SALT LAKE CITY CORPORATION

THE DEPARTMENT OF PUBLIC UTILITIES

DRAWINGS FOR CONSTRUCTION OF

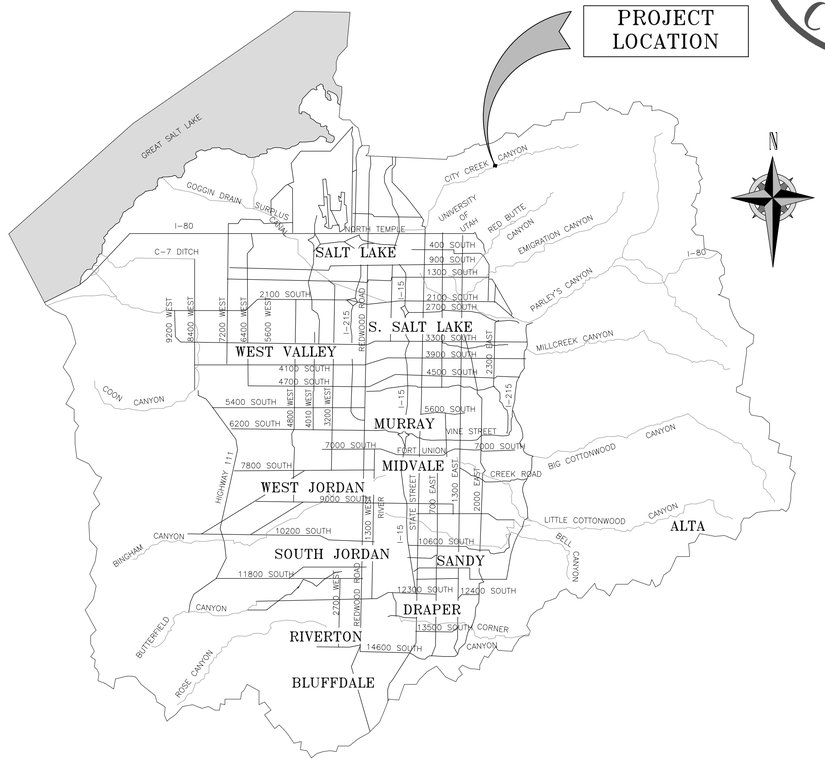
CITY CREEK TREATMENT PLANT UPGRADES

BRIC PACKAGE

PROJECT NO. 512260079

FISCAL YEAR 2023-2024

Public Utilities



PROJECT VICINITY MAP

Brown AND Caldwell

90% GMP-NOT FOR CONSTRUCTION

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Brown AND Caldwell

SCALE: ____

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

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ACCOUNT NO. 512260079

REVISIONS

NO.	DATE:		MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	JH	JH

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

DRAWING INDEX 1

90% GMP

DRAWING NO.
G-02

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35-PI-22	TREATMENT - COMBINED FILTERED WATER
35-PI-23	TREATMENT - COMBINED FILTER-TO-WASTE & BW
35-PI-24	TREATMENT - FILTER AIR SCOUR BLOWERS
35-PI-28	TREATMENT - ANIONIC POLYMER STORAGE & FEED
35-PI-29	TREATMENT - ANIONIC POLYMER FEED PUMPS 1 & 2
35-PI-30	TREATMENT - ANIONIC POLYMER FEED PUMPS 3 & 4
35-PI-31	TREATMENT - SED BASINS SOLIDS COLLECTION BOX
35-PI-32	TREATMENT - RECYCLE PUMP STATION
35-PI-33	TREATMENT - SUMP PUMPS
35-PI-34	TREATMENT - AIR GAP AND COLLECTION BOX STRUCTURES
60-PI-01	WASTE BACKWASH WATER CLARIFIER
60-PI-02	RECYCLED WATER PUMP STATION
70-PI-01	CLEARWELLS
70-PI-02	CLEARWELL - CARRIER PUMPS AND SAMPLE PUMP
70-PI-03	CLEARWELL - PW PUMP STATION
70-PI-04	CLEARWELL - BACKWASH SUPPLY PUMP STATION
70-PI-05	CLEARWELL - BACKWASH CONSTANT HEAD STRUCTURE
70-PI-06	CLEARWELL - STRUCTURAL UNDERDRAIN PUMP STATION
70-PI-07	CLEARWELL - BW STORAGE BASIN
87-PI-01	EXISTING FLUORIDE STORAGE

APPENDIX A

ALTERNATE ONSITE SOLUTIONS - CITY CREEK SEPTIC SYSTEM DESIGN (5 SHEETS)
ARCSITIO DESIGN - CITY CREEK LANDSCAPE ARCHITECTURAL DESIGN (3 SHEETS)

SCALE: ____

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: J.HIMEBAUGH
DRAWN BY: R.FULK
CHECKED BY: J.HESBY
APPROVED BY: J.HIMEBAUGH
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO. 512260079

REVISIONS

NO.	DATE:		MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	JH	JH
1	06/26/24	REVISED FOR GUARANTEE MAXIMUM PRICE (GMP)	JH	JH

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

DRAWING INDEX 2

90% GMP

DRAWING NO.
G-03

Brown AND Caldwell

Plot Date:6/26/2024 3:47:56 PM Path: BIM 360://15.3020 - City Creek WTP/15.3020_G_00V21.rvt

GENERAL NOTES

NOTES

1. ALL CONSTRUCTION AND MATERIAL SHALL BE IN ACCORDANCE WITH THESE CONTRACT DOCUMENTS, INCLUDING ALL APPLICABLE SECTIONS OF THE MANUAL OF STANDARD SPECIFICATIONS 2012 EDITION (INCLUDING AMENDMENTS) AND MANUAL OF STANDARD PLANS 2012 EDITION PUBLISHED BY THE UTAH CHAPTER OF THE AMERICAN PUBLIC WORKS ASSOCIATION (APWA) AND THE UTAH CHAPTER OF THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA (AGC). THE SPECIFICATIONS AND THE STANDARD PLANS IN THE PROJECT MANUAL TAKE PRECEDENCE OVER THE MANUAL OF STANDARD SPECIFICATIONS AND STANDARD PLANS CURRENT EDITION. REFERENCE SPECIFICATION SECTIONS ARE GIVEN FOR INFORMATION ONLY AND MAY NOT BE INCLUSIVE OF ALL APPLICABLE SECTIONS.

2. COORDINATION:
CONTRACTOR TO NOTIFY AFFECTED AGENCIES, RESIDENTS, BUSINESSES, SCHOOLS, AND PROPERTY OWNERS 14 DAYS PRIOR TO CONSTRUCTION.

3. SCHEDULE:
CONTRACTOR WILL PROVIDE AND UPDATE A CONSTRUCTION SCHEDULE IN ACCORDANCE WITH THE SPECIFICATIONS AND THE REGULATIONS OF THE GOVERNING AGENCY FOR WORKING IN THE PUBLIC WAY PRIOR TO CONSTRUCTION.

4. SOIL TESTING:
CONTRACTOR TO PROVIDE MARSHALL AND/OR PROCTOR TEST DATA 24 HOURS PRIOR TO USE, CERTIFIED IN WRITING FROM A LAB RECOGNIZED AND ACCEPTED BY SALT LAKE CITY AND THE RIGHT-OF-WAY GOVERNING AGENCY, AS APPLICABLE.

5. UTILITY LOCATIONS:
   - ALL UTILITY LOCATIONS ARE APPROXIMATE.
   - CONTRACTOR TO VERIFY DEPTHS OF UTILITIES IN THE FIELD BY POTHOLING A MINIMUM OF TWO WEEKS TIME OR 300-FEET AHEAD OF PIPELINE CONSTRUCTION TO AVOID CONFLICTS WITH DESIGNED PIPELINE GRADE AND ALIGNMENT. IF A CONFLICT ARISES RESULTING FROM THE CONTRACTOR NEGLECTING TO POTHOLE UTILITIES, THE CONTRACTOR IS TO RESOLVE THE CONFLICT WITHOUT ADDITIONAL COST OR CLAIM TO THE OWNER.
   - CONTRACTOR SHALL POTHOLE CRITICAL LOCATIONS AND OBTAIN ALL EXISTING PIPE O.D. PRIOR TO ORDERING OR OBTAINING MATERIALS REQUIRED FOR CONNECTIONS TO EXISTING PIPING. UTILITY SHUT-DOWNS AND OTHER WORK WILL NOT BE SCHEDULED OR ALLOWED UNTIL THIS IS ACCOMPLISHED AND MATERIALS ARE ON SITE AND APPROVED FOR USE BY THE SALT LAKE CITY PUBLIC UTILITIES REPRESENTATIVE.
   - IRRIGATION PIPELINES MAY NOT BE LOCATED THROUGH THE NORMAL BLUE STAKE PROCESS. CONTACT IRRIGATION COMPANIES AS DETAILED IN SECTION 01 31 13 PRIOR TO CONSTRUCTION.

6. CHANGES:
NO CHANGE IN DESIGN LOCATION OR GRADE WILL BE MADE BY THE CONTRACTOR WITHOUT THE WRITTEN APPROVAL OF THE PROJECT ENGINEER.

7. SURVEY CONTROL:
   - CONTRACTOR TO PROVIDE ALL CONSTRUCTION SURVEY REQUIRED FOR THE PROJECT.
   - CONTRACTOR SHALL PRESERVE AND PROTECT ALL MONUMENTS AND MONUMENT REFERENCE MARKS WITHIN THE PROJECT SITE. IF A MONUMENT MUST BE DISTURBED DURING CONSTRUCTION, CONTRACTOR SHALL COMPLY WITH THE PROVISIONS OF SECTIONS 00 72 00, 00 71 34 AND 31 05 10.
   - THE CONTRACTOR SHALL NOT BURY ANY FITTINGS, BENDS, CONNECTIONS, OR COUPLINGS UNTIL THE SALT LAKE CITY PUBLIC UTILITIES SURVEYOR HAS COMPLETED THE RECORD SURVEY OF THE PIPELINE INSTALLATION TO HIS SATISFACTION. THE CONTRACTOR SHALL BE REQUIRED TO EXCAVATE AND EXPOSE ALL MATERIALS BURIED WITHOUT PRIOR AUTHORIZATION OF THE PROJECT ENGINEER OR SURVEYOR, AT HIS OWN COST. ALL COST OF RESTORATION OF EXCAVATED AREAS SHALL BE BORNE BY THE CONTRACTOR.

8. ASPHALT GUARANTEE:
THE CONTRACTOR SHALL FURNISH AND PLACE PERMANENT ASPHALT, PER APWA STANDARDS, EQUAL TO THE THICKNESS REQUIREMENTS OF THE GOVERNING AGENCY. THE CONTRACTOR SHALL GUARANTEE ALL ASPHALT INSTALLATIONS FOR A MINIMUM PERIOD OF ONE YEAR FROM THE DATE OF THE SUBSTAINTAL COMPLETION OR WHAT IS REQUIRED BY THE PERMIT.

9. TEMPORARY ASPHALT:
IF THE CONTRACTOR CHOOSES TO WORK ON THE PROJECT IN COLD WEATHER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING APPROVAL FROM THE APPROPRIATE GOVERNING AGENCY PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY ASPHALT. WHEN WEATHER PERMITS, THE CONTRACTOR SHALL REMOVE THE TEMPORARY ASPHALT, FURNISH AND INSTALL THE PERMANENT ASPHALT AT NO ADDITIONAL COST TO THE OWNER.

10. CONTRACTOR RESPONSIBILITIES:
   - CONTRACTOR SHALL NOT ALLOW GROUNDWATER OR DEBRIS TO ENTER THE NEW PIPE DURING CONSTRUCTION. THE OPEN END OF ALL PIPES TO BE COVERED AND SEALED AT THE END OF EACH DAY.
   - CONTRACTOR TO INSTALL INVERT COVERS IN ALL SANITARY SEWER AND STORM DRAIN MANHOLES AFFECTED BY THE PROJECT PRIOR TO STARTING CONSTRUCTION.
   - CONTRACTOR WILL BE RESPONSIBLE FOR DUST CONTROL ACCORDING TO GOVERNING AGENCY STANDARDS: WET DOWN DRY MATERIALS AND RUBBISH TO CONTAIN ALL LOOSE MATERIALS.
   - ALTHOUGH SOME SURFACE FEATURES (FENCES, RETAINING WALLS, TREES, ETC.) HAVE BEEN CALLED OUT ON THE DRAWINGS FOR THE CONTRACTOR'S CONVENIENCE, NOT ALL ARE SHOWN OR IDENTIFIED. CONTRACTOR SHALL WALK THROUGH CONSTRUCTION AREA PRIOR TO BIDDING TO IDENTIFY SURFACE FEATURES THAT MUST BE PROTECTED OR REPLACED AS PART OF THE WORK.
   - CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING IMPROVEMENTS. ALL IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR RECONSTRUCTED AT THE EXPENSE OF THE CONTRACTOR TO ORIGINAL OR BETTER CONDITION TO THE SATISFACTION OF THE OWNER.
   - THE CONTRACTOR SHALL BE REQUIRED TO KEEP ALL CONSTRUCTION ACTIVITIES WITHIN ESTABLISHED PUBLIC RIGHT-OF-WAYS, AND TEMPORARY CONSTRUCTION EASEMENTS AS SHOWN, IF ANY. THIS SHALL INCLUDE BUT NOT LIMITED TO VEHICLES AND EQUIPMENT, LIMITS OF TRENCH EXCAVATION, EXCAVATED MATERIAL AND BACKFILL STORAGE. IF THE CONTRACTOR REQUIRES ADDITIONAL CONSTRUCTION EASEMENTS, IT SHALL BE SOLELY THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THESE EASEMENTS.

REFERENCES

01 31 13

01 32 17

01 45 00
31 05 13
31 23 26
32 11 23
33 05 20

01 31 13
00 72 00 4.3

01 31 13 1.2C
00 72 00 10.1

00 72 00 6.2A
01 71 23
00 72 00 4.4
01 71 34

00 72 00 13.5

33 05 25

01 57 00
01 74 13

NOTES

11. STORM WATER MANAGEMENT PLAN AND HOUSE KEEPING BEST MANAGEMENT PRACTICES PLAN:
CONTRACTOR TO PROVIDE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), EROSION SEDIMENT CONTROL PLAN, CONCRETE WASHOUT PLAN, HOUSEKEEPING BEST MANAGEMENT PRACTICES PLAN, AND DEWATERING PLAN FOR REVIEW BEFORE CONSTRUCTION BEGINS. DISCHARGE OF CONSTRUCTION RELATED WASTE WATER (CONCRETE WASHOUT, ROADWAY CUTTING, ETC) TO THE CREEK IS NOT PERMITTED. ANY GROUNDWATER OR STORMWATER THAT THE CONTRACTOR INTENDS TO SEND TO THE CREEK SHALL BE TREATED, TESTED AND IN COMPLIANCE WITH THE CITY'S MS4 PERMIT PRIOR TO DISCHARGE.

12. WATER AND SANITARY SEWER SEPARATION:
FOLLOW REQUIREMENTS OF THE DIVISION OF DRINKING WATER OF THE UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY. THE HORIZONTAL DISTANCE BETWEEN PRESSURE WATER MAINS AND SANITARY SEWER LINES SHALL BE AT LEAST TEN FEET. WHERE WATER MAINS AND SEWER LINES CROSS, THE OUTSIDE EDGES OF WATER MAIN SHALL BE AT LEAST 18-INCHES ABOVE THE OUTSIDE EDGES OF SEWER LINE. WATER LINES AND SEWER LINES SHALL NOT BE INSTALLED IN THE SAME TRENCH. EXCEPTIONS TO THESE REQUIREMENTS MUST BE APPROVED BY THE CHIEF ENGINEER.

13. WATER SERVICES:
   - LANDSCAPING, PLANTINGS, CONCRETE, AND/OR ASPHALT TO BE REPLACED THE SAME OR BETTER. ALL SOD TO MATCH EXISTING GRADE AND NOT OVERLAP EXISTING GROUND. CONTRACTORS TO SATURATE SOD AND KEEP MOIST.
   - EXISTING SPRINKLER SYSTEMS AND STOP & WASTE VALVES TO BE PROTECTED. ALL REPAIRS TO BE INSPECTED.

14. THRUST RESTRAINTS:
   - ALL THRUST BLOCKS SHALL BE PLACED AS DESCRIBED IN THE SPECIFICATIONS AND SHOWN ON THE STANDARD DRAWINGS.
   - ALL MATERIALS USED FOR WATER PROJECTS SHALL BE RATED FOR A MINIMUM 200 PSI WORKING PRESSURE.

16. CORROSION PROTECTION:
   - ALL EXPOSED NUTS AND BOLTS WILL BE COATED WITH CHEVRON FM #1 NON-OXIDE GREASE AND WRAPPED IN 8-MIL POLYETHYLENE WRAP.
   - ALL STEEL, CAST IRON, OR DUCTILE IRON VALVES, FITTINGS, ETC., SHALL BE EPOXY COATED AND TAPE WRAPPED IN ACCORDANCE WITH AWWA C214.

17. PIPELINE STATIONING:
   - STATIONS AND LENGTHS SHOWN ON THE DRAWINGS ARE CENTERLINE OF PIPE FROM CENTER OF FITTING TO CENTER OF FITTING. PROFILE DRAWINGS ARE HORIZONTAL PROJECTIONS OF THE PIPE CENTERLINE, UNLESS OTHERWISE NOTED.
   - WHERE CLEARANCES BETWEEN PIPELINES ARE DESIGNATED IN THE DRAWINGS, THE SPECIFIED DISTANCE SHALL REFER TO THE DISTANCE BETWEEN THE OUTSIDE EDGES OF THE PIPE.

18. WATER LINE COVER:
UNLESS OTHERWISE NOTED, CONTRACTOR TO PROVIDE A MINIMUM COVER OF 4.5 FEET FROM THE TOP OF THE WATER MAIN TO FINISHED GRADE. PIPING THAT CAN NOT BE PROVIDED THIS MINIMUM COVER WILL REQUIRE A SPECIAL DESIGN BY THE CONTRACTOR FOR REVIEW AND APPROVAL BY SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES.

19. THE FOLLOWING ARE THE GOVERNING CODES FOR THIS PROJECT:
   - 2021 INTERNATIONAL MECHANICAL CODE
   - 2021 INTERNATIONAL PLUMBING CODE
   - 2021 INTERNATIONAL FUEL GAS CODE
   - 2017 NATIONAL ELECTRIC CODE
   - 2021 INTERNATIONAL ENERGY CONSERVATION CODE
   - 2021 INTERNATIONAL BUILDING CODE
   - 2021 INTERNATIONAL EXISTING BUILDING CODE
   - ICC/ANSI A117.1-2017

20. SALVAGE:
ALL SALVAGED HYDRANTS, VALVES OR OTHER MATERIALS TO BE RETURNED TO THE SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES SHOP AT 4500 WEST 700 SOUTH, UNLESS NOTED OTHERWISE.

21. TREES:
THE CONSTRUCTION AREA MAY CONTAIN SOME LARGE TREES THAT MAY AFFECT CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL PRESERVE AND PROTECT TREES AND COORDINATE WITH CITY FORESTER.

22. AERIAL PHOTOS IN DRAWINGS:
THE AERIAL PHOTOS PROVIDED AS BACKGROUND IN THESE DRAWINGS ARE PROVIDED TO HELP CLARIFY THE WORK SITE. HOWEVER, THE PHOTOS DEPICT CONDITIONS AS THEY EXISTED IN 2018. PRESENT DAY CONDITIONS MAY VARY FROM THOSE SHOWN. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BIDDING. BID SHALL INCLUDE ALL WORK REQUIRED TO COMPLETE THE PROJECT.

REFERENCES

UTAH DEQ REGULATION R309-550-2

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: J.HIMEBAUGH
DRAWN BY: R.FULK
CHECKED BY: J.HESBY
APPROVED BY: J.HIMEBAUGH
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	JH	JH

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

GENERAL NOTES

90% GMP

DRAWING NO.
G-04

C:\bcpw\d1569671\G-04.dwg Jun 12, 2024 - 4:48pm

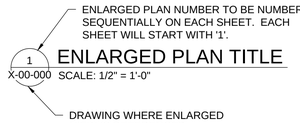
CROSS REFERENCING SYSTEM

VIEW TITLES

1. PLAN TITLES:

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

2. ENLARGED PLAN TITLES:



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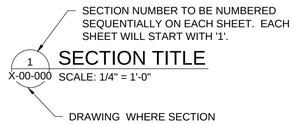

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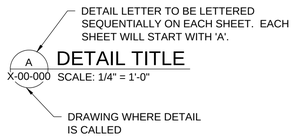

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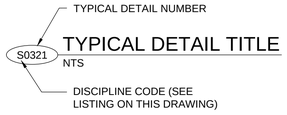

VIEW REFERENCE/CALLOUTS

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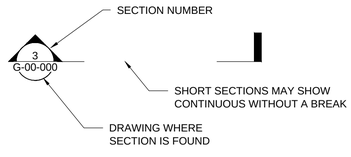

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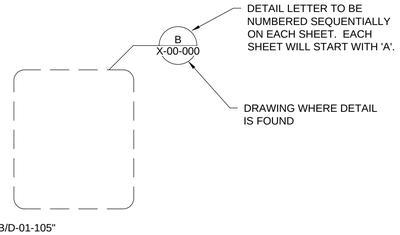
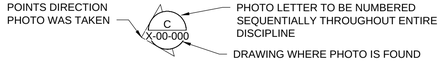


B: BY NOTE: "SEE DETAIL B/D-01-105"

B IS DETAIL REFERENCE LETTER

D-01-105 IS DRAWING WHERE DETAIL IS SHOWN

3. PHOTO INDICATORS



4. TYPICAL DETAIL REFERENCE

NOTATIONS

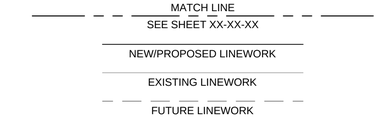
1. PROPOSED NOTES (WITH LEADERS)

2. EXISTING NOTES (WITH LEADERS)

3. KEYNOTES

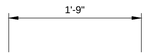
MISCELLANEOUS

NORTH ARROW



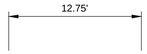
ROOM NAME
100
ROOM NAME AND NUMBER

DIMENSIONS



FEET AND INCHES

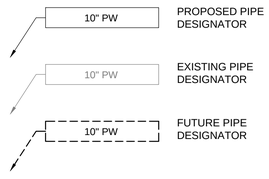
EXISTING FEET AND INCHES



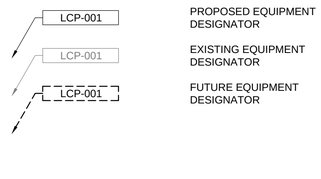
DECIMAL FEET (CIVIL)

EXISTING DECIMAL FEET (CIVIL)

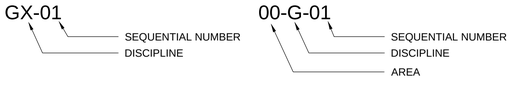
PIPE DESIGNATORS



EQUIPMENT DESIGNATORS



DRAWING NUMBERING SYSTEM



AREAS

- 01 SITE
- 03 OPERATIONS BUILDING
- 05 INFILTRATION GALLERY
- 10 INTAKE
- 35 TREATMENT BUILDING
- 60 CLARIFIER
- 70 CLEARWELL
- 87 FLUORIDE BUILDING

DISCIPLINES

- G GENERAL
- D DEMOLITION (X - DENOTES DISCIPLINE)
- C CIVIL
- S STRUCTURAL
- A ARCHITECTURAL
- M PROCESS/MECHANICAL
- H MECHANICAL/HVAC
- P PLUMBING
- E ELECTRICAL
- I INSTRUMENTATION

GENERAL NOTES

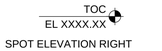
1. THE NOTE IN THE TITLEBLOCK OF THIS DRAWING WHICH READS "TWO INCHES AT FULL SCALE" APPEARS ON DRAWINGS FOR IDENTIFICATION OF SCALE DISTORTIONS ON HALF SIZE DRAWINGS AND DRAWING REPRODUCTIONS. IT SHALL MEAN THAT THE DRAWING IS FULL SIZE AND THE DRAWING SCALES ACCURATE WHEN THE LENGTH OF THIS LINE IS TWO INCHES. IF THE LENGTH IS OTHER THAN TWO INCHES, DRAWING SCALES MUST BE ADJUSTED ACCORDINGLY.
2. EXISTING PIPING IS DESIGNATED BY SERVICE RATHER THAN MATERIAL TYPE. MATERIAL TYPES, IF KNOWN, APPEAR OUTSIDE THE PIPING CALLOUT BUBBLE, AND MAY NOT BE THE SAME MATERIAL TYPES SPECIFIED FOR NEW PIPING.
3. ABBREVIATIONS USED IN THIS CONTRACT DOCUMENT CONFORM TO ANSI Y1.1, UNLESS NOTED OTHERWISE ON DRAWINGS.
4. ALL STANDARD DETAILS APPLY TO ALL THE CONTRACTORS WORK WHETHER SPECIFICALLY REFERENCED OR NOT.
5. SEE FRONT END SHEETS FOR EACH DISCIPLINES STANDARD SYMBOLS, ETC.
6. SEE ADDITIONAL GENERAL NOTES THROUGHOUT DRAWING SET.

LEVELS, GRIDS AND ELEVATION INDICATORS

LEVEL INDICATOR LEFT

LEVEL INDICATOR RIGHT

SPOT ELEVATION LEFT

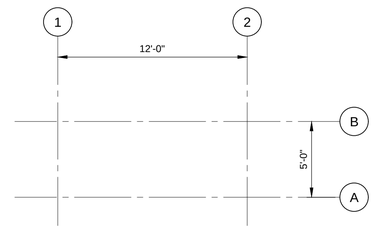


SPOT ELEVATION RIGHT

PIPE CENTERLINE ELEVATION LEFT

PIPE CENTERLINE ELEVATION RIGHT

WATER SURFACE ELEVATION



REVISIONS

REVISION TAG

REVISION CLOUD

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
SCALE:

DESIGNED BY: J.HIMEBAUGH
DRAWN BY: R.FULK
CHECKED BY: J.HESBY
APPROVED BY: J.HIMEBAUGH
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	JH	JH

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

GENERAL LEGENDS & SYMBOLS

90% GMP

DRAWING NO.
G-05

Brown AND Caldwell

C:\bcpw\d1569671\G-05.dwg Jun 12, 2024 - 4:50pm

A	AMPERE
AB	ANCHOR BOLT
AC	ASPHALTIC CONCRETE
A/C	AIR CONDITIONING
ACC	AREA CONTROL CENTER
ACP	ASBESTOS CEMENT PIPE
ACST	ACOUSTIC
ADD'L	ADDITIONAL
AF	AIR FILTER
AHU	AIR HANDLING UNIT
AL	ALUMINUM
AMD	AIR MONITORING DEVICE
ANC	ANCHOR
APPROX	APPROXIMATE
AR	AIR RETURN
AS	AIR SUPPLY
@	AT
AV	ANGLE VALVE
BAC	BACTERIOLOGICAL
BC	BEGINNING OF CURVE
BCR	BEGINNING OF CURVE RETURN
BCOP	BARE COPPER
BGAT	BOOLEAN GATE
BF	BLIND FLANGE
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BOT	BOTTOM
BSN	BAR SCREEN
BTWM	BETWEEM
BUV	BUTTERFLY VALVE
BV	BALL VALVE
CAB	DIRECT BURIAL CABLE
CAF	COMBUSTION AIR FAN
CB	CATCH BASIN
CC	COOLING COIL
C-C	CENTER TO CENTER
CCP	CONCRETE CYLINDER PIPE
CCSP	CONCRETE LINED AND COATED STEEL PIPE
CD	CEILING DIFFUSER
CDR	CONDUCTOR
CDU	CONDENSING UNIT
CED	CEILING EXHAUST DIFFUSER
CER	CEILING EXHAUST REGISTER
CF	CUBIC FEET
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CFR	CODE OF FEDERAL REGULATIONS
CHR	CHILLER
CIP	CAST IRON PIPE
CIPP	CAST IN PLACE PIPE
CIRC	CIRCUMFERENCE
CK	CHECKER(ED)
CKPL	CHECKER PLATE
℄\CL	CENTERLINE
CL	CLEARANCE
CLR	CLEAR, CLEARANCE
CL2	CHLORINE
CM	MANUAL CONTROL STATION
CMA	MANUAL-AUTO CONTROL STATION
CMC	CEMENT MORTAR COATED
CML	CEMENT MORTAR LINED
CMP	CORRUGATED METAL PIPE
CMPA	ASBESTOS PROTECTED CORRUGATED METAL PIPE
CNTL	CONTROL
CO	CLEAN OUT BOX
CO2	CARBON DIOXIDE
COD	CHEMICAL OXYGEN DEMAND
COF	COOLING AIR FAN
COM	COMMINUTOR
CON	CONVEYOR
CONC	CONCRETE
COND	CONDUCTIVITY
CONN	CONNECTION
CJ	CONSTRUCTION JOINT
CONST	CONSTRUCTION
CONT	CONTINUED, CONTINUOUS
CP	COMPRESSOR
CPLG	COUPLING
CPVC	CHLORINATED POLYVINYL CHLORIDE
CR	CONDUIT RACK
CRF	CHEMICAL FEEDER
CRN	CRANE
CREJ	CORRUGATED RUBBER EXPANSION JOINT
CSD	CEILING SUPPLY DIFFUSER
CTF	CENTRIFUGE
CTR	CONTRACTOR, CONTROL UNIT, CENTER
CTRD	CENTERED
CU FT	CUBIC FOOT
CV	CONTROL VALVE
DB	DUCT BANK
DE	DENSITY METER
DF	DRINKING FOUNTAIN
DFD	DUCT FIRE DAMPER
DG	DOOR GRILLE
DIP	DUCTILE IRON PIPE
DIA	DIAMETER
DM	DAMPER MOTOR
DR	DRAIN ROCK
DT	DRAIN TRAP
DWF	DRY WEATHER FLOW
DWG	DRAWING
DWL	DOWEL
EA	EACH, EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EAU	ENGINE ALTERNATOR UNIT
EC	END OF CURVE
ED	EXTRACTOR DAMPER, EQUIPMENT DRAIN
EE	EACH END
EF	EACH FACE
EFF	EFFLUENT
EG	EXHAUST GRILLE
EJ	EXPANSION JOINT
EL	ELEVATION
ELB	ELBOW
EMBD	EMBEDDED
E/P	ELECTRIC/PNEUMATIC
EPR	EVAPORATOR
EQ	EQUAL
EQL SP	EQUALLY SPACED
EQUIP	EQUIPMENT
ES	EXISTING SURFACE
EW	EACH WAY
EWEF	EACH WAY EACH FACE
EWT	ENTERING WATER TEMPERATURE
EXG	EXHAUST GRILLE
EXIST	EXISTING
F	FAHRENHEIT, FACE, FUSE(D)
FAI	FRESH AIR INTAKE
FB	FLAT BAR, FLOOR BEAM
FC	FAIL CLOSED
FCL	FREE CHLORINE
FCR	FINE CRUSHED ROCK
FE	FLOWMETER
FF	FAR FACE
FG	FINISH GRADE
F-F	FACE TO FACE
FH	FIRE HYDRANT, FLATHEAD
FIN	FINISHED
FL	FLOW LINE, FIRE LINE
FLC	FLOCCULATOR
FLG	FLANGE
FLP	FLUID POWER UNIT
FLR	FLOOR
FLT	FILTER
FM	FORCE MAIN
FMH	FLEXIBLE METAL HOSE
FMX	FLASH MIXER
FNSH	FINISH
FO	FAIL OPEN, FIBER OPTIC
FP	FILTER PRESS
FPC	FLEXIBLE PIPE COUPLING
FPC-T	FPC TO TAKE TENSION
FRS	FREEZESTAT
FS	FLOW SWITCH, FIRESTAT
FT	FLASH TANK, FEET OR FOOT
FTG	FOOTING
G	POWER ACTUATED GATE, GAS
GA	GAGE OR GUAGE
GALV	GALVANIZED
GBV	GLOBE VALVE
GDR	GRINDER
GE	GROOVED END
GFI	GROUND FAULT INTERRUPTOR
GPD	GALLONS PER DAY
GPM	GALLONS PER MINUTE
GRDR	GRINDER
GRT	GROUT
GS	GAS SERVICE
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE
H/A	HAND AUTO
HC	HEATING COIL
HEX	HEAT EXCHANGER
HDOT	HEAVY DUTY OILTIGHT
HG	MERCURY, HAND GRADE
HHV	HEAT HOSE VALVE
HOA	HAND-OFF-AUTO
HORIZ	HORIZONTAL
HP	HIGH PRESSURE, HIGH POINT, HORSEPOWER
HR	HANDRAIL, HEAT RESERVOIR
HSS	HIGH SIGNAL SELECT
HTV	HIGH TEMPERATURE VENT
HV	HOSE VALVE
H/V	HEATING AND VENTILATING
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HWTR	HIGH WATER
HYDT	HYDRANT
ICN	INCINERATOR
IE	INVERT ELEVATION
IF	INSIDE FACE
IL	INDICATING LAMP
INF	INFLUENT
INS	INSULATE(D)(ION)
INTER	INTERMEDIATE
INT	INTERIOR
INVT	INVERT
IT	INSTRUMENT TAP
JST	JOIST
JT	JOINT
K	KIP (1000 POUNDS)
KV	KILOVOLT
KVA	KILOVOLT AMPERE
KVAR	KILOVAR
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE, LATERAL, LATITUDE
LEL	LOWER EXPLOSIVE LIMIT
LF	LINEAR FOOT
LOS	LOCKOUT STOP
LS	LIMIT SWITCH
MATL	MATERIAL
MAX	MAXIMUM
MBH	THOUSAND BTU'S PER HOUR
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILLS
MCU	MASTER CONTROL UNIT
MD	MOTORIZED DAMPER
MEE	MISCELLANEOUS ELECTRICAL EQUIPMENT
MFR	MANUFACTURER
MGD	MILLION GALLONS PER DAY
MG/l	MILLIGRAMS PER LITER
MH	MANHOLE
MIE	MISCELLANEOUS INSTRUMENTATION EQUIPMENT
MILSPEC	MILITARY SPECIFICATION
MIN	MINIMUM, MINUTE
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
ML	MILLILITER
MME	MISCELLANEOUS MECHANICAL EQUIPMENT
MOP	MOTOR OPERATOR
MUL/DIV	MULTIPLY/DIVIDE
MV	MUD VALVE, MILLIVOLT
MX	MIXER
N	NEUTRAL, NORTH
NA	NONAUTOMATIC
NAOH	SODIUM HYDROXIDE
NEG	NEGATIVE
NF	NONFUSED
NOX	NITRATES AND NITRITES
NPSH	NET POSITIVE SUCTION HEAD
NRS	NONRISING STEM
NTS	NOT TO SCALE
OA	OUTSIDE AIR, OVERALL
OAI	OUTSIDE AIR INTAKE
OB	OPPOSED BLADE
OC	ON CENTER
OL	OVERLOAD
O-O	OUT TO OUT
OPNG	OPENING
ORF	ODOR REMOVAL FILTER
ORP	OXIDATION REDUCTION POTENTIAL
ORT	ODOR REMOVAL TOWER
OSA	OUTSIDE AIR
OSC	ODOR SCRUBBER
P	PUMP
PAR	PARALLEL
PC	PLAIN CONCRETE, PIPE COUPLING
PCC	PLANT CONTROL CENTER
PCHV	PINCH VALVE
PCP	PLAIN CONCRETE PIPE
PC-T	PIPE COUPLING TO TAKE TENSION
PCU	PHOTOELECTRIC CONTROL UNIT
P/E	PNEUMATIC/ELECTRIC
PF	POWER FACTOR
PI	PROPORTIONAL PLUS INTEGRAL CONTROL
PID	PROPORTIONAL PLUS INTEGRAL PLUS DERIVATIVE CONTROL
PIVC	POINT OF INTERSECTION ON VERTICAL CURVE
PL	PROPERTY LINE, PIPELINE, PLATE
PLYWD	PLYWOOD
PNL	PANEL, PANELBOARD
PO4	PHOSPHATE
POP	PNEUMATIC OPERATOR
PP	POWER POLE
PRES	PRESSURE
PRD	PRESSURE RELIEF DAMPER
PRV	PRESSURE REGULATING (REDUCING) (RELIEF) VALVE
PRS	PRESSURE REDUCING STATION
PS	PRESSURE SWITCH, PRESSURE SENSOR, PUMPED SEWER
PSIA	POUND PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAGE
PT	POINT
PV	PLUG VALVE, PROCESS VARIABLE
PVC	POLYVINYL CHLORIDE
PVL	PRESSURE VESSEL
PVT	PAVEMENT
PW	POTABLE WATER
Q	RATE OF FLOW
QCPLG	QUICK COUPLING
R	RADIUS
RA	RETURN AIR
RAF	ROLL TYPE AIR FILTER
RBC	REINFORCED BOX CULVERT
RCP	REINFORCED CONCRETE PIPE
RCR	RECORDER
RDCR	REDUCER
REC	RECEIVER
RECD	RECEIVED
RECP	RECEPTACLE
RED	REDUCE
REG	REGULATOR
REINF	REINFORCED, REINFORCING
REL	RELAY
REQD	REQUIRED
RT	RIGHT
RTP	REINFORCED THERMOSET PLASTIC
RTU	REMOTE TERMINAL UNIT
RGS	RIGID GALVANIZED STEEL
RL	REDUCED LEVEL
RWL	RAINWATER LEADER
S	SOUTH, SILENCER, SLOPE
SB	SIGNAL BOX
SCH	SCHEDULE
SCR	SCRUBBER
SD	SPLITTER DAMPER, SMOKE DETECTOR, STORM DRAIN
SEP	SEPARATOR
SG	SUPPLY GRILLE, SLUICE GATE
SI	SPEED INCREASER
SIM	SIMILAR
SL	SLOPE
SLC	SALT LAKE CITY (DEPARTMENT OF PUB. UTILITIES)
SLG	SLIDE GATE
SN	SCREEN
SP	SPACE, SET POINT, STATIC PRESSURE
SPD	SUMP PUMP DISCHARGE
SPEC	SPECIFICATION(S)
SPG	SPACING
SPT	SOUND POWERED TELEPHONE
SO2	SULFUR DIOXIDE
SPL	SPLICE
SQ	SQUARE
SQ FT	SQUARE FOOT
SQ YD	SQUARE YARD
SR	SPEED REDUCER
SRV	SAFETY RELIEF VALVE
SRG	SPLIT-RANGING
SS	SANITARY SEWER, SPEED SELECTOR
SST	STAINLESS STEEL
SSC	SOLID STATE CONTROLLER
SSFH	STAINLESS STEEL FLAT HEAD
SSK	SERVICE SINK
ST	START
STA	STATION
STD	STANDARD
STGA	STARTING AIR
STL	STEEL
STRL	STRUCTURAL
STRUCT	STRUCTURE
SUB	SUBSTITUTE
SWB	SWITCHBOARD
SYM	SYMMETRICAL
TP	TANGENT POINT
TB	TERMINAL BOX
T&B	TOP AND BOTTOM
T/B	TOP OF BANK
TBN	TURBINE
T/C	TOP OF CURB
TCL	TOTALLY CLOSED
TCP	TEMPERATURE CONTROL PANEL
TD	TIME DELAY RELAY
TDH	TOTAL DEPTH IN HEAD
TFR	TRANSFORMER
THK	THICK OR THICKNESS
TOA	TEST-OFF-AUTO
TOC	TOTAL ORGANIC CARBON
TOG	TOP OF GRATE
TPG	TOPPING
TPLX	TRIPLEXED
TR	TIMING RELAY, STAIR TREAD
TRM	TRANSMITTER
TRN	TRANSDUCER
TRS	TRANSFER SWITCH
TS	TEMPERATURE SWITCH
TV	THERMOSTATIC VALVE
TYP	TYPICAL
UL	ULTIMATE LOAD
UN	UNION
UP	UTILITY POLE
UPS	UNINTERRUPTIBLE POWER SUPPLY
US	UTILITY STATION
USS	UNIT SUBSTATION
V	VALVE, VOLTS
VAC	VOLTS ALTERNATING CURRENT
VAR	VARIES, VARIABLE
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VD	VOLUME DAMPER
VDC	VOLTS DIRECT CURRENT
VFT	VACUUM FILTER
VP	VAPOR PRESSURE, VACUUM PUMP
VSC	VARIABLE SPEED COUPLING
VTP	VENT PIPING
VTR	VENT THROUGH ROOF
VV	VARIABLE VOLUME BOX
W	WATER OR WEST
W/	WITH
W/O	WITHOUT
WSTP	WATER STOP
WC	WATER CLOSET, WATER COLUMN
WCO	WALL CLEANOUT
WEG	WALL EXHAUST GRILLE
WER	WALL EXHAUST REGISTER
WF	WIDE FLANGE
WG	WASTE GAS
WSR	WALL SUPPLY REGISTER, WASHER
WSTP	WATERSTOP
WT	WATERTIGHT
WWF	WELDED WIRE FABRIC, WET WEATHER FLOW
X	SPARE CONDUIT
XLP	CROSS LINKED POLYETHYLENE
XP	EXPLOSIONPROOF
YCO	YARD CLEANOUT
ZS	POSITION SWITCH

NOTES:

1. ADDITIONAL ABBREVIATIONS ARE DEFINED IN ASME Y14.38-2007 (REAFFIRMED 2013).
2. ABBREVIATIONS FOR PIPING SYSTEMS ARE SPECIFIED IN SECTION 15050.

Brown AND Caldwell

SCALE:

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: J.HIMEBAUGH
DRAWN BY: R.FULK
CHECKED BY: J.HESBY
APPROVED BY: J.HIMEBAUGH
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

NO.	DATE	REVISIONS	MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	JH	JH

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

GENERAL ABBREVIATIONS

90% GMP

DRAWING NO.
G-06

DESCRIPTION	UNITS	EXISTING	NEW
PLANT FLOW RATE			
PLANT PRODUCTION RATE	MGD	15	16
MAXIMUM PLANT FLOW (INCLUDES 10% RECYCLE)	MGD	15	17.6
MINIMUM PLANT FLOW	MGD	2	2
COAGULATION			
INLINE STATIC MIXERS			
NUMBER OF MIXERS	NO.	2	-
MIXING ENERGY, G	SEC-1	450	-
VERTICAL RAPID MIXERS			
NUMBER OF MIXERS	NO.	2	-
MIXING ENERGY, G	SEC-1		-
POWER	HP	20	-
PUMPED DIFFUSION FLASH MIX			
PUMP			
TYPE: HORIZONTAL END SUCTION CENTRIFUGAL			
NUMBER OF PUMPS	NO.	-	2
CAPACITY, EACH	GPM	-	250
TOTAL DYNAMIC HEAD	FT	-	139
POWER	HP	-	15
MIXING ENERGY AT 2 DEG. CELSIUS, G	SEC-1	-	1,000
FLOCCULATION			
TYPE		RECTANGULAR, HORIZONTAL PADDLE WHEEL	RECTANGULAR, VERTICAL MIXER
NUMBER OF BASINS	NO.	2	2
DESIGN FLOW PER BASIN	MGD	7.5	8.80
STAGES PER BASIN	NO.	5	3
COMPARTMENTS PER STAGE	NO.	-	2
MIXERS PER COMPARTMENT	NO.	-	1
TOTAL MIXERS PER BASIN	NO.	5	6
TOTAL MIXERS	NO.	10	12
COMPARTMENT DIMENSIONS			
LENGTH	FT	55	18.5
WIDTH	FT	60	20
AVERAGE SIDE WATER DEPTH	FT	9.25	15
VOLUME PER COMPARTMENT	GAL	-	41,514
VOLUME PER STAGE	GAL	-	83,028
VOLUME PER BASIN	GAL	228,327	249,084
TOTAL VOLUME	GAL	456,654	498,168
DETENTION TIME AT DESIGN FLOW	MIN	43.8	41
FLOW THROUGH VELOCITY	FPM	6.8	1.4
MIXING CRITERIA PER STAGE			
STAGE 1			
MIXING ENERGY, G	SEC-1	64	70 - 35
POWER	HP	3	2
STAGE 2			
MIXING ENERGY, G	SEC-1	63	40 - 20
POWER	HP	3	1
STAGE 3			
MIXING ENERGY, G	SEC-1	45	40 - 20
POWER	HP	3	1
STAGE 4			
MIXING ENERGY, G	SEC-1	36	-
POWER	HP	2	-
STAGE 5			
MIXING ENERGY, G	SEC-1	27	-
POWER	HP	2	-
SEDIMENTATION			
TYPE		RECTANGULAR, TRADITIONAL	RECTANGULAR, HIGH-RATE, INCLINED LAMELLA PLATES
NUMBER OF BASINS	NO.	2	2
DESIGN FLOW PER BASIN	MGD	7.5	8.8
OVERALL BASIN DIMENSIONS			
LENGTH	FT	250	61
WIDTH	FT	56	40
LENGTH TO WIDTH RATIO	-	4.5	1.5
AVERAGE SIDE WATER DEPTH	FT	12	15.0
VOLUME PER BASIN	GAL	1,256,640	273,768
TOTAL VOLUME	GAL	2,513,280	547,536
DETENTION TIME AT DESIGN FLOW	MIN	241	45
	HR	4.0	0.7
FLOW THROUGH VELOCITY	FPM	1.04	1.4
NOMINAL SURFACE LOADING RATE	GPM/SQ-FT	0.37	2.5
DESIGN PLATE SURFACE LOADING RATE	GPM/EFF. SQ-FT	-	0.3
PLATE EFFICIENCY	%	-	80
SOLIDS COLLECTORS			
TYPE: CHAIN AND FLIGHT			
LONGITUDINAL COLLECTORS PER BASIN	NO.	3	-
CROSS COLLECTORS PER BASIN	NO.	1	-
TYPE: HOSELESS TELESCOPING			
COLLECTORS PER BASIN	NO.	-	2

DESCRIPTION	UNITS	EXISTING	NEW
FILTERS			
TYPE		RATE OF FLOW CONTROL, GRAVITY, DUAL MEDIA	INLET FLOW SPLIT, GRAVITY, DUAL MEDIA
UNDERDRAIN TYPE		BLOCK	NOZZLE
FILTER LOADING AND CAPACITY			
NUMBER OF FILTERS	NO.	4	6
CELLS PER FILTER	NO.	2	1
CELL LENGTH	FT	30	29.5
CELL WIDTH	FT	14.5	12
CELL AREA	SQ-FT	435	354
FILTER AREA, EACH FILTER	SQ-FT	870	354
FILTER AREA, TOTAL	SQ-FT	3,480	2,124
FILTRATION RATE AT DESIGN FLOW (ALL FILTERS IN SERVICE)	GPM/SQ-FT	3.0	5.8
FILTRATION RATE AT DESIGN FLOW (W/ 1 FILTER IN BW)	GPM/SQ-FT	4.0	6.9
SAND MEDIA			
DEPTH	IN	12	12
EFFECTIVE SIZE	MM	0.45	0.65
UNIFORMITY COEFFICENT	D60/D10	< 1.5	< 1.4
SAND L/D RATIO	-	677	469
ANTHRACITE MEDIA			
DEPTH	IN	24	54
EFFECTIVE SIZE	MM	0.95	1.20
UNIFORMITY COEFFICENT	-	< 1.4	< 1.35
ANTHRACITE L/D RATIO	-	642	1,143
TOTAL MEDIA L/D RATIO (SAND & ANTHRACITE)	-	1,319	1,612
FILTER BACKWASH			
MAX. BACKWASH RATE (TEMPERATURE DEPENDANT)	GPM/SQ-FT	17 - 23	17 - 23
FILTER BACKWASH PUMPS			
TYPE: MIXED FLOW VERTICAL TURBINE PUMP			
NUMBER OF PUMPS	NO.	1	3
CAPACITY (EACH)	GPM	835	3,000
TOTAL DYNAMIC HEAD	FT	70	68
POWER (EACH)	HP	25	100
FILTER SURFACE WASH			
TYPE: HORIZONTAL END SUCTION CENTRIFUGAL			
NUMBER OF PUMPS	NO.	1.0	-
POWER (EACH)	HP	50	-
FILTER AIR SCOUR			
TYPE: MULTI-STAGE CENTRIFUGAL			
MAXIMUM AIR SCOUR RATE	SCFM/SQ-FT	-	4
NUMBER OF BLOWERS	NO.	-	2
CAPACITY (EACH)	SCFM	-	1,560
TOTAL DYNAMIC HEAD	PSIG	-	6.8
POWER (EACH)	HP	-	100
FINISHED WATER CLEARWELL		INLINE	CONCRETE TANK, HORIZONTAL PLUG FLOW
TYPE:			
NUMBER OF CELLS	NO.	1	2
DESIGN FLOW PER CELL	MGD	15	8.8
CELL DIMENSIONS			
LENGTH	FT	6.5	38
WIDTH	FT	6.5	36
AVERAGE SIDE WATER DEPTH	FT	7.75	8.6
VOLUME PER CELL	GAL	2,449	70,600
DETENTION TIME AT DESIGN FLOW	MIN	0.2	12
BAFFLING FACTOR (T10/T)	-	0.5	0.7
FREE CHLORINE RESIDUAL	MG/L	0.8	1.0
CT REQUIRED AT 6.5 DEG. C FOR 0.5-LOG GIARDIA (pH OF 8.3)	MG-MIN/L	38.0	39.0
CT REQUIRED AT 5 DEG. C FOR 2-LOG VIRUS	MG-MIN/L	4.0	4.0
CT PROVIDED AT 6 DEG. C AT DESIGN FLOW	MG-MIN/L	125 (1)	48.8(1)
(1) ENTIRE PLANT VOLUME IS USED TO FOR DISINFECTION			
BACKWASH STORAGE AND SUPPLY		ELEVATED STEEL TANK	CONCRETE BASIN
TYPE:			
NUMBER OF TANKS/BASINS	NO.	1	1
BASIN DIMENSIONS			
SHAPE	-	CYLINDRICAL	IRREGULAR HEXAGON
DIAMETER	FT	40	-
LENGTH 1	FT	-	82
LENGTH 2	FT	-	36
WIDTH 1	FT	-	34.5
WIDTH 2	FT	-	11.0
AREA	SQ-FT	1,257	3225
AVERAGE SIDE WATER DEPTH	FT	20.33	8.3
VOLUME PER TANK/BASIN	GAL	191,095	200,221
FILTER BACKWASH VOLUME REQUIRED PER WASH	GAL	191,095	91,421
NUMBER OF FILTER BACKWASH VOLUMES HELD	NO.	1	2

