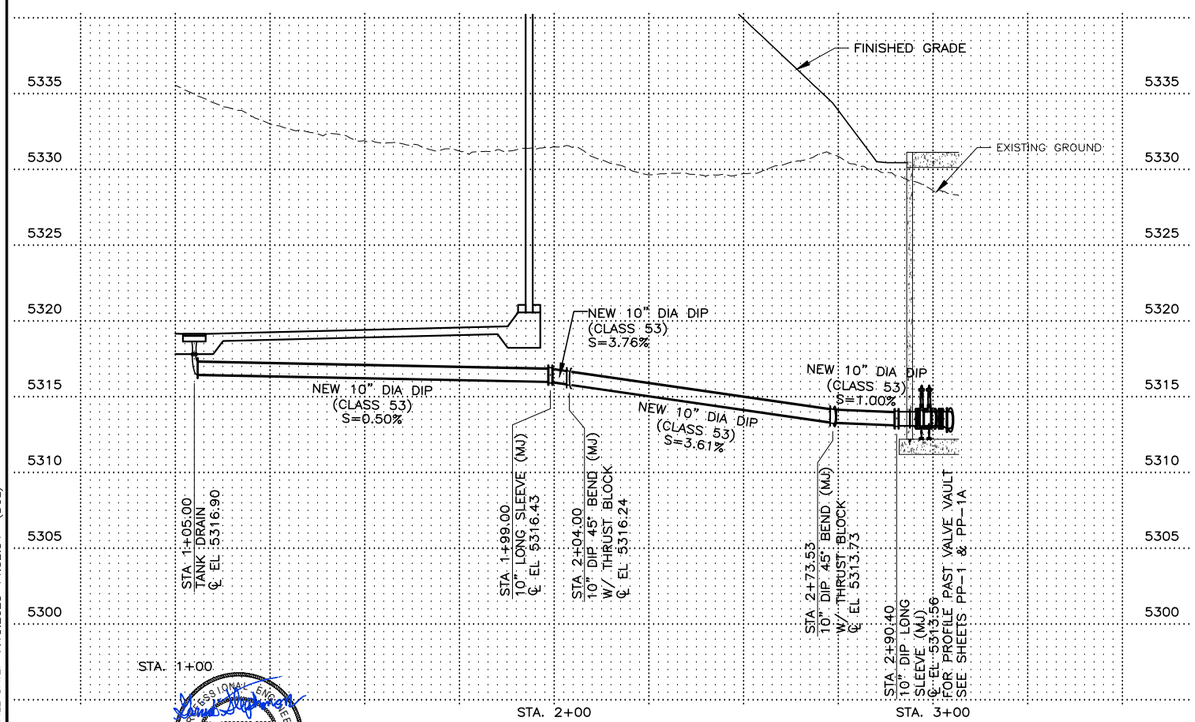
ZONES 7 & 8 – 8.4MG TANK
PLAN & PROFILE
TANK DRAIN

SHEET: PP-1A
176.41.100

NOTE: FOR LOCATIONS OF PIPE INSIDE OF TANK, SEE SHEET C-4



TANK DRAIN – CELL 1



FILE NAME: PROJECTS\176 – SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\PP-1B TANK DRAINS.DWG
FILE DATE: 7.15.2025 14:52:34 (DCL)

HANSEN ALLEN & LUCE ENGINEERS

PROFESSIONAL ENGINEER
No. 12390282-2202
GARRICK D. STEPHENSON
7-21-2025
STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS	3				
DRAFTED	GDS	2				
CHECKED	MEA	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

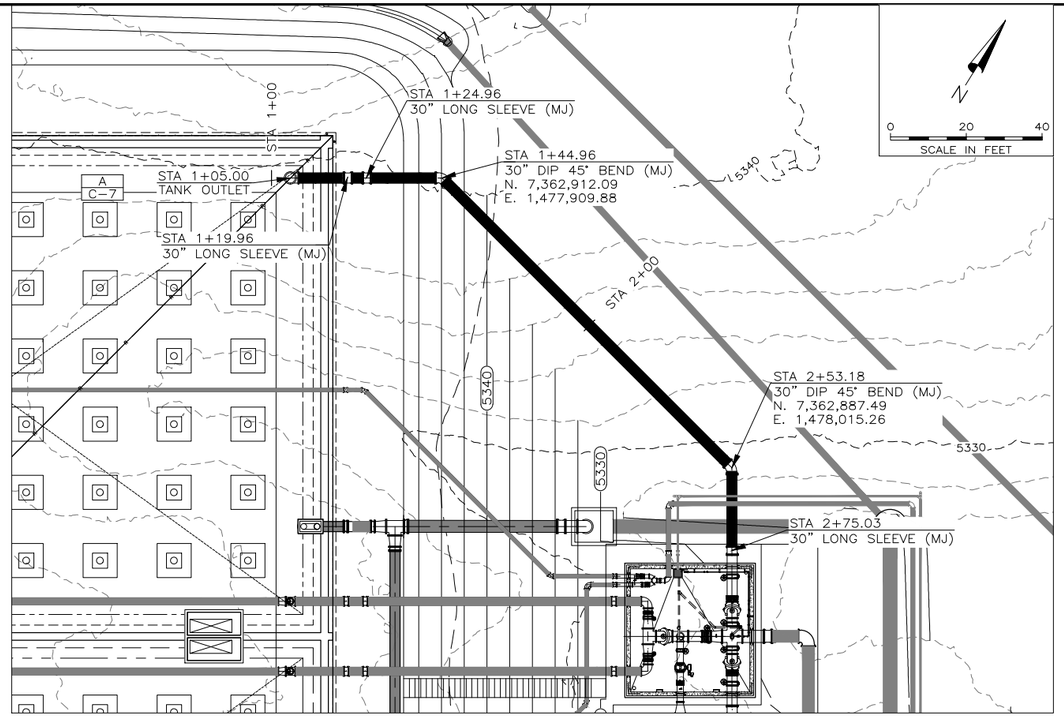
SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
PLAN & PROFILE
TANK DRAIN (CELL 1)

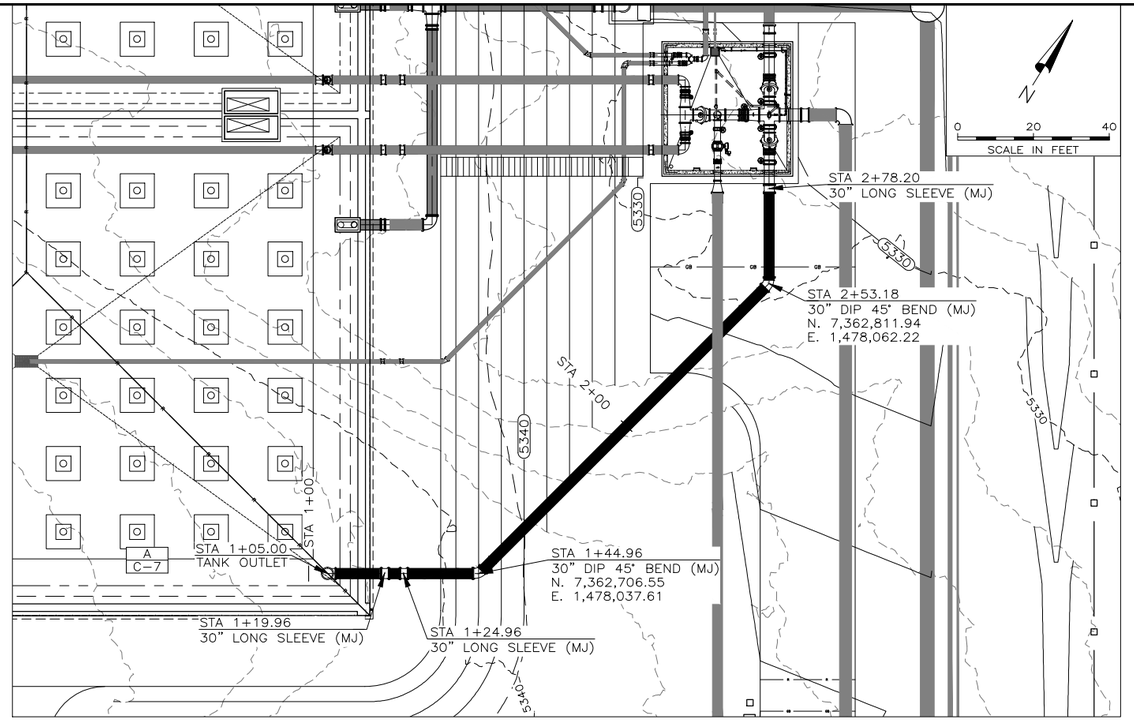
SHEET: PP-1B
176.41.100

10/07

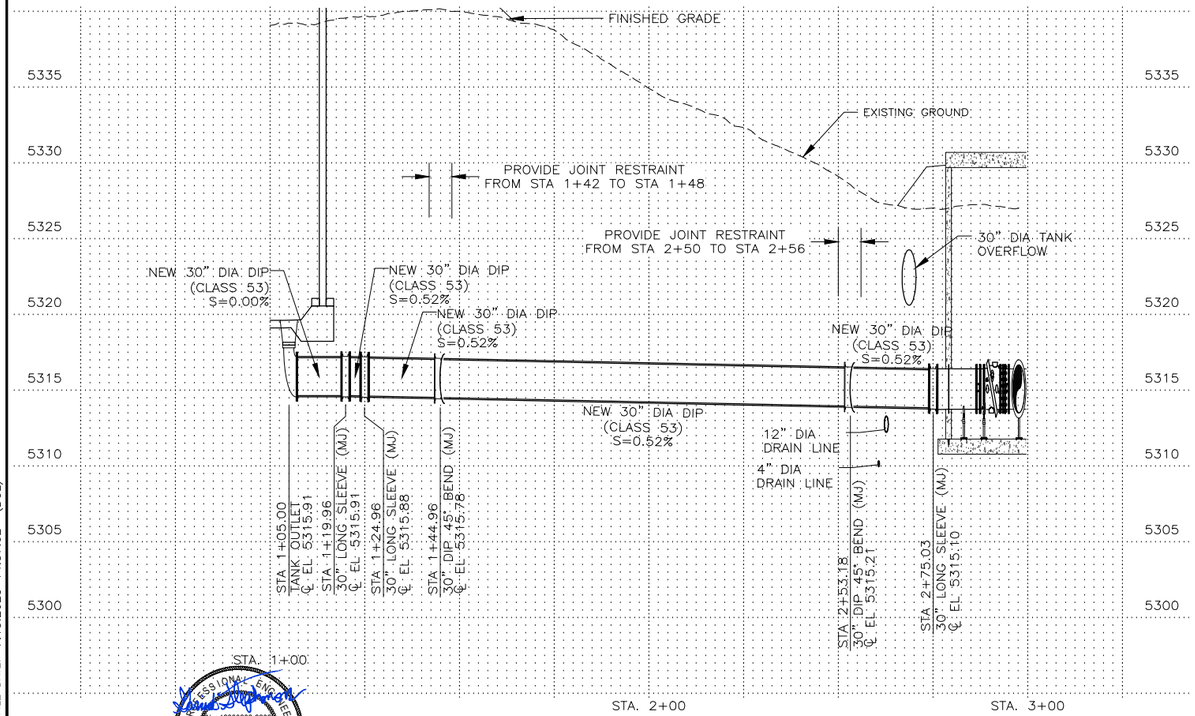


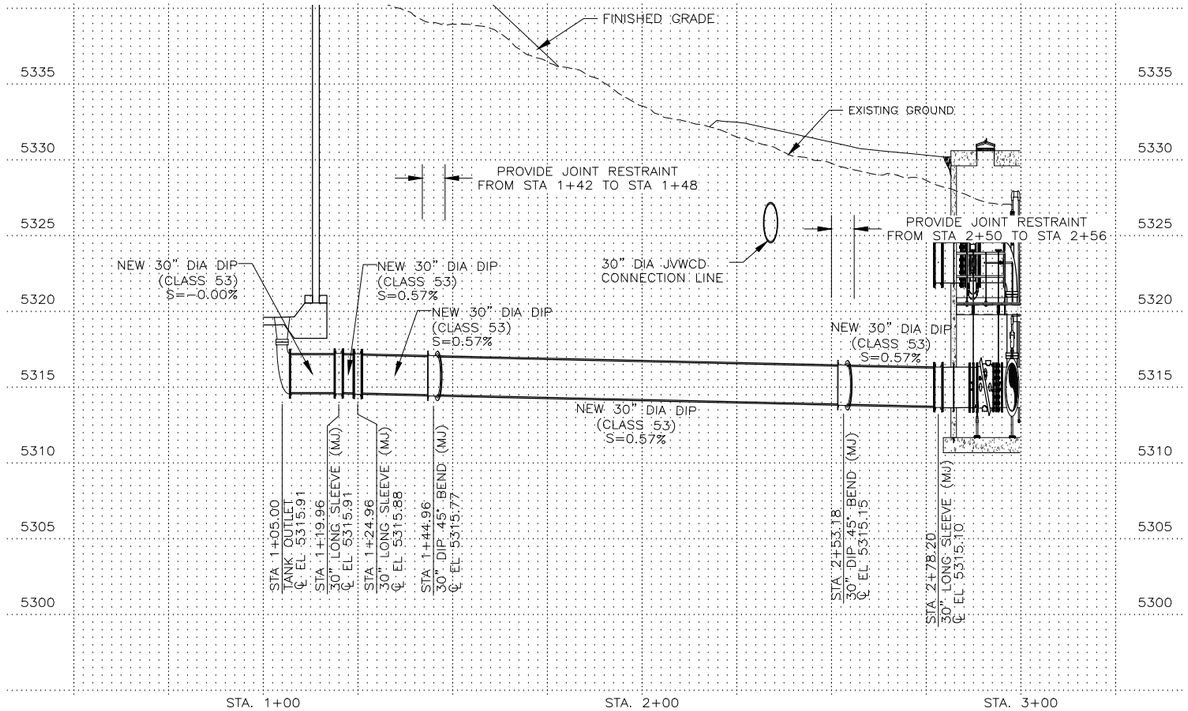
TANK OUTLET – CELL 1

NOTE: FOR LOCATIONS OF PIPE INSIDE OF TANK, SEE SHEET C-4



TANK OUTLET – CELL 2





FILE NAME: PROJECTS\176 – SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\PP-2 TANK OUTLETS.DWG
FILE DATE: 7.15.2025 14:57:02 (DCL)

10/07

HANSEN ALLEN & LUCE Inc ENGINEERS

PROFESSIONAL ENGINEER
No. 12390282-2202
GARRICK D. STEPHENSON
7-21-2025
STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS	3				
DRAFTED	GDS	2				
CHECKED	MEA	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

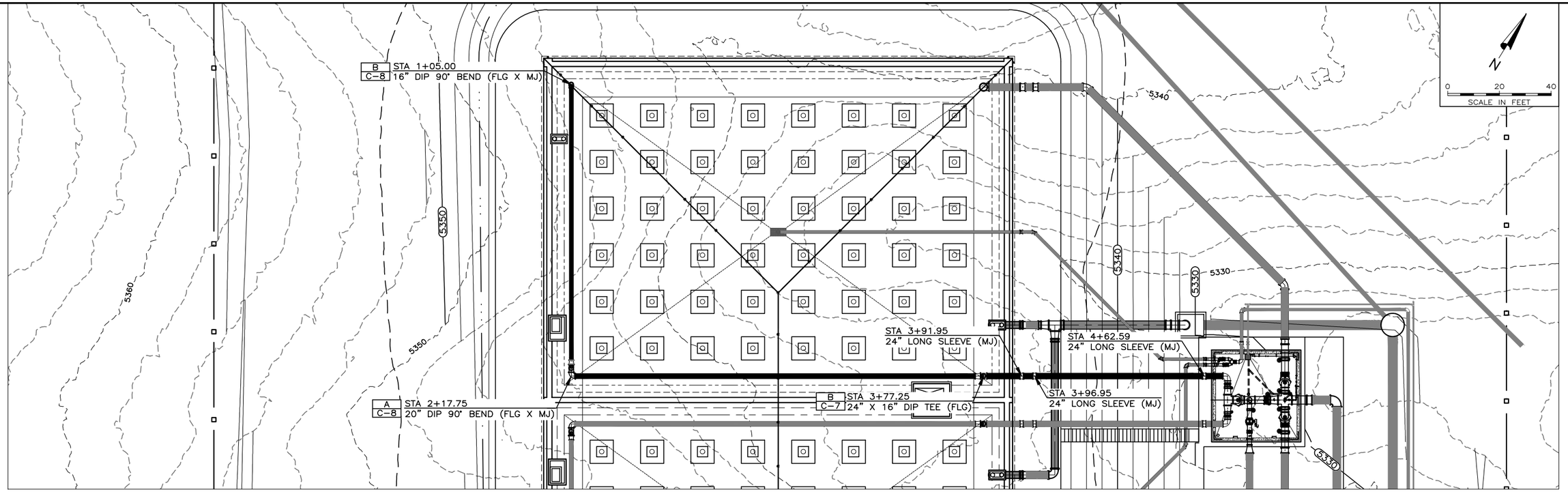
SCALE AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
PLAN & PROFILE
30" TANK OUTLET (CELLS 1 & 2)

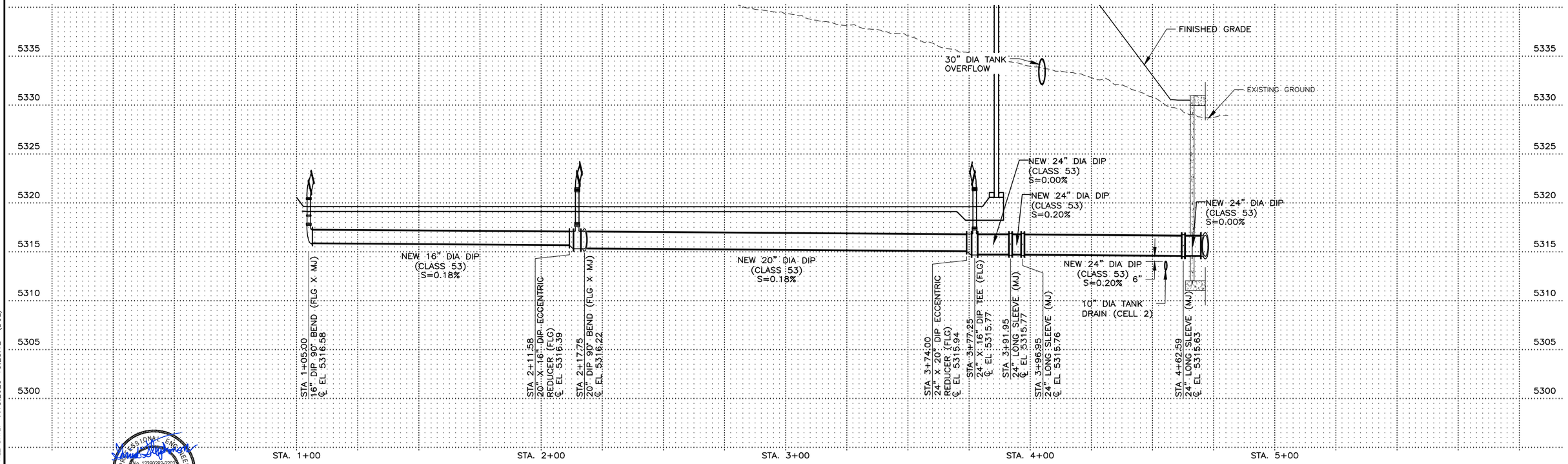
SHEET PP-2

176.41.100



TANK INLET – CELL 1

NOTE: FOR LOCATIONS OF PIPE INSIDE OF TANK, SEE SHEET C-4



FILE NAME: PROJECTS\176 – SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\PP-3 TANK INLET – NORTH.DWG
FILE DATE: 7.15.2025 15:28:12 (DCL)

10/07

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROFESSIONAL ENGINEER No. 12390282-2202 GARRICK D. STEPHENSON 7-21-2025 STATE OF UTAH
PROJECT ENGINEER

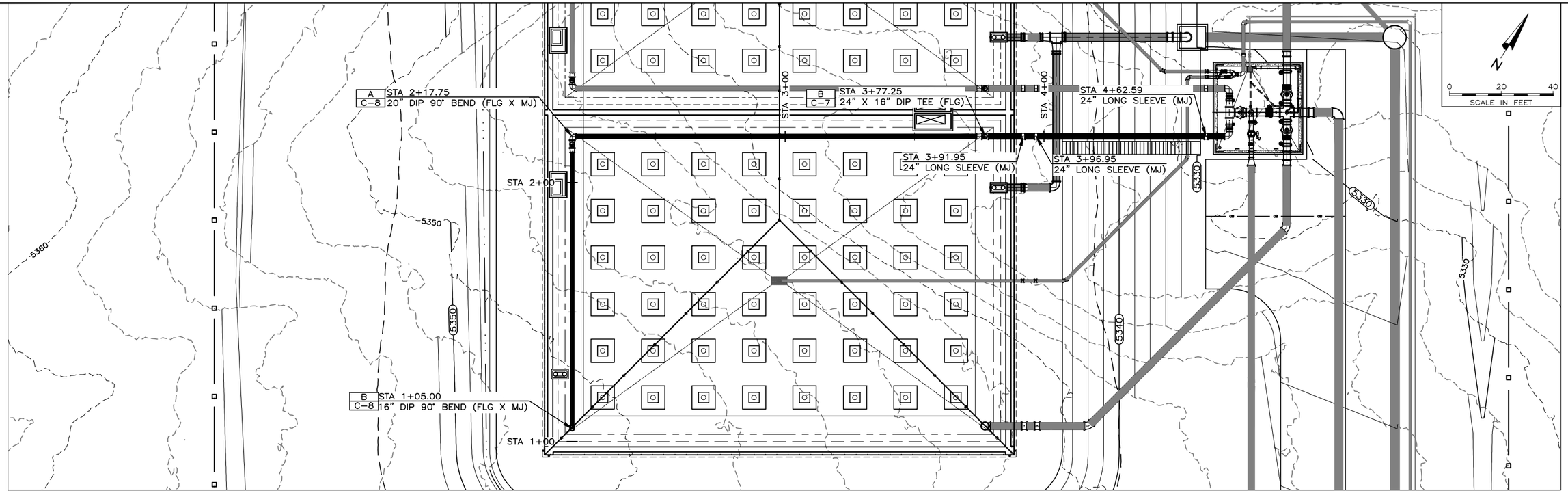
DESIGNED	GDS	3				
DRAFTED	GDS	2				
CHECKED	MEA	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

SCALE AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

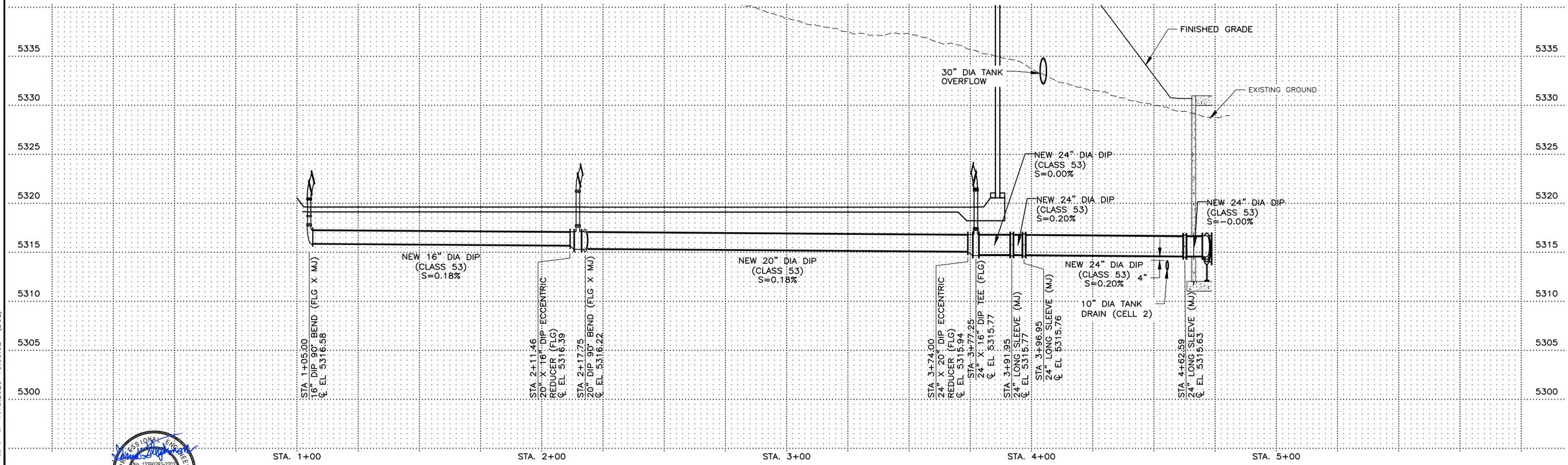
ZONES 7 & 8 – 8.4MG TANK
PLAN & PROFILE
TANK INLET (CELL 1)

SHEET PP-3
176.41.100



NOTE: FOR LOCATIONS OF PIPE INSIDE OF TANK, SEE SHEET C-4

TANK INLET – CELL 2



FILE NAME: PROJECTS\176 – SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\PP-4 TANK INLET – SOUTH.DWG
FILE DATE: 7.15.2025 15:05:02 (DCL)

PROFESSIONAL ENGINEER No. 12390282-2202 GARRICK D. STEPHENSON 7-21-2025 STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS	3				
DRAFTED	GDS	2				
CHECKED	MEA	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

HANSEN ALLEN & LUCE, Inc. ENGINEERS

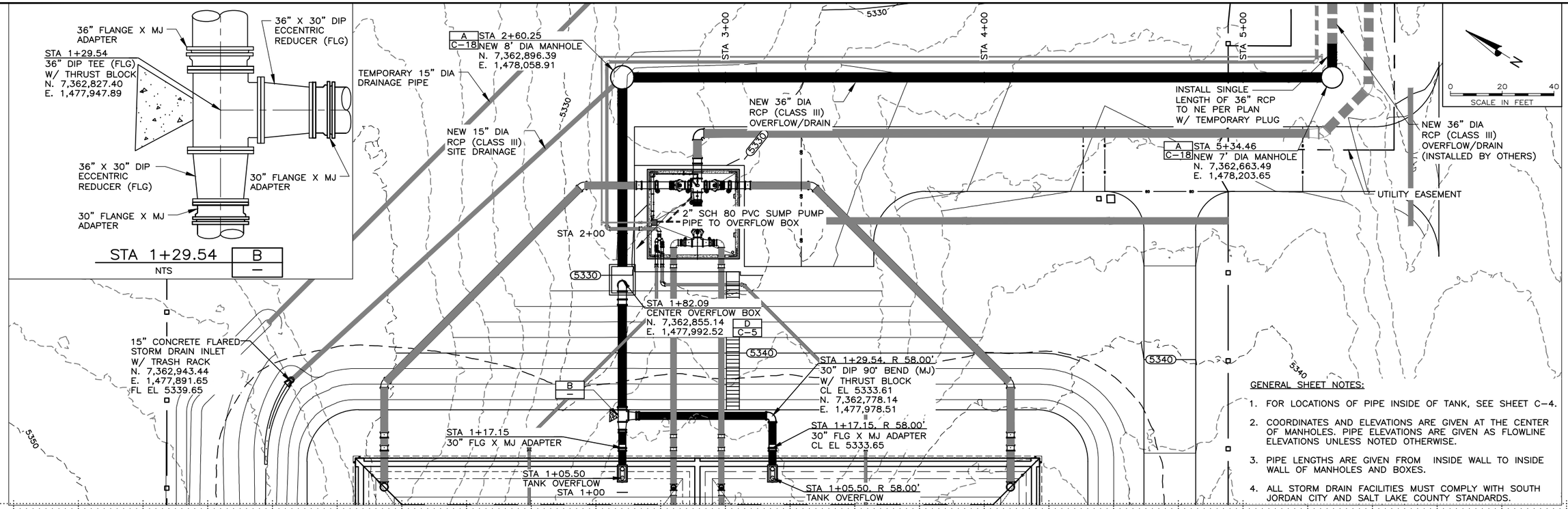
SCALE AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
PLAN & PROFILE
TANK INLET (CELL 2)

SHEET PP-4
176.41.100

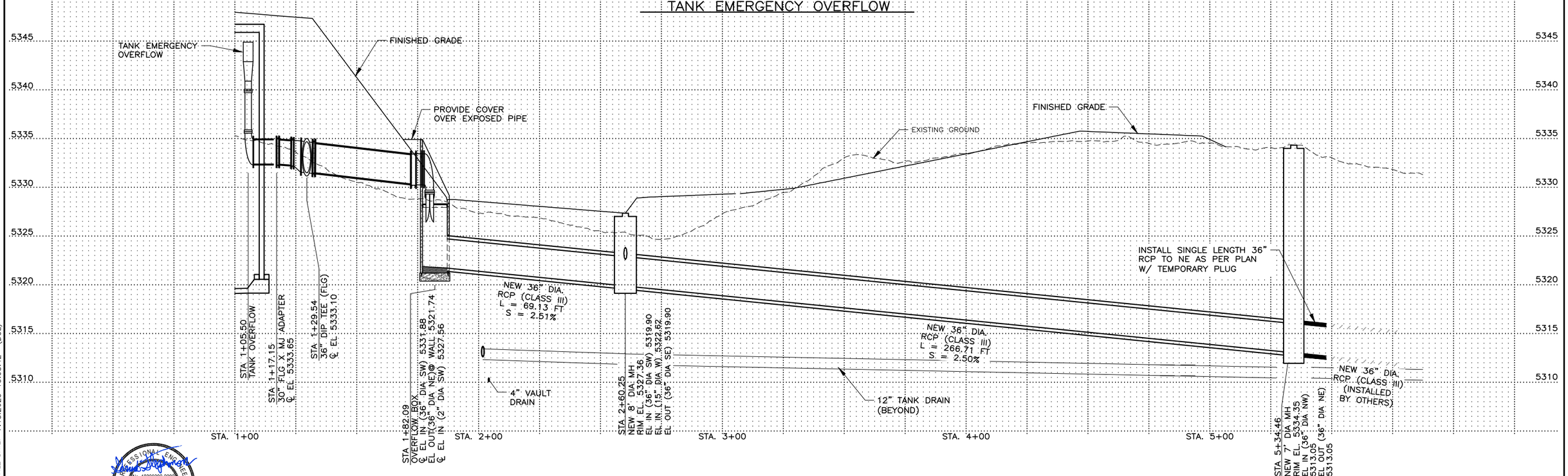
10/07



GENERAL SHEET NOTES:

1. FOR LOCATIONS OF PIPE INSIDE OF TANK, SEE SHEET C-4.
2. COORDINATES AND ELEVATIONS ARE GIVEN AT THE CENTER OF MANHOLES. PIPE ELEVATIONS ARE GIVEN AS FLOWLINE ELEVATIONS UNLESS NOTED OTHERWISE.
3. PIPE LENGTHS ARE GIVEN FROM INSIDE WALL TO INSIDE WALL OF MANHOLES AND BOXES.
4. ALL STORM DRAIN FACILITIES MUST COMPLY WITH SOUTH JORDAN CITY AND SALT LAKE COUNTY STANDARDS.

TANK EMERGENCY OVERFLOW



FILE NAME: PROJECTS\176 - SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\PP-5 TANK OVERFLOW & DRAIN 1.DWG
FILE DATE: 7.15.2025 15:08:42 (DCL)

10/07

HANSEN ALLEN & LUCE ENGINEERS

PROFESSIONAL ENGINEER — No. 12390282-2202 — GARRICK D. STEPHENSON — 7-21-2025 — STATE OF UTAH
PROJECT ENGINEER

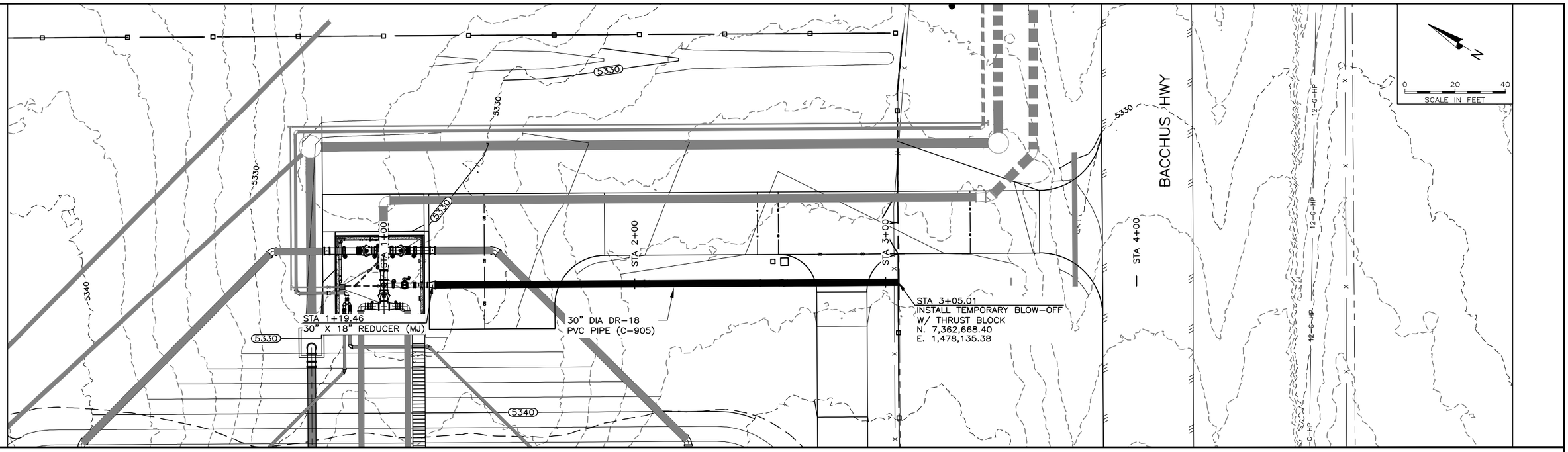
DESIGNED	GDS	3				
DRAFTED	GDS	2				
CHECKED	MEA	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095
SOUTH JORDAN CITY OF TRUST

ZONES 7 & 8 – 8.4MG TANK
PLAN & PROFILE
TANK OVERLOW

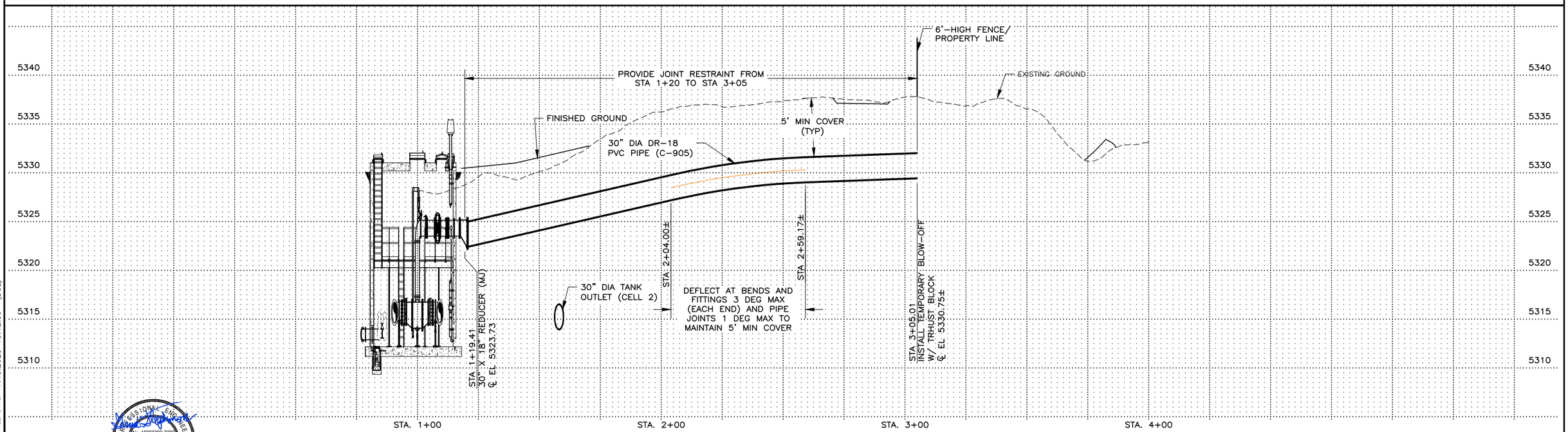
SHEET: PP-5
176.41.100



GENERAL SHEET NOTES:

1. CONTRACTOR SHALL POT HOLE UTILITIES AT ALL CROSSINGS SUFFICIENTLY IN ADVANCE OF LAYING PIPE TO ALLOW ADJUSTMENTS OF NEW PIPELINE GRADE TO AVOID CONFLICTS.
2. DEFLECTIONS IN PVC JOINTS SHALL NOT EXCEED 1.0 DEGREE OR MANUFACTURER'S PUBLISHED DEFLECTION.

FUTURE CONNECTION FROM JORDAN VALLEY WATER CONSERVANCY DISTRICT



FILE NAME: PROJECTS\176 - SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\PP-6 JVWCD CONNECTION LINE.DWG
FILE DATE: 7.15.2025 15:12:39 (DCL)

HANSEN ALLEN & LUCE ENGINEERS

PROFESSIONAL ENGINEER — No. 12390282-2202 — GARRICK D. STEPHENSON — 7-21-2025 — STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS	3				
DRAFTED	GDS	2				
CHECKED	MEA	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

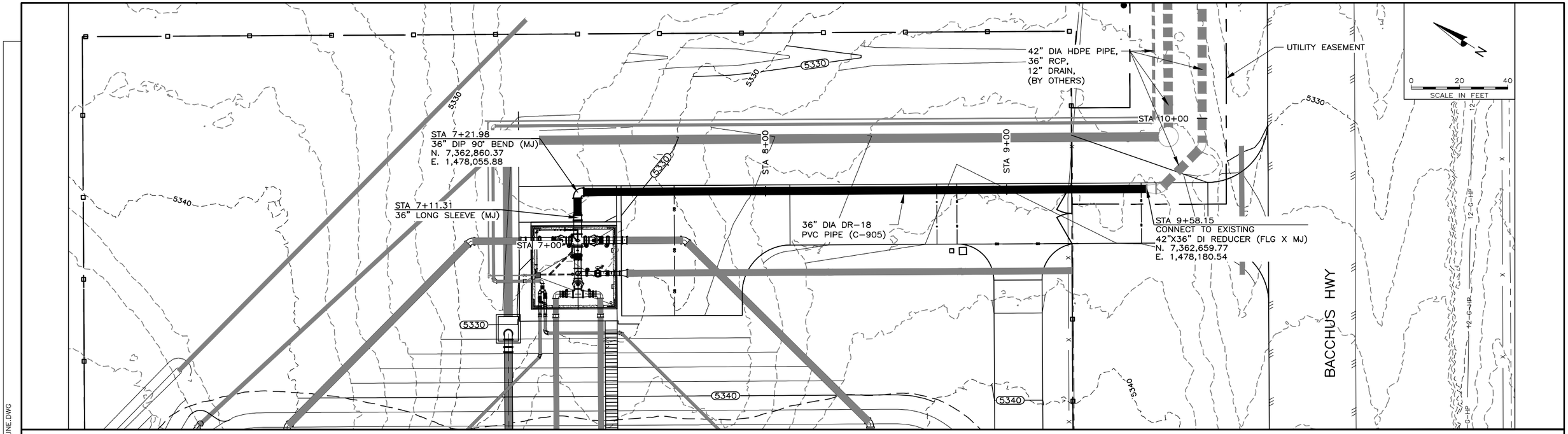
SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
PLAN & PROFILE
JVWCD CONNECTION LINE

SHEET: PP-6
176.41.100

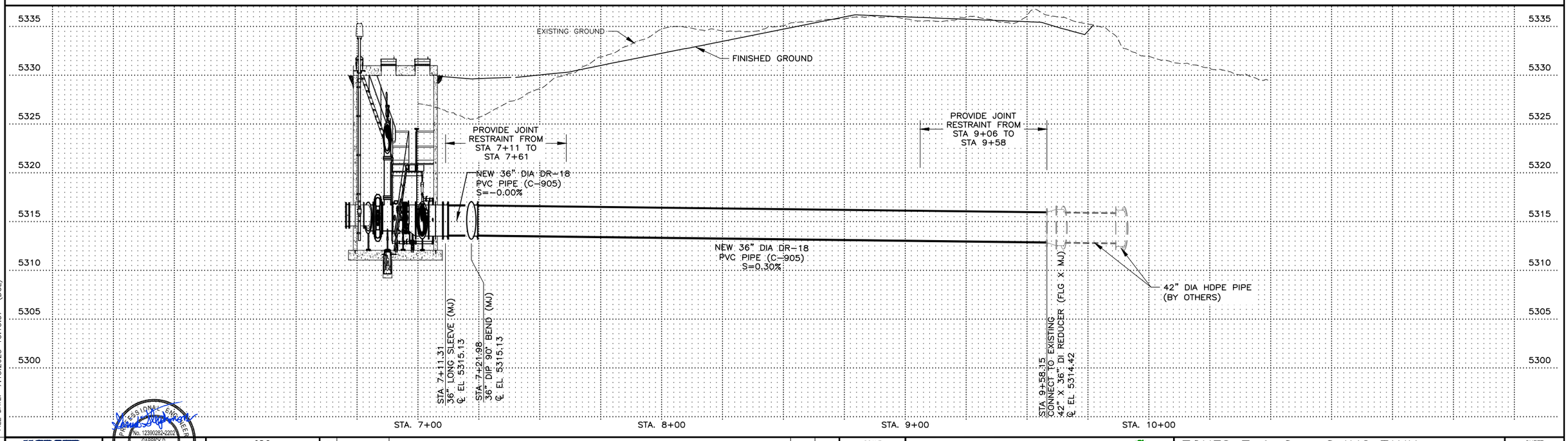
10/07



GENERAL SHEET NOTES:

1. CONTRACTOR SHALL POT HOLE UTILITIES AT ALL CROSSINGS SUFFICIENTLY IN ADVANCE OF LAYING PIPE TO ALLOW ADJUSTMENTS OF NEW PIPELINE GRADE TO AVOID CONFLICTS.
2. DEFLECTIONS IN PVC JOINTS SHALL NOT EXCEED 1.0 DEGREE OR MANUFACTURER'S PUBLISHED DEFLECTION.

TANK TRANSMISSION PIPELINE



FILE NAME: PROJECTS\176.41.100 SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\PP-7 TANK TRANSMISSION LINE.DWG
FILE DATE: 7.15.2025 15:15:57 (DCL)

HANSEN ALLEN & LUCE inc. ENGINEERS

PROFESSIONAL ENGINEER No. 12390282-2202 GARRICK G. STEPHENSON 7-21-2025 STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS	3				
DRAFTED	GDS	2				
CHECKED	MEA	1	JULY 2025	ISSUED FOR BID	GDS	TGA
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
PLAN & PROFILE
TANK TRANSMISSION LINE

SHEET PP-7
176.41.100

10/07

GENERAL STRUCTURAL NOTES

GENERAL NOTES:

1. CONTRACTOR AND SUB-CONTRACTORS SHALL PROVIDE SUFFICIENT SKILLED WORKMEN AND SUPERVISORS WHO SHALL BE PRESENT AT ALL TIMES DURING EXECUTION OF THE WORK. A PROJECT MANAGER, SHALL BE ASSIGNED BY CONTRACTOR, AND SHALL BE RESPONSIBLE FOR THE DAILY COORDINATION OF THE PROJECT AND SHALL MAINTAIN ALL REQUIRED DRAWINGS, SPECIFICATIONS, REPORTS, AND OTHER ITEMS FOR REVIEW AT THE SITE.
2. ALL CONSTRUCTION SHALL BE ACCORDING TO THE 2021 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC) AS AMENDED BY THE STATE OF UTAH.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF AND SAFETY IN AND AROUND THE JOB SITE AND/OR ADJACENT PROPERTIES.
4. CONTRACTOR AND/OR OWNER SHALL KEEP LOADS ON THE STRUCTURE WITHIN THE LIMITS OF THE DESIGN LOADS BOTH DURING AND AFTER CONSTRUCTION.