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: A.JONES
DRAWN BY: R.FULK
CHECKED BY: J.HESBY
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO: 512260079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	AJ	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

DESIGN CRITERIA – MAIN PROCESS

90% GMP

DRAWING NO.
G-07

DESCRIPTION	UNITS	EXISTING	NEW
WASTE BACKWASH WATER CLARIFIER/EQUALIZATION BASIN			
TYPE		CIRCULAR CLARIFIER	CIRCULAR CLARIFIER
CLARIFIER OPERATION METHOD		BATCH	BATCH
NUMBER OF BASINS	NO.	1	1
DIAMETER	FT	60	60
DEPTH	FT	15	15
WORKING VOLUME	GAL	317,238	317,238
SOLIDS REMOVAL			
TYPE		RAKE MECHANISM	RAKE MECHANISM
POWER	HP	1	1
WASTE BACKWASH WATER CLARIFIER/EQUALIZATION BASIN DECANT PUMP STATION			
DECANT PUMP			
TYPE: SUBMERSIBLE NON-CLOG			
NUMBER OF PUMPS	NO.	2	2
CAPACITY, EACH	GPM	695	1100
TOTAL DYNAMIC HEAD	FT	60	60
POWER (EACH)	HP	20	20
RESIDUALS			
AVG. RAW WATER TURBIDITY	NTU	1	1
AVG. COAGULANT DOSE	MG/L	4.1	4.1
AVG. CATIONIC POLYMER DOSE	MG/L	-	2.00
AVG. ANIONIC POLYMER DOSE	MG/L	-	0.15
AVG. ANNUAL UNIT SOLIDS PRODUCTION RATE	DRY LBS/MG	33.2	51.10
MAX MONTH UNIT SOLIDS PRODUCTION RATE	DRY LBS/MG	52.8	70.70
ANNUAL SOLIDS PRODUCTION	DRY LBS/YR	67,212	122,327
EST. SED BASIN SOLIDS PRODUCTION	DRY LBS/YR	60,491	110,094
EST. WASTE BACKWASH WATER SOLIDS PRODUCTION	DRY LBS/YR	6,721	12,233
SOLIDS DRYING BEDS			
TYPE		EVAPORATIVE AND EARTHEN LINED	EVAPORATIVE AND EARTHEN LINED
NUMBER OF BEDS	NO.	3	3
LENGTH	FT	VARIES	VARIES
WIDTH	FT	VARIES	VARIES
AREA EACH	SQ-FT	VARIES	VARIES
TOTAL AREA	SQ-FT	40,060	40,060
WATER DEPTH	FT	2	2
VOLUME EACH	GAL	VARIES	VARIES
TOTAL VOLUME	GAL	599,298	599,298
SOLIDS DRYING BED ANNUAL SOLIDS LOADING RATE	DRY LBS/SF	4	4
SOLIDS HANDLING CAPACITY, EACH	DRY LBS	VARIES	VARIES
SOLIDS HANDLING CAPACITY, TOTAL	DRY LBS	160,240	160,240
SOLIDS DRYING BED/LAGOON DECANT PUMP STATION			
DECANT PUMP			
TYPE: SUBMERSIBLE NON-CLOG			
NUMBER OF PUMPS	NO.	2	2
CAPACITY, EACH	GPM	695	695
TOTAL DYNAMIC HEAD	FT	110	110
POWER (EACH)	HP	40	40

SCALE:

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: A.JONES
DRAWN BY: R.FULK
CHECKED BY: J.HESBY
APPROVED BY: S.BRENCHLEY
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SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

DESIGN CRITERIA – SOLIDS RESIDUAL

90% GMP

DRAWING NO.
G-08

DESCRIPTION	UNITS	EXISTING (15 MGD)			NEW (16 MGD)		
FERRIC CHLORIDE							
TYPE: 41.2%, 4.9 LBS/GAL		MIN	AVG	MAX	MIN	AVG	MAX
DOSAGE	MG/L	1.6	4.1	23.9	1.6	4.1	50.0
USAGE RATE (AT DESIGN FLOW)	GPD	41	105	611	41	105	1,501
LIQUID FEED FLOW	GPH	1.7	4.4	25.5	1.7	4.4	62.5
FEED PUMPS							
TYPE			PERISTALTIC			PERISTALTIC	
NUMBER	NO.		3 (2 DUTY/1 STANDBY)			3 (2 DUTY/1 STANDBY)	
CAPACITY, EA	GPH		48.5			48.5	
STORAGE							
TANK CONSTRUCTION TYPE			FRP			FRP	
NUMBER OF BULK STORAGE TANKS	NO.		2			2	
BULK STORAGE TANK SIZE	GAL EA.		6,200			6,200	
TOTAL CAPACITY	GAL		12,400			12,400	
DAYS OF STORAGE (AT DESIGN FLOW AND AVERAGE DOSE)	DAYS	303	118	20	303	118	8
SODIUM HYPOCHLORITE							
TYPE: 5.37%, 0.48 LBS/GAL							
RAW WATER AT PARSHALL FLUME		MIN	AVG	MAX	MIN	AVG	MAX
DOSAGE	MG/L	0.9	1.3	2.5	-	-	-
USAGE RATE (AT DESIGN FLOW)	GPD	234	338	649	-	-	-
LIQUID FEED FLOW	GPH	9.8	14.1	27.0	-	-	-
FEED PUMPS							
TYPE			PERISTALTIC			-	
NUMBER	NO.		2 (DUTY/STANDBY)			-	
CAPACITY	GPH		48.5			-	
RAW WATER AT FLASH MIX		MIN	AVG	MAX	MIN	AVG	MAX
DOSAGE	MG/L	-	-	-	0.5	1.0	3.0
USAGE RATE (AT DESIGN FLOW)	GPD	-	-	-	152	305	914
LIQUID FEED FLOW	GPH	-	-	-	6.3	12.7	38.1
FEED PUMPS							
TYPE			-			PERISTALTIC	
NUMBER	NO.		-			2 (DUTY/STANDBY)	
CAPACITY, EA	GPH		-			48.5	
FILTER INLET CHANNEL		MIN	AVG	MAX	MIN	AVG	MAX
DOSAGE	MG/L	0.5	1.0	2.0	0.5	1.0	2.0
USAGE RATE (AT DESIGN FLOW)	GPD	130	260	520	152	305	610
LIQUID FEED FLOW	GPH	5.4	10.8	21.7	6.3	12.7	25.4
FEED PUMPS							
TYPE			PERISTALTIC			PERISTALTIC	
NUMBER	NO.		1 (STANDBY)			1 (DUTY)	
CAPACITY,EA	GPH		48.5			48.5	
FILTERED WATER		MIN	AVG	MAX	MIN	AVG	MAX
DOSAGE	MG/L	0.5	1.0	2.0	0.5	1.0	3.0
USAGE RATE (AT DESIGN FLOW)	GPD	130	260	520	152	305	914
LIQUID FEED FLOW	GPH	5.4	10.8	21.7	6.3	12.7	38.1
FEED PUMPS							
TYPE			PERISTALTIC			PERISTALTIC	
NUMBER	NO.		1 (DUTY)			2 (DUTY/STANDBY)	
CAPACITY, EA	GPH		48.5			48.5	
BACKWASH WATER		MIN	AVG	MAX	MIN	AVG	MAX
DOSAGE	MG/L	0.5	1.0	2.3	0.5	1.0	3.0
USAGE RATE PER BACKWASH (AT MAX BACKWASH FLOW)	GPW	3	5	11	1.0	1.9	9.5
LIQUID FEED FLOW	GPH	10.0	20.0	44.8	4.0	7.6	38.0
FEED PUMPS							
TYPE			PERISTALTIC			PERISTALTIC	
NUMBER	NO.		1 (STANDBY)			1 (STANDBY)	
CAPACITY, EA	GPH		48.5			48.5	
STORAGE							
TANK CONSTRUCTION TYPE			FRP			FRP	
NUMBER OF BULK STORAGE TANKS	NO.		2			2	
BULK STORAGE TANK SIZE	GAL EA.		3,126			3,126	
TOTAL CAPACITY	GAL		6,252			6,252	
DAYS OF STORAGE [1][2]	DAYS		18			14	
NOTE (1) CHEMICAL DOSAGES ARE NOT ALL APPLIED SIMULTANEOUSLY. DAYS OF STORAGE FOR EXISTING PLANT CALCULATED USING DESIGN FLOW AND AVG. DOSE FOR RAW							
NOTE (2) CHEMICAL DOSAGES ARE NOT ALL APPLIED SIMULTANEOUSLY. DAYS OF FOR NEW PLANT STORAGE CALCULATED USING DESIGN FLOW, MIN. DOSE FOR RAW WATER, AND AVG. DOSE FOR FILTERED WATER							
FLUORIDE							
TYPE: 18.6%, 1.22 LBS/GAL		MIN	AVG	MAX	MIN	AVG	MAX
DOSAGE	MG/L	0.25	0.6	1.0	0.25	0.6	1.0
USAGE RATE (AT DESIGN FLOW)	GPD	17	36	66	17	36	77
LIQUID FEED FLOW	GPH	0.7	1.5	2.7	0.7	1.5	3.2
TRANSFER PUMPS							
TYPE			CENTRIFUGAL (MAG DRIVE)			CENTRIFUGAL (MAG DRIVE)	
NUMBER	NO.		2			2	
CAPACITY	GPM		30.0			30.0	
FEED PUMPS							
TYPE			PERISTALTIC			PERISTALTIC	
NUMBER	NO.		2 (DUTY/STANDBY)			2 (DUTY/STANDBY)	
CAPACITY	GPH		48.5			48.5	
STORAGE							
DAY TANK							
TYPE			XLPE			XLPE	
NUMBER OF BULK STORAGE TANKS	NO.		1			1	
TOTAL CAPACITY	GAL		225			225	
BULK TANK							
TYPE			XLPE			XLPE	
NUMBER OF BULK STORAGE TANKS	NO.		1			1	
BULK STORAGE TANK SIZE	GAL EA.		6,250			6,250	
TOTAL CAPACITY	GAL		6,250			6,250	
DAYS OF STORAGE (AT DESIGN FLOW AND AVERAGE DOSE)	DAYS	379	172	95	379	172	81

DESCRIPTION	UNITS	EXISTING (15 MGD)			NEW (16 MGD)		
CATIONIC POLYMER (COAGULANT AID)							
TYPE: 100%, 9.17 LBS/GAL							
DOSAGE	MG/L	0.5	1.3	4.0	0.5	1.3	4.0
USAGE RATE (AT DESIGN FLOW)	GPD	7	18	55	7	18	64
LIQUID FEED FLOW	GPH	0.3	0.7	2.3	0.3	0.7	2.7
FEED PUMPS							
TYPE			DIAPHRAGM			DIAPHRAGM	
NUMBER	NO.		2 (DUTY)			2 (DUTY)	
CAPACITY	GPH		2.5			2.5	
STORAGE							
TANK CONSTRUCTION TYPE			DRUM			DRUM	
NUMBER OF BULK STORAGE TANKS	NO.		2			2	
BULK STORAGE TANK SIZE	GAL EA.		55			55	
TOTAL CAPACITY	GAL		110			110	
DAYS OF STORAGE (AT DESIGN FLOW AND AVERAGE DOSE)	DAYS	16	6	2	16	6	2
NON-IONIC POLYMER							
TYPE: 100%, 9.17 LBS/GAL							
FLOCCULANT AID							
DOSAGE	MG/L	0.01	0.05	0.10	-	-	-
USAGE RATE (AT DESIGN FLOW)	GPD	0.14	0.68	1.36	-	-	-
LIQUID FEED FLOW	GPH	0.01	0.03	0.06	-	-	-
FEED PUMPS							
TYPE			DIAPHRAGM			-	
NUMBER	NO.		2 (DUTY)			-	
CAPACITY	GPH		2.5			-	
FILTER AID							
DOSAGE	MG/L	0.01	0.05	0.10	-	-	-
USAGE RATE (AT DESIGN FLOW)	GPD	0.14	0.68	1.36	-	-	-
LIQUID FEED FLOW	GPH	0.01	0.03	0.06	-	-	-
FEED PUMPS							
TYPE			DIAPHRAGM			-	
NUMBER	NO.		2 (DUTY)			-	
CAPACITY	GPH		2.5			-	
STORAGE							
TANK CONSTRUCTION TYPE			DRUM			-	
NUMBER OF BULK STORAGE TANKS	NO.		2			-	
BULK STORAGE TANK SIZE	GAL EA.		55			-	
TOTAL CAPACITY	GAL		110			-	
DAYS OF STORAGE (AT DESIGN FLOW AND AVERAGE DOSE)[1]	DAYS	393	81	40		-	
NOTE (1) DAYS OF STORAGE FOR EXISTING PLANT CALCULATED USING DESIGN FLOW AND AVG. DOSE FOR FLOC AND FILTER AID							
ANIONIC POLYMER							
TYPE: 100%, 9.17 LBS/GAL WITH DILUTION TO 0.25%							
FLOCCULANT AID							
DOSAGE	MG/L	-	-	-	0.05	0.10	0.20
NEAT PEA DESIGN USAGE RATE (AT DESIGN FLOW)	GPD	-	-	-	0.80	1.60	3.20
NEAT LIQUID FEED FLOW	GPH	-	-	-	0.03	0.07	0.13
DILUTE LIQUID FEED FLOW	GPH				13.33	26.67	53.33
FEED PUMPS							
TYPE			-			PERISTALTIC	
NUMBER	NO.		-			1 (DUTY)	
CAPACITY	GPH		-			48.5	
FILTER AID							
DOSAGE	MG/L	-	-	-	0.01	0.05	0.10
NEAT PEA DESIGN USAGE RATE (AT DESIGN FLOW)	GPD	-	-	-	0.16	0.80	1.60
NEAT LIQUID FEED FLOW	GPH	-	-	-	0.01	0.03	0.07
DILUTE LIQUID FEED FLOW	GPH				2.67	13.33	26.67
FEED PUMPS							
TYPE			-			PERISTALTIC	
NUMBER	NO.		-			2 (DUTY)	
CAPACITY	GPH		-			48.5	
WASTEBACK WASH WATER AID							
DOSAGE	MG/L	0.50	1.00	3.00	0.10	0.50	1.00
NEAT PEA DESIGN USAGE RATE (AT DESIGN FLOW)	GPD	0.17	0.52	1.04	0.11	0.57	1.14
NEAT LIQUID FEED FLOW	GPH	0.01	0.02	0.04	0.00	0.02	0.05
DILUTE LIQUID FEED FLOW	GPH	-	-	-	1.83	9.50	19.00
FEED PUMPS							
TYPE			DIAPHRAGM			PERISTALTIC	
NUMBER	NO.		1			1 (DUTY)	
CAPACITY	GPH		2.5			48.5	
SED BASIN SOLIDS AID							
DOSAGE	MG/L	-	-	-	0.10	0.50	1.00
NEAT PEA DESIGN USAGE RATE (AT DESIGN FLOW)	GPD	-	-	-	0.05	0.24	0.48
NEAT LIQUID FEED FLOW	GPH	-	-	-	0.00	0.01	0.02
DILUTE LIQUID FEED FLOW	GPH				0.83	4.00	8.00
FEED PUMPS							
TYPE			-			PERISTALTIC	
NUMBER	NO.		-			1 (DUTY)	
CAPACITY	GPH		-			48.5	
COMBINED NEAT PEA DESIGN USAGE RATE (MAX. FLOW @ AVG. DOSE)	GPD	0.2	0.5	1.0	1.1	3.2	6.4
NEAT POLYMER TANK							
TANK CONSTRUCTION TYPE			DRUM			DRUM	
NUMBER OF TANKS	NO.		1.0			2.0	
TANK SIZE	GAL		55.0			55.0	
TOTAL CAPACITY	GAL		55.0			110.0	
DAYS OF STORAGE (AT DESIGN FLOW AND AVERAGE DOSE)	DAYS	324	106	53	98	34	17
BLENDING UNITS							
NUMBER	NO.		2			2	
CAPACITY (POLYMER)	GPH		1.5			1.5	
CAPACITY (WATER)	GPH		600			600	
COMBINED DILUTE POLYMER DESIGN USAGE RATE	GPD	-	-	-	448	1,284	2,568
DILUTE POLYMER BATCH DAY TANK							
TANK CONSTRUCTION TYPE			-			HDPE	
NUMBER OF TANKS	NO.	-	-	-		1.0	
TANK SIZE	GAL	-	-	-		275.0	
TOTAL CAPACITY	GAL	-	-	-		275.0	
DAYS OF STORAGE (AT DESIGN FLOW AND AVERAGE DOSE)	DAYS	-	-	-	0.6	0.2	0.1
	HRS	-	-	-	15	5	3

Brown AND Caldwell

SCALE:

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: A.JONES
DRAWN BY: R.FULK
CHECKED BY: J.HESBY
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	AJ	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

DESIGN CRITERIA – CHEMICAL DOSAGE

90% GMP

DRAWING NO.
G-09

FROM EXISTING CITY CREEK

OF

OF

OF

TO CITY CREEK

INFILTRATION GALLERY

INF

RAW

INFILTRATION GALLERY PUMP STATION

INF

FLASH MIX PUMP

RAW

SH

SC

SC

FEC

SC

SC

PEC

PEA

SH

PEA

FLOCCULATION/SEDIMENTATION

SL

DR

PEA

FILTER 2

FILTER 4

FILTER 6

FILTER INLET CHANNEL

FILTER 1

FILTER 3

FILTER 5

FILTERS

WBW

OF

BW

AW

FTW

FLT

AW

EXISTING BACKWASH TANK

TO FIRE HYDRANT SYSTEM

OF

SU

SUC

RCW

OF

PEA

OF

WBW/OF

OF

WBW/OF

AIR GAP STRUCTURE

PTW/OF

FLT

BW

SH

AW

FILTER AIR SCOUR BLOWERS

DR

OF

FW

FW

TO DISTRIBUTION SYSTEM

FW

FLR

SH

FINISHED WATER CLEARWELL

TO EXISTING PLANT WATER SYSTEM

SUC

BW

OF

BACKWASH CONSTANT HEAD BOX

BACKWASH/POTABLE WATER SUPPLY PUMP STATION

FLUORIDE AND TREATMENT BUILDING PERIMETER DRAIN PUMP STATION

SU

EXISTING FLUORIDE BUILDING

RCW

RECYCLE PUMP STATION

WASTE BACKWASH CLARIFIER

COLLECTION BOX

SL

RCW/OF

DECANT PUMP STATION

SL

EXISTING DRYING BED NO. 3

EXISTING DRYING BED NO. 2

EXISTING DRYING BED NO. 1

DCW

DCW

DCW

CHEMICALS

SH	SODIUM HYPOCHLORITE
FEC	FERRIC CHLORIDE
PEA	ANIONIC POLYMER
PEC	CATIONIC POLYMER
PEN	NON-IONIC POLYMER
FLR	FLUORIDE
SC	SPARE CHEMICAL

Brown AND Caldwell

SCALE:

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

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DRAWN BY: R.FULK
CHECKED BY: J.HESBY
APPROVED BY: J.HMEBAUGH
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO: 512260079

REVISIONS

NO.	DATE		AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	JH

MADE BY: AJ

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PROCESS FLOW DIAGRAM

90% GMP

DRAWING NO.

G-10

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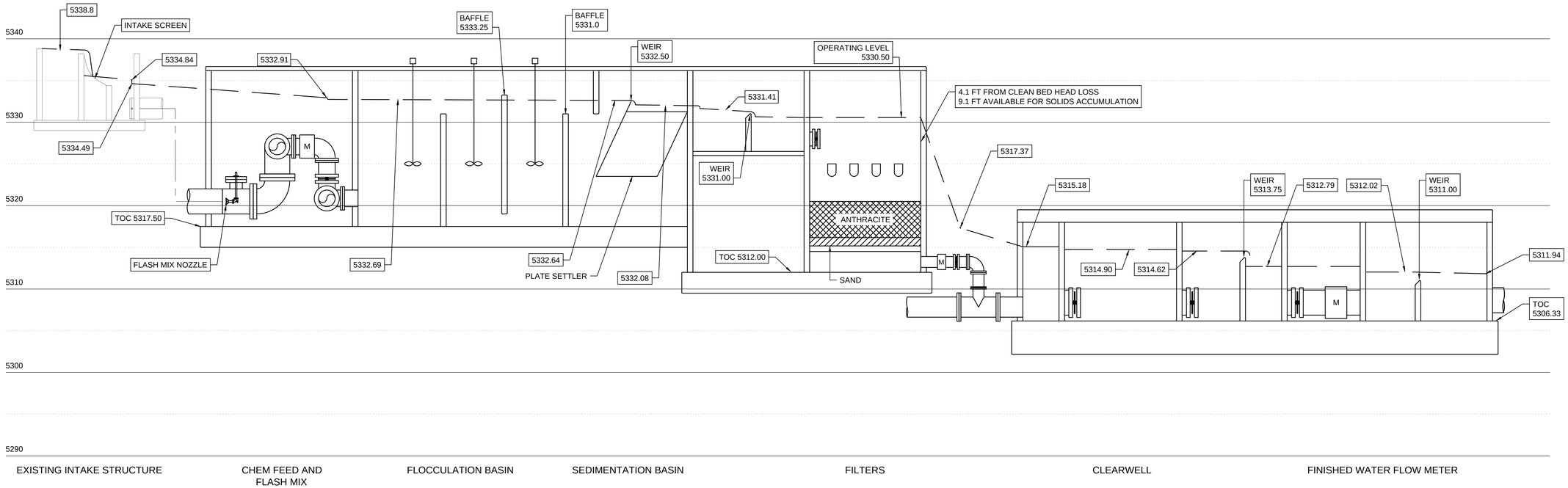

HYDRAULIC PROFILE AT 17.6 MGD - MAIN PROCESS

*USES NAVD 88 DATUM

C:\bcpw\d1569671\G-11.dwg Jun 12, 2024 - 5:16pm

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DRAWN BY: R.FULK
CHECKED BY: J.HESBY
APPROVED BY: J.HIMEBAUGH
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

NO.	DATE	REVISIONS	MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	AJ	JH

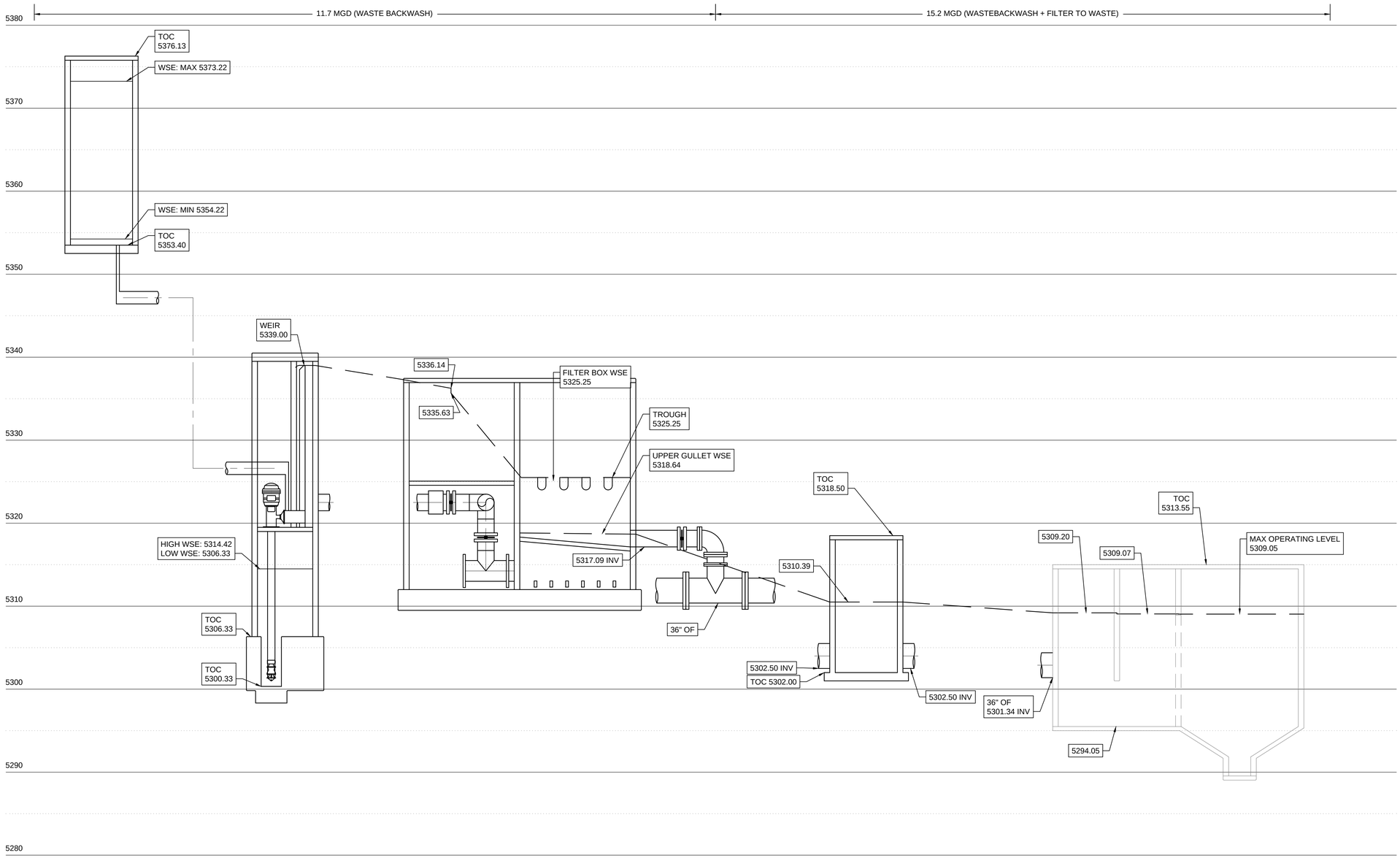
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

HYDRAULIC PROFILE - MAIN PROCESS

90% GMP

DRAWING NO.
G-11



HYDRAULIC PROFILE - WASTE BACKWASH WATER

*USES NAVD 88 DATUM (ADD 3.22' TO NGVD DATUM)

SCALE:

VERIFY SCALE

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DRAWN BY: R.FULK
CHECKED BY: J.HESBY
APPROVED BY: J.HIMEBAUGH
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	AJ	JH

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

HYDRAULIC PROFILE – WASTE BACKWASH WATER

90% GMP

DRAWING NO.
G-12

Brown AND Caldwell

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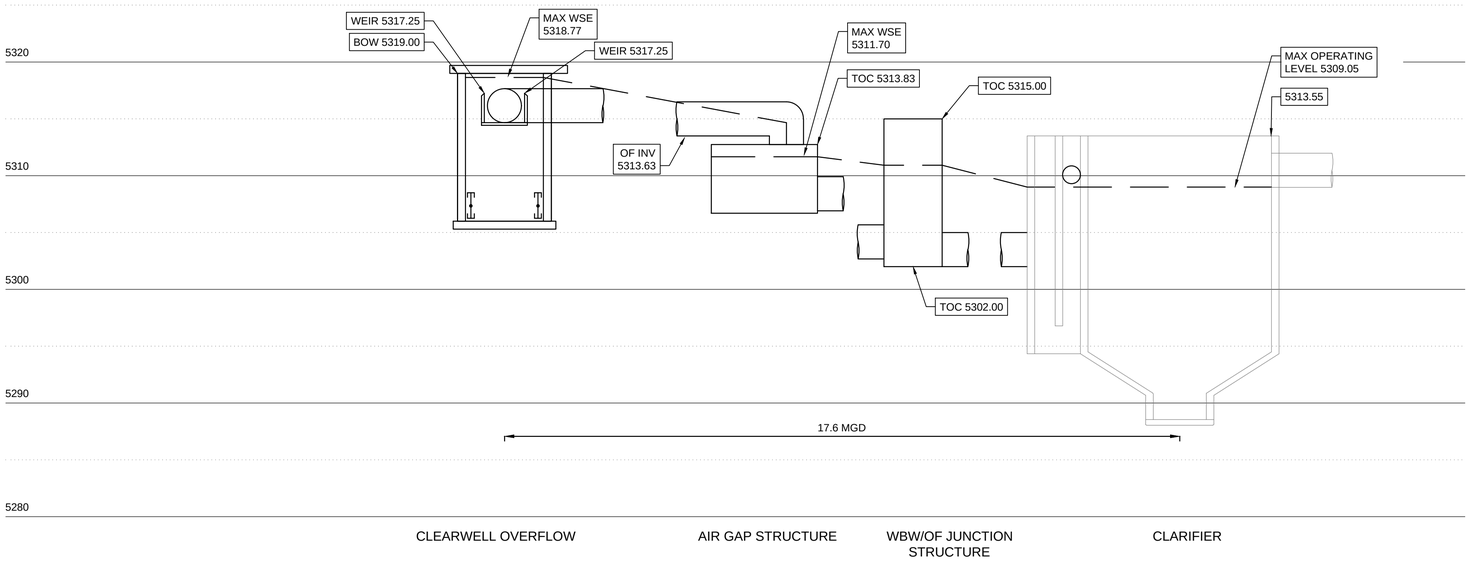
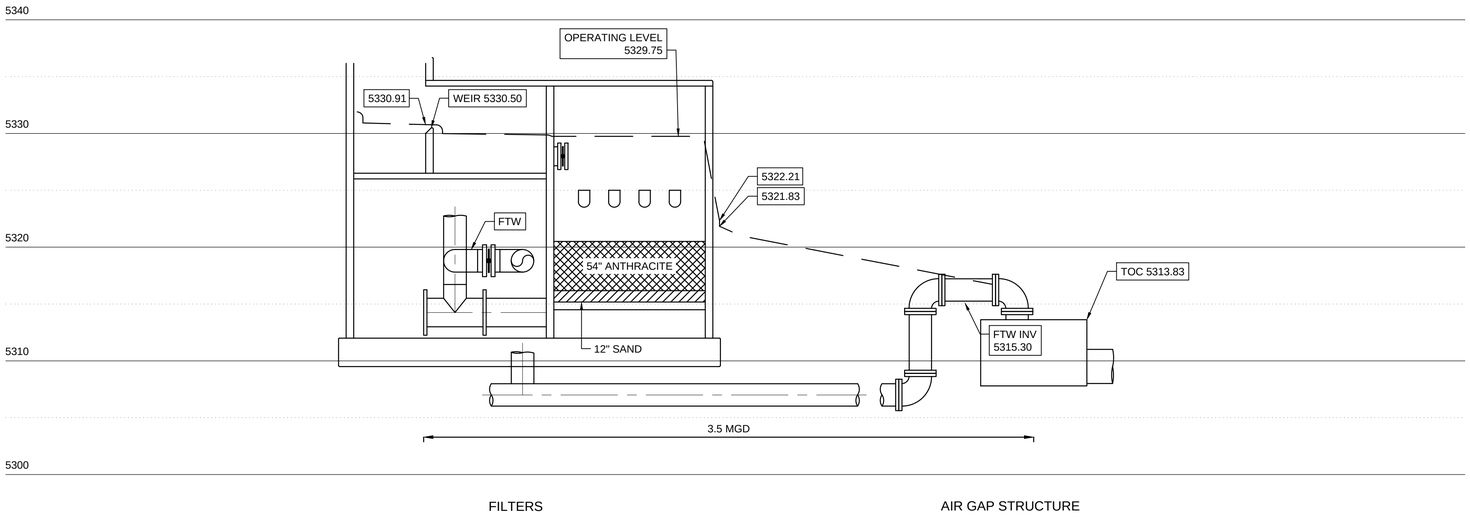


HYDRAULIC PROFILE AT 17.6 MGD - CLEARWELL OVERFLOW

NAVD 88 DATUM



HYDRAULIC PROFILE AT 3.5 MGD - FILTER TO WASTE

NAVD 88 DATUM

SCALE:

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CHECKED BY: J.HESBY
APPROVED BY: J.HIMEBAUGH
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	AJ	JH

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

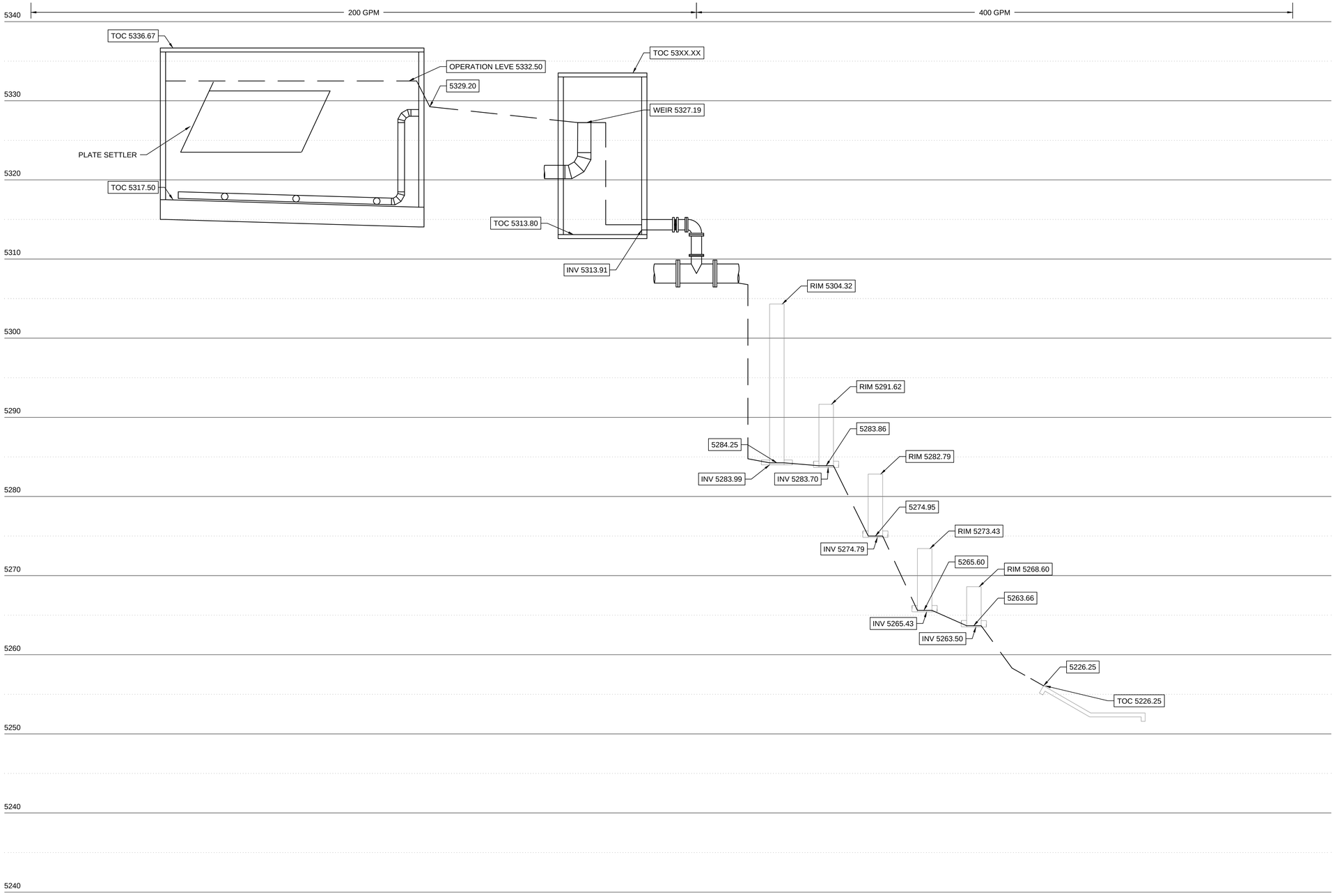
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

HYDRAULIC PROFILE – FILTER TO WASTE & CLEARWELL OF

90% GMP

DRAWING NO.
G-13

Brown AND Caldwell



HYDRAULIC PROFILE - SOLIDS COLLECTION SYSTEM

*USES NAVD 88 DATUM (ADD 3.22' TO NGVD DATUM)

SCALE:

VERIFY SCALE

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DRAWN BY: R.FULK
CHECKED BY: J.HESBY
APPROVED BY: J.HIMEBAUGH
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

NO.	DATE	REVISIONS	MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	AJ	JH

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

HYDRAULIC PROFILE - SOLIDS COLLECTION

90% GMP

DRAWING NO.
G-14

Brown AND Caldwell

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VALVE SCHEDULE (4-INCHES AND LARGER)

TAG NUMBER	LOCATION	VALVE NAME	SIZE (INCHES)	VALVE TYPE	VALVE ENDS	CLASS	OPERATOR	COMMENTS
20-HV-10011	TREATMENT BUILDING	FLASH MIX PUMP 1 INLET VALVE	6	BFV	FLANGED	150	HWO	
20-HV-10012	TREATMENT BUILDING	FLASH MIX PUMP 1 OUTLET VALVE	6	BFV	FLANGED	150	HWO	
20-HV-20011	TREATMENT BUILDING	FLASH MIX PUMP 2 INLET VALVE	6	BFV	FLANGED	150	HWO	
20-HV-20012	TREATMENT BUILDING	FLASH MIX PUMP 2 OUTLET VALVE	6	BFV	FLANGED	150	HWO	
20-HV-00018	TREATMENT BUILDING	FLASH MIX ISOLATION VALVE	6	BFV	FLANGED	150	HWO	
30-CV-10011	TREATMENT BUILDING	FLOC BASIN 1 INLET VALVE	36	BFV	FLANGED	150	O/C E	
30-CV-20011	TREATMENT BUILDING	FLOC BASIN 2 INLET VALVE	36	BFV	FLANGED	150	O/C E	
35-HV-00011	TREATMENT BUILDING	RAW WATER VALVE	36	BFV	FLANGED	150	O/C E	
35-CV-00020	TREATMENT BUILDING	RECYCLED WATER ISOLATION VALVE	12	BFV	FLANGED	150	O/C E	
35-FV-00017	TREATMENT BUILDING	BACKWASH FLOW CONTROL VALVE 1	24	BFV	FLANGED	150	MOD E	
35-FV-00019	TREATMENT BUILDING	MASTER BACKWASH FLOW CONTROL VALVE 2	24	BFV	FLANGED	150	MOD E	
35-PRV-001A	TREATMENT BUILDING	BACKWASH PRESSURE REDUCING VALVE	4	PRV	FLANGED	150	NA	
35-HV-00074	TREATMENT BUILDING	TREATMENT BUILDING RECYCLE PUMP 1 VALVE						
35-HV-00084	TREATMENT BUILDING	TREATMENT BUILDING RECYCLE PUMP 2 VALVE						
40-CV-10011	TREATMENT BUILDING	SOLIDS COLLECTOR VALVE 1A	6	PV	FLANGED	150	O/C E	
40-CV-10021	TREATMENT BUILDING	SOLIDS COLLECTOR VALVE 1B	6	PV	FLANGED	150	O/C E	
40-CV-20011	TREATMENT BUILDING	SOLIDS COLLECTOR VALVE 2A	6	PV	FLANGED	150	O/C E	
40-CV-20021	TREATMENT BUILDING	SOLIDS COLLECTOR VALVE 2B	6	PV	FLANGED	150	O/C E	
40-CV-10012	TREATMENT BUILDING	SEDIMENTATION BASIN 1 BACK FILL VALVE	14	BFV	FLANGED	150	MOD E	
40-CV-20022	TREATMENT BUILDING	SEDIMENTATION BASIN 2 BACK FILL VALVE	14	BFV	FLANGED	150	MOD E	
40-HV-10002	TREATMENT BUILDING	SEDIMENTATION BASIN 1 DRAIN VALVE	12	PV	FLANGED	150	HWO	
40-HV-10003	TREATMENT BUILDING	SEDIMENTATION BASIN 2 DRAIN VALVE	12	PV	FLANGED	150	HWO	
40-HV-10005	TREATMENT BUILDING	SEDIMENTATION BASIN 1 SOLIDS DRAIN VALVE	6	PV	FLANGED	150	NUT	
40-HV-20005	TREATMENT BUILDING	SEDIMENTATION BASIN 2 SOLIDS DRAIN VALVE	6	PV	FLANGED	150	NUT	
40-HV-00011	TREATMENT BUILDING	SOLIDS ISOLATION VALVE 1	10	PV	FLANGED	150	HWO	
40-HV-00013	TREATMENT BUILDING	SOLIDS ISOLATION VALVE 2	10	PV	FLANGED	150	HWO	
40-HV-00014	TREATMENT BUILDING	SOLIDS DRAIN VALVE	10	PV	FLANGED	150	HWO	
40-HV-00015	TREATMENT BUILDING	SOLIDS DIVERSION VALVE 1	10	PV	FLANGED	150	HWO	
40-HV-00016	TREATMENT BUILDING	SOLIDS DIVERSION VALVE 2	10	PV	FLANGED	150	HWO	
50-CV-10011	TREATMENT BUILDING	FILTER 1 INLET VALVE	24	BFV	FLANGED	150	O/C E	
50-CV-10021	TREATMENT BUILDING	FILTER 1 OUTLET VALVE	14	BFV	FLANGED	150	MOD E	
50-CV-10051	TREATMENT BUILDING	FILTER 1 FILTER TO WASTE VALVE	14	BFV	FLANGED	150	O/C E	
50-CV-10031	TREATMENT BUILDING	FILTER 1 BACKWASH VALVE	24	BFV	FLANGED	150	O/C E	
50-CV-10061	TREATMENT BUILDING	FILTER 1 AIR WASH VALVE	10	BFV	FLANGED	150	O/C E	
50-CV-10041	TREATMENT BUILDING	FILTER 1 WASTE BACKWASH WATER VALVE	24	BFV	FLANGED	150	O/C E	
50-HV-10071	TREATMENT BUILDING	FILTER 1 DRAIN VALVE	4	BFV	FLANGED	150	HWO	
50-CV-20011	TREATMENT BUILDING	FILTER 2 INLET VALVE	24	BFV	FLANGED	150	O/C E	
50-CV-20021	TREATMENT BUILDING	FILTER 2 OUTLET VALVE	14	BFV	FLANGED	150	MOD E	
50-CV-20051	TREATMENT BUILDING	FILTER 2 FILTER TO WASTE VALVE	14	BFV	FLANGED	150	O/C E	
50-CV-20031	TREATMENT BUILDING	FILTER 2 BACKWASH VALVE	24	BFV	FLANGED	150	O/C E	
50-CV-20061	TREATMENT BUILDING	FILTER 2 AIR WASH VALVE	10	BFV	FLANGED	150	O/C E	
50-CV-20041	TREATMENT BUILDING	FILTER 2 WASTE BACKWASH WATER VALVE	24	BFV	FLANGED	150	O/C E	
50-HV-20071	TREATMENT BUILDING	FILTER 2 DRAIN VALVE	4	BFV	FLANGED	150	HWO	
50-CV-30011	TREATMENT BUILDING	FILTER 3 INLET VALVE	24	BFV	FLANGED	150	O/C E	
50-CV-30021	TREATMENT BUILDING	FILTER 3 OUTLET VALVE	14	BFV	FLANGED	150	MOD E	
50-CV-30051	TREATMENT BUILDING	FILTER 3 FILTER TO WASTE VALVE	14	BFV	FLANGED	150	O/C E	
50-CV-30031	TREATMENT BUILDING	FILTER 3 BACKWASH VALVE	24	BFV	FLANGED	150	O/C E	
50-CV-30061	TREATMENT BUILDING	FILTER 3 AIR WASH VALVE	10	BFV	FLANGED	150	O/C E	
50-CV-30041	TREATMENT BUILDING	FILTER 3 WASTE BACKWASH WATER VALVE	24	BFV	FLANGED	150	O/C E	
50-HV-30071	TREATMENT BUILDING	FILTER 3 DRAIN VALVE	4	BFV	FLANGED	150	HWO	
50-CV-40011	TREATMENT BUILDING	FILTER 4 INLET VALVE	18	BFV	FLANGED	150	O/C E	
50-CV-40021	TREATMENT BUILDING	FILTER 4 OUTLET VALVE	14	BFV	FLANGED	150	MOD E	
50-CV-40051	TREATMENT BUILDING	FILTER 4 FILTER TO WASTE VALVE	14	BFV	FLANGED	150	O/C E	
50-CV-40031	TREATMENT BUILDING	FILTER 4 BACKWASH VALVE	24	BFV	FLANGED	150	O/C E	
50-CV-40061	TREATMENT BUILDING	FILTER 4 AIR WASH VALVE	10	BFV	FLANGED	150	O/C E	
50-CV-40041	TREATMENT BUILDING	FILTER 4 WASTE BACKWASH WATER VALVE	24	BFV	FLANGED	150	O/C E	
50-HV-40071	TREATMENT BUILDING	FILTER 4 DRAIN VALVE	4	BFV	FLANGED	150	HWO	
50-CV-50011	TREATMENT BUILDING	FILTER 5 INLET VALVE	24	BFV	FLANGED	150	O/C E	
50-CV-50021	TREATMENT BUILDING	FILTER 5 OUTLET VALVE	14	BFV	FLANGED	150	MOD E	
50-CV-50051	TREATMENT BUILDING	FILTER 5 FILTER TO WASTE VALVE	14	BFV	FLANGED	150	O/C E	
50-CV-50031	TREATMENT BUILDING	FILTER 5 BACKWASH VALVE	24	BFV	FLANGED	150	O/C E	
50-CV-50061	TREATMENT BUILDING	FILTER 5 AIR WASH VALVE	10	BFV	FLANGED	150	O/C E	
50-CV-50041	TREATMENT BUILDING	FILTER 5 WASTE BACKWASH WATER VALVE	24	BFV	FLANGED	150	O/C E	
50-HV-50071	TREATMENT BUILDING	FILTER 5 DRAIN VALVE	4	BFV	FLANGED	150	HWO	
50-CV-60011	TREATMENT BUILDING	FILTER 6 INLET VALVE	24	BFV	FLANGED	150	O/C E	
50-CV-60021	TREATMENT BUILDING	FILTER 6 OUTLET VALVE	14	BFV	FLANGED	150	MOD E	
50-CV-60051	TREATMENT BUILDING	FILTER 6 FILTER TO WASTE VALVE	14	BFV	FLANGED	150	O/C E	
50-CV-60031	TREATMENT BUILDING	FILTER 6 BACKWASH VALVE	24	BFV	FLANGED	150	O/C E	
50-CV-60061	TREATMENT BUILDING	FILTER 6 AIR WASH VALVE	10	BFV	FLANGED	150	O/C E	
50-CV-60041	TREATMENT BUILDING	FILTER 6 WASTE BACKWASH WATER VALVE	24	BFV	FLANGED	150	O/C E	
50-HV-60071	TREATMENT BUILDING	FILTER 6 DRAIN VALVE	4	BFV	FLANGED	150	HWO	
50-CV-00013	CLEARWELLS	BLOWER 1 INLET VALVE	10	BFV	FLANGED	150	MOD E	
50-HV-00015	CLEARWELLS	BLOWER 1 OUTLET VALVE	10	BFV	FLANGED	150	HWO	
50-CV-00023	CLEARWELLS	BLOWER 2 INLET VALVE	10	BFV	FLANGED	150	MOD E	
50-HV-00025	CLEARWELLS	BLOWER 2 OUTLET VALVE	10	BFV	FLANGED	150	HWO	
60-HV-00016	CLARIFIER	RECYCLE PUMP 1 VALVE	10	GV	FLANGED	150	NUT	
60-HV-00026	CLARIFIER	RECYCLE PUMP 2 VALVE	10	GV	FLANGED	150	NUT	

Brown AND Caldwell

SCALE:

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: A.JONES
DRAWN BY: R.FULK
CHECKED BY: J.HESBY
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

NO.	DATE	REVISIONS	MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	AJ	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

EQUIPMENT LIST 1

90% GMP

DRAWING NO.
G-15

C:\bcpw\d1569671\G-15.dwg Jun 14, 2024 - 8:25am

VALVE SCHEDULE (4-INCHES AND LARGER)(CONT'D)

TAG NUMBER	LOCATION	VALVE NAME	SIZE (INCHES)	VALVE TYPE	VALVE ENDS	CLASS	OPERATOR	COMMENTS
60-CV-00030	CLARIFIER	DECANT VALVE 1	12	PV	FLANGED	150	MOD E	
60-CV-00031	CLARIFIER	DECANT VALVE 2	12	PV	FLANGED	150	MOD E	
60-CV-00032	CLARIFIER	SOLIDS VALVE 1	8	PV	FLANGED	150	MOD E	
70-HV-00024	CLEARWELLS	STRUCTURAL UNDERDRAIN PUMP 1 VALVE	4	PV	FLANGED	150	NUT	
70-HV-00034	CLEARWELLS	STRUCTURAL UNDERDRAIN PUMP 2 VALVE	4	PV	FLANGED	150	NUT	
70-HV-00042	CLEARWELLS	CLEARWELL DRAIN PUMP 1 VALVE	4	PV	FLANGED	150	HWO	
70-HV-00052	CLEARWELLS	CLEARWELL DRAIN PUMP 2 VALVE	4	PV	FLANGED	150	HWO	
70-HV-00062	CLEARWELLS	CLEARWELL DRAIN MUD VALVE 1	6	MUD	FLANGED	125	NUT	
70-HV-00063	CLEARWELLS	CLEARWELL DRAIN MUD VALVE 2	6	MUD	FLANGED	125	NUT	
70-HV-00064	CLEARWELLS	CLEARWELL DRAIN MUD VALVE 3	6	MUD	FLANGED	125	NUT	
70-HV-00065	CLEARWELLS	CLEARWELL DRAIN MUD VALVE 4	6	MUD	FLANGED	125	NUT	
70-HV-00066	CLEARWELLS	CLEARWELL DRAIN MUD VALVE 5	6	MUD	FLANGED	125	NUT	
70-HV-00067	CLEARWELLS	CLEARWELL DRAIN MUD VALVE 6	6	MUD	FLANGED	125	NUT	
70-CV-10010	CLEARWELLS	CLEARWELL 1 INLET VALVE	30	BFV	FLANGED	150	O/C E	
70-CV-20010	CLEARWELLS	CLEARWELL 2 INLET VALVE	30	BFV	FLANGED	150	O/C E	
70-CV-10020	CLEARWELLS	CLEARWELL 1 OUTLET VALVE	30	BFV	FLANGED	150	O/C E	
70-CV-20020	CLEARWELLS	CLEARWELL 2 OUTLET VALVE	30	BFV	FLANGED	150	O/C E	
73-CV-00013	CLEARWELLS	PLANT WATER PUMP 1 VALVE	6	BFV	FLANGED	150	O/C E	
73-HV-00014	CLEARWELLS	PLANT WATER PUMP 1 VALVE	6	BFV	FLANGED	150	HWO	
73-HV-00015	CLEARWELLS	PLANT WATER PUMP 1 VALVE	6	BFV	FLANGED	150	HWO	
73-CV-00023	CLEARWELLS	PLANT WATER PUMP 2 VALVE	6	BFV	FLANGED	150	O/C E	
73-HV-00025	CLEARWELLS	PLANT WATER PUMP 2 VALVE	6	BFV	FLANGED	150	HWO	
73-HV-00026	CLEARWELLS	PLANT WATER PUMP 2 VALVE	6	BFV	FLANGED	150	HWO	
73-HV-00016	CLEARWELLS	PLANT WATER BACKPRESSURE SUSTATING VALVE 1	6	PSV	FLANGED	150	NA	
73-HV-00017	CLEARWELLS	PLANT WATER BACKPRESSURE SUSTATING VALVE 2	6	PSV	FLANGED	150	NA	
71-CV-00013	CLEARWELLS	BACKWASH PUMP 1 VALVE	24	BFV	FLANGED	150	O/C E	
71-CV-00023	CLEARWELLS	BACKWASH PUMP 2 VALVE	24	BFV	FLANGED	150	O/C E	
71-CV-00033	CLEARWELLS	BACKWASH PUMP 3 VALVE	24	BFV	FLANGED	150	O/C E	
71-CV-00017	CLEARWELLS	BACKWASH TANK VALVE	24	BFV	FLANGED	150	O/C E	
71-HV-00020	CLEARWELLS	BACKWASH BASIN VALVE	18	BFV	FLANGED	150	NUT	
71-HV-00019	CLEARWELLS	CONSTANT HEAD BOX DRAIN VALVE	6	PV	FLANGED	150	HWO	
05-HV-00010	INFILTRATION GALLERY	INF GALLERY PUMP 1 VALVE	4	BFV	FLANGED	150	NUT	
05-HV-00020	INFILTRATION GALLERY	INF GALLERY PUMP 2 VALVE	4	BFV	FLANGED	150	NUT	
10-HV-00010	INTAKE	FLUSH VALVE	6	GV	FLANGED	150	HWO	

NOTES:

1. TYPE: BFV - BUTTERFLY VALVE, GV - GATE VALVE, PV - PLUG VALVE, GL - GLOBE VALVE, PRV - PRESSURE REDUCING VALVE, MUD - MUD VALVE, PSV - PRESSURE SUSTAINING VALVE
2. OPERATOR: BVB = BURIED VALVE BOX WITH NUT; HLO = HAND LEVER OPERATOR; HWO = HAND WHEEL OPERATOR; NUT = OPERATING NUT WITH STEM EXTENSION; O/C E = OPEN / CLOSED (ELECTRIC ACTUATED); O/C P = OPEN / CLOSED (PNEUMATIC ACTUATED), MOD E (MODULATING ELECTRIC ACTUATED); MOD p (MODULATING PNEUMATIC ACTUATED); O/C H = OPEN / CLOSED (HYDRAULIC ACTUATED); MOD H (MODULATING HYDRAULIC ACTUATED)
3. PRESSURE RATING SHALL BE NOT LESS THAN TEST PRESSURE LISTED IN PIPE SCHEDULE.
4. REFER TO PIPE SCHEDULE AND CIVIL / MECHANICAL DRAWINGS TO DETERMINE VALVE MATERIAL.