DESIGN CRITERIA

1. RISK CATEGORY: IV
2. IMPORTANCE FACTOR, I_e : 1.20
3. IMPORTANCE FACTOR, I_e : 1.50
4. WIND SPEED (3 SECOND GUST): 115 MPH;
   EXPOSURE: "B"
5. SEISMIC DESIGN CATEGORY: "D"

SITE CLASS:	"C"
Ss :	0.860g
Fa:	1.2
Sds:	0.688g
S :	0.470g
Fv:	1.5
Sd :	0.470g
R :	5
Ω :	2.5
Cd:	3.5
SEISMIC SNOW CONTRIBUTION	9 PSF

6. TANK ROOF LOADS: 100 PSF (8" ROOF SLAB)
   125 PSF (1'-0" SOIL)
   50 PSF (LIFE LOAD)
   52 PSF (GROUND SNOW LOAD)
7. VAULT ROOF LOADS: 150 PSF (12" ROOF SLAB)
   10 PSF (MISC EQUIP)
   60 PSF (LIVE LOAD)
   52 PSF (GROUND SNOW LOAD)
8. SOILS REPORT PROVIDED BY: AGEC RPT #1210477
9. ALLOWABLE SOIL BEARING PRESSURE: 2500 PSF (NATIVE)
   3500 PSF (ON 2' STRUCTURAL FILL OR NATURAL GRAVEL)
10. COEFFICIENT OF FRICTION (u): 0.4

AT-REST PRESSURE:	65 PSF
AT-REST SEISMIC INCREASE:	12 PSF
ACTIVE PRESSURE:	50 PSF
ACTIVE SEISMIC INCREASE:	27 PSF
PASSIVE PRESSURE:	250 PSF
PASSIVE SEISMIC DECREASE:	27 PSF

STRUCTURAL NOTES:

REINFORCED CONCRETE:

1. ALL CONCRETE CONSTRUCTION, INCLUDING BENDING OF BARS, SHALL COMPLY WITH ACI "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318).
2. UNLESS CALLED OUT OTHERWISE ON THE PLANS, MINIMUM REINFORCEMENT OF CONCRETE FOR PUMP STATION WORK SHALL BE:
   WALLS:
   8" THICK OR LESS - USE #5 @ 16" E.W.
   9" OR THICKER - USE #5 @ 12" E.W., E.F.
   SLABS:
   8" THICK OR LESS - USE #4 @ 16" E.W.
3. ALL WALL REINFORCEMENT AT CORNERS OR JUNCTIONS OF WALLS SHALL BE CONTINUOUS, LAPPED, OR TERMINATED IN A STANDARD 90 DEGREE HOOK. LAP SPLICES SHALL CONFORM WITH NOTE 6.
4. UNLESS SHOWN OTHERWISE ALL BARS SHALL BE DOWELED. DOWELS SHALL BE THE SAME SIZE AND SPACING AS THE REINFORCEMENT WHICH IS TO BE SPLICED TO THE DOWELS.
5. ALL REINFORCING BARS SHALL BE GRADE 60 AND SHALL CONFORM TO ASTM A-615, CURRENT REVISION. REINFORCING STEEL SHALL BE NEW AND FREE FROM RUST, OIL OR OTHER BOND INHIBITOR.
6. ALL CONTINUOUS REINFORCING BARS SHALL LAP PER LAP LENGTH MINIMUM GIVEN. SPLICES SHALL BE MADE AWAY FROM POINTS OF MAXIMUM STRESS.

   LAP LENGTHS: 60 BAR DIAMETER FOR TANK ROOF REINFORCEMENT (EPOXY COATED)
   40 BAR DIAMETER FOR ALL OTHER LOCATIONS
   NOTE: 18" MIN LAP LENGTH REQUIRED.

7. CONCRETE COVER OVER REINFORCEMENT SHALL BE AS FOLLOWS:
   7.1. SURFACE NOT EXPOSED DIRECTLY TO THE GROUND, WATER OR WEATHER AFTER FORM REMOVAL:
   CONCRETE SLABS IN BUILDINGS - - - - - 3/4"
   7.2. CONCRETE SLABS IN WATER BEARING SURFACES EXPOSED DIRECTLY TO THE GROUND, WATER OR WEATHER AFTER FORM REMOVAL:
   FOR #5 BARS OR SMALLER- - - - - 1-1/2"
   FOR #6 BARS OR LARGER- - - - 2"
   7.3. CONCRETE PLACED DIRECTLY AGAINST GROUND - - - - 3"
   7.4. REINFORCEMENT SHALL BE PLACED WITHIN A TOLERANCE OF ±1/4" OF POSITION SPECIFIED.
8. CONCRETE CURING SHALL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. SOME CONCRETE WORK REQUIRES WATER CURING, AS MEMBRANE CURING IS NOT ALLOWED. CONTRACTOR IS WARNED THAT WATER CURING IS DIFFICULT AT TIMES DUE TO WIND AND DRY CONDITIONS. CONTRACTOR SHALL STUDY REQUIREMENTS AND SHALL FURNISH ADEQUATE SYSTEMS TO PROVIDE WATER CURING WHERE REQUIRED. TOP OF WALLS SHALL BE KEPT VISIBLY MOIST AT ALL TIMES AND SHALL BE FLOODED NOT LESS THAN THREE TIMES DAILY.

REINFORCED CONCRETE CONT.

A. FOR POURING CONCRETE DURING COLD WEATHER:
   1. FOLLOW RECOMMENDATIONS CONTAINED IN PUBLICATION ACI 306R "COLD-WEATHER CONCRETING," CURRENT REVISION.
   2. PROTECT CONCRETE WORK FROM PHYSICAL DAMAGE OR REDUCED STRENGTH WHICH COULD BE CAUSED BY FROST, FREEZING ACTIONS OR LOW TEMPERATURES.
   3. WHEN AIR TEMPERATURE HAS FALLEN TO OR IS EXPECTED TO FALL BELOW 40°F OR 4°C, UNIFORMLY HEAT WATER AND AGGREGATES BEFORE MIXING TO OBTAIN A CONCRETE MIXTURE TEMPERATURE OF NOT LESS THAN 50°F OR 10°C, AND NOT MORE THAN 80°F OR 27°C AT TIME OF PLACEMENT. CONCRETE SHALL BE AIR ENTRAINED WITH AIR CONTENT OF 6% +/- 1% BY VOLUME.
   4. CONCRETE SHALL BE AIR ENTRAINED WITH AIR CONTENT OF 6% +/- 1% BY VOLUME.
   5. DO NOT USE FROZEN MATERIALS OR MATERIALS CONTAINING ICE OR SNOW. DO NOT PLACE CONCRETE ON FROZEN SUBGRADE OR ON SUBGRADE CONTAINING FROZEN MATERIALS.
   6. DO NOT USE CALCIUM CHLORIDE, SALT OR OTHER MATERIALS CONTAINING ANTIFREEZE AGENTS OR CHEMICAL ACCELERATORS, UNLESS OTHERWISE APPROVED IN THE MIX DESIGN.
   7. COVER AND HEAT CONCRETE FOR A MINIMUM OF 7 DAYS AS RECOMMENDED BY ACI 306R, CURRENT REVISION.

B. FOR POURING CONCRETE DURING HOT WEATHER:
   FOLLOW RECOMMENDATIONS CONTAINED IN PUBLICATION ACI 305R "COLD-WEATHER CONCRETING," CURRENT REVISION.
   PROTECT CONCRETE FROM FLASH CURING BY PROVIDING A WATER/MOISTURE CURE FOR 3 DAYS.
   A 4500 PSI MIN (WITH A 6-1/2 BAG MIX) IS RECOMMENDED FOR THESE CONDITIONS.

9. NO BACKFILL SHALL BE PLACED AGAINST WALLS UNTIL CONCRETE HAS REACHED 85 PERCENT OF THE SPECIFIED STRENGTH AND THE CONNECTING SLABS AND BEAMS HAVE BEEN CAST AND HAVE REACHED 85 PERCENT OF THE SPECIFIED STRENGTH.
10. CONCRETE TO HAVE A MIN 28 DAY STRENGTH OF 4000 PSI FOR VAULT & 5000 PSI FOR TANK. PORTLAND CEMENT SHALL BE TYPE II OR TYPE V.

WELDING

1. WELDS SHALL CONFORM TO AMERICAN WELDING SOCIETY (AWS), LATEST EDITION:
   D1.1, STRUCTURAL WELDING CODE - STEEL
   D1.2, STRUCTURAL WELDING CODE - ALUMINUM
   D1.3, STRUCTURAL WELDING CODE - SHEET STEEL
   D1.4, STRUCTURAL WELDING CODE - REINFORCING STEEL
   D1.6, STRUCTURAL WELDING CODE - STAINLESS STEEL
2. REPAIR WELDS FOUND DEFECTIVE IN ACCORDANCE WITH AWS D1.1, SEC 5.26.
3. USE INTERMITTENT WELDS AT FIELD WELDS OF EMBED PLATES AND ANGLES TO AVOID SPALLING OR CRACKING OF THE EXISTING CONCRETE.

SOIL NOTES

1. SOILS REPORT WAS PREPARED FOR THE SITE BY AGEC (RPT #1210477). THE MOST RESTRICTIVE RECOMMENDATIONS CONTAINED IN THE REPORT VS. REQUIREMENTS ON THE DRAWING OR TECHNICAL RECOMMENDATIONS SHALL GOVERN. CONTRACTORS DEWATERING ENGINEER SHALL MAKE ESTIMATES FOR DEWATERING QUANTITIES AND SHALL NOT RELY ON ESTIMATES PROVIDED IN AGEC REPORT.
2. ALL ORGANIC MATERIALS, RUBBISH, UNSUITABLE FILL, TOPSOIL, ETC. SHALL BE REMOVED FROM BENEATH LOCATIONS OF PROPOSED FOOTINGS, CONCRETE SLABS AND ASPHALT PAVING.
3. CONTRACTOR SHALL COMPLY WITH THE MOST RESTRICTIVE REQUIREMENTS IN THE PROJECT DRAWINGS.
4. SCARIFY ENTIRE FLOOR AND FOOTING AREA TO A MIN DEPTH OF 8 INCHES AND RECOMPACT TO 95% MIN DENSITY AS DETERMINED ASTM D1557 AND GEOTECHNICAL REPORT.
5. SUBGRADE AND STRUCTURAL FILL PLACED UNDER FOOTINGS, SLAB AND AROUND PIPE BLOCKS SHALL BE COMPACTED TO A MIN OF 95% DENSITY AND WITHIN 2% OPTIMUM MOISTURE AS DETERMINED BY ASTM D1557 AND GEOTECHNICAL REPORT.
6. SLABS SHALL BE PLACED ON UNTREATED ROAD BASE COMPACTED BACKFILL COMPACTED PER GEOTECHNICAL REPORT, PROJECT SPECIFICATIONS, AND DRAWINGS.
7. UNLESS OTHERWISE NOTED, IMPORTED GRANULAR MATERIAL USED FOR BACKFILL SHALL SHALL BE FREE OF ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES AND SHALL COMPLY WITH SPECIFICATIONS FOR GRADATIONS.
8. BACKFILL PLACED AROUND THE TANK SHALL BE COMPACTED TO A MIN OF 90% DENSITY AND WITHIN 2% OPTIMUM MOISTURE AS DETERMINED BY ASTM- D1557. USE ONLY HAND-HELD COMPACTION EQUIPMENT WITHIN 3 FEET OF TANK WALL AND LIGHTWEIGHT EQUIPMENT BEYOND THE 3 FOOT SO AS NOT TO DAMAGE THE WALL. BACKFILL SHALL BE PLACED UNIFORMLY AROUND ALL SIDES OF THE TANK IN LIFTS NOT TO EXCEED 8 INCHES IN LOOSE THICKNESS. THE MAX ALLOWABLE ELEVATION DIFFERENCE OF THE WALL BACKFILL ACROSS THE TANK SHALL BE 3 FEET AND PER THE GEOTECHNICAL REPORT.
9. UNDER NO CIRCUMSTANCES MAY THE EARTH AND LIVE LOADS ON THE ROOF EXCEED THOSE INDICATED IN NOT 1 UNDER DESIGN DATA. BACK FILLING OPERATIONS SHALL NOT COMMENCE UNTIL THE ROOF AND COLUMNS HAVE OBTAINED FULL STRENGTH AND A MINIMUM OF 28 DAYS AFTER PLACING. THE BACKFILL ON THE ROOF SHALL BE PLACED WITH LIGHTWEIGHT CONSTRUCTION EQUIPMENT ONLY; 6000 LBS OR LESS IN GROSS WEIGHT.
10. SEE SPECIFICATIONS AND GEOTECHNICAL REPORT FOR COMPLETE REQUIREMENTS.
11. ALL FREE WATER SHALL BE REMOVED FROM THE FOUNDATION EXCAVATION PRIOR TO PLACING CONCRETE.
12. EXTERIOR FOOTINGS AND GRADE BEAMS SHALL BE LOCATED AT LEAST 30" BELOW FINISHED GRADE.
13. FOOTING AND FOUNDATION EXCAVATIONS SHALL BE INSPECTED AND APPROVED IN WRITING BY A QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF CONCRETE FORMS OR REBAR.

WATER PIPELINE NOTES

1. ALL DUCTILE OR CAST IRON PIPE FITTINGS INCLUDING COMPRESSION COUPLINGS. MECHANICAL JOINTS, FLANGED JOINTS, VALVES, HYDRANTS AND FITTINGS INCLUDING TEES, WYES, ELBOWS, PLUGS, ETC. EXPOSED TO SOIL SHALL BE WRAPPED WITH 8 MIL THICK POLYETHYLENE FILM TUBE. ALL EXPOSED NUTS & BOLTS SHALL BE LIBERALLY COATED WITH FM GREASE PRIOR TO WRAPPING. THE FILM SHALL BE HELD IN PLACE BY 2-INCH WIDE PLASTIC BACKED ADHESIVE TAPE EQUAL TO POLYKEN NO. 900 OR SCOTCHRAP NO. 50. THE TAPE SHALL BE INSTALLED TO TIGHTLY SECURE THE FILM TO THE PIPE. ENOUGH FILM SHALL BE USED TO OVERLAP ADJOINING SECTIONS OF FILM A MINIMUM OF ONE (1) FOOT.
2. VALVES SHALL BE WRAPPED BY BRINGING THE WRAP ON THE ADJACENT PIPE OVER THE BELLS OR FLANGES OF THE VALVE AND SEALING WITH THE ADHESIVE TAPE. THE VALVE BODIES ARE THEN WRAPPED WITH A FLAT SHEET OF THE FILM PASSED UNDER THE VALVE BOTTOM AND BROUGHT UP AROUND THE BODY TO THE STEM AND FASTENED IN PLACE WITH THE ADHESIVE TAPE.
3. ALL FITTINGS THAT REQUIRE CONCRETE BLOCKING SHOULD BE COMPLETELY WRAPPED PRIOR TO THE POURING OF THE CONCRETE THRUSTING BLOCK.
4. POLYETHYLENE WRAP SHALL BE PROTECTED FROM THE SUN AND WEATHERING PRIOR TO USE. CARE SHALL BE EXERCISED DURING BACK FILLING OF THE PROTECTED AREAS TO PREVENT PUNCTURING OF THE FILM.
5. UNLESS OTHERWISE NOTED, ALL FITTINGS FOR PRESSURIZED WATER PIPING SHALL BE PROPERLY RESTRAINED BY THRUST BLOCKING AND MEGALUG, OR OTHER APPROVED METHODS.

ANCHOR NOTES:

1. ALL ANCHORS TO BE INSTALLED PER THE MANUFACTURER'S REQUIREMENTS. FOR BOTH MECHANICAL AND EPOXY TYPE ANCHORS THESE REQUIREMENTS INCLUDE, BUT IS NOT LIMITED TO:
   A. PROPER HOLE DIAMETER, DEPTH, EDGE DISTANCES, AND SPACING.
   B. PROPER HOLE PREPARATION AND CLEANOUT
   C. WEATHER REQUIREMENTS TO BE FOLLOWED, ESPECIALLY FOR COLD WEATHER APPLICATIONS.
   D. ALL STRUCTURAL ANCHORS TO COMPLY WITH THE CRACKED CONCRETE REQUIREMENTS ON THE CURRENT EDITION OF THE ACI 318.
2. ANY EPOXY TYPE ANCHOR IS TO MEET THE CURRENT ANSI/NSF 61 REQUIREMENTS FOR DRINKING WATER SYSTEM COMPONENTS, WHERE APPLICABLE.

SEISMIC BRACKETS:

CONTRACTOR TO SUBMIT FOR REVIEW AND APPROVAL SEISMIC BRACKETS FOR HVAC, MECHANICAL AND ELECTRICAL EQUIPMENT TO MEET LOCAL CODES.

STRUCTURAL STEEL AND METAL FABRICATIONS:

1. ALL STRUCTURAL STEEL AND STRUCTURAL STEEL WORK SHALL COMPLY WITH "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS OF THE AISC" AND THE "AISC CODE OF STANDARD PRACTICE."
2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING:

W-SHAPES	A992
MISCELLANEOUS SHAPES INCLUDING ANGLES, CHANNELS, PLATES, ETC.	A36
SQUARE OR RECTANGULAR STEEL	A500, GRADE B
TUBING STEEL PIPE	CLASS 53, GRADE B

3. STRUCTURAL STEEL SHALL BE FABRICATED AND ERRECTED IN CONFORMANCE WITH THE AISC MANUAL OF STEEL CONSTRUCTION, CURRENT EDITION, AND CURRENT OSHA STANDARDS.
4. ALL WELDS AND WELDING SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS OF "THE AMERICAN WELDING SOCIETY, USING ELECTRODES AS SPECIFIED THEREIN." WELDS TO BE MADE WITH E - 70XX ELECTRODES UNO
5. BOLTS SHALL BE HIGH STRENGTH BOLTS CONFORMING TO THE FOLLOWING, EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE:

UNLESS SHOWN OTHERWISE	A325-N
SLIP CRITICAL	A325-SC
ANCHOR BOLTS (AB)	
STAINLESS STEEL	F593, AISI TYPE 316, CONDITION CW
STEEL	F1554, GR 36
GALVANIZED STEEL	F1554, GR 36/A153
MACHINE BOLTS (MB)	A307

6. USE A307 BOLTS WITH PLATE WASHERS, UNLESS OTHERWISE SPECIFIED, FOR TYPICAL CONNECTIONS AND CONNECTIONS TO CONCRETE.
7. USE A325 BOLTS WITH PLATE WASHERS, UNLESS OTHERWISE SPECIFIED, FOR STEEL TO STEEL CONNECTIONS.
8. ITEMS TO EMBEDDED IN CONCRETE SHALL BE CLEAN AND FREE OF OIL, DIRT AND PAINT.
9. NO HOLES OTHER THAN THOSE SPECIFICALLY DETAILED SHALL BE ALLOWED THROUGH STRUCTURAL STEEL MEMBERS. NO CUTTING OR BURNING OF STRUCTURAL STEEL IS PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.
10. METAL FLASHING SHALL BE HOT DIP GALVANIZED, OR HAVE OTHER APPROVED EQUAL CORROSION RESISTANCE.
11. MATERIAL SHALL COMPLY WITH THE FOLLOWING STANDARDS UNO:

TYPICAL BOLTS	ASTM A-307 GRADE A
HIGH STRENGTH BOLTS	ASTM A-325
ANCHOR BOLTS	ASTM A-307 GRADE A
NUTS FOR ANCHOR BOLTS	ASTM A-563 GRADE A
STEEL TUBES	ASTM A-500 GRADE B WITH YIELD STRENGTH EQUAL TO 46 KSI
ANCHORS	ASTM A-53 GRADE B TYPE E OR S DEFORMED BAR
HEADED STUD ANCHORS	MANUFACTURED BY NELSON STUD CO OR EQUAL
ALL OTHER STEEL SHAPES	ASTM A-108 MANUFACTURED BY NELSON STUD CO OR EQUAL ASTM A-36 WITH YIELD STRENGTH EQUAL TO 36 KSI

SUBMITTALS:

1. THE FOLLOWING INFORMATION AND SUBMITTALS SHALL BE PROVIDED TO THE ENGINEER BEFORE FABRICATION, IF APPLICABLE, AND/OR DELIVERY TO THE JOBSITE, NOT ALL MAY APPLY.
   A. CONCRETE MIX DESIGNS.
   B. CONCRETE REINFORCEMENT AND TENDON SHOP DRAWINGS.
   C. STRUCTURAL BACKFILL PIT LOCATION AND MATERIAL SPECIFICATION, IF
   D. USED ON SITE.
   E. STRUCTURAL STEEL SHOP DRAWINGS.
   F. OTHER SHOP DRAWINGS & SUBMITTALS AS DEEMED NECESSARY BY THE CONSTRUCTION MANAGER.
   G. SPECIAL INSPECTION PER SHEET S-2.

PROFESSIONAL STRUCTURAL ENGINEER No. 2774619 ROBERT C. CONDER 7-15-2025 STATE OF UTAH

FILE NAME: PROJECTS\176 - SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\S-1 STRUCTURAL NOTES.DWG
FILE DATE: 7.15.2025 16:48:09 (DCL)

10/07

HANSEN ALLEN & LUCE ENGINEERS

PROJECT ENGINEER

DESIGNED	GDS, RCC	3					
DRAFTED	BKC	2					
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	RCC
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

SCALE: NONE

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 - 8.4MG TANK
STRUCTURAL
GENERAL STRUCTURAL NOTES

SHEET S-1

176.41.100

POST TENSION TANK STRUCTURAL NOTES:

DESIGN CRITERIA

DESIGN CODES AND STANDARDS: AWWA D115, ACI 350, IBC (INCLUDING UTAH AMENDMENTS)

ROOF: LIVE LOAD = SEE NOTE 6 UNDER DESIGN CRITERIA ON SHEET S-1

INTERNAL FLUID PRESSURE = 62.4 PCF FULL HEIGHT

BACKFILL E.F.P. AGAINST WALL = 35 PCF FULL HEIGHT, PLUS 56 PCF SEISMIC EFFECTS

SEISMIC: (SEE GENERAL NOTE 5 ON SHEET S-1)

SOIL ALLOWABLE BEARING PRESSURE: (SEE GENERAL NOTE 10 ON SHEET S-1)

CONCRETE

1. DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ACI CODES AND REPORTS 318, 301, AND 350.
2. ALL CONCRETE SHALL DEVELOP 5000 PSI COMPRESSIVE STRENGTH WITHIN 28 DAYS, MAX. W/C RATIO OF 0.41, CONCRETE SHALL CONTAIN 20% CLASS F FLY ASH.
3. FLOOR AND ROOF CONCRETE SHALL BE PLACED IN ONE CONTINUOUS OPERATION WITHOUT COLD JOINTS OR CONSTRUCTION JOINTS, UNLESS SPECIFICALLY SHOWN ON THESE DRAWINGS.
4. SEE DRAWINGS FOR SIZES AND LOCATIONS OF HOLES, SLEEVES, REGLETS, BOLTS, NOTCHES, DRIPS, EMBEDDED ITEMS, ETC. IN WALLS, ALL CONSTRUCTION JOINTS SHALL BE VERTICAL WITH WATERSTOPS. NO HORIZONTAL JOINTS ARE PERMITTED, EXCEPT AS SHOWN ON THE DRAWINGS.
5. ALL CONCRETE CORNERS EXPOSED TO VIEW SHALL HAVE 3/4" CHAMFER.

REINFORCEMENT

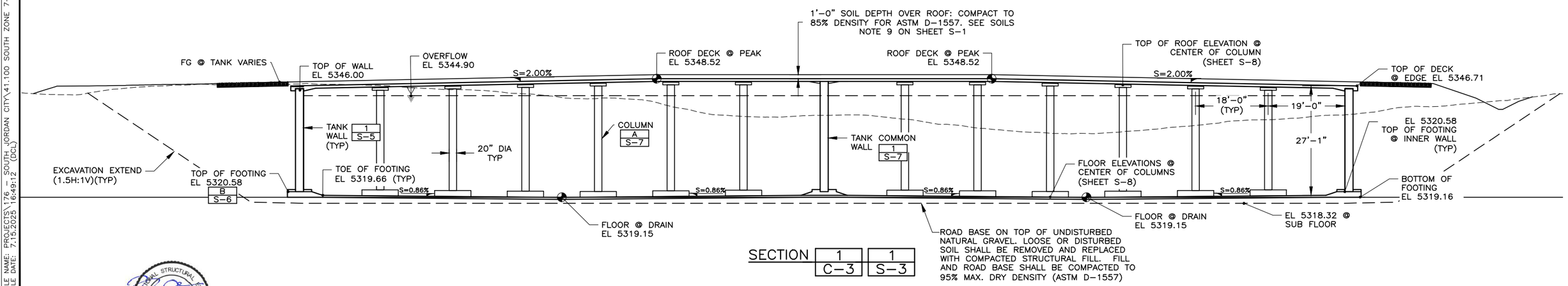
1. DETAILING, FABRICATION, AND PLACEMENT SHALL BE IN ACCORDANCE WITH ACI 350 AND 315, UNLESS OTHERWISE NOTED ON THE DRAWINGS OR IN THE SPECIFICATIONS. STEEL REINFORCEMENT SHALL BE NEW, DEFORMED BILLET STEEL, MEETING ASTM STANDARD A 615. #4 BARS AND LARGER SHALL BE GRADE 60 STEEL; #3 BARS AND DESIGNATED REINFORCEMENT SHALL BE GRADE 40; SHOP DRAWINGS SHALL BE MARKED ACCORDINGLY. GRADE 60 DOWELS SHALL NOT BE BENT IN THE FIELD AFTER PLACING. REINFORCEMENT IN ALL WALLS AND SLABS SHALL BE CONTINUOUS AROUND CORNERS OR CORNER BARS PROVIDED BOTH VERTICAL AND HORIZONTAL OR AS DETAILED ON THE DRAWINGS.
2. LAP ALL TENSION SPLICES ACCORDING TO ACI 350, CLASS B, AND ALL COMPRESSION SPLICES 40 BAR DIAMETERS, EXCEPT AS NOTED OR SHOWN ON THE DRAWINGS. SEE DRAWINGS FOR TRIM BARS ON ALL SIDES OF OPENINGS AND PIPES.
3. PROVIDE CONCRETE COVER FOR REINFORCEMENT AS FOLLOWS: 2" FOR P.T. CONCRETE DEPOSITED AGAINST THE GROUND; 1-1/2" FOR BARS ELSEWHERE, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
4. ALL CONCRETE REQUIRES REINFORCEMENT. WHERE REINFORCEMENT IS NOT SHOWN ON DRAWINGS, THE "ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES" (ACI 350), SHALL BE REFERRED TO FOR PROPER REINFORCEMENT.
5. PROVIDE CORROSION PROTECTED ACCESSORIES FOR ALL CONCRETE SURFACES. TACK WELDING OF REINFORCING BARS IS NOT PERMITTED, UNLESS OTHERWISE CALLED FOR OR REVIEWED BY THE ENGINEER.

POST-TENSIONING:

1. ALL PRESTRESSING DESIGN, MATERIALS, AND CONSTRUCTION SHALL CONFORM TO ACI 350, 301, AND AWWA D115. POST-TENSIONING TENDONS SHALL BE 0.5 INCH OR 0.6 INCH (WHERE NOTED) DIAMETER 7-WIRE, LOW-RELAXATION STRAND, ASTM A 416. JACKING STRESS SHALL BE 0.8 FPU (33 KIPS PER STRAND FOR THE 1/2"ø STRANDS & 46.8 KIPS PER STRAND FOR THE 0.6"ø STRANDS UNLESS INDICATED ON INDIVIDUAL DRAWINGS AND DETAILS). BONDED TENDONS IN CORRUGATED PLASTIC DUCTS SHALL BE USED HORIZONTALLY IN THE WALLS.
2. ADDITIONAL HORIZONTAL WALL TENDON NOTES: STRANDS TO HAVE A 4' STRESSING TAIL AT BOTH ENDS OF TENDONS. JACK TENDONS AT EACH END (NOT SIMULTANEOUSLY) TO A FORCE OF 216 KSI UNLESS INDICATED ON INDIVIDUAL DRAWINGS AND DETAILS. SEAT WEDGES OF CIRCUMFERENTIAL TENDONS WITH A 1/4" OR LESS ANCHOR SET.
3. UNBONDED TENDONS IN THE FLOOR AND VERTICALLY IN THE WALL SHALL BE FULLY ENCAPSULATED IN SLIPPAGE SHEATHING WHICH SHALL CONSIST OF A DURABLE, WATERPROOF POLYETHYLENE PLASTIC TUBING 50 MILS THICK AND CAPABLE OF PREVENTING THE PENETRATION OF CEMENT PASTE AND WHICH WILL CONTAIN A RUST-INHIBITING GREASE COATING. PUNCTURED SHEATHING SHALL BE REPAIRED IN A WATERPROOF MANNER ACCEPTABLE TO THE ENGINEER, OR REPLACED, IF IN THE ENGINEER'S JUDGMENT ADEQUATE REPAIRS CANNOT BE MADE.
4. FLOOR AND ROOF TENDON NOTES: DEAD END ANCHORAGES TO BE SEATED AT A FORCE OF 33 KIPS UNLESS INDICATED ON INDIVIDUAL DRAWINGS AND DETAILS. LEAVE A 2' STRESSING TAIL AT EACH LIVE END. AFTER CONCRETE HAS REACHED 1500PSI F'CI, JACK EACH STRAND TO 16 KIPS AT ONE END, THEN AFTER CONCRETE HAS REACHED 3750 PSI JACK EACH STRAND TO 33 KIPS UNLESS INDICATED ON INDIVIDUAL DRAWINGS AD DETAILS AND SEAT WEDGES WITH A 1/4" ANCHOR SET. TRIM STRAND AT APPROXIMATELY 1" FROM JAW, TAKING CARE NOT TO HEAT JAW AS STRAND IS CUT.
5. CARE SHALL BE TAKEN THAT TENDONS ARE LOCATED AND HELD IN THEIR DESIGNATED POSITIONS. TOLERANCES FOR LOCATION OF PRESTRESSING STEEL IN THE FLOOR, WALL, OR ROOF THICKNESS SHALL NOT BE MORE THAN 1/8 INCH, EXCEPT AS NOTED OR REVIEWED BY THE STRUCTURAL ENGINEER. TOLERANCES IN CIRCUMFERENTIAL OR PLAN DIMENSIONS, PER NORMAL ACI STANDARDS.
6. TENSIONING SHALL NOT START UNTIL TESTS, FIELD CURED CYLINDERS AND MATURITY METERS, INDICATE THE CONCRETE IN PLACE HAS REACHED THE SPECIFIED INITIAL COMPRESSIVE STRENGTH. TENSIONING SHALL BE DONE BY JACKING UNDER IMMEDIATE CONTROL OF A PERSON EXPERIENCED IN THIS TYPE OF WORK. RECORDS SHALL BE KEPT OF ELONGATION AND TENSION OF THE STRAND AND REVIEWED BY THE ENGINEER PRIOR TO REMOVING STRESSING TAILS. THE OBSERVED ELONGATION SHALL BE WITHIN 7% OF THAT PREDICTED. ALL TENDON ANCHORAGES SHALL BE RECESSED AS SHOWN ON THE DRAWINGS. STRESSING BLOCKOUTS SHALL HAVE A BONDING AGENT AND SHALL BE FILLED WITH NONSHRINK GROUT AFTER PRESTRESSING.
7. POST-TENSIONED WORK SHALL CONFORM TO: ACI318 AND ACI350 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", PTI, SPECIFICATIONS FOR UNBONDED SINGLE STRAND TENDONS, LATEST EDITION.
8. RECORDS OF ALL JACKING FORCES AND ELONGATIONS SHALL BE KEPT BY A CERTIFIED PRESTRESS INSPECTOR AND SHALL PROMPTLY BE SUBMITTED TO THE STRUCTURAL ENGINEER. FIELD READINGS OF ELONGATIONS AND STRESSING FORCES SHALL NOT VARY MORE THEN 5% FROM CALCULATED THEORETICAL VALUES. CONTRACTOR SHALL SUBMIT WITH ALL STRESSING RECORDS AND ONGOING LOG OF DATA SUBMITTALS. THIS LOG SHOULD ALSO PROVIDE A PLACE FOR COMMENTS AND THE STRUCTURAL ENGINEERS SIGNATURE TO AUTHORIZE CUTTING CABLES AFTER DATA IS REVIEWED AND APPROVED. STRUCTURAL ENGINEER WILL RETURN THE LOG TO CONTRACTOR AFTER EACH SUBMITTAL IS REVIEWED.
9. CORING OF SLABS AND USE OF DRILLED MECHANICAL ANCHORS IS NOT PERMITTED WITHOUT WRITTEN CONSENT AND APPROVAL FROM STRUCTURAL ENGINEER. IF APPROVED, COORDINATE ANCHOR LOCATIONS SO THAT NO CONTACT IS MADE WITH POST-TENSIONING TENDONS. SHOW ALL OPENINGS AND SLEEVES ON THE SHOP DRAWINGS. ADDITIONAL OPENINGS NOT SHOWN REQUIRE APPROVAL BY THE STRUCTURAL ENGINEER PRIOR TO PLACEMENT.
10. ALL SHOP DRAWINGS AND CALCULATIONS SHALL BE SEALED BY A STRUCTURAL ENGINEER REGISTERED IN THE PROJECT STATE. SUBMIT PLANS, ELEVATIONS, SECTIONS, AND DETAILS LOCATING AND DEFINING ALL MATERIAL FURNISHED BY THE SUPPLIER, PLACEMENT SEQUENCES AND HANDLING REQUIREMENTS. DO NOT BEGIN FABRICATION UNTIL SHOP DRAWINGS ARE APPROVED.
11. POST-TENSIONING SHOP DRAWINGS (INSTALLATION DRAWINGS) SHALL PROVIDE FULL DETAILS OF MATERIALS TO BE USED INCLUDING NECESSARY ACCESSORIES AND INSTRUCTIONS FOR CONSTRUCTION AND SHALL IDENTIFY THE SPECIFIC PROJECT AND BEAR AN IMPRESSED SEAL, SIGNATURE, AND DATE OF THE SPECIALTY ENGINEER WHO PREPARED THEM.
12. AS SOON AS STRESSING RECORDS ARE REVIEWED AND APPROVED CUT END OF TENDONS AND COAT EXPOSED PORTION OF THE TENDON AND THE GRIPPING PART OF ANCHORAGE WITH EPOXY-RESIN COMPOUND BEFORE DRY PACKING WITH NON-SHRINK GROUT.
13. THE PLANT PRODUCING UNBONDED SINGLE STRAND TENDONS SHALL BE A CERTIFIED PLANT UNDER THE POST-TENSION INSTITUTE (PTI) CERTIFICATION PROGRAM.
14. USE OF CALCIUM CHLORIDE, CHLORIDE IONS, OR OTHER SALTS IN CONCRETE IS NOT PERMITTED.
15. DO NOT CUT THE END OF TENDONS UNTIL STRESSING RECORDS ARE REVIEWED AND APPROVED BY STRUCTURAL ENGINEER.
16. IN CASE OF BROKEN TENDONS OR BLOW-OUTS, SUBMIT FOR APPROVAL DETAILED CALCULATIONS AND PROCEDURES FOR THE REMEDIAL WORK REQUIRED.
17. SUBMIT DETAILED PRESTRESSING PROCEDURES AND SEQUENCES, PRESTRESSING LOSS CALCULATIONS, STATIC AND DYNAMIC TEST DATA.
18. CONTRACTOR SHALL DESIGN AND FURNISH POST-TENSIONED MEMBERS NOT SHOWN ON THE CONTRACT DOCUMENTS INCLUDING REINFORCEMENT STEEL, TENDON SUPPORT REINFORCING AND ANCHOR ZONE REINFORCING.
19. POST-TENSIONING FORCES SPECIFIED ON THE DRAWINGS ARE REQUIRED EFFECTIVE FORCES AFTER ALL LOSSES ARE ACCOUNTED FOR: SHORT TERM, LONG TERM & SEATING LOSSES. CALCULATIONS SUBMITTED SHALL INDICATE THE VALUES OF ALL LOSSES APPROPRIATE TO THIS PROJECT FOR THE MATERIALS PROPOSED. MAXIMUM EFFECTIVE FORCE PER CABLE SHALL BE 26.7k

FOUNDATION PLAN NOTES

1. FLOOR TENDONS SHALL BE FULLY ENCAPSULATED, ½"ø, UNBONDED MONOSTRAND TENDONS.
2. TIE ONE CONT. #5 SUPPORT BAR WITH EACH FLOOR TENDON GROUP.
3. USE NEAREST STANDARD 90°, 60°, & 45° POCKET FORMERS OR VARIABLE ANGLE BLOCKOUTS TO KEEP TENDON ALIGNMENT AS STRAIGHT AS POSSIBLE AT STRESSING ENDS (TYP).
4. DEFLECT TENDONS AT ENDS, IF REQUIRED, TO AVOID OVERLAPPING ANCHORAGES.
5. COMBINE ORTHOGONAL POST TENSION TENDONS & REINFORCING BARS IN GROUPS @ INDICATED SPACING.
6. USE 3"X3"X2" HIGH, 4000 PSI CONC. BLOCKS (DOBIES), TO SUPPORT THE FLOOR SLAB REINFORCEMENT. THE LOWER LAYER OF POST-TENSIONING AND BARS SHALL BE DIRECTLY SUPPORTED AT EVERY CROSSING WITH THE PERPENDICULAR BARS AND STRANDS.
7. CIRCUMFERENTIAL AND ORTHOGONAL TENDONS GREATER THAN 100'-0" IN LENGTH SHALL BE TWO-END STRESSED.
8. SEE CIVIL DRAWINGS FOR PIPE LOCATIONS & DETAILS, & FLOOR SLAB ELEV.
9. BOTH FIELD CURED CYLINDERS AND MATURITY METERS ARE REQUIRED FOR FLOOR CONCRETE TO DETERMINE IN-SITU STRENGTH PRIOR TO POST-TENSIONING.



SECTION 1 C-3 / 1 S-3

FILE NAME: PROJECTS\176 - SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\S-1A TANK - SECTION AND NOTES.DWG
FILE DATE: 7.15.2025 16:49:12 (DCL)

10/07

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROFESSIONAL STRUCTURAL ENGINEER — ROBERT C. CONDER — No. 2774619 — 7-15-2025 — STATE OF UTAH

PROJECT ENGINEER

DESIGNED	GDS, RCC	3					
DRAFTED	BKC	2					
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	RCC
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

SCALE: NOT TO SCALE

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
STRUCTUAL
TANK SECTION & STRUCTURAL NOTES I

SHEET S-1A

176.41.100

GENERAL SPECIAL INSPECTIONS

SCHEDULE OF SPECIAL INSPECTIONS APPLICABLE TO THIS PROJECT					
MATERIAL/ACTIVITY	TYPE OF INSPECTION	C/P *	EXTENT/REFERENCE	INSP INITIALS	INSP DATE
GENERAL					
Pre-construction conference	Meeting with Owner, Contractor and Registered Design Professional to discuss Special Inspection procedures	P	Scheduled by DCRA with the Contractor prior to commencement of work		
EARTHWORK					
Site preparation (building)	Field testing and inspection	P	Field Review; IBC 1705.6		
Fill material (building)	Review submittals, field testing and inspection	P	Field Review; IBC 1705.6		
Fill compaction (building)	In-place density tests, lift thickness	C	Field Review; IBC 1705.6		
Excavation	Field inspection and verification of proper depth	P	Field Review; IBC 1705.6		
Foundation sub-grade	Field inspection of foundation subgrade prior to placement of concrete	P	Field Review; IBC 1705.6		
CONCRETE					
Materials	Review product supplied versus certificates of compliance and mix design	P	Submittal & Field Review; IBC 1705.3; ACI 318: Ch. 4 and 5; IBC 1904.2, 1910.2, 1903.3		
Installation of reinforcing steel, including Pre-stressed tendons and anchor bolts as well as welding	Field inspection of placement	P	Submittal and Field Review; ACI 318:3.5, 3.5.2 3.8.6 & Ch. 7 8.1.3 and 21.2.8; AWS D1.4; IBC 1705.3, 1908.5, 1909.1, 1910.4		
Formwork installation	Field inspection	P	Field Review; ACI 318: 6.1.1; IBC 1705.3		
Concreting operations and placement	Field inspection of placement/sampling	C	Field Review; ACI 318: 5.6, 5.8, 5.9-10; ASTM C 172, C 31; IBC 1705.3, 1910.6, 1910.7, 1910.8, 1910.10		
Concrete curing	Field inspection of curing process	P	Field Review; ACI 318: 5.11-13; IBC 1705.3, 1910.9		
Concrete strength	Evaluation of concrete strength		Laboratory Testing; ACI 318: 6.2; IBC 1705.3		

P = PERIODIC INSPECTION
C = CONTINUOUS INSPECTION

SCHEDULE OF SPECIAL INSPECTIONS APPLICABLE TO THIS PROJECT					
MATERIAL/ACTIVITY	TYPE OF INSPECTION	C/P *	EXTENT/REFERENCE	INSP INITIALS	INSP DATE
PRECAST CONCRETE					
Verify fabrication/QC procedures In-plant	Inspection of plant and QC procedures**		Submittal or Field Review; IBC 1705.3		
Erection and installation	Review submittals and as-built assemblies; Field inspection of in-place precast		Submittal and Field Review; ACI 318; Ch. 16; IBC Table 1705.3		
STRUCTURAL STEEL					
Verify fabrication/QC procedures	In-plant inspection of fabrication/quality control procedures or submit Certificate of Compliance	P	IBC 1704.2.5, IBC 1704.2.5.1, 1704.2.5.2, 1705.2		
Bolts, nuts, and washers – materials	Material identification markings Review of Certificate of Compliance	P	Submittal & Field Review; IBC 1705.2.1; IBC 1705.2.2; IBC 1706; ASTM; AISC 360, Section A3.3		
Bolts, nuts, washers – installation	Inspection of insitu high-strength bolts, snug-tight joints, pre-tensioned and bearing type, and slip connections	C	Submittal & Field Review; IBC 1705.2.1, 1705.2.2;, AISC 360 Section M2.5		
Structural steel – materials	Material identification markings and review of Certificate of Compliance	P	Submittal & Field Review; IBC 1705.2.1, 1705.2.2, 1706; ASTM A6, A568		
Structural steel details – installation	Inspection of member locations, structural details for bracing, connections, stiffening	P	Submittal & Field Review; IBC 1705.2.1, 1705.2.2, AISC 360		
Weld filler materials and welder certs	Review of identification markings, certificate of compliance, and welder certifications	P	Submittal & Field Review; ASTM AISC 360 A3.5		
Welds	Inspection and testing of welds	C	Field Review; IBC 1705.2.2.1; AWS D1.1, D1.3		
Cold-formed metal deck – materials	Review of identification marking manufacturer's certified test results	P	Submittal and Field Review; IBC 1705.2.2; ASTM		
Cold-formed metal deck – installation	Review laps and welds	P	Submittal and Field Review; IBC 1705.2.2, AWS D1.3		
Cold-formed light frame construction – welds	Review welding operation	P	IBC 1705.10, 1705.10.2, 1705.10.3		
Cold form light frame construction wind resistance – screws	Review screw attachment bolting, anchoring hold downs, bracing, diaphragms, struts	P	Field Review; IBC 1705.10, 1705.10.2, 1705.10.3		
Cold-formed steel trusses spanning 60' or greater	Inspection of temporary and permanent restraints/bracing	C	Field review IBC 1705.2.2.2		

GENERAL SHEET NOTES:

1. THE SPECIAL INSPECTOR IS RESPONSIBLE FOR ENSURING THE PUBLICATIONS USED FOR INSPECTION CRITERIA ARE THE MOST CURRENT AND UP TO DATE.
2. FAILURE OF INSPECTABLE AREAS ARE TO BE NOTED AND SUBMITTED TO OWNER, ENGINEER OF RECORD, AND CONTRACTOR IF CORRECTIONS REQUIRE A FOLLOW UP INSPECTION AND CANNOT BE MADE COMPLETED "ON THE SPOT".
3. DOCUMENTATION FOR INSPECTIONS MUST BE COMPLETED AND SUBMITTED IN ACCORDANCE WITH CONTRACT REQUIREMENTS, INTERNATIONAL BUILDING CODE (LATEST EDITION), AND MANUAL FOR SPECIAL INSPECTIONS" (LATEST EDITION), OR AS AGREED UPON WITH OWNER, ENGINEER OF RECORD, AND CONTRACTOR.
4. SPECIAL INSPECTION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR ANY REQUIRED INSPECTIONS BY THE BUILDING OFFICIAL. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING INSPECTIONS WITH THE BUILDING DEPARTMENT AND COORDINATING SPECIAL INSPECTIONS WITH OWNER.
5. SPECIFIED CONCRETE AND MASONRY TESTING DURING CONSTRUCTION WILL BE CONTRACTOR FURNISHED. SPECIFIED LAB TEST, MIXES, AND SIMILAR TESTING TO VERIFY MATERIAL QUALITY AND CONFORMANCE TO THE SPECIFICATIONS, REQUIRING SUBMITTAL FOR REVIEW AND ACCEPTANCE, SHALL BE THE RESPONSIBILITY OF CONTRACTOR.
6. STRUCTURAL OBSERVATIONS (PROVIDED BY ENGINEER) IS REQUIRED IN ACCORDANCE WITH IBC SECTION 110 AND CHAPTER 17 AS INDICATED IN THE STATEMENT OF SPECIAL INSPECTION. CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE TO ENGINEER PRIOR TO PLACING CONCRETE OR COVERING UP ANY WORK.