CHECK VALVE SCHEDULE (4-INCHES AND LARGER)

TAG NUMBER	LOCATION	VALVE NAME	SIZE (INCHES)	VALVE TYPE	VALVE ENDS	CLASS	COMMENTS
05-HV-00011	INFILTRATION GALLERY	INF GALLERY PUMP 1 VALVE	4	HS	FLANGED	150	
05-HV-00021	INFILTRATION GALLERY	INF GALLERY PUMP 2 CHECK VALVE	4	HS	FLANGED	150	
20-CV-00017	TREATMENT BUILDING	FLASH MIX CHECK VALVE	6	HS	FLANGED	150	
35-HV-00074	TREATMENT BUILDING	TREATMENT BUILDING RECYCLE PUMP 1 CHECK VALVE	8	HS	FLANGED	15	
35-HV-00083	TREATMENT BUILDING	TREATMENT BUILDING RECYCLE PUMP 2 CHECK VALVE	8	HS	FLANGED	150	
50-HV-00014	CLEARWELLS	BLOWER 1 CHECK VALVE	10	FLAP	FLANGED	150	
50-HV-00024	CLEARWELLS	BLOWER 2 CHECK VALVE	10	FLAP	FLANGED	150	
60-HV-00015	CLARIFIER	RECYCLE PUMP 1 CHECK VALVE	10	HS	FLANGED	150	
60-HV-00025	CLARIFIER	RECYCLE PUMP 2 CHECK VALVE	10	HS	FLANGED	150	
70-HV-00023	CLEARWELLS	STRUCTURAL UNDERDRAIN PUMP 1 CHECK VALVE	4	HS	FLANGED	150	
70-HV-00033	CLEARWELLS	STRUCTURAL UNDERDRAIN PUMP 2 CHECK VALVE	4	HS	FLANGED	150	
70-HV-00041	CLEARWELLS	CLEARWELL DRAIN PUMP 1 CHECK VALVE	4	HS	FLANGED	150	
70-HV-00051	CLEARWELLS	CLEARWELL DRAIN PUMP 2 CHECK VALVE	4	HS	FLANGED	150	
70-HV-00100	CLEARWELLS	CLEARWELL OVERFLOW CHECK VALVE	30"	FLAP	SLIP IN	NA	
71-HV-00018	CLEARWELLS	BACKWASH PUMP 1 CHECK VALVE	24	CG	FLANGED	150	
71-HV-00024	CLEARWELLS	BACKWASH PUMP 2 CHECK VALVE	24	CG	FLANGED	150	
71-HV-00034	CLEARWELLS	BACKWASH PUMP 3 CHECK VALVE	24	CG	FLANGED	150	
73-HV-00016	CLEARWELLS	PLANT WATER PUMP 1 CHECK VALVE	6	CG	FLANGED	150	
73-HV-00024	CLEARWELLS	PLANT WATER PUMP 2 CHECK VALVE	6	CG	FLANGED	150	
87-HV-00073	FLUORIDE BUILDING	FLUORIDE BUILDING STRUCTURAL UNDERDRAIN CHECK VALVE	8	FLAP	INTERNAL	NA	

NOTES:

1. TYPE: HS = HORIZONTAL SWING; CG = CENTER GUIDED; FLAP = FLAPPER
2. DESIGN PRESSURE FOR VALVE SHALL BE THE SAME AS THE TEST PRESSURE LISTED IN THE PIPE SCHEDULE.
3. REFER TO PIPE SCHEDULE AND CIVIL / MECHANICAL DRAWINGS TO DETERMINE VALVE MATERIAL.

Brown AND Caldwell

SCALE:

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: A.JONES
DRAWN BY: R.FULK
CHECKED BY: J.HESBY
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

NO.	DATE	REVISIONS	MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	AJ	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

EQUIPMENT LIST 2

90% GMP

DRAWING NO.
G-16

PUMP SCHEDULE

TAG NUMBER	LOCATION	PUMP NAME	DESCRIPTION	DRIVER HP	FLOW (GPM)	HEAD (FT)	SERVICE	NOTES
01-P-3005R	SEPTIC SYSTEM	SEPTIC SYSTEM RECIRCULATION PUMP	SUBMERSIBLE	0.8	20	67.0		
01-P-3005D	SEPTIC SYSTEM	SEPTIC SYSTEM DISCHARGE PUMP	SUBMERSIBLE	0.5	30	37.0		
05-P-00010	INFILTRATION GALLERY	INFILTRATION GALLERY PUMP 1	SUBMERSIBLE	6.0	200	157.0	GROUNDWATER	
05-P-00020	INFILTRATION GALLERY	INFILTRATION GALLERY PUMP 2	SUBMERSIBLE	6.0	200	157.0	GROUNDWATER	
20-P-10010	TREATMENT BUILDING	FLASH MIX PUMP 1	VERTICAL TURBINE	15.0	250	139	RAW WATER	
20-P-20010	TREATMENT BUILDING	FLASH MIX PUMP 2	VERTICAL TURBINE	15.0	250	139	RAW WATER	
35-P-00010	TREATMENT BUILDING	RAW WATER SAMPLE PUMP	CENTRIFUGAL	0.8	2	125	RAW WATER	
35-P-00020	TREATMENT BUILDING	COAGULATED WATER SAMPLE PUMP	CENTRIFUGAL	0.8	2	125	COAGULATED WATER	
35-P-00050	TREATMENT BUILDING	TREATMENT BUILDING RECYCLE PUMP 1	SUBMERSIBLE	1.0	50	20	RECYCLE WATER	
35-P-00060	TREATMENT BUILDING	TREATMENT BUILDING RECYCLE PUMP 2	SUBMERSIBLE	1.0	50	20	RECYCLE WATER	
35-P-00090	TREATMENT BUILDING	TREATMENT BUILDING RECYCLE PUMP 3	SUBMERSIBLE	0.4	100	10.0	RECYCLE WATER	Include Mfg, float shutoff requirements
35-P-00100	TREATMENT BUILDING	TREATMENT BUILDING DRAINAGE PUMP 1	SUBMERSIBLE	1.0	25	10	DRAIN WATER	
35-P-00110	TREATMENT BUILDING	TREATMENT BUILDING DRAINAGE PUMP 2	SUBMERSIBLE	1.0	25	10	DRAIN WATER	
50-P-00110	TREATMENT BUILDING	COMBINED FILTERED WATER SAMPLE PUMP	SELF PRIMING CENTRIFUGAL JET	0.75	5	100	FILTERED WATER	Include Mfg, lift requirements
60-P-00010	CLARIFIER	RECYCLE PUMP 1	SUBMERSIBLE	25.0	1275	48.0	RECYCLE WATER	
60-P-00020	CLARIFIER	RECYCLE PUMP 2	SUBMERSIBLE	25.0	1275	48.0	RECYCLE WATER	
70-P-00010	CLEARWELLS	TREATED WATER SAMPLE PUMP	SELF PRIMING CENTRIFUGAL JET	0.75	5	100	FINISHED WATER	Include Mfg, lift requirements
70-P-00020	CLEARWELLS	STRUCTURAL UNDERDRAIN PUMP 1	SUBMERSIBLE	6.0	200	31	GROUNDWATER	
70-P-00030	CLEARWELLS	STRUCTURAL UNDERDRAIN PUMP 2	SUBMERSIBLE	6.0	200	31	GROUNDWATER	
70-P-00040	CLEARWELLS	CLEARWELL DRAIN PUMP 1	CENTRIFUGAL	1.0	50	15.0	TREATED WATER	
70-P-00050	CLEARWELLS	CLEARWELL DRAIN PUMP 2	CENTRIFUGAL	1.0	50	15.0	TREATED WATER	
70-P-00060	CLEARWELLS	CARRIER WATER PUMP 1	SELF PRIMING CENTRIFUGAL JET	2.0	15		TREATED WATER	Include Mfg, lift requirements
70-P-00070	CLEARWELLS	CARRIER WATER PUMP 2	SELF PRIMING CENTRIFUGAL JET	2.0	15		TREATED WATER	Include Mfg, lift requirements
71-P-00010	CLEARWELLS	BACKWASH PUMP 1	VERTICAL TURBINE	100.0	3,000	68	TREATED WATER	
71-P-00020	CLEARWELLS	BACKWASH PUMP 2	VERTICAL TURBINE	100.0	3,000	68	TREATED WATER	
71-P-00030	CLEARWELLS	BACKWASH PUMP 3	VERTICAL TURBINE	100.0	3,000	68	TREATED WATER	
73-P-00010	CLEARWELLS	PLANT WATER PUMP 1	VERTICAL TURBINE	10.0	200	185	TREATED WATER	
73-P-00020	CLEARWELLS	PLANT WATER PUMP 2	VERTICAL TURBINE	10.0	200	185	TREATED WATER	
84-P-00010	TREATMENT BUILDING	NEAT PEA MIXING PUMP	PROGRESSIVE CAVITY	0.5	5	5	POLYMER EMULSION	
84-P-00020	TREATMENT BUILDING	PEA FEED PUMP 1	PERISTALTIC	0.7	69		POLYMER EMULSION	
84-P-00030	TREATMENT BUILDING	PEA FEED PUMP 2	PERISTALTIC	0.7	69		POLYMER EMULSION	
84-P-00040	TREATMENT BUILDING	PEA FEED PUMP 3	PERISTALTIC	0.7	69		POLYMER EMULSION	
84-P-00050	TREATMENT BUILDING	PEA FEED PUMP 4	PERISTALTIC	0.7	69		POLYMER EMULSION	
84-P-00060	TREATMENT BUILDING	PEA FEED PUMP 5	PERISTALTIC	0.7	69		POLYMER EMULSION	
89-P-00010	OPERATIONS BUILDING	SODIUM HYPOCHLORITE TRANSFER PUMP	HORIZONTAL CENTRIFUGAL	2	45	58	SODIUM HYPOCHLORITE SOLUTION	
89-P-00020	OPERATIONS BUILDING	SODIUM HYPOCHLORITE RECIRULATION PUMP 1	HORIZONTAL CENTRIFUGAL	2	45	65	SODIUM HYPOCHLORITE SOLUTION	
89-P-00030	OPERATIONS BUILDING	SODIUM HYPOCHLORITE RECIRULATION PUMP 2	HORIZONTAL CENTRIFUGAL	2	45	65	SODIUM HYPOCHLORITE SOLUTION	
89-P-00040	OPERATIONS BUILDING	SODIUM HYPOCHLORITE RECIRULATION PUMP 3	HORIZONTAL CENTRIFUGAL	2	45	67	SODIUM HYPOCHLORITE SOLUTION	
89-P-00050	OPERATIONS BUILDING	SODIUM HYPOCHLORITE RECIRULATION PUMP 4	HORIZONTAL CENTRIFUGAL	2	45	67	SODIUM HYPOCHLORITE SOLUTION	
89-P-00060	TREATMENT BUILDING	SH FEED PUMP 1	PERISTALTIC	0.2	0.6		SODIUM HYPOCHLORITE SOLUTION	
89-P-00070	TREATMENT BUILDING	SH FEED PUMP 2	PERISTALTIC	0.2	0.6		SODIUM HYPOCHLORITE SOLUTION	
89-P-00080	TREATMENT BUILDING	SH FEED PUMP 3	PERISTALTIC	0.2	0.5		SODIUM HYPOCHLORITE SOLUTION	
89-P-00090	TREATMENT BUILDING	SH FEED PUMP 4	PERISTALTIC	0.2	0.6		SODIUM HYPOCHLORITE SOLUTION	
89-P-00100	TREATMENT BUILDING	SH FEED PUMP 5	PERISTALTIC	0.2	0.6		SODIUM HYPOCHLORITE SOLUTION	
89-P-00110	TREATMENT BUILDING	SH FEED PUMP 6	PERISTALTIC	0.2	0.5		SODIUM HYPOCHLORITE SOLUTION	

HEAVY-DUTY FABRICATED STAINLESS STEEL SLIDE GATE SCHEDULE

TAG NUMBER	LOCATION	DESCRIPTION	OPENING SIZE W X H (INCHES)	WALL OPENING SHAPE	GATE OPENING DIRECTION	TYPE OF CLOSURE (1)	GATE DESIGN PRESSURE (2)		GATE MOUNTING (3)	TYPE OF FRAME (4)	STEM TYPE (5)	TYPE OF OPERATOR (6)	MINIMUM GATE TRAVEL (INCH)
							SEATING (FEET)	UNSEATING (FEET)					
50-GT-10010	TREATMENT BUILDING	FILTER INLET OVERFLOW WEIR BYPASS GATE	24 X 24	RECTANGULAR	UPWARD	FB			FM	SC	RS	MO	
70-GT-00010	CLEARWELLS	BACKWASH PUMP STATION INLET WEIR GATE	12 X 36	RECTANGULAR	DOWN	DO			FM	NSC	RS	MOD	
70-GT-00020	CLEARWELLS	FINISHED WATER GATE 1	12 X 12	RECTANGULAR	UPWARD	FB			FM	NSC	RS	HW	
70-GT-00030	CLEARWELLS	FINISHED WATER GATE 2	12 X 12	RECTANGULAR	UPWARD	FB			FM	NSC	RS	HW	

Notes:

(1) Closure: DO = Downward Opening; FB = Flush Bottom; STD = Standard. See Typical Details P718 and P720 for additional installation details.

(2) Gate design pressure applied at centerline of gate.

(3) Mounting: FM = Face Mounted; EC = Inside Existing Channel; EMB = Embedded; SP = Spigot back; FWT = "F" Wall Thimble; EWT = "E" Wall Thimble; See Typical Details P716 and P717 for additional installation details.

(4) Frame: SC = Self-Contained; NSC = Non-Self Contained; F = Flatback; FL = Flange back.

(5) Stem: RS = Rising Stem; NRS = Non-Rising Stem.

(6) O r r: CO = H d r r r 2- AWWA r r r r HW = H d HC = H d r MO = M r O r r MOD = M d M r O r r HO = H dr O r r

MHO = M H dr O r r (H d P) BS = B S d FS = F r S d IFS = I r F r S d PS = P d S r .

SCALE:

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: A.JONES
DRAWN BY: R.FULK
CHECKED BY: J.HESBY
APPROVED BY: S.BRENCHLEY
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SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

EQUIPMENT LIST 3

90% GMP

DRAWING NO.
G-17

Brown AND Caldwell

MISC. EQUIPMENT SCHEDULE

TAG NUMBER	LOCATION	DESCRIPTION	DRIVER HP	CAPACITY	NOTES
30-MX-11010	TREATMENT BUILDING	FLOCCULATOR 1A	3	-	
30-MX-11020	TREATMENT BUILDING	FLOCCULATOR 1B	3	-	
30-MX-12010	TREATMENT BUILDING	FLOCCULATOR 2A	1	-	
30-MX-12020	TREATMENT BUILDING	FLOCCULATOR 2B	1	-	
30-MX-13010	TREATMENT BUILDING	FLOCCULATOR 3A	1	-	
30-MX-13020	TREATMENT BUILDING	FLOCCULATOR 3B	1	-	
30-MX-21010	TREATMENT BUILDING	FLOCCULATOR 1A	3	-	
30-MX-21020	TREATMENT BUILDING	FLOCCULATOR 1B	3	-	
30-MX-22010	TREATMENT BUILDING	FLOCCULATOR 2A	1	-	
30-MX-22020	TREATMENT BUILDING	FLOCCULATOR 2B	1	-	
30-MX-23010	TREATMENT BUILDING	FLOCCULATOR 3A	1	-	
30-MX-23020	TREATMENT BUILDING	FLOCCULATOR 3B	1	-	
40-COL-10010	TREATMENT BUILDING	SOLIDS COLLECTOR 1A	-	200 GPM	
40-COL-10010A	TREATMENT BUILDING	SOLIDS COLLECTOR DRIVE 1A	0.25	-	
40-COL-10020	TREATMENT BUILDING	SOLIDS COLLECTOR 1B	-	200 GPM	
40-COL-10020B	TREATMENT BUILDING	SOLIDS COLLECTOR DRIVE 1B	0.25	-	
40-COL-20010	TREATMENT BUILDING	SOLIDS COLLECTOR 2A	-	200 GPM	
40-COL-20010A	TREATMENT BUILDING	SOLIDS COLLECTOR DRIVE 2A	0.25	-	
40-COL-20020	TREATMENT BUILDING	SOLIDS COLLECTOR 2B	-	200 GPM	
40-COL-20020B	TREATMENT BUILDING	SOLIDS COLLECTOR DRIVE 2B	0.25	-	
84-BLND-10010	TREATMENT BUILDING	POLYMER BLENDING UNIT 1	*PENDING	*PENDING	
84-BLND-20010	TREATMENT BUILDING	POLYMER BLENDING UNIT 2	*PENDING	*PENDING	
50-B-00010	CLEARWELL	BLOWER 1	100	1,560 SCFM	
50-B-00020	CLEARWELL	BLOWER 2	100	1,560 SCFM	
60-CL-00013	CLARIFIER	CLARIFIER RAKE MECHANISM	1		

METER SCHEDULE

TAG NUMBER	LOCATION	DESCRIPTION	TYPE	SIZE (IN)	ENDS	FLOW (GPM)	NOTES
20-FE-00020	TREATMENT BUILDING	FLASH MIX FLOW METER	MAGNETIC	4	FLANGED	1,000	
35-FE-10011	TREATMENT BUILDING	RAW WATER FLOW METER 1	MAGNETIC	24	FLANGED	6,150	
35-FE-20011	TREATMENT BUILDING	RAW WATER FLOW METER 2	MAGNETIC	24	FLANGED	6,150	
35-FE-00011	TREATMENT BUILDING	RECYCLED WATER FLOW METER	MAGNETIC	8	FLANGED	1,500	
40-FE-00012	TREATMENT BUILDING	SOLIDS FLOW METER	MAGNETIC	10	FLANGED	1,000	
35-FE-00018	TREATMENT BUILDING	MASTER BACKWASH FLOW METER	MAGNETIC	Q	FLANGED	7,500	
50-FE-10010	TREATMENT BUILDING	FILTER 1 FLOW METER	MAGNETIC	14	FLANGED	2,500	
50-FE-20010	TREATMENT BUILDING	FILTER 2 FLOW METER	MAGNETIC	14	FLANGED	2,500	
50-FE-30010	TREATMENT BUILDING	FILTER 3 FLOW METER	MAGNETIC	14	FLANGED	2,500	
50-FE-40010	TREATMENT BUILDING	FILTER 4 FLOW METER	MAGNETIC	14	FLANGED	2,500	
50-FE-50010	TREATMENT BUILDING	FILTER 5 FLOW METER	MAGNETIC	14	FLANGED	2,500	
50-FE-60010	TREATMENT BUILDING	FILTER 6 FLOW METER	MAGNETIC	14	FLANGED	2,500	
50-FE-00020	TREATMENT BUILDING	FILTER TO WASTE FLOW METER	MAGNETIC	14	FLANGED	2,500	
70-FE-00010	CLEARWELL	FINISHED WATER FLOW METER 1	MAGNETIC	24	FLANGED	12,222	
70-FE-00020	CLEARWELL	FINISHED WATER FLOW METER 2	MAGNETIC	24	FLANGED	12,222	
84-FE-00015	TREATMENT BUILDING	PEA FEED FLOW METER 1	MAGNETIC	1	FLANGED	0.2	
84-FE-00042	TREATMENT BUILDING	PEA FEED FLOW METER 2	MAGNETIC	1	FLANGED	0.9	
84-FE-00052	TREATMENT BUILDING	PEA FEED FLOW METER 3	MAGNETIC	1	FLANGED	0.3	
84-FE-00062	TREATMENT BUILDING	PEA FEED FLOW METER 4	MAGNETIC	1	FLANGED	0.2	

TANK SCHEDULE

TAG NUMBER	LOCATION	DESCRIPTION	MATERIAL	TYPE	DIMENSION (DIA x LENGTH)	APPROX. VOLUME (GAL)	NOTES
84-T-00020	TREATMENT BUILDING	PEA BATCH DAY TANK	HDPE	VERTICAL	3 FT X 5.5 FT	275	
89-T-00010	OPERATIONS BUILDING	SODIUM HYPOCHLORITE DAY TANK 1	XLPE	VERTICAL	4 FT X 7 FT	545	
89-T-00020	OPERATIONS BUILDING	SODIUM HYPOCHLORITE DAY TANK 2	XLPE	VERTICAL	5 FT X 7 FT	545	

SCALE:

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: A.JONES
DRAWN BY: R.FULK
CHECKED BY: J.HESBY
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	AJ	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

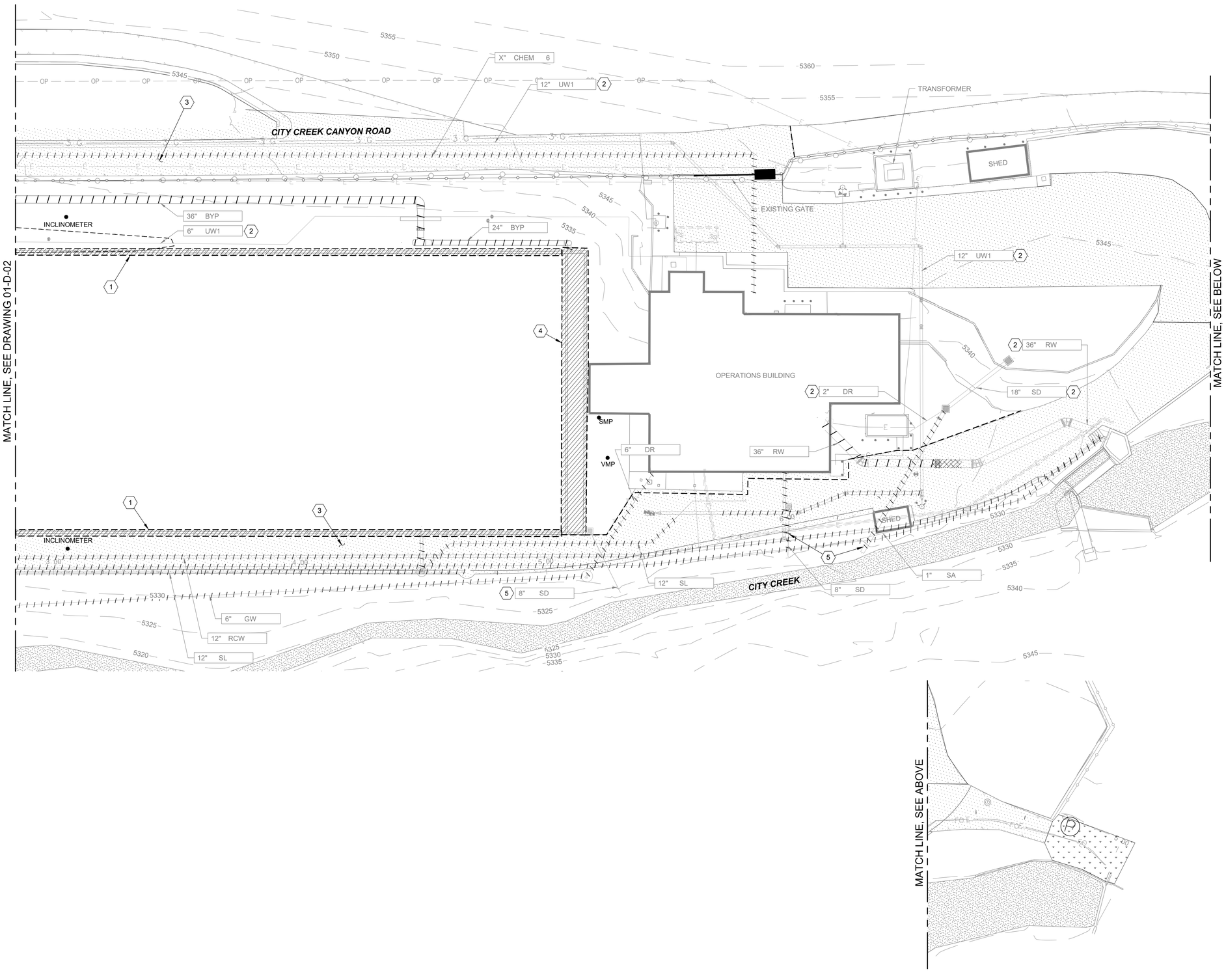
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

EQUIPMENT LIST 4

90% GMP

DRAWING NO.
G-18

Brown AND Caldwell



N

10 0 20 40

SCALE IN FEET

GENERAL NOTES

1. PRIOR TO DEMOLITION ACTIVITIES SEE 01 12 16 WORK SEQUENCE.
2. FOR ADDITIONAL REQUIREMENTS SEE 02 41 00 AND 31 10 00 SITE CLEARING.
3. SEE GRADING SECTIONS 01-C-06 THROUGH 01-C-08 FOR ADDITIONAL INFORMATION TO DEVELOP CONTRACTORS INTEGRATED EXCAVATION PLAN 31 00 10 (IEP).
4. MAINTAIN PREVIOUSLY INSTALLED MONITORING INSTRUMENTS WITH EARLY WORKS PACKAGE.
5. VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES. POTHOLE AND VERIFY UNDERGROUND PIPES AND UTILITIES.

KEY NOTES

1. EXTERIOR WALL AND SHORING SYSTEMS OF EXISTING TREATMENT BASINS WILL REMAIN IN PLACE. CUT WALLS AND BRACING A MAXIMUM OF 5' BELOW FINISHED GRADE UPON COMPLETION OF TREATMENT BUILDING.
2. PIPE TO REMAIN IN SERVICE. PROTECT IN-PLACE.
3. REMOVE PAVEMENT. MAINTAIN SURFACE WITH PAVEMENT PATCH OR GRAVEL AS REQUIRED BY SWPPP UNTIL FINAL RESTORATION, SEE AREA SITE PLANS 1 THRU 4.
4. PROVIDE DEMOLITION PLAN FOR REMOVAL OF RAW WATER CHANNEL STRUCTURE AND ASSOCIATED STRUCTURES AD ACENT TO OPERATIONS BUILDING INCLUDING CONSTRUCTION OF BREE E WAY.
5. REMOVE PIPE OUTLETS DISCHARGING TO CREEK.

SHEET LEGEND

DEMOLITION:

- PAVEMENT REMOVAL
- FACILITY OR STRUCTURE DEMO
- PIPE DEMO
- CLEARING AND GRUBBING
- SAWCUT

SETTLEMENT MONITORING:

- EXISTING ●
- PROPOSED ○
- VMP - VIBRATION MONITORING POINT
- SMP - SETTLEMENT MONITORING POINT

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: P.SCHUHEN
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO: 512260079

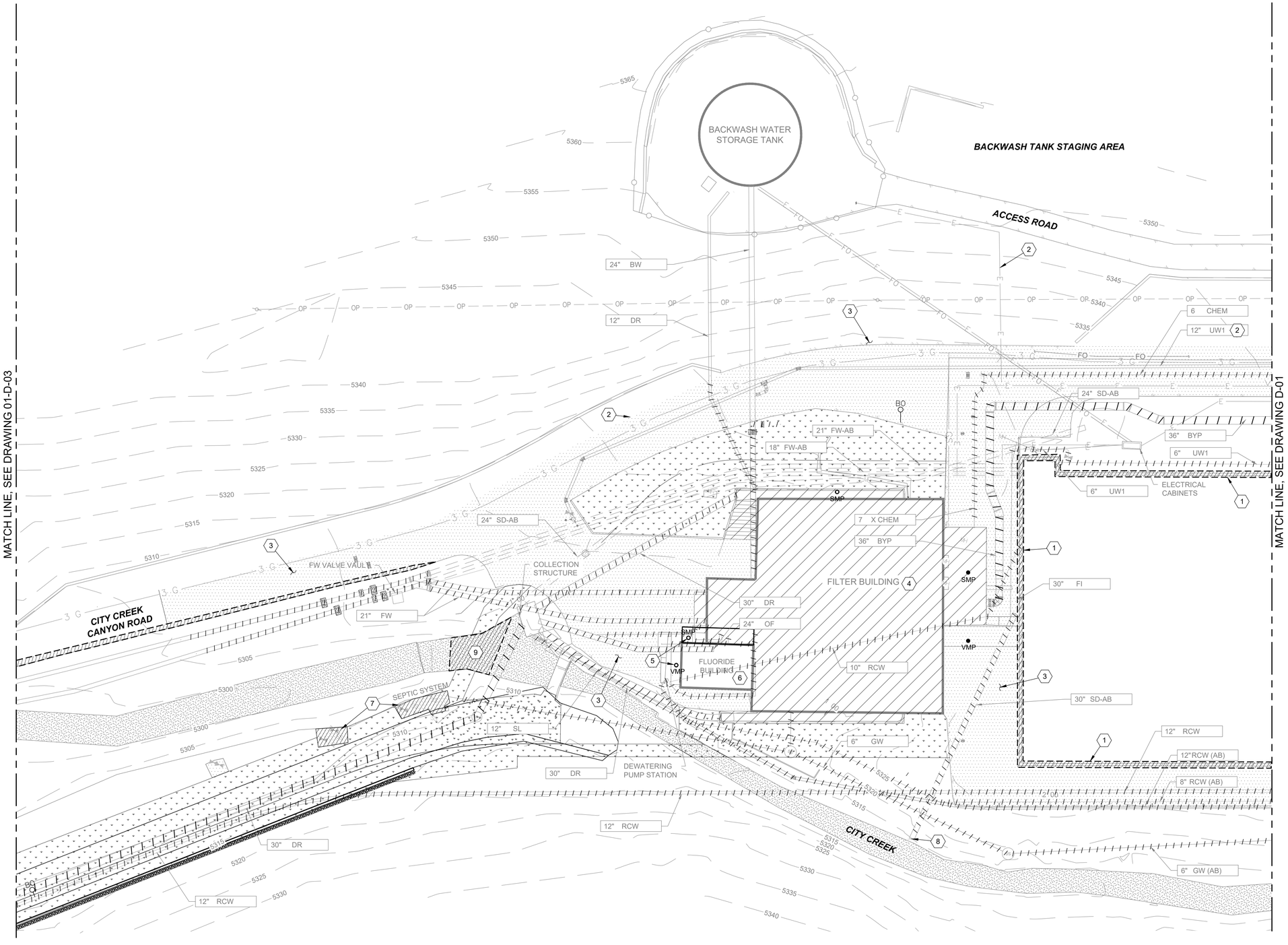
NO.	DATE	REVISIONS	MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

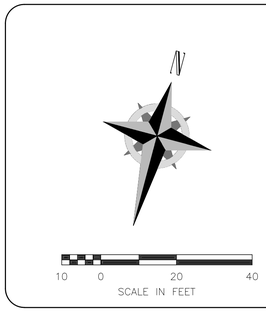
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

EXISTING CONDITIONS & DEMOLITION PLAN – AREA 1

90% GMP

DRAWING NO.
01-D-01





GENERAL NOTES

1. PRIOR TO DEMOLITION ACTIVITIES SEE 01 12 16 WORK SEQUENCE
2. FOR ADDITIONAL REQUIREMENTS SEE 02 41 00 DEMOLITION AND 31 10 00 SITE CLEARING.
3. SEE GRADING SECTIONS 01-C-06 THROUGH 01-C-08 FOR ADDITIONAL INFORMATION TO DEVELOP CONTRACTORS INTEGRATED EXCAVATION PLAN 31 00 10 (IEP).
4. MAINTAIN PREVIOUSLY INSTALL MONITORING INSTRUMENTS INSTALLED WITH EARLY WORKS PACKAGE.
5. DEMOLITION OF EXISTING FILTER BUILDING INCLUDE ALL ITEMS WITHIN THE STRUCTURE AND ASSOCIATED PROCESS PIPES AND UTILITIES OUTSIDE THE STRUCTURE SERVING THE FILTER BUILDING.
6. VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINING ANY CONSTRUCTION ACTIVITIES. POTHOLE AND VERIFY UNDERGROUND PIPES AND UTILITIES.

KEY NOTES

1. EXTERIOR WALL AND SHORING SYSTEMS OF EXISTING TREATMENT BASINS WILL REMAIN IN PLACE. CUT WALLS AND BRACING A MAXIMUM OF 5' BELOW FINISHED GRADE UPON COMPLETION OF TREATMENT BUILDING.
2. PIPE TO REMAIN IN SERVICE. PROTECT IN PLACE.
3. REMOVE PAVEMENT, MAINTAIN SURFACE WITH PAVEMENT PATCH OR GRAVEL AS REQUIRED BY SWPPP UNTIL FINAL RESTORATION, SEE AREA SITE PLANS 1 THROUGH 4.
4. PROVIDE DEMOLITION PLAN FOR REMOVAL OF FILTER BUILDING.
5. PROVIDE VIBRATION AND SETTLEMENT MONITORING
6. PROTECT FLUORIDE BUILDING DURING DEMOLITION OF FILTER BUILDING. PROVIDE PROTECTIVE MEASURE IN DEMOLITION PLAN.
7. PRIOR TO DEMOLITION OF SEPTIC TANK INSTALL NEW SEPTIC TANK SYSTEM.
8. REMOVE PIPE OUTLETS DISCHARGING TO CREEK.
9. REMOVE CONCRETE CAP OVER CREEK

SHEET LEGEND

DEMOLITION:

- PAVEMENT REMOVAL
- FACILITY OR STRUCTURE DEMO
- PIPE DEMO
- CLEARING AND GRUBBING
- SAWCUT

SETTLEMENT MONITORING:

- EXISTING ●
- PROPOSED ○
- VMP - VIBRATION MONITORING POINT
- SMP - SETTLEMENT MONITORING POINT

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: P.SCHUHEN
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO: 512260079

NO.	DATE	REVISIONS	MADE BY	AUTH. BY
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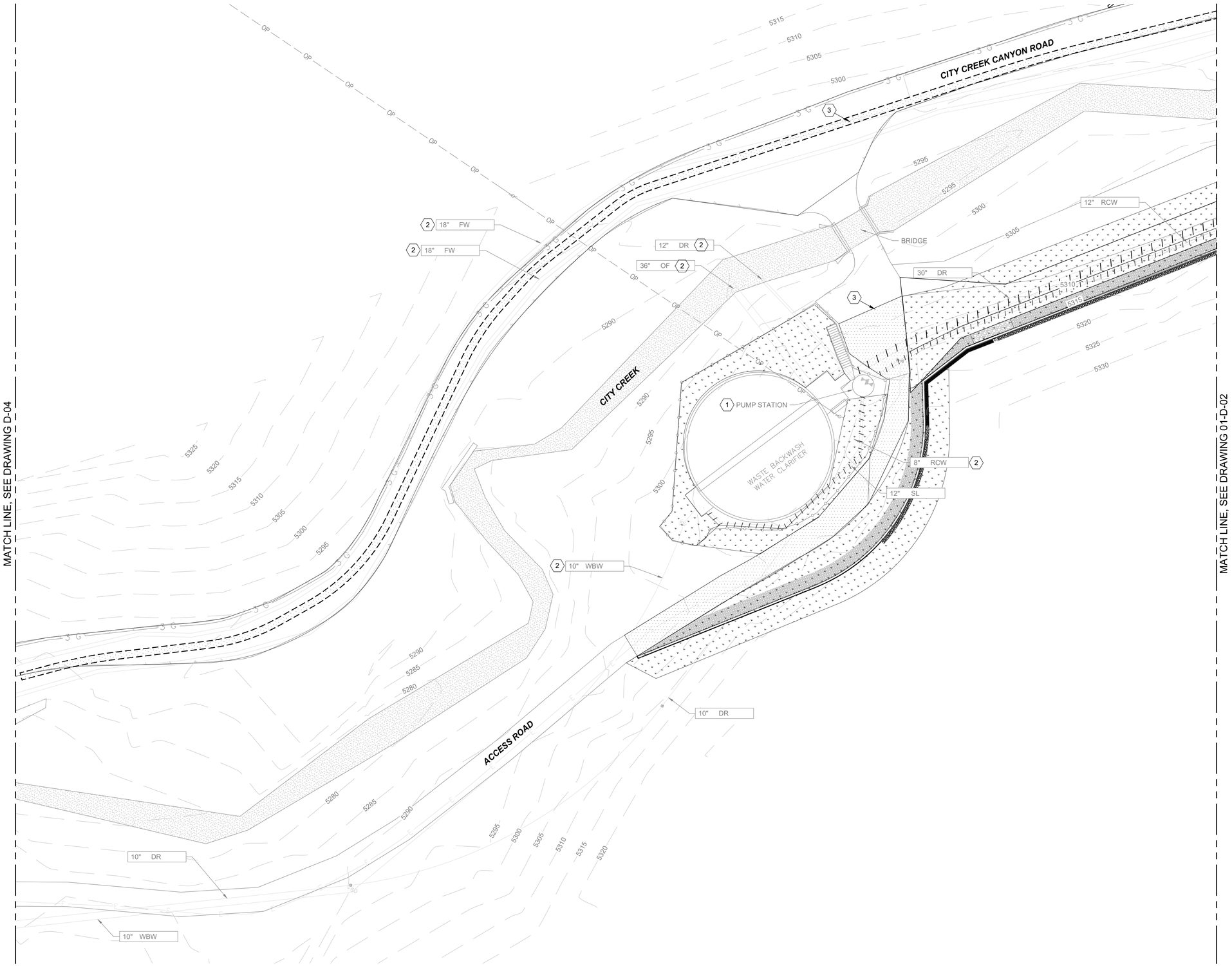
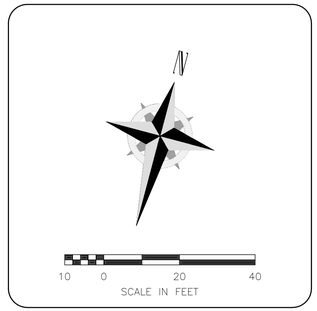
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

EXISTING CONDITIONS & DEMOLITION PLAN – AREA 2

90% GMP

DRAWING NO.
01-D-02





GENERAL NOTES

1. PRIOR TO DEMOLITION ACTIVITIES SEE 01 12 16 WORK SEQUENCE
2. FOR ADDITIONAL REQUIREMENTS SEE 02 41 00 DEMOLITION AND 31 10 00 SITE CLEARING.
3. VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINING ANY CONSTRUCTION ACTIVITIES. POTHOLE AND VERIFY UNDERGROUND PIPES AND UTILITIES.

⬡ KEY NOTES

1. SEE MECHANICAL FOR REMOVAL AND REPLACEMENT OF EQUIPMENT AND MODIFICATIONS OF PUMP STATION.
2. PIPE TO REMAIN IN SERVICE. PROTECT IN PLACE.
3. REMOVE PAVEMENT. MAINTAIN SURFACE WITH PAVEMENT PATCH OR GRAVEL AS REQUIRED BY SWPPP UNTIL FINAL RESTORATION, SEE AREA SITE PLANS 1 THROUGH 4.

SHEET LEGEND

DEMOLITION:

- PAVEMENT REMOVAL
- FACILITY OR STRUCTURE DEMO
- PIPE DEMO
- CLEARING AND GRUBBING
- SAWCUT

Brown AND Caldwell

SCALE:

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: P.SCHUHEN
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

NO.	DATE	REVISIONS	MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

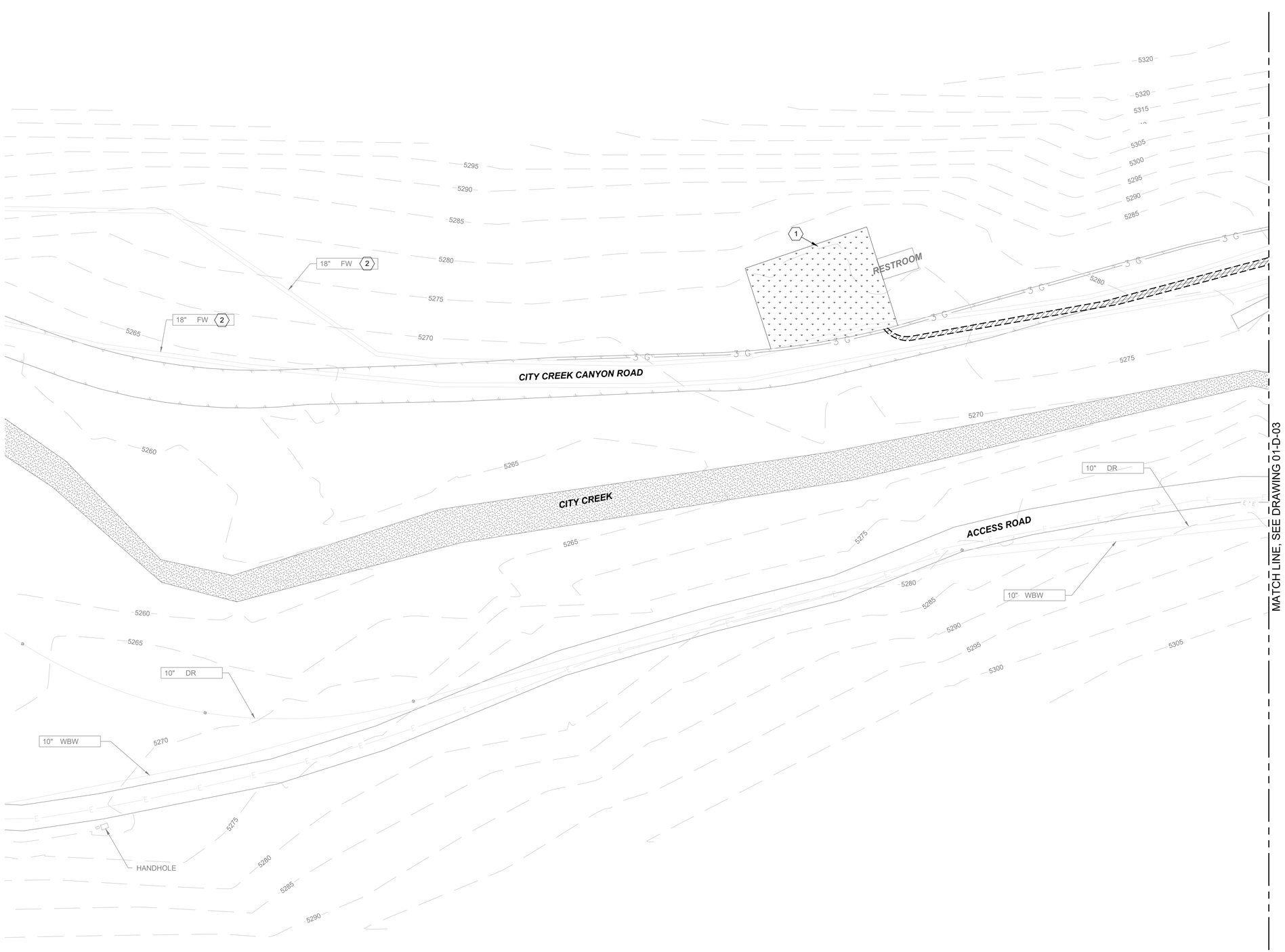
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

EXISTING CONDITIONS & DEMOLITION PLAN – AREA 3

90% GMP

DRAWING NO.
01-D-03



N

10 0 20 40

SCALE IN FEET

GENERAL NOTES

1. PRIOR TO DEMOLITION ACTIVITIES SEE 01 12 16 WORK SEQUENCE
2. FOR ADDITIONAL REQUIREMENTS SEE 02 41 00 DEMOLITION AND 31 10 00 SITE CLEARING.
3. VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINING ANY CONSTRUCTION ACTIVITIES. POTHOLE AND VERIFY UNDERGROUND PIPES AND UTILITIES.

KEY NOTES

1. REMOVE STOCK PILE OF ROCK MATERIAL TO EXISTING GRADE ELEVATIONS PRIOR TO CONSTRUCTING SEPTIC DRAIN FIELD.
2. PIPE TO REMAIN IN SERVICE. PROTECT IN PLACE.
3. REMOVE PAVEMENT. MAINTAIN SURFACE WITH PAVEMENT PATCH OR GRAVEL AS REQUIRED BY SWPPP UNTIL FINAL RESTORATION, SEE AREA SITE PLANS 1 THROUGH 4.