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROFESSIONAL STRUCTURAL ENGINEER No. 2774619 ROBERT C. CONDER 7-15-2025 STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS, RCC	3				
DRAFTED	BKC	2				
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	RCC
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

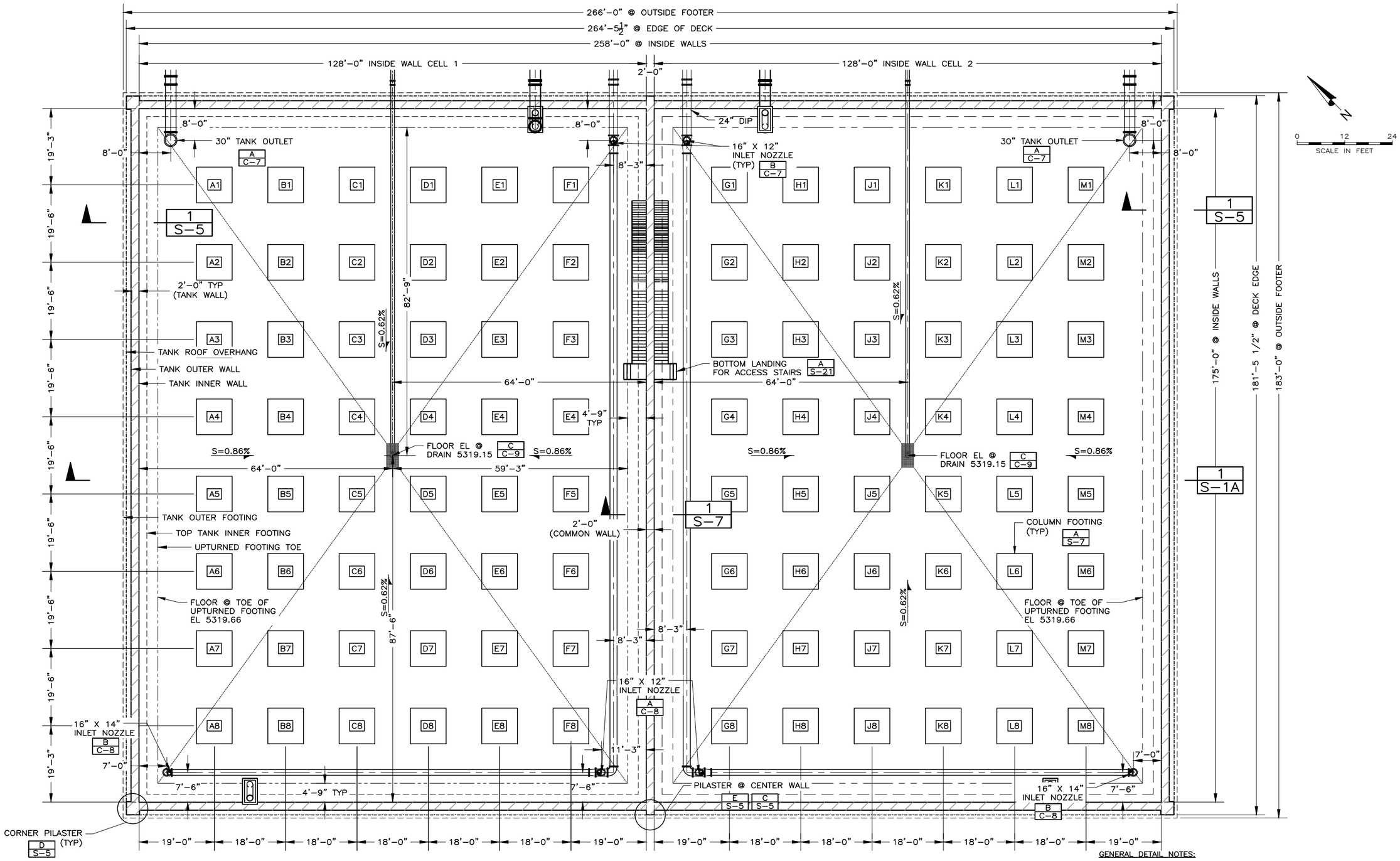
SCALE: NONE

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
STRUCTURAL
STRUCTRAL NOTES & SPECIAL INSPECTIONS

SHEET S–2
176.41.100

10/07



CELL #1

CELL #2

GENERAL DETAIL NOTES:

1. ALL DIMENSIONS AND DETAILS FOR EACH TANK CELL ARE EQUAL TO THE OTHER UNLESS NOTED OTHERWISE.
2. COLUMN #'S FOR CAPITAL AND FOOTING ELEVATIONS FOUND ON SHEET S-8.
3. FOOTINGS AND FOUNDATION EXCAVATIONS SHALL BE INSPECTED AND APPROVED IN WRITING BY A QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF THE CONCRETE FORMS OR REBAR.

FILE NAME: PROJECTS\176.-SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\S-3 TANK PLAN - FLOOR.DWG
FILE DATE: 7.15.2025 16:59:20 (DCL)

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROFESSIONAL STRUCTURAL ENGINEER No. 2774619 ROBERT C. CONDER 7-15-2025 STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS, RCC	3				
DRAFTED	BKC	2				
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	RCC
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

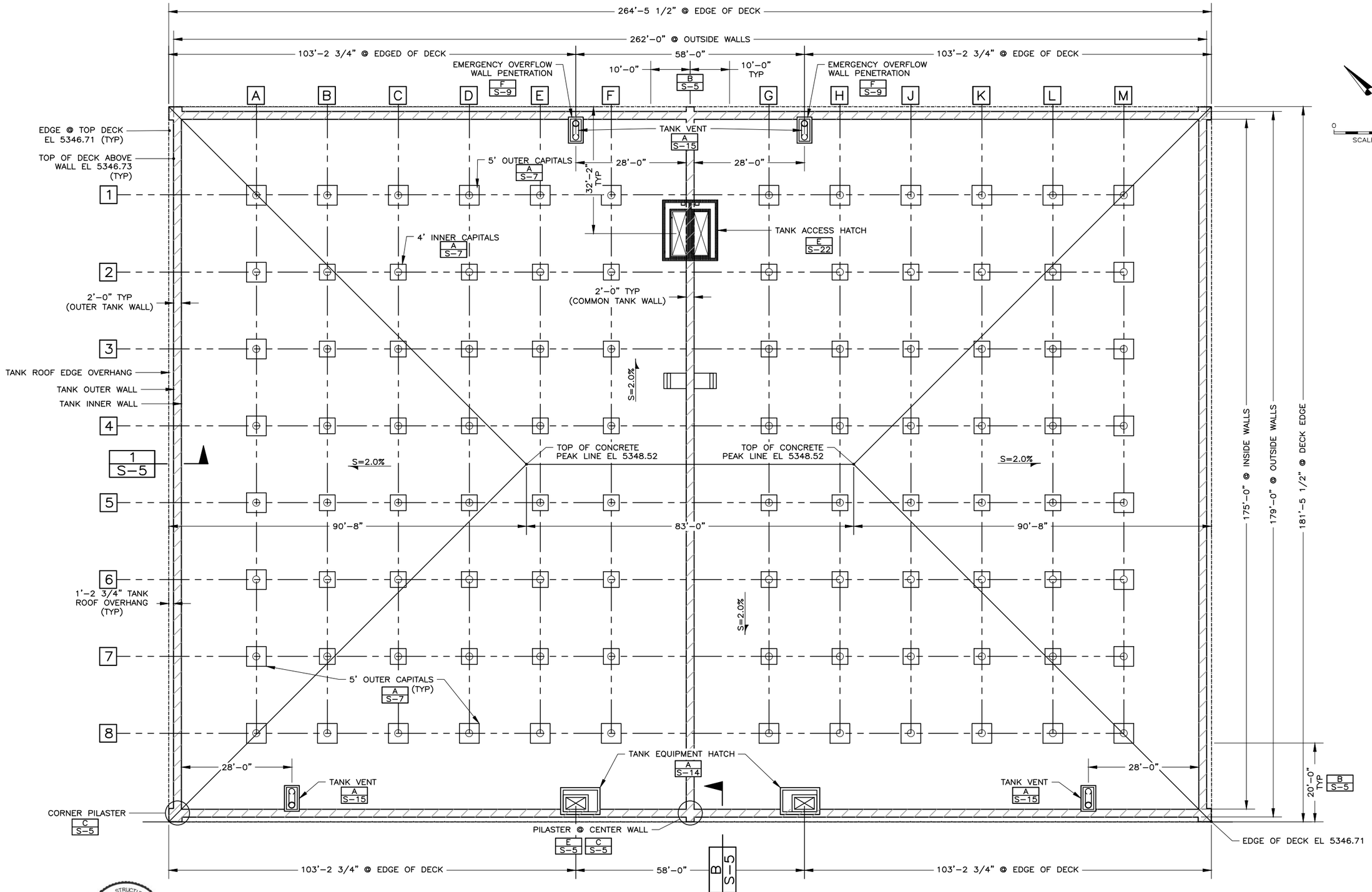
SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
STRUCTURAL
TANK PLAN – FLOOR

SHEET S-3
176.41.100

10/07



FILE NAME: PROJECTS\176 - SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\S-4 TANK PLAN - ROOF.DWG
FILE DATE: 7.15.2025 17:02:03 (DCL)

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROFESSIONAL STRUCTURAL ENGINEER — No. 2774619 — ROBERT C. CONDER — 7-15-2025 — STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS, RCC	3				
DRAFTED	BKC	2				
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	RCC
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

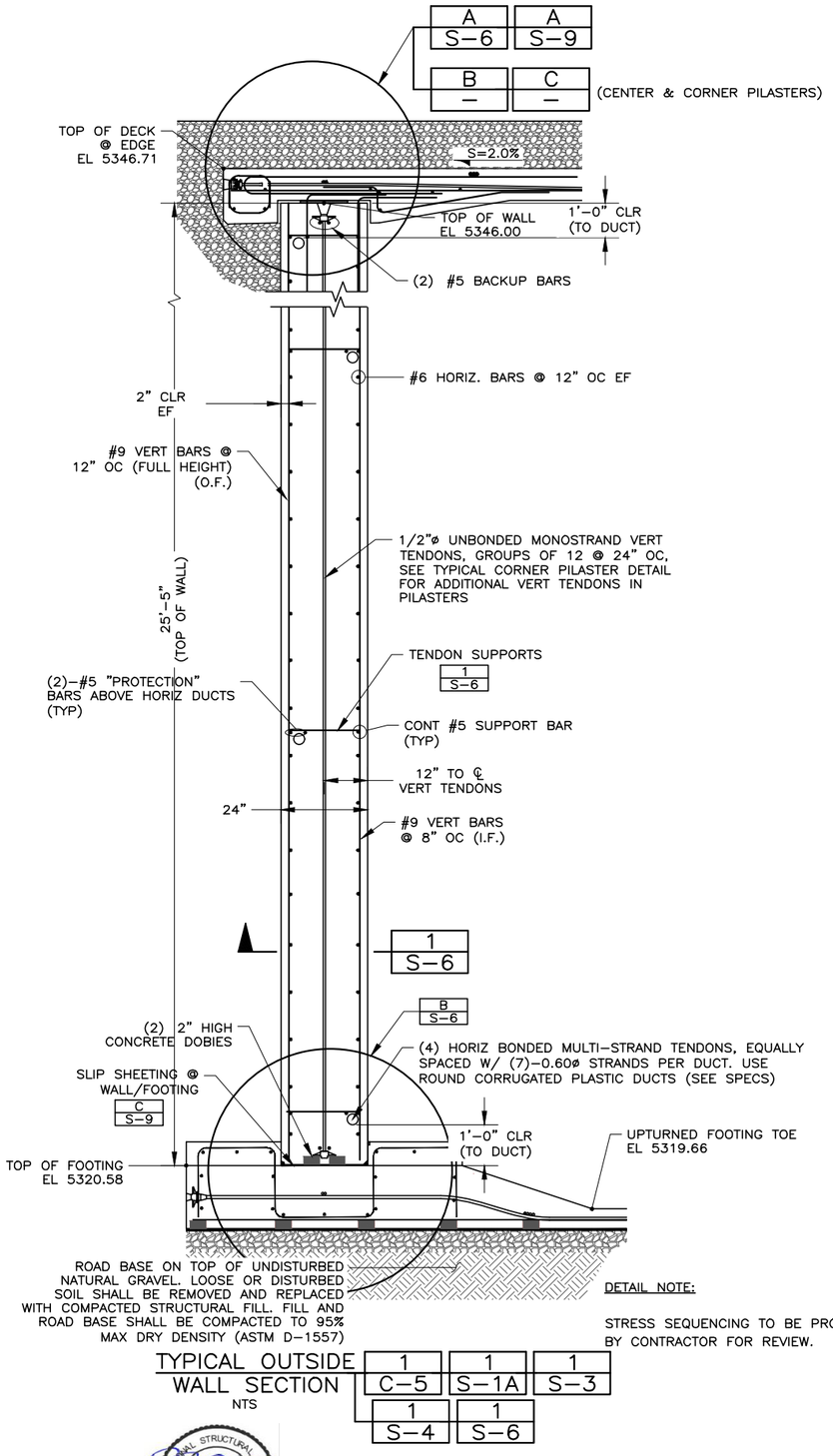
SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
STRUCTURAL
TANK PLAN – ROOF

SHEET S-4
176.41.100

10/07

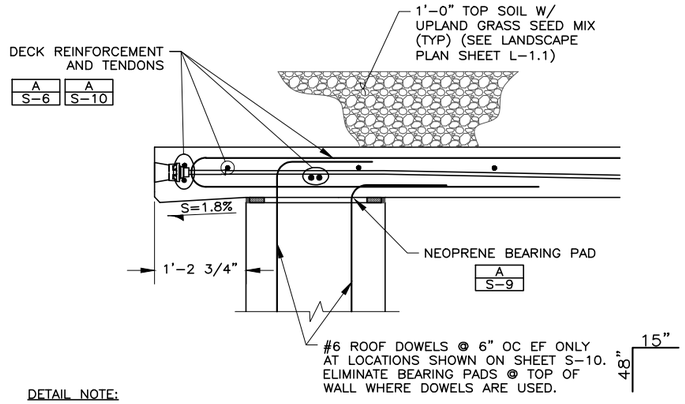


DETAIL NOTE:

STRESS SEQUENCING TO BE PROVIDED BY CONTRACTOR FOR REVIEW.

TYPICAL OUTSIDE WALL SECTION — NTS

1	1	1
C-5	S-1A	S-3
1	1	
S-4	S-6	

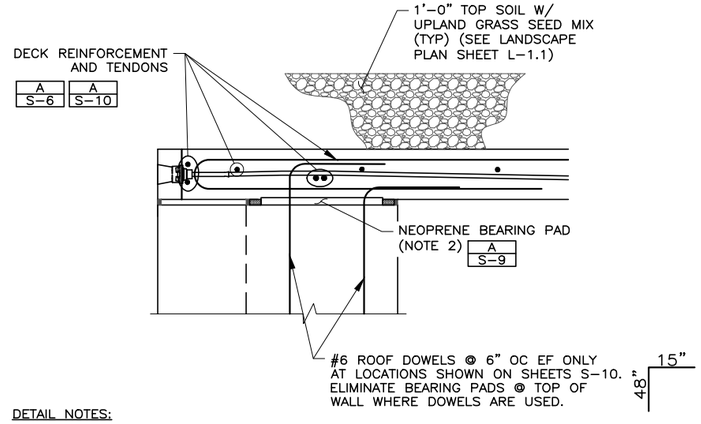


DETAIL NOTE:

THIS DETAIL APPLIES WITHIN 20'-0" OF EACH CORNER & ON OUTER WALL 10' EACH SIDE OF JUCTION WITH CENTER WALL.

ROOF AT CORNERS & JUNCTION OF CENTER & OUTSIDE WALLS — NTS

B	B
—	S-4

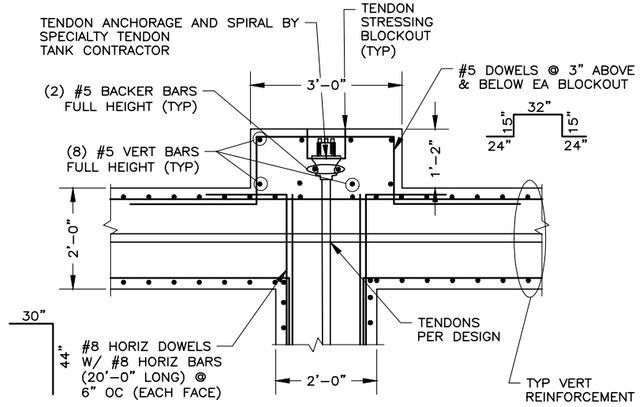


DETAIL NOTES:

1. THIS DETAIL APPLIES AT EACH CORNER & CENTER WALL PILASTERS.
2. NO BEARING PAD THIS AREA FOR CENTER WALL/OUTSIDE WALL JUNCTION WHERE DOWELS ARE USED.

ROOF AT @ CORNER & CENTER PILATSTERS — NTS

C	C	C
—	S-3	S-4

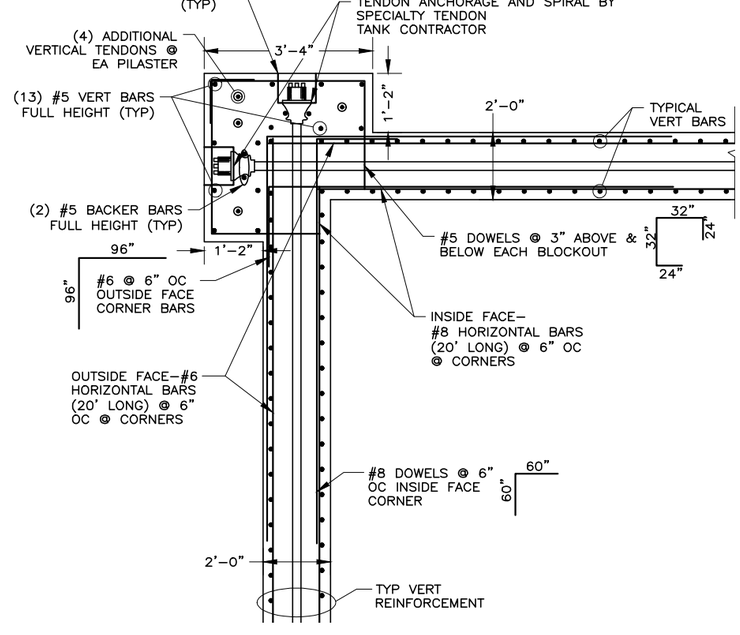


PILASTER @ CENTER WALL — NTS

E	E
S-3	S-4

GENERAL SHEET NOTES:

1. TIE OFF ALL WATERSTOP 12" OC, EW, TOP & BOTTOM.
2. ALL REINFORCING MUST BE SECURELY TIED IN PLACE PRIOR TO POURING CONCRETE.
3. ALL ROOF REINFORCING AND DOWELS IN ROOF TO BE EPOXY COATED.
4. TOLERANCE FOR THE ELEVATION OF THE PREPARED SUBGRADE SHALL BE 0"-1".
5. INSIDE AND OUTSIDE FACE CURBS SHALL NOT BE PLACED UNTIL 21 DAYS AFTER WALL POST-TENSIONING IS COMPLETE.
6. FOOTING AND FOUNDATION EXCAVATIONS SHALL BE INSPECTED AND APPROVED IN WRITING BY A QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF CONCRETE FORMS OR REBAR



TYP CORNER PILASTER — NTS

D	D	D
S-3	S-4	S-13

DESIGNED	GDS, RCC	3				
DRAFTED	BKC	2				
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	RCC
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

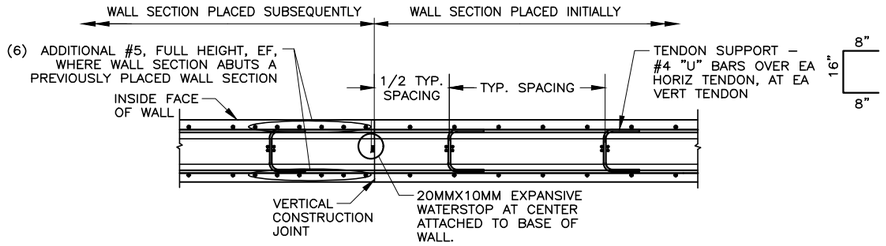
SCALE: NOT TO SCALE

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
STRUCTURAL
TANK OUTSIDE WALL & DETAILS I

SHEET S-5
176.41.100

FILE NAME: PROJECTS\176 - SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\S-5 TANK OUTSIDE WALL & DETAILS 1.DWG
FILE DATE: 7.15.2025 17:05:07 (DCL)
10/07



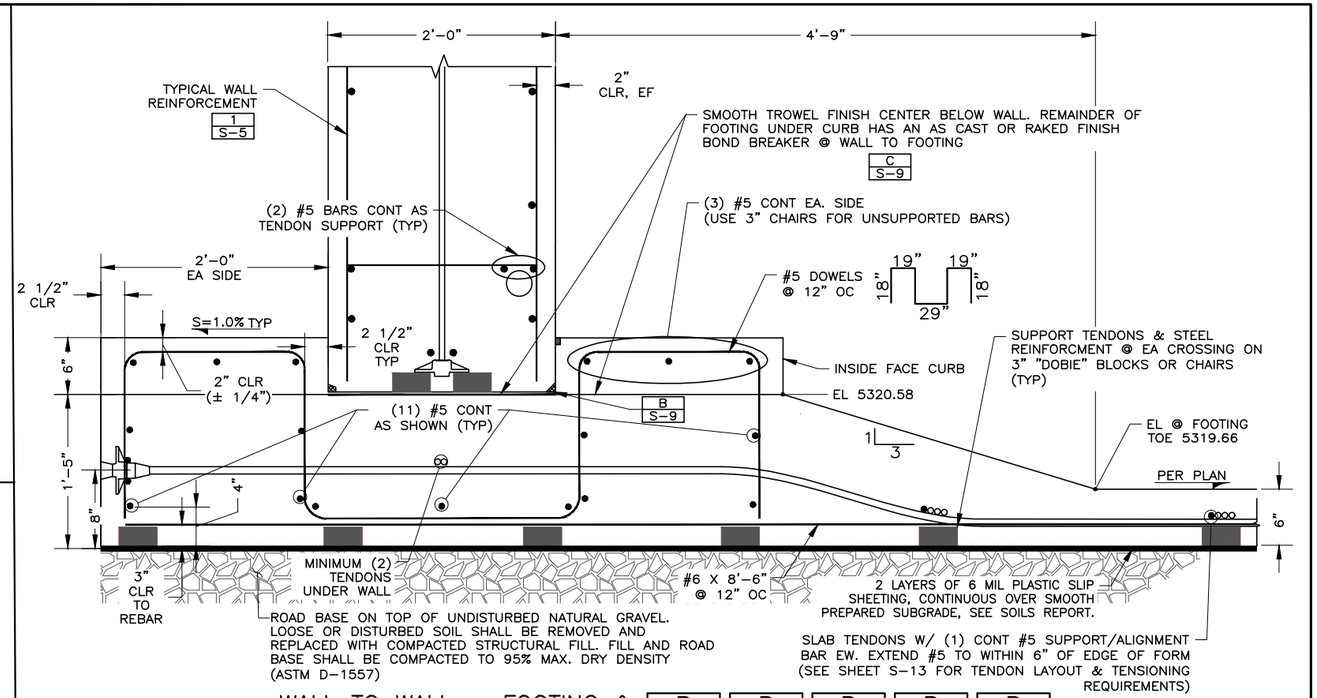
DETAIL NOTES:

1. CONST. JOINTS TO BE LOCATED IN THE MIDDLE OF A VERTICAL TENDON SPACE.
2. ALL HORIZONTAL BARS AND TENDONS ARE TO BE CONTINUOUS THROUGH VERTICAL CONSTRUCTION JOINTS.

TYPICAL VERTICAL WALL CONSTRUCTION JOINT

NTS

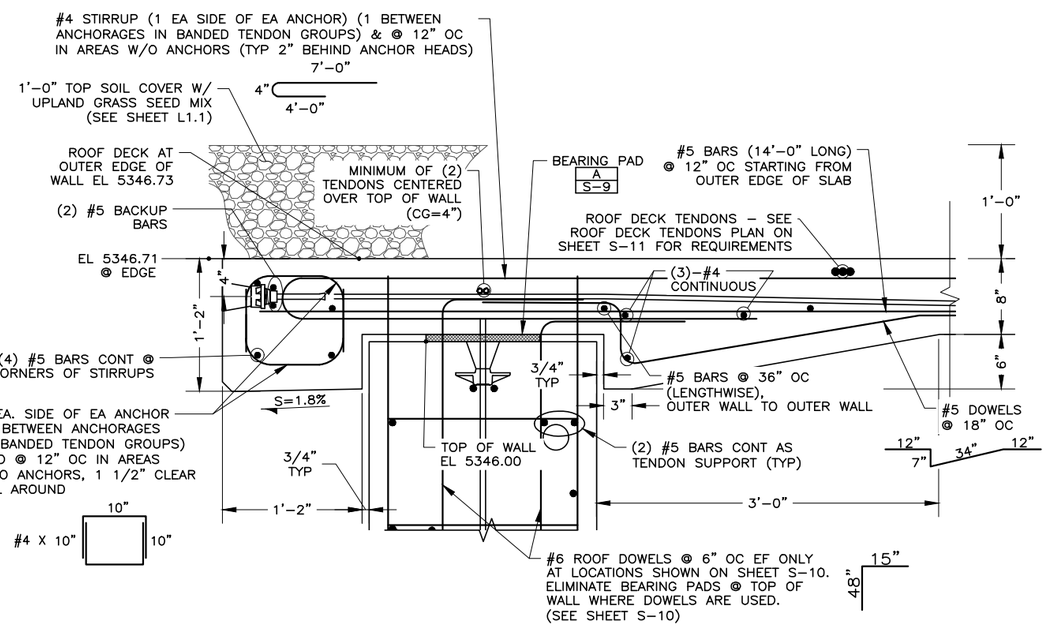
1	1
S–5	S–7



WALL TO WALL – FOOTING & FLOOR SLAB JOINTS DETAIL

NTS

B	B	B	B	B
C–5	S–1A	S–5	S–13	S–21



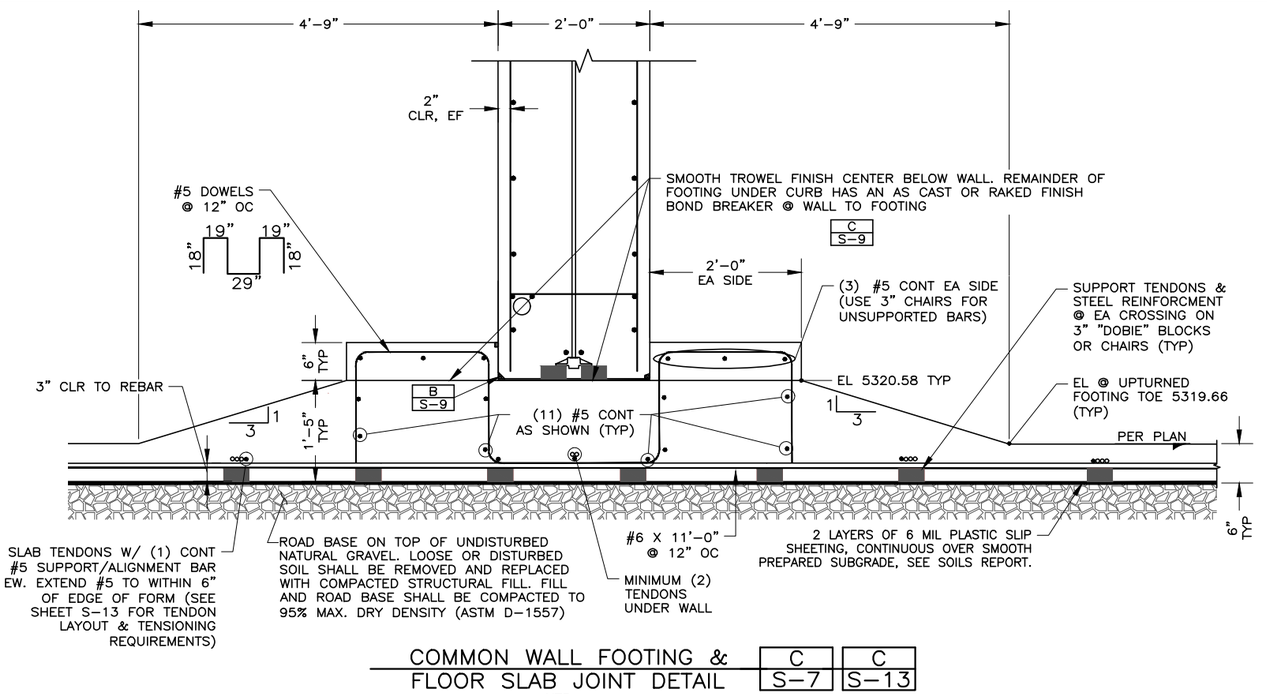
DETAIL NOTE:

SEE SHEET S–10 FOR ADDITIONAL ROOF REINFORCEMENT CONFIGURATIONS AT PILASTER.

WALL TO ROOF JOINT DETAIL

NTS

A	A
S–5	S–10



COMMON WALL FOOTING & FLOOR SLAB JOINT DETAIL

NTS

C	C
S–7	S–13

FILE NAME: PROJECTS\176 – SOUTH JORDAN CITY\41.100 SOUTH ZONE 7–8 TANK AND PIPELINE\CAD\S–6 TANK INSIDE WALL & DETAILS II.DWG
FILE DATE: 7.15.2025 17:08:50 (DC.)

10/07

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROFESSIONAL STRUCTURAL ENGINEER No. 2774619 ROBERT C. CONDER 7-15-2025 STATE OF UTAH
PROJECT ENGINEER

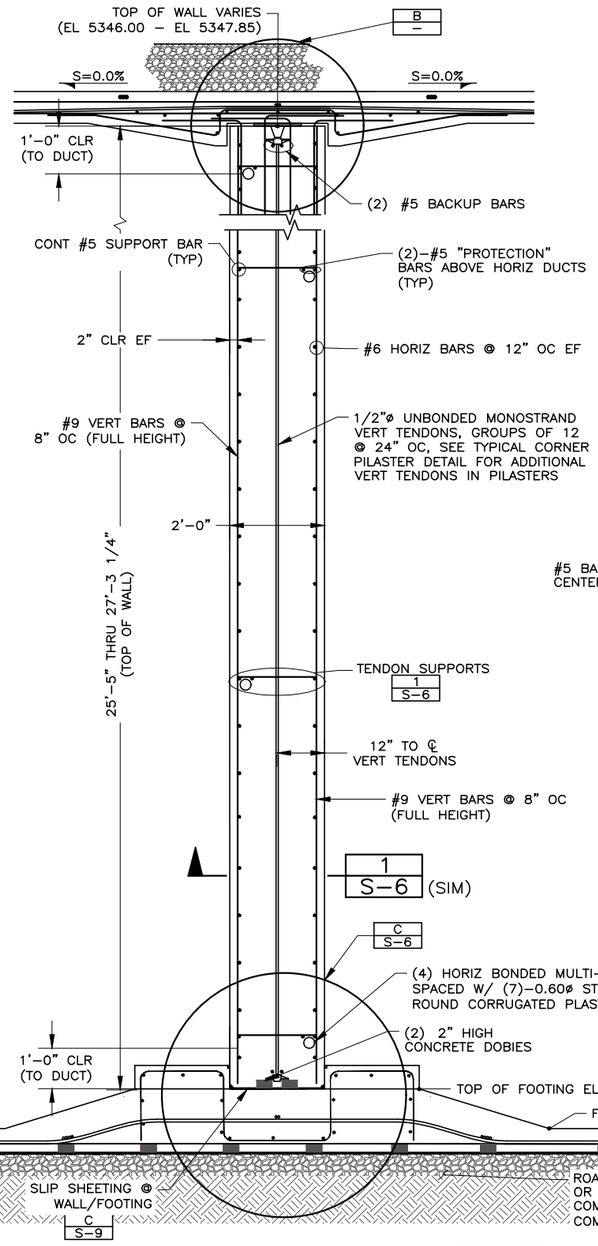
DESIGNED	GDS, RCC	3				
DRAFTED	BKC	2				
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	RCC
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

SCALE: NOT TO SCALE

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
STRUCTURAL
TANK INSIDE WALL & DETAILS II

SHEET S–6
176.41.100

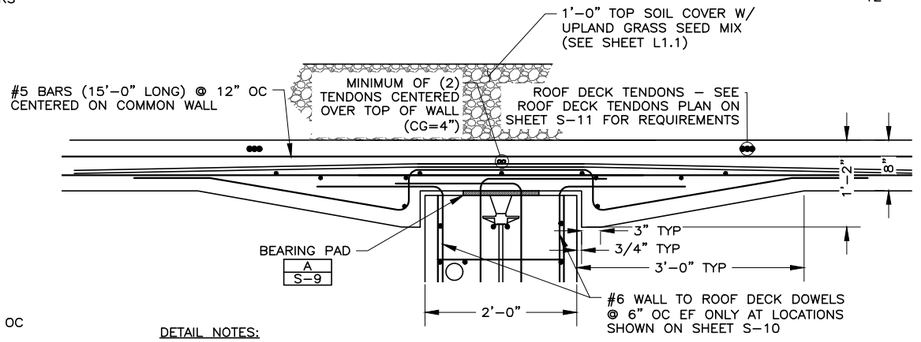


DETAIL NOTE:

STRESS SEQUENCING TO BE PROVIDED BY CONTRACTOR FOR REVIEW.

CENTER WALL SECTION			
	1 C–3	1 S–1A	1 S–3

NTS

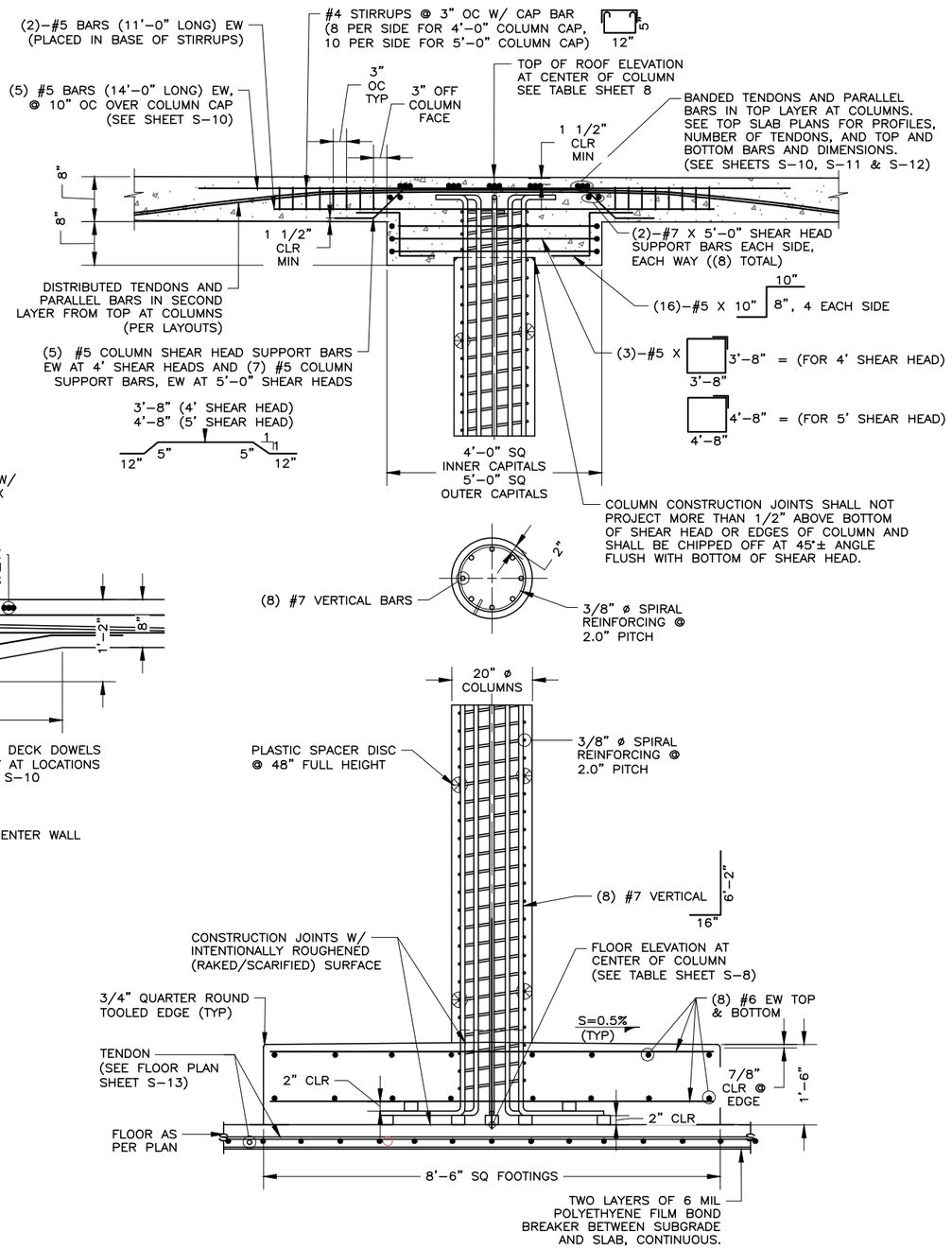


DETAIL NOTES:

1. SEE SHEET S–10 FOR ADDITIONAL ROOF REINFORCEMENT.
2. DOWELS SIMILAR TO DETAIL A/S–6 EXCEPT DOWELS FACE OUTWARD FROM CENTER WALL TO BE INSTALLED AND NO BEARING PAD INSTALLED FOR MIDDLE 20 FEET.

ROOF @ CENTER WALL		
	B –	B S–10

NTS



COLUMN FOOTING, SECTION AND CAPITAL DETAIL			
	A C–3	A S–1A	A S–3
	A S–4	A S–10	

NTS

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROFESSIONAL STRUCTURAL ENGINEER No. 2774619 ROBERT C. CONDER 7-15-2025 STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS, RCC	3				
DRAFTED	BKC	2				
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	RCC
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

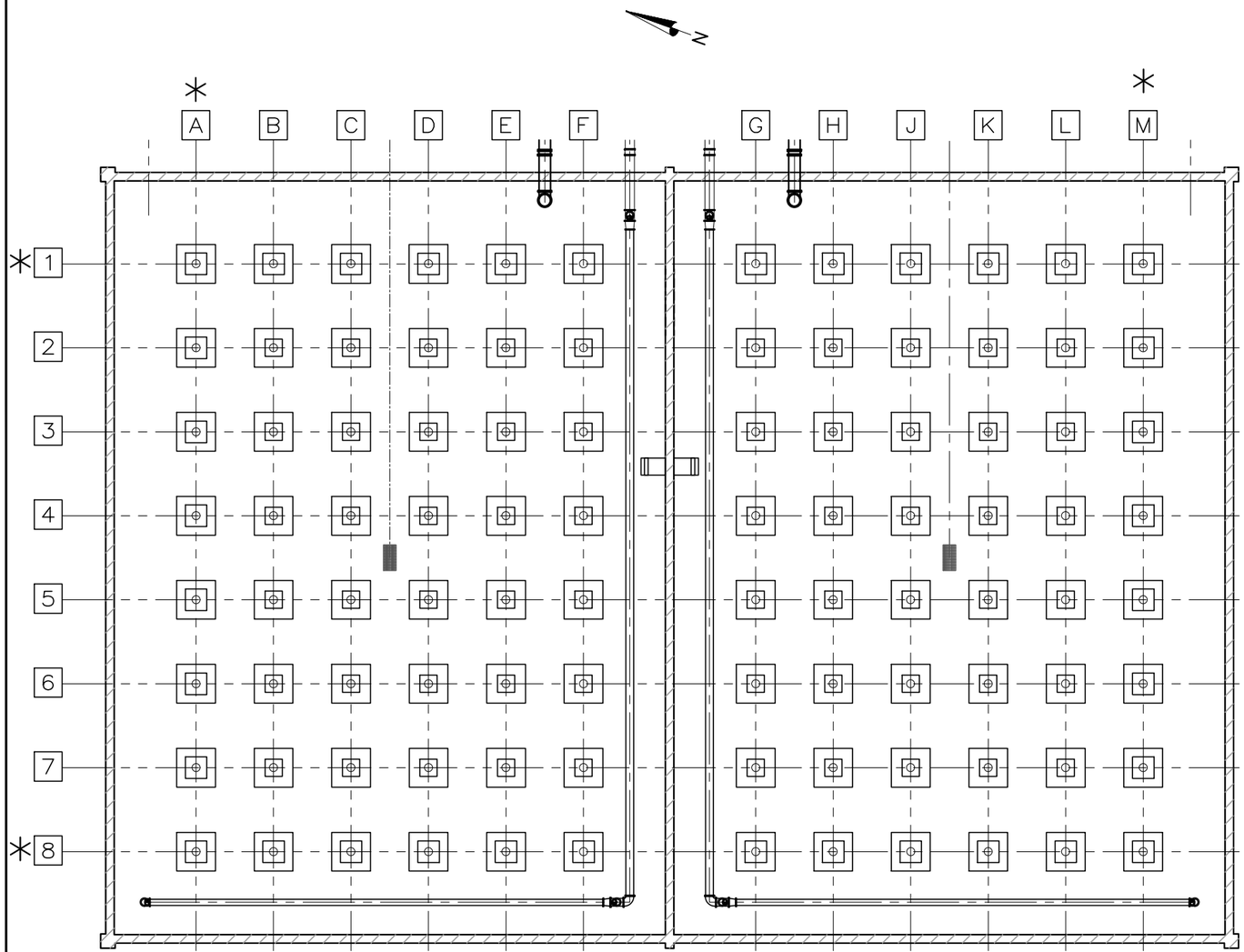
SCALE: NOT TO SCALE

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
STRUCTURAL
TANK COMMON WALL & COLUMN DETAILS

SHEET S–7
176.41.100

10/07



✳ = 5'–0" OUTER CAPITALS

ROOF AND FLOOR ELEVATION AT COLUMN		
COLUMN ID	FLOOR ELEVATION	ROOF ELEVATION
A–1	5319.57	5347.15
A–2	5319.54	5347.15
A–3	5319.54	5347.15
A–4	5319.54	5347.15
A–5	5319.54	5347.15
A–6	5319.54	5347.15
A–7	5319.54	5347.15
A–8	5319.57	5347.15
B–1	5319.57	5347.16
B–2	5319.45	5347.51
B–3	5319.38	5347.51
B–4	5319.38	5347.51
B–5	5319.38	5347.51
B–6	5319.38	5347.51
B–7	5319.45	5347.51
B–8	5319.57	5347.16
C–1	5319.57	5347.16
C–2	5319.45	5347.55
C–3	5319.33	5347.87
C–4	5319.23	5347.87
C–5	5319.23	5347.87
C–6	5319.33	5347.87
C–7	5319.45	5347.55
C–8	5319.57	5347.16
D–1	5319.57	5347.16
D–2	5319.45	5347.55
D–3	5319.33	5347.94
D–4	5319.23	5348.23
D–5	5319.23	5348.23
D–6	5319.33	5347.94
D–7	5319.45	5347.55
D–8	5319.57	5347.16
E–1	5319.57	5347.16
E–2	5319.45	5347.55
E–3	5319.38	5347.94
E–4	5319.38	5348.33
E–5	5319.38	5348.33
E–6	5319.38	5347.94
E–7	5319.45	5347.55
E–8	5319.57	5347.16
F–1	5319.57	5347.16
F–2	5319.54	5347.55
F–3	5319.54	5347.94
F–4	5319.54	5348.33
F–5	5319.54	5348.33
F–6	5319.54	5347.94
F–7	5319.54	5347.55
F–8	5319.57	5347.16

ROOF AND FLOOR ELEVATION AT COLUMN		
COLUMN ID	FLOOR ELEVATION	ROOF ELEVATION
G–1	5319.57	5347.16
G–2	5319.54	5347.55
G–3	5319.54	5347.94
G–4	5319.54	5348.33
G–5	5319.54	5348.33
G–6	5319.54	5347.94
G–7	5319.54	5347.55
G–8	5319.57	5347.16
H–1	5319.57	5347.16
H–2	5319.45	5347.55
H–3	5319.38	5347.94
H–4	5319.38	5348.33
H–5	5319.38	5348.33
H–6	5319.38	5347.94
H–7	5319.45	5347.55
H–8	5319.57	5347.16
J–1	5319.57	5347.16
J–2	5319.45	5347.55
J–3	5319.33	5347.94
J–4	5319.23	5348.23
J–5	5319.23	5348.23
J–6	5319.33	5347.94
J–7	5319.45	5347.55
J–8	5319.57	5347.16
K–1	5319.57	5347.16
K–2	5319.45	5347.55
K–3	5319.33	5347.87
K–4	5319.23	5347.87
K–5	5319.23	5347.87
K–6	5319.33	5347.87
K–7	5319.45	5347.55
K–8	5319.57	5347.16
L–1	5319.57	5347.16
L–2	5319.45	5347.51
L–3	5319.38	5347.51
L–4	5319.38	5347.51
L–5	5319.38	5347.51
L–6	5319.38	5347.51
L–7	5319.45	5347.51
L–8	5319.57	5347.16
M–1	5319.57	5347.15
M–2	5319.54	5347.15
M–3	5319.54	5347.15
M–4	5319.54	5347.15
M–5	5319.54	5347.15
M–6	5319.54	5347.15
M–7	5319.54	5347.15
M–8	5319.57	5347.15

PROFESSIONAL STRUCTURAL ENGINEER
No. 2774619
ROBERT C. CONDER
7-15-2025
STATE OF UTAH

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROJECT ENGINEER

DESIGNED	GDS, RCC	3			
DRAFTED	BKC	2			
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS / RCC
DATE	JULY 2025	NO.	DATE	REVISIONS	BY / APVD.