SHEET LEGEND

DEMOLITION:

- PAVEMENT REMOVAL
- FACILITY OR STRUCTURE DEMO
- PIPE DEMO
- CLEARING AND GRUBBING
- SAWCUT

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: P.SCHUHEN
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO: 512260079

NO.	DATE	REVISIONS	MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

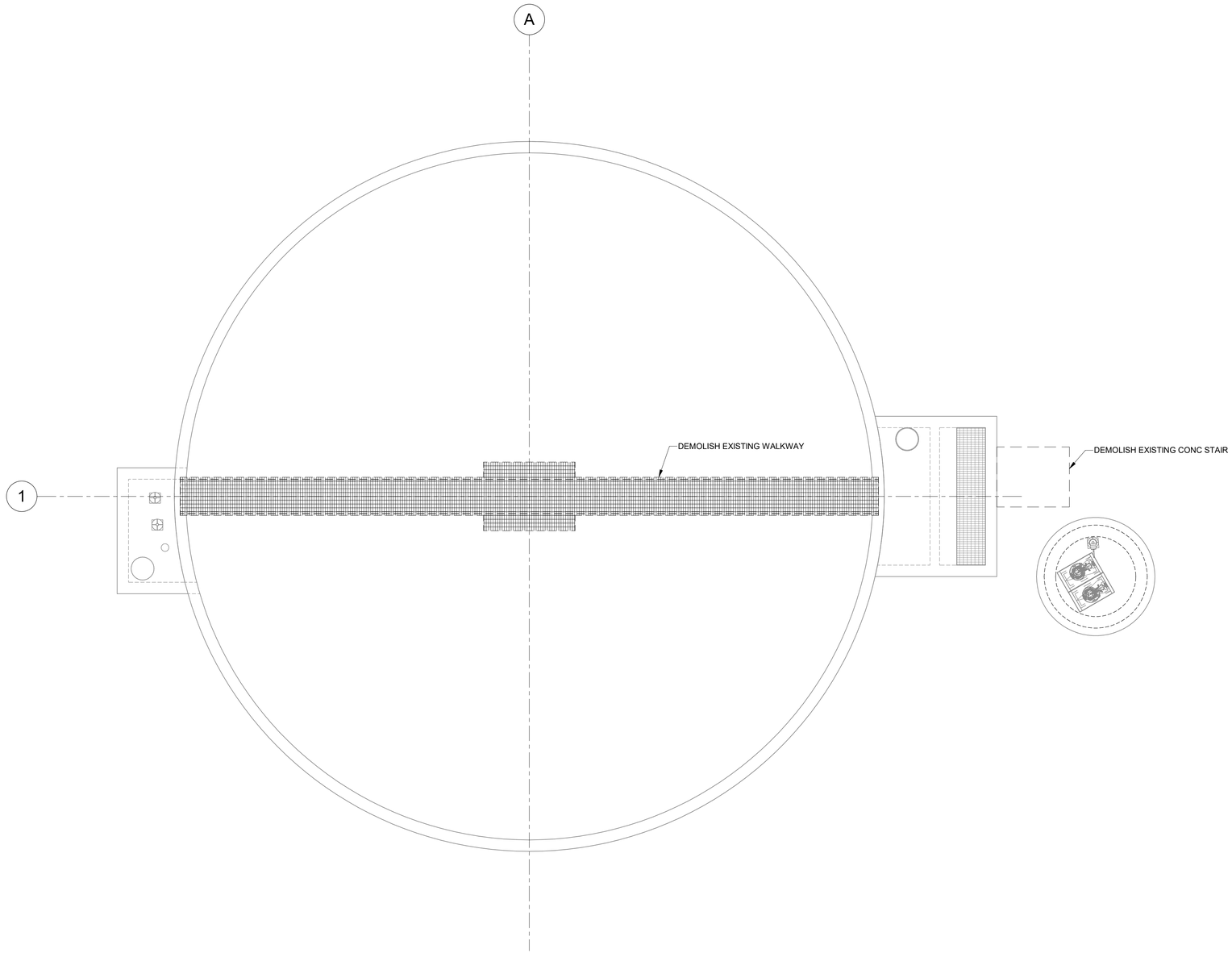
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

EXISTING CONDITIONS & DEMOLITION PLAN – AREA 4

90% GMP

DRAWING NO.
01-D-04



PLAN
SCALE: 3/16" = 1'-0"

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C. HAWKES
DRAWN BY: S. SHEPHERD
CHECKED BY: J. HARPER
APPROVED BY: C. PRICE
DATE: JUNE 2024
EWO NO. --
ACCOUNT NO. 512260079

REVISIONS

NO.	DATE:		MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	CH	CP

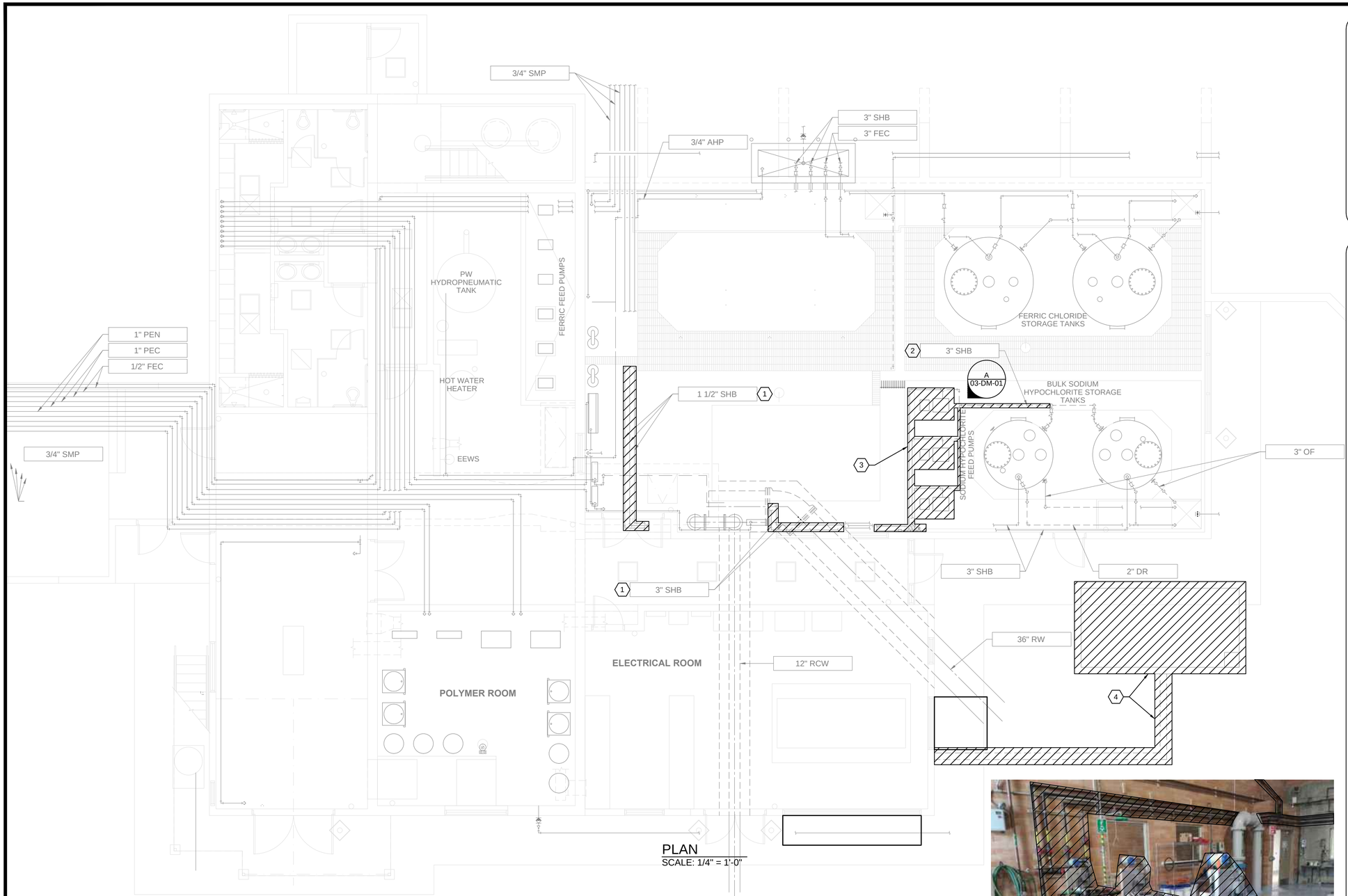
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

CLARIFIER - DEMOLITION PLAN

90% GMP

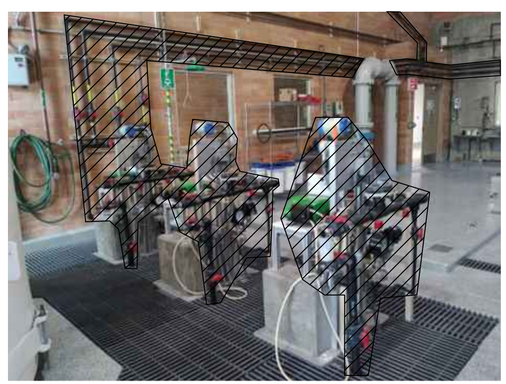
DRAWING NO.
60-DS-01

REAVELEY Engineers
675 East 500 South, Suite 400
Salt Lake City, UT 84102
P 801 486 3883
F 801 485 0911
www.reaveley.com



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

PLAN
SCALE: 3/16"=1'-0"



A 03-DM-01 SODIUM HYPOCHLORITE PIPING AND PUMP DEMO
SCALE: NTS

GENERAL NOTES:

KEYNOTES:

1 REMOVE EXISTING SODIUM HYPOCHLORITE PIPING FROM PUMPS TO DOSING LOCATIONS NEAR PARSHALL FLUME AND TO EXISTING FILTER BUILDING.

2 REMOVE EXISTING SODIUM HYPOCHLORITE FEED PIPING FROM TANK TO PUMPS. CAP REMAINING TANK PIPING WITH PVC BLIND FLANGES AS REQUIRED.

3 REMOVE EXISTING FEED PUMPS, STANDS, AND ASSOCIATED APPURTENACES. SALVAGE PUMPS TO OWNER.

4 DEMOLITION OF EXISTING DIESEL STORAGE TANK, CONTAINMENT AREA AND PIPING RUNNING FROM THE TANK TO THE OPERATIONS BUILDING SHALL BE PERFORMED IN ACCORDANCE WITH 02 41 00.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: A.JONES
DRAWN BY: R.FULK
CHECKED BY: J.HESBY
APPROVED BY: J.HESBY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

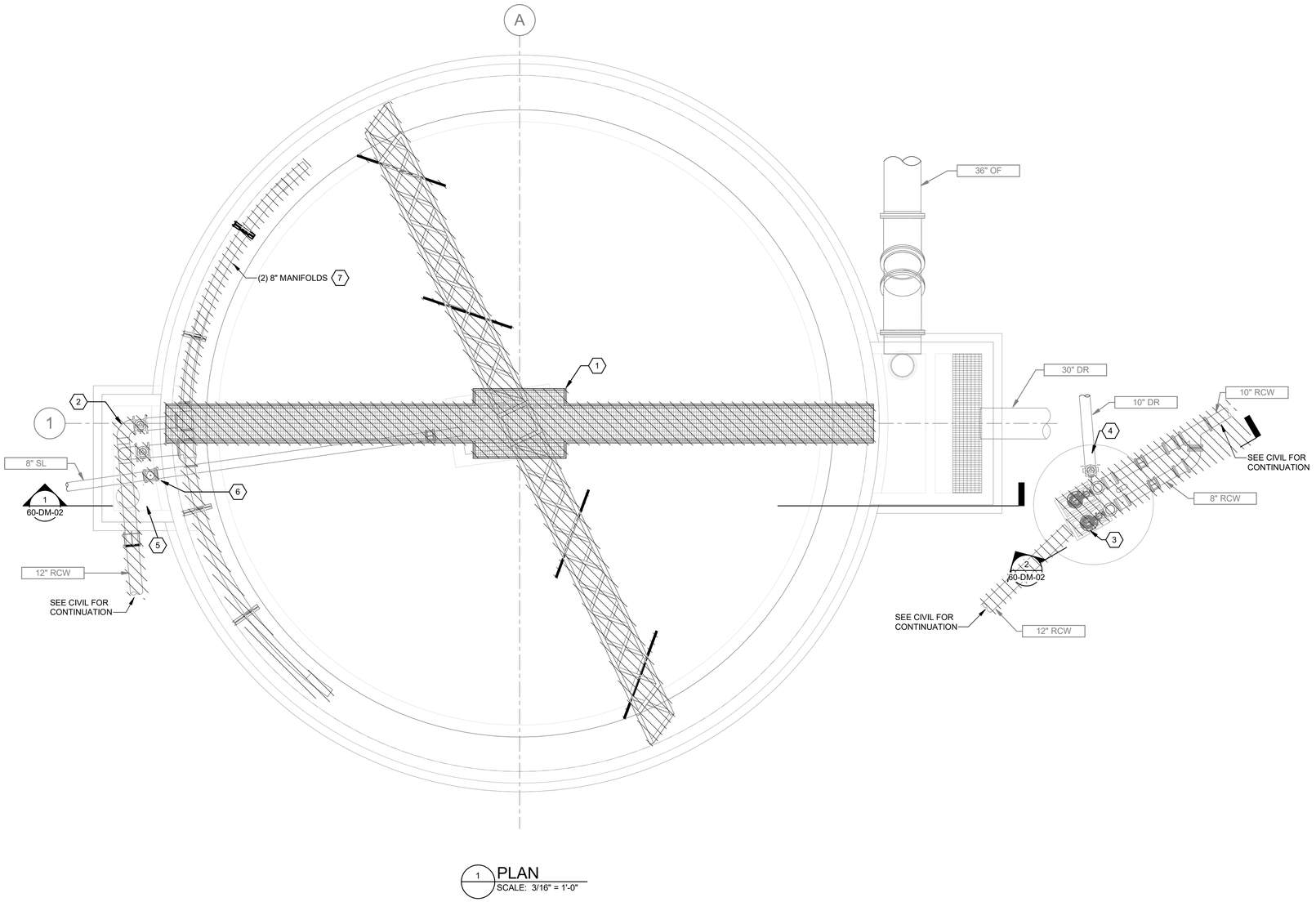
NO.	DATE	REVISIONS	MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	AJ	JH

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

OPERATIONS – LOWER DEMOLITION PLAN

90% GMP

DRAWING NO.
03-DM-01



1 PLAN
SCALE: 3/16" = 1'-0"

N

GENERAL NOTES:

1. FIELD VERIFY ALL DIMENSIONS AND FITTINGS. PROVIDE ALL FITTINGS, WHETHER SHOWN OR NOT.

KEYNOTES:

1 REMOVE AND REPLACE BRIDGE, CLARIFIER DRIVE, AND CLARIFIER MECHANISM PER SPECIFICATIONS. BRIDGE ELEVATION SHALL ACCOMMODATE DOME TENSION RING AND HAVE AN INTEGRATED STEP. COORDINATE WITH DOME MANUFACTURER. PROVIDE MINIMUM 7 INCHES ABOVE CLARIFIER TOP OF CONCRETE.

2 REMOVE EXISTING RECYCLED WATER VALVES, ACTUATORS, AND PIPING INSIDE VALVE BOX AND REPLACE PER PIPE AND VALVE SCHEDULES. PROTECT 8" SOLIDS LINE IN PLACE.

3 REMOVE RECYCLED WATER PUMPS, VALVES, AND PIPING. REPLACE PUMPS PER SPECIFICATIONS AND PIPING AND VALVES PER PIPE AND VALVE SCHEDULES. REPLACE ALL LIFTING GUIDES, CHAINS, AND CONNECTIONS WITH THE PUMPS. PROTECT PUMP WELL AND DRAIN LINE IN PLACE.

4 INSPECT PUMP WELL DRAIN LINE FOR PLUG. IF NOT PLUGGED, PLUG PIPE PER DETAIL M13200.

5 REPLACE OUTLET VALVE BOX SUMP PUMP (IN KIND). RECONNECT PUMP DISCHARGE TO EXISTING DISCHARGE PIPING.

6 REMOVE SOLIDS LINE VALVE AND ACTUATOR. REPLACE VALVE AND ACTUATOR ACCORDING TO THE VALVE SCHEDULE USING A VALVE OF THE SAME LAY LENGTH AS THE EXISTING VALVE.

7 REMOVE AND REPLACE MANIFOLDS WITH NEW MANIFOLDS. NEW MANIFOLDS SHALL HAVE 50, 2-INCH DIAMETER HOLES SPACED 12-INCHES ON CENTER. HOLES SHALL BE LOCATED 30 DEGREES BELOW THE CENTERLINE OF THE PIPE ON THE SIDE OPPOSITE OF THE TANK WALL. NO HOLES SHALL BE LOCATED WITHIN 3 FEET, EITHER SIDE, OF THE TEE CONNECTING THE MANIFOLD TO THE RECYCLED WATER PIPING IN THE VALVE BOX.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: A.STOUDT
DRAWN BY: R.PERSHING
CHECKED BY:
APPROVED BY:
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO. 512260079

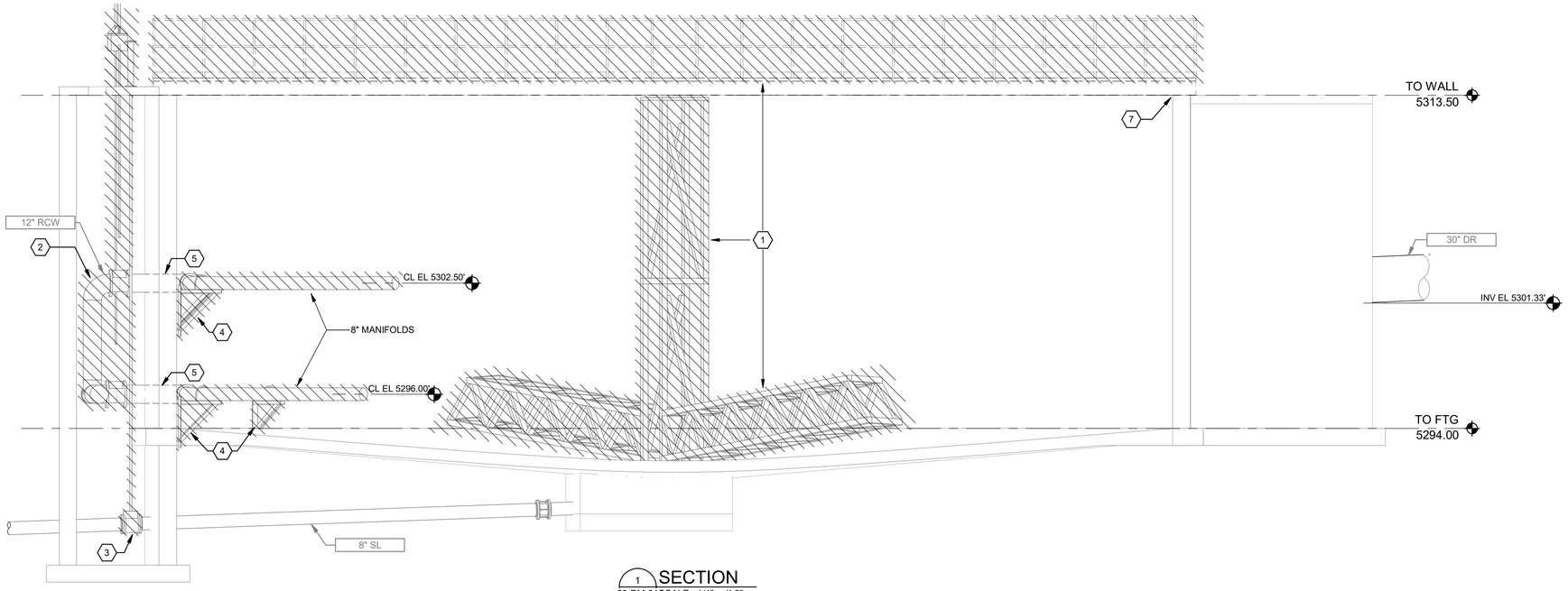
NO.	DATE:	REVISIONS	MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	AJ	JH

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

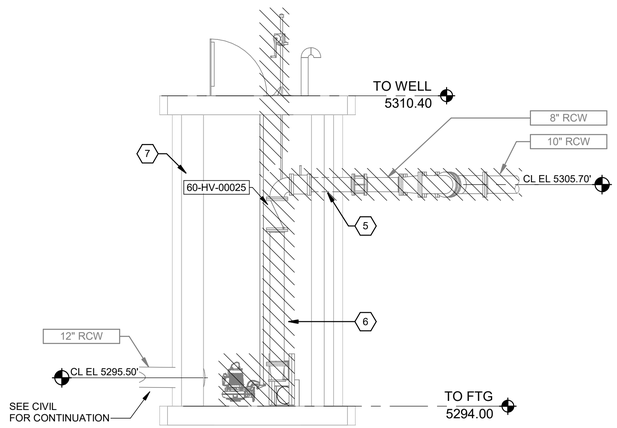
CLARIFIER - DEMOLITION PLAN

90% GMP

DRAWING NO.
60-DM-01



1 SECTION
60-DM-01 SCALE: 1/4" = 1'-0"



2 SECTION
60-DM-01 SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. FIELD VERIFY ALL DIMENSIONS AND FITTINGS. PROVIDE ALL FITTINGS, WHETHER SHOWN OR NOT.

KEYNOTES:

1 REMOVE AND REPLACE BRIDGE, CLARIFIER DRIVE, AND CLARIFIER MECHANISM PER SPECIFICATIONS. BRIDGE ELEVATION SHALL ACCOMMODATE DOME TENSION RING AND HAVE AN INTEGRATED STEP. COORDINATE WITH DOME MANUFACTURER. PROVIDE MINIMUM 7 INCHES ABOVE CLARIFIER TOP OF CONCRETE.

2 REMOVE EXISTING RECYCLED WATER VALVES, ACTUATORS, AND PIPING INSIDE VALVE BOX AND REPLACE PER PIPE AND VALVE SCHEDULES. PROTECT 8" SOLIDS LINE IN PLACE.

3 REMOVE SOLIDS LINE VALVE AND ACTUATOR. REPLACE VALVE AND ACTUATOR ACCORDING TO THE VALVE SCHEDULE USING A VALVE OF THE SAME LAY LENGTH AS THE EXISTING VALVE.

4 PROVIDE PIPE SUPPORTS, INCLUDING PROFESSIONAL ENGINEERING SERVICES FOR DESIGN AND INSPECTION, FOR ALL NEW PIPING PER SPECIFICATIONS.

5 REUSE EXISTING WALL THIMBLES. DISCONNECT PIPING TO BE REPLACED AT FLANGES CLOSEST TO THE WALL ON BOTH SIDES. REHABILITATE WALL THIMBLES IN PLACE.

6 REMOVE RECYCLED WATER PUMPS, VALVES, AND PIPING. REPLACE PUMPS PER SPECIFICATIONS AND PIPING AND VALVES PER PIPE AND VALVE SCHEDULES. REPLACE ALL LIFTING GUIDES, CHAINS, AND CONNECTIONS WITH THE PUMPS. PROTECT PUMP WELL AND DRAIN LINE IN PLACE.

7 REMOVE AND REPLACE CLARIFIER LEVEL SENSOR AND PUMP LEVEL SWITCHES PER P&ID'S.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: A.STOUDT
DRAWN BY: R.PERSHING
CHECKED BY:
APPROVED BY:
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO. 512260079

REVISIONS

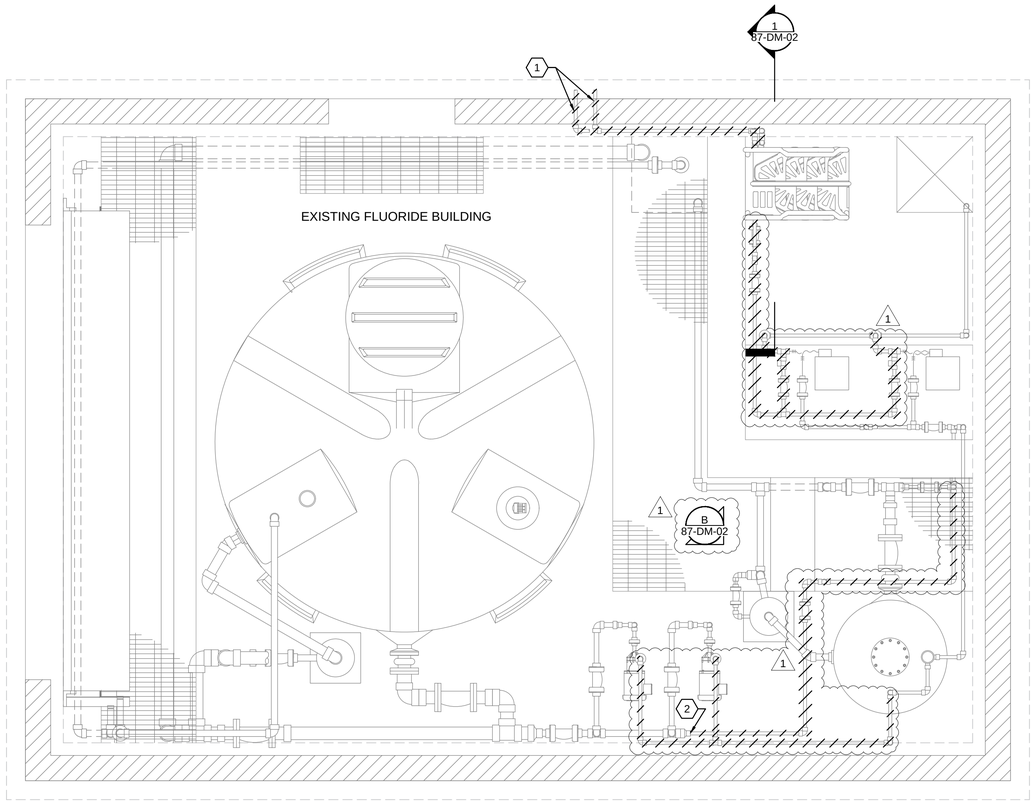
NO.	DATE:		MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	AJ	JH

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

CLARIFIER - DEMOLITION SECTION

90% GMP

DRAWING NO.
60-DM-02



PLAN
SCALE: 1/2" = 1'-0"

N

KEYNOTES:

1 FILL EXISTING PENETRATION. SEE ARCHITECTURAL DRAWINGS.

1 2 INSTALL A FUSION WELDED CAP/PLUG. MATCH EXISTING PIPE MATERIAL, PRESSURE CLASS, AND DIAMETER.

NO.	DATE	REVISIONS	MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	AJ	JH
1	06/26/24	REVISED FOR GUARANTEE MAXIMUM PRICE (GMP)	AJ	JH

DESIGNED BY: A.JONES
DRAWN BY: R.FULK
CHECKED BY: J.HESBY
APPROVED BY: J.HESBY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

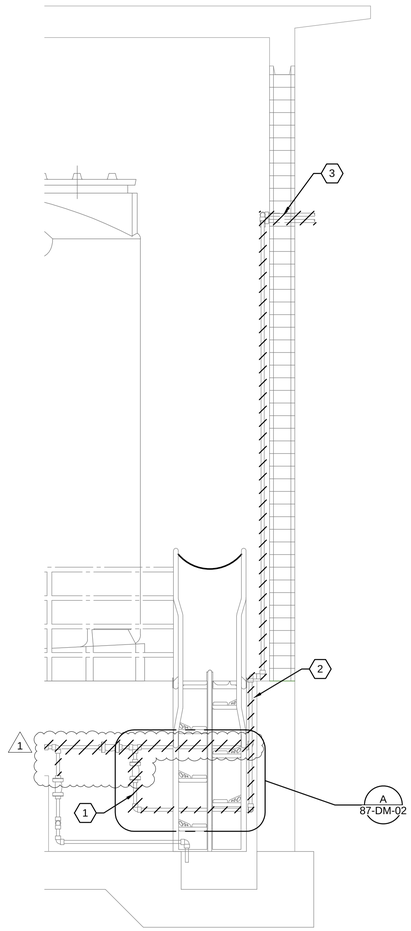
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

FLUORIDE – DEMOLITION PLAN

90% GMP

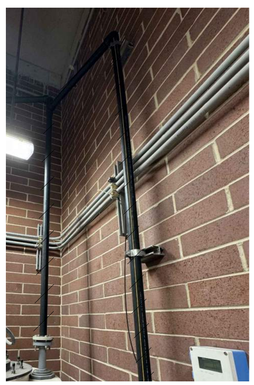
DRAWING NO.
87-DM-01

Brown AND Caldwell



1 SECTION
87-DM-01 SCALE: 1/2" = 1'-0"

A DETAIL
87-DM-02 SCALE: NTS



B DETAIL 1
87-DM-01 SCALE: NTS

GENERAL NOTES:

1. ALL EXISTING OR NEW PIPING SHALL BE INSTALLED WITH DOUBLE CONTAINMENT PER 40 05 31.19.

KEYNOTES:

1 DEMO EXISTING CARRIER WATER PIPING FROM FILTER BUILDING TO UNION IN THESE APPROXIMATE LOCATIONS. CONNECT TO NEW CARRIER WATER PIPING.

2 DEMO EXISTING FLUORIDE PIPING FROM FILTER BUILDING TO ELBOW AT THIS APPROXIMATE LOCATION. CONNECT TO NEW FLUORIDE PIPING.

3 FILL EXISTING PENETRATION. SEE ARCHITECTURAL DRAWINGS..

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: A.JONES
DRAWN BY: R.FULK
CHECKED BY: J.HESBY
APPROVED BY: J.HESBY
DATE: JUNE 2024
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REVISIONS

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1	06/26/24	REVISED FOR GUARANTEE MAXIMUM PRICE (GMP)	AJ	JH

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

FLUORIDE – DEMOLITION SECTION

90% GMP

DRAWING NO.
87-DM-02

Brown AND Caldwell

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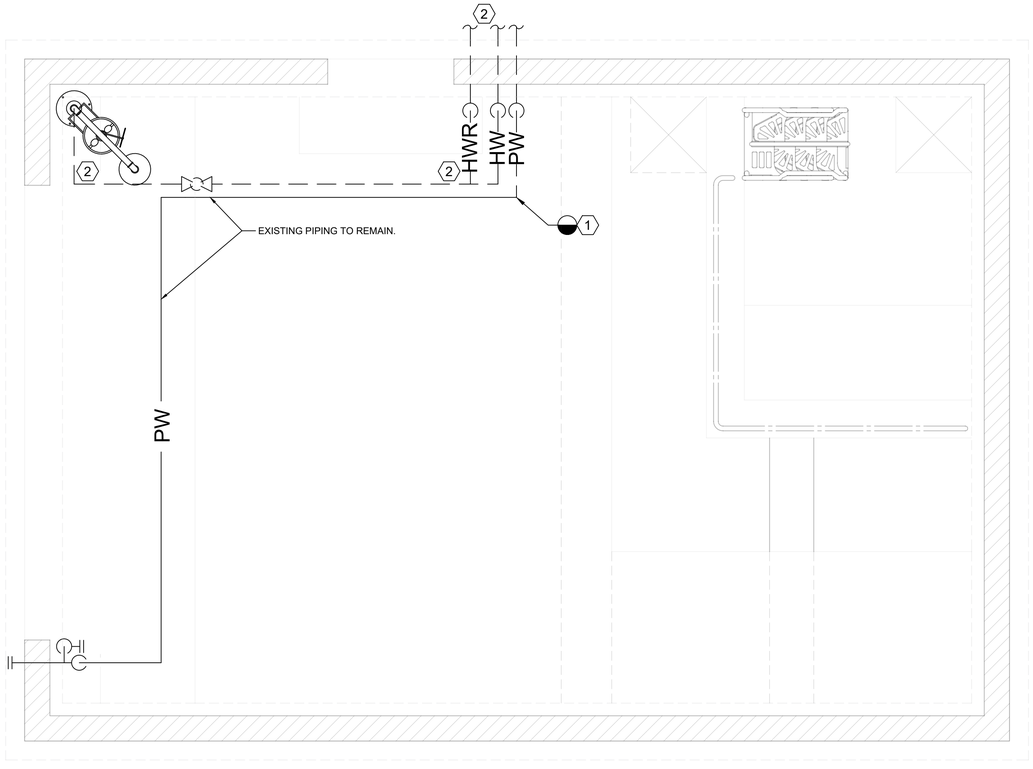

FLUORIDE - PLUMBING DEMOLITION FLOOR PLAN

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

KEYNOTES

1 DEMOLISH DOMESTIC COLD WATER PIPING COMING FROM THE AD ACENT EXISTING FILTER BUILDING THROUGH THE HORI ONTAL CHASE INTO THE FLUORIDE BUILDING IN THIS APPROXIMATE LOCATION. PIPE CHAISE SHALL BE REMOVED DURING DEMOLITION OF THE AD ACENT FILTER BUILDING.

2 DEMOLISH DOMESTIC HOT WATER AND HOT WATER RECIRC PIPING COMING FROM THE AD ACENT EXISTING FILTER BUILDING THROUGH THE HORI ONTAL CHASE INTO THE FLUORIDE BUILDING. PIPE CHAISE SHALL BE REMOVED DURING DEMOLITION OF THE AD ACENT FILTER BUILDING.

WHW ENGINEERING LLC.
PROFESSIONAL MECHANICAL ENGINEERING
8619 Sandy Parkway Suite 101
SANDY, UTAH 84070
(801)466-4021, FAX 466-8536
EMAIL: excellence@whw-engineering.com

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: J.BRITNELL
DRAWN BY: J.BRITNELL
CHECKED BY: W.PACKER
APPROVED BY: W.PACKER
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO. 512260079

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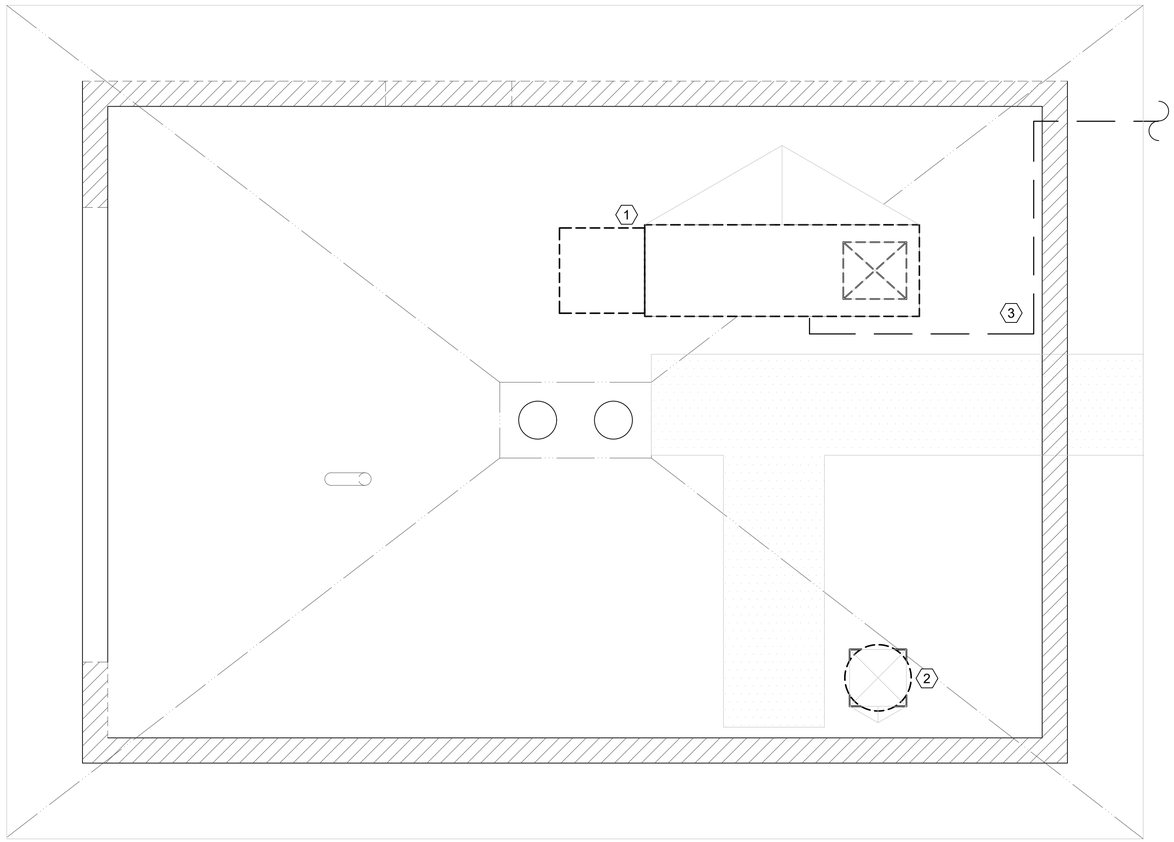
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

FLUORIDE - FLOOR DEMOLITION PLAN

90% GMP

DRAWING NO.
87-DP-01



FLUORIDE - HVAC DEMOLITION ROOF PLAN

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

N

KEYNOTES

1 REMOVE EXISTING MAKEUP AIR UNIT IN THIS APPROXIMATE LOCATION.

2 REMOVE EXHAUST FAN IN THIS APPROXIMATE LOCATION.

3 REMOVE GAS PIPING AND ACCESSORIES IN THIS APPROXIMATE LOCATION.

WHW ENGINEERING LLC.
PROFESSIONAL MECHANICAL ENGINEERING
8618 Sandy Parkway Suite 101
SANDY, UTAH 84070
(801)466-4021, FAX 466-8536
EMAIL: excellence@whw-engineering.com

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: J.BRITNELL
DRAWN BY: J.BRITNELL
CHECKED BY: W.PACKER
APPROVED BY: W.PACKER
DATE: JUNE 2024
EWO NO: --
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SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

FLUORIDE - ROOF DEMOLITION PLAN

90% GMP

DRAWING NO.
87-DH-01

CIVIL SITE DESIGNATIONS

- E — ELECTRIC (DUCTBANK)
- FO — FIBEROPTICS
- G — GAS (NATURAL, NG)
- CHAINLINK FENCE
- EDGE OF PAVEMENT
- SOIL NAIL WALL
- PERMANENT SHORING
- UTILITY POLE
- LIGHT POLE
- SIGN
- BOLLARD
- TREE / GROUND COVER

UTILITY INFRASTRUCTURE SYMBOLS

- MH — MANHOLE (UTILITY SERVICES)
- PIPING THRUST BLOCK
- W — WATER HANDHOLE
- HYDRANT
- SS — SANITARY SEWER MANHOLE
- CO — SANITARY CLEANOUT
- DRAINAGE CATCH BASIN
- SD — STORM DRAIN MANHOLE
- G — NATURAL GAS MANHOLE
- G — NATURAL GAS METER
- UTILITY POLE GUY WIRE
- T — TELEPHONE MANHOLE
- C — COMMUNICATION MANHOLE
- E — ELECTRICAL MANHOLE
- VALVE

EARTHWORK SYMBOLS

SHEET LEGEND

- EXISTING AC PAVEMENT
- REMOVE AND REPLACE ASPHALT PAVEMENT
- GRAVEL SECTION
- DRAINAGE ROCK
- CONCRETE
- SAWCUT LINE
- 5330 — MAJOR CONTOUR
- MINOR CONTOUR
- DRAINAGE FLOW
- POINT # — POINT DATA - ELEVATIONS AND COORDINATES

SHEET DRAFTING NOTES

1. ALL UTILITIES SMALLER THAN 12" ARE DEPICTED AS SINGLE LINES. ALL UTILITUES 12" OR GREATER ARE DEPICTED AS DOUBLE CONTINUOUS LINES.
2. EXISTING UTILITIES ARE INDICATED IN GRAY LINEWORK. NEW UTILITIES ARE DIPICTED IN BOLD LINEWORK, UNLESS OTHERWISE NOTED ON THE SHEET.
3. UTILITY LOCATIONS WERE OBTAINED FROM AVAILABLE RECORD DRAWINGS. VERIFY ALL HORIZONTAL AND VERTICAL LOCATIONS AND TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT UTILITY LINES WHETHER SHOWN OR NOT SHOWN.
4. SEE SPECIFICATION 40 05 02 PIPING SYSTEM SCHEDULE FOR PIPING LABEL ABBREVIATIONS.

CIVIL NOTES

SITEWORK NOTES

1. INTEGRATED EXCAVATION PLAN (IEP) - CONTRACTOR PROVIDE IEPTHAT UNIFIES THE REQUIREMENTS FOR EXCAVATION AND FILL (31 23 00), DEWATERING (01 57 28), SHEETING, SHORING, AND BRACING(31 41 00), VIBRATION CONTROL (31 41 01), GEOTECHNICAL INSTRUMENTATION AND MONITORING (31 09 00), DEMO PLAN (02 21 00).
2. SURVEY AND STAKE UNDER THE SUPERVISION OF A LICENSED LAND SURVEYOR IN ACCORDANCE WITH THE APPROVED PLANS.
3. WHERE A CONFLICT OCCURS BETWEEN OR WITHIN STANDARDS, SPECIFICATIONS, AND DRAWINGS, THE MORE STRINGENT OR HIGHER QUALITY REQUIREMENTS SHALL APPLY.
4. SEE ADDITIONAL GENERAL NOTES THROUGHOUT DRAWING SET.
5. ALL SURFACE TREATMENTS (LANDSCAPING, ROADS, CONCRETE, ETC) THAT ARE REMOVED, UNLESS SHOWN OTHERWISE ON THE PLANS, SHALL BE REPLACED IN KIND.
6. DEWATERING IS INCIDENTAL TO THE PROJECT AND IS THE RESPONSIBILITY OF THE CONTRACTOR.
7. CONTRACTOR TO PROVIDE TRAFFIC CONTROL PLAN FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION OF DEVICES.
8. CONTRACTOR'S WORK ZONE SHALL NOT ENCROACH BEYOND THE CONSTRUCTION LIMITS IDENTIFIED. CONTRACTOR SHALL CONTAIN THE WORK ZONE AND EQUIPMENT TRAFFIC WITHIN THE LIMITS OF THE PROJECT AREA. LIMIT IMPACTS TO OPERATORS. CONTRACTOR TO COORDINATE POTENTIAL IMPACTS TO OPERATIONS WITH A MINIMUM 48 HOUR NOTICE.
9. ANY PAVEMENT DISTURBED DURING CONSTRUCTION SHALL BE REMOVED AND THE PAVEMENT SECTION SHALL BE REPLACED TO MATCH THE EXISTING SURFACE GRADE.

YARD PIPING NOTES

1. CIVIL YARD PIPING SPECIFICATIONS ARE PROVIDED ON YARD PIPING PLANS AND PROFILES. ALL PIPES TO HAVE TRACER WIRE.
2. FOR PIPE CONNECTIONS NEAR STRUCTURES, SEE DETAIL A AND DETAIL B ON GC-20. FOR PIPE CONNECTIONS AT FACILITIES AND WITHIN 5 FEET OF THE STRUCTURE, SEE PROCESS MECHANICAL AND PLUMBING FOR PIPE PENETRATIONS.
3. WHERE SPECIFIED, FIELD ROUTING OF PIPELINES SHALL FOLLOW AS CLOSELY AS POSSIBLE THE CORRESPONDING ALIGNMENTS AS SHOWN ON THE YARD PIPING DRAWINGS WITH THE MINIMAL AMOUNT OF BENDS AND FITTINGS. VERTICAL CHANGES IN PIPE PROFILE WILL REQUIRE ADDITIONAL APPURTENANCES, AIR RELEASE VALVES, AND BLOWOFFS. PIPE TO BE BURIED AT A MINIMUM OF 4-FT BURIED DEPTH.
4. EXISTING PIPING AND UTILITY LOCATIONS ARE APPROXIMATE. LOCATE, POTHOLE AND VERIFY LOCATIONS OF EXISTING PIPING AND UTILITIES PRIOR TO ORDERING MATERIALS. FIELD VERIFY MATERIALS, INVERT ELEVATIONS, AND LOCATIONS.
5. SUPPORT AND PROTECT ALL UTILITIES AND PIPELINES THROUGHOUT CONSTRUCTION ACTIVITIES. MONITOR AND VERIFY PIPELINES CRITICAL TO THE PROCESS ARE NOT IMPACTED BY EXCAVATION. PROVIDE PROTECTION PLAN WITH INTEGRATED EXCAVATION PLAN.
6. PRIOR TO MANUFACTURING SPECIAL FITTINGS, VERIFY DIAMETERS AND PIPE CONNECTIONS. PROVIDE LAY DRAWINGS WITH DIMENSIONS AND VERIFIED POTHOLE DATA.
7. EXISTING PIPING IS DESIGNATED BY SERVICE RATHER THAN MATERIAL TYPE. MATERIAL TYPES, IF KNOWN, APPEAR OUTSIDE THE PIPING CALLOUT BUBBLE, AND MAY NOT BE THE SAME MATERIAL TYPES SPECIFIED FOR NEW PIPING.
8. CONTRACTOR IS RESPONSIBLE TO SUPPORT AND MAINTAIN ALL ACTIVE AND EXISTING PIPING. IMPACTS FROM CONSTRUCTION TO BE COORDINATED WITH OPERATIONS STAFF AND CONTRACTOR TO DEVELOP AND PREPARE A BY-PASS AND TEMPORARY PIPING PLAN TO ENSURE OPERATIONS ARE MAINTAINED CONTINUALLY. CONTRACTOR BY-PASS PLANS TO BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO IMPLEMENTING. SEE 01 12 16 WORK SEQUENCE. NOT ALL POTENTIAL BYPASS AND PIPING IMPACTS ARE IDENTIFIED AND IT IS THE CONTRACTORS RESPONSIBILITY TO SEQUENCE WORK TO MINIMIZE OPERATIONAL IMPACTS AND IDENTIFY ANY OTHER PIPE CONFLICTS.

CATHODIC PROTECTION NOTES:

1. CATHODIC PROTECTION DETAILS ARE IDENTIFIED WITH CIRCULAR CALLOUTS AND REFER TO DETAILS ON SHEETS GC-28 AND GC-29. CATHODIC PROTECTION SCHEDULE ON GC-30.
2. PROVIDE DIELECTRIC ISOLATION AT ALL BUILDING INTERFACES AND CONNECTIONS. PIPELINES TO BE ELECTRICALLY ISOLATED FROM METALLIC ELEMENTS AND STRUCTURES THAT ARE NOT CONTINUOUS WITH THE CP SYSTEM.
3. IF PLAIN END STUBOUTS ARE PROVIDED AT BUILDING CONNECTIONS, CONTRACTOR TO PROVIDE ISOLATION KIT WITHIN STRUCTURE WITH DIELECTRIC UNIONS OR DIELECTRIC FLANGES. PROVIDE ISOLATION FROM PIPE PENETRATION THROUGH WALL. SEE MECHANICAL FOR PIPE PENETRATION DETAILS. IF CONTRACTOR PROVIDES FLANGE CONNECTIONS FOR BUILDING OUTLETS IN ORDER TO ELECTRICALLY ISOLATE THE SYSTEM, INSTALL BURIED FLANGE ISOLATION KIT PER CP0, AND CONTINUOUS PETROLATUM WAX TAPE EXTENDING TO AND INTERFACING WITH FOUNDATION WALL.

Brown AND Caldwell

SCALE:

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

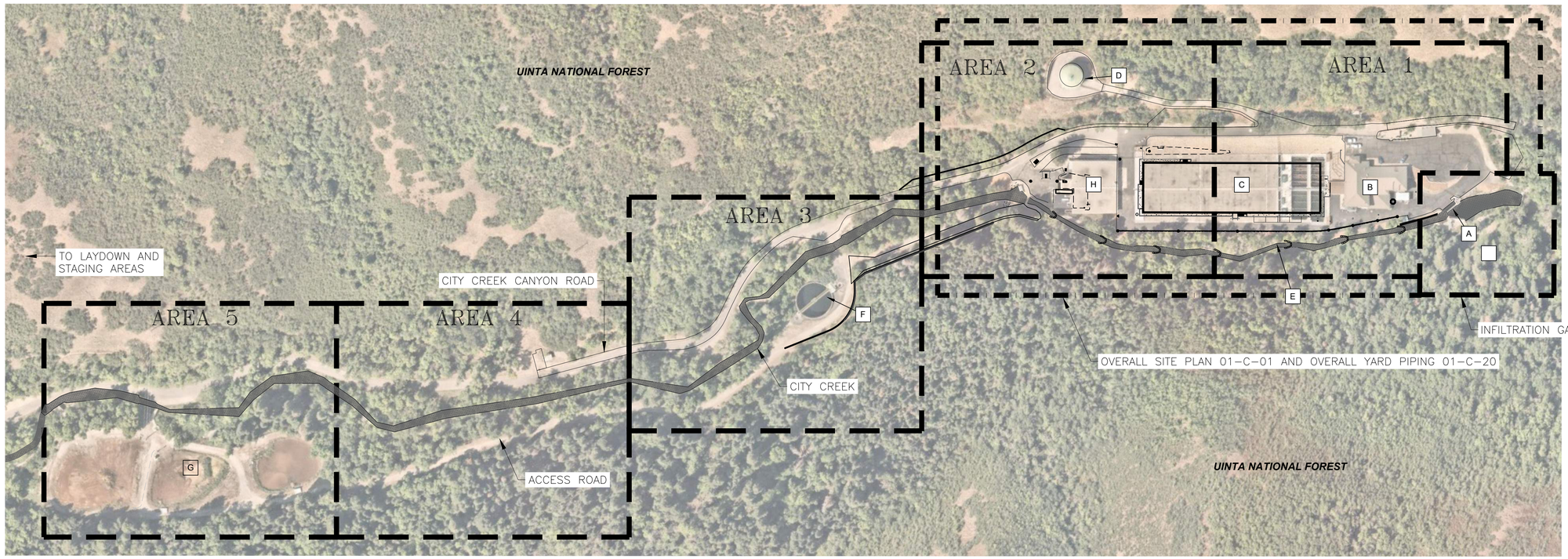
NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

GENERAL CIVIL NOTES & SYMBOLS

90% GMP

DRAWING NO.
GC-01



SHEET KEY MAP

FACILITIES INDEX

	NEW/EXISTING FACILITIES	NO
A	INTAKE	10
B	OPERATIONS BUILDING	03
C	TREATMENT BUIILDING	35
D	BACKWASH WATER STORAGE TANK	55
E	CITY CREEK MAINTENANCE AND REPAIRS	N/A
F	WASTE BACKWASH WATER EQUALI ATION BASIN	60
G	DRYING BEDS	85
H	FILTER BUILDING	70
	INFILTRATION GALLERY (SEE 01-C-82)	N/A

Brown AND Caldwell

N

60 0 120 240
SCALE IN FEET

SCALE:

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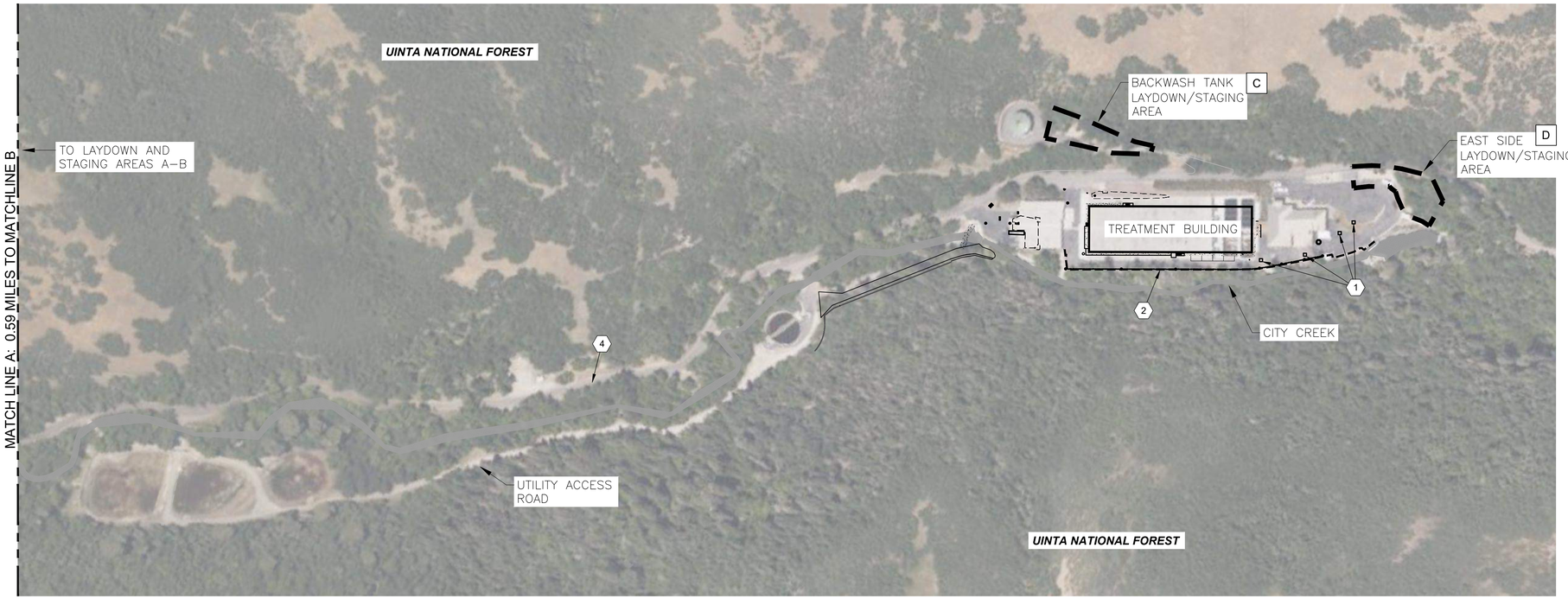
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

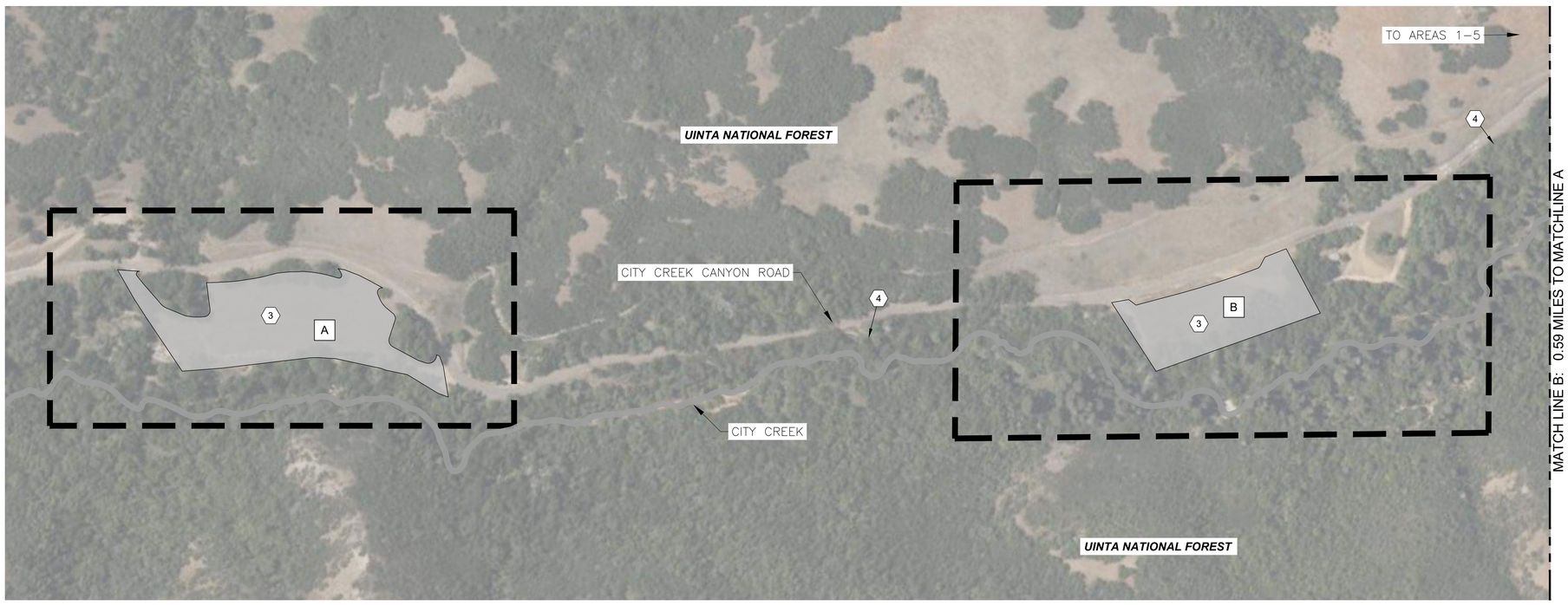
FACILITY AND KEY MAP

90% GMP

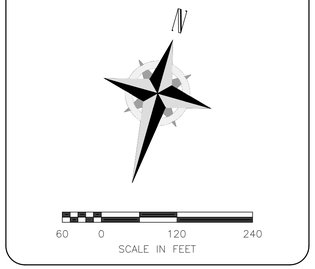
DRAWING NO.
GC-02



BACKWASH TANK, EAST SIDE STAGGING AND LAYDOWN AREAS



PLEASANT VALLEY AND PICNIC 13–14 AREAS



GENERAL NOTES

1. STAGING AND LAYDOWN AREAS PERMITTED AND DESIGNED UNDER SEPARATE DESIGN PACKAGE.
2. EROSION AND SEDIMENT CONTROL REQUIREMENTS IS CONTRACTORS RESPONSIBILITY. CONTRACTOR CERTIFIED DESIGNER TO DEVELOP STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR ENTIRE WORK AREAS INCLUDING THE STAGING AND LAYDOWN AREAS, AND CITY CREEK CANYON ROADWAY. CONTRACTOR TO OBTAIN NECESSARY PERMITS FOR SWPPP.

⬡ KEY NOTES

1. PROVIDE INLET PROTECTION AS PART OF CONTRACTORS SWPPP.
2. PROVIDE SILT FENCE OR WATTLES ALONG SLOPED SHOULDER TO PREVENT FINES OR OTHER MATERIALS FROM WASHING OUT TO THE CREEK.
3. SEE PLEASANT VALLEY RESTORATION PLAN 01-C-13 AND AND PICNIC SITES 13-14 RESTORATION PLANS 01-C-14.

TEMPORARY CONTRACTORY FACILITIES STAGING

- A — PLEASANT VALLEY PRIMARY (PVR) LAYDOWN / STAGING AREA
- B — SITES 13 -14 LAYDOWN AND STAGING AREA
- C — BACKWASH TANK LAYDOWN / STAGING AREA
- D — EAST SIDE LAYDOWN / STAGING AREA

Brown AND Caldwell

SCALE:

VERIFY SCALE

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DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
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SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

OVERALL ESC PLAN & STAGING & LAYDOWN

90% GMP

DRAWING NO.
GC–03

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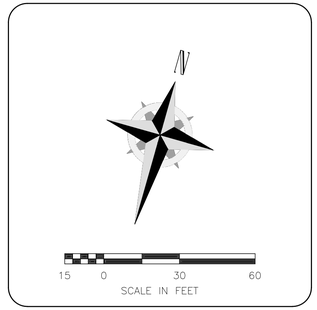
SURVEY CONTROL DATA

	ELEV.	NORTHING	EASTING	DESC.
100	5344.80	7465930.53	1548798.28	CP 100 MAG
101	5347.85	7465890.64	1548645.06	CP 101 MAG
102	5330.40	7465663.28	1548323.95	CP 102 MAG
103	5332.24	7465835.53	1548593.54	CP 103 TEMP X
104	5349.31	7465890.50	1548346.43	CP 104 MAG
105	5332.24	7465764.46	1548664.58	CP 105 MAG
106	5331.51	7465731.70	1548578.34	CP 106 MAG
107	5317.94	7465654.63	1548231.12	CP 107 TEMP X
108	5313.24	7465671.27	1548161.62	CP 108 MAG
109	5331.00	7465688.18	1548386.25	CP 109 MAG
110	5335.95	7465834.52	1548809.07	CP 110 MAG
111	5334.17	7465792.98	1548731.35	CP 111 MAG
112	5343.35	7465910.79	1548922.15	CP 112 MAG
113	5309.12	7465606.42	1548063.00	CP 113 H T
114	5302.09	7465486.68	1547889.13	CP 114 MAG
115	5317.22	7465742.99	1548173.36	CP 115 H T
116	5307.40	7465565.72	1547999.14	CP 116 H T
117	5306.20	7465537.66	1547960.51	CP 117 H T
118	5309.86	7465684.17	1548052.76	CP 118 MAG
119	5296.02	7465510.50	1547786.13	CP 119 MAG

SURVEY CONTROL DATA

	ELEV.	NORTHING	EASTING	DESC.
300	5360.64	7465974.08	1548955.79	CP 300 H T
301	5347.85	7465886.64	1548646.21	CP 301 MAG
302	5362.09	7466015.00	1548919.28	CP 302 N W
303	5350.08	7465879.34	1548251.61	CP 303 N W
30417	5332.22	7465792.86	1548321.47	3IN DISK USGS BM 7WF 1950 RESET 1955 EL 5329



GENERAL NOTES

1. HORI ONTAL DATUM IS REFERENCED TO NAD83, UTAH STATE PLANE CENTRAL ONE.
2. PARCEL NUMBER 09153000010000 SALT LAKE COUNTY.
3. VERTICAL DATUM IS NAVD 88 (GEOID 12B). TO CONVERT TO NGVD 29, SUBTRACT 3.22' FROM ELEVATIONS SHOWN. USGS BM SISK 7WF (RESET 1955) STAMPED 5329' SHOT IN NAVD88 AS 5332.22' (5332.22 - 5329 = 3.22' LOWER).
4. CONTRACTOR TO REPLACE USGS BM 30417 BENCHMARK WITH LICENSED SURVEYOR PER NATIONAL GEODETIC SURVEY BENCH MARK RESET PROCEDURES.

SURVEY SYMBOLOGY

- CP — SURVEY CONTROL POINT NUMBER
- SURVEY MONUMENT
- FOUND BENCHMARK
- BORE LOCATION
- IRON PIPE PIN

Brown AND Caldwell

SCALE:

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
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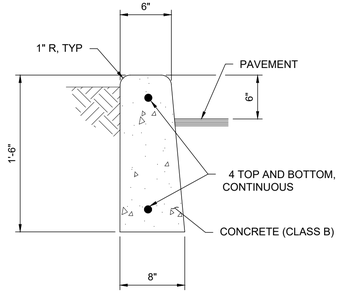
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

SURVEY CONTROL AND EXISTING CONDITIONS

90% GMP

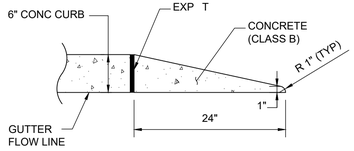
DRAWING NO.
GC-04



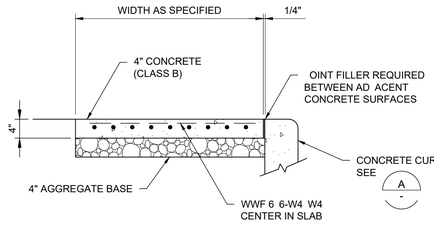
NOTE:

PROVIDE 1/8"X 1/2" DEEP OINT EVERY 4 FT AND FULL OINT WITH PREFORMED OINT FILLER EVERY 20 FT.

A VAR **CONCRETE CURB**
SCALE: NONE



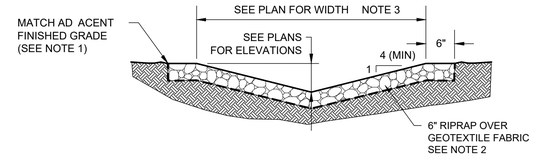
B VAR **CURB END TRANSITION**
SCALE: NONE



NOTE:

PROVIDE 1/8" X 1/2" DEEP OINT EVERY 4 FT AND FULL OINT WITH PREFORMED OINT FILLER EVERY 20 FT.

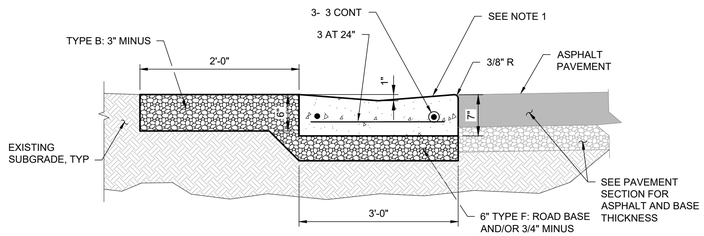
C VAR **CONCRETE SIDEWALK**
SCALE: NONE



NOTES:

1. GRADE BACK TO FINISHED GRADE.
2. PROVIDE NON-WOVEN GEOTEXTILE DRAINAGE FABRIC MIRAFI 140NL OR EQUAL.

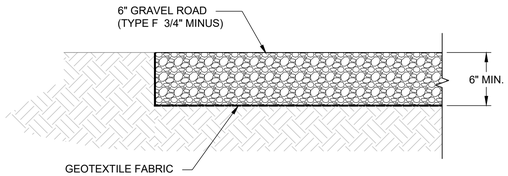
D VAR **DRAINAGE POND 1**
SCALE: NONE



NOTES:

1. CLASS B CONCRETE PER SECTION 03 30 00. PROVIDE 1/8" 1/2" DEEP CONTROL OINT EVERY 10 FEET.

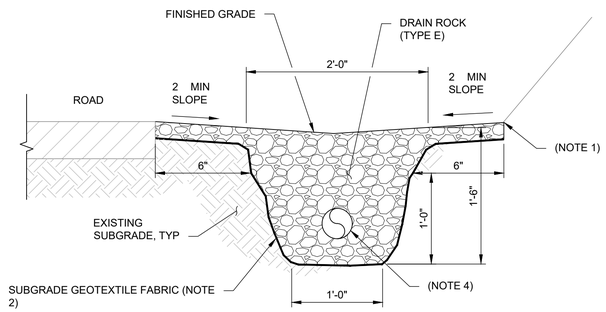
E VAR **DRAINAGE VALLEY GUTTER**
SCALE: NONE



NOTE:

1. PROVIDE ROAD GEOTEXTILE MIRAFI RS380 OR EQUAL.

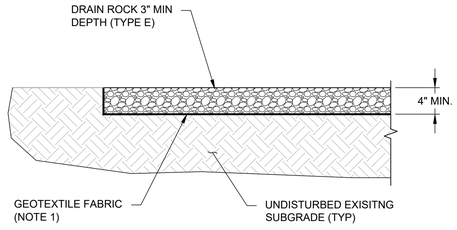
F VAR **GRAVEL ROAD SECTION**
SCALE: NONE



NOTES:

1. GRADE BACK TO EXISTING SLOPE.
2. PROVIDED NON-WOVEN GEOTEXTILE DRAINAGE FABRIC MIRAFI 140NL OR EQUAL.
3. SEE DRAWINGS FOR LOCATION OF DITCH. FOLLOW SLOPE ARROWS FOR DRAINAGE PATTERN.
4. WHEN SPECIFIED ABOVE SOIL NAIL WALL, SIDE SLOPES ARE NOT REQUIRED AND DITCH WIDTH MAY BE REDUCED TO 1-FT WIDE. PROVIDE DRAINAGE DITCH WITH 4" PERFORATED PIPE.

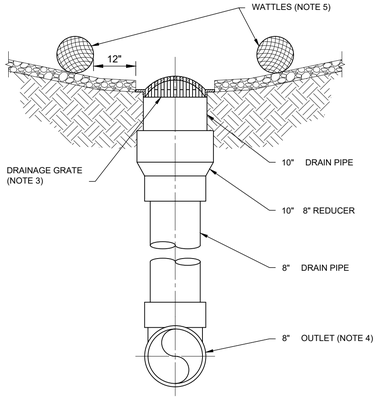
G VAR **TYPE 1 DRAINAGE DITCH**
SCALE: NONE



NOTE:

1. PROVIDE ROAD GEOTEXTILE MIRAFI RS380 OR EQUAL.

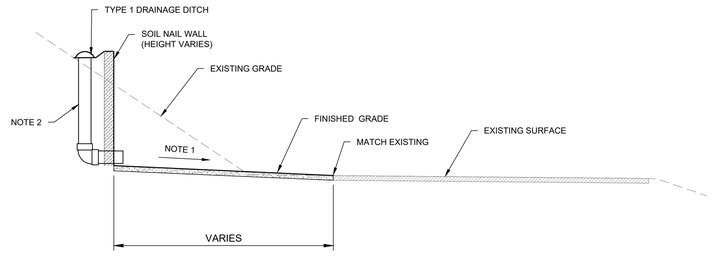
VAR **ROCK SURFACE RESTORATION**
SCALE: NONE



NOTES:

1. PROVIDE DRAIN PIPE PVC SCH 80.
2. SET DRAINAGE GRATE FLUSH AT LOW POINT.
3. 10" DRAINAGE GRATE TO E TYPE 6108N OR EQUAL.
4. DAYLIGHT PIPING AT BOTTOM OF SOIL NAIL WALL.
5. 5. SET PERIMETER WATTLES AROUND DRAINAGE GRATE.

I VAR **RETAINING WALL LOW POINT DRAIN PIPE**
SCALE: NONE



NOTES:

1. PROVIDE POSITIVE SLOPE AWAY FROM FROM SOIL NAIL WALL. TO PROVIDE DRAINAGE SEE SITE PLAN AREA FOR FINISHED GRADE AND FINAL RESTORATION. IF NOT SPECIFIED ON PLANS SET MINIMUM 3 SLOPE.
2. RETAINING WALL LOW POINT DRAIN PIPE PER DETAIL I/GC-10

H VAR **RETAINING WALL TYPICAL DRAINAGE AND GRADING**
SCALE: 1" = 4'

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

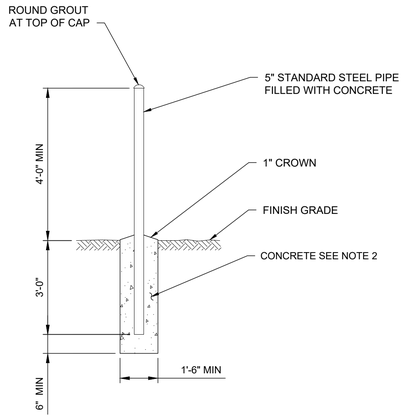
DESIGNED BY: N.OLTEAN
DRAWN BY: P.SCHUHEN
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

NO.	DATE	REVISIONS	MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE
SITE DETAILS 1

90% GMP

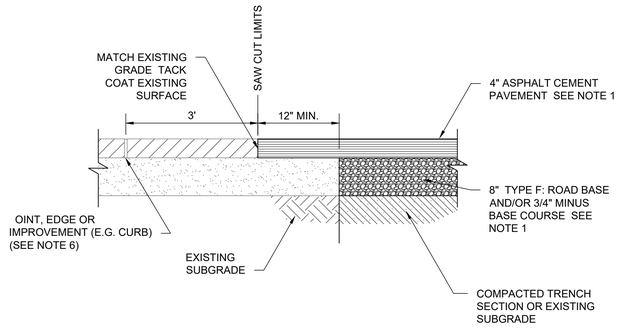
DRAWING NO.
GC-10



NOTES:

1. PROVIDE HDPE COVER OVER BOLLARD WITH SAFETY YELLOW.
2. PROVIDE CLASS B CONCRETE PER SECTION 03 30 00.

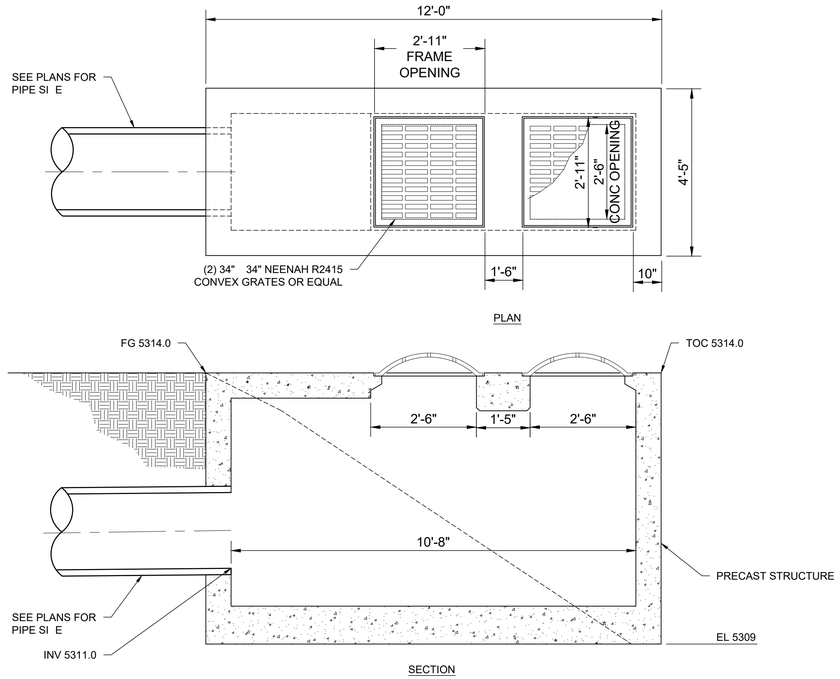
A VAR CONCRETE BOLLARD
SCALE: NONE



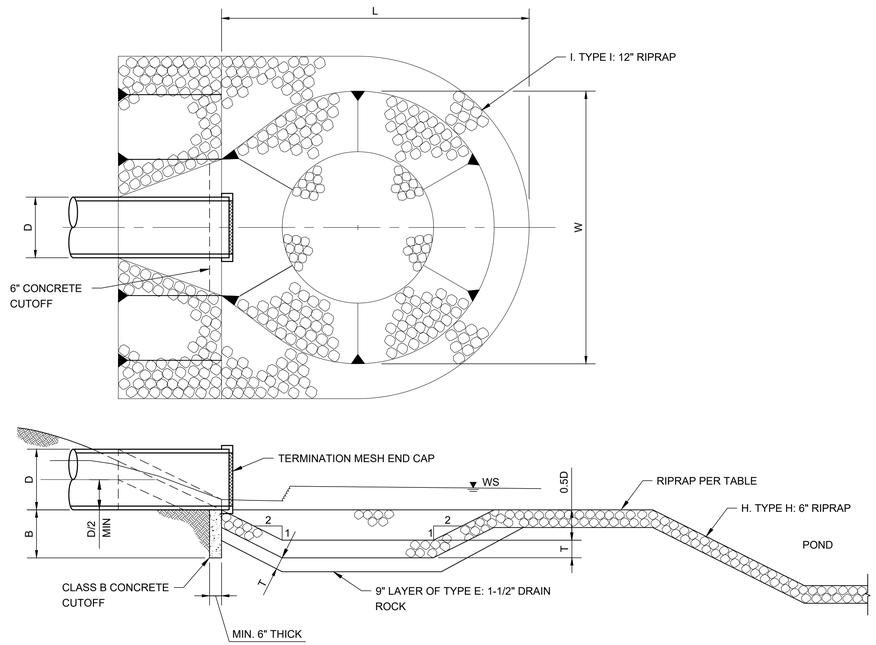
NOTES:

1. MATCH EXISTING PAVEMENT SECTION THICKNESSES. PAVEMENT SECTION SHOWS THE MINIMUM THICKNESSES FOR PATCHING/REPAVING.
2. SEE TABLE A, SECTION 31 23 00 FOR RELATIVE COMPACTION OF TRENCH SECTION OR SUBGRADE AND AGGREGATE BASE.
3. ALL TRENCH AND PAVEMENT CUTS SHALL BE MADE BY SAWCUTTING ONLY. SAWCUTS SHALL BE VERTICAL FULL DEPTH CUTS THAT PROVIDE A CLEAN EDGE TO THE EXISTING PAVEMENT THAT REMAINS.
4. TACK COAT SHALL BE APPLIED TO EXISTING PAVEMENT AND EDGE OF CUT, AND AT COLD OINTS PRIOR TO PAVING.
5. PATCHES SHALL BE FEATHERED AND SHIMMED TO AN EXTENT THAT PROVIDES A SMOOTH-RIDING CONNECTION AND PROMOTES DRAINAGE FLOW AWAY FROM STRUCTURES, AS SHOWN ON THE GRADING PLAN.
6. WHERE PAVEMENT SAWCUT FOR A PATCH IS LESS THAN 3-FEET FROM THE EDGE OF A OINT OR EDGE, REMOVE THE PAVEMENT TO THE EDGE TO AVOID A NARROW STRIP OF EXISTING PAVEMENT AT THE EDGE.
7. SEE GRADING AND PAVING PLANS FOR GRADES AND SLOPES. WHERE NOT SPECIFIED ALL PAVEMENT TO BE SLOPED TO DRAIN WITH MINIMUM 2 SLOPE.

B VAR ASPHALT PAVEMENT SECTION
SCALE: NONE

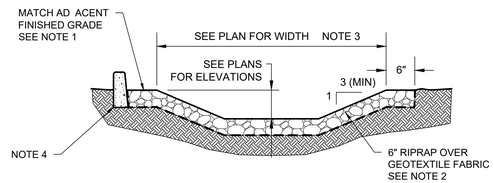


D VAR DOUBLE DRAIN INLET
SCALE: NONE



LOCATION	PIPE INV. EL.	D	L	W	RIPRAP SI E	T	CUTOFF B
STORMWATER PIPE - SEE PLANS	SEE PLANS	PIPE SI E AS SHOWN ON PLANS	6 FT	6 FT	12"	24"	3'-0"

C VAR ENERGY DISSIPATION POOL
SCALE: NONE



NOTES:

1. GRADE BACK TO FINISHED GRADE.
2. PROVIDE NON-WOVEN GEOTEXTILE DRAINAGE FABRIC MIRAFI 140NL OR EQUAL.
3. SEE DRAWINGS FOR LOCATION OF PONDS. FOLLOW SLOPE ARROWS FOR DRAINAGE PATTERN.
4. PROVIDE CONCRETE CURB PER DETAIL A / GC-10 ALONG PAVEMENT AREA AND FLUORIDE BUILDING.

E VAR DRAINAGE POND 2
SCALE: NONE

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: P.SCHUHEN
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
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SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE
SITE DETAILS 2

90% GMP

DRAWING NO.
GC-11

Brown AND Caldwell

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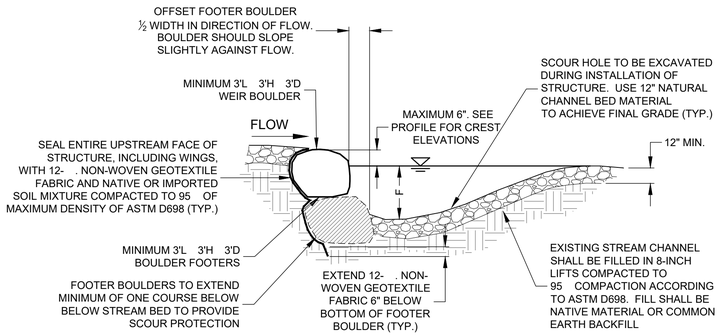
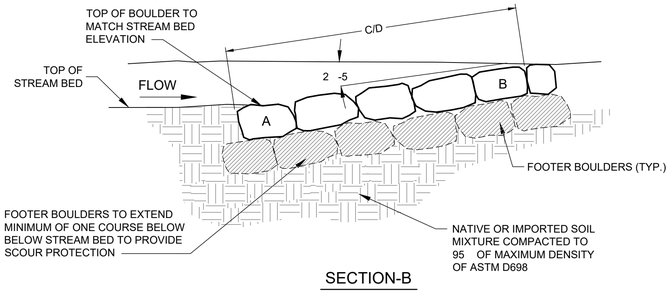
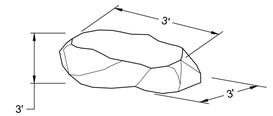


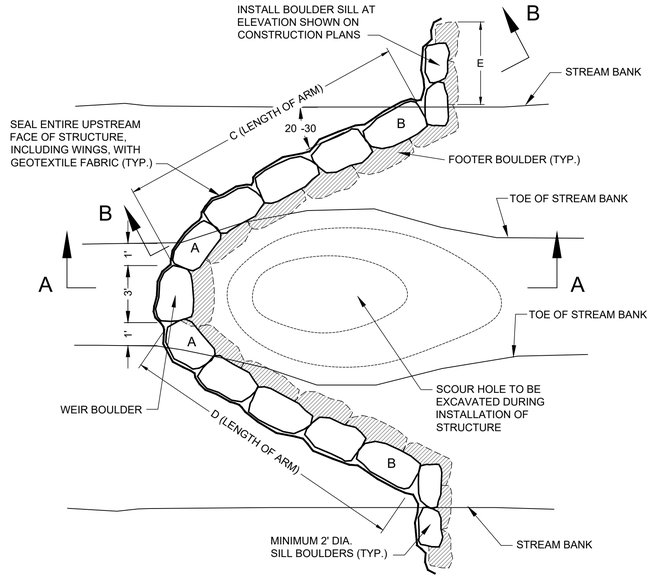
SECTION-A



SECTION-B

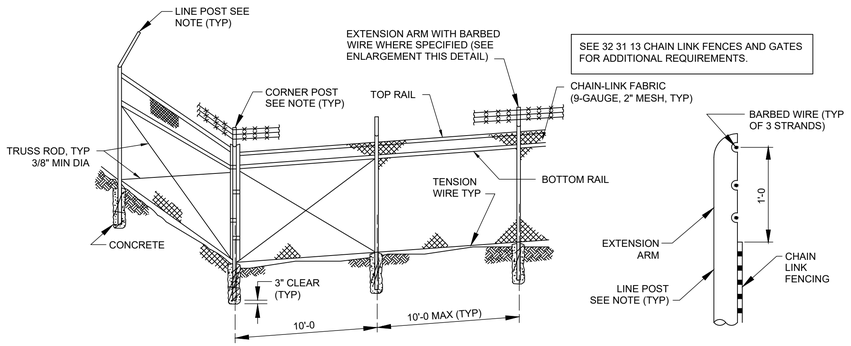


TYPICAL BOULDER DIMENSIONS



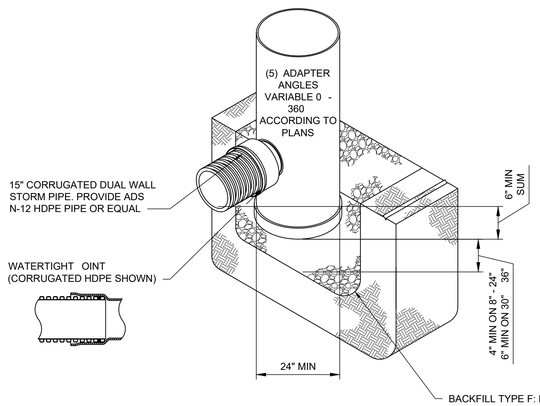
PLAN

A 01-C-11 STEP POOL STRUCTURE
SCALE: NONE

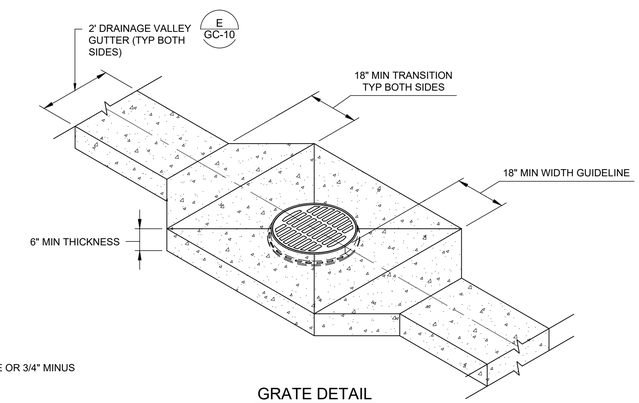


NOTE: PROVIDE COMMERCIAL GRADE STEEL FENCE MATERIALS WITH BLACK POWDER-COATED STEEL. ALL MATERIALS TO MATCH STYLE, FINISH AND COLOR OF EACH FENCE COMPONENT WITH HAT OF OTHER FENCE COMPONENTS.

B VAR CHAIN LINK FENCING
SCALE: NONE



BASIN DETAIL



GRATE DETAIL

NOTES:

1. 24" STANDARD GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2. 24" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3. DRAINAGE CONNECTION STUB OINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, PVC SEWER (4" - 36").

C VAR DRAIN BASIN DETAIL
SCALE: NONE

Brown AND Caldwell

SCALE:

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: P.SCHUHEN
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
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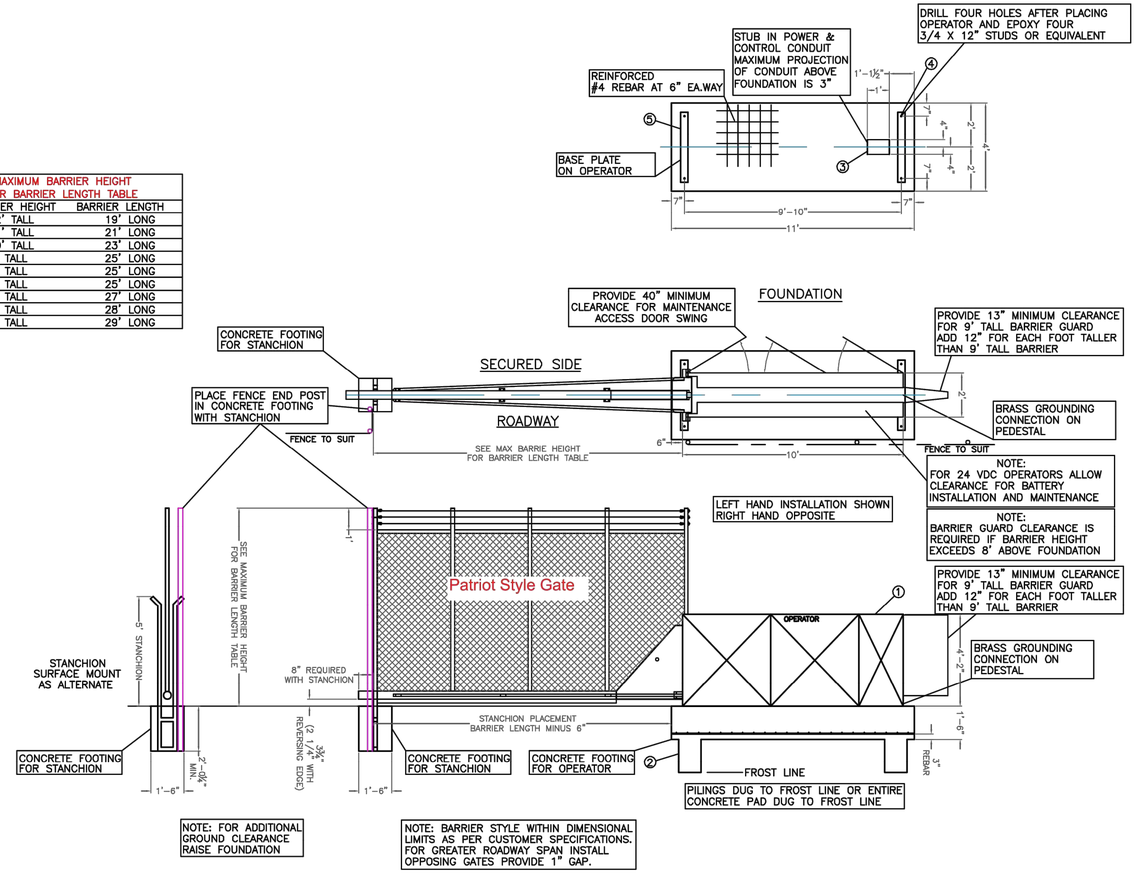
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

SITE DETAILS 3

90% GMP

DRAWING NO.
GC-12

MAXIMUM BARRIER HEIGHT FOR BARRIER LENGTH TABLE	
BARRIER HEIGHT	BARRIER LENGTH
12' TALL	19' LONG
11' TALL	21' LONG
10' TALL	23' LONG
9' TALL	25' LONG
8' TALL	25' LONG
7' TALL	25' LONG
6' TALL	27' LONG
5' TALL	28' LONG
4' TALL	29' LONG



A VAR VERTICAL PIVOT GATE
SCALE: NONE

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Brown AND Caldwell

SCALE:

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: P.SCHUHEN
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
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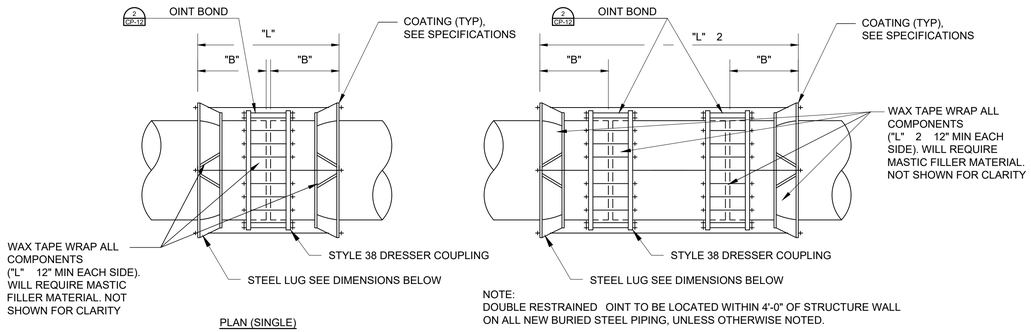
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

SITE DETAILS 4

90% GMP

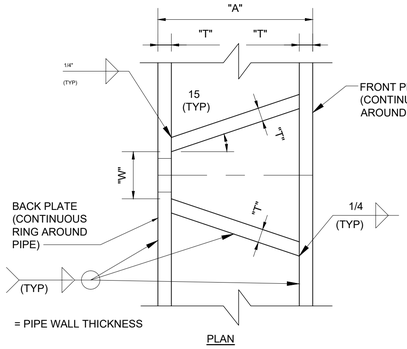
DRAWING NO.
GC-13



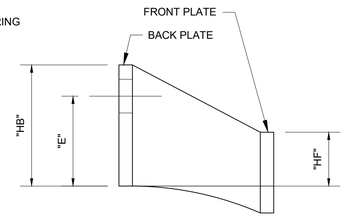
PLAN (SINGLE)

NOTE:
DOUBLE RESTRAINED OINT TO BE LOCATED WITHIN 4'-0" OF STRUCTURE WALL ON ALL NEW BURIED STEEL PIPING, UNLESS OTHERWISE NOTED.

PLAN (DOUBLE)



PLAN



GUSSET PLATE

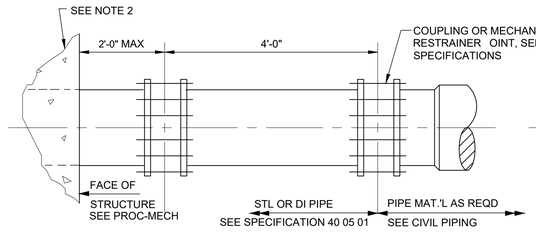
LUG DIMENSIONS FOR HARNESS OVER COUPLING 150 PSI

PIPE DIA.	STUD DIA.	NO. BOLTS	A	W	T	HB	E	HOLE DIA.	L	B	HF	DESIGN PRESSURE
48"	1.75"	6	12"	2.5"	0.875"	6.500"	4.000"	1.875"	60.00"	29.50"	2.5"	250
30"	1.375"	4	8.75"	2.125"	0.625"	5.750"	3.750"	1.5"	47.50"	23.75"	2.5"	250
36"	1.675"	4	10.75"	2.375"	0.750"	6.250"	3.870"	1.75"	55"	27"	2.5"	250

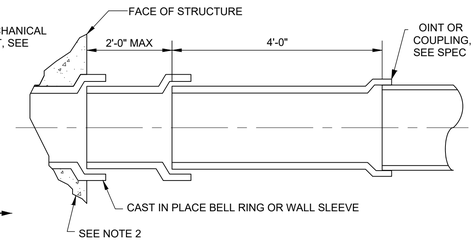
NOTE:

1. FILLET WELDS PER AWS D1.1 SHALL BE LIMITED TO THE THICKNESS OF THE PLATE ( ) MINUS 1/16".
2. FINAL DIMENSIONS TO BE FURNISHED BY PIPE FABRICATOR BASED ON SUPPLIED PIPE AND FLEXIBLE COUPLING.
3. DOUBLE RESTRAINED OINT TO BE LOCATED WITHIN 4'-0" OF STRUCTURE WALL ON ALL BURIED STEEL PIPING, UNLESS OTHERWISE NOTED.
4. PROVIDE OINT BOND.
5. THE ROD NUTS SHALL BE TIGHTENED GRADUALLY AND EQUALLY IN STAGES TO PREVENT UNEVEN ALIGNMENT AND TO ALLOW EQUAL STRESS ON ALL TIE RODS UNDER PRESSURE. TIGHTEN UNTIL SNUG. THREADS SHALL PROTRUDE FROM NUTS. PEEN THREADS AFTER TIGHTENING NUTS.

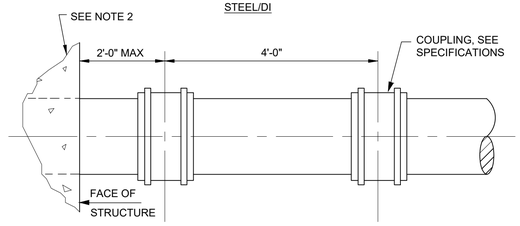
A VAR HARNESS COUPLING
SCALE: NONE



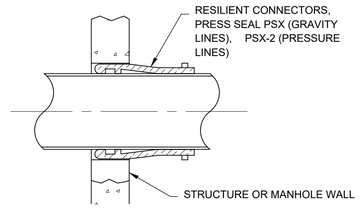
STEEL/DI



DI/C900 MECHANICAL OINT CONNECTIONS (SEE NOTE 3)



PVC/CPVC (6"-18")

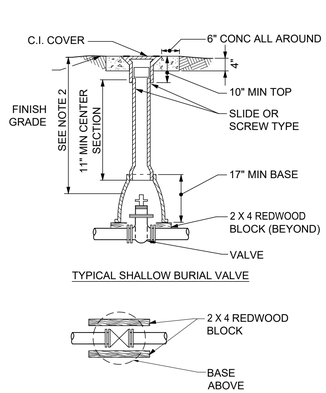


PVC/CPVC (2"-4")

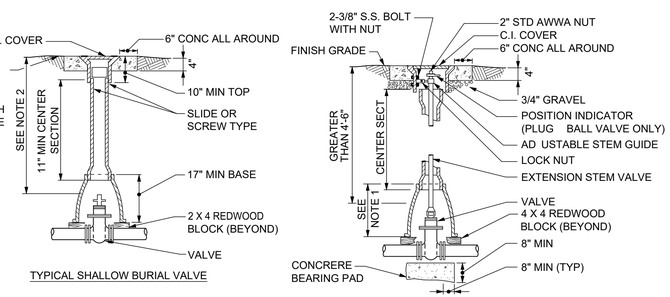
NOTES:

1. RESTRAINTS SHALL BE PROVIDED AS SPECIFIED. ASSURE RESTRAINTS ARE INSTALLED SUCH THAT DISMANTLING OF PIPE SYSTEM IS NOT IMPEDED.
2. SEE PROCESS MECHANICAL PLANS FOR PIPE PENETRATION THROUGH WALL DETAILS.
3. IN ACCORDANCE WITH SPECIFICATION SECTION 40 05 06.16, 3.04, FLEXIBILITY IS REQUIRED AT EACH LOCATION WHERE PIPE TRANSITIONS FROM A STRUCTURE TO EARTH. WHERE PIPE IS UNDER PRESSURE (EITHER PRESSURI ED SYSTEMS SUCH AS PLANT WATER OR PROCESS SYSTEMS THAT ARE UNDER STATIC HEAD) RESTRAINT SHALL BE PROVIDED TO PREVENT SEPARATION OF THE PIPE. THIS REQUIREMENT DOES NOT APPLY TO PIPE ENTERING OR EXITING MANHOLES.