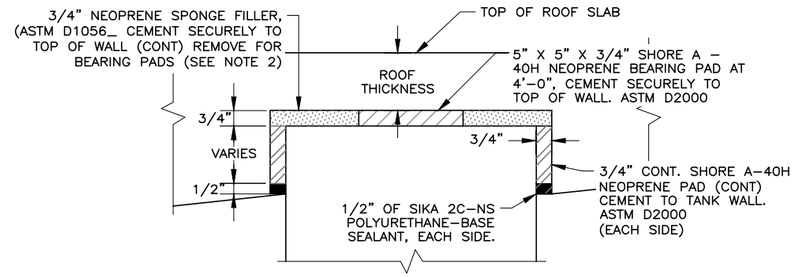
SCALE: NOT TO SCALE

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
STRUCTURAL
TANK COLUMN ELEVATIONS

SHEET S–8
176.41.100

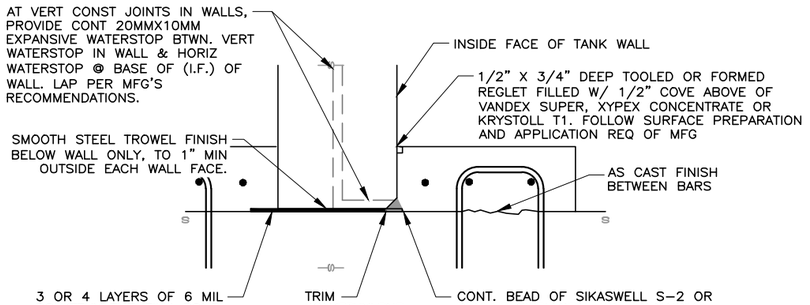
10/07



DETAIL NOTES:

1. ASTM D2000 BEARING PADS SHALL HAVE A MINIMUM ULTIMATE TENSILE STRENGTH OF 1,500 PSI AND A MINIMUM ELONGATION OF 500%. BEARING PAD PHYSICAL PROPERTIES SHALL COMPLY WITH ASTM D2000 LINE CALL OUT M 2 BC 410 A1 4 B14 FOR 40 DUROMETER MATERIAL.
2. BONDING OF PADS TO WALL SURFACES:
   a. CONCRETE SURFACE MUST BE FREE OF ANY CONTAMINATION FROM FORM RELEASE OR CURING COMPOUND. REMOVE CONTAMINANTS PER MFG.
   b. PAINT BACK OF PAD AND WALL FACE WITH DAP WELDWOOD CONTACT CEMENT AND LET DRY.
   c. AFTER CONTACT CEMENT HAS DRIED, PER MANUFACTURER'S INSTRUCTIONS, PRESS PAD TO WALL FACE AND ROLL FIRMLY WITH A 3" J ROLLER.

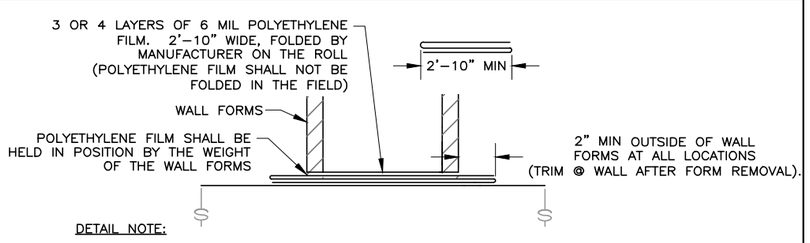
BEARING PAD DETAIL — NTS | A S–5 | A S–6 | A S–7



DETAIL NOTE:

CONCRETE FOR INSIDE AND OUTSIDE FACE CURBS SHALL CONTAIN XYPEX, VANDEX OR KRYSTOL CRYSTALLINE WATERPROOFING AD–MIX AS RECOMMENDED BY THE MFR.

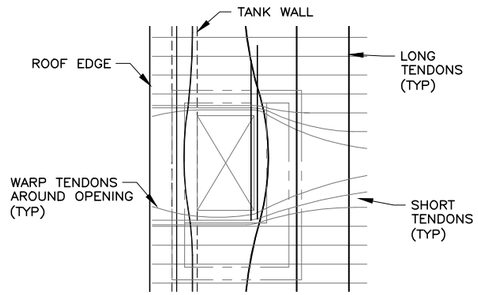
WATERSTOP DETAIL — NTS | B S–6



DETAIL NOTE:

REPLACE DAMAGED FILM PRIOR TO PLACING FORMS TO PREVENT CONCRETE TO CONCRETE CONTACT AT WALL AND FOOTING.

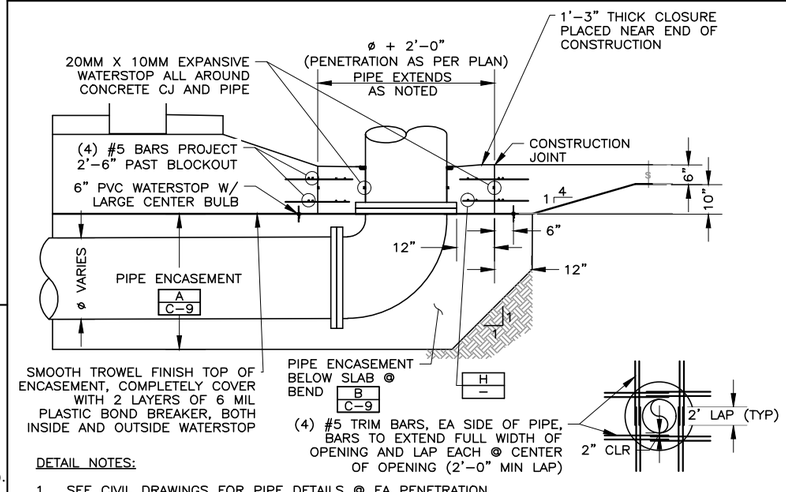
POLYETHYLENE FILM DETAIL — NTS | C – | C S–5 | C S–6 | C S–7



DETAIL NOTES:

1. SEE B/S–10 FOR TRIM BAR REQUIREMENTS AT OPENINGS.
2. THIS DETAIL APPLIES TO ALL ROOF DECK PENETRATIONS.

TYPICAL ROOF PENETRATION TENDON LAYOUT DETAIL — NTS | D S–10 | D S–11

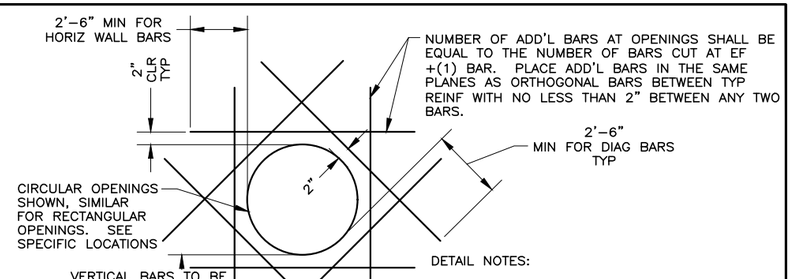


DETAIL NOTES:

1. SEE CIVIL DRAWINGS FOR PIPE DETAILS @ EA PENETRATION.
2. DEFLECT SLAB TENDONS AROUND PIPE BLOCKOUT.
3. ALL PIPES PASSING UNDER TANK STRUCTURE SHALL BE ENCASED.
4. SEE SHEET C–9 FOR EXTRA REINFORCEMENT AT TANK DRAIN PENETRATION.

DETAIL — NTS | H –

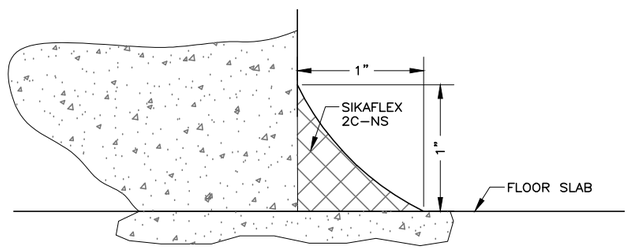
TYP PIPE PENETRATION DETAIL — NTS | E C–7 | E C–8 | E C–9 | E S–13



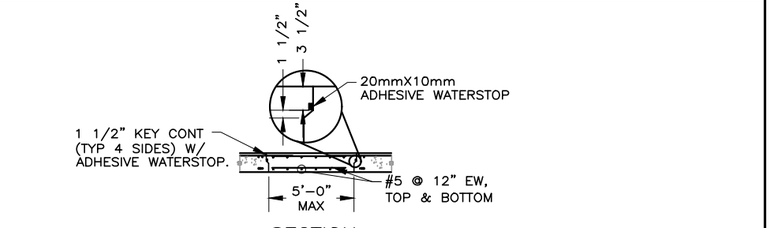
DETAIL NOTES:

1. REINFORCING IN ADDITION TO THE TRIM BARS IS NOT REQUIRED WHEN TYPICAL REINFORCING IS NOT CUT.
2. CUT TYPICAL REINFORCING TO PROVIDE 2" CLEAR COVER AT EDGE OF OPENING.
3. IF THE EDGES OF AN OPENING OR PIPE ARE LOCATED WITHIN 2'–6" OF THE EDGE OF A SLAB OR FROM THE TOP OR BOTTOM OF A WALL OR A LOCATION WHERE A 2'–6" PROJECTION IS NOT POSSIBLE, PROVIDE A STANDARD 90° HOOK AT FAR FACE OF THE CONCRETE.

EMERGENCY OVERFLOW WALL PENETRATION — NTS | F S–4



JOINT SEALANT DETAIL — NTS | G S–14 | G S–15 | G S–22



DETAIL NOTES:

1. THIS ROOF BLOCKOUT IS OPTIONAL FOR FORM REMOVAL.
2. BLOCKOUT LOCATION AND SIZE IS TO BE APPROVED BY ENGINEER.
3. ALL TENDONS TO BE DEFLECTED AROUND OPENING.

TEMPORARY ROOF BLOCKOUT DETAIL — NTS

PROFESSIONAL STRUCTURAL ENGINEER — No. 2774619 — ROBERT C. CONDER — 7-15-2025 — STATE OF UTAH

PROJECT ENGINEER

DESIGNED	GDS, RCC	3				
DRAFTED	BKC, CAH	2				
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	RCC
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

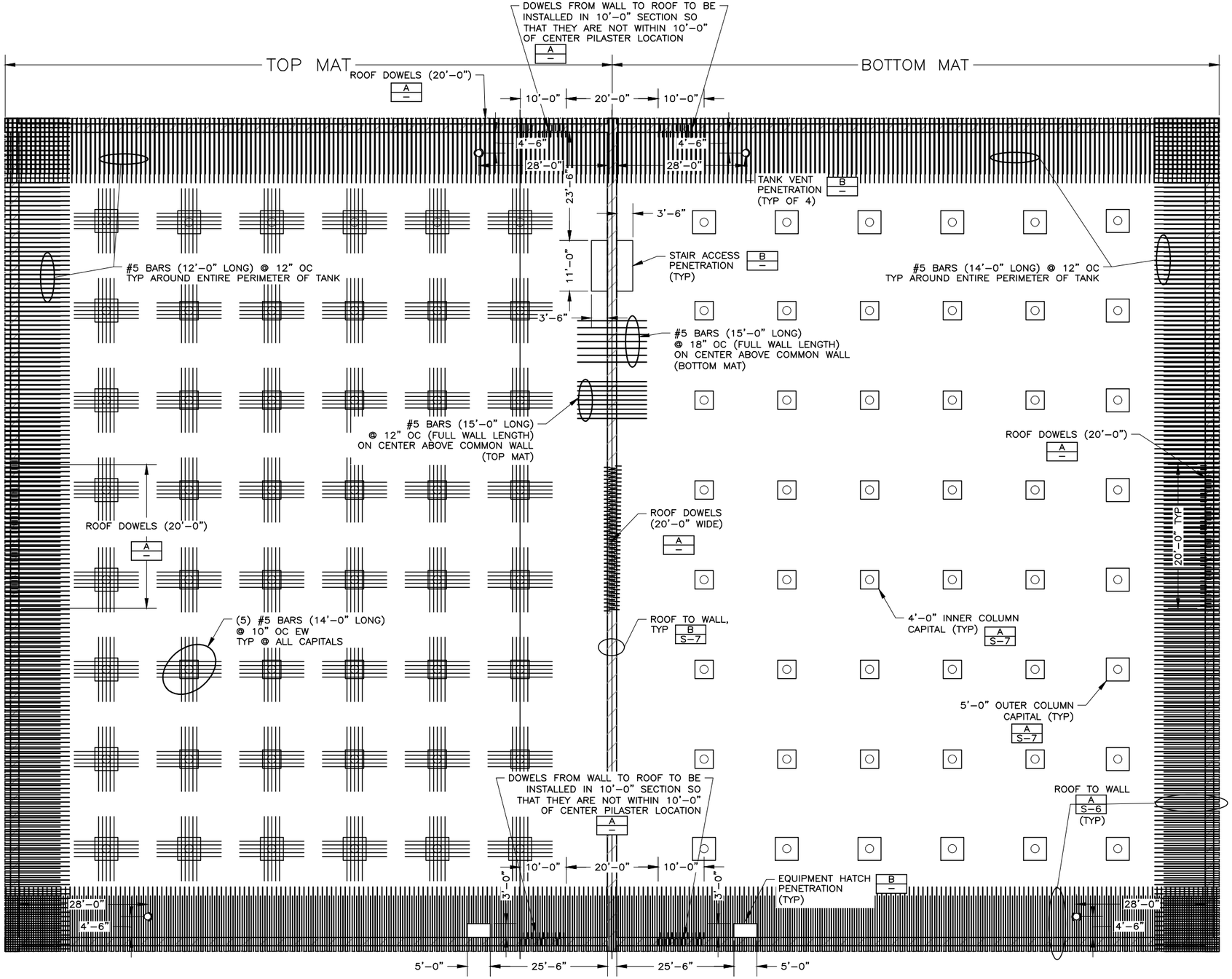
SCALE: NOT TO SCALE

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

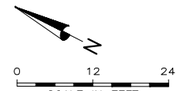
ZONES 7 & 8 – 8.4MG TANK
STRUCTURAL
TANK TYPICAL DETAILS

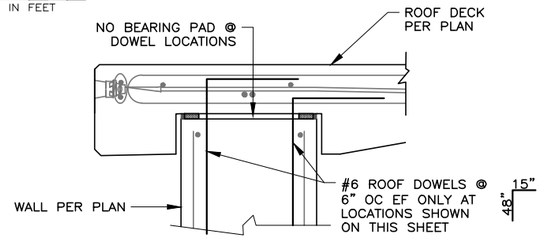
SHEET S–9
176.41.100

FILE NAME: PROJECTS\176 – SOUTH JORDAN CITY\41.100 SOUTH ZONE 7–8 TANK AND PIPELINE\CAD\S–9 TANK TYPICAL DETAILS.DWG
FILE DATE: 7.15.2025 17:17:09 (DCL)
10/07



TANK ROOF REINFORCEMENT PLAN | A — | A S-5

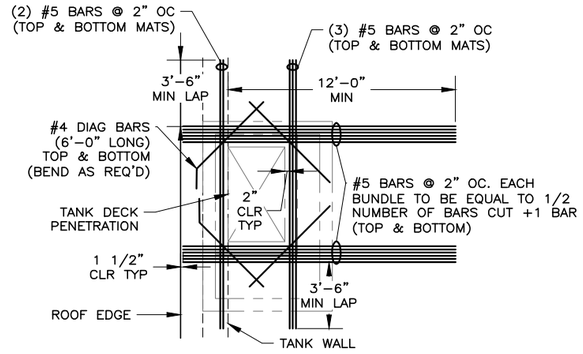




DETAIL NOTE:

SEE A/S-6 FOR TYPICAL ROOF TO WALL DETAIL.

ROOF DOWELING NTS | A — | A S-5



DETAIL NOTES:

1. THIS DETAIL APPLIES TO ALL ROOF DECK PENETRATIONS.
2. SIMILAR REQUIREMENTS TO BE USED FOR CENTER STAIR WELLS, EXCEPT THAT THE 12' MIN BARS ARE TO BE CONTINUOUS OVER WALL.
3. ALL REBAR & DOWELS IN ROOF DECK TO BE EPOXY COATED.
4. SEE D/S-9 FOR TYPICAL REBAR & TENDON REQUIREMENTS AT OPENINGS.
5. NO TENDONS SHALL BE CUT FOR HATCH AND OTHER OPENINGS.

TYPICAL ROOF PENETRATION REINFORMENT LAYOUT NTS | B — | B S-9

GENERAL SHEET NOTES:

1. "PROPOSED TENDON SUPPORT PLAN" DOES NOT SHOW NON-STRUCTURAL STEEL. IT IS FOR TENDON PLACEMENT ONLY. IF OTHER SYSTEM / LAYOUT IS DESIRED FOR TENDON SUPPORT THEN CONTACT ENGINEER FOR APPROVAL.
2. REBAR PLACEMENT SHALL NOT INTERFERE WITH THE REQUIRED TENDON PROFILES. RELOCATE "TOP" OR "BOTTOM" BARS AS LITTLE AS POSSIBLE TO AVOID INTERFERENCE.
3. TOP REINFORCEMENT LAYER AT COLUMNS SUPPORTED PER DETAIL A / S-7. PROVIDE SUPPORTS BARS FOR POST-TENSIONING. DO NOT USE "DIRECT CHAIRING" METHOD FOR P.T. SUPPORT. MAXIMUM SPACING OF SUPPORTS SHALL BE 4'-0". ALL SLAB BOLSTERS & CHAIRS SHALL BE STAPLED TO THE SOFFIT FORMS W/ GALVANIZED OR STAINLESS STEEL STAPLES. CHAIR EVERY CROSSING OF P.T. AND SUPPORT BARS AND TIE SECURELY. SUPPORT HEIGHTS OF 3" OR LESS MAY BE CONTINUOUS SLAB BLOSTERS.
4. BOTH FIELD CURED CYLINDERS AND MATURITY METERS ARE REQUIRED FOR ROOF CONCRETE PLACEMENT TO DETERMINE IN-SITU STRENGTH PRIOR TO POST-TENSIONING.
5. ALL REBAR IN ROOF DECK TO BE EPOXY COATED.

HANSEN ALLEN & LUCE, Inc. ENGINEERS
PROFESSIONAL STRUCTURAL ENGINEER No. 2774619 ROBERT C. CONDER 7-15-2025 STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS, RCC	3				
DRAFTED	BKC	2				
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	RCC
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

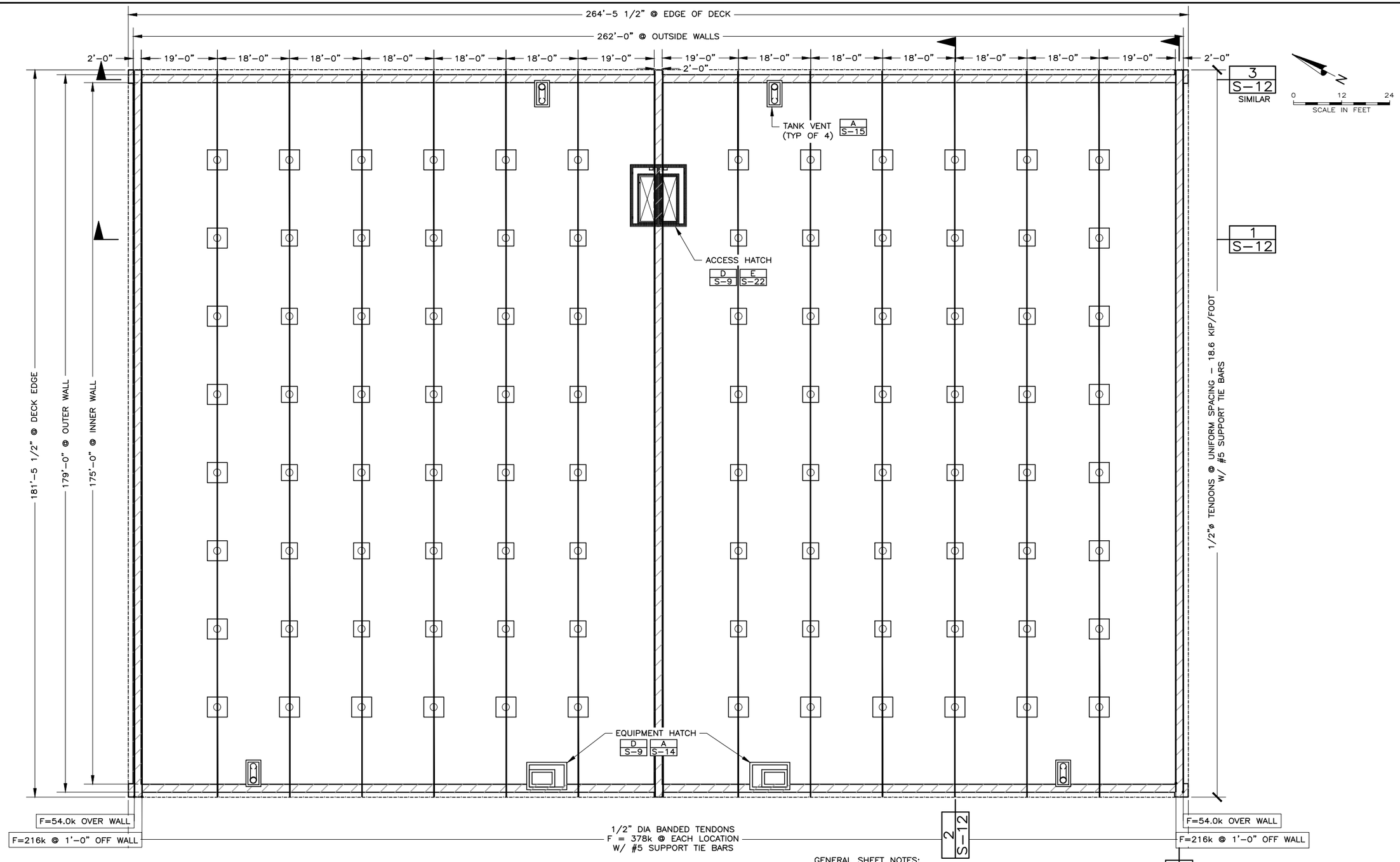
SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 — 8.4MG TANK
STRUCTURAL
TANK ROOF REINFORCEMENT

SHEET S-10
176.41.100

10/07



TANK ROOF TENDON PLAN A S-5

GENERAL SHEET NOTES:

1. ALL FORCES SHOWN ARE FINAL EFFECTIVE FORCES.
2. SEE SHEET S-4 AND S-10 FOR ROOF HATCH AND VENT LOCATIONS.
3. SEE SHEET S-12 FOR TENDON PROFILES.
4. SEE D/S-9 FOR TENDON REQUIREMENTS AT OPENINGS. NO TENDONS ARE TO BE CUT AT OPENINGS.

FILE NAME:PROJECTS\176 — SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\S-11 TANK ROOF TENDON DETAILS.DWG
FILE DATE: 7.15.2025 17:22:22 (DCL)

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROFESSIONAL STRUCTURAL ENGINEER No. 2774619 ROBERT C. CONDER 7-15-2025 STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS, RCC	3				
DRAFTED	BKC	2				
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	RCC
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

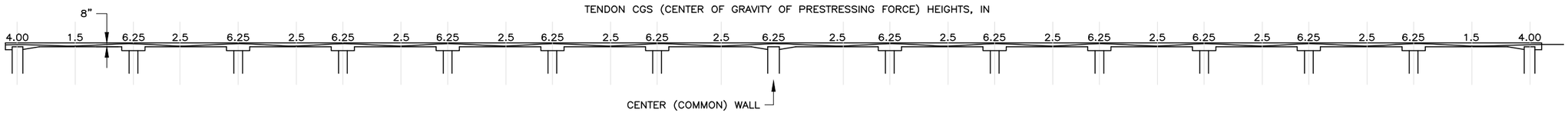
SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

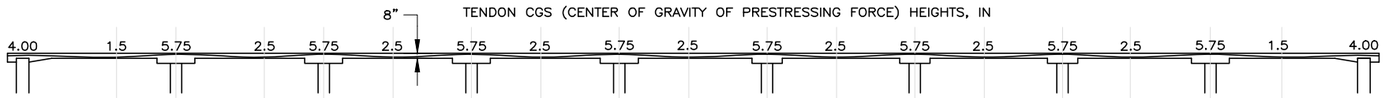
ZONES 7 & 8 — 8.4MG TANK
STRUCTURAL
TANK ROOF TENDON DETAILS

SHEET S-11
176.41.100

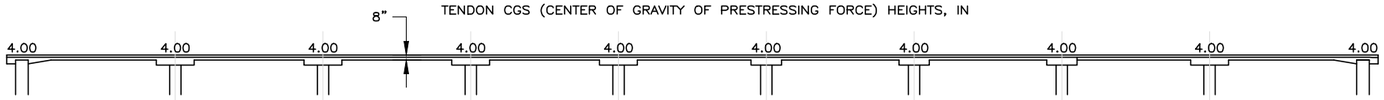
10/07



TANK LENGTH TENDON PROFILE AT COLUMN & BETWEEN COLUMN (UNIFORM SPACING) 1 / S-11



TANK WIDTH TENDON PROFILE AT COLUMN (BANDED) 2 / S-11



TYPICAL TANK TENDON PROFILE AT EDGE (BANDED–OVER WALL LINE) 3 / S-11
(APPLIES IN LONG DIRECTION ALSO)

FILE NAME: PROJECTS\176 – SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\S-12 TANK ROOF TENDON PROFILES.DWG
FILE DATE: 7.15.2025 17:31:52 (DCL)

10/07

HANSEN ALLEN & LUCE ENGINEERS

PROFESSIONAL STRUCTURAL ENGINEER
No. 2774619
ROBERT C. CONDER
7-15-2025
STATE OF UTAH
PROJECT ENGINEER

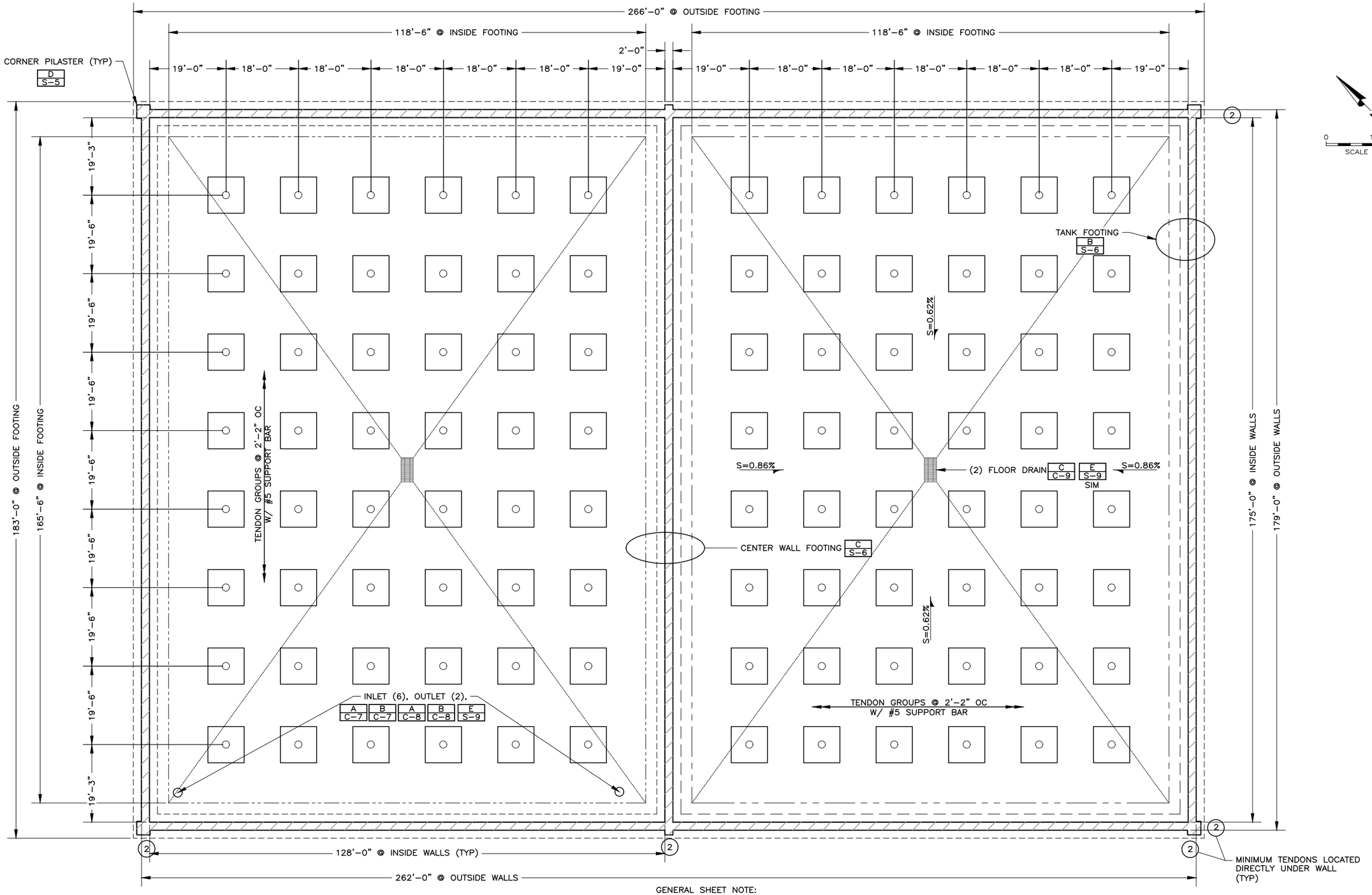
DESIGNED GDS, RCC	3					
DRAFTED BKC	2					
CHECKED MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	RCC	
DATE JULY 2025	NO.	DATE	REVISIONS	BY	APVD.	

SCALE: NOT TO SCALE

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095
SOUTH JORDAN UTAH

ZONES 7 & 8 – 8.4MG TANK
STRUCTURAL
TANK ROOF TENDON PROFILES

SHEET S-12
176.41.100



GENERAL SHEET NOTE:

6" THICK 2-WAY PRESTRESSED FLOOR SLAB, PLACED MONOLITHICALLY. REINFORCE WITH GROUPS OF (2) 1/2" TENDONS AND CONTINUOUS #5 SUPPORT BARS @ 2'-2" OC EW. SUPPORT TENDONS AND REINFORCEMENT WITH CG OF TENDONS AT CG OF SLAB.

FILE NAME: PROJECTS\176 - SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\S-13 TANK FLOOR TENDON DETAILS.DWG
FILE DATE: 7.15.2025 17:34:12 (DCL)

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROFESSIONAL STRUCTURAL ENGINEER No. 2774619 ROBERT C. CONDER 7-15-2025 STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS, RCC	3				
DRAFTED	BKC	2				
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	RCC
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

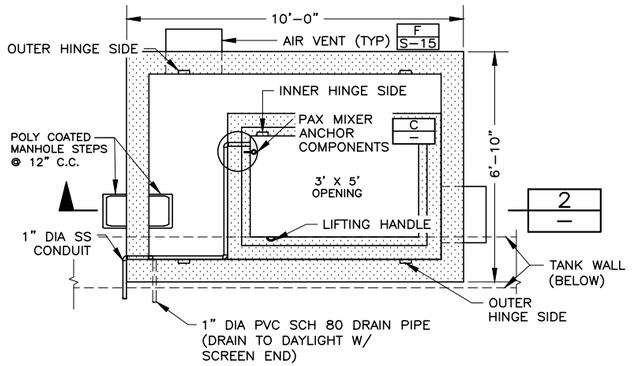
SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

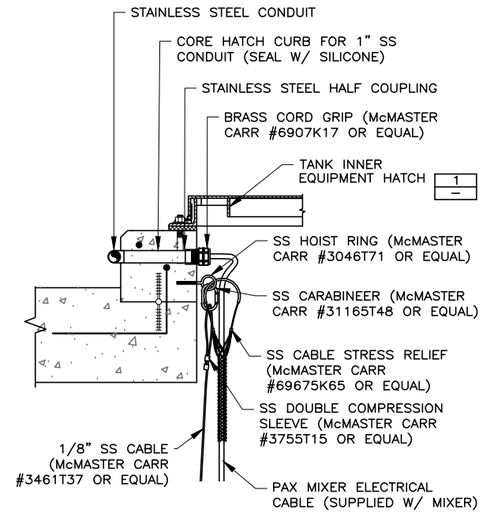
ZONES 7 & 8 – 8.4MG TANK STRUCTURAL TANK FLOOR TENDON DETAILS

SHEET S-13
176.41.100

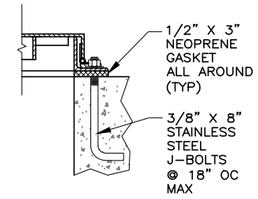
10/07



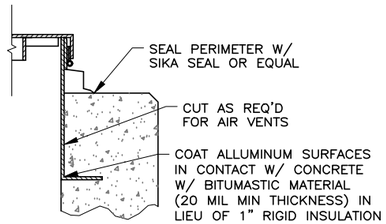
EQUIPMENT HATCH PLAN	A C-1	A C-3	A S-4	A S-11



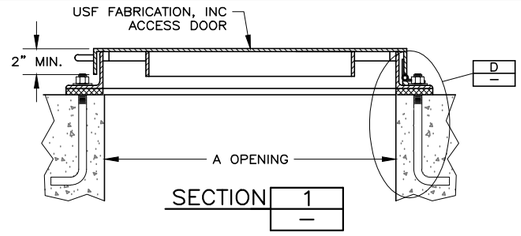
PAX MIXER ANCHOR DETAIL | C —



HATCH ANCHOR DETAIL (TYP) | D — | D S-22



(BILCO) HATCH ANCHOR DETAIL (TYP) | E — | E S-22

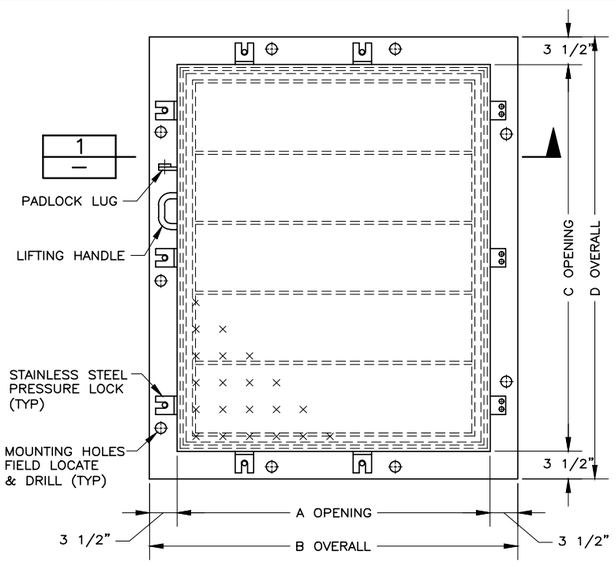


SECTION 1 —

HATCH SPECIFICATIONS					
LOCATION	U.S.F. FABRICATION INC. MODEL NO.	HATCH DIMENSIONS			
		A	B	C	D
TANK ACCESS	FPS 625 42X132 ALUM	42"	48"	132"	139"
TANK EQUIPMENT	FPS 625 36X60 ALUM	36"	42"	60"	66"
LOCATION	BILCO PRODUCTS MODEL NO.	HATCH DIMENSIONS			
		A	B	C	D
TANK ACCESS	* TYPE D	72"	79"	168"	175"
TANK EQUIPMENT	* TYPE D	66"	73"	104"	111"
* MODIFY FOR NO PENETRATIONS, ELIMINATE HANDLE & REPLACE W/CONCEALED PADLOCK.					

DETAIL NOTES:

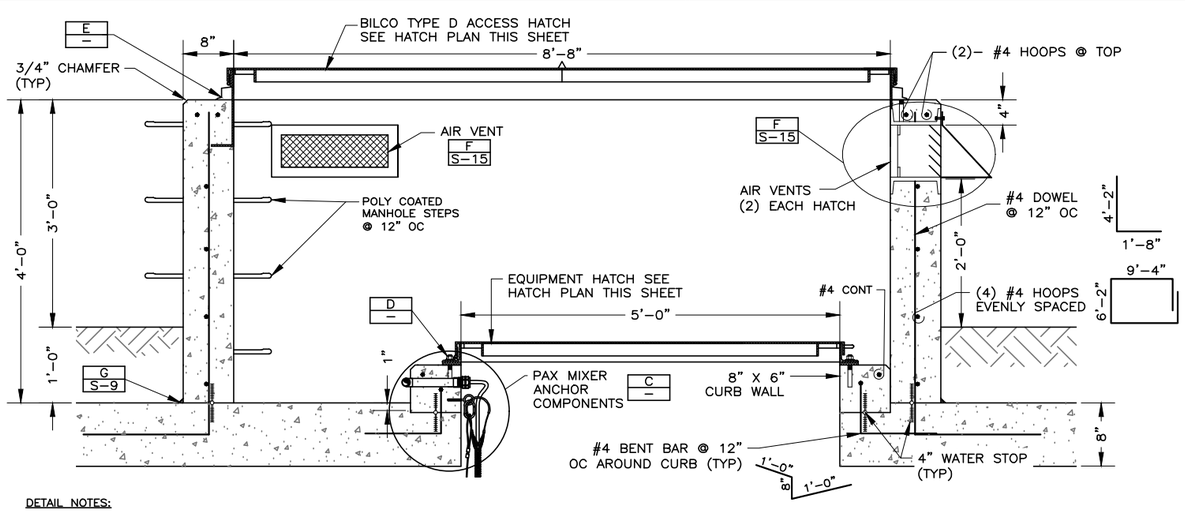
1. BITUMINOUS COAT ALL ALUMINUM SURFACES EXPOSED TO CONCRETE.
2. PROVIDE SAFETY GRATES FOR FPS625 HATCHES.



DETAIL NOTE:

ABOVE DETAIL IS FOR USF HATCH. EXCEPT A,B,C & D DIMENSIONS ALSO APPLY TO BILCO HATCH.

HATCH PLAN



DETAIL NOTES:

1. (2) #4 DOWELS @ EACH SIDE OF AIR VENT (TYP).
2. ALL BARS IN ROOF DECK & HATCH TO BE EPOXY COATED.
3. 20" MIN LAP ON ALL HOOP REBAR.
4. PROVIDE ACCESS LADDERS AND HAND HOLD EXTENSIONS FOR BOTH ACCESS HATCH & EQUIPMENT HATCH.
5. DO NOT CUT TENDONS @ PENETRATIONS. BEND TENDONS AROUND PENETRATIONS. SEE D/S-9.
6. SEE SHEET S-8 FOR ADDITIONAL HATCH REINFORCEMENT.
7. SIMILAR REQUIREMENTS AT TANK ACCESS OPENINGS.

36" X 60" EQUIPMENT HATCH SECTION 2 —

PROFESSIONAL STRUCTURAL ENGINEER No. 2774619 ROBERT C. CONDER 7-15-2025 STATE OF UTAH

PROJECT ENGINEER

DESIGNED	GDS, RCC
DRAFTED	BKC
CHECKED	MEA, RCC
DATE	JULY 2025

NO.	DATE	REVISIONS	BY	APVD.
3				
2				
1	JULY 2025	ISSUED FOR BID	GDS	RCC

SCALE NOT TO SCALE

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

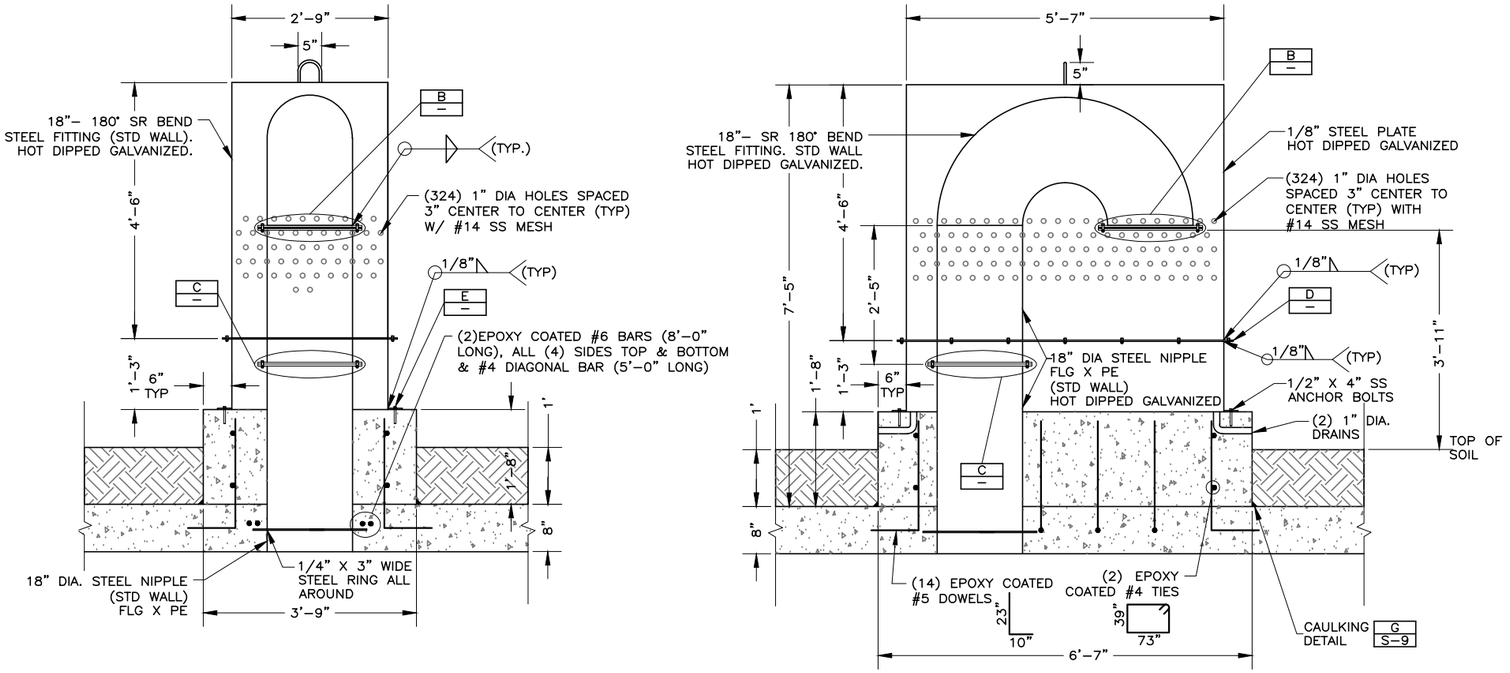
ZONES 7 & 8 – 8.4MG TANK STRUCTURAL TANK EQUIPMENT HATCH DETAILS

SHEET S-14

176.41.100

FILE NAME: PROJECTS\176 — SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\S-14 TANK EQUIPMENT HATCH DETAILS.DWG
FILE DATE: 7.15.2025 17:37:55 (DCL)

10/07



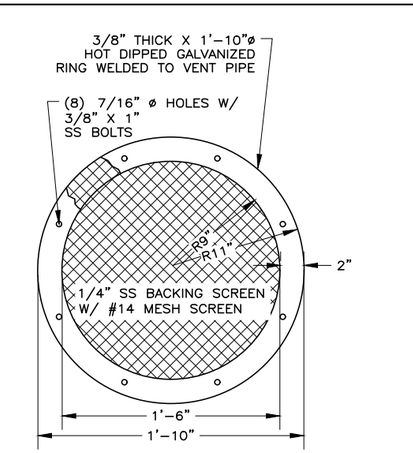
TYPICAL TANK AIR VENT

A	A	A	A	A
C-1	C-3	C-5	S-4	S-11

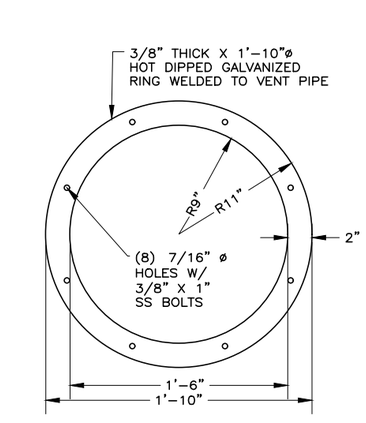
SCALE IN FEET

DETAIL NOTE:

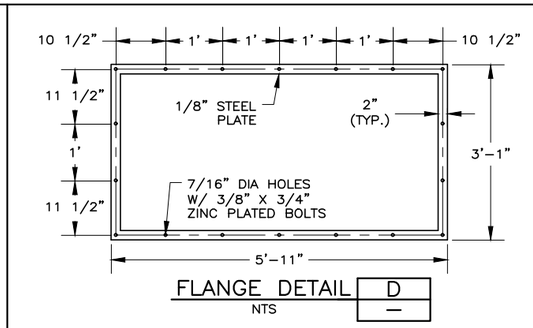
DO NOT CUT TENDONS OR DECK REINFORCEMENT FOR PLACEMENT OF VENT. SEE D/S-9 AND B/S-10.