B VAR PIPE CONNECTION TO STRUCTURE
SCALE: NONE



TYPICAL SHALLOW BURIAL VALVE

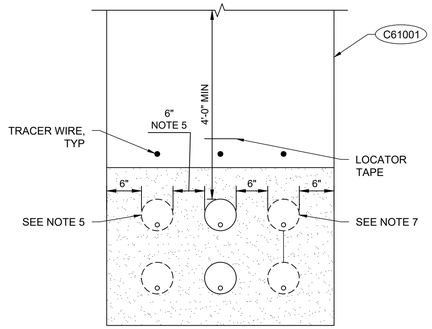


TYPICAL DEEP BURIAL VALVE

NOTES:

1. FOR ALL VALVES USE OVAL TYPE BASE.
2. USE THREE PIECE VALVE BOX FOR 2'-6" MIN TO 4'-6" MAX.

C VAR BURIED GATE VALVE
SCALE: NONE



NOTES:

1. PROVIDE HDPE IPS DR 17 PIPING, SIMILAR PIPE WITH 40 05 02.59.
2. COMPLY WITH MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION.
3. FIELD ROUTE PIPING AS NEEDED TO AVOID PIPE CONFLICTS. LIMIT VERTICAL AND HORI ONTAL CHANGES TO ALLOW FOR EASY INSTALLATION OF SAMPLE LINES AND CHEMICAL LINES.
4. INSTALL CONTAINMENT SLEEVES BEFORE EXITING VAULTS AND STRUCTURES. SEE MECHANICAL FOR PIPE PENETRATION REQUIREMENTS.
5. IF MORE THAN ONE CONTAINMENT SLEEVE, PROVIDE SPACING BETWEEN PIPES.
6. 6" MINIMUM CONTAINMENT SLEEVE SI E UNLESS OTHERWISE NOTED.
7. SEE YARD PIPING PLANS FOR CHEMICAL LINE TYPES, SI ES, AND ROUTING

D VAR CONTAINMENT SLEEVE COMMON TRENCH
SCALE: NONE

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO: 512260079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PIPING DETAILS 1

90% GMP

DRAWING NO.
GC-20

Brown AND Caldwell

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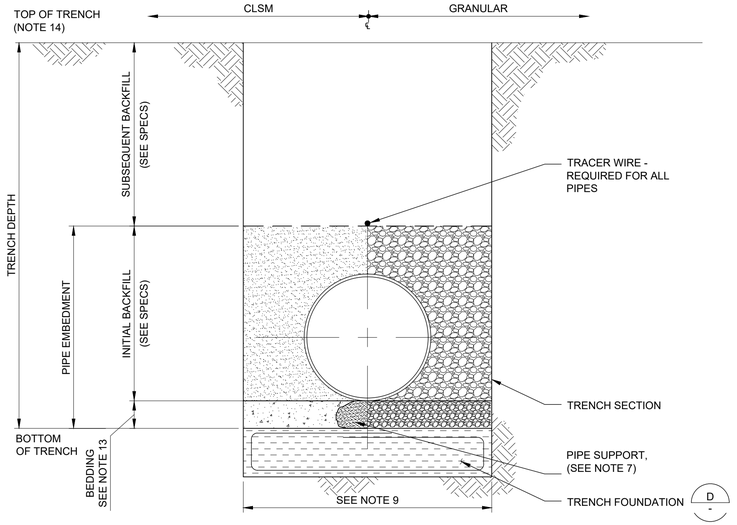


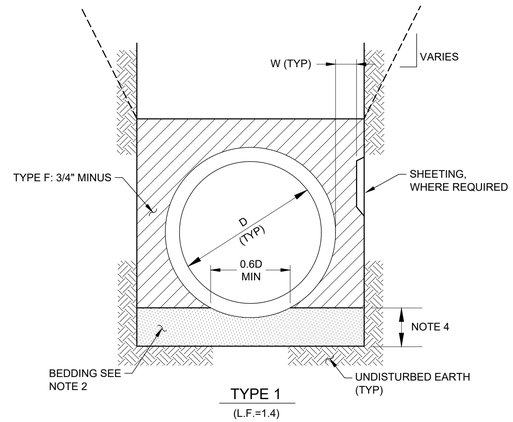
NOTES:

1. TYPICAL TRENCH SECTION APPLIES TO ALL PIPE UNLESS OTHERWISE SPECIFIED SUCH AS PERFORATED DRAIN PIPE AND INFILTRATION GALLERY.
2. TYPICAL TRENCH SECTIONS ARE TO BE USED ONLY WHERE STABLE, COMPACT SOIL CONDITIONS EXIST. IF BOULDERS OR LARGE OBSTRUCTIONS ARE ENCOUNTERED, TRENCH SECTIONS MAY NEED TO BE DEEPER OR WIDER THAN SHOWN.
3. DESIGN AND BUILD PROTECTIVE SYSTEMS AND EXCAVATE SLOPES IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL (OSHA) SAFETY STANDARDS AND REGULATIONS. DESIGN SHALL BE BY A LICENSED STATE OF UTAH STRUCTURAL ENGINEER.
4. CONSTRUCT UNSUPPORTED TRENCH WALLS IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL (OSHA) SAFETY STANDARDS AND REGULATIONS.
5. CONTRACTOR SHALL PROTECT PIPE PER CONTRACT DOCUMENTS , ANY DEFECTS OR DAMAGE TO PIPE IS CONTRACTORS RESPONSIBILITY TO REPLACE WITH NEW MATERIALS.
6. IF THE WATER TABLE IS DISCOVERED ABOVE THE TRENCH BOTTOM, PROVIDE TRENCH FOUNDATION, NOTIFY ENGINEER AND IMPLEMENT DEWATERING EFFORTS TO LOWER THE WATER LEVEL BELOW THE TRENCH BOTTOM. VERIFY DEWATERING DOES NOT NEGATIVELY IMPACT AD ACENT PIPES AND STRUCTURES.
7. WHERE CLSM PIPE EMBEDMENT IS INDICATED, SET PIPE TO FINAL GRADE BY PLACING SAND BAGS WITHIN 30" OF EACH OINT AND EVERY 15' O.C., MINIMUM. CENTERED ON PIPELINE CENTERLINE. PLACE CLSM IN LIFTS TO PREVENT FLOATING THE PIPE.
8. TRENCH FOUNDATION REQUIRED FOR WET OR SOFT AREAS AS DETERMINED BY THE CONSTRUCTION MANAGER, OR AS SHOWN ON DRAWINGS.
9. TRENCH BOTTOM AND PIPE ONE WIDTH:
   - 9.1. OD 30" TRENCH PROTECTION: FOR MECHANICAL COMPACTION OF GRANULAR PIPE EMBEDMENT.
   - 9.2. OD 12" TRENCH PROTECTION: FOR CLSM PIPE EMBEDMENT.
10. FOR DEEP EXCAVATION PROVIDE MEASURES AND PRECAUTIONS TAKEN AS PART OF THE INTEGRATED EXCAVATION PLAN TO ADDRESS IMPACTS TO AD ACENT PIPES, UTILITIES, AND STRUCTURES. CONTRACTOR IS RESPONSIBLE TO REPAIR AND REPLACE DAMAGE DUE TO CONSTRUCTION ACTIVITIES.
11. REMOVAL OF THE SUPPORT SYSTEM SHALL BE PERFORMED IN A MANNER THAT WILL NOT DISTURB OR HARM AD ACENT CONSTRUCTION FACILITIES, INSTALLED MATERIALS OR COMPACTED FILLS. ALL VOIDS CREATED BY REMOVAL OF THE SUPPORT SYSTEM SHALL BE IMMEDIATELY FILLED WITH CRUSHED ROCK AGGREGATES, GROUT, OR LEAN CONCRETE AND RECOMPACTED AS APPROVED BY THE ENGINEER. TRENCH PROTECTION SUPPORT SYSTEM NOT SHOWN IN DETAIL FOR CLARITY.
12. PIPE BEDDING, INITIAL BACKFILL, AND SUBSEQUENT BACKFILL MATERIAL SHALL BE GRANULAR PER SPEC 31 23 00 EXCEPT FOR WHERE CLSM BACKFILL IS IDENTIFIED IN THE DRAWINGS AND SPECIFICATIONS. CONTRACTOR MAY CHOOSE TO SUBSTITUTE CLSM FOR GRANULAR MATERIAL AT NO ADDITIONAL COST TO THE OWNER.
13. 24" AND SMALLER PIPES TO HAVE A MINIMUM OF 6" BEDDING. ALL LARGER PIPES TO HAVE A MINIMUM OF 12" BEDDING.
14. SEE SITE PLAN FOR RESTORATION OVER TOP OF PIPE.
15. SEE REFERENCE TABLE FOR TRENCH DETAILS APPLICATION. WHERE NOT SPECIFIED TYPICAL TRENCH SECTION DETAIL A / GC-10 AND TYPICAL PIPE BEDDING DETAIL B / GC-10 APPLIES.

REFERENCE TABLE: TRENCH DETAILS

CREEK CROSSINGS	DETAILS ON GC-23
INFILTRATION GALLERY AND PERIMETER DRAIN PERFORATED DRAIN PIPE	DETAILS ON GC-25
HDPE PLASTIC PIPE	DETAIL C/GC-21
TYPICAL TRENCH AND BEDDING	DETAIL A B/GC-21
CLSM PIPE SECTION	DETAIL E/GC-21

A VAR TYPICAL TRENCH SECTION
SCALE: NONE

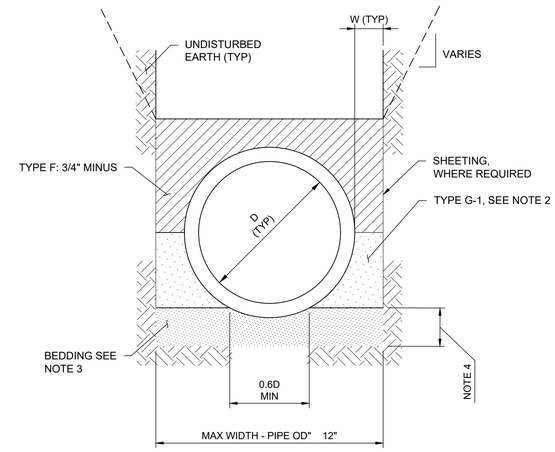


TYPE 1
(L.F.=1.4)

NOTES:

1. SEE FILL CLASSIFICATION IS SPECIFICATION 31 23 00 FOR MATERIAL TYPES AND DEFINITIONS.
2. SAND TYPE A1, PEA GRAVEL TYPE D1, OR PREVIOUS BACKFILL TYPE G-1.
3. BEDDING SHALL BE BLOCKED OUT OR EXCAVATED AT BELLS.
4. 24" AND SMALLER PIPES TO HAVE A MINIMUM OF 6" BEDDING. ALL LARGER PIPES TO HAVE A MINIMUM OF 12" BEDDING.

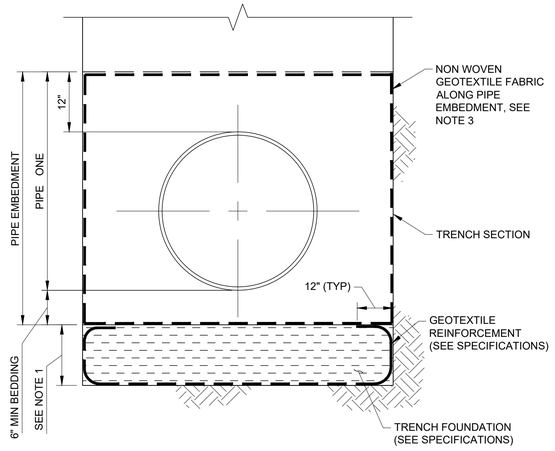
B VAR TYPICAL PIPE BEDDING
SCALE: NONE



NOTES:

1. SEE FILL CLASSIFICATION IN SPECIFICATION 31 23 00 FOR MATERIAL TYPES AND DEFINITIONS.
2. HAUNCH ONE, SECTION TO BE WELL COMPACTED WITH A MINIMUM OF 6-INCH LIFTS. IF PIPE IS SMALLER THAN 10", COMPACT TO SPRINGLINE.
3. SAND TYPE A1 OR PREVIOUS BACKFILL TYPE G-1.
4. 24" AND SMALLER PIPES TO HAVE A MINIMUM OF 6" BEDDING. ALL LARGER PIPES TO HAVE A MINIMUM OF 12" BEDDING

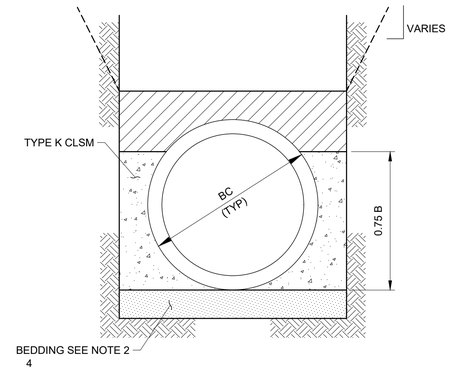
C VAR FLEXIBLE PIPE BEDDING
SCALE: NONE



NOTES:

1. 12" MIN OR AS REQUIRED BY THE OWNERS' REPRESENTATIVE TO OBTAIN STABILI ATION IN WET AND/OR SOFT AREAS.
2. TRENCH FOUNDATION REQUIRED FOR WET AND SOFT AREAS OR IDENTIFIED BY THE OWNERS' REPRESENTATIVE.
3. NON WOVEN GEOTEXTILE REQUIRED IN AREAS WHERE GRANULAR OR TYPE F MATERIAL IS PROVIDED OR WHERE GROUNDWATER LEVEL IS WITHIN PIPE EMBEDMENT.

D VAR TRENCH FOUNDATION
SCALE: NONE



NOTES:

1. SEE FILL CLASSIFICATION IS SPECIFICATION 31 23 00 FOR MATERIAL TYPES AND DEFINITIONS.
2. SAND TYPE A1, PEA GRAVEL TYPE D1, OR PREVIOUS BACKFILL TYPE G-1.
3. SEE UTILITY SUPPORT DETAIL A/GC-22 WHEN USED FOR CROSSING PIPELINES.
4. 24" AND SMALLER PIPES TO HAVE A MINIMUM OF 6" BEDDING. ALL LARGER PIPES TO HAVE A MINIMUM OF 12" BEDDING.

E VAR CLSM ENCASED PIPE
SCALE: NONE

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
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SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PIPING DETAILS 2

90% GMP

DRAWING NO.
GC-21

Brown AND Caldwell

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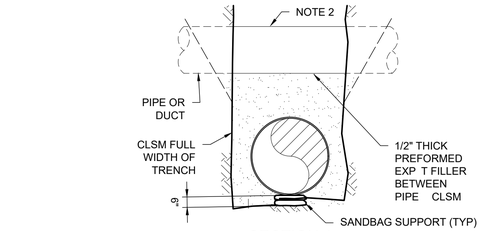
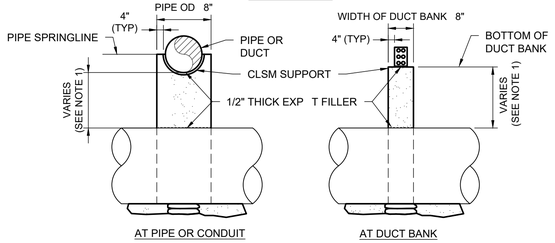


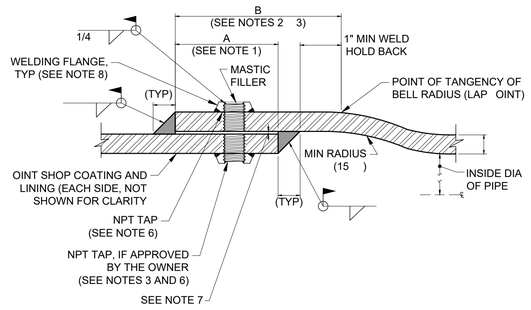
SECTION 1



SECTION 2

NOTES:

1. USE THIS DETAIL WHERE CLEARANCE IS LESS THAN OR EQUAL TO 2.0 FEET ONLY. BACKFILL TO BE BROUGHT UP UNIFORMLY ON BOTH SIDES OF SUPPORT.
2. DETERMINE THE REQUIREMENTS OF PROVIDING ALL TEMPORARY SUPPORTS TO SUSPEND EXISTING UTILITIES IN OR ACROSS TRENCH DURING THE CONSTRUCTION OF THE NEW PIPE AND PRIOR TO THE COMPLETION OF THIS NEW SUPPORT.
3. DETAIL IS SIMILAR FOR CROSSINGS WHERE THE NEW PIPE/DUCT BANK CROSSES UNDER THE CROSSING UTILITY. FLOWFILL THE WIDTH OF THE TRENCH TO THE BEDDING FOR THE PIPE/DUCT BANK TO THE WIDTH SHOWN IN THE SECTION VIEW, AND UP TO THE SPRING LINE (CENTERLINE) OF THE EXISTING CROSSING PIPE ABOVE.
4. IF PIPE/DUCT BANK IS ABOVE THE CROSSING PIPE, EXCAVATE TO THE SPRING LINE FOR PIPES GREATER THAN 12-INCH DIAMETER TO PLACE FLOW FILL FOR THE CROSSING AS SHOWN.
5. EXCAVATE FOR FLOW FILL PLACEMENT 3 INCHES BENEATH PIPE FOR EXISTING CROSSING PIPES WITH A DIAMETER LESS THAN 12 INCHES, LOCATED UNDER NEW PIPE/DUCT BANK. PLACE FLOW FILL FOR FOR THE FULL TRENCH WIDTH UP TO THE BOTTOM OF THE PIPE/DUCT BANK, AS SHOWN.



NOTES:

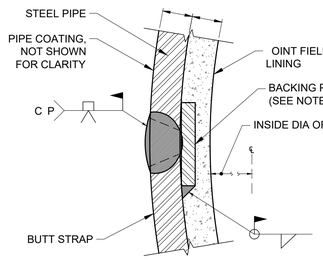
1. DIMENSION "A" CORRESPONDS TO THE COMPLETED OINT OVERLAP AFTER WELDING. DIMENSION "A" SHALL BE THE GREATER OF 3" OR 5 , MINIMUM.
2. FOR STANDARD OINTS, THE MINIMUM DIMENSION "B" SHALL BE AS REQUIRED TO PROVIDE THE MINIMUM OVERLAP DIMENSION "A" AND MAINTAIN THE INDICATED HOLDBACK FOR THE WELD.
3. FOR SINGLE LAP WELD NPT TAP AND INSIDE FILLET WELD DOES NOT APPLY.
4. FILLET WELDS FOR BELL AND SPIGOT LAP OINTS SHOWN. FILLET WELDS ON OTHER OINTS ARE SIMILAR. FILLET WELDS PER AWS D1.1 SHALL BE LIMITED TO THE THICKNESS OF THE PLATE ( ) MINUS 1/16".
5. FABRICATE AND INSTALL OINTS TO BE WITHIN THE TOLERANCES INDICATED. THE TOLERANCE REQUIREMENTS APPLY TO BOTH WELDS AND TO BOTH STRAIGHT AND DEFLECTED OINTS.
6. 1/4" NPT TAP WITH CARBON STEEL PLUG FOR TESTING. TEST TO BE DONE FROM THE OUTSIDE OF THE PIPE UNLESS OTHERWISE APPROVED BY THE OWNER. LEAVE 1/4" OF THREADED PLUG BELOW WELDING FLANGE SO CIRCUMFERENTIAL FIELD WELD AT PLUG CAN BE INSTALLED.
7. FOR LAP- OINT PIPE PREPARED FOR FIELD WELDING, THE INSIDE CIRCUMFERENCE OF THE BELL END SHALL NOT EXCEED THE OUTSIDE CIRCUMFERENCE OF THE SPIGOT END BY MORE THAN 0.400 IN.
8. FOR PIPE WALL THICKNESS 3/8" OR GREATER, USE OF WELDING FLANGE IS OPTIONAL. COMPLETELY FILL AIR TEST HOLE BY SEAL WELDING AND THEN GRINDING SMOOTH. THE FINISHED WELD SHALL NOT PROTRUDE MORE THAN 1/8" ABOVE BASE MATERIAL.

A VAR UTILITY SUPPORT

SCALE: NONE

B VAR DOUBLE WELDED LAP OINT

SCALE: NONE

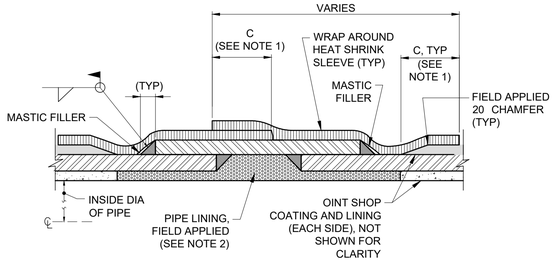


NOTES:

1. BACKING PLATE IN GAP FOR FULL WIDTH AND CENTERED ON OINT OPPOSITE SIDE OF WELD.
2. FILLET WELDS PER AWS D1.1 SHALL BE LIMITED TO THE THICKNESS OF THE PLATE ( ) MINUS 1/16".

E VAR BUTT STRAP SPLICE

SCALE: NONE

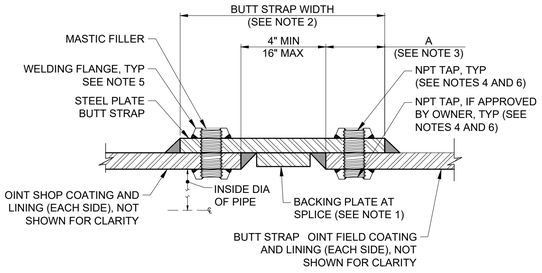


NOTES:

1. DIMENSION C (OVERLAP) = 4" MIN
2. FIELD APPLIED INTERNAL PIPE LINING SHALL SIT FLUSH WITH SHOP APPLIED INTERNAL PIPE LINING.
3. THREADED TEST TAP NOT SHOWN FOR SIMPLICITY.

F VAR BUTT STRAP OINT FIELD COATING AND LINING

SCALE: NONE

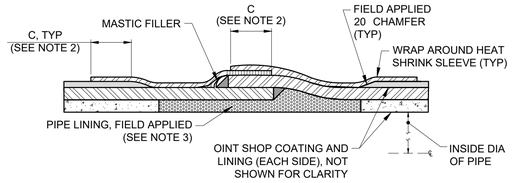


NOTES:

1. FOR FIELD WELDING INDIVIDUAL BUTT STRAP PIECES TO EACH OTHER, SEE BUTT STRAP SPLICE DETAIL 2/SD-05.
2. UNLESS OTHERWISE NOTED, BUTT STRAP WIDTH SHALL CONFORM TO THE LIMITATIONS SHOWN FOR PIPE END SEPARATION AND STEEL OVERLAP REQUIREMENTS.
3. FOR OINT WELDING REQUIREMENTS AND OVERLAP DIMENSION A SEE DOUBLE-WELDED LAP OINT DETAIL 2/SD-04. FILLET WELDS PER AWS D1.1 SHALL BE LIMITED TO THE THICKNESS OF THE PLATE ( ) MINUS 1/16".
4. 1/4" NPT TAP WITH CARBON STEEL PLUG FOR TESTING. TEST TO BE DONE FROM THE OUTSIDE OF THE PIPE UNLESS OTHERWISE APPROVED BY THE OWNER. LEAVE 1/4" OF THREADED PLUG BELOW WELDING FLANGE SO CIRCUMFERENTIAL FIELD WELD AT PLUG CAN BE INSTALLED.
5. FOR PIPE WALL THICKNESS 3/8" OR GREATER, USE OF WELDING FLANGE IS OPTIONAL. COMPLETELY FILL AIR TEST HOLE BY SEAL WELDING AND THEN GRINDING SMOOTH. THE FINISHED WELD SHALL NOT PROTRUDE MORE THAN 1/8" ABOVE BASE MATERIAL.
6. FOR 24" PIPE AND SMALLER PROVIDE SINGLE BUTT STRAP. INSIDE FILLET AND NPT TAP NOT REQUIRED. PRESSURE TEST OINTS.

C VAR BUTT STRAP OINT

SCALE: NONE

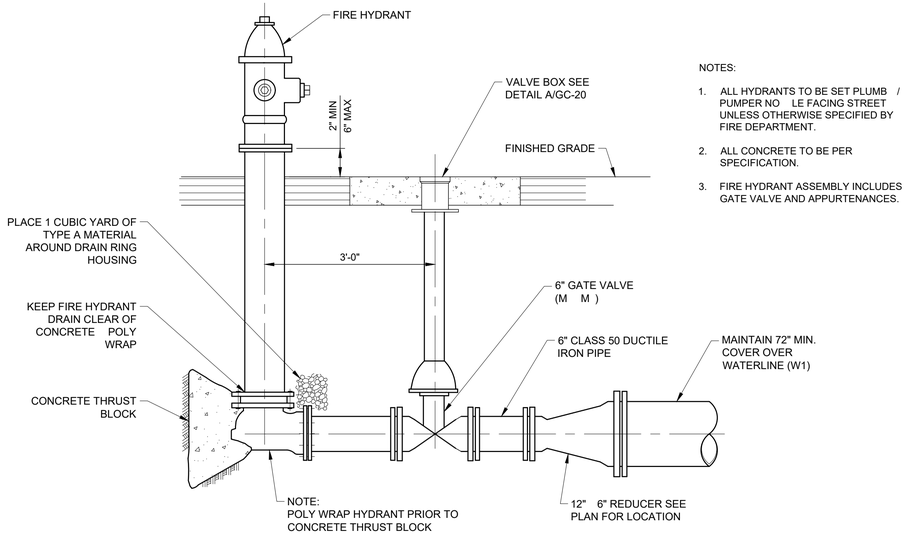


NOTES:

1. FIELD COATING OINT DETAILS FOR LAP OINT SHOWN. DETAILS FOR BUTT STRAP OINTS SIMILAR.
2. DIMENSION C (OVERLAP) = 4" MIN
3. FIELD APPLIED INTERNAL PIPE LINING SHALL SIT FLUSH WITH SHOP APPLIED INTERNAL PIPE LINING.
4. A SINGLE HEAT SHRINK SLEEVE MAY BE USED PROVIDED OVERLAP DIMENSION C IS MAINTAINED.
5. THREADED TEST TAP NOT SHOWN FOR SIMPLICITY.

D VAR DOUBLE WELDED LAP OINT FIELD COATING AND LINING

SCALE: NONE



NOTES:

1. ALL HYDRANTS TO BE SET PLUMB / PUMPER NO LE FACING STREET UNLESS OTHERWISE SPECIFIED BY FIRE DEPARTMENT.
2. ALL CONCRETE TO BE PER SPECIFICATION.
3. FIRE HYDRANT ASSEMBLY INCLUDES GATE VALVE AND APPURTENANCES.

G VAR FIRE HYDRANT

SCALE: NONE

Brown AND Caldwell

SCALE:

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO: 512260079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

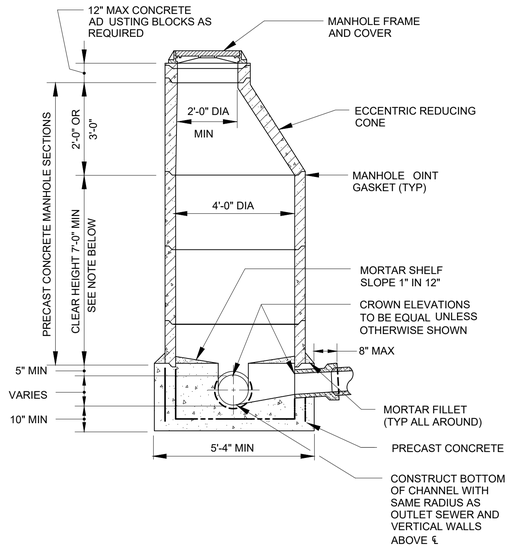
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PIPING DETAILS 3

90% GMP

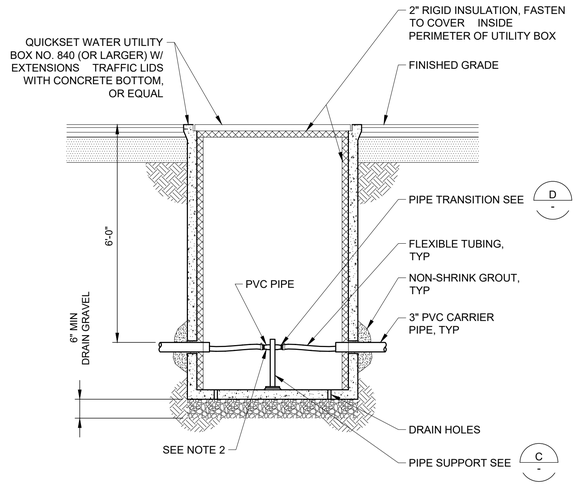
DRAWING NO.

GC-22



A VAR MANHOLE 6" TO 21" DIA PIPE

SCALE: NONE

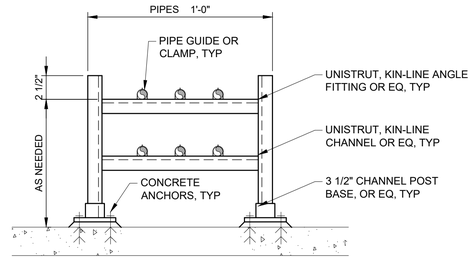


NOTES:

1. SEE DWG 01-C-21 FOR LOCATIONS OF PULL BOXES.
2. SPLICE FLEXIBLE TUBING CHEMICAL LINES WHERE REQUIRED. SPLICES MUST BE LOCATED IN PULL BOX.

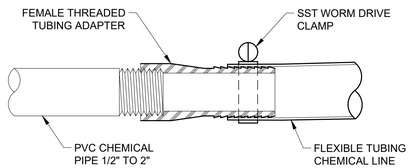
B VAR PULL BOX / FLEXIBLE CHEM LINES

SCALE: NONE



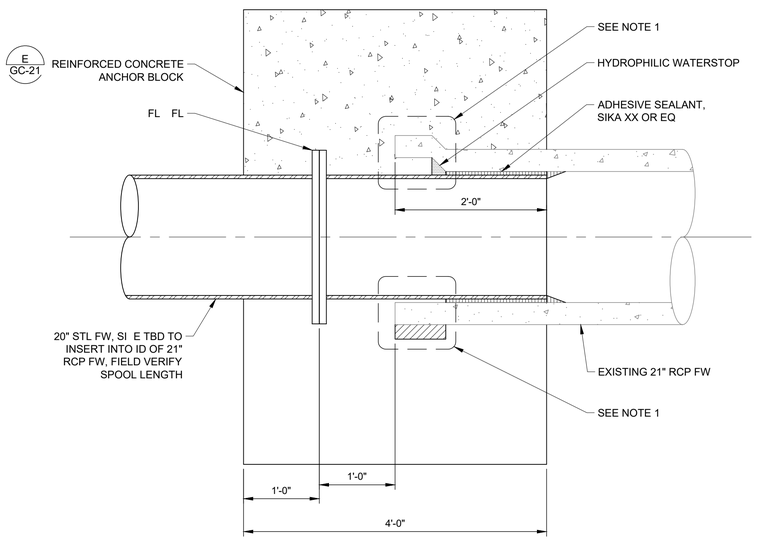
C - PIPE SUPPORT

SCALE: NONE



D - PVC PIPE OT FLEXIBLE TUBING TRANSITION

SCALE: NONE

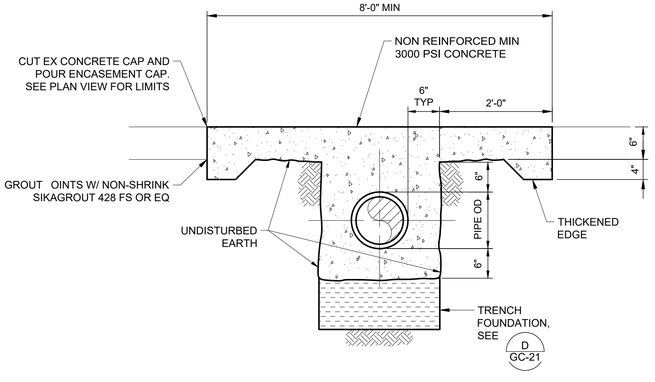


NOTE:

1. PIPE TO BE INSERTED AT OINT LOCATION OF EXISTING 21" RCP. ONE END WILL CONNECT INTO A BELL SECTION AND THE OTHER END TO BE INSERTED INTO THE PLAN END. REMOVE ENTIRE PIPE SECTION.

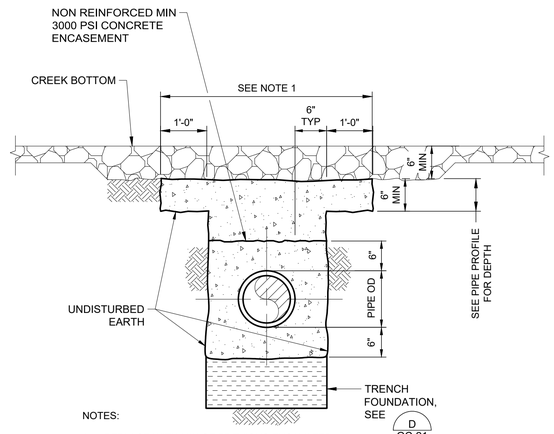
E VAR 20" STL FW CONNECTION DETAIL INTO EXISTING 21" FW

SCALE: NONE



F VAR CREEK PIPE ENCASEMENT WITH CAP

SCALE: NONE



NOTES:

1. REPLACE WITH MIX OF PREVIOUS EXCAVATED, 6-INCH, AND 12-INCH RIPRAP.

G VAR CREEK PIPE ENCASEMENT

SCALE: NONE

SCALE:

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
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SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PIPING DETAILS 4

90% GMP

DRAWING NO.

GC-23

Brown AND Caldwell

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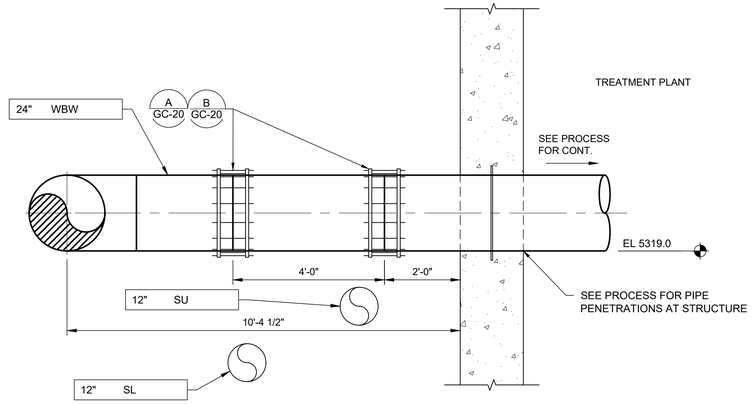
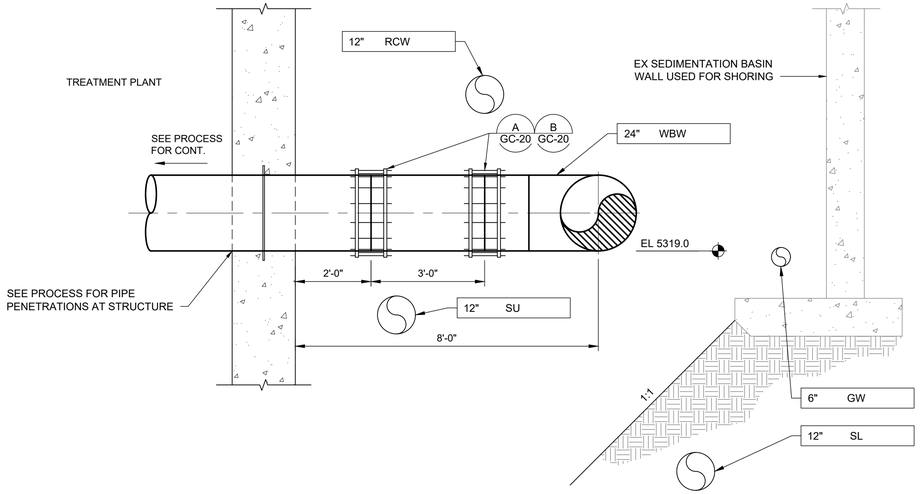
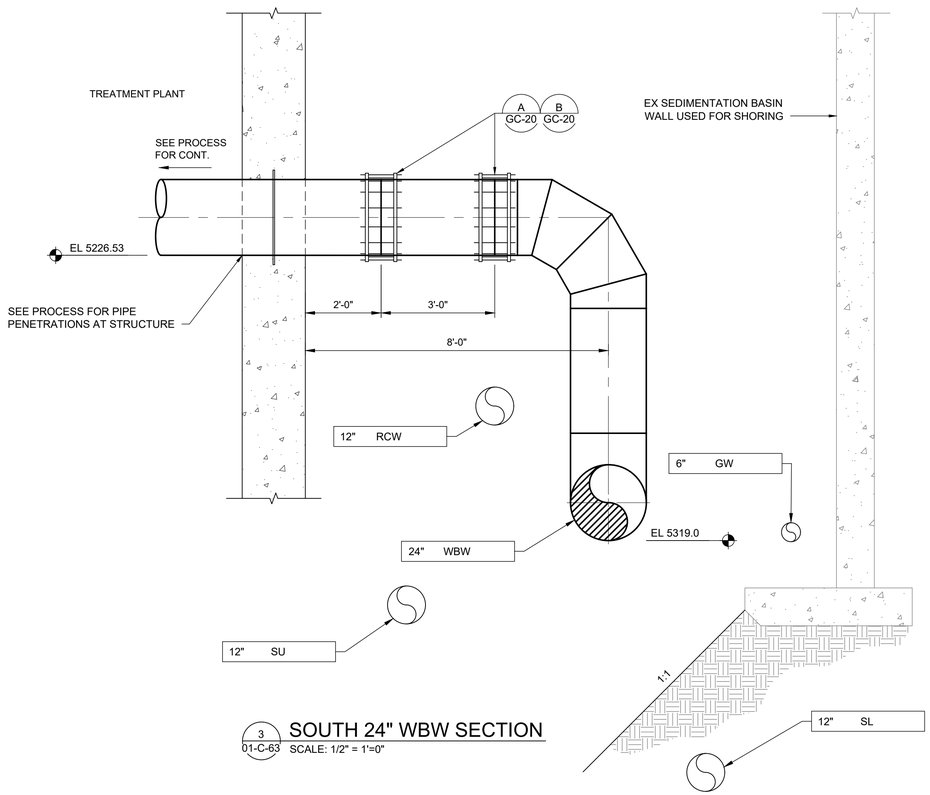


1 01-C-66 NORTH 24" WBW SECTION
SCALE: 1/2" = 1'=0"



2 01-C-63 SOUTH 24" WBW SECTION
SCALE: 1/2" = 1'=0"



3 01-C-63 SOUTH 24" WBW SECTION
SCALE: 1/2" = 1'=0"

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PIPING DETAILS 5

90% GMP

DRAWING NO.
GC-24

Brown AND Caldwell

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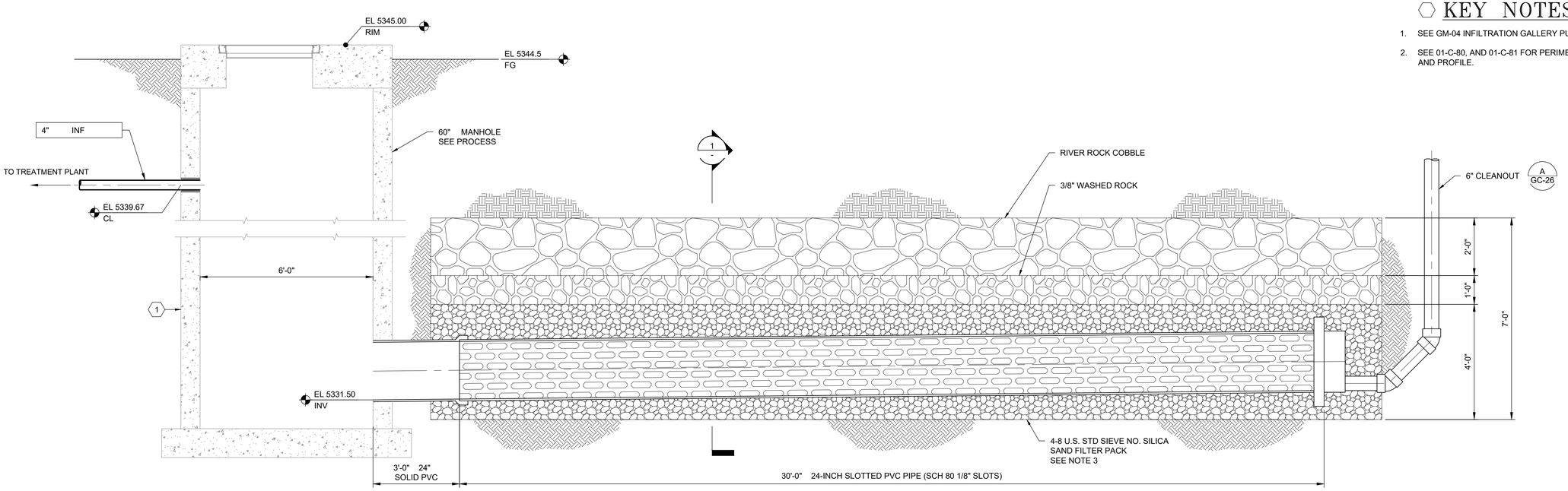
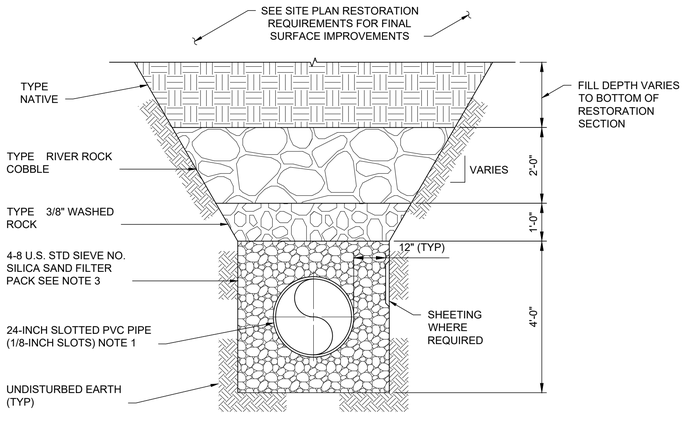
KEY NOTES

1. SEE GM-04 INFILTRATION GALLERY PUMP STATION.
2. SEE 01-C-80, AND 01-C-81 FOR PERIMETER PLAN AND PROFILE.



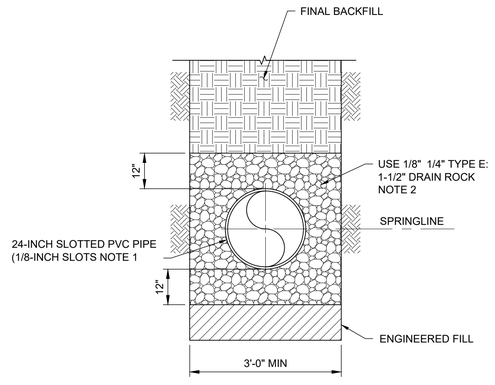
A / 01-C-82 INFILLTRATION GALLERY DETAIL
SCALE: 1/2" = 1'=0"



NOTES:

1. SEE FILL CLASSIFICATION IS SPECIFICATION 31 23 00 FOR MATERIAL TYPES.
2. FINAL SLOT OPENING SI E, LENGTH, SPACING TO BE DETERMINED AFTER SELECTION OF SAND FILTER PACK GRADATION. SEE NOTE 3 BELOW.
3. SAND FILTER PACK DESIGN TO BE CONFIRMED OR UPDATED AFTER SITE SPECIFIC BORING(S) ARE DRILLED BY GEOTECH AND GRADATION (SIEVE) TESTING PERFORMED ON DEPTH SPECIFIC SAMPLES USING THE PROCEDURES FROM INFILTRATION GALLERY GUIDELINES DESIGN, CONSTRUCTION, OPERATION MAINTENANCE, APRIL 2014.
4. SEE PLAN AND PROFILE FOR LENGTH OF TRENCH SECTION, ADDITIONAL.
5. FITTINGS, AND ASSOCIATED APPURTENANCES.
6. BACKWASHING CAPABILITIES WERE NOT DESIGNED INTO THE DEMONSTRATION INFILTRATION GALLERY.

1 / - INFILTRATION DRAIN PIPE TRENCH SECTION
SCALE: NOT TO SCALE



NOTES:

1. SLOTTED PIPE PVC SCH 80 WELL SCREEN. PROVIDE ESP - ENVIRONMENTAL SERVICE PRODUCTS OR EQUAL. SEE 40 05 31 THERMOPLASTIC PROCESS PIPE.
2. PROVIDE SMOOTH WALL WASHED DRAIN ROCK. NO ROCKS SMALLER THAN SLOT SI E ALLOWED.
3. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION.

2 / VAR PERIMETER DRAIN PIPELINE SECTION
SCALE: NOT TO SCALE

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

REVISIONS

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SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PIPING DETAILS 6

90% GMP

DRAWING NO.
GC-25

Brown AND Caldwell

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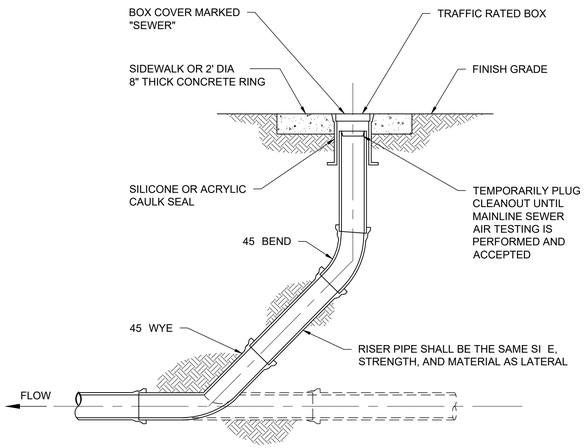
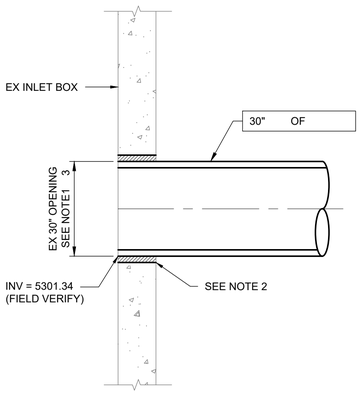


NOTES:

1. PROVIDE CLEANOUTS AT START OF RUN OUTSIDE STRUCTURE AND AT BENDS WHERE INDICATED ON DRAWINGS.
2. MARKER BALL AT UPSTREAM END OF LATERAL MAY BE DELETED FOR LATERALS WITH CLEANOUTS.

A VAR — LATERAL CLEANOUT
NOT TO SCALE

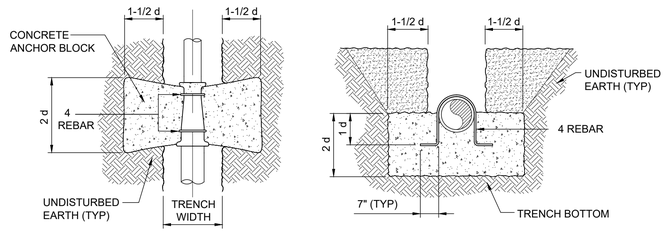


NOTES:

1. REMOVE AND GRIND OUT EXISTING 30" RPM PIPE.
2. PROVIDE 2" LINK-SEA, SEAL MECHANICAL PIPE PENETRATIONS.
3. PROVIDE SPECIAL SI ED FITTING TO INSERT INTO EXISTING OPENING AND TRANSITION TO 36" OVERFLOW PIPE WITH DOUBLE HARNESS COUPLING PER DETAIL A/GC-20

D 01-C-64 — OF PIPE CONNECTION AT EXISTING INLET BOX
NOT TO SCALE

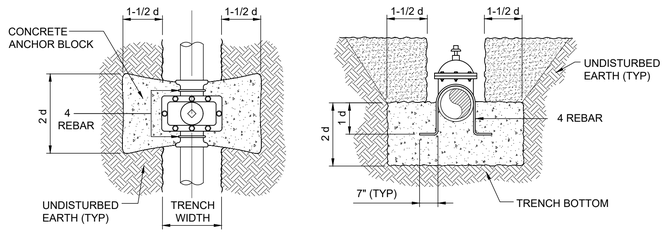
LEGEND: d = LARGER DIAMETER PIPE SI E



PLAN VIEW ELEVATION

IN-LINE REDUCERS

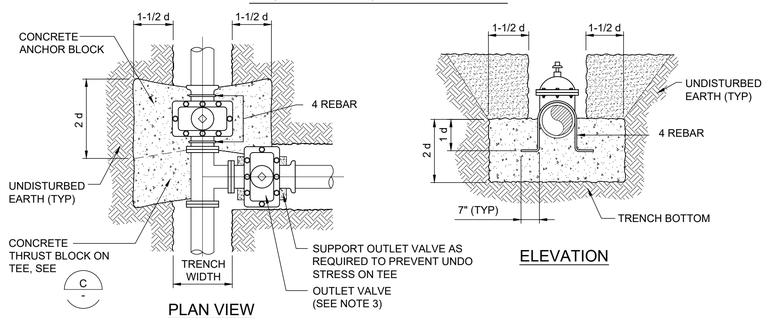
LEGEND: d = NOMINAL PIPE SI E



PLAN VIEW ELEVATION

IN-LINE GATE VALVES

LEGEND: d = NOMINAL PIPE SI E



PLAN VIEW ELEVATION

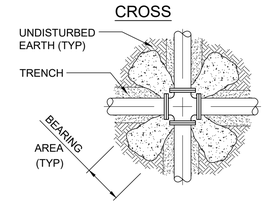
TEE GATE VALVES

NOTES:

1. ALL CONCRETE SHALL BE CLASS PER SECTION 03 30 00.
2. ALL VALVES AND EXPOSED REBAR TO BE COATED AND WRAPPED IN ACCORDANCE WITH SECTION 09 90 00 PAINTING AND COATING OF THE SPECS.
3. WHEN PIPE IS INSTALLED BETWEEN TEE AND OUTLET VALVE AN ADDITIONAL CONCRETE ANCHOR BLOCK WILL BE REQUIRED ON THE OUTLET VALVE.

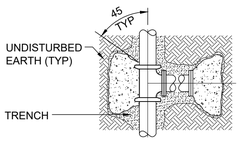
B VAR — ANCHOR BLOCK DETAILS FOR REDUCERS AND GATE VALVES
NOT TO SCALE

CROSS



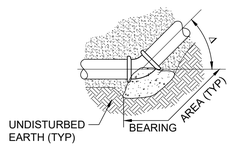
(FIGURE 1)

TEE, PLUG OR CAP



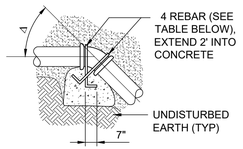
(FIGURE 2)

HORI ONTAL OR UPWARD VERTICAL BEND



(FIGURE 3)

DOWNWARD VERTICAL BEND



(FIGURE 4)

NOTE:

COAT AND WRAP ALL METAL SURFACES IN ACCORDANCE WITH 09 90 00 PAINTING AND COATING. ALL CONCRETE SHALL BE CLASS PER SECTION 03 30 00 PSI MINIMUM, 28 DAYS COMPRESSIVE STRENGTH. CONCRETE IS TO BE PLACED AGAINST UNDISTURBED EARTH. TABLE BELOW DENOTES MINIMUM BEARING AREA OR VOLUME OF THRUST BLOCK. SPECIAL DESIGN CALCULATIONS ARE TO BE SUBMITTED TO ENGINEER FOR APPROVAL IF ALLOWABLE SOIL BEARING CAPACITY IS LESS THAN 3000 PSF. ALL VERTICAL SURFACES NOT BEARING AGAINST UNDISTURBED EARTH SHALL BE FORMED.