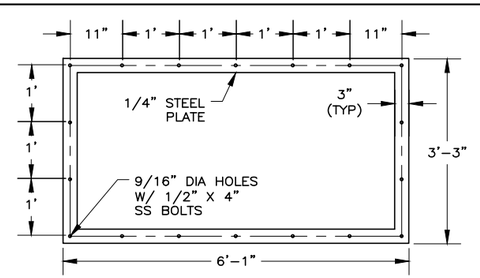
AIR VENT SCREEN DETAIL — B — NTS



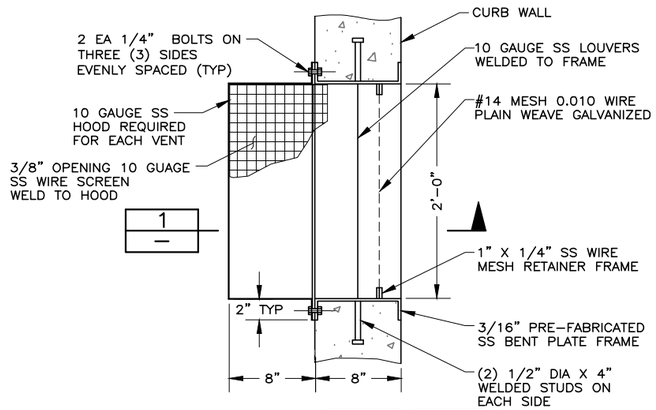
PIPE FLANGE DETAIL — C — NTS



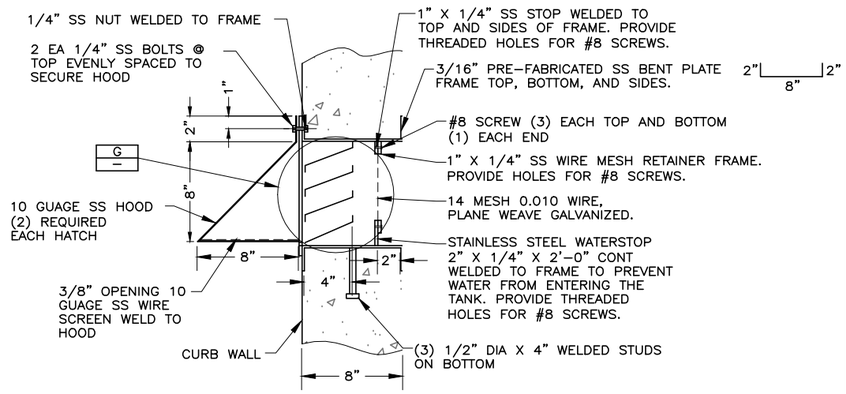
FLANGE DETAIL — D — NTS



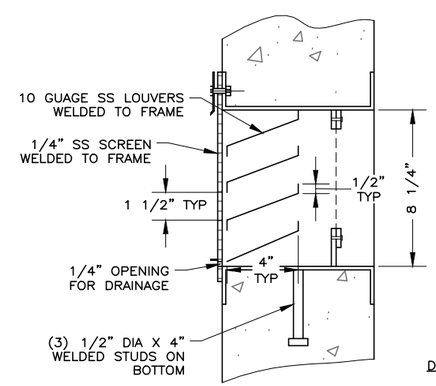
BASE FLANGE DETAIL — E — NTS



DETAIL — F — S-14 — F — S-22 — NTS



SECTION — 1 — NTS



DETAIL — G — NTS

DETAILS A, F & G NOTES:

1. ALL WELDS TO BE 3/16" FILLET.
2. CONTRACTOR TO SUBMIT SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
3. ALL MATERIALS TO BE STAINLESS STEEL.

PROFESSIONAL STRUCTURAL ENGINEER — No. 2774619 — ROBERT C. CONDER — 7-15-2025 — STATE OF UTAH

PROJECT ENGINEER

DESIGNED	GDS, RCC	3					
DRAFTED	BKC	2					
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	RCC
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

HANSEN ALLEN & LUCE, Inc. ENGINEERS

SCALE AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

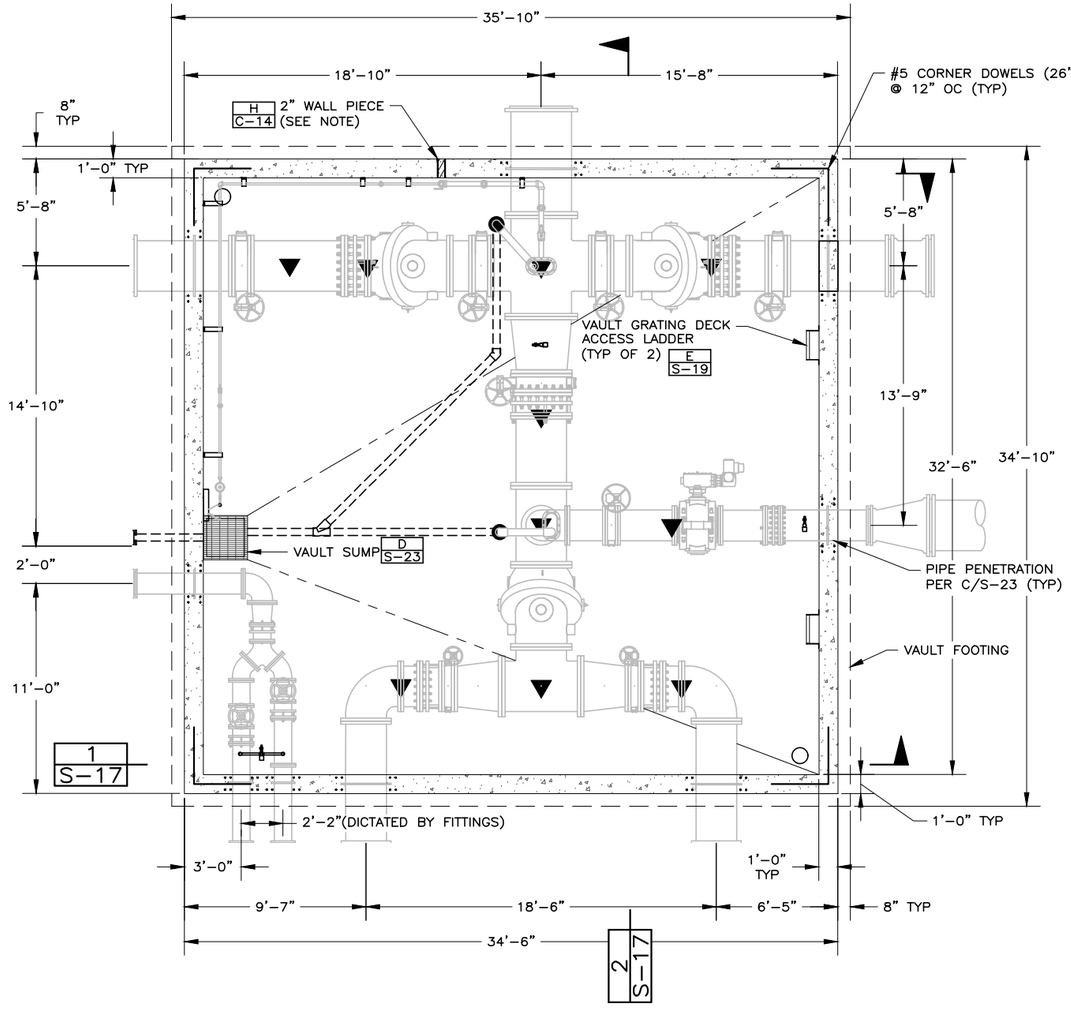
ZONES 7 & 8 – 8.4MG TANK
STRUCTURAL
TANK VENT DETAILS

SHEET S–15

176.41.100

FILE NAME: PROJECTS\176-41.100 SOUTH JORDAN CITY\ZONE 7-8 TANK AND PIPELINE\CAD\S-15 TANK VENT DETAILS.DWG
FILE DATE: 7.15.2025 17:40:34 (DCL)

10/07



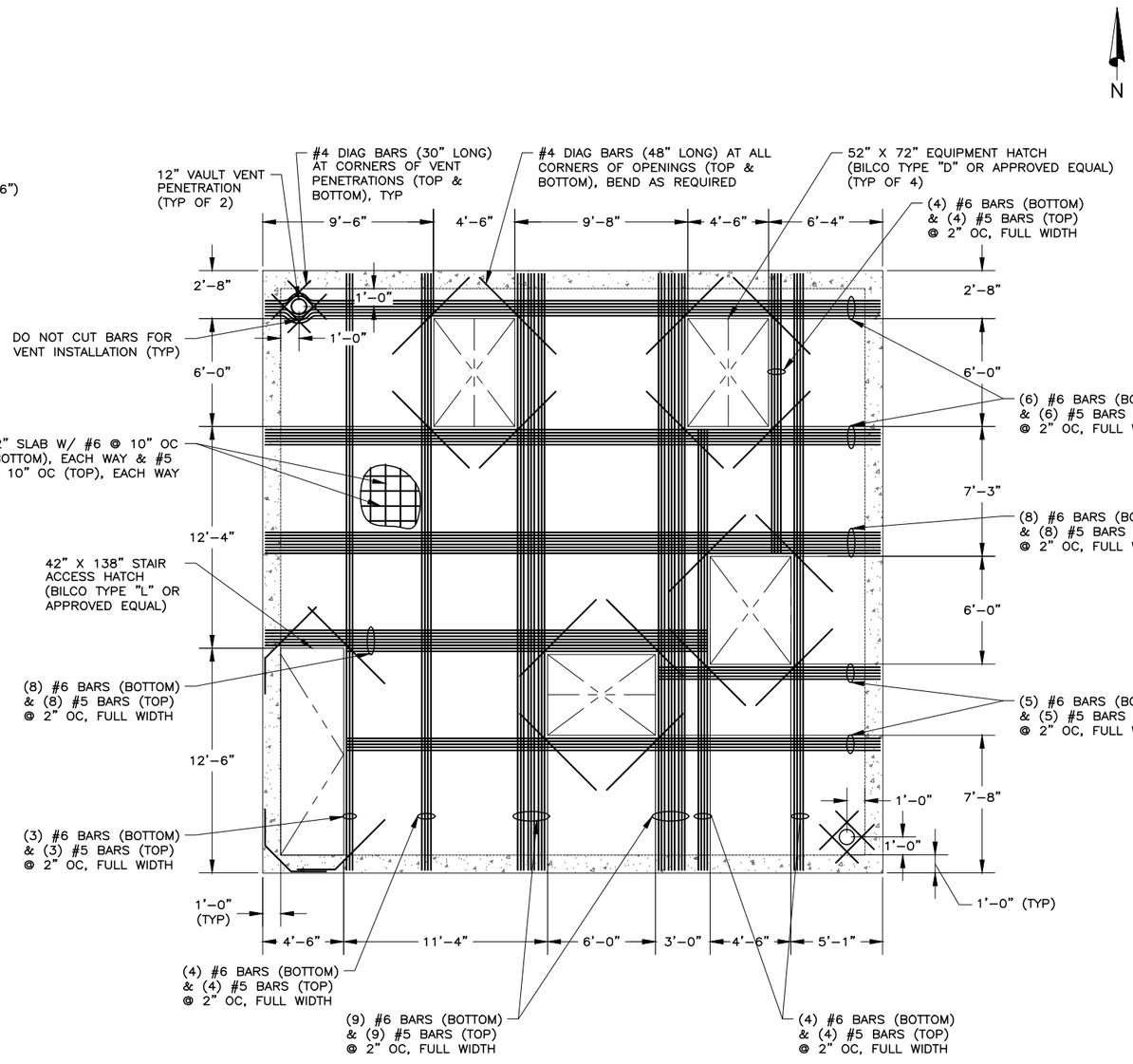
DETAIL NOTES:

1. TWO INCH WALL PIECE PLACEMENT SHALL BE INSTALLED AT 3' COVER.
2. FOOTING AND FOUNDATION EXCAVATIONS SHALL BE INSPECTED AND APPROVED IN WRITING BY A QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF CONCRETE FORMS OR REBAR.

VAULT PLAN A — S–17

0 4 8

SCALE IN FEET



DETAIL NOTES:

1. TANK ROOF WAS NOT DESIGNED FOR ANY VEHICULAR TRAFFIC.
2. SLOPE ROOF SLAB TO SHED DRAIN OFF OF VAULT.

VAULT DECK PLAN B — S–17

0 4 8

SCALE IN FEET

FILE NAME: PROJECTS\176 — SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\S-16 VALVE VAULT & DECK PLAN.DWG
FILE DATE: 7.15.2025 17:47:02 (DCL)

10/07

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROFESSIONAL STRUCTURAL ENGINEER — No. 2774619 — ROBERT C. CONDER — 7-15-2025 — STATE OF UTAH
PROJECT ENGINEER

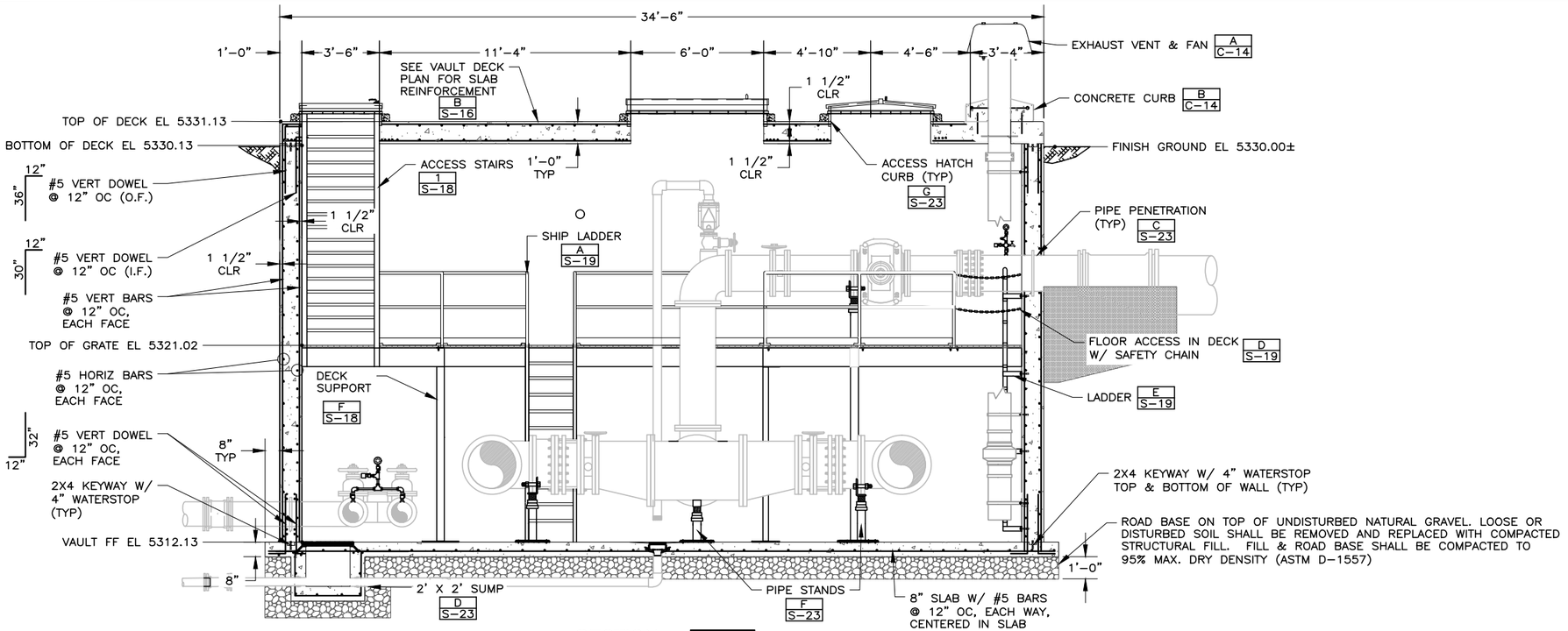
DESIGNED	GDS, RCC	3				
DRAFTED	BKC	2				
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	RCC
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
STRUCTURAL
VALVE VAULT & DECK PLAN

SHEET S–16
176.41.100

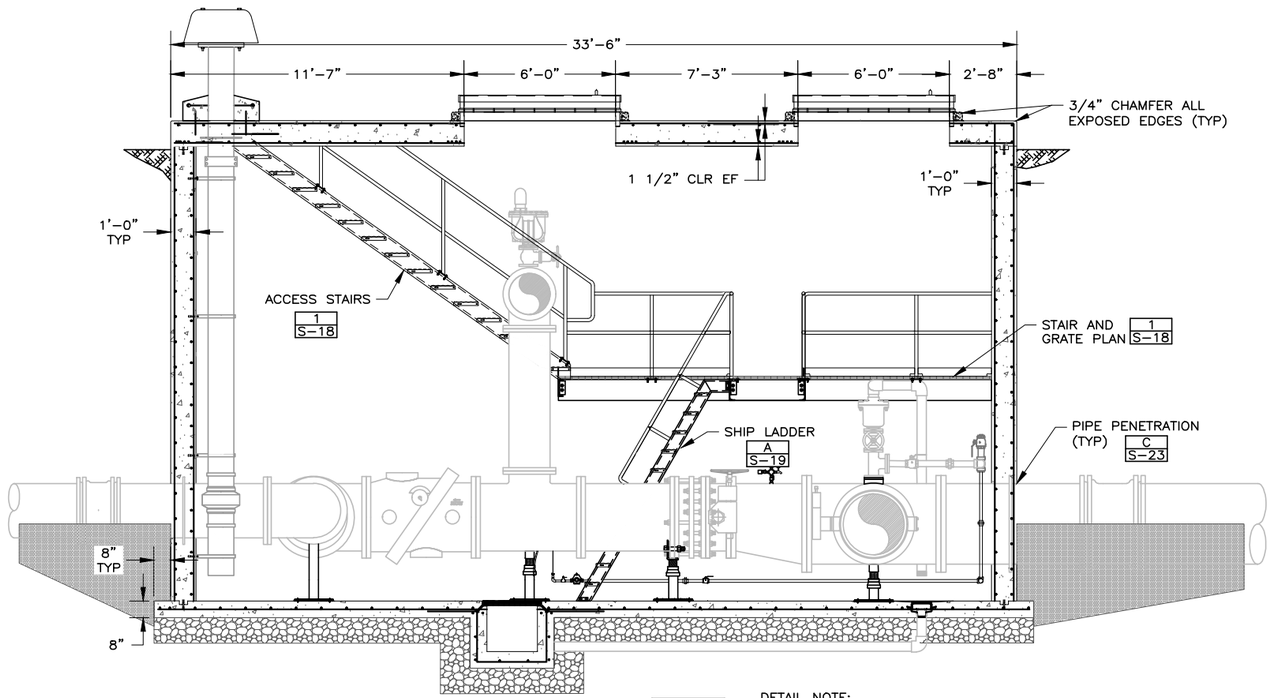


SECTION 1 / S-16

SCALE IN FEET 0 2 4

GENERAL DETAIL NOTE:

1. FOOTINGS AND FOUNDATION EXCAVATIONS SHALL BE INSPECTED AND APPROVED IN WRITING BY A QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF THE CONCRETE FORMS OR REBAR.



SECTION 2 / S-16

SCALE IN FEET 0 2 4

DETAIL NOTE:

SEE SECTION 1/S-17 FOR TYPICAL WALL AND FLOOR REINFORCEMENT.

FILE NAME:PROJECTS\176 - SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\S-17 VALVE VAULT SECTIONS.DWG
FILE DATE: 7.15.2025 17:51:13 (DCL)

10/07

HANSEN ALLEN & LUCE inc ENGINEERS

PROFESSIONAL STRUCTURAL ENGINEER No. 2774619 ROBERT C. CONDER 7-15-2025 STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS, RCC	3				
DRAFTED	BKC	2				
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	RCC
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

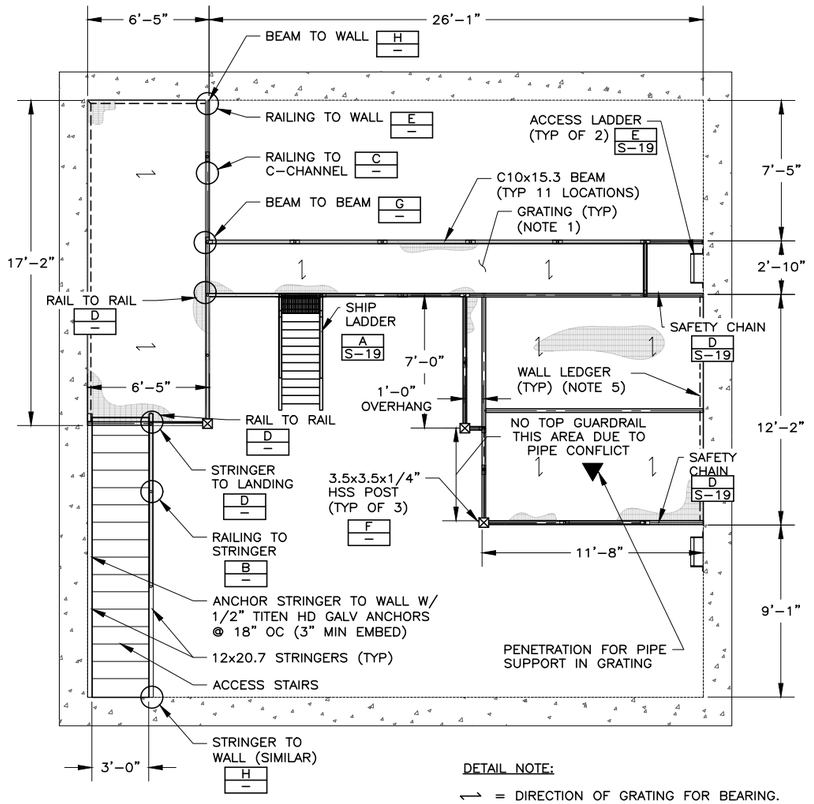
SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK STRUCTRUAL VALVE VAULT SECTIONS

SHEET S-17

176.41.100

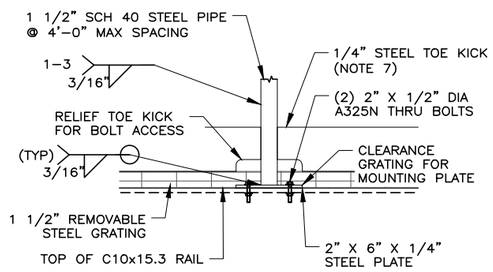


DETAIL NOTE:

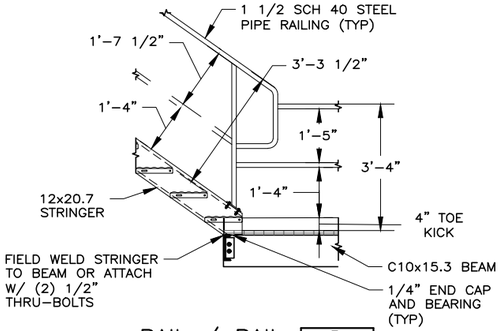
⟷ = DIRECTION OF GRATING FOR BEARING.

STAIR & GRATE PLAN 1 / S-17

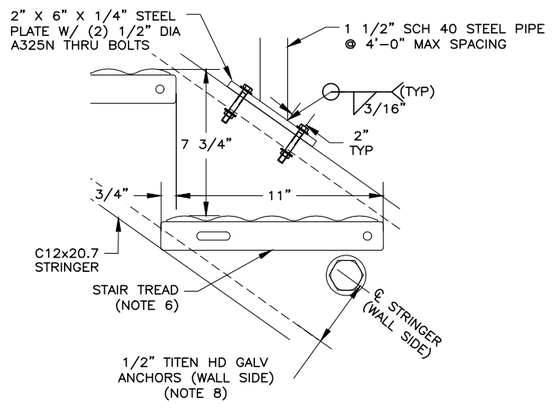
0 4 8
SCALE IN FEET



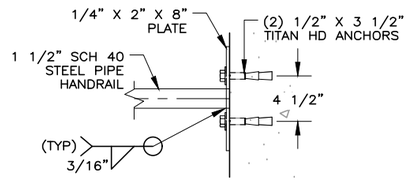
RAILING/C-CHANNEL CONNECTION C — NTS



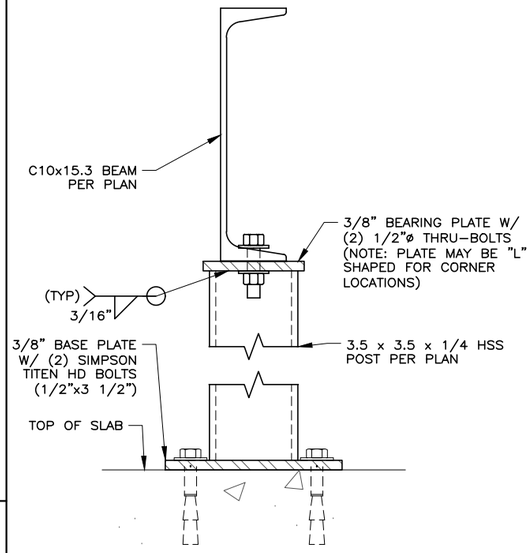
RAIL / RAIL CONNECTION D — NTS



RAILING/STRINGER CONNECTION B — NTS



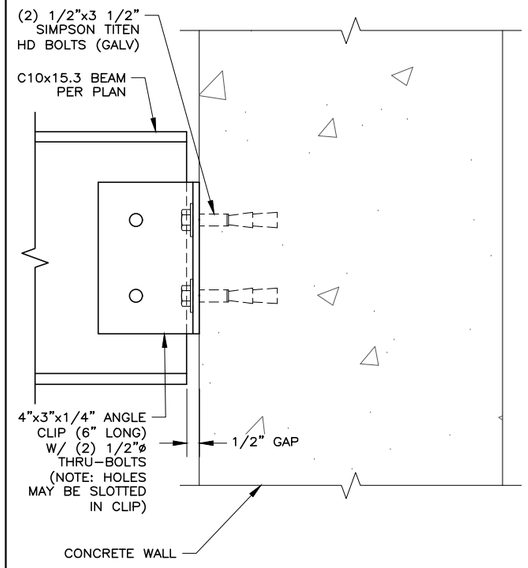
RAILING/WALL CONNECTION E — NTS



DETAIL NOTE:

ALL MEMBERS TO BE GALVANIZED OR STAINLESS STEEL.

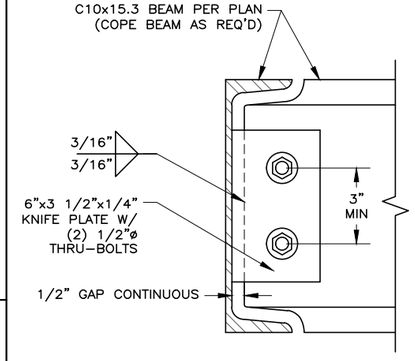
TYPICAL POST DETAIL F — NTS / F S-17



DETAIL NOTES:

1. SIMILAR DETAIL FOR STRINGER TO WALL CONNECTION.
2. ALL MEMBERS TO BE GALVANIZED OR STAINLESS STEEL.

BEAM TO WALL CONNECTION H — NTS



DETAIL NOTE:

ALL MEMBERS TO BE GALVANIZED OR STAINLESS STEEL.

BEAM TO BEAM CONNECTION G — NTS

GENERAL SHEET NOTES:

1. GRATING SHALL BE 1 1/2" X 3/16" (McNICHOLS GW-125)
2. GRATING SHALL BE REMOVABLE AND INSTALLED WITH HOLD DOWN FASTENERS.
3. BAND ALL OPENINGS (FIELD FIT).
4. HOT DIP GALV. ALL STEEL AFTER FABRICATION.
5. LEDGER ANGLES TO BE FASTENED TO WALL W/ TITAN HD BOLTS (1/2" X 3"), GALVANIZED, @ 24" OC MAX.
6. STAIR TREADS SHALL BE 11 3/4" X 36". PROVIDE HANDRAIL AROUND ALL OPENINGS.
7. PROVIDE HANDRAIL AROUND ALL OPENINGS. PROVIDE 4" STEEL TOE KICK IN OPEN AREAS.
8. CONNECT STRINGERS TO WALL W/ TITAN HD BOLTS (1/2" DIA), GALVANIZED, @ 18" OC MAX (3" MIN EMBED).
9. CONNECT THE C10 X 15.3 BEAMS TO THE CONCRETE WALLS PER DETAIL H/— AND BEAM TO BEAM PER DETAIL G/—.
10. FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION OF GRATING, STAIRS AND SUPPORTS.
11. STAIR, GRATE & RAILINGS SHALL COMPLY WITH CURRENT STANDARDS OF THE IBC CODE AND ENGINEER APPROVAL.

PROFESSIONAL STRUCTURAL ENGINEER No. 2774619 ROBERT C. CONDER 7-15-2025 STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS, RCC	3				
DRAFTED	BKC	2				
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	RCC
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

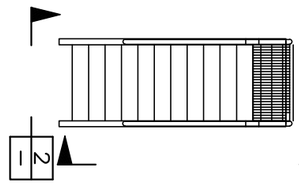
SCALE AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

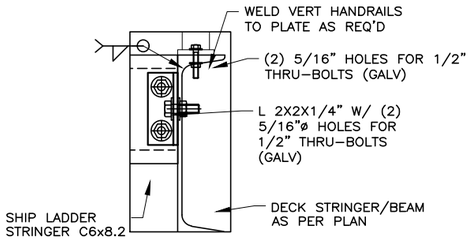
ZONES 7 & 8 — 8.4MG TANK
STRUCTRUAL
STAIR & GRATE PLAN & DETAILS

SHEET S-18
176.41.100

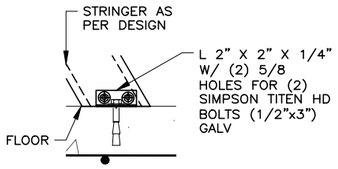
10/07



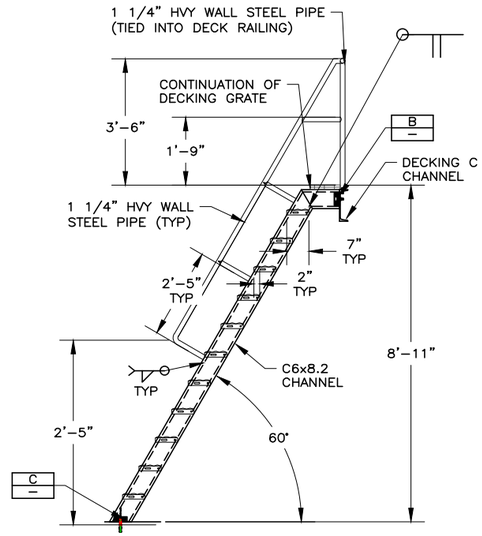
SHIP LADDER PLAN VIEW — 1 — NTS — A C–12 | A S–17 | A S–18



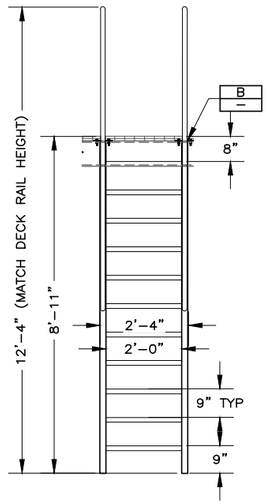
DETAIL B — NTS



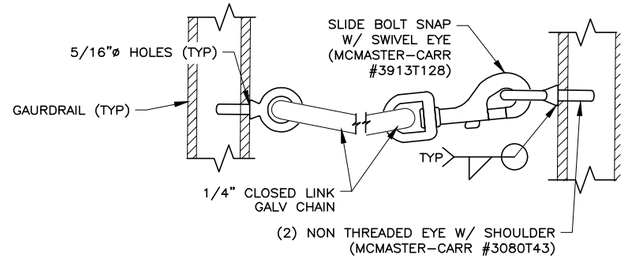
DETAIL C — NTS



SECTION 1 — NTS



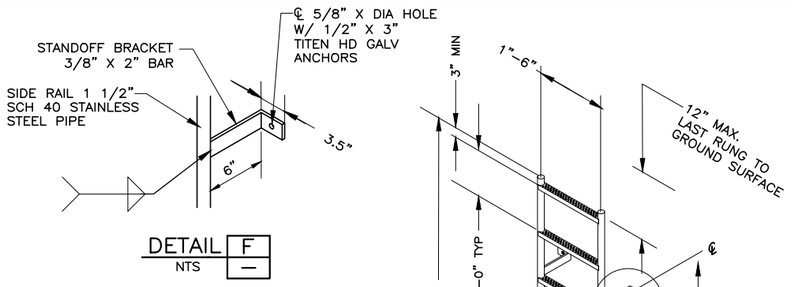
SECTION 2 — NTS



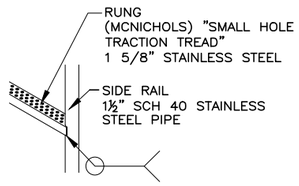
DETAIL NOTES:

1. CHAIN CONNECTIONS HAVE BEEN ROTATED FOR CLARITY.
2. SET CHAIN HEIGHTS @ CROSSBAR HEIGHTS PER ALL CODE REQUIREMENTS.
3. PROVIDE MIN (2) CHAINS PER OPENING

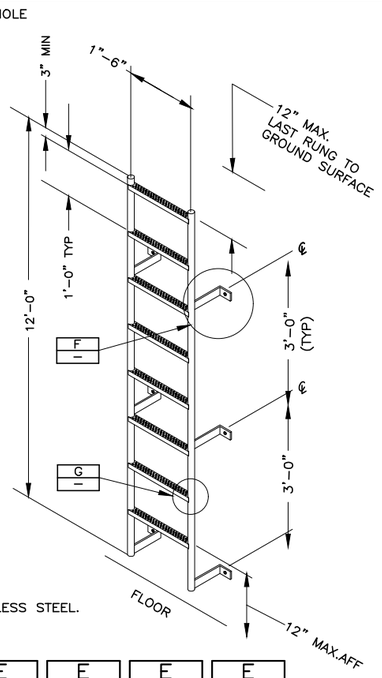
SAFETY CHAIN DETAIL — NTS — D C–11 | D S–17 | D S–18



DETAIL F — NTS



DETAIL G — NTS



DETAIL NOTE:

1. LADDER, ANCHORS, AND BOLTS TO BE TYPE 304 STAINLESS STEEL.

ACCESS LADDER DETAIL — NTS — E C–10 | E S–16 | E S–17 | E S–18

PROFESSIONAL STRUCTURAL ENGINEER — No. 2774619 — ROBERT C. CONDER — 7-15-2025 — STATE OF UTAH — PROJECT ENGINEER

HANSEN ALLEN & LUCE inc ENGINEERS

DESIGNED GDS, RCC	3					
DRAFTED BKC	2					
CHECKED MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	RCC	
DATE JULY 2025	NO.	DATE	REVISIONS	BY	APVD.	

SCALE: AS SHOWN

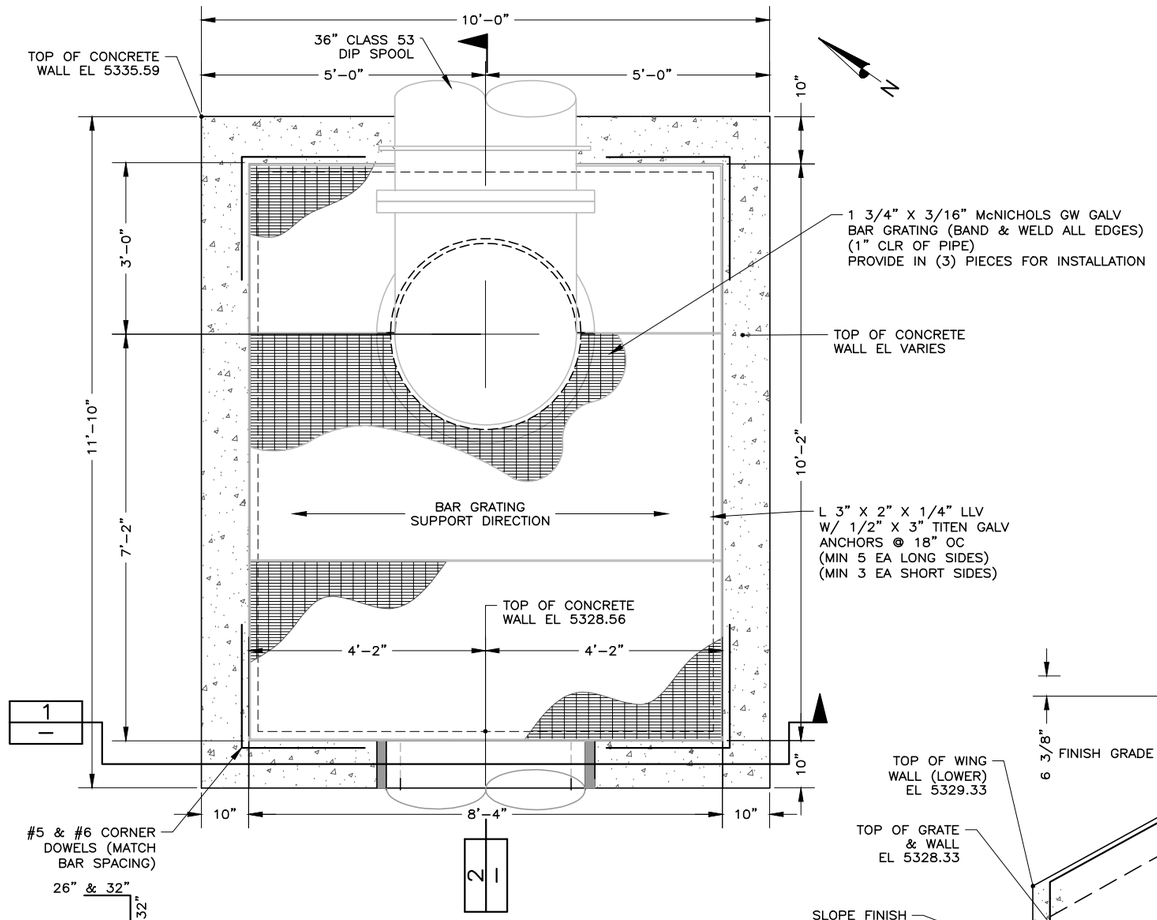
SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
STRUCTURAL
VALVE VAULT STAIRS & DETAILS

SHEET S–19
176.41.100

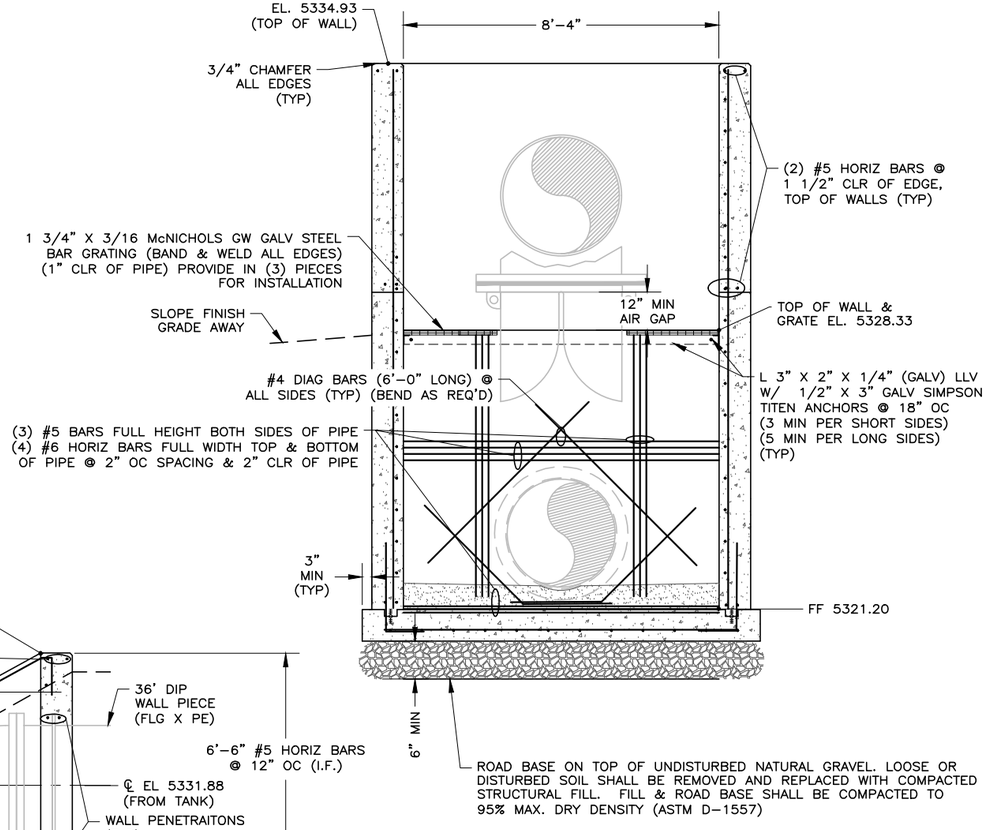
FILE NAME: PROJECTS\176 – SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\S-19 VALVE VAULT STAIRS, DECK & HANDRAIL.DWG
FILE DATE: 7.15.2025 17:59:30 (DCL)

10/07



EMERGENCY OVERFLOW BOX PLAN — A / C-6

SCALE IN FEET: 0 1 2

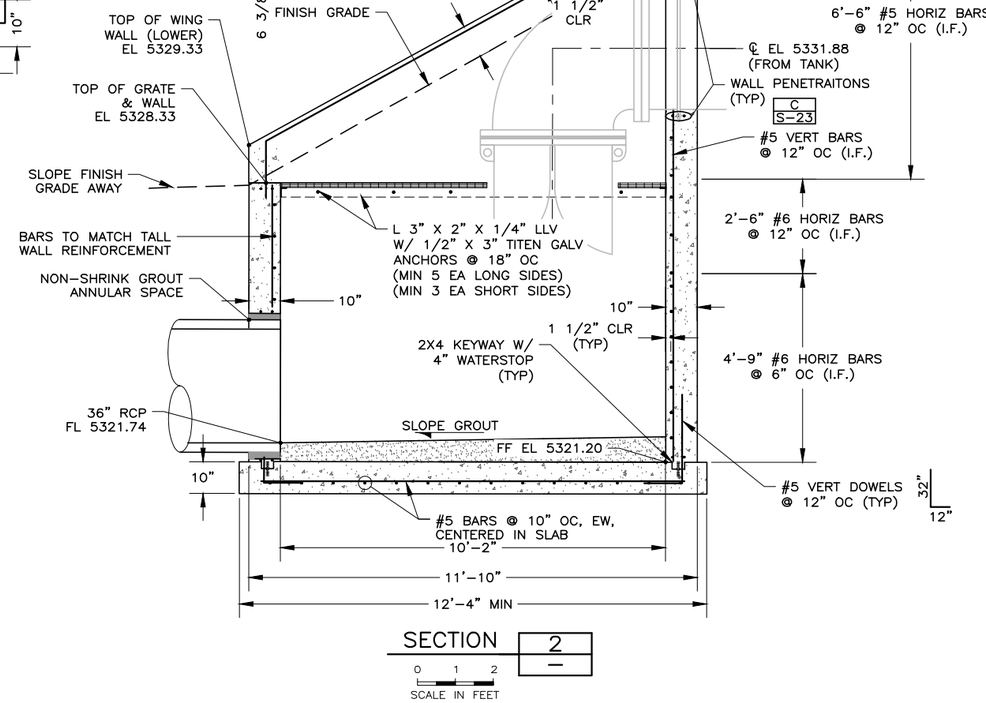


DETAIL NOTE:

SEE SECTION 2 FOR TYPICAL WALL AND SLAB REINFORCEMENT.

SECTION 1 — 1

SCALE IN FEET: 0 1 2



SECTION 2 — 2

SCALE IN FEET: 0 1 2

HANSEN ALLEN & LUCE inc ENGINEERS

PROFESSIONAL STRUCTURAL ENGINEER — No. 2774619 — ROBERT C. CONDER — 7-15-2025 — STATE OF UTAH

PROJECT ENGINEER

DESIGNED	GDS, RCC	3					
DRAFTED	BKC	2					
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	RCC
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

SCALE: AS SHOWN

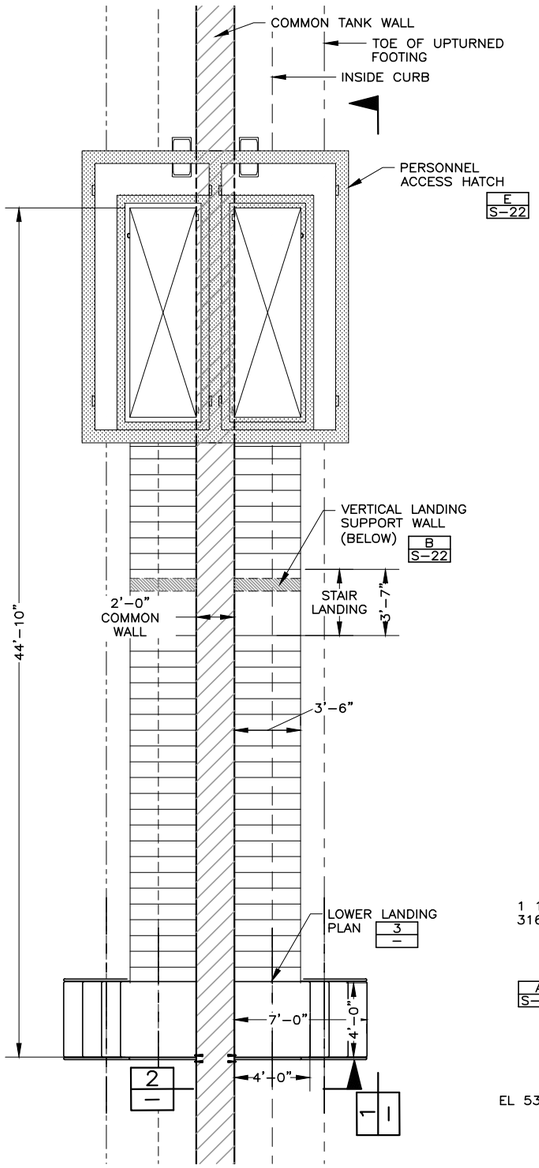
SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 — 8.4MG TANK
STRUCTURAL
TANK EMERGENCY OVERFLOW DRAIN BOX

SHEET S-20

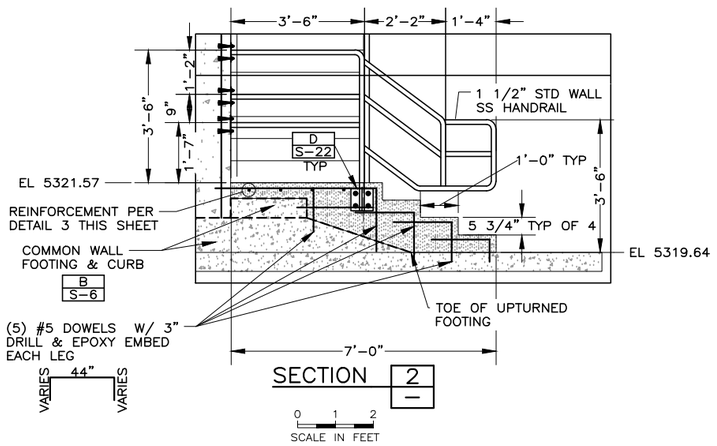
176.41.100

10/07



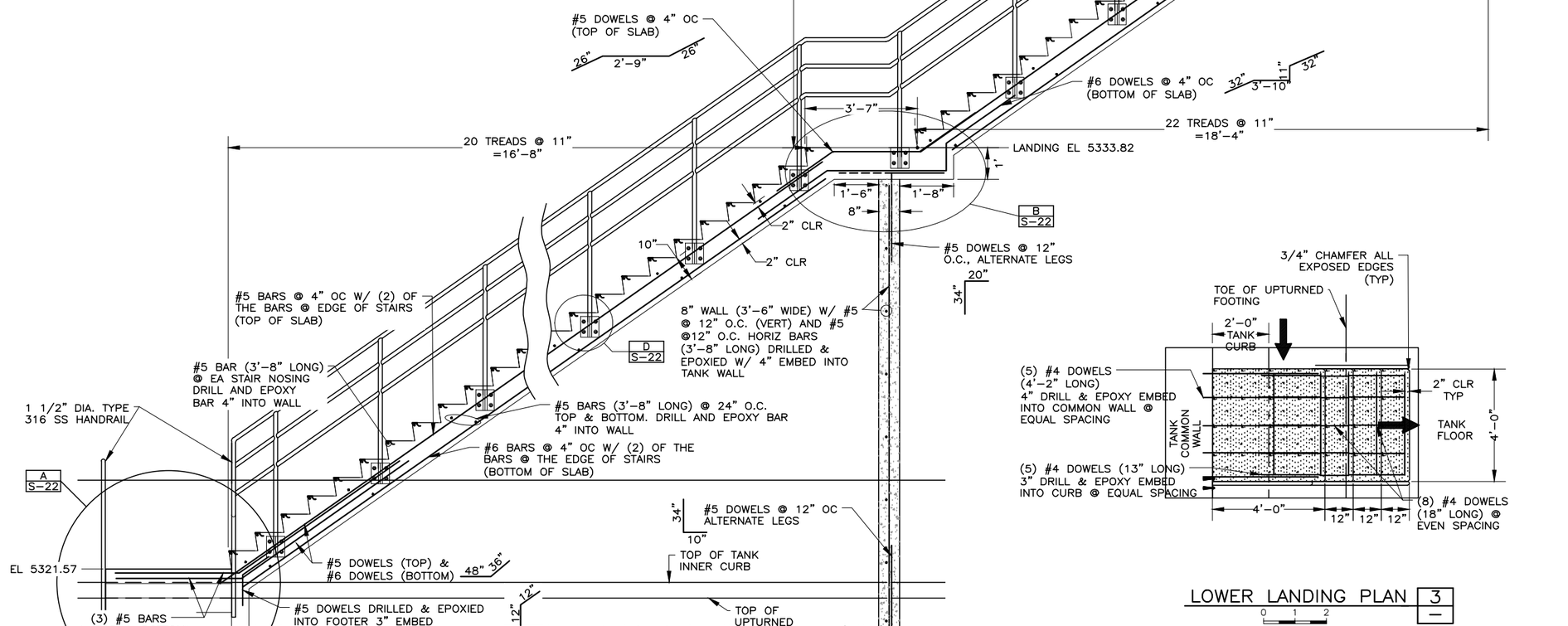
INTERIOR CONCRETE STAIRS PLAN VIEW A C-3 / A S-3

0 1 2
SCALE IN FEET



SECTION 2

0 1 2
SCALE IN FEET



SECTION 1

0 1 2
SCALE IN FEET

LOWER LANDING PLAN 3

0 1 2
SCALE IN FEET

GENERAL SHEET NOTE:

AVOID DRILLING INTO TANK FLOOR REINFORCEMENT AND TENDONS.

PROFESSIONAL STRUCTURAL ENGINEER No. 2774619 ROBERT C. CONDER 7-15-2025 STATE OF UTAH

HANSEN ALLEN & LUCE ENGINEERS

PROJECT ENGINEER

DESIGNED	GDS, RCC	3					
DRAFTED	BKC	2					
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	RCC
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

SCALE: AS SHOWN

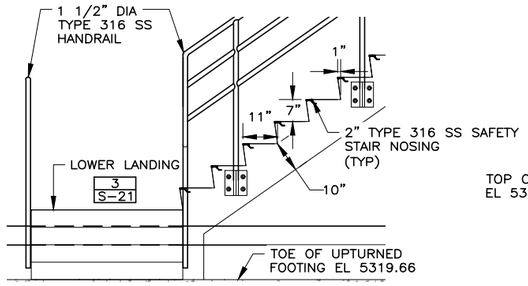
SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4MG TANK
STRUCTURAL
TANK CONCRETE STAIRS PLAN & SECTION

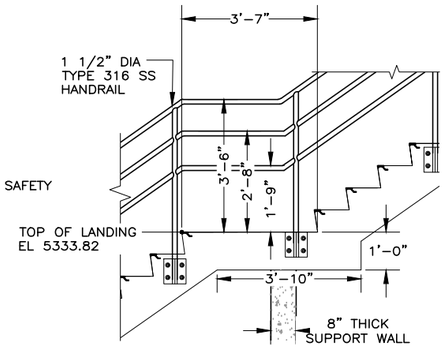
SHEET S-21
176.41.100

FILE NAME: PROJECTS\176 – SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\S-21 TANK CONCRETE ACCESS STAIRS PLAN AND SECTION.DWG
FILE DATE: 7.15.2025 18:07:02 (DCL)

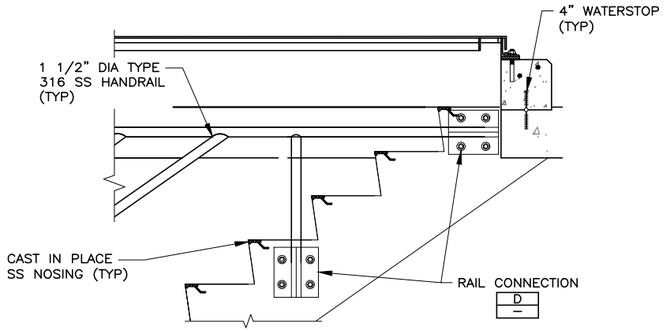
10/07



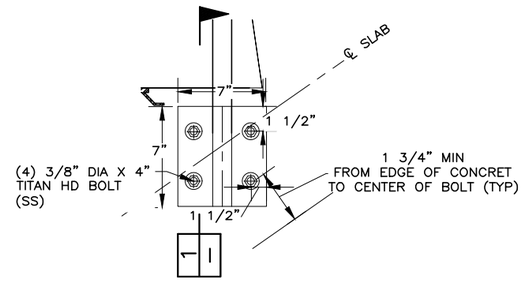
STAIR DETAIL A / S-21



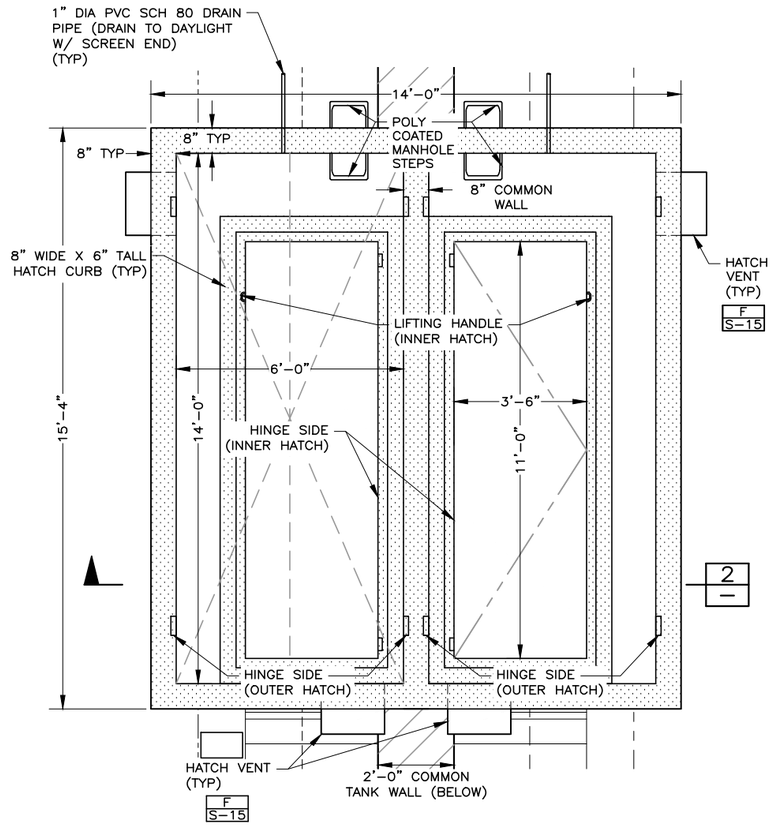
STAIR LANDING DETAIL B / S-21



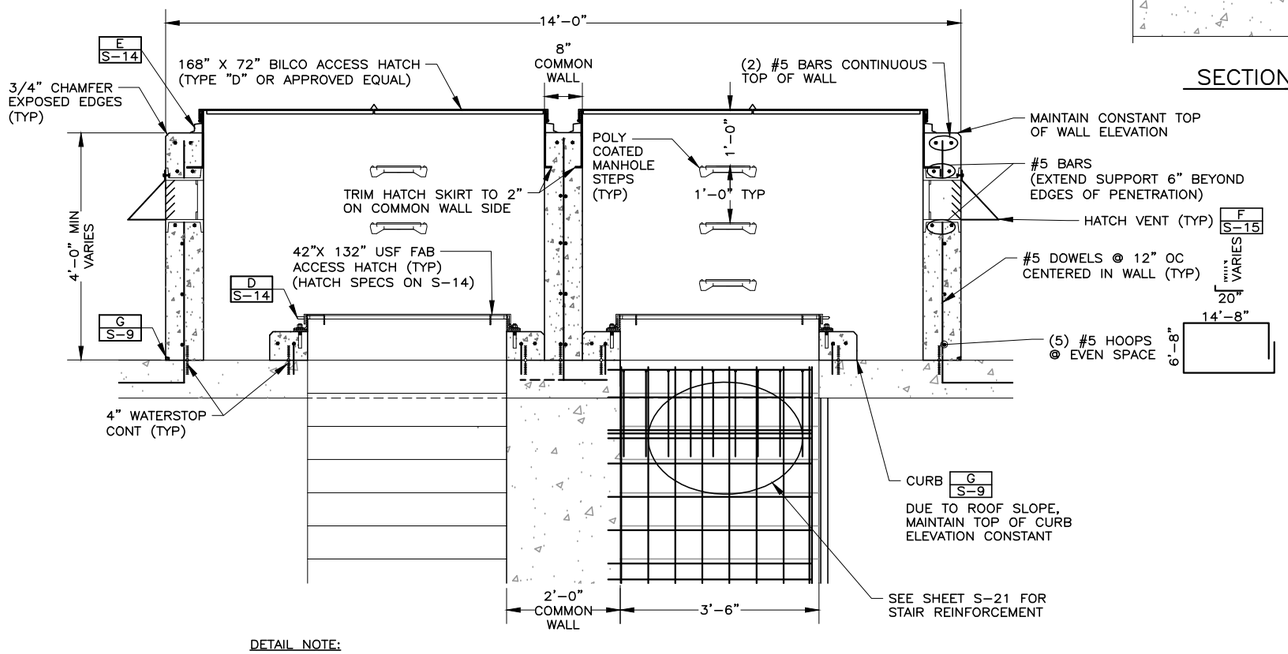
STAIR DETAIL C / S-21



STAIR RAIL CONNECTION DETAIL D / — | D / S-21



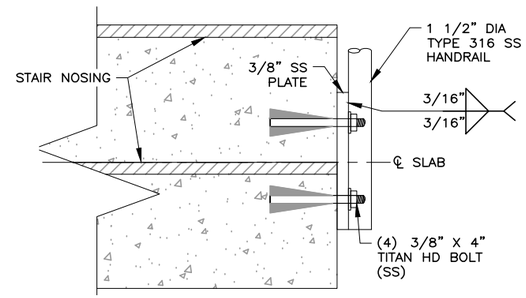
2 / —



DETAIL NOTE:

DIMENSIONS AND CALL OUTS APPLY TO BOTH HATCHES, STAIRS, VENTS ETC. UNLESS NOTED OTHERWISE.

SECTION 2 / —



SECTION 1 / —

STAIR ACCESS HATCH PLAN | E / C-1 | E / C-3 | E / S-4 | E / S-11 | E / S-21

PROJECT ENGINEER

DESIGNED	GDS, RCC	3					
DRAFTED	BKC	2					
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	RCC
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

SCALE: NOT TO SCALE

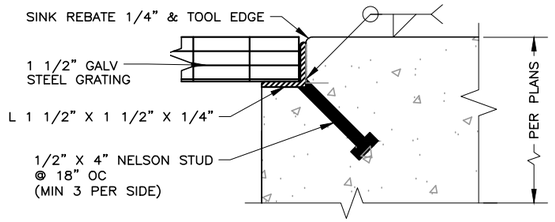
SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 — 8.4MG TANK
STRUCTURAL
TANK CONCRETE STAIRS DETAILS

SHEET S-22
176.41.100

FILE NAME: PROJECTS\176 - SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\S-22 TANK CONCRETE ACCESS STAIRS DETAILS.DWG
FILE DATE: 7.15.2025 22:58:02 (GDS)

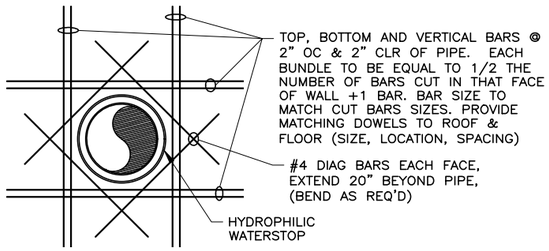
10/07



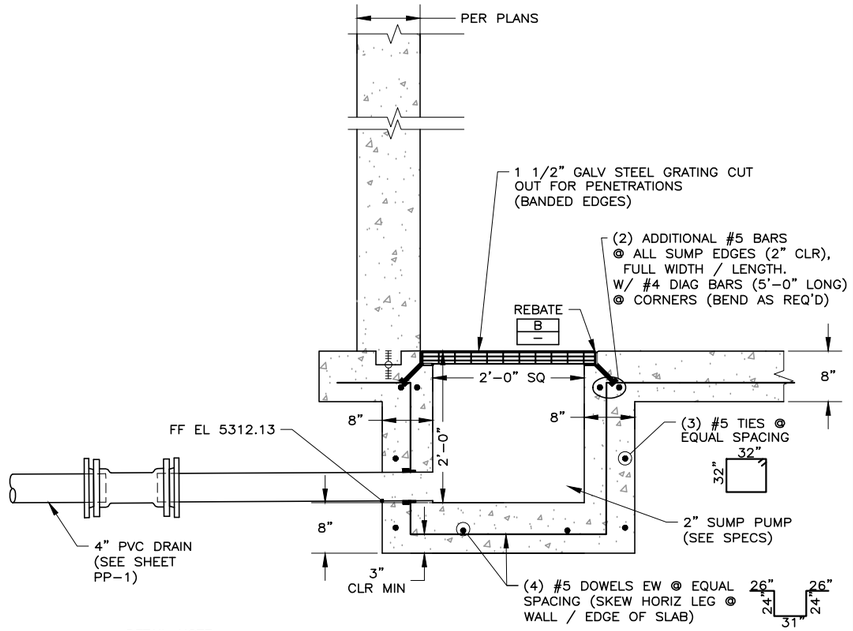
DETAIL NOTE:

HOT DIP GALVANIZE AFTER FABRICATION.

REBATE | B | —
NTS



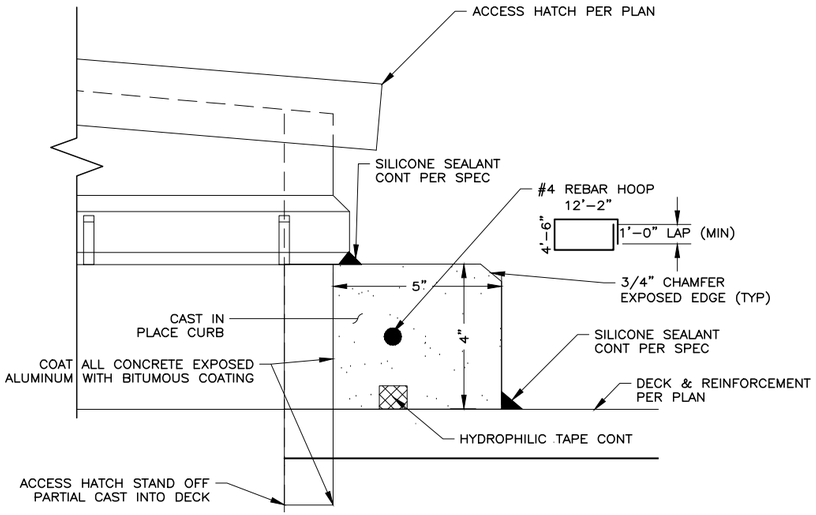
VAULT & BOX PENETRATION | C C-10 | C S-16 | C S-17 | C S-20
NTS



DETAIL NOTE:

WHERE POSSIBLE, POUR BOX MONOLITHICALLY WITH SLAB. IF NOT POSSIBLE, PROVIDE 2X4 KEYWAY W/ 4" WATERSTOP.

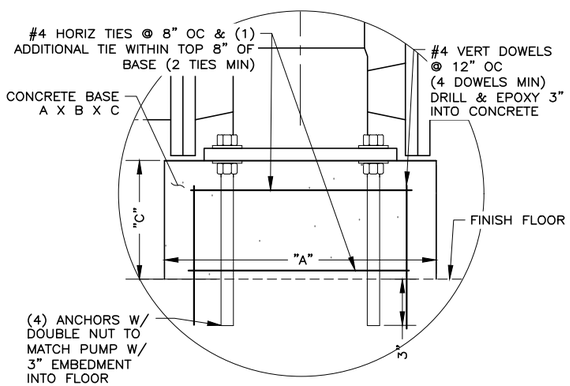
TANK VALVE VAULT SUMP | D C-10 | D C-11 | D S-16 | D S-17



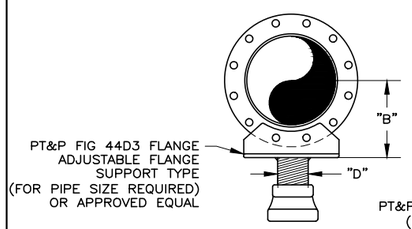
ACCESS HATCH CURB | G S-17
NTS

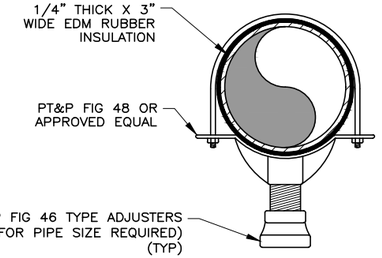
	WASHDOWN PUMP	IRRIGATION PUMP
"A"	12"	12"
"B" (1)	18"	16"
"C"	5"	6"

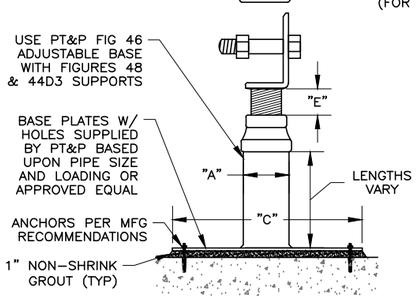
NOTES:
1. "B" IS WIDTH OF BASE (INTO THE PAGE)
2. DIMENSIONS ARE BASED ON THE AURORA PVM(X) PUMPS AND MAY VARY IF DIFFERENT PUMP MANUFACTURE IS USED. CONTRACTOR SHALL MAKE ANY ADJUSTMENTS IN CONCRETE BASE SIZE AT NO ADDITIONAL COST TO THE OWNER.



WASHDOWN & PUMP BASE DETAILS | E C-10 | E C-12
NTS





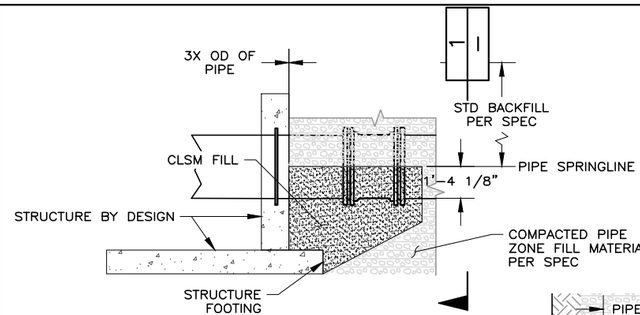


(PT&P = PIPING TECHNOLOGY & PRODUCTS, INC.)

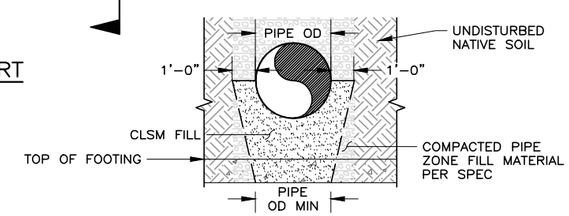
DIMENSIONS IN INCHES					
PIPE SIZE	A	B	C (SQ)	D	E
4	3	4.25	9	2.50	3.75
10	3	8.50	9	2.50	4.75
18	6	13.88	13.50	3.5	4.50
24	6	17.94	13.50	4	4.50
30	6	21.31	13.50	4	4.50
36	6	24.50	13.50	4	4.50

"A" = SCHEDULE 40 PIPE DIAMETER. LENGTH CUT ON SITE.
"B" = BASE OF SADDLE TO CENTER OF PIPE
"C" = BASE PLATE (SQUARE) (DRILLED AND SLOTTED FROM PT&P)
"D" = THREADED PIPE ADJUSTER DIAMETER
"E" = TOTAL ALLOWABLE ADJUSTMENT

PIPE SUPPORTS | F C-13 | F S-17
NTS



CLSM SUPPORT
NTS



DETAIL NOTES:

THIS DETAIL APPLIES TO ALL PIPES 24" DIA AND GREATER CONNECTED TO A PERMANENT STRUCTURE.

SECTION 1 | —
NTS

TYP CLSM PIPE SUPPORT | H C-11 | H C-12
NTS

PROFESSIONAL STRUCTURAL ENGINEER — No. 2774619 — ROBERT C. CONDER — 7-15-2025 — STATE OF UTAH
PROJECT ENGINEER

DESIGNED	GDS, RCC	3				
DRAFTED	BKC	2				
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	RCC
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

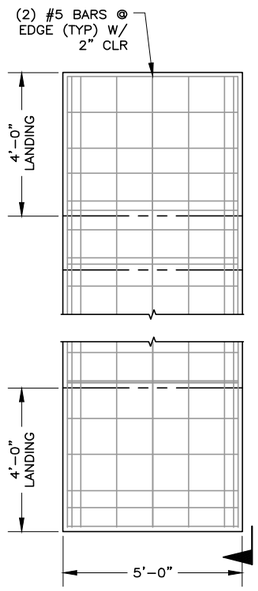
SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

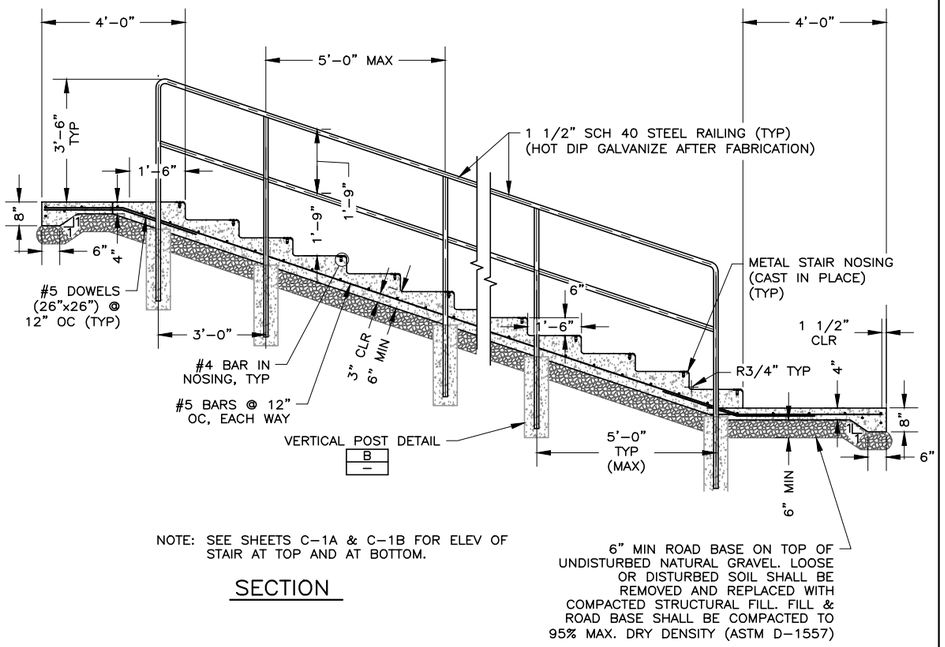
ZONES 7 & 8 – 8.4MG TANK
STRUCTURAL
MISCELLANEOUS DETAILS I

SHEET S-23
176.41.100

FILE NAME: PROJECTS\176 - SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\S-23 MISC DETAILS I.DWG
FILE DATE: 7.15.2025 23:01:54 (GDS)
10/07



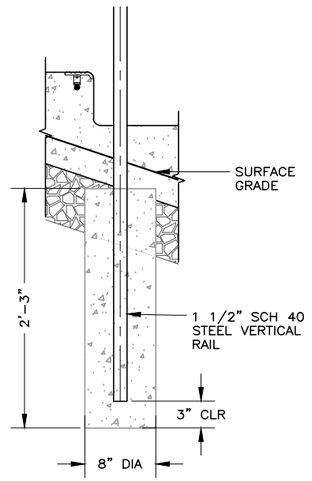
PLAN



NOTE: SEE SHEETS C-1A & C-1B FOR ELEV OF STAIR AT TOP AND AT BOTTOM.

SECTION

EXTERIOR TANK STAIRS — NTS — A / C-1



DETAIL — NTS — B / —

FILE NAME: PROJECTS\176 — SOUTH JORDAN CITY\41.100 SOUTH ZONE 7-8 TANK AND PIPELINE\CAD\S-24 MISC DETAILS II.DWG
FILE DATE: 7.15.2025 23:00:22 (GDS)

10/07

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROFESSIONAL STRUCTURAL ENGINEER — No. 2774619 — ROBERT C. CONDER — 7-15-2025 — STATE OF UTAH

PROJECT ENGINEER

DESIGNED	GDS, RCC	3				
DRAFTED	BKC	2				
CHECKED	MEA, RCC	1	JULY 2025	ISSUED FOR BID	GDS	RCC
DATE	JULY 2025	NO.	DATE	REVISIONS	BY	APVD.

SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

SOUTH JORDAN UTAH

ZONES 7 & 8 — 8.4MG TANK
STRUCTURAL
MISCELLANEOUS DETAILS II

SHEET S-24

176.41.100

GENERAL DRAWING SYMBOLS

THIS IS A STANDARD LEGEND NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT

⟨1⟩	REFERENCE NOTE
[1]	DEMOLITION NOTE
△1	REVISION NOTE
(1)	IDENTIFICATION NOTE
NO	PHOTO REFERENCE
XX	EQUIPMENT REFERENCE
XXX	WIRE SIZE REFERENCE
PHOTO XXX XXXX	PHOTO REFERENCE
# SHEET	SECTION/ELEVATION REFERENCE

LIGHT SWITCHES

THIS IS A STANDARD LEGEND NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT

$	SINGLE POLE SWITCH
$$	GANGED SWITCHES IN COMMON BOX WITH COMMON COVER PLATE
$a	SWITCH SUPERSCRIPT MODIFIER, LOWER CASE LETTER INDICATES CIRCUIT CONTROLLER –– a,b,c ETC. MAY BE COMBINED WITH CIRCUIT NUMBER. EXAMPLE: 1a, 3b
$3	SWITCH SUBSCRIPT MODIFIER, UPPER CASE LETTER OR NUMBER: 2 = DOUBLE POLE 3 = THREE WAY 4 = FOUR WAY K = KEY OPERATED M = HORSEPOWER RATED MANUAL STARTER MC = MOMENTARY CONTACT, THREE POSITION MS = MANUAL (STARTER) OR SWITCH D = DIMMER S = SURFACE F = FLUSH

GROUNDING SYMBOLS

THIS IS A STANDARD LEGEND NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT

	GROUND ROD (3/4" x 10' COPPER COATED STEEL)
	GROUND ROD (3/4" x 10' COPPER COATED STEEL) IN WELL
■	BOLTED GROUND CONNECTION (ABOVE GROUND)
•	WELDED GROUND CONNECTION (BELOW GRADE)
	GROUND CONDUCTOR

MOTOR AND EQUIPMENT

THIS IS A STANDARD LEGEND NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT

HP	MOTOR (HP SHOWN)
F	FRACTIONAL HORSEPOWER MOTOR
	MOTOR STARTER, INDIVIDUAL, NOT LOCATED IN A MOTOR CONTROL CENTER (MCC) OR SIMILAR GROUP ASSEMBLY
	COMBINATION MOTOR STARTER ASSEMBLY, NOT LOCATED IN AN MCC OR SIMILAR ASSEMBLY
	MAGNETIC CONTACTOR ASSEMBLY, NOT LOCATED IN AN MCC OR SIMILAR ASSEMBLY
XXXA	DISCONNECT, NON–FUSED, 3 POLE, 100A RATED
F	FUSED DISCONNECT SWITCH
	FIELD CONNECTION OR ELECTRICAL TERMINATION AT A FIELD DEVICE
XXXXX	EQUIPMENT DESIGNATION

WIRING DEVICES

THIS IS A STANDARD LEGEND NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT

	20 AMP RATED RECEPTACLE SINGLE STROKE = SINGLE DOUBLE STROKE = DUPLEX RECEPTACLE MODIFIERS: X–X = CIRCUIT NUMBER AF = ARK FAULT CIRCUIT INTERRUPTER S = SURFACE MOUNTED IG = ISOLATED GROUND WP = WEATHER PROOF
	EXISTING RECEPTACLE
	220V RECEPTACLE
	GFCI RECEPTACLE
	ELECTRICAL CONNECTION
J	JUNCTION BOX
P	PHOTOELECTRIC CONTROL UNIT
T	THERMOSTAT LOCATION
MS	MOTION SENSOR

POWER ONE–LINE SYMBOLS

THIS IS A STANDARD LEGEND NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT

	UTILITY POWER FEED
M	COMBO METER/MAIN
	EQUIPMENT GROUND CONNECTION
XXX	CONDUCTOR WITH CALLOUT REFERENCE (SEE CONDUIT/CONDUCTOR SCHEDULE)
PNL	POWER DISTRIBUTION PANEL
	CIRCUIT BREAKER
	CONNECTION POINT
	BACKUP POWER GENERATOR
	AUTOMATIC TRANSFER SWITCH
VFD	VARIABLE FREQUENCY DRIVE

SCHEMATIC/CONTROL DIAGRAM SYMBOLS

	CONDUCTOR
	CONDUCTOR (OUTSIDE EQUIPMENT, ENCLOSURE OR CONTROLLER)
	ELECTRICAL CONNECTION OR NODE
	NO CONNECTION OR NODE
	NORMALLY CLOSED (NC) CONTACTS
	NORMALLY OPEN (NO) CONTACTS
	FUSE HOLDER AND FUSE

LIGHTING SYMBOLS

THIS IS A STANDARD LEGEND NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT

F1	DESIGNATES FIXTURE NUMBER – REFER TO FIXTURE SCHEDULE
FLUORESCENT FIXTURES	
	SURFACE OR RECESSED 1X4 FIXTURE
EXTERIOR LIGHTS	
	WALL PAK FIXTURE

PLAN SYMBOLS

THIS IS A STANDARD LEGEND NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT

EQUIPMENT	
	CIRCUIT DISTRIBUTION PANELBOARD SURFACE MOUNTED
	CIRCUIT DISTRIBUTION PANELBOARD RECESSED
	POWER DISTRIBUTION PANELBOARD SURFACE OR FLOOR MOUNTED DOORS DESIGNATE FRONT OF PANEL MDP DESIGNATES MAIN DISTRIBUTION PANEL
	CONTROL PANEL ENCLOSURE
	LIGHTING CONTROL PANEL
	DISCONNECT
HVAC EQUIPMENT	
	UNIT HEATER, WALL MOUNTED
	UNIT HEATER, CEILING MOUNTED
	CONDENSING UNIT, PAD MOUNTED, SIDE DISCHARGE
	CONDENSING UNIT, PAD MOUNTED, UP FLOW
	ROOFTOP MOUNTED EQUIPMENT

SCHEMATIC/CONTROL DIAGRAM SYMBOLS

	FUSE TERMINAL FUSE NUMBER: F5 FUSE RATING: 5 AMPS
	FUSED SWITCH
M 30	CONTRACTOR CONTACT (GANG OPERATED). NUMBER OF CONTACTS SHOWN. 30 = 30 AMP RATED
	MOTOR OVERLOAD MOTOR OVERLOAD MODIFIERS: BLANK = SOLID STATE ELECTRONIC BI = BI–METALLIC
	SOLENOID
NUMBER X	CONTROL RELAY X = RELAY NUMBER
ON R	PILOT LIGHT LEGEND PLATE: ON MODIFIERS: A: AMBER LENS B: BLUE LENS G: GREEN LENS R: RED LENS W: WHITE LENS
?	PILOT LIGHT – PUSH–TO–TEST
M	MOTOR
C	CONTACTOR
	PHOTOCELL

SCHEMATIC SWITCHES

THIS IS A STANDARD LEGEND NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT

NORMALLY OPEN (NO)	NORMALLY CLOSED (NC)	
		MOMENTARY PUSHBUTTON
START	STOP	MAINTAINED POSITION MUSHROOM HEAD PUSHBUTTON
		LEVEL OR FLOAT
		LEVEL OR FLOAT
		TEMPERATURE
		TEMPERATURE
		FLOW
		FLOW
		TIME
		TIME
		FORCE OR TORQUE
OFF ON	OFF ON	SELECTOR SWITCH, TWO POSITION MAINTAINED CONTACT WITH OFF–ON LEGEND
OR	OR	
HAND OFF AUTO	HAND OFF AUTO	SELECTOR SWITCH, THREE POSITION MAINTAINED CONTACT WITH HAND–OFF–AUTO LEGEND
OR	OR	

H.P.E. INC. ELECTRICAL ENGINEERS
POWER SYSTEMS, CONTROL & INSTRUMENTATION SYSTEMS
HEGERHORST POWER ENGINEERING INCORPORATED (801) 642–2051
708 EAST 50 SOUTH
AMERICAN FORK, UT 84003

HPE PROJECT: 22.049
FOR INFORMATION ABOUT THIS JOB, PLEASE CONTACT: KEITH HEGERHORST

GENERAL NOTES

1. VERIFY ALL EQUIPMENT DIMENSIONS AND LOCATIONS BEFORE BEGINNING ROUGH–IN. CONSULT ALL APPLICABLE CONTRACT DRAWINGS AND SHOP DRAWINGS TO ENSURE NEC CODE CLEARANCE REQUIRED AROUND ALL ELECTRICAL EQUIPMENT.
2. CONTRACTOR SHALL VERIFY ALL ELECTRICAL LOADS (VOLTAGE, PHASE, CONNECTION REQUIREMENTS, ETC.) OF EQUIPMENT FURNISHED BEFORE BEGINNING ROUGH–IN.
3. SEE APPLICABLE SHOP DRAWINGS FOR ROUGH–IN LOCATION OF ALL EQUIPMENT, WIRING DEVICES, ETC.
4. THE ELECTRICAL CONTRACTOR SHALL NOTIFY AND COOPERATE WITH THE MECHANICAL CONTRACTOR SUCH THAT NO PIPING, OR EQUIPMENT FOREIGN TO THE OPERATION OF THE ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THROUGH ELECTRICAL ROOMS OR SPACES; OR ABOVE OR BELOW ELECTRICAL EQUIPMENT IN THE OTHER AREAS.
5. ALL PENETRATIONS OF FLOORS, WALLS AND CEILINGS SHALL BE SEALED WITH APPROVED MATERIAL.
6. FOR PACKAGE EQUIPMENT PROVIDED ON THE PROJECT, SOME CONDUITS AND WIRES ARE SHOWN ON THE DRAWINGS, BUT IT IS EXPECTED THAT SOME ADDITIONAL CONDUITS AND WIRES MAY BE REQUIRED BY EQUIPMENT MANUFACTURERS TO COMPLETE INSTALLATION. IT IS INCUMBENT UPON THE GENERAL CONTRACTOR TO COORDINATE THIS REQUIREMENT WITH HIS SUBCONTRACTORS TO MAKE SURE THAT EQUIPMENT SUPPLIER PROVIDED ALL NECESSARY ELECTRICAL INFORMATION TO ELECTRICAL SUBCONTRACTOR FOR INCLUSION WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.
7. IF OTHER THAN FIRST NAMED EQUIPMENT IS USED, IT SHALL BE CAREFULLY CHECKED FOR ELECTRICAL REQUIREMENTS AND CONTROL REQUIREMENTS OF ALTERNATE EQUIPMENT. SHOULD CHANGES OR ADDITIONS OCCUR IN ELECTRICAL WORK, OR THE WORK OF OTHER CONTRACTORS BE REVISED BY THE ALTERNATE EQUIPMENT, THE COST OF ALL CHANGES SHALL BE BORNE BY THE ELECTRICAL CONTRACTOR.

Sheet List Table

REGISTERED PROFESSIONAL ENGINEER
No. 86–171214–2202
KEITH B. HEGERHORST
06/19/2025
STATE OF UTAH

FILE NAME:
FILE DATE:

10/07

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROJECT ENGINEER

DESIGNED	KBH	3					
DRAFTED	KBH	2					
CHECKED	KBH	1					
DATE	SEPT. 2022	NO.	DATE	REVISIONS		BY	APVD.