	BEARING AREA IN SQ FT						CONC/CU YDS		
PIPE ID	FIGURE	FIGURE	FIGURE 3, △				FIGURE 4, △		
	1	2	90	45	22½	11¼	45	22½	11¼
4"	2	2	2	2	1	1	1.0	0.5	0.5
6"	2	3	4	2	1	1	1.5	1.0	0.5
8"	3	5	7	4	2	1	3.0	1.5	1.0
10"	4	8	11	6	3	2	4.0	2.5	1.5
12"	6	11	15	8	4	2	6.0	3.0	1.5
16"	10	20	28	15	8	4	10.5	6.0	3.0
18"	13	25	35	19	10	5	13.5	7.5	3.5
20"	16	31	44	24	12	6	16.0	9.0	4.5
24"	22	44	63	34	17	9	23.5	12.5	6.5
							5 REBAR	6 REBAR	

C VAR — THRUST BLOCK INSTALLATION
NOT TO SCALE

SCALE:

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

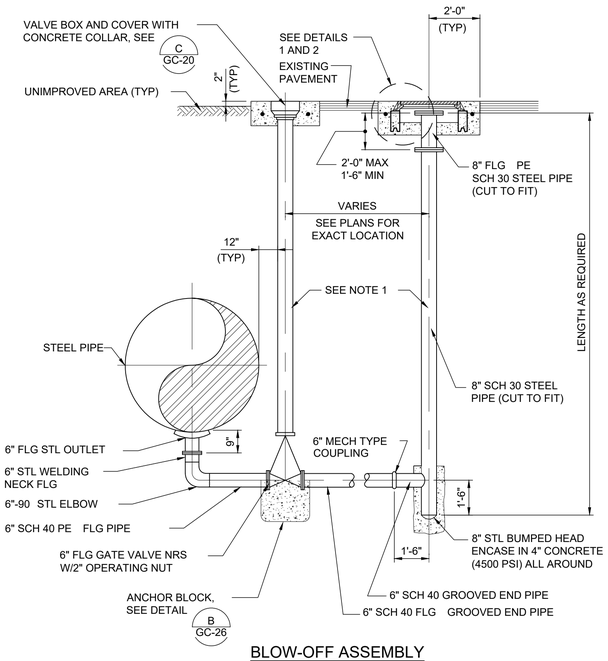
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PIPING DETAILS 7

90% GMP

DRAWING NO.
GC-26

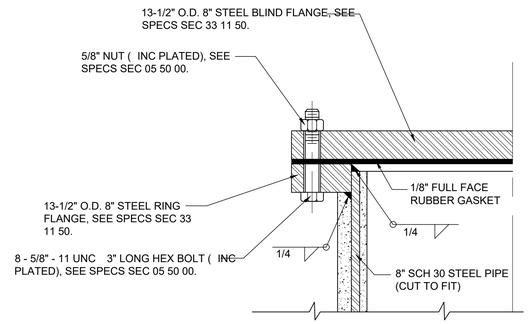
Brown AND Caldwell



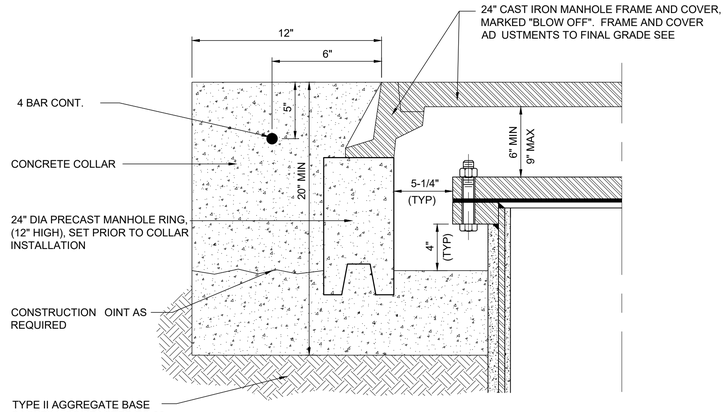
BLOW-OFF ASSEMBLY

NOTES:

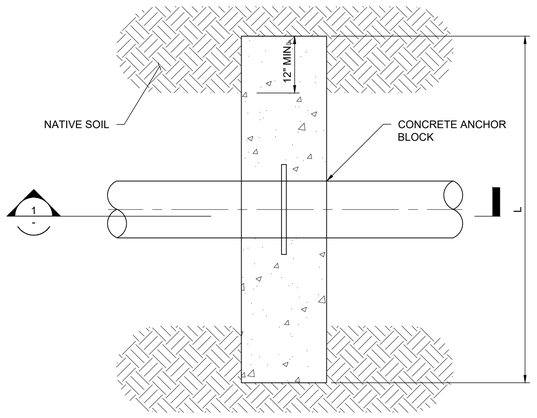
1. IN ORDER TO AVOID UNDUE STRESS ON THE VALVE BOX, VALVE AND BLOW-OFF ASSEMBLY THEY MUST BE PROPERLY SUPPORTED UNTIL THE BACKFILL OPERATION IS COMPLETED.
2. ALL 6" AND 8" STEEL PIPES AND FITTINGS SHALL HAVE CEMENT MORTAR LINING AND COATING.
3. ALL EXPOSED FERROUS SURFACES TO BE COATED IN ACCORDANCE WITH SPECS SEC 09 90 00 PAINTING AND COATING.



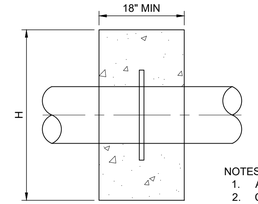
DETAIL 1



DETAIL 2



PLAN



SECTION 1

ANCHOR BLOCK TABLE			
PIPE SI ES	A (FT²)	L (FT)	H (FT)
4"	2.80	3.50	2
6"	6.40	4	2
8"	11.30	4	3.50
10"	17.70	5.50	4
12"	25.40	6.50	4.50
16" - 24"	45.20	8.50	6

NOTES:
1. ANCHOR WALLS SHALL BE CLASS B CONCRETE.
2. CENTER PIPES IN MIDDLE OF CONCRETE ANCHOR BLOCK.

A = MINIMUM BEARING AREA, FT²
L = LENGTH, FT
H = HEIGHT, FT

B VAR ANCHOR BLOCK
SCALE: NONE

A 01-C-67 6" BLOW-OFF ASSEMBLY AND COVER DETAIL
NOT TO SCALE

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

NO.	DATE	REVISIONS	MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PIPING DETAILS 8

90% GMP

DRAWING NO.
GC-27

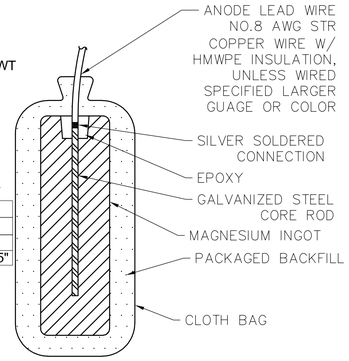
Brown AND Caldwell

HIGH POTENTIAL
ANODE INGOT
CHEMICAL COMPOSITION

ELEMENT	AMOUNT BY WT
AL	0.010%
Mn	0.50-1.30%
Cu	0.02% MAX
Ni	0.001% MAX
Fe	0.03% MAX
OTHER	0.30% MAX
Mg	REMAINDER

ANODE MODEL:	17D3
INGOT WEIGHT:	17-LB
PACKAGED WEIGHT:	47-LB
ANODE DIMENSIONS:	3.5" X 3.75" X 25.75"

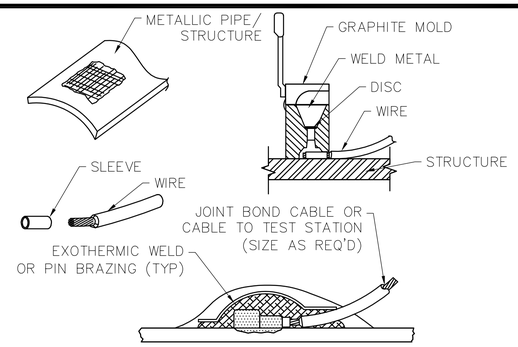
BACKFILL COMPOSITION
GYPSUM 75%
BENTONITE 20%
SODIUM SULPHATE 5%



NOTES:

1. MAGNESIUM INGOT SHALL BE CENTERED IN BACKFILL MATERIAL. IF REQUIRED ROLL PACKAGED ANODE AFTER SHIPPING TO REPOSITION INGOT IN CENTER OF BACKFILL.
2. REMOVE PLASTIC SHIPPING MATERIAL PRIOR TO INSTALLATION.
3. MEASURE AND RECORD ANODE OPEN CIRCUIT POTENTIAL PRIOR TO INSTALLATION. INCLUDE TEST DATA IN TESTING SUBMITTALS.
4. DO NOT SUSPEND ANODE WEIGHT FROM COPPER WIRE. USE A ROPE SLING TO HOIST AND LOWER ANODE DURING INSTALLATION.

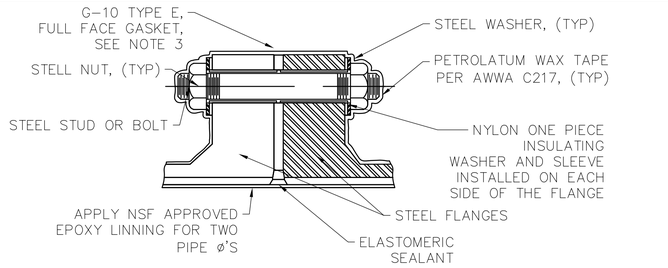
CP 01 / GC-28 MAGNESIUM ANODE
SCALE: N.T.S.

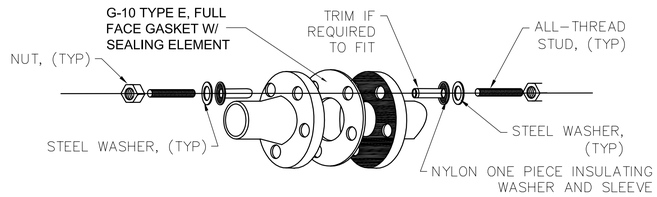


NOTES:

1. GRIND PIPE/STRUCTURE TO BARE METAL AND CLEAN SURFACE.
2. STRIP INSULATION FROM WIRE AND ATTACH SLEEVE
3. HOLD MOLD FIRMLY WITH OPENING AWAY FROM OPERATOR IGNITE WITH FLINT GUN, REMOVE SLAG FROM CONNECTION WITH CHIPPING HAMMER. TEST WELD WITH 22 OZ HAMMER WITH GLANCING BLOW. IF WELD FAILS, POSITION WIRE ATTACHMENT A MINIMUM OF 3" AWAY REPEATING THE ABOVE STEPS. ATTACH WIRES A MINIMUM OF 6"APART.
4. COVER CONNECTIONS WITH BITUMASTIC COATING OVER ALL EXPOSED METAL, PLACE WELD CAP OVER CONNECTION. REPAIR ALL DAMAGE TO COATING AND LINING IN ACCORDANCE WITH MFG RECOMMENDATIONS.
5. ALLOW COATING TO CURE BEFORE BURIAL.
6. ILLUSTRATION DEPICTS HORIZONTAL WELDER. FOR OTHER ORIENTATION USE MOLD RECOMMENDATION BY MANUFACTURER.

CP 02 / GC-28 EXOTHERMIC WELDING
SCALE: N.T.S.

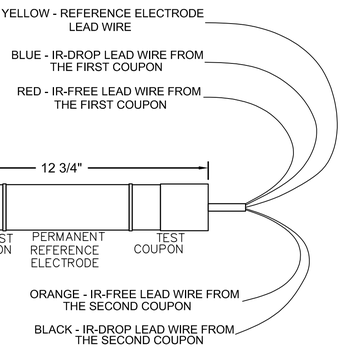




NOTES:

1. TEST INSOLATED FLANGE BEFORE APPLYING WAX TAPE AND BURIAL.
2. EXTEND WAX TAPE 12" BEYOND FLANGE FACE OR 12" ONTO PIPE COATING, WICHEVER IS GREATER.
3. EXTEND FULL FACE GASKET $\frac{1}{8}$" BEYOND STEEL CAN ID. FILL REMAINING ANNULS BETWEEN LINING W /NSF APPROVED ELASTOMERIC SEALENT COMPATIBLE W/LINING MATERIAL.
4. THE ENDS OF THE INSULATING SLEEVES MAY NEED TO BE TRIMMED IN ORDER TO FIT PROPERLY.

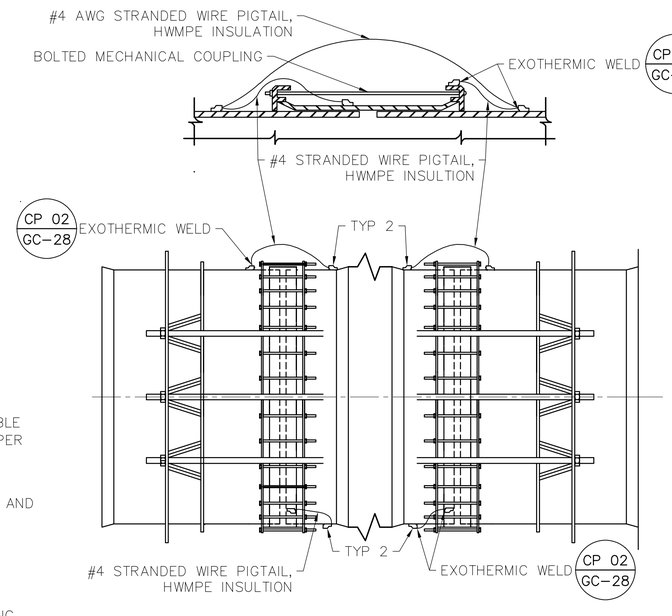
CP 03 / GC-28 INSOLATED FLANGE
SCALE: N.T.S.



NOTES:

1. THE REFERENCE ELECTRODE SHALL BE CAPABLE OF MAINTAINING A STABLE POTENTIAL WITH IN +/- 10 MILLIVOLTS TO THAT OF AN UNUSED COPPER SULFATE REFERENCE ELECTRODE.
2. MEASURE THE ACCURACY OF EACH REFERENCE ELECTRODE BEFORE INSTALLING IT BY MEASURING THE DC VOLTAGE DIFFERENCE BETWEEN IT AND ONE OR MORE REFERENCE ELECTRODE OF KNOWN ACCURACY.
3. THE MEASUREMENT SHALL BE LESS THAN +/- 10 MILLIVOLTS FOR ALL REFERENCE ELECTRODES.
4. CONDUCT THESE MEASUREMENTS AFTER TOTALLY SUBMERGING THE REFERENCE ELECTRODE IN A FIVE-GALLON BUCKET OF POTABLE DRINKING WATER FOR A MINIMUM PERIOD OF 15 MINUTES.
5. BRACKISH OR SALTWATER WILL AFFECT THE TEST RESULTS AND COULD DAMAGE THE REFERENCE ELECTRODE.

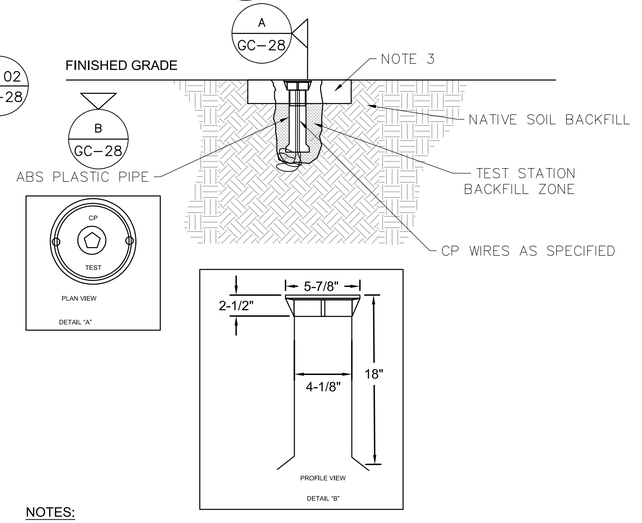
CP 04 / GC-28 IR FREE REFERENCE ELECTRODE
SCALE: N.T.S.



NOTES:

1. INSTALL WIRING FOLLOWING THE ASSEMBLY OF THE RESTRAINT TIE RODS AND PRIOR TO THE APPLICATION OF THE WAX TAPE AWWA C217.

CP 06 / GC-28 RESTRAINED FLEXIBLE COUPLING JOINT BOND
SCALE: N.T.S.



NOTES:

1. ALLOW A MINIMUM OF 24" OF SLACK IN THE WIRES SUCH THAT THE TERMINAL BLOCK CAN BE EXTENDED 18" ABOVE THE FINISHED GRADE.
2. THE ABS PLASTIC PIPE IS TYPICALLY 18" DEEP WITH FLARED BOTTOM TO RESIST SINKING AND DAMAGING THE WIRES.
3. CONCRETE PAD SHALL BE 24"W X24"L X 12"D OR AS SPECIFIED.
4. NO CONCRETE SHALL BE POURED INSIDE OR AT THE BASE OF THE ABS PIPE
5. THE COVER IN DETAIL "A" SHALL BE OF THE LOCKING TYPE.

CP 06 / GC-28 FLUSH MOUNTED TEST STATION
SCALE: N.T.S.

SCALE:
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: S. OLENICH
DRAWN BY: L. HENDERSON
CHECKED BY:
APPROVED BY:
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

REVISIONS

NO.	DATE		AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	SO

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

CATHODIC PROTECTION DETAILS 1

90% GMP

DRAWING NO.
GC-28

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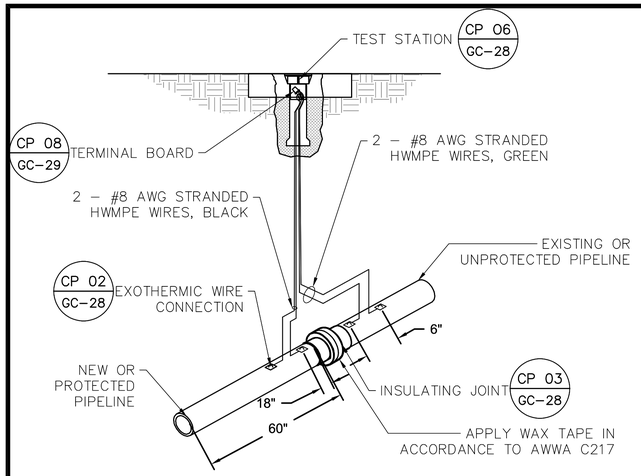
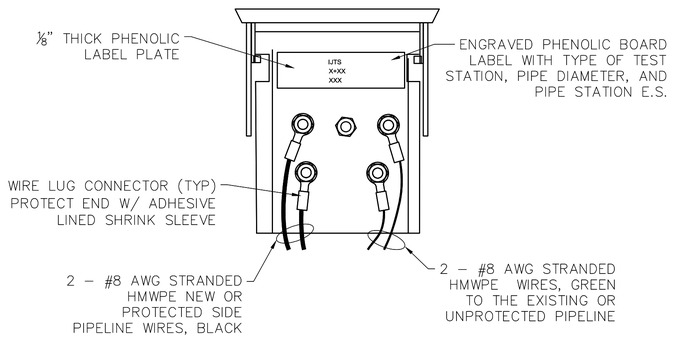


NOTES:

1. PLACE PLASTIC WARNING TAPE 12" ABOVE RUNS.
2. HORIZONTAL RUNS TO BE 36" BELOW GRADE
3. DO NOT MAKE WIRE CONNECTIONS WITHIN 18" OF ISOLATION JOINT.
4. INSTALL TEST STATION PER DETAIL CP 06. IF THE TEST STATION IS LOCATED IN A ROADWAY OR AN OBSTRUCTION INSTALL TEST STATION PER DETAIL CP 11 SHEET ––

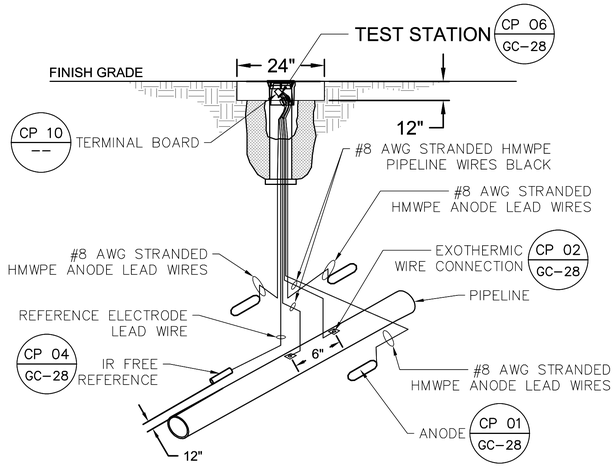
CP 07 / GC-29 **INSULATING JOINT TEST STATION**
SCALE: N.T.S.



NOTES:

1. TERMINALS SHALL BE 1/4" NICKEL PLATED BRASS WITH LOCKING WASHER, TWO FLAT WASHERS, AND DOUBLE NUTS.
2. SOLDER ALL LUGS TO WIRES.

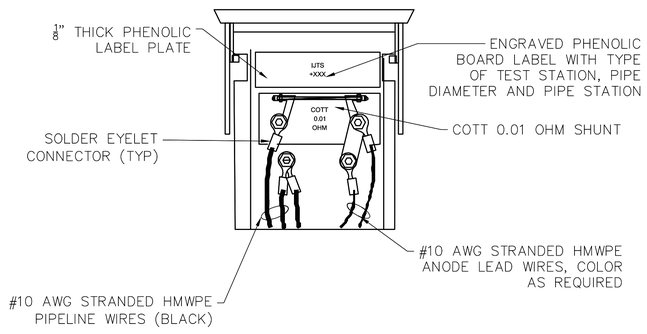
CP 08 / GC-29 **INSULATING JOINT TEST STATION TERMINAL BOARD**
SCALE: N.T.S.



NOTES:

1. PLACE PLASTIC WARNING TAPE 12" ABOVE WIRE RUNS.
2. HORIZONTAL RUNS TO BE 36" BELOW GRADE.
3. NUMBER, TYPE, AND SIZE OF ANODE AS SPECIFIED ON THE CP SCHEDULE.
4. INSTALL TEST STATION PER DETAIL CP 06. IF THE TEST STATION IS LOCATED IN THE ROADWAY OR AN OBSTRUCTION INSTALL TEST STATION PER DETAIL CP 07 SHEET 19.

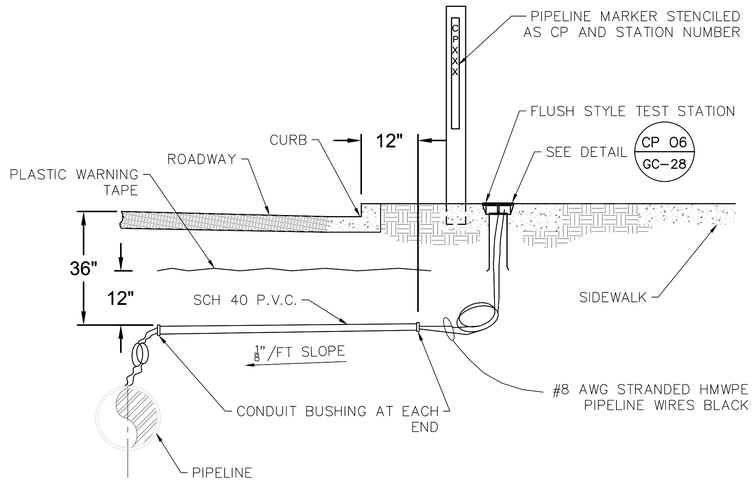
CP 09 / GC-29 **SACRIFICIAL ANODE TEST STATION**
SCALE: N.T.S.



NOTES:

1. TERMINALS SHALL BE ¼" STAINLESS STEEL WITH LOCKING WASHER, TWO FLAT WASHERS, AND DOUBLE NUTS.

CP 10 / GC-29 **ANODE TERMINAL BOARD**
SCALE: N.T.S.



NOTES:

1. BURIED CONDUIT TO BE SCH 40 ELECTRICAL P.V.C. (GRAY)
2. SEAL BOTH ENDS OF THE CONDUIT WITH DUCT COMPOUND.
3. EMBED THE CARSONITE MARKER/LINE MARKER IN CONCRETE.
4. WHERE REQUIRED INSTALL SACRIFICIAL ANODE ARE DETAIL CP1.

CP 11 / GC-29 **FLUSH OFFSET TEST STATION**
SCALE: N.T.S.

SCALE:

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: S. OLENICH
DRAWN BY: L. HENDERSON
CHECKED BY:
APPROVED BY:
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO: 512260079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	SO	SO

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

CATHODIC PROTECTION DETAILS 2

90% GMP

DRAWING NO.
GC-29

CP Installation Schedule
City Creek Yard Piping

Connection Point #	Pipeline	P&P Drawings Sheet #	CP Detail #	Stationing	Anode Quantity	Comments
1	36" RW	01-C-60	CP 03	1+00		Insulating flange
2	36" RW	01-C-60	CP 07	1+00		Insulating flange test station
3	36" RW	01-C-60	CP 09	2+90	4	Anode test station @ tee on existing 36" pipe
4	36" RW	01-C-60	CP 07	2+98		Insulating flange test station
5	36" RW	01-C-60	CP 03	2+98		Insulating flange @ Manway See note 1
6	24" FW N	01-C-62	CP 03	1+00		Insulating flange
7	24" FW N	01-C-62	CP 07	1+00		Insulating flange test station
8	24" FW N	01-C-62	CP 09	2+00	4	Anode test station @ STA. 2+00
9	24" FW N	01-C-62	CP 07	4+33		Insulating flange test station
10	24" FW N	01-C-62	CP 03	4+33		Insulating flange @ Manway See note 1
11	24" FW S	01-C-62	CP 03	1+00		Insulating flange
12	24" FW S	01-C-62	CP 07	1+00		Insulating flange test station
13	24" FW S	01-C-62	CP 09	2+00	4	Anode test station @ STA. 2+00
14	24" FW S	01-C-62	CP 07	4+33		Insulating flange test station
15	24" FW S	01-C-62	CP 03	4+33		Insulating flange @ Manway See note 1
16	24" WBW	01-C-63	CP 03	1+00		Insulating flange on the tee
17	24" WBW	01-C-63	CP 07	1+00		Insulating flange test station
18	24" WBW	01-C-63	CP 09	2+03	3	Anode test station @ 90 degree bend
19	24" WBW	01-C-63	CP 07	2+96		Insulating flange test station
20	24" WBW	01-C-63	CP 03	2+96		Insulating flange
21	24" WBW	01-C-63	CP 07	3+15		Insulating flange test station
22	24" WBW	01-C-63	CP 03	3+15		Insulating flange
23	24" WBW	01-C-63	CP 07	3+35		Insulating flange test station
24	24" WBW	01-C-63	CP 03	3+35		Insulating flange
25	24" WBW	01-C-63	CP 07	3+55		Insulating flange test station
26	24" WBW	01-C-63	CP 03	3+55		Insulating flange
27	36"OF 1st	01-C-64	CP 03	1+00		Insulating flange @ inlet box See note 1
28	36"OF 1st	01-C-64	CP 07	1+00		Insulating flange test station
29	36"OF 1st	01-C-64	CP 09	1+12	3	Anode test station @ on 36" pipe at reducer
30	36"OF 1st	01-C-65	CP 09	4+98	4	Anode test station @ on 36" pipe at junction structure
31	36"OF 1st	01-C-65	CP 03	5+08		Insulating flange @ junction structure See note 1
32	36"OF 2nd	01-C-65	CP 03	5+16		Insulating flange @ junction structure See note 1
33	36"OF 2nd	01-C-65	CP 09	5+33	3	Anode test station @ on 36" pipe at bend
34	36"OF 2nd	01-C-66	CP 09	7+55	3	Anode test station @ on 36" X 24" wye See note 2
35	36"OF 2nd	01-C-66	CP 03	7+85		Insulating flange test station See note 2
36	36"OF 2nd	01-C-66	CP 07	7+85		Insulating flange See note 2
37	36"OF 2nd	01-C-66	CP 03	8+05		Insulating flange test station See note 2
38	36"OF 2nd	01-C-66	CP 07	8+05		Insulating flange See note 2
39	36"OF 2nd	01-C-66	CP 03	8+25		Insulating flange test station See note 2
40	36"OF 2nd	01-C-66	CP 07	8+25		Insulating flange See note 2
41	36"OF 2nd	01-C-66	CP 03	8+45		Insulating flange test station See note 2
42	36"OF 2nd	01-C-66	CP 07	8+45		Insulating flange See note 2
43	24" BW	01-C-67	CP 03	1+00		Insulating flange
44	24" BW	01-C-67	CP 07	1+00		Insulating flange test station
45	24" BW	01-C-67	CP 09	1+58	2	Anode test station @ blow off
46	24" BW	01-C-67	CP 07	2+50		Insulating flange test station
47	24" BW	01-C-67	CP 03	2+50		Insulating flange

Note 1 if the pipe terminates in the concrete wall no insualtion flange kit or test station required. Must be isolated from the re-enforcing steel

Note 2 this include the 24" WBW north pipeline

SCALE:

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: S. OLENICH
DRAWN BY: L. HENDERSON
CHECKED BY:
APPROVED BY:
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	SO	SO

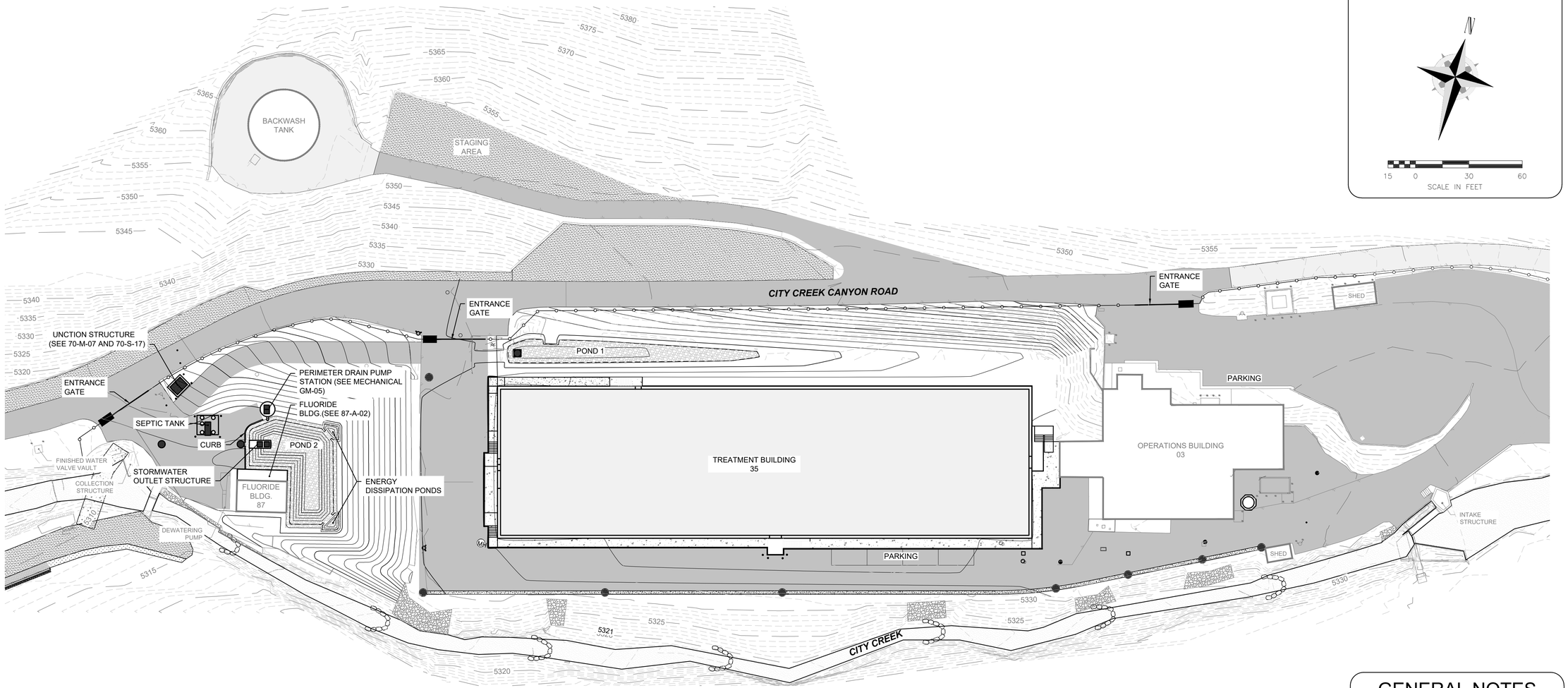
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

CATHODIC PROTECTION SCHEDULE

90% GMP

DRAWING NO.
GC-30



GENERAL NOTES

1. OVERALL SITE PLAN DEPICTS FINAL CONDITION OF SITE IMPROVEMENTS FOR THE ASSOCIATED CIVIL DESIGN, GRADING, PAVING AND SITE CIVIL FEATURES.
2. SEE REQUIREMENTS AND DETAILS THROUGHOUT THE PLAN SET FOR DEVELOPING WORK PLANS AND SEQUENCING. PRIOR TO CONSTRUCTION ACTIVITIES RELATED TO CIVIL SITE INFRASTRUCTURE.
3. FACILITY NUMBERS:
   - TREATMENT BUILDING AREA 35
   - FLUORIDE BUILDING AREA 87
   - CLARIFIER AREA 60
   - OPERATIONS BUILDING 03
4. GC-01 GENERAL CIVIL NOTES AND SYMBOLS.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: P.SCHUHEN
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

NO.	DATE	REVISIONS	MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

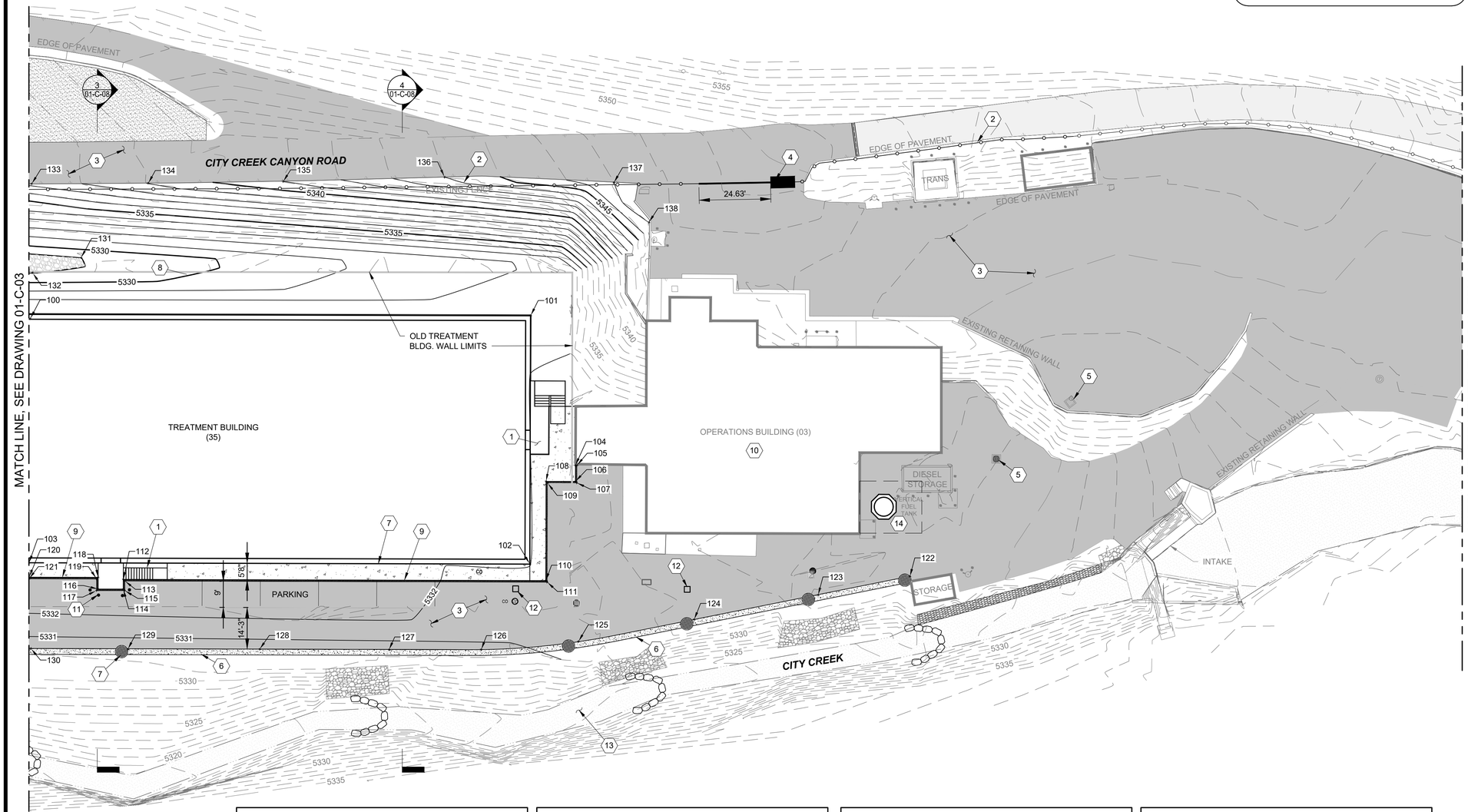
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

OVERALL SITE PLAN GRADING & PAVING

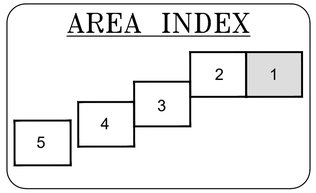
SALT LAKE CITY

90% GMP

DRAWING NO.
01-C-01



AREA INDEX



GENERAL NOTES

1. FOR STORMWATER AND DRAINAGE IMPROVEMENTS SEE 01-C-10 STORMWATER DRAINAGE PLAN.
2. FOR AREA GRADING CONTROL POINT INFORMATION TABLE, SEE SHEET 01-C-13.
3. SEE LANDSCAPE DRAWINGS FOR RESTORATION OF UNPAVED AREAS.

KEY NOTES

1. FOR STAIRS AND ENTRY WAYS TO TREATMENT BUILDING SEE STRUCTURAL AND ARCHITECTURE SHEETS. VERIFY ELEVATIONS PRIOR TO MANUFACTURING.
2. PROVIDE FENCE PER DETAIL D/GC-12.
3. REMOVE AND REPLACE ASPHALT PAVEMENT. PROVIDE CLEAN SAW CUT LINES. ANY BROKEN OR DAMAGED PAVEMENT OUTSIDE SAW CUTS LINES TO BE INCLUDED AS PART OF THE FINAL PAVEMENT. AC PER DETAIL B / GC-11. 4-INCH MINIMUM THICKNESS WITH 2 LIFTS.
4. INSTALL SECURE GATE ENTRY VERTICAL PIVOT Q SYSTEM TILT-A-WAY MODEL HY G PATRIOT STYLE PER MANUFACTURERS INSTALLATION INSTRUCTIONS.
5. RESET EXISTING STORM INLETS WITH FINAL PAVEMENT.
6. CONCRETE DRAINAGE VALLEY GUTTER PER DETAIL E/ GC-10.
7. DRAINAGE BASIN 24" GRATE PER DETAIL A / GC-13 (TYPICAL). SEE STORMWATER AND DRAINAGE IMPROVEMENTS FOR ADDITIONAL REQUIREMENTS.
8. DRAINAGE POND 2 PER DETAIL E / GC-11
9. CONSTRUCT CURB AND SIDEWALK PER DETAIL C / GC-10
10. MODIFICATIONS TO EXISTING OPERATIONS BUILDING SEE 03-M-01.
11. PROVIDE 4 BOLLARDS PLACED AT CORNERS 1 FT OFF WALL EDGE PER DETAIL A / GC-11.
12. CONSTRUCT CHEMICAL PULL BOXES PER DETAIL B / GC-23
13. CREEK REPAIRS SEE 01-C-11.
14. FUEL TANK STORAGE SEE 03-M-01, PRIOR TO PLACEMENT ABANDONED PIPE THEN PROVIDE STRUCTURAL BACKFILLFOR FOUNDATION.

SHEET LEGEND

- EXISITNG AC PAVEMENT
- REMOVE AND REPLACE ASPHALT PAVEMENT
- GRAVEL SECTION
- DRAINAGE ROCK
- CONCRETE
- SAWCUT LINE

AREA 1 GRADING DESIGN PNTS

	NORTHING	EASTING	ELEV.	DESC.
100	7465811.33	1548443.71	5333.25	FG/BLDG
101	7465859.71	1548608.69	5333.00	FG/BLDG
102	7465777.51	1548631.97	5333.00	TOC/BLDG
103	7465730.50	1548466.40	5333.00	TOC/BLDG
104	7465814.46	1548637.64	5331.80	TOC
105	7465814.60	1548638.16	5331.30	BOC
106	7465809.14	1548639.16	5331.80	TOC
107	7465808.81	1548639.79	5331.30	BOC
108	7465806.38	1548629.47	5331.80	TOC
109	7465806.00	1548630.09	5331.30	BOC

AREA 1 GRADING DESIGN PNTS

	NORTHING	EASTING	ELEV.	DESC.
110	7465773.59	1548638.76	5331.70	TOC
111	7465773.22	1548639.38	5331.20	BOC
112	7465733.96	1548499.14	5332.70	TOC
113	7465733.61	1548499.74	5332.20	BOC
114	7465730.75	1548500.03	5332.60	TOC
115	7465730.40	1548500.65	5332.10	BOC/ASP
116	7465728.40	1548491.69	5332.60	TOC
117	7465727.78	1548491.35	5332.10	BOC/ASP
118	7465732.23	1548490.60	5332.70	TOC
119	7465731.62	1548490.25	5332.20	BOC/ASP

AREA 1 GRADING DESIGN PNTS

	NORTHING	EASTING	ELEV.	DESC.
120	7465725.81	1548467.79	5333.70	TOC
121	7465725.25	1548467.91	5332.20	BOC/ASP
122	7465809.50	1548758.65	5333.20	VP/ASP
123	7465794.61	1548730.08	5332.70	VP/ASP
124	7465774.82	1548691.48	5332.50	VP/ASP
125	7465756.58	1548655.36	5332.20	VP/ASP
126	7465744.73	1548623.99	5331.80	VP/ASP
127	7465735.93	1548593.55	5331.80	VP/ASP
128	7465723.84	1548550.78	5331.80	VP/ASP
129	7465711.35	1548507.22	5331.80	VP/ASP

AREA 1 GRADING DESIGN PNTS

	NORTHING	EASTING	ELEV.	DESC.
130	7465702.38	1548475.13	5331.80	VP/ASP
131	7465836.22	1548454.73	5329.00	PD
132	7465826.65	1548440.09	5329.00	PD
133	7465855.95	1548431.40	MATCH EX.	ASP
134	7465867.21	1548469.86	MATCH EX.	ASP
135	7465880.51	1548514.25	MATCH EX.	ASP
136	7465897.24	1548567.15	MATCH EX.	ASP
137	7465911.50	1548623.58	MATCH EX.	ASP
138	7465901.68	1548638.90	MATCH EX.	ASP

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: P.SCHUHEN
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

SITE PLAN GRADING & PAVING – AREA 1

90% GMP

DRAWING NO.
01-C-02

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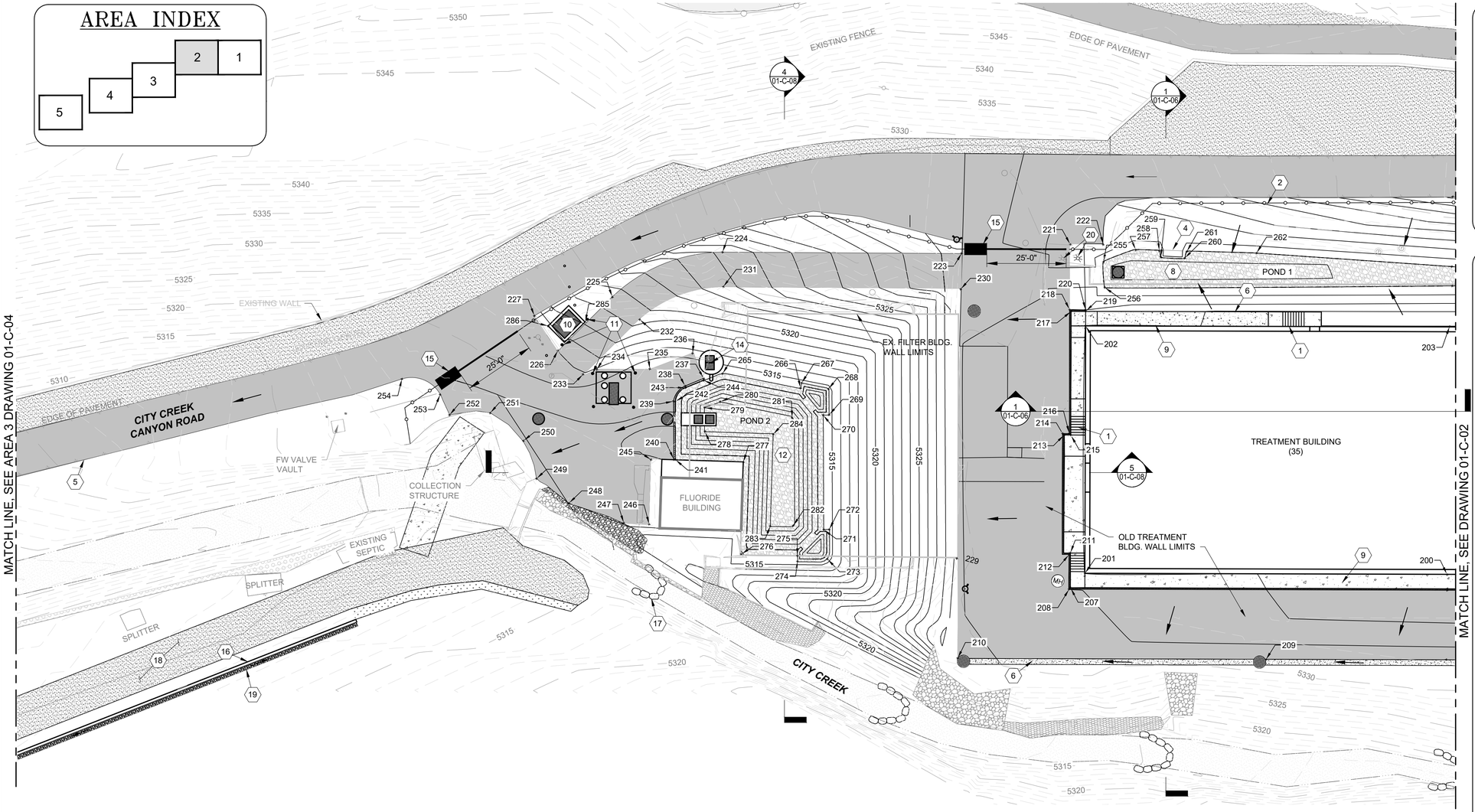


GENERAL NOTES

1. FOR STORMWATER AND DRAINAGE IMPROVEMENTS SEE 01-C-10 STORMWATER DRAINAGE PLAN.
2. FOR AREA GRADING DATA POINT INFORMATION TABLE, SEE SHEET 01-C-13.
3. SEE LANDSCAPE DRAWINGS FOR RESTORATION OF UNPAVED AREAS.

KEY NOTES

1. FOR FINAL LOCATION OF STAIRS AND ENTRY WAYS TO TREATMENT BUILDING, SEE STRUCTURAL AND ARCHITECTURE SHEETS.
2. PROVIDE FENCE PER DETAIL D/GC-12.
3. REMOVE AND REPLACE ASPHALT PAVEMENT. PROVIDE CLEAN SAW CUT LINES AT EDGE OF EXISTING PAVEMENT THAT IS TO REMAIN. AC PER DETAIL B / GC-11. 4-INCH MINIMUM THICKNESS WITH 2 LIFTS.
4. PROTECT ELECTRICAL CABINET IN PLACE
5. PROVIDE GATE ENTRANCE PER DETAIL X/GC-13.
6. PROVIDE CONCRETE DRAINAGE VALLEY GUTTER PER DETAIL E/ GC-10.
7. CONSTRUCT SEPTIC TANK SYSTEM. FOR DESIGN SEE REFERENCED ATTACHMENT FOR SEPTIC SYSTEM DESIGN PACKAGE.
8. CONSTRUCT DRAINAGE POND 1 PER DETAIL D / GC-10.
9. PROVIDE CURB AND SIDEWALK PER DETAIL C / GC-10.
10. UNCTION STRUCTURE SEE 70-S-15.
11. PROVIDE BOLLARDS PER DETAIL A / GC-11.
12. CONSTRCT DRAINAGE POND 2 PER DETAIL E / GC-11.
13. FLUORIDE BUILDING ADDITION, SEE 87-S-01.
14. PERIMETER DRAIN PUMP STATION SEE 01-M-01.
15. INSTALL SECURE GATE ENTRY VERTICAL PIVOT SYSTEM TILT-A-WAY MODEL HY G PATRIOT STYLE. PER MANUFACTURES INSTALLATION INSTRUCTIONS.
16. CONSTRUCT SOIL NAIL WALL.
17. CREEK MAINTENANCE AND REPAIRS SEE 01-C-11.
18. CONSTRUCT GRAVEL ROAD SECTION, SEE DETAIL F/GC-10.
19. PROVIDE DRAINAGE DITCH, SEE DETAIL G / GC-10.
20. RELOCATE LIGHT POLE TO UNPAVED AREA.
21. CONSTRUCT CURB PER DETAIL A/GC-10.
22. PROVIDE CURB-CUT FOR EMERGENCY OVER FLOW. GRADE TO DRAIN TO CREEK.