SCALE: NONE

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095
SOUTH JORDAN UTAH

ZONES 7 & 8 – 8.4 MG TANK
ELECTRICAL
LEGEND & GENERAL NOTES

SHEET E–1.1
176.41.100

CONDUIT/CONDUCTOR SCHEDULE
THHN, THWN, THWN-2

AMP RATING	DRAWING ID TAG.	CONDUCTOR QTY.*	CONDUCTOR SIZE	MIN. CONDUIT SIZE	EXCEPTIONS
20** 20+	212	2	#12	3/4"	
	312	3		3/4"	
	412	4		3/4"	
30** 30+	20	2	#10	3/4"	
	30	3		3/4"	
	40	4		3/4"	
40** 50+	28	2	#8	3/4"	
	38	3		3/4"	
	48	4		3/4"	
55** 65+	26	2	#6	3/4"	
	36	3		3/4"	
	46	4		3/4"	1"(C9)
70** 85+	24	2	#4	3/4"	1"(C2,C9)
	34	3		1"	3/4"(C4),1-1/4"(C9)
	44	4		1"	1-1/4"(C9)
95** 115+	22	2	#2	1"	
	32	3		1"	1-1/4"(C9)
	42	4		1-1/4"	
110** 130+	21	2	#1	1-1/4"	1"(C3,C4)
	31	3		1-1/4"	1"(C3)
	41	4		1-1/4"	1-1/2"(C2,C9,C10)
150	210	2	1/0	1-1/4"	
	310	3		1-1/4"	1-1/2"(C3,C9)
	410	4		1-1/2"	2"(C9)
175	220	2	2/0	1-1/4"	1-1/2"(C3,C4,C9)
	320	3		1-1/2"	
	420	4		2"	
200	230	2	3/0	1-1/2"	1-1/4(C4)
	330	3		1-1/2"	2"(C3,C9)
	430	4		2"	
230	240	2	4/0	1-1/2"	2"(C3)
	340	3		2"	
	440	4		2"	2-1/2"(C9)
255	225	2	250 KCMIL	2"	1-1/2"(C4)
	325	3		2"	2-1/2"(C1,C8)
	425	4		2-1/2"	2"(C4)
310	235	2	350 KCMIL	2"	2-1/2"(C9)
	335	3		2-1/2"	2"(C4)
	435	4		3"	2-1/2"(C1,C4)
380	250	2	500 KCMIL	2-1/2"	2"(C4)
	350	3		3"	2-1/2"(C1,C4)
	450	4		3"	3-1/2"(C9)
475	275	2	750 KCMIL	3"	
	375	3		3-1/2"	3"(C1,C7,C8)
	475	4		4"	3-1/2"(C1,C4,C8)

* CONDUCTOR QUANTITY DOES NOT INCLUDE GROUNDING CONDUCTORS. SEE EQUIPMENT GROUNDING CONDUCTORS FOR WIRE SIZES.

WHERE: C1 = ELECTRICAL METALLIC TUBING "**" = 60°C RATING
C2 = ELECTRICAL NON-METALLIC TUBING "+" = 75°C RATING
C3 = FLEXIBLE STEEL CONDUIT
C4 = INTERMEDIATE METALLIC CONDUIT
C7 = LIQUIDTIGHT FLEXIBLE METAL CONDUIT
C8 = RIGID METALLIC CONDUIT
C9 = PVC SCHEDULE 80 CONDUIT
C10 = PVC SCHEDULE 40 CONDUIT
"**" = RATED AMPACITY AT 60°C
"+" = RATED AMPACITY AT 75°C
USE 60°C CONDUCTOR RATING WHEN TERMINATION RATINGS ARE NOT PUBLISHED

GROUNDING ELECTRODE CONDUCTOR SERVICE ENTRANCE OR SEPARATELY DERIVED SYSTEM

COPPER CONDUCTOR	WIRE SIZE
#2 OR SMALLER	#8
1 OR 1/0	#6
2/0 OR 3/0	#4
>3/0 THRU 350 KCMIL	#2
>350 KCMIL THRU 600 KCMIL	1/0

EQUIPMENT GROUNDING CONDUCTORS

FUSE OR CB SIZE	SIZE (COPPER)
15	14
20	12
30	10
40	10
60	10
100	8
200	6
300	4
400	3
500	2
600	1
800	1/0
1000	2/0
1200	3/0
1600	4/0
2000	250
2500	350

SOUTH JORDAN ZONE 7&8 SOUTH TANK TAG LIST

HVAC EQUIPMENT

DRAWING ID	TAG	DESCRIPTION	POWER SOURCE	LOCATION	SUPPLIED BY	INSTALLED BY
71	EF-1	EXHAUST FAN	CP-2	VALVE VAULT	CONTRACTOR	CONTRACTOR

SWITCHES

DRAWING ID	TAG	DESCRIPTION	POWER SOURCE	LOCATION	SUPPLIED BY	INSTALLED BY
52	ZS-2A	STAIR HATCH POSITION SWITCH	CP-1/RTU	VALVE VAULT	CONTRACTOR	CONTRACTOR
54	ZS-2C	EQUIPMENT HATCH POSITION SWITCH	CP-1/RTU	VALVE VAULT	CONTRACTOR	CONTRACTOR
55	ZS-2D	EQUIPMENT HATCH POSITION SWITCH	CP-1/RTU	VALVE VAULT	CONTRACTOR	CONTRACTOR
56	ZS-2E	EQUIPMENT HATCH POSITION SWITCH	CP-1/RTU	VALVE VAULT	CONTRACTOR	CONTRACTOR
57	ZS-2F	EQUIPMENT HATCH POSITION SWITCH	CP-1/RTU	VALVE VAULT	CONTRACTOR	CONTRACTOR
58	ZS-3A	STAIR HATCH POSITION SWITCH	CP-1/RTU	CELL NO. 1	CONTRACTOR	CONTRACTOR
59	ZS-3B	EQUIPMENT HATCH POSITION SWITCH	CP-1/RTU	CELL NO. 1	CONTRACTOR	CONTRACTOR
60	ZS-3C	STAIR HATCH POSITION SWITCH	CP-1/RTU	CELL NO. 2	CONTRACTOR	CONTRACTOR
61	ZS-3D	EQUIPMENT HATCH POSITION SWITCH	CP-1/RTU	CELL NO. 2	CONTRACTOR	CONTRACTOR
62	LSH-1	VAULT FLOOR HIGH WATER LEVEL SWITCH	CP-1/RTU	VALVE VAULT	CONTRACTOR	CONTRACTOR
63	LSH-2	TANK OVERFLOW LEVEL SWITCH	CP-1/RTU	CELL NO. 1	CONTRACTOR	CONTRACTOR
64	LSH-3	TANK OVERFLOW LEVEL SWITCH	CP-1/RTU	CELL NO. 2	CONTRACTOR	CONTRACTOR
76	HS-7	EXHAUST FAN HOA SWITCH	CP-2	VALVE VAULT	CONTRACTOR	CONTRACTOR

INSTRUMENTS

DRAWING ID	TAG	DESCRIPTION	POWER SOURCE	LOCATION	SUPPLIED BY	INSTALLED BY
33	PT-1	PRESSURE TRANSMITTER	CP-1/RTU	VALVE VAULT	CONTRACTOR	CONTRACTOR
34	PT-2	PRESSURE TRANSMITTER	CP-1/RTU	VALVE VAULT	CONTRACTOR	CONTRACTOR
38	PT-3	PRESSURE TRANSMITTER	CP-1/RTU	VALVE VAULT	CONTRACTOR	CONTRACTOR
39	AIT-1	CHLORINE ANALYZER	L-1	VALVE VAULT	OWNER	CONTRACTOR

SECURITY

DRAWING ID	TAG	DESCRIPTION	POWER SOURCE	LOCATION	SUPPLIED BY	INSTALLED BY
45	CCTV-1	CCTV CAMERA	-	SITE	OWNER	FUTURE
46	CCTV-2	CCTV CAMERA	-	SITE	OWNER	FUTURE

PUMP AND EQUIPMENT

DRAWING ID	TAG	DESCRIPTION	POWER SOURCE	LOCATION	SUPPLIED BY	INSTALLED BY
10	CP-1/RTU	MCP, SCADA RTU ENCLOSURE	L-2	VALVE VAULT	CONTRACTOR	CONTRACTOR
11	CP-2	EXHAUST FAN CONTROL PANEL	L-4,6	VALVE VAULT	CONTRACTOR	CONTRACTOR
13	MP	METERING PEDESTAL	UTILITY	SITE	CONTRACTOR	CONTRACTOR
14	XFMR	UTILITY TRANSFORMER	UTILITY	SITE	CONTRACTOR	CONTRACTOR
15	PNL-L	PANELBOARD L	MP	VALVE VAULT	CONTRACTOR	CONTRACTOR
19	MX-1	MIXER 1	MXCP-1	CELL NO. 1	CONTRACTOR	CONTRACTOR
20	MX-2	MIXER 2	MCCP-2	CELL NO. 2	CONTRACTOR	CONTRACTOR
21	CP-3	CCTV ENCLOSURE	L-12	VALVE VAULT	CONTRACTOR	CONTRACTOR
41	MXCP-1	MIXER CONTROL PANEL 1	L-7	VALVE VAULT	CONTRACTOR	CONTRACTOR
42	MXCP-2	MIXER CONTROL PANEL 2	L-9	VALVE VAULT	CONTRACTOR	CONTRACTOR
43	PLE-1	CCTV CAMERA POLE (FIX TYPE F3)	-	SITE	CONTRACTOR	CONTRACTOR
44	PLE-2	CCTV CAMERA POLE (FIX TYPE F3)	-	SITE	CONTRACTOR	CONTRACTOR
83	F1	FIXTURE TYPE F1	L-7	VALVE VAULT	CONTRACTOR	CONTRACTOR
84	F2	FIXTURE TYPE F2	L-7	VALVE VAULT	CONTRACTOR	CONTRACTOR

VALVES

DRAWING ID	TAG	DESCRIPTION	POWER SOURCE	LOCATION	SUPPLIED BY	INSTALLED BY
78	VA-1	BALL VALVE ACTUATOR	L-8,10	VALVE VAULT	CONTRACTOR	CONTRACTOR

CP-1 MAIN CONTROL PANEL/RTU I/O LIST

DISCRETE INPUTS

DESCRIPTION	FROM	TO	NOTES
AC POWER FAULURE	CP-1	CP-1	
TANK CELL 1 EQUIPMENT HATCH OPEN	ZS-3B	CP-1	2)
TANK CELL 1 MIXER HOA IN AUTO	MXCP-1	CP-1	5)
TANK CELL 1 MIXER HOA IN HAND	MXCP-1	CP-1	5)
TANK CELL 1 MIXER RUNNING	MXCP-1	CP-1	5)
TANK CELL 1 MIXER VFD FAULT	MXDP-1	CP-1	5)
TANK CELL 1 OVERFLOW LEVEL ALARM	LSH-2	CP-1	3)
TANK CELL 1 STAIR HATCH OPEN	ZS-3A	CP-1	4)
VALVE VAULT EXHAUST FAN RUNNING	CP-2	CP-1	
VAULT EQUIPMENT HATCH OPEN	ZS-2B	CP-1	1)
VAULT FLOOR HIGH WATER ALARM	LSL-1	CP-1	
VAULT STAIR HATCH OPEN	ZS-2A	CP-1	

NOTES: 1) REPEAT FOR ZS-2C, ZS-2D, ZS-2E, ZS-2F
2) REPEAT FOR TANK CELL 2, ZS-3D
3) REPEAT FOR TANK CELL 2, LSH-3
4) REPEAT FOR TANK CELL 2, ZS-3C
5) REPEAT FOR TANK CELL 2, MXCP-2

DISCRETE OUTPUTS

DESCRIPTION	FROM	TO	NOTES
TANK CELL MIXER VFD COMMAND RUN	CP-1	MXCP-1	1)

NOTES: 1) REPEAT FOR TANK CELL 2 MIXER-2

ANALOG INPUTS

DESCRIPTION	FROM	TO	NOTES
CHLORINE ANALYZER	AIT-1	CP-1	
FUTURE TANK LEVEL	PT-2	CP-1	
TANK CELL 1 LEVEL	PT-3	CP-1	
TANK CELL 1 MIXER VFD RUNNING SPEED	MXCP-1	CP-1	1)
VALVE ACTUATOR POSITION	VA-1	CP-1	
VALVE VAULT INLET PRESSURE	PT-1	CP-1	

NOTES: 1) REPEAT FOR TANK CELL 2 MIXER-2
2) REPEAT FOR TANK CELL 2 PT-2

ANALOG OUTPUTS

DESCRIPTION	FROM	TO	NOTES
TANK CELL 1 MIXER VFD COMMAND SPEED	CP-1	MXCP-1	1)
VALVE ACTUATOR POSITION COMMAND	CP-1	VA-1	

NOTES: 1) REPEAT FOR TANK CELL 2 MIXER-2

H.P.E. INC. ELECTRICAL ENGINEERS
POWER SYSTEMS, CONTROL & INSTRUMENTATION SYSTEMS
HEGERHORST POWER ENGINEERING INCORPORATED (801) 642-2051
708 EAST 50 SOUTH
AMERICAN FORK, UT 84003

HPE PROJECT:22.049
FOR INFORMATION ABOUT THIS JOB, PLEASE CONTACT: KEITH HEGERHORST

GENERAL NOTES:

1. NOT USED.

SHEET KEYNOTES:

1. NOT USED

FILE NAME:
FILE DATE:

REGISTERED PROFESSIONAL ENGINEER No. 86-171214-2202 KEITH B. HEGERHORST 06/19/2025 STATE OF UTAH

DESIGNED	KBH	3					
DRAFTED	KBH	2					
CHECKED	KBH	1					
DATE	SEPT. 2022	NO.	DATE	REVISIONS		BY	APVD.

PROJECT ENGINEER

SCALE: NONE

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 - 8.4 MG TANK
ELECTRICAL
TAG LIST

SHEET E-1.2
176.41.100

10/07

H.P.E. INC. ELECTRICAL ENGINEERS
POWER SYSTEMS, CONTROL & INSTRUMENTATION SYSTEMS
HEGERHORST POWER ENGINEERING INCORPORATED (801) 642-2051
708 EAST 50 SOUTH
AMERICAN FORK, UT 84003

HPE PROJECT:22.049
FOR INFORMATION ABOUT THIS JOB, PLEASE CONTACT: KEITH HEGERHORST

ELECTRICAL UTILITY INSTALLATION

UTILITY INFORMATION

UTILITY COMPANY:	ROCKY MOUNTAIN POWER
UTILITY COMPANY CONTACT:	ALEXANDER MOTURI
CONTACT INFORMATION:	PHONE: o.801-576-6250, C.385 329-6041
WORK ORDER NUMBER:	8255982

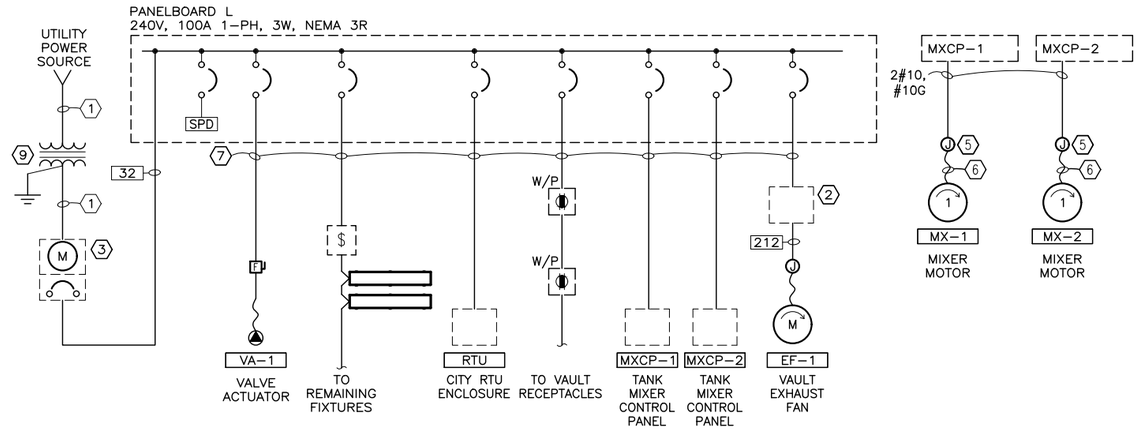
SERVICE PRIMARY	SUPPLIED BY:	INSTALLED BY:
PRIMARY TRENCHING/BACKFILL	-	CONTRACTOR
PRIMARY CONDUIT	CONTRACTOR	CONTRACTOR
PRIMARY CONDUCTOR	UTILITY COMPANY	UTILITY COMPANY

SERVICE TRANSFORMER	SUPPLIED BY:	INSTALLED BY:
TRANSFORMER PAD	UTILITY COMPANY	UTILITY COMPANY
TRANSFORMER	UTILITY COMPANY	UTILITY COMPANY

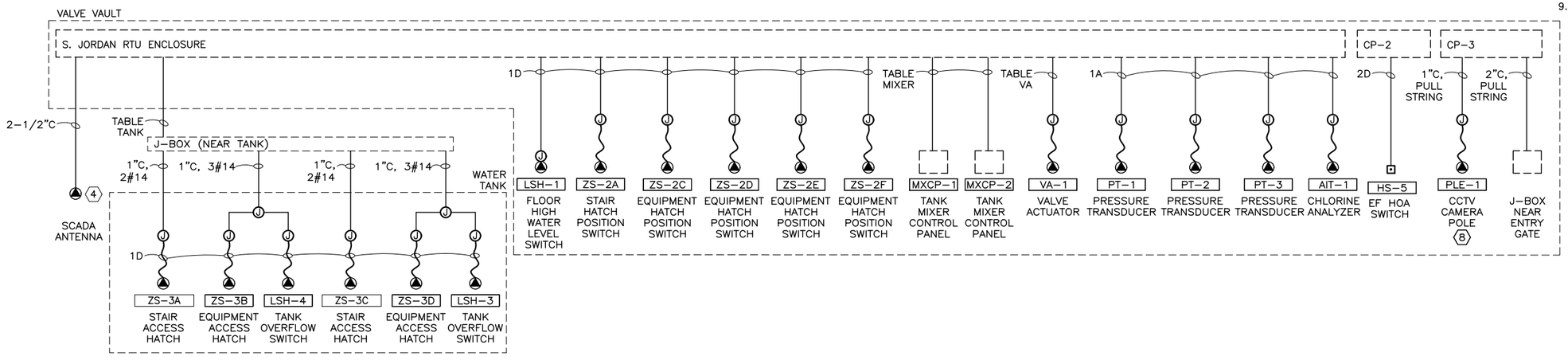
SERVICE SECONDARY	SUPPLIED BY:	INSTALLED BY:
SECONDARY TRENCHING/BACKFILL	-	CONTRACTOR
SECONDARY CONDUIT	CONTRACTOR	CONTRACTOR
SECONDARY CONDUCTOR	UTILITY COMPANY	UTILITY COMPANY

METERING EQUIPMENT	SUPPLIED BY:	INSTALLED BY:
METER	UTILITY COMPANY	UTILITY COMPANY
METER SOCKET	CONTRACTOR	CONTRACTOR
COMBO METER/MAIN	CONTRACTOR	CONTRACTOR
CURRENT TRANSFORMER ENCL.	-	-
MAIN SERVICE DISCONNECT	-	-
CT ENCL. TO METER SOCKET WIRING	-	-
CT ENCL. TO METER SOCKET CONDUIT	-	-

MAIN SERVICE DISCONNECT	SUPPLIED BY:	INSTALLED BY:
CIRCUIT BREAKER	CONTRACTOR	CONTRACTOR
FUSED DISCONNECT SWITCH	-	-



POWER ONE-LINE DIAGRAM



INSTRUMENTATION AND CONTROL ONE-LINE DIAGRAM

TABLE VA (CP-1 TO VALVE ACTUATOR)

CONDUIT SIZE	CONDUCTOR QTY	CONDUCTOR SIZE	CP-1 TO VALVE ACTUATOR SIGNAL DESCRIPTION
3/4"C	1	#16TSP	VALVE COMMAND POSITION
	1	#16TSP	VALVE POSITION

TABLE TANK (CP-1 TO TANK J-BOX)

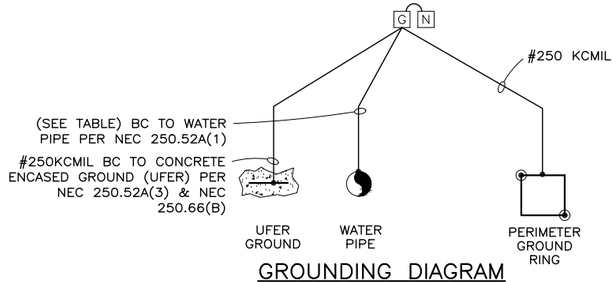
CONDUIT SIZE	CONDUCTOR QTY	CONDUCTOR SIZE	CP-1 TO TANK J-BOX SIGNAL DESCRIPTION
1"C	1	#14	COMMON INPUT
	1	#14	HATCH POSITION SWITCH (ZS-3A)
	1	#14	HATCH POSITION SWITCH (ZS-3B)
	1	#14	HATCH POSITION SWITCH (ZS-3C)
	1	#14	HATCH POSITION SWITCH (ZS-3D)
	1	#14	TANK LEVEL SWITCH (LSH-3)
	1	#14	TANK LEVEL SWITCH (LSH-4)
	4	#14	SPARE

TABLE MIXER (CP-1 TO MIXER)

CONDUIT SIZE	CONDUCTOR QTY	CONDUCTOR SIZE	SIGNAL DESCRIPTION
1"C	1	#14	COMMON INPUT
	1	#14	COMMON OUTPUT
	1	#14	MIXER COMMAND RUN
	1	#14	MIXER HOA SWITCH IN AUTO
	1	#14	MIXER HOA SWITCH IN HAND
	1	#14	MIXER RUNNING
	1	#14	MIXER VFD FAULT
	3	#14	SPARE
3/4"C	1	#18TSP	MIXER VFD SPEED
	1	#18TSP	MIXER COMMAND SPEED

I&C WIRE/CONDUIT TABLE

IDENT.	CONDUIT SIZE	CONDUCTOR QTY	CONDUCTOR SIZE	SIGNAL DESCRIPTION
1A	3/4"	1	#18TSP	1 ANALOG SIGNAL
2A	3/4"	2	#18TSP	2 ANALOG SIGNALS
3A	3/4"	3	#18TSP	3 ANALOG SIGNALS
IDENT.	CONDUIT SIZE	CONDUCTOR QTY	CONDUCTOR SIZE	SIGNAL DESCRIPTION
1D	3/4"	2	#14	1 COMMON, 1 DISCRETE SIG.
2D	3/4"	3	#14	1 COMMON, 2 DISCRETE SIG.
3D	3/4"	4	#14	1 COMMON, 3 DISCRETE SIG.
4D	3/4"	5	#14	1 COMMON, 4 DISCRETE SIG.



GROUNDING DIAGRAM

GENERAL NOTES:

1. FOR DEVICE AND EQUIPMENT LOCATIONS REFER TO ELECTRICAL PLAN SHEETS.
2. ALL CONDUCTORS FROM EACH DEVICE OR INSTRUMENT AS SPECIFIED ON CONTROL ONE-LINE TO BE CONTINUOUS FROM CONTROL PANEL THROUGH PULL BOXES OR WIREWAYS TO DEVICE WITHOUT SPLICES.

SHEET KEYNOTES:

1. 3"C, AS REQUIRED BY THE UTILITY COMPANY.
2. EXHAUST FAN CONTROL PANEL CP-2.
3. METERING PEDESTAL, 100A MIN. 240 VAC, 1-PH, 3-W WITH 100A MAIN CIRCUIT BREAKER. LABEL AS "MAIN SERVICE DISCONNECT" AND WITH AVAILABLE FAULT CURRENT AS REQUIRED BY NEC 110.24.
4. INSTALL ANTENNA SUPPORT, CONDUIT FOR COAX, GROUNDING AND WEATHERHEAD. COAX AND ANTENNA INSTALLED BY OWNER. FOR LOCATION, REFER TO KEYNOTE 3 ON E-4.1.
5. POLYCARBONATE J-BOX INSTALLED IN TANK HATCH OPENING.
6. CABLE SUPPLIED WITH MIXER MOTOR.
7. FOR CONDUIT AND CONDUCTOR INFORMATION REFER TO THE PANELBOARD SCHEDULE FOR THE CIRCUIT ID, THEN REFER TO THE CONDUIT/CONDUCTOR TABLE.
8. SHOWN FOR PLE-1. DUPLICATE FOR CCTV PLE-2. PULL BOXES NOT SHOWN.
9. UTILITY TRANSFORMER: 25 KVA, 120/240 V SECONDARY. FIBERGLASS PAD SUPPLIED AND INSTALLED BY UTILITY COMPANY.

REGISTERED PROFESSIONAL ENGINEER
No. 86-171214-2202
KEITH B. HEGERHORST
06/19/2025
STATE OF UTAH

FILE NAME:
FILE DATE:

HANSEN ALLEN & LUCE INC. ENGINEERS

PROJECT ENGINEER

DESIGNED	KBH	3					
DRAFTED	KBH	2					
CHECKED	KBH	1					
DATE	SEPT. 2022	NO.	DATE	REVISIONS		BY	APVD.

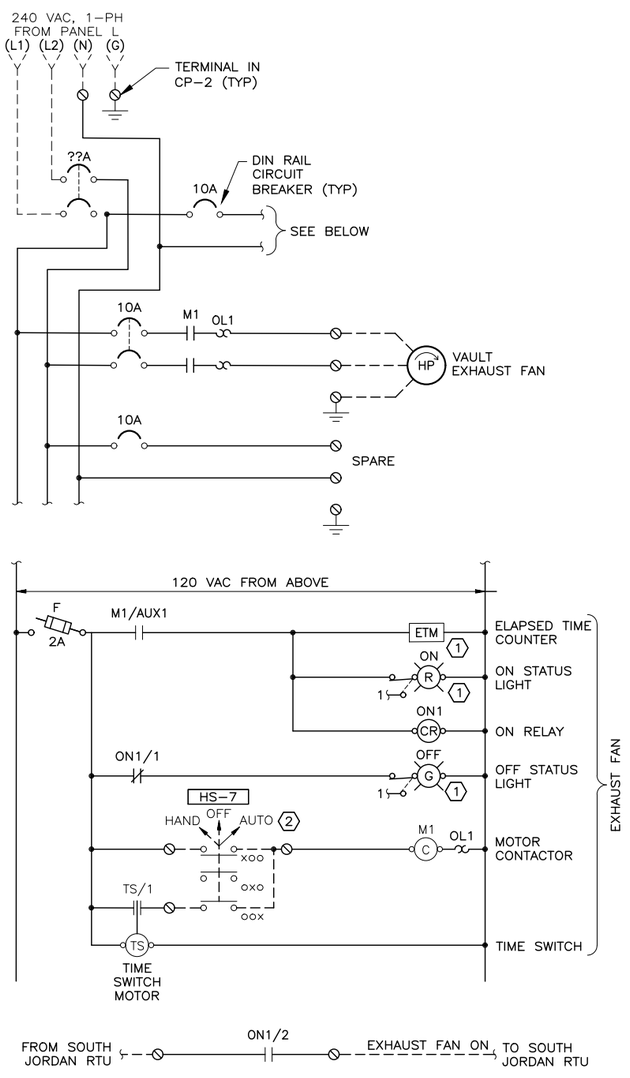
SCALE: NONE

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 - 8.4 MG TANK ELECTRICAL ONE-LINE DIAGRAMS

SHEET E-2.1
176.41.100

10/07



CP-2 CONTROL DIAGRAM

TERMINAL LEGEND:

- ○ FIELD TERMINAL
- □ CP-1 MAIN CONTROL PANEL
- ⊘ CP-2 SMALL MOTOR CONTROL PANEL

H.P.E. INC. ELECTRICAL ENGINEERS
POWER SYSTEMS, CONTROL & INSTRUMENTATION SYSTEMS
HEGERHORST POWER ENGINEERING INCORPORATED (801) 642-2051
708 EAST 50 SOUTH
AMERICAN FORK, UT 84003

HPE PROJECT: 22.049
FOR INFORMATION ABOUT THIS JOB, PLEASE CONTACT: KEITH HEGERHORST

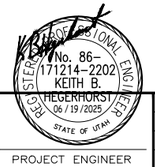
GENERAL NOTES:

1. DIAGRAM IS TYPICAL AND SHALL BE MODIFIED BY THE CONTRACTOR FOR THE PROVIDED DEVICES.
2. REFER TO ONE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR REQUIREMENTS.

SHEET KEYNOTES:

1. INSTALL DEVICES IN CONTROL PANEL DOOR AND AVAILABLE TO THE OPERATOR.
2. SWITCH LOCATED NEAR VAULT ENTRY LIGHT SWITCH.

FILE NAME:
FILE DATE:



HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROJECT ENGINEER

DESIGNED	KBH	3				
DRAFTED	KBH	2				
CHECKED	KBH	1				
DATE	SEPT. 2022	NO.	DATE	REVISIONS	BY	APVD.

SCALE: NONE

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4 MG TANK
ELECTRICAL
CP-2 SMALL MOTOR CONTROL PANEL

SHEET E-2.2
176.41.100

10/07

H.P.E. INC. ELECTRICAL ENGINEERS
POWER SYSTEMS, CONTROL & INSTRUMENTATION SYSTEMS
HEGERHORST POWER ENGINEERING INCORPORATED (801) 642-2051
708 EAST 50 SOUTH
AMERICAN FORK, UT 84003

HPE PROJECT:22.049
FOR INFORMATION ABOUT THIS JOB, PLEASE CONTACT: KEITH HEGERHORST

S. JORDAN TANK VALVE VAULT PANELBOARD L

LOCATION: VALVE VAULT | MFGR: SQUARE D COMPANY | 100 AMPS | VOLTS: 240/120
DIMENSIONS: 5.75"D x 20"W x 38"H | TYPE: NQ | PHASE: 1
MOUNTING: SURFACE | NEMA: 3R | 100 M.C.B. | WIRES: 3
FEED: TOP | 10,000 A.I.C. | FED FROM: UTILITY

BRKR A	P	DESCRIPTION	WIRE SIZE	A CONT.	A N. CONT.	NO	B CONT.	B N. CONT.	NO	C CONT.	C N. CONT.	WIRE SIZE	DESCRIPTION	BRKR A	P
PHASE LOADS															
20	1	RESIDUAL CHLORINE ANALYZER	212	200		1	950	0	2			750	212	CP-1 S. JORDAN RTU	20	1
20	1	RECEPT, VALVE VAULT	312		900	3			4	244	900	244	212	CP-2 EXHAUST FAN CONTROL PANEL	20	2
20	1	LTS, VALVE VAULT	212	140		5	384	0	6			244	-	-	-	-
30	1	MXCP-1 MIXER CONTROL PANEL	20	1,920		7			8	1,920	414		212	VA-1 BALL VALVE ACTUATOR	20	2
30	1	MXCP-2 MIXER CONTROL PANEL	20	1,920		9	1,920	414	10			414	-	-	-	-
	1	AVAILABLE SPACE	-			11			12	150	0		212	CP-3 CCTV ENCLOSURE	20	1
	1	AVAILABLE SPACE	-			13	0	0	14				-	SPARE	20	1
	1	AVAILABLE SPACE	-			15			16	0	0		-	SPARE	20	1
	1	AVAILABLE SPACE	-			17	0	0	18					AVAILABLE SPACE		1
		TOTAL WATTS:		4,180	900		3,254	414		2,314	1,314					
		CONTINUOUS LOAD:		5,567												
		CONTINUOUS LOAD * 125%:		6,959												
		NON-CONTINUOUS LOAD:		1,728												
		DESIGN WATTS:		8,687												
		MIN. RATING (AMPS):		36.2												

EXHAUST FAN CONTROL PANEL CP-2

LOCATION: VALVE VAULT | MFGR: CUSTOM | AMPS | VOLTS: 240
DIMENSIONS: BY CONTRACTOR | TYPE: NEMA 12 | PHASE: 1
MOUNTING: SURFACE | - M.C.B. | WIRES: 3
FEED: N/A | A.I.C. | FED FROM: L-6,8

BRKR A	P	DESCRIPTION	WIRE SIZE	A CONT.	A N. CONT.	NO	B CONT.	B N. CONT.
PHASE LOADS								
10	1	CONTROL POWER		50		1	50	0
15	1	VAULT EXHAUST FAN	212	487		2	244	0
10	1	SPARE CB				3	0	0
		TOTAL WATTS:		537	0		294	0
		CONTINUOUS LOAD:		537				
		CONTINUOUS LOAD * 125%:		671				
		NON-CONTINUOUS LOAD:		0				
		DESIGN WATTS:		671				
		MIN. RATING (AMPS):		2.8				

FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER NAME	MANUFACTURER CATALOG NO.	FIX VA	LAMP	LUMENS	TEMPERATURE (KELVIN)	MOUNTING	NOTES:
F1	4' LED ENCLOSED INDUSTRIAL, FIBERGLASS HOUSING, DAMP LOCATION, MVOLT, 4,000 LUMENS	METALUX	4VT2LED-LD5-6-DR-UNV-L840-CD-1-U	53	INCL.	6,000	4,000	SURFACE	
F2	VAPORTITE GLOBE REFRACTOR	LURALINE	LVW955S	11	N/A	884	4,000	WALL	
F3	SQUARE STEEL POLE, 4" X 12', 100 MPH WIND LOAD	KW	SSP12-4.0-7-BRZ	N/A	N/A	N/A	N/A	N/A	

EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	LOCATION	EQUIPMENT RATING VOLTS	PH	HP	WATTS	FLA	MCA	DISCONNECT AMPS	VOLTS	POLES	NEMA	FUSE	CONNECTION	STARTER TYPE	NOTES
MX-1	MIXER MOTOR	TANK	120	1	1	1,920		-	-	-	-	-	-	HARD-WIRED	VFD	1)
MX-2	MIXER MOTOR	TANK	120	1	1	1,920		-	-	-	-	-	-	HARD-WIRED	VFD	1)
MXCP-1	MIXER CONTROL PANEL	VALVE VAULT	120	1	-	1,920		-	-	-	-	-	-	HARD-WIRED	-	
MXCP-2	MIXER CONTROL PANEL	VALVE VAULT	120	1	-	1,920		-	-	-	-	-	-	HARD-WIRED	-	
VA-1	VALVE ACTUATOR	VALVE VAULT	230	1	1/3	828	3.6	-	-	-	-	-	-	HARD-WIRED	INCL.	

NOTES: 1) VFD LOCATED IN MIXER CONTROL PANEL.

MECHANICAL HVAC EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	LOCATION	EQUIPMENT RATING VOLTS	PH	HP	WATTS	FLA	MCA	DISCONNECT AMPS	VOLTS	POLES	NEMA	FUSE	CONNECTION	STARTER TYPE	NOTES
EF-01	EXHAUST FAN	VALVE VAULT	240	1	-	487	3.6		-	-	-	-	-	HARD-WIRED	FVNR	1)

NOTES: 1) NO DISCONNECT REQUIRED AS POWER SOURCE IS WITHIN SITE OF LOAD.

FILE NAME:
FILE DATE:

HANSEN ALLEN & LUCE, Inc. ENGINEERS

REGISTERED PROFESSIONAL ENGINEER No. 86-171214-2202 KEITH B. HEGERHORST 06/19/2025 STATE OF UTAH
PROJECT ENGINEER

DESIGNED	KBH	3			
DRAFTED	KBH	2			
CHECKED	KBH	1			
DATE	SEPT. 2022	NO.	DATE	REVISIONS	BY APVD.

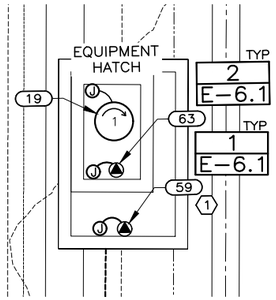
SCALE: NONE

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

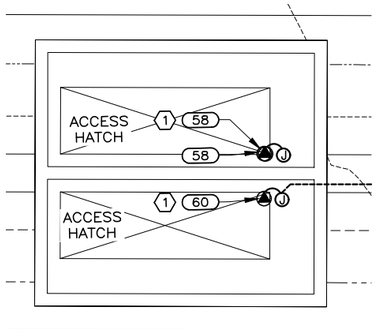
ZONES 7 & 8 – 8.4 MG TANK
ELECTRICAL
SCHEDULES

SHEET E-3.1
176.41.100

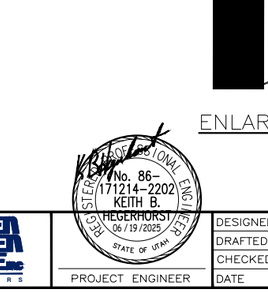
10/07



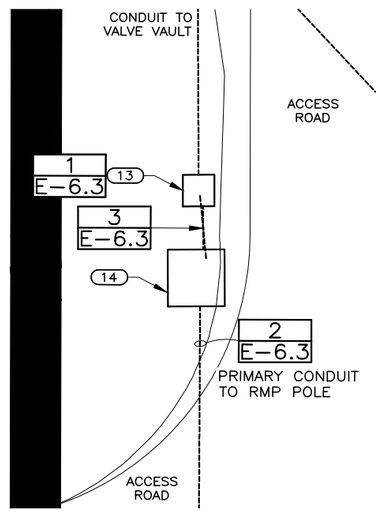
ENLARGED EQUIPMENT HATCH 3
1/4" = 1'-0" —



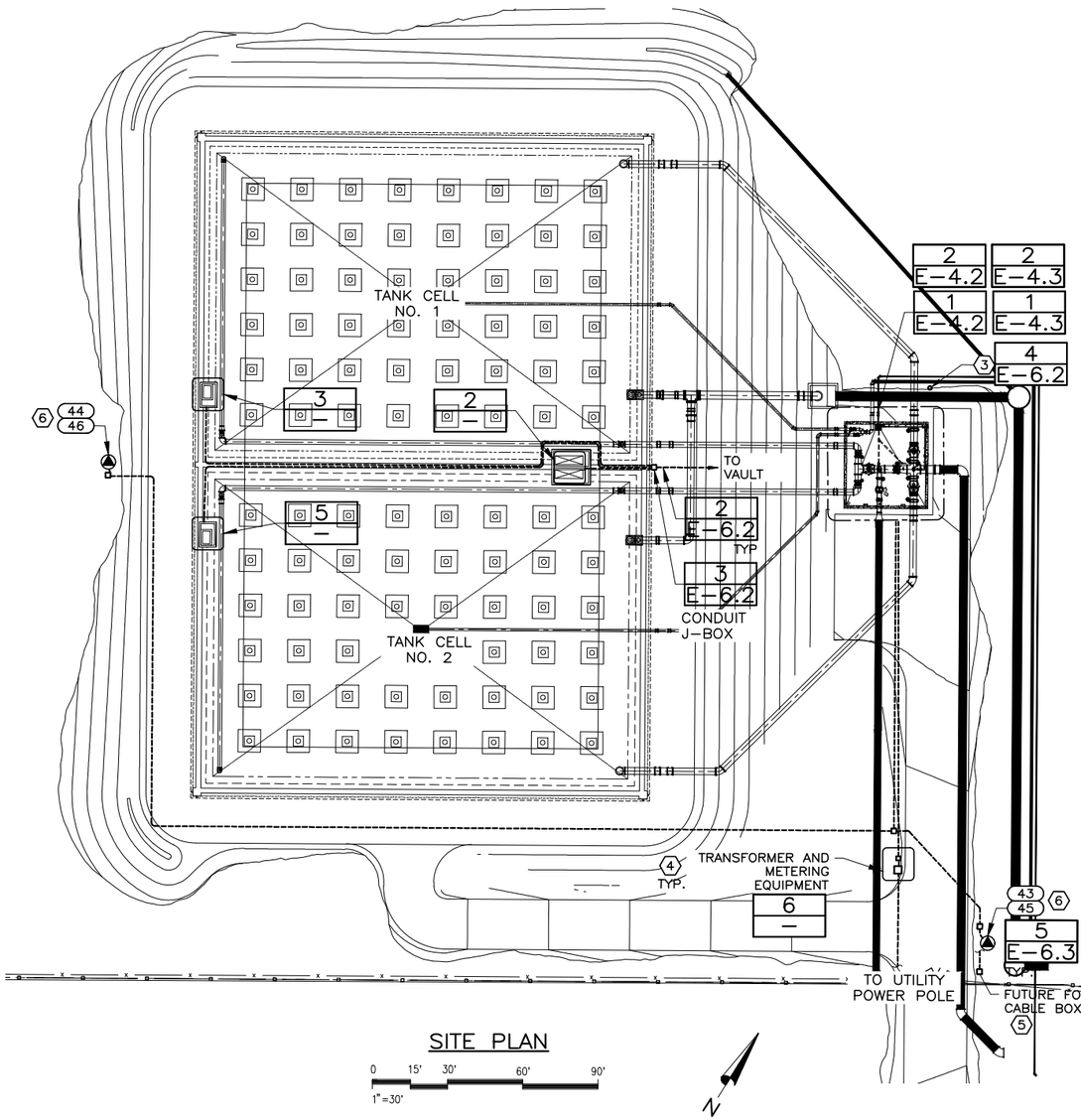
ENLARGED ACCESS HATCH 2
1/4" = 1'-0" —



ENLARGED EQUIPMENT HATCH 5
1/4" = 1'-0" —



ENLARGED UTILITY PLAN 6
1/4" = 1'-0" —



SITE PLAN

0 15' 30' 60' 90'
1"=30'

H.P.E. INC. ELECTRICAL ENGINEERS
POWER SYSTEMS, CONTROL & INSTRUMENTATION SYSTEMS
HEGERHORST POWER ENGINEERING INCORPORATED (801) 642-2051
708 EAST 50 SOUTH
AMERICAN FORK, UT 84003

HPE PROJECT:22.049
FOR INFORMATION ABOUT THIS JOB, PLEASE CONTACT: KEITH HEGERHORST

SITE PLAN ITEMS (E-4.1)

DRAWING ID	TAG	DESCRIPTION	LOCATION	POWER SOURCE
13	MP	METERING PEDESTAL	SITE	UTILITY
14	XFMR	UTILITY TRANSFORMER	SITE	UTILITY
19	MX-1	MIXER 1	CELL NO. 1	MXCP-1
20	MX-2	MIXER 2	CELL NO. 2	MCCP-2
43	PLE-1	CCTV CAMERA POLE (FIX TYPE F3)	SITE	-
44	PLE-2	CCTV CAMERA POLE (FIX TYPE F3)	SITE	-
45	CCTV-1	CCTV CAMERA	SITE	-
46	CCTV-2	CCTV CAMERA	SITE	-
58	ZS-3A	STAIR HATCH POSITION SWITCH	CELL NO. 1	CP-1/RTU
59	ZS-3B	EQUIPMENT HATCH POSITION SWITCH	CELL NO. 1	CP-1/RTU
60	ZS-3C	STAIR HATCH POSITION SWITCH	CELL NO. 2	CP-1/RTU
61	ZS-3D	EQUIPMENT HATCH POSITION SWITCH	CELL NO. 2	CP-1/RTU
63	LSH-2	TANK OVERFLOW LEVEL SWITCH	CELL NO. 1	CP-1/RTU
64	LSH-3	TANK OVERFLOW LEVEL SWITCH	CELL NO. 2	CP-1/RTU

GENERAL NOTES:

1. REFER TO ONE-LINE DIAGRAMS FOR CONDUIT AND CONDUCTOR REQUIREMENTS.
2. ALL CONDUCTORS FROM EACH DEVICE OR INSTRUMENT AS SPECIFIED ON CONTROL ONE-LINE TO BE CONTINUOUS FROM CONTROL PANEL THROUGH PULL BOXES OR WIREWAYS TO DEVICE WITHOUT SPLICES.
3. MIXER MOTOR CONTROLLERS LOCATED IN VALVE VAULT.

SHEET KEYNOTES:

1. INSTALL HATCH POSITION SWITCH ON PRIMARY HATCH. HATCH ORIENTATION VARIES. INSTALL AS REQUIRED.
2. HIGH LEVEL SWITCH IN EQUIPMENT HATCH ONLY. REFER TO INSTALLATION DETAIL 2/E6.1.
3. SCADA ANTENNA POLE: INSTALL A 60-FT, WESTERN RED CEDAR, CLASS 2 WOOD POLE, BURIED 8-FT. PROVIDE A 18" LIGHTNING FINIAL ON POLE TOP WITH #6 BC GROUND CONDUCTOR STAPLED TO POLE EVERY 24" TO TWO 3/4"X10' COPPER COATED GROUND RODS. SEPARATE GROUND ROD'S A MINIMUM OF 10'. INSTALL A 1"C ON STAND-OFFS TO 12" ABOVE ANTENNA WITH WEATHERHEAD. ANTENNA AND RADIO COAX SUPPLIED AND INSTALLED BY SCADA CONTRACTOR TO BE INSTALLED 50' AGL.
4. CONCRETE POLYMER PULL BOX. MIN. 24"x24"x16".
5. CONCRETE POLYMER PULL BOX NEAR ENTRY GATE FOR FUTURE FIBER OPTIC CABLES. INSTALL CONDUIT WITH PULL STRING TO CP-3 IN VAULT.
6. OWNER TO PROVIDE/INSTALL CCTV CAMERAS ON POLES AT A FUTURE DATE.

REGISTERED PROFESSIONAL ENGINEER
No. 86-171214-2202
KEITH B. HEGERHORST
06/19/2025
STATE OF UTAH

PROJECT ENGINEER

DESIGNED	KBH	3					
DRAFTED	KBH	2					
CHECKED	KBH	1					
DATE	SEPT. 2022	NO.	DATE	REVISIONS		BY	APVD.

SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

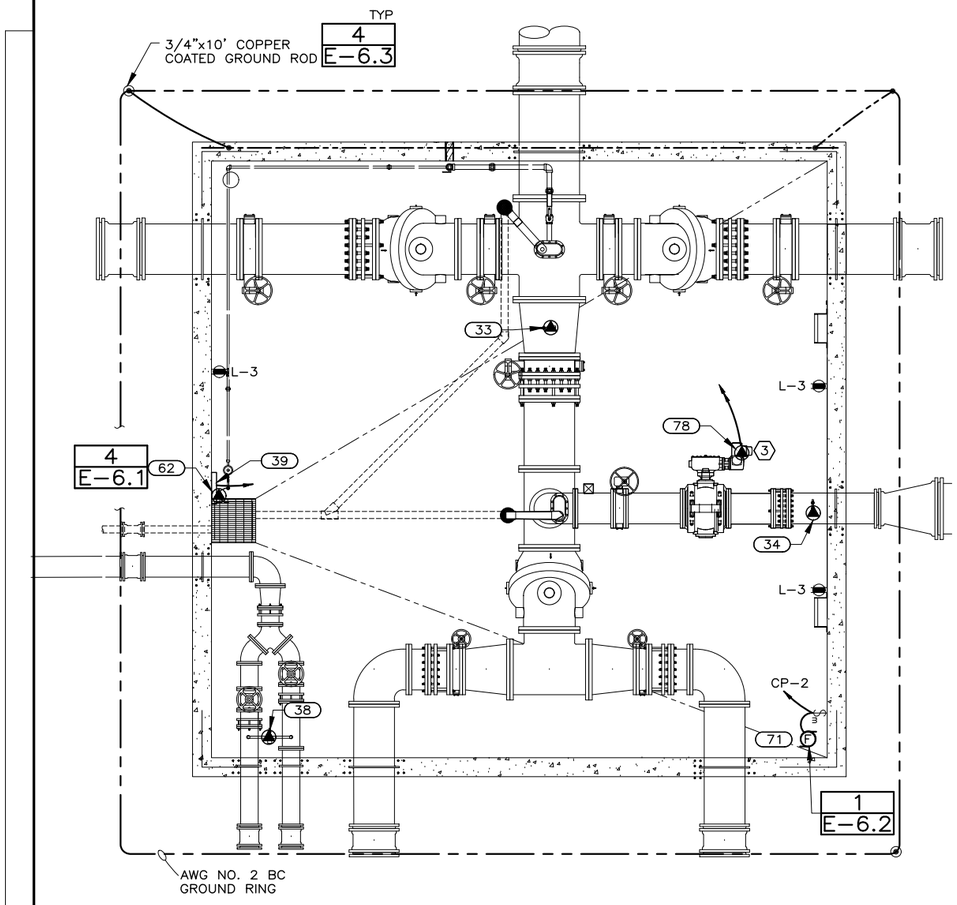
ZONES 7 & 8 – 8.4 MG TANK
ELECTRICAL
SITE PLAN

SHEET E-4.1
176.41.100

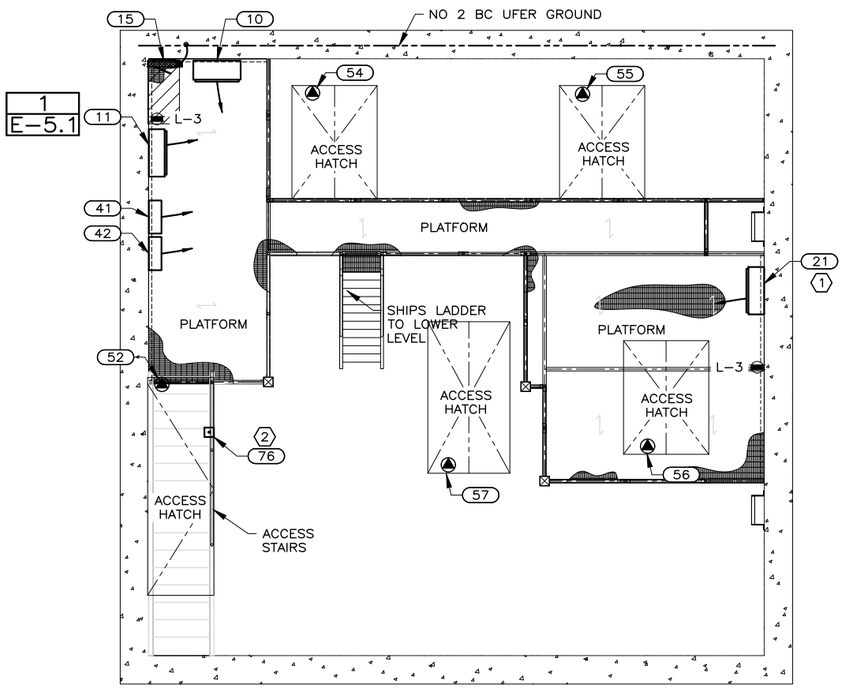
FILE NAME:
FILE DATE:
10/07

H.P.E. INC. ELECTRICAL ENGINEERS
POWER SYSTEMS, CONTROL & INSTRUMENTATION SYSTEMS
HEGERHORST POWER ENGINEERING INCORPORATED (801) 642-2051
708 EAST 50 SOUTH
AMERICAN FORK, UT 84003

HPE PROJECT:22.049
FOR INFORMATION ABOUT THIS JOB, PLEASE CONTACT: KEITH HEGERHORST



LOWER LEVEL PLAN 1 E-4.1
0 4' 8' 12
1/4"=1'-0"



PLATFORM LEVEL PLAN 2 E-4.1
0 4' 8' 12
1/4"=1'-0"

VAULT POWER PLAN ITEMS

DRAWING ID	TAG	DESCRIPTION	POWER SOURCE	LOCATION
10	CP-1/RTU	MCP, SCADA RTU ENCLOSURE	L-2	VALVE VAULT
11	CP-2	EXHAUST FAN CONTROL PANEL	L-4,6	VALVE VAULT
15	PNL-L	PANELBOARD L	MP	VALVE VAULT
21	CP-3	CCTV ENCLOSURE	L-12	VALVE VAULT
33	PT-1	PRESSURE TRANSMITTER	CP-1/RTU	VALVE VAULT
34	PT-2	PRESSURE TRANSMITTER	CP-1/RTU	VALVE VAULT
38	PT-3	PRESSURE TRANSMITTER	CP-1/RTU	VALVE VAULT
39	AIT-1	CHLORINE ANALYZER	L-1	VALVE VAULT
41	MXCP-1	MIXER CONTROL PANEL 1	L-7	VALVE VAULT
42	MXCP-2	MIXER CONTROL PANEL 2	L-9	VALVE VAULT
52	ZS-2A	STAIR HATCH POSITION SWITCH	CP-1/RTU	VALVE VAULT
54	ZS-2C	EQUIPMENT HATCH POSITION SWITCH	CP-1/RTU	VALVE VAULT
55	ZS-2D	EQUIPMENT HATCH POSITION SWITCH	CP-1/RTU	VALVE VAULT
56	ZS-2E	EQUIPMENT HATCH POSITION SWITCH	CP-1/RTU	VALVE VAULT
57	ZS-2F	EQUIPMENT HATCH POSITION SWITCH	CP-1/RTU	VALVE VAULT
62	LSH-1	VAULT FLOOR HIGH WATER LEVEL SWITCH	CP-1/RTU	VALVE VAULT
71	EF-1	EXHAUST FAN	CP-2	VALVE VAULT
76	HS-7	EXHAUST FAN HOA SWITCH	CP-2	VALVE VAULT
78	VA-1	BALL VALVE ACTUATOR	L-8,10	VALVE VAULT

GENERAL NOTES:

1. FOR POWER SOURCE OR "HOME RUN" REFER TO THE ITEM LIST TABLE. REFER TO THE PANELBOARD SCHEDULE OR POWER ONE-LINE DIAGRAM FOR A CIRCUIT ID, THEN REFER TO THE CONDUIT/CONDUCTOR TABLE ON E-1.2.
2. CONDUIT PENETRATIONS INTO VAULT SHALL HAVE A MINIMUM OF 18-INCHES OF GROUND COVER. DO NOT INSTALL CONDUITS THROUGH VAULT ROOF DECK.
3. INSTALL RECEPTACLES AT +36-IN ABOVE FINISHED FLOOR OR PLATFORM LEVEL.

SHEET KEYNOTES:

1. PROVIDE AND INSTALL A 36"HX30"WX12"D STEEL ENCLOSURE WITH INTERNAL MOUNTING PANEL. LABEL AS CP-3 CCTV EQUIPMENT.
2. INSTALL SWITCH SO AN OPERATOR CAN ACCESS THE SWITCH WITHOUT ENTERING THE VAULT.
3. VALVE IS ON PLATFORM LEVEL. REFER TO SECTION 1/C-11 FOR LOCATION.

FILE NAME:
FILE DATE:

REGISTERED PROFESSIONAL ENGINEER No. 86-171214-2202 KEITH B. HEGERHORST 06/19/2025 STATE OF UTAH

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROJECT ENGINEER

DESIGNED	KBH	3				
DRAFTED	KBH	2				
CHECKED	KBH	1				
DATE	SEPT. 2022	NO.	DATE	REVISIONS	BY	APVD.

SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

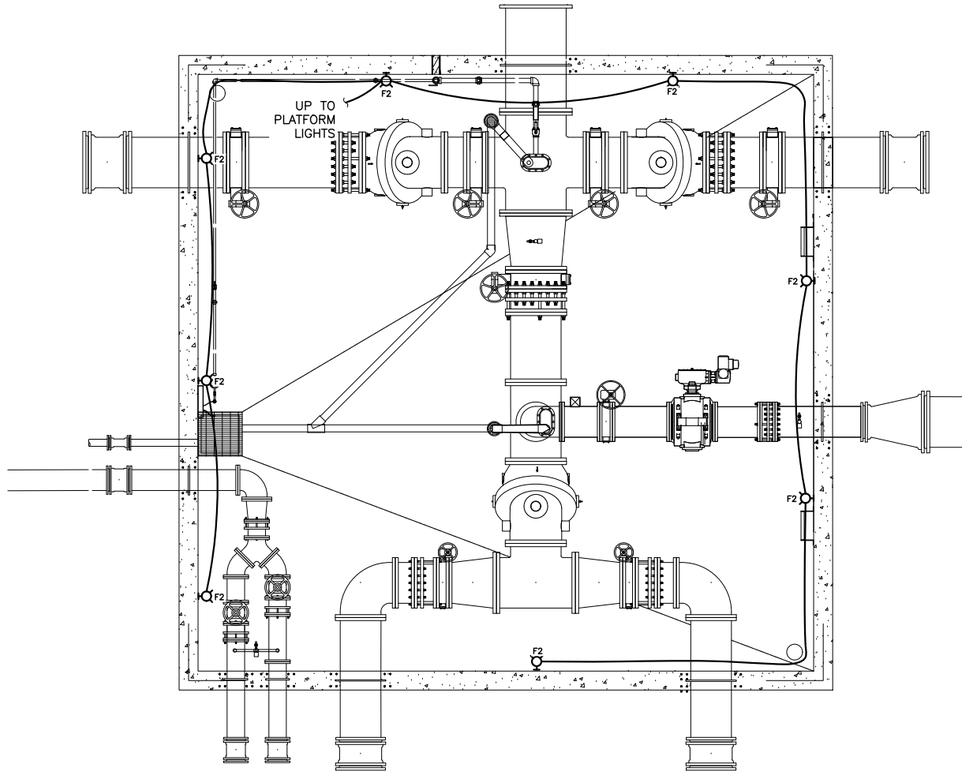
ZONES 7 & 8 - 8.4 MG TANK
ELECTRICAL
VAULT ELECTRICAL PLANS

SHEET E-4.2
176.41.100

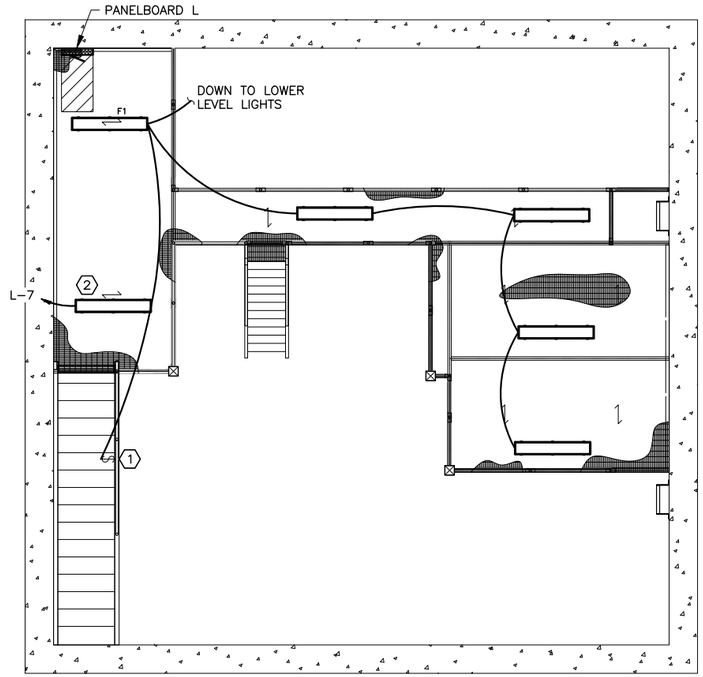
10/07

H.P.E. INC. ELECTRICAL ENGINEERS
POWER SYSTEMS, CONTROL & INSTRUMENTATION SYSTEMS
HEGERHORST POWER ENGINEERING INCORPORATED (801) 642-2051
708 EAST 50 SOUTH
AMERICAN FORK, UT 84003

HPE PROJECT:22.049
FOR INFORMATION ABOUT THIS JOB, PLEASE CONTACT: KEITH HEGERHORST



LOWER LEVEL LIGHTING PLAN 1
0 4' 8' 12
1/4"=1'-0"
E-4.1



PLATFORM LEVEL LIGHTING PLAN 2
0 4' 8' 12
1/4"=1'-0"
E-4.1

GENERAL NOTES:

1. FOR WIRE AND CONDUIT REQUIREMENTS, REFER TO PANEL SCHEDULE FOR CIRCUIT ID, THEN REFER TO THE CONDUIT/ CONDUCTOR TABLE ON E-1.0 FOR THE WIRE AND CONDUIT.
2. INSTALL THE F2 FIXTURES 8-INCHES BELOW THE BOTTOM OF THE PLATFORM. MATCH HEIGHT FOR ALL FIXTURES IN THE LOWER LEVEL.
3. FIXTURE SCHEDULE PROVIDED ON E3.1.

SHEET KEYNOTES:

1. INSTALL LIGHT SWITCH AND EF HOA SWITCH SO AN OPERATOR CAN REACH THEM FROM OUTSIDE THE VAULT.
2. PROVIDE A 90-MINUTE BATTERY IN THIS FIXTURE.

REGISTERED PROFESSIONAL ENGINEER
No. 86-171214-2202
KEITH B. HEGERHORST
06/19/2025
STATE OF UTAH

FILE NAME:
FILE DATE:

HANSEN ALLEN & LUCE Inc. ENGINEERS

PROJECT ENGINEER

DESIGNED	KBH	3				
DRAFTED	KBH	2				
CHECKED	KBH	1				
DATE	SEPT. 2022	NO.	DATE	REVISIONS	BY	APVD.

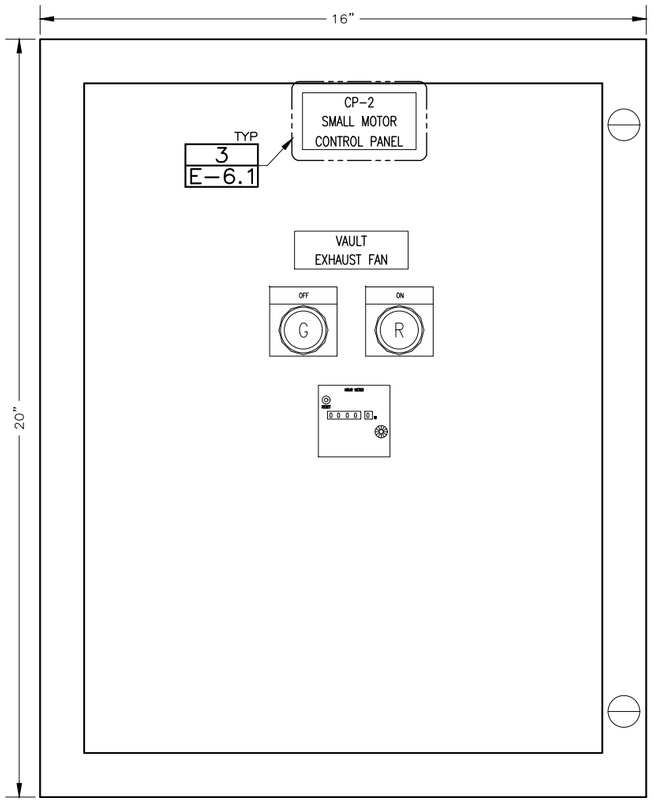
SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4 MG TANK
ELECTRICAL
VAULT LIGHTING PLAN

SHEET E-4.3
176.41.100

10/07



CP-2 ARRANGEMENT 1
6" = 1'-0" E-4.2

H.P.E. INC. ELECTRICAL ENGINEERS
POWER SYSTEMS, CONTROL & INSTRUMENTATION SYSTEMS
HEGERHORST POWER ENGINEERING INCORPORATED (801) 642-2051
708 EAST 50 SOUTH
AMERICAN FORK, UT 84003

HPE PROJECT:22.049
FOR INFORMATION ABOUT THIS JOB, PLEASE CONTACT: KEITH HEGERHORST

GENERAL NOTES:

1. CONTRACTOR SHALL DETERMINE ENCLOSURE DIMENSIONS BASED ON COMPONENTS SELECTED. SIZE SHOWN IS APPROXIMATE. INTERNAL ARRANGEMENT DETERMINED BY CONTRACTOR.
2. CP-2 TYPICAL CONTROL DIAGRAM SHOWN ON E2.2.

SHEET KEYNOTES:

1. CP-2 ENCLOSURE SHALL INCLUDE THE TIME SWITCH.

REGISTERED PROFESSIONAL ENGINEER
No. 86-171214-2202
KEITH B. HEGERHORST
06/19/2025
STATE OF UTAH

FILE NAME:
FILE DATE:

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROJECT ENGINEER

DESIGNED	KBH	3				
DRAFTED	KBH	2				
CHECKED	KBH	1				
DATE	SEPT. 2022	NO.	DATE	REVISIONS	BY	APVD.

SCALE: AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4 MG TANK
ELECTRICAL
ENCLOSURE ARRANGEMENTS

SHEET E-5.1
176.41.100

10/07

H.P.E. INC. ELECTRICAL ENGINEERS
POWER SYSTEMS, CONTROL & INSTRUMENTATION SYSTEMS
HEGERHORST POWER ENGINEERING INCORPORATED (801) 642-2051
708 EAST 50 SOUTH
AMERICAN FORK, UT 84003

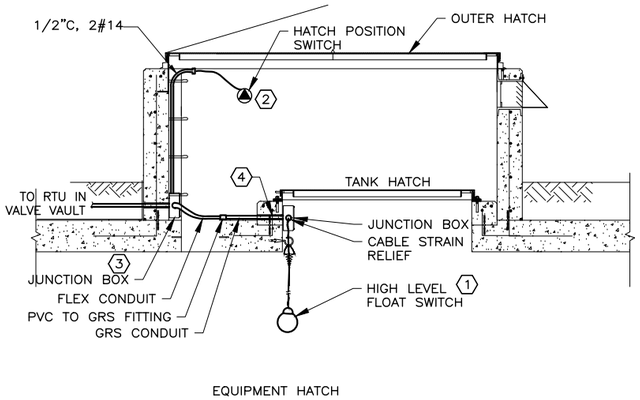
HPE PROJECT:22.049
FOR INFORMATION ABOUT THIS JOB, PLEASE CONTACT: KEITH HEGERHORST

GENERAL NOTES:

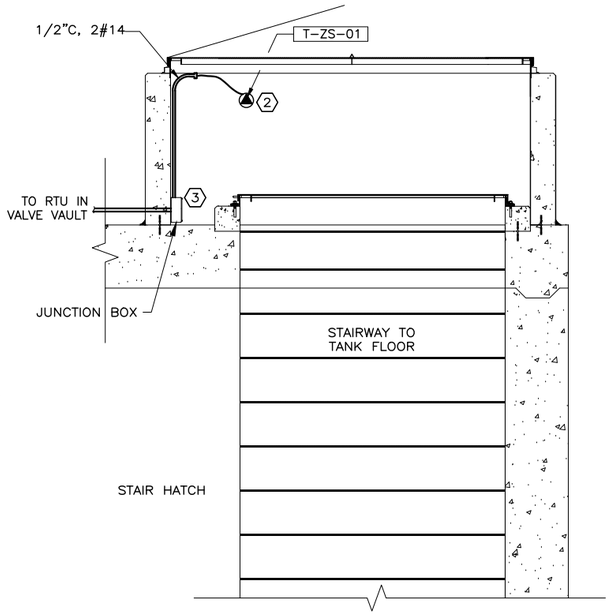
1. STANDARD ELECTRICAL DETAILS. HATCH CONSTRUCTION MAY NOT MATCH. MODIFY AS REQUIRED.

SHEET KEYNOTES:

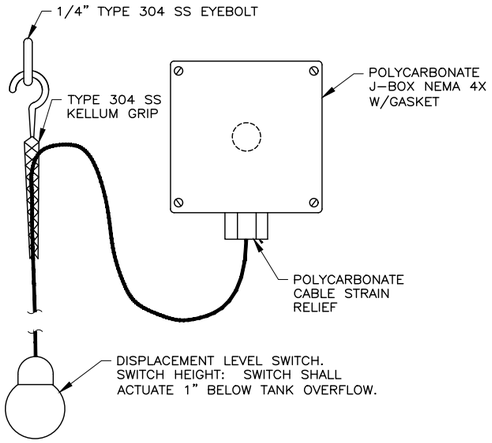
1. HEIGHT OF LEVEL SWITCH SHALL BE PROVIDED DURING CONSTRUCTION.
2. TWO HATCH POSITION SWITCHES SHOWN IN THIS PHOTO. CONTRACTOR SHALL INSTALL ONLY ONE POSITION SWITCH ON THE PRIMARY HATCH DOOR. PLUNGER SWITCH SHALL BE ACTUATED WITH HATCH HOLD-OPEN BRACKET WHEN HATCH IS CLOSED.
3. LOCATE ALL J-BOXES ON SECURE SIDE OF HATCH.
4. SEAL CONDUIT PENETRATION WITH SEALANT.



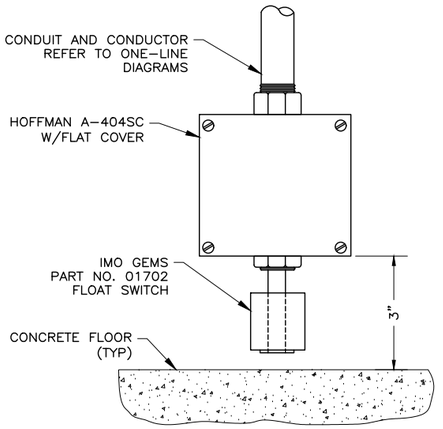
EQUIPMENT HATCH



TANK HATCH SWITCH INSTALLATION 1
1/2" = 1'-0" E-4.1



FLOAT SWITCH INSTALLATION 2
6" = 1'-0" E-4.1



FLOOR LEVEL SWITCH 4
6" = 1'-0" E-4.2

(TYPICAL HATCH INTRUSION SWITCH INSTALLATION)

PHOTO 1 - ②

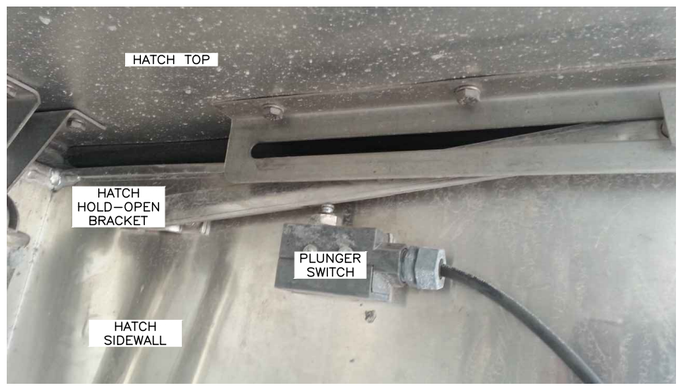
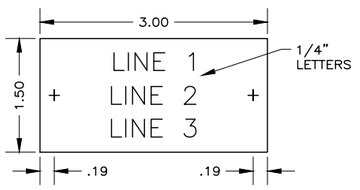


PHOTO 2 -



NAMEPLATES 3
1" = 1'-0" E-5.1

FILE NAME:
FILE DATE:

10/07

HANSEN ALLEN & LUCE ENGINEERS

REGISTERED PROFESSIONAL ENGINEER No. 86-171214-2202 KEITH B. HEGERHORST 06/19/2025 STATE OF UTAH

PROJECT ENGINEER

DESIGNED	KBH	3				
DRAFTED	KBH	2				
CHECKED	KBH	1				
DATE	SEPT. 2022	NO.	DATE	REVISIONS	BY	APVD.

SCALE: AS SHOWN

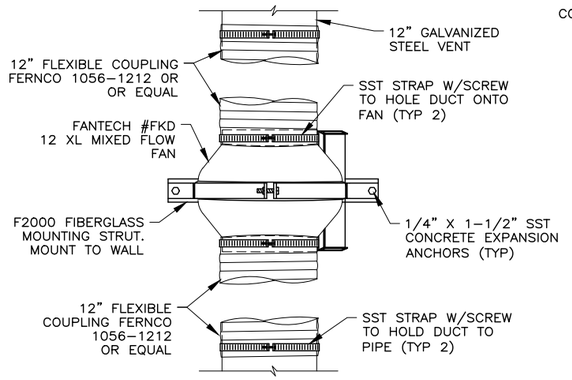
SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4 MG TANK ELECTRICAL DETAILS SHEET 1

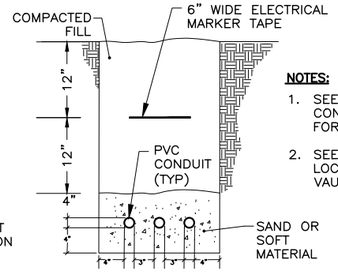
SHEET E-6.1
176.41.100

H.P.E. INC. ELECTRICAL ENGINEERS
POWER SYSTEMS, CONTROL & INSTRUMENTATION SYSTEMS
HEGERHORST POWER ENGINEERING INCORPORATED (801) 642-2051
708 EAST 50 SOUTH
AMERICAN FORK, UT 84003

HPE PROJECT:22.049
FOR INFORMATION ABOUT THIS JOB, PLEASE CONTACT: KEITH HEGERHORST



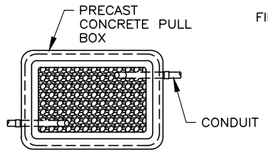
VALVE VAULT EXHAUST FAN INSTALLATION 1
1 1/2" = 1'-0" E-4.2

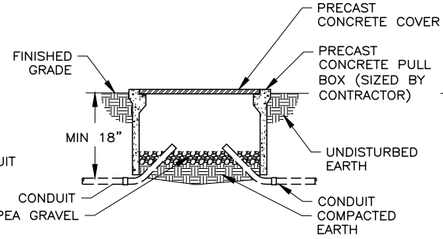


NOTES:

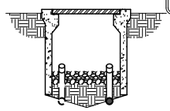
1. SEE INSTRUMENTATION AND CONTROL ONE-LINE DIAGRAM FOR QUANTITY OF CONDUITS.
2. SEE POWER PLANS FOR LOCATION OF EQUIPMENT AND VAULTS.

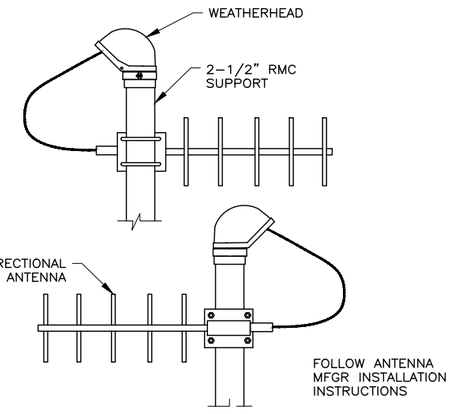
CONDUIT TRENCH 2
1" = 1'-0" E-4.1



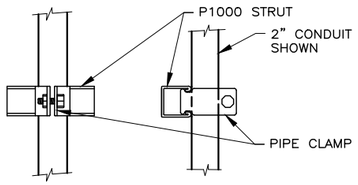


TYPICAL CONCRETE PULL BOX 3
3/4" = 1'-0" E-4.1





ANTENNA SUPPORT WEATHERHEAD 5
3" = 1'-0" —

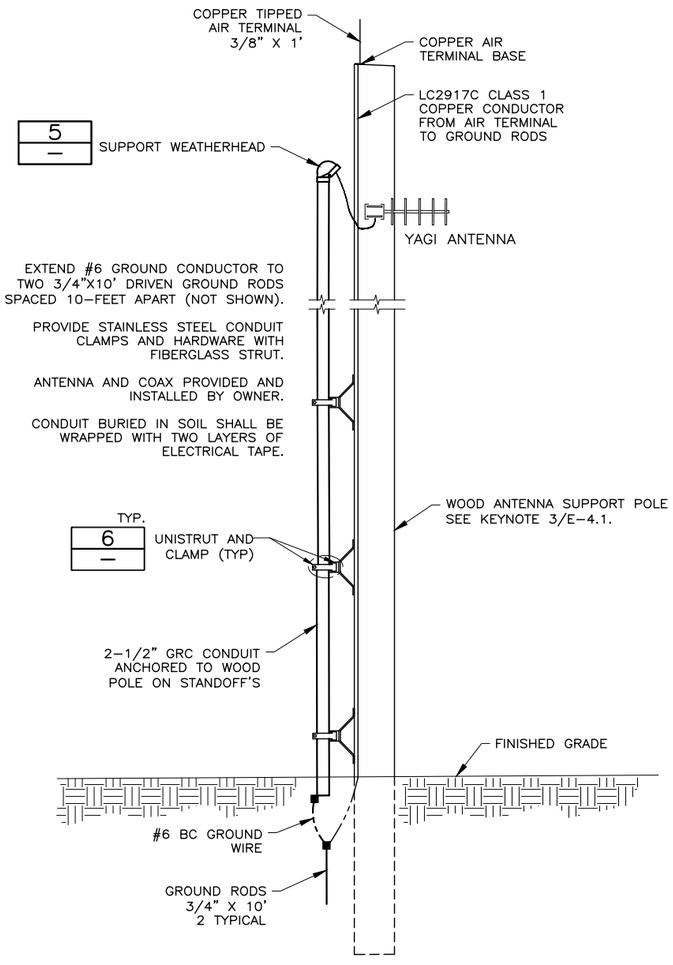


FRONT VIEW SIDE VIEW

CONDUIT PIPE CLAMPS*			
SIZE	EMT	RGS	EMT/GRS
1/2"	P1426	P1111	—
3/4"	P1427	P1112	P1212
1"	P1428	P1113	P1213
1-1/4"	P1429	P1114	P1214
1-1/2"	P1430	P1115	P1215
2"	P1431	P1117	P1217
2-1/2"	P1118	P1118	—
3"	P1119	P1119	—
3-1/2"	P1120	P1120	—
4"	P1121	P1121	—

* = SUPPLIED WITH SLOTTED HEAD SCREW AND NUT

TYPICAL CONDUIT SUPPORT ATTACHMENT 6
3" = 1'-0" —



ANTENNA SUPPORT 4
1" = 1'-0" E-4.1

FILE NAME:
FILE DATE:

REGISTERED PROFESSIONAL ENGINEER
No. 86-171214-2202
KEITH B. HEGERHORST
06/19/2025
STATE OF UTAH

PROJECT ENGINEER

DESIGNED	KBH	3					
DRAFTED	KBH	2					
CHECKED	KBH	1					
DATE	SEPT. 2022	NO.	DATE	REVISIONS		BY	APVD.

SCALE AS SHOWN

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 — 8.4 MG TANK
ELECTRICAL
DETAILS SHEET 2

SHEET E-6.2
176.41.100

10/07

H.P.E. INC. ELECTRICAL ENGINEERS
POWER SYSTEMS, CONTROL & INSTRUMENTATION SYSTEMS
HEGERHORST POWER ENGINEERING INCORPORATED (801) 642-2051
708 EAST 50 SOUTH
AMERICAN FORK, UT 84003

HPE PROJECT:22.049
FOR INFORMATION ABOUT THIS JOB, PLEASE CONTACT: KEITH HEGERHORST

SCALE AT 1" = 1'-0"

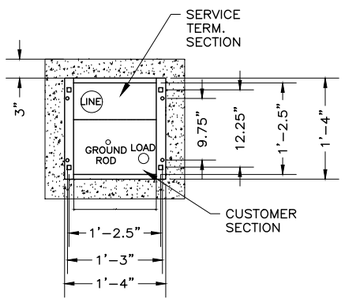
3" RECOMMENDED MIN. FOUNDATION EXTENSION ALL SIDES.

6-INCH RECOMMENDED MINIMUM FOUNDATION DEPTH BELOW GRADE LEVEL

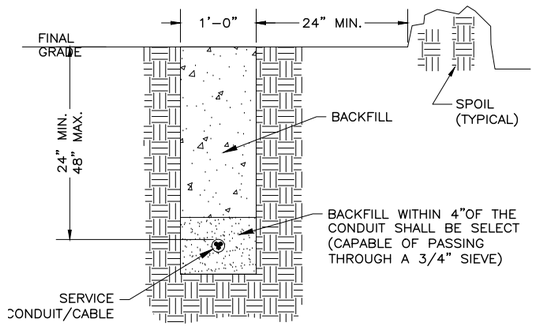
36" MIN. PEDESTAL CLEARANCE TYPICAL FRONT & BACK REQUIRED PER N.E.C. 110-16

(4) 5/8-11 X 8 (450mm 16UNC) ANCHOR BOLTS RECOMMENDED

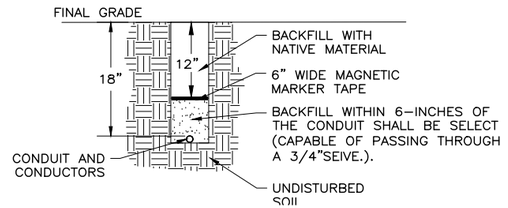
TYPICAL MILBANK PEDESTAL PHOTO



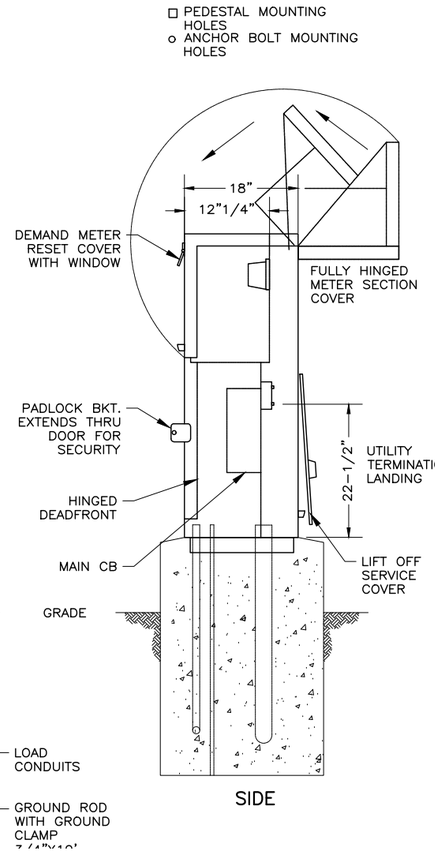
MOUNTING BASE DETAIL

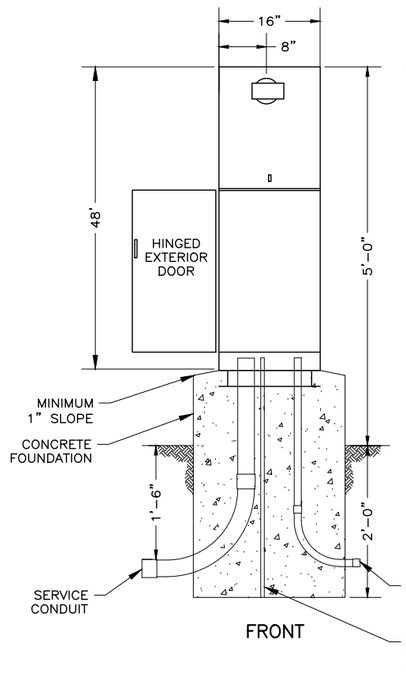


RMP PRIMARY CONDUIT TRENCH 2
1" = 1'-0" E-4.1

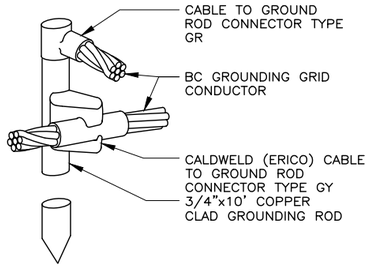


SECONDARY SERVICE CONDUIT TRENCH 3
1" = 1'-0" E-4.1

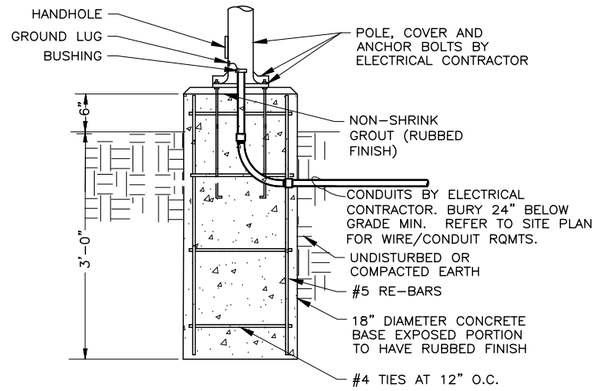




METERING PEDESTAL 1
1" = 1'-0" E-4.1



GROUND ROD INSTALLATION 4
6" = 1'-0" E-4.2



POLE BASE DETAIL 5
1" = 1'-0" E-4.1

REGISTERED PROFESSIONAL ENGINEER No. 86-171214-2202 KEITH B. HEGERHORST 06/19/2025 STATE OF UTAH

FILE NAME:
FILE DATE:

DESIGNED	KBH	3					
DRAFTED	KBH	2					
CHECKED	KBH	1					
DATE	SEPT. 2022	NO.	DATE	REVISIONS		BY	APVD.

HANSEN ALLEN & LUCE, Inc. ENGINEERS
PROJECT ENGINEER

SCALE AS SHOWN

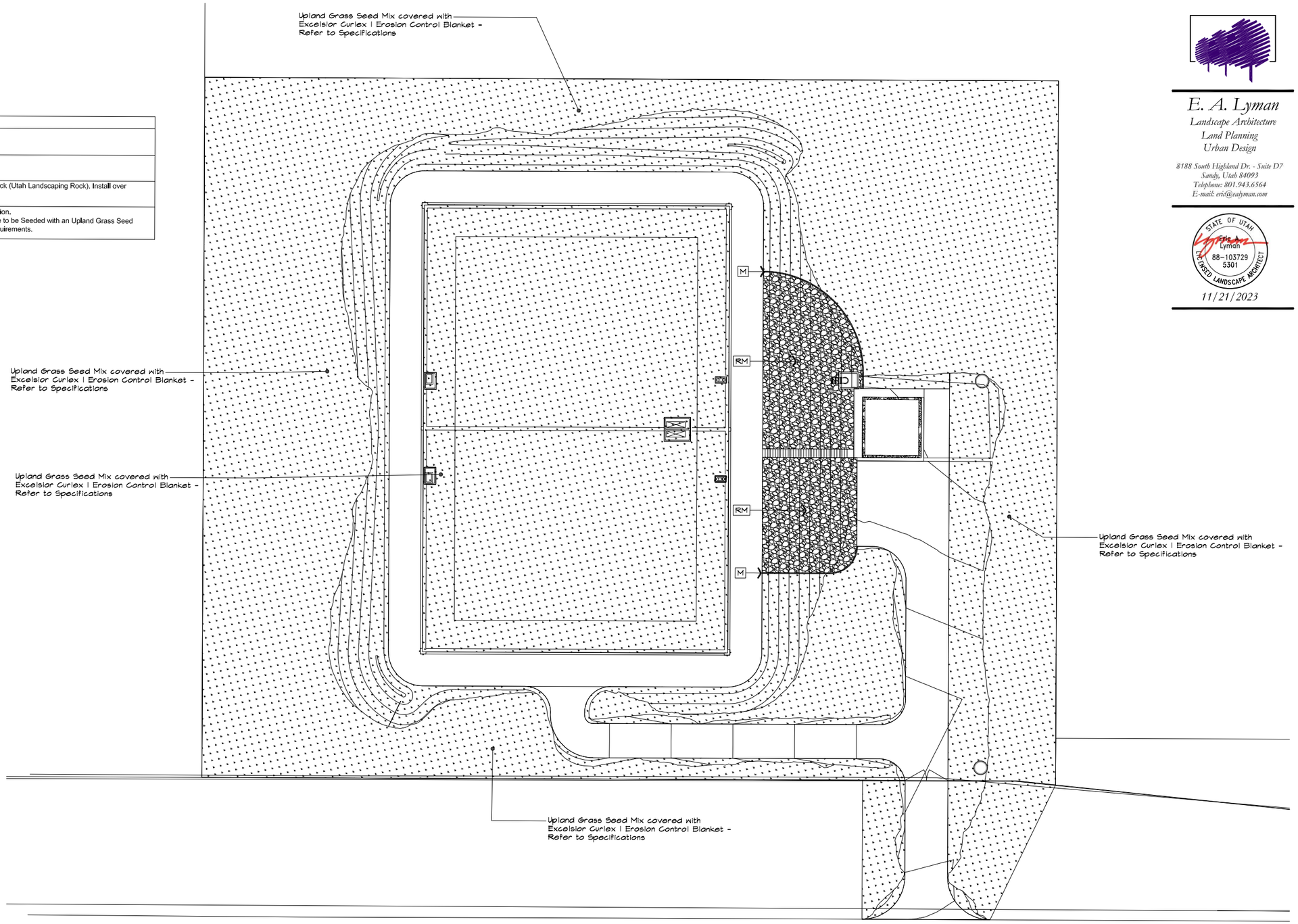
SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONES 7 & 8 – 8.4 MG TANK
ELECTRICAL
DETAILS SHEET 3

SHEET E-6.3
176.41.100

10/07

MISC	
	Upland Grass Seed Mix - See Specifications
M	6"X6" Cast-in-place Concrete Mowstrip
RM	Install 6" depth 4" - 8" washed Southtown Crushed Rock (Utah Landscaping Rock). Install over DeWitt Pro-5 Weed Barrier.
NOTES:	1. See details and specifications for additional information. 2. All disturbed areas outside of Landscape Limit Line to be Seeded with an Upland Grass Seed Mix. Refer to Specifications for mix and application requirements.



30' 0' 15' 30' 60' 120'

E. A. Lyman
Landscape Architecture
Land Planning
Urban Design

8188 South Highland Dr. - Suite D7
Sandy, Utah 84093
Telephone: 801.943.6564
E-mail: eric@ealyman.com

STATE OF UTAH
Eric A. Lyman
88-103729
5301
LICENSED LANDSCAPE ARCHITECT

11/21/2023

FILE NAME:
FILE DATE:

10/07

HANSEN ALLEN & LUCE inc ENGINEERS

PROJECT ENGINEER

DESIGNED EAL	3				
DRAFTED	2				
CHECKED EAL	1				
DATE NOV. 2023	NO.	DATE	REVISIONS	BY	APVD.

SCALE

SOUTH JORDAN CITY
1600 WEST TOWNE CENTER DRIVE
SOUTH JORDAN, UTAH 84095

ZONE 7 & 8 – TANK
LANDSCAPE
LANDSCAPE PLAN

SHEET
L1.1
176.41.100