SHEET LEGEND

- EXISITNG AC PAVEMENT
- REMOVE AND REPLACE ASPHALT PAVEMENT
- GRAVEL SECTION
- DRAINAGE ROCK
- CONCRETE
- SAWCUT LINE

Brown AND Caldwell

AREA 2 GRADING DESIGN PNTS

	NORTHING	EASTING	ELEV.	DESC.
200	7465729.63	1548463.53	5333.00	TOC/BLDG
201	7465695.63	1548343.34	5333.00	TOC/BLDG
202	7465777.75	1548319.99	5333.00	TOC/BLDG
203	7465812.10	1548440.76	5333.00	TOC/BLDG
204	7465724.97	1548464.96		TOC
205	7465724.46	1548465.03		BOC
206	7465701.36	1548471.37		ASP/VP
207	7465689.50	1548339.93		TOC
208	7465688.82	1548339.58		BOC/ASP
209	7465684.23	1548411.56		ASP/VP
210	7465655.39	1548309.24		ASP/VP
211	7465701.04	1548336.58		TOC
212	7465700.32	1548336.27		BOC/ASP
213	7465739.49	1548323.28		TOC
214	7465739.87	1548322.62		BOC/ASP
215	7465740.15	1548325.51		TOC
216	7465740.51	1548324.88		BOC/ASP
217	7465781.18	1548313.87		TOC

AREA 2 GRADING DESIGN PNTS

	NORTHING	EASTING	ELEV.	DESC.
218	7465781.54	1548313.25		BOC/ASP
219	7465782.58	1548318.73		TOC
220	7465783.05	1548318.48		BOC/ASP
221	7465803.24	1548307.29		ASP
222	7465806.35	1548318.16		ASP
223	7465790.01	1548272.06		ASP
224	7465767.66	1548192.70		ASP
225	7465742.26	1548160.44		ASP
226	7465719.34	1548147.43		ASP
227	7465728.64	1548136.35		ASP
228	7465855.45	1548429.48		ASP
229	7465688.38	1548299.47		ASP
230	7465778.02	1548275.16		ASP
231	7465756.25	1548196.24		ASP
232	7465737.45	1548171.66		ASP
233	7465713.89	1548158.07		ASP
234	7465716.78	1548162.17		ASP
235	7465722.03	1548179.69		ASP

AREA 2 GRADING DESIGN PNTS

	NORTHING	EASTING	ELEV.	DESC.
236	7465731.27	1548192.37		ASP
237	7465723.92	1548198.55		ASP
238	7465719.68	1548193.03		ASP
239	7465713.60	1548190.60		ASP
240	7465694.28	1548196.28		ASP
241	7465694.41	1548196.78		ASP
242	7465713.65	1548191.19		ASP
243	7465719.17	1548193.32		ASP
244	7465723.40	1548198.67		ASP
245	7465692.07	1548188.70		TOC/ASP
246	7465670.44	1548194.25		TOC/ASP
247	7465668.48	1548185.71		ASP
248	7465669.84	1548165.64		ASP
249	7465674.90	1548152.57		ASP
250	7465686.18	1548144.62		ASP
251	7465692.24	1548130.97		ASP
252	7465687.69	1548117.67		ASP
253	7465693.56	1548112.62		ASP

AREA 2 GRADING DESIGN PNTS

	NORTHING	EASTING	ELEV.	DESC.
254	7465695.08	1548098.45		ASP
255	7465800.65	1548319.92		ASP
256	7465792.27	1548322.75		FG
257	7465807.68	1548329.44		FG
258	7465809.65	1548337.30		FG
259	7465807.73	1548338.45		FG
260	7465809.61	1548346.48		FG
261	7465812.02	1548346.56		FG
262	7465818.13	1548369.81		FG
263	7465832.18	1548435.82		FG
264	7465825.82	1548437.79		FG
265	7465727.43	1548204.26	5314.00	TOPND/FG
266	7465730.01	1548231.47		TOPND/FG
267	7465731.83	1548231.35	5314.00	TOPND/FG
268	7465732.39	1548240.84	5314.00	TOPND/FG
269	7465723.87	1548243.49	5314.00	TOPND/FG
270	7465723.25	1548241.49	5314.00	TOPND/FG
271	7465685.24	1548252.61	5314.00	TOPND/FG

AREA 2 GRADING DESIGN PNTS

	NORTHING	EASTING	ELEV.	DESC.
272	7465685.91	1548254.43	5314.00	TOPND/FG
273	7465675.89	1548256.64	5314.00	TOPND/FG
274	7465672.23	1548246.94	5314.00	TOPND/FG
275	7465674.15	1548246.37	5314.00	TOPND/FG
276	7465669.29	1548227.62	5314.00	TOPND/FG
277	7465700.08	1548219.57	5314.00	TOPND/FG
278	7465706.51	1548203.94	5309.00	BOPND/FG
279	7465714.43	1548201.56	5309.00	BOPND/FG
280	7465717.87	1548206.14	5309.00	BOPND/FG
281	7465719.32	1548231.50	5309.00	BOPND/FG
282	7465683.73	1548242.14	5309.00	BOPND/FG
283	7465681.36	1548234.54	5309.00	BOPND/FG
284	7465712.10	1548226.82	5309.00	BOPND/FG
285	7465731.48	1548153.83	5317.20	FG/BOC
286	7465726.61	1548141.87	5315.80	FG/BOC

DESIGNED BY: N.OLTEAN
DRAWN BY: P.SCHUHEN
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

REVISIONS

NO.	DATE	MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO SB

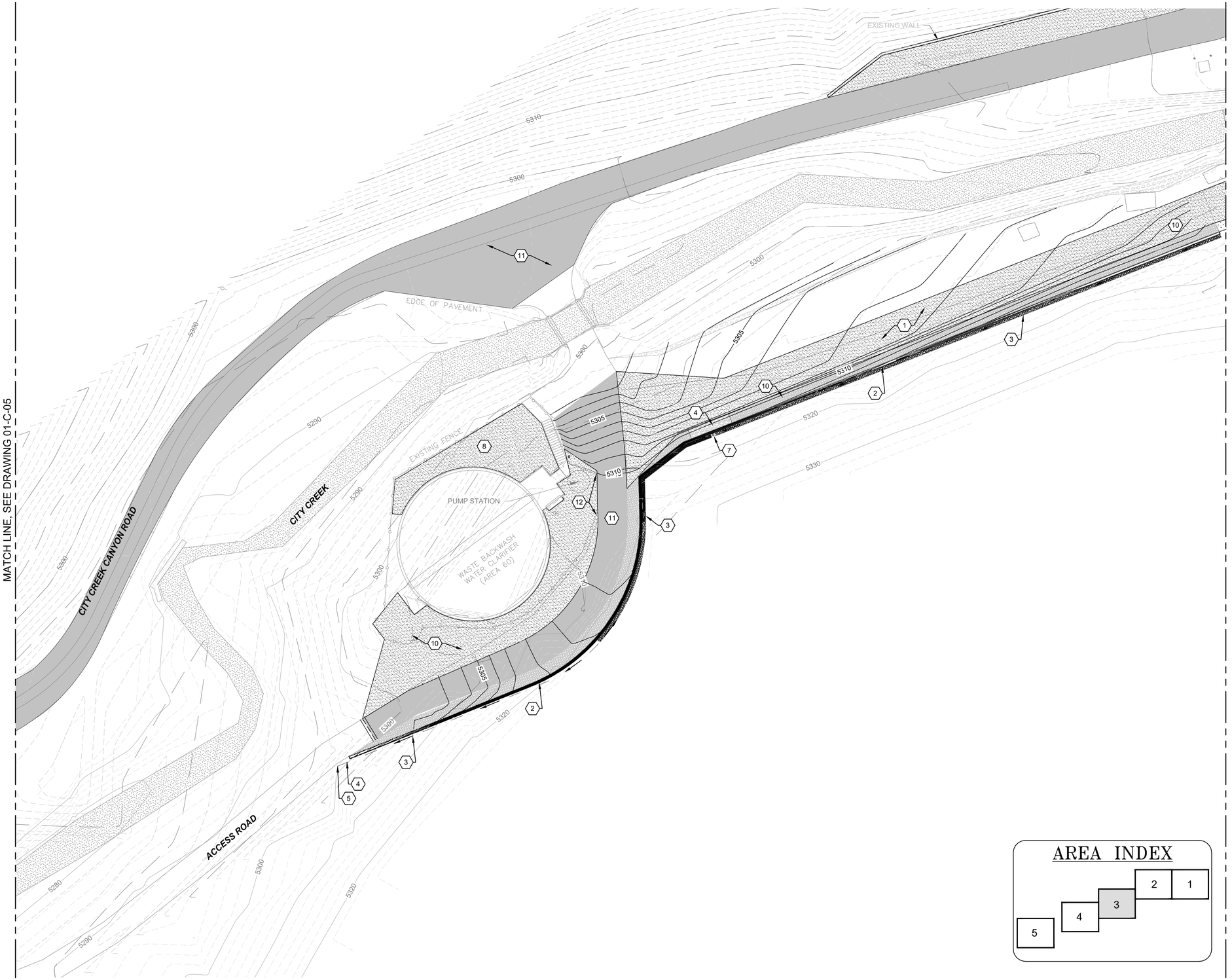
CITY CREEK TREATMENT PLANT UPGRADES
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
BRIC PACKAGE

SITE PLAN GRADING & PAVING – AREA 2

90% GMP

DRAWING NO.
01-C-03

C:\bcpw\d1569769\01-C-03.dwg Jun 13, 2024 - 8:13am



N

10 0 20 40

SCALE IN FEET

GENERAL NOTES

1. FOR STORMWATER AND DRAINAGE IMPROVEMENTS SEE 01-C-10 STORMWATER DRAINAGE PLAN.
2. FOR AREA GRADING CONTROL POINT INFORMATION TABLE, SEE SHEET 01-C-13.
3. SEE LANDSCAPE DRAWINGS FOR RESTORATION OF UNPAVED AREAS.

KEY NOTES

1. CONSTRUCT GRAVEL ROAD SECTION, SEE DETAIL F/GC-10.
2. CONSTRUCT SOIL NAIL WALL, SEE SPECIFICATION 31 32 36 AND DETAIL H/GC-10.
3. CONSTRUCT DRAINAGE DITCH, SEE DETAIL G ON GC-10.
4. CONSTRUCT DRAINAGE SWALE, SEE DETAIL D ON GC-10.
5. CONNECT DRAINAGE DITCH TO EXISTING ROAD DRAINAGE.
6. FOR RETAINING WALL TYPICAL GRADING AND DRAINAGE, SEE DETAIL H/GC-10.
7. RETAINING WALL LOW POINT DRAIN PIPE PER DETAIL I/GC-10.
8. AFTER REMOVAL OF SHRUBS IN THIS AREA PROVIDE 6" RIPRAP OVER NON-WOVEN GEOTEXTILE DRAINAGE FABRIC MIRAFI 140NL OR APPROVED EQUAL.
9. MODIFICATIONS TO CLAIRIFIER, SEE DETAIL H/GC-10.
10. ROCK SURFACE RESTORATION PER DETAIL /GC-10.
11. REMOVE AND REPLACE ASPHALT PAVEMENT. PROVIDE CLEAN SAW CUT LINES. AC PER DETAIL B/GC-11. 4-INCH MIN. THICKNESS WITH 2 LIFTS.
12. PROTECT FENCE IN-PLACE OR DISMANTLE. ANY DAMAGE TO BE REPLACED WITH SIMILAR KIND..

SHEET LEGEND

- EXISITNG AC PAVEMENT
- REMOVE AND REPLACE ASPHALT PAVEMENT
- GRAVEL SECTION
- DRAINAGE ROCK
- CONCRETE
- SAWCUT LINE

AREA INDEX

Brown AND Caldwell

SCALE:

VERIFY SCALE

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DESIGNED BY: N.OLTEAN
DRAWN BY: P.SCHUHEN
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
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SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

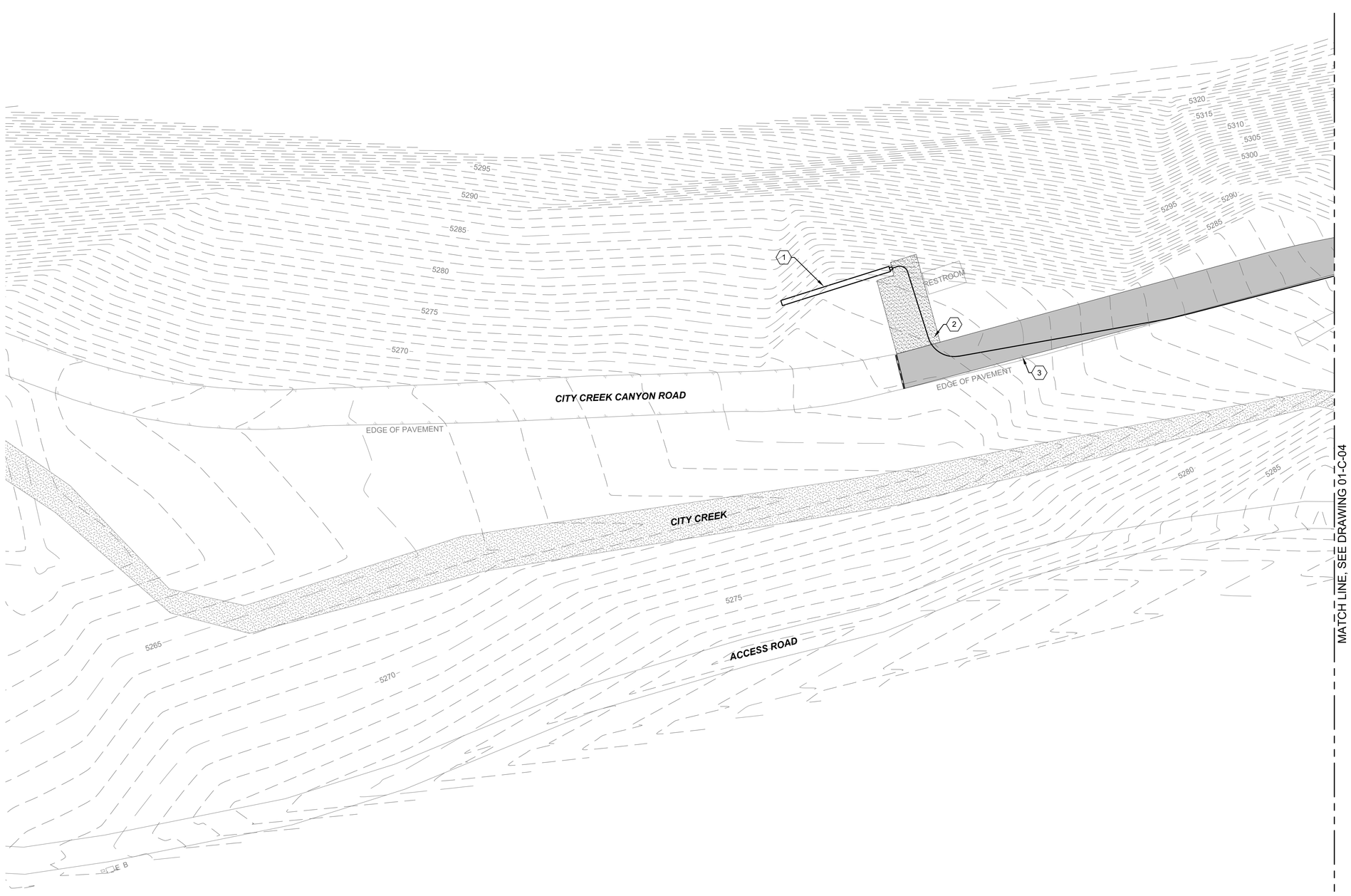
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

SITE PLAN GRADING & PAVING – AREA 3

90% GMP

DRAWING NO.
01-C-04

C:\bcpw\d1569769\01-C-04.dwg Jun 13, 2024 - 8:37am



N

10 0 20 40

SCALE IN FEET

GENERAL NOTES

1. FOR STORMWATER AND DRAINAGE IMPROVEMENTS SEE 01-C-10 STORMWATER DRAINAGE PLAN.
2. FOR AREA GRADING CONTROL POINT INFORMATION TABLE, SEE SHEET 01-C-13.
3. SEE LANDSCAPE DRAWINGS FOR RESTORATION OF UNPAVED AREAS.

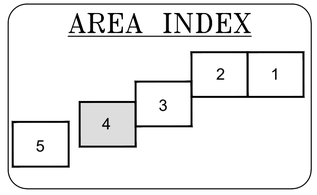
KEY NOTES

1. CONSTRUCT SEPTIC TANK SYSTEM. FOR DESIGN SEE REFERENCED ATTACHMENT FOR SEPTIC TANK DESIGN PACKAGE..
2. CONSTRUCT GRAVEL ROAD SECTION, SEE DETAIL F/GC-10.
3. REMOVE AND REPLACE ASPHALT PAVEMENT. PROVIDE CLEAN SAW CUT LINES. AC PER DETAIL B/GC-11. 4-INCH MIN. THICKNESS WITH 2 LIFTS.

SHEET LEGEND

- EXISITNG AC PAVEMENT
- REMOVE AND REPLACE ASPHALT PAVEMENT
- GRAVEL SECTION
- DRAINAGE ROCK
- CONCRETE
- SAWCUT LINE

AREA INDEX



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Brown AND Caldwell

VERIFY SCALE
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SCALE:

DESIGNED BY: N.OLTEAN
DRAWN BY: P.SCHUHEN
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

NO.	DATE	REVISIONS	MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

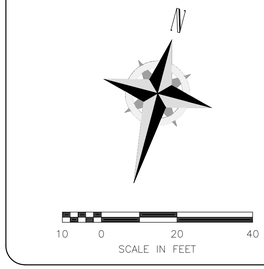
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

SITE PLAN GRADING & PAVING – AREA 4

90% GMP

DRAWING NO.
01-C-05

C:\bcpw\d1569769\01-C-05.dwg Jun 13, 2024 - 9:03am



GENERAL NOTES

1. FOR STORMWATER AND DRAINAGE IMPROVEMENTS SEE 01-C-10 STORMWATER DRAINAGE PLAN.
2. FOR AREA GRADING CONTROL POINT INFORMATION TABLE, SEE SHEET 01-C-13.
3. SEE LANDSCAPE DRAWINGS FOR RESTORATION OF UNPAVED AREAS.

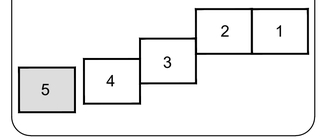
KEY NOTES

1. CONSTRUCT DRYING BED INLET AND APRON, SEE STRUCTURAL SHEET 35-S-35.
2. CONSTRUCT DRYING BED WEIR OUTLET DECANT STRUCTURE, SEE STRUCTURAL SHEET 35-S-35.

SHEET LEGEND

- EXISITNG AC PAVEMENT
- REMOVE AND REPLACE ASPHALT PAVEMENT
- GRAVEL SECTION
- DRAINAGE ROCK
- CONCRETE
- SAWCUT LINE

AREA INDEX



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SCALE:

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: P.SCHUHEN
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
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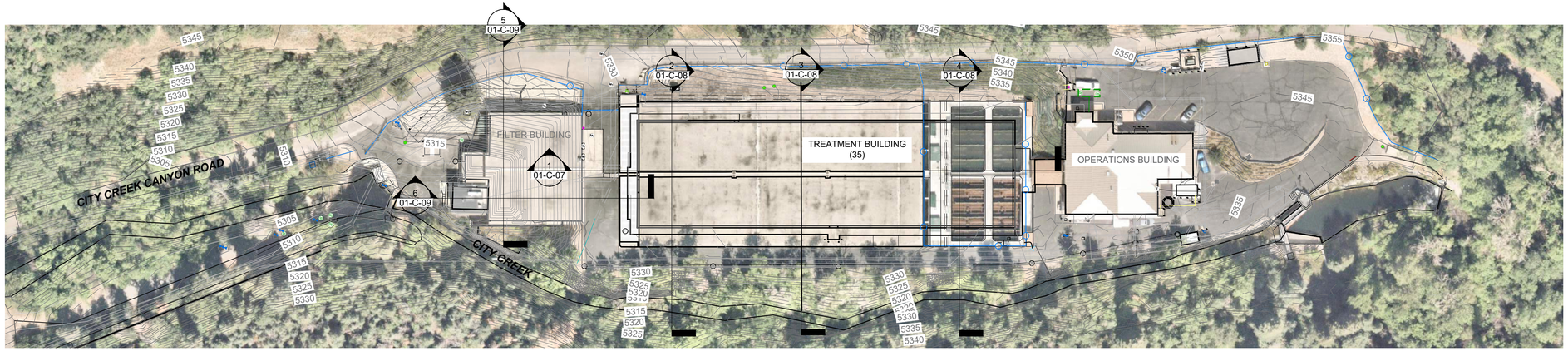
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

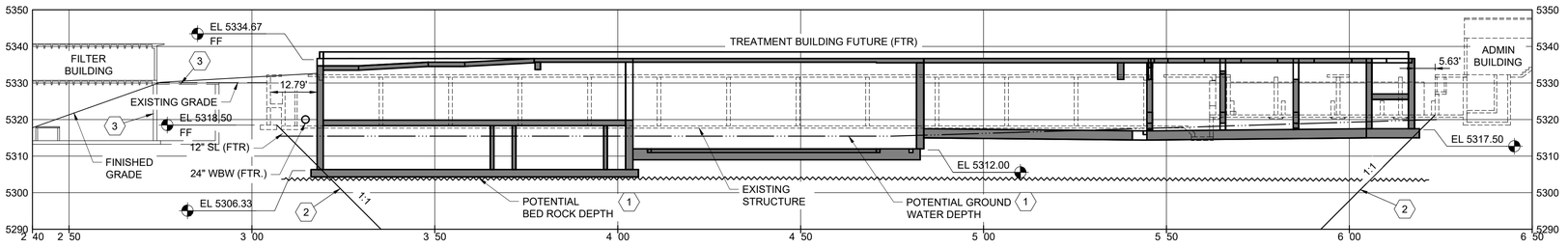
SITE PLAN GRADING & PAVING – AREA 5

90% GMP

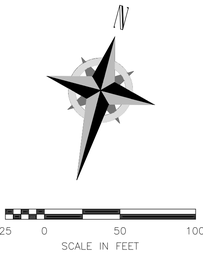
DRAWING NO.
01-C-06



PLAN
SCALE: 1" = 50'



1 SECTION
SCALE: 1" = 20'



GENERAL NOTES

1. THIS SHEET IS FOR GENERAL USE ONLY AND IS INTENDED FOR COORDINATION AND SUPPORT OF CONTRACTORS DEVELOPMENT OF INTEGRATED EXCAVATION PLAN. (IEP)
2. PROVIDE PROTECTIVE MEASURES TO KEEP IN SERVICE ACTIVE PIPELINES AND OPERATIONS.

KEY NOTES

1. GROUND WATER AND BEDROCK IS APPROXIMATE. SEE GEOTECHNICAL REPORT.
2. EXAMPLE ONE OF INFLUENCE LINE.
3. CONTRACTOR TO ADDRESS DECOMMISSIONING FILTER BUILDING AND INFLUENT STRUCTURE AS PART OF IEP.
4. DO NOT REMOVE FILTER BUILDING WALLS WITHOUT PROTECTIVE MEASURES TO STABLI E THE SOILS BETWEEN THE NEW TREATMENT BUILDING.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: P.SCHUHEN
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

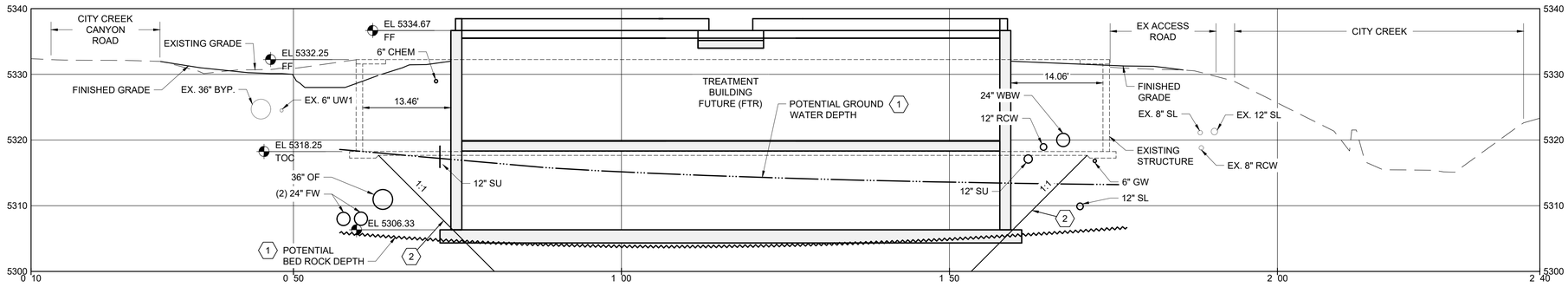
NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

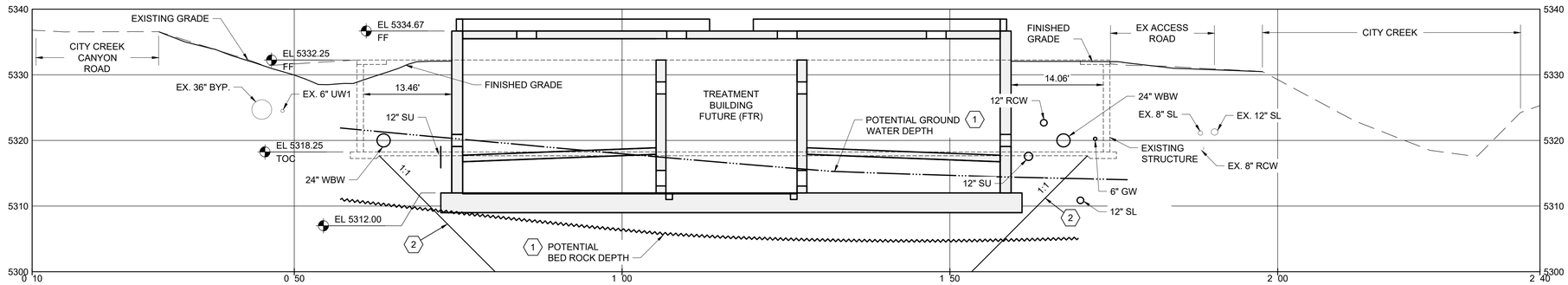
GRADING SECTIONS - 1

90% GMP

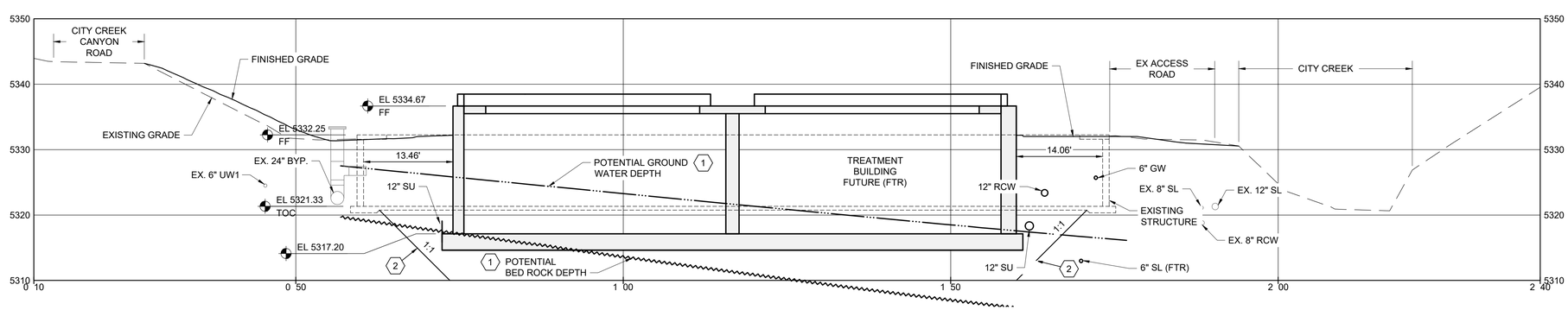
DRAWING NO.
01-C-07



2 SECTION
01-C-06 SCALE: 1" = 10'



3 SECTION
01-C-06 SCALE: 1" = 10'



4 SECTION
01-C-06 SCALE: 1" = 10'

GENERAL NOTES

1. THIS SHEET IS FOR GENERAL USE ONLY AND IS INTENDED FOR COORDINATION AND SUPPORT OF CONTRACTORS DEVELOPMENT OF INTEGRATED EXCAVATION PLAN. (IEP)
2. PROVIDE PROTECTIVE MEASURES TO KEEP IN SERVICE ACTIVE PIPELINES AND OPERATIONS.
3. PIPE LOCATION ELEVATIONS, INVERTS, AND DEPTHS ARE REFERENCED. SEE PIPING PLAN AND PROFILE SHEETS FOR DESIGN ELEVATIONS.

KEY NOTES

1. GROUND WATER AND BEDROCK IS APPROXIMATE. SEE GEOTECHNICAL REPORT.
2. EXAMPLE ONE OF INFLUENCE LINE.

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: P.SCHUHEN
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

GRADING SECTIONS - 2

90% GMP

DRAWING NO.
01-C-08

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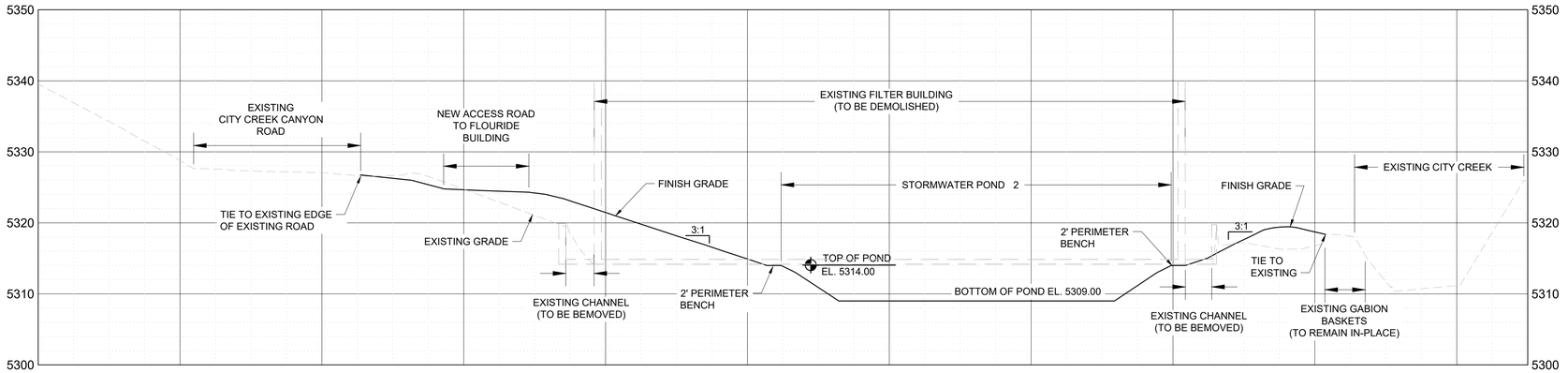
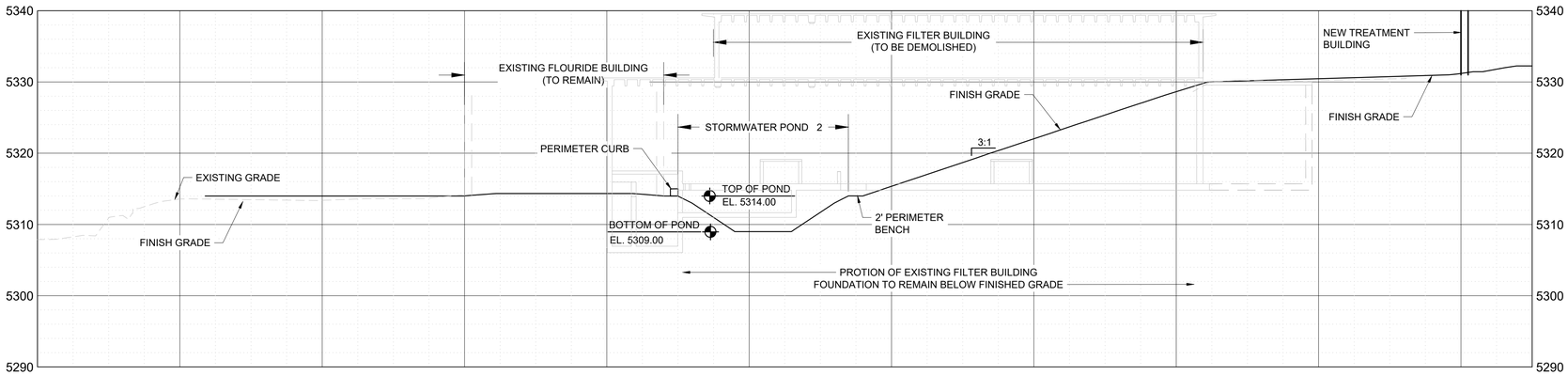
GENERAL NOTES

1. THIS SHEET IS FOR GENERAL USE ONLY AND IS INTENDED FOR COORDINATION AND SUPPORT OF CONTRACTORS DEVELOPMENT OF INTEGRATED EXCAVATION PLAN. (IEP)

2. PROVIDE PROTECTIVE MEASURES TO KEEP IN SERVICE ACTIVE PIPELINES AND OPERATIONS.



5 / 01-C-07 SECTION
SCALE: 1" = 10'



6 / 01-C-07 SECTION
SCALE: 1" = 10'

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: P.SCHUHEN
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

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SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

GRADING SECTIONS - 3

90% GMP

DRAWING NO.
01-C-09

Brown AND Caldwell

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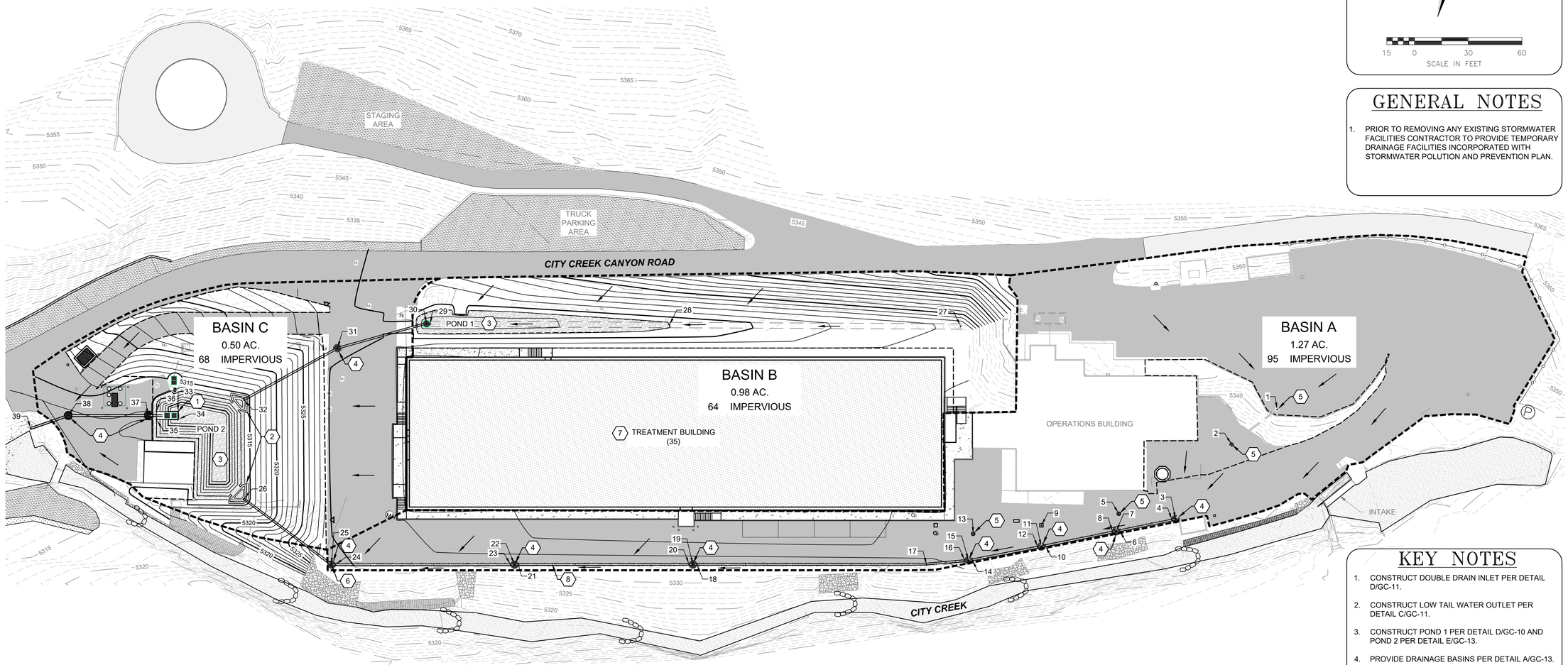

LEGEND

DRAINAGE FLOW

POINT — POINT DATA - ELEVATIONS AND COORDINATES

N

15 0 30 60
SCALE IN FEET

GENERAL NOTES

1. PRIOR TO REMOVING ANY EXISTING STORMWATER FACILITIES CONTRACTOR TO PROVIDE TEMPORARY DRAINAGE FACILITIES INCORPORATED WITH STORMWATER POLUTION AND PREVENTION PLAN.

KEY NOTES

1. CONSTRUCT DOUBLE DRAIN INLET PER DETAIL D/GC-11.
2. CONSTRUCT LOW TAIL WATER OUTLET PER DETAIL C/GC-11.
3. CONSTRUCT POND 1 PER DETAIL D/GC-10 AND POND 2 PER DETAIL E/GC-13.
4. PROVIDE DRAINAGE BASINS PER DETAIL A/GC-13.
5. EXISTING STORMWATER INLETS. CONSTRUCT AND RECONNECT PIPELINE TO DRAINAGE BASINS.
6. DRAIN BASIN WITH OIL SEPERATOR. PROVIDE SNOUT STYLE NYLOPLAST ENVIROHOOD OR EQUAL.
7. DISCHARGE ROOF DOWNSPOUTS TOWARDS POND 1.
8. CONSTRUCT DRAINAGE VALLEY GUTTER PER DETAIL E/GC-10. VERIFY DRAIN BASINS ARE SET AT LOW POINT OF FLOWLINE.

STORM DRAINAGE DESIGN POINTS

	NORTHING	EASTING	ELEV.	DESC.
1	7465882.06	1548795.13	5342.98	EX TOP OF GRATE
2	7465856.44	1548776.04	5333.35	EX TOP OF GRATE
3	7465807.73	1548757.37	5333.00	TOP OF GRATE
4	7465806.81	1548755.49	5333.10	FL VALLEY PAN
5	7465802.03	1548726.04	5332.80	EX TOP OF GRATE
6	7465793.11	1548729.15	5332.60	FL VALLEY PAN
7	7465792.20	1548727.26	5332.50	TOP OF GRATE
8	7465791.26	1548725.43	5332.60	FL VALLEY PAN
9	7465784.03	1548686.31	5332.40	EX TOP OF GRATE
10	7465773.63	1548691.39	5332.20	FL VALLEY PAN
11	7465772.64	1548689.46	5333.10	TOP OF GRATE

STORM DRAINAGE DESIGN POINTS

	NORTHING	EASTING	ELEV.	DESC.
12	7465771.75	1548687.65	5332.20	FL VALLEY PAN
13	7465769.09	1548651.01	5332.30	EX TOP OF GRATE
14	7465755.04	1548654.45	5332.10	FL VALLEY PAN
15	7465754.13	1548652.53	5332.00	TOP OF GRATE
16	7465753.42	1548650.53	5332.10	FL VALLEY PAN
17	7465745.37	1548630.72	5331.80	FL VALLEY PAN
18	7465710.72	1548507.41	5330.80	FL VALLEY PAN
19	7465709.96	1548505.39	5330.70	TOP OF GRATE
20	7465709.53	1548503.25	5330.80	FL VALLEY PAN
21	7465683.43	1548411.71	5330.60	FL VALLEY PAN
22	7465682.80	1548409.68	5330.50	TOP OF GRATE

STORM DRAINAGE DESIGN POINTS

	NORTHING	EASTING	ELEV.	DESC.
23	7465682.19	1548407.64	5330.60	FL VALLEY PAN
24	7465655.50	1548313.47	5329.60	FL VALLEY PAN
25	7465654.93	1548311.47	5329.50	TOP OF GRATE
26	7465676.93	1548254.46	5312.00	OUTFALL INV.
27	7465878.67	1548612.65	5332.50	FL SWALE
28	7465835.03	1548456.24	5329.00	FL SWALE/POND 1
29	7465799.10	1548327.84	5327.00	FL/INLET STR
30	7465798.71	1548325.82	5329.00	TOP OF INLET
31	7465772.04	1548281.74	5329.80	TOP OF GRATE
32	7465730.07	1548239.44	5312.00	PIPE OUTLET INV.
33	7465713.74	1548205.84	5313.00	TOC/INLET

STORM DRAINAGE DESIGN POINTS

	NORTHING	EASTING	ELEV.	DESC.
34	7465709.48	1548207.05	5313.00	TOC/INLET
35	7465706.24	1548195.51	5313.00	TOC/INLET
36	7465710.58	1548194.29	5313.00	TOC/INLET
37	7465707.08	1548190.28	5313.90	TOG
38	7465694.93	1548147.59	5313.90	TOG
39	7465682.22	1548129.38	0.00	OUTFALL

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: P.SCHUHEN
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO: 512260079

REVISIONS

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SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRC PACKAGE

STORM WATER & DRAINAGE PLAN

LAKE CITY ENGINEERING

90% GMP

DRAWING NO.
01-C-10

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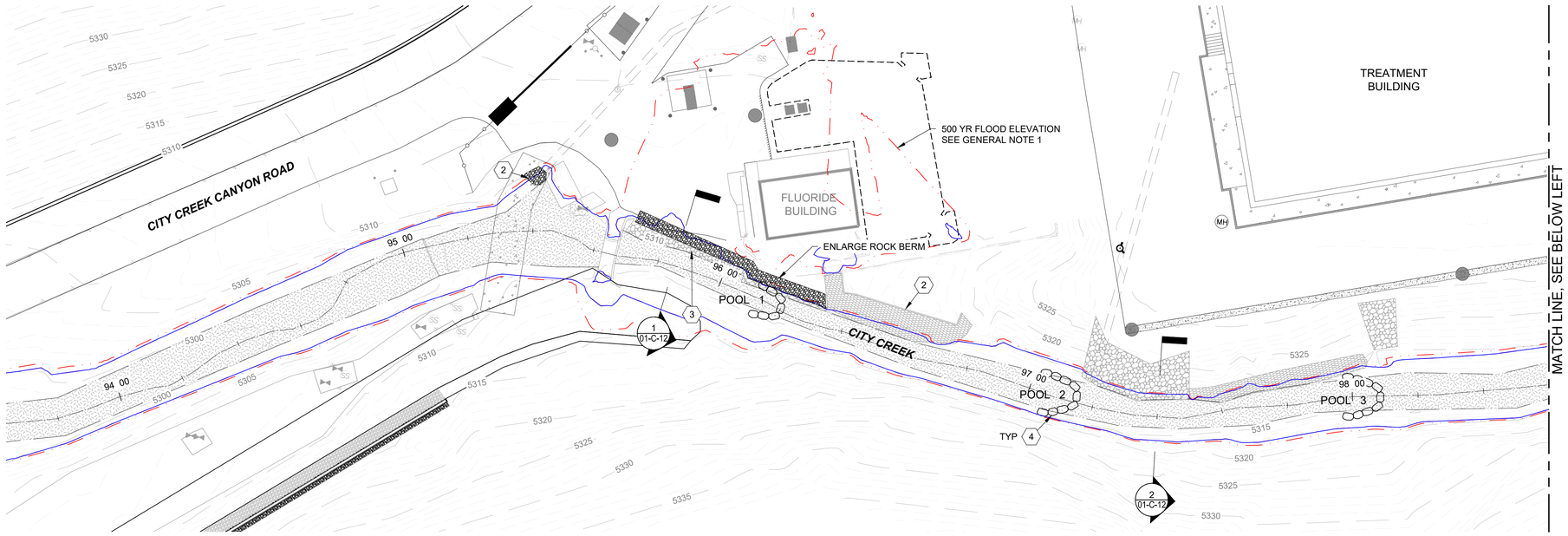
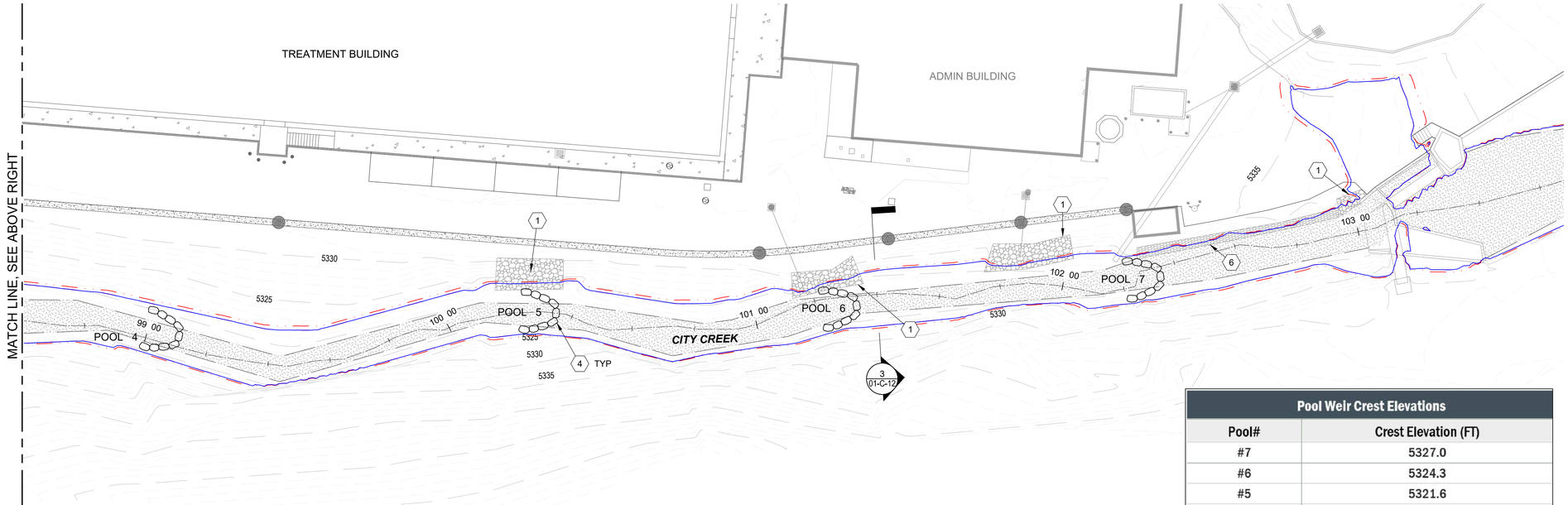


PLAN

SCALE: 1" = 20'



PLAN

SCALE: 1" = 20'

Pool Weir Crest Elevations	
Pool#	Crest Elevation (FT)
#7	5327.0
#6	5324.3
#5	5321.6
#4	5319.0
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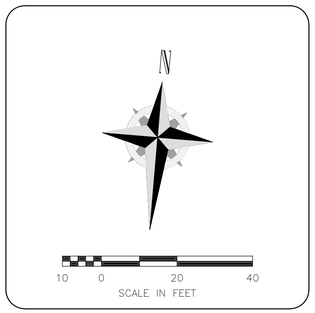


GENERAL NOTES

1. IMPACT OF 500 YEAR ELEVATION WILL BE MITIGATED BY THE CONSTRUCTION OF THE BOULDER WALL ALONG THE SOUTH EDGE OF THE FLUORIDE BUILDING.
2. CITY CREEK IMPROVEMENTS ARE FOR THE MAINTENANCE AND REPAIR ITEMS NOTED ON THIS SHEET. THE STEPPING POOL ARE THE ONLY ADDITIONAL NEW IMPROVEMENT EACH POOL IS A TOTAL LENGTH OF 22 FEET WITH A TOTAL OF 154 FEET OF IMPACT.

⬡KEY NOTES

1. REPAIR EXISTING KEYED RIP RAP WERE DAMAGED.
2. KN: INSTALL TYPE I: RIPRAP AT EXISTING STORM OUTFALL.
3. REPLACE EXISTING BOULDER LANDSCAPE WALL WITH NEW TYPE K CLSM GROUTED ROCK BERM. UTILI E A MIXTURE OF TYPE H 6" RIPRAP AND TYPE I 12" RIPRAP. SEE SECTION 1/01-C-12.
4. CONSTRUCT STEP POOL STRUCTURE W/ 18-24" ROCK, TYP. SEE DETAIL A/01-C-11, PER DETAIL A/GC-12.
5. REPLACE BROKEN GABION ROCK BASKETS IN KIND.

LEGEND

100 YR FLOODPLAIN

500 YR FLOODPLAIN

Brown AND Caldwell

SCALE:

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

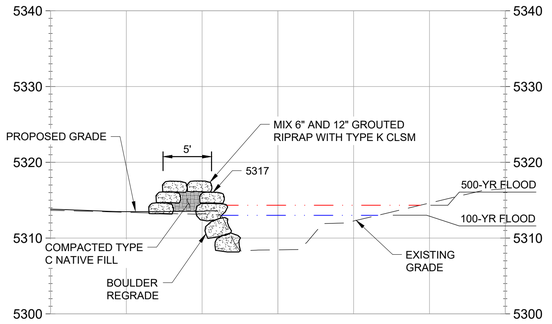
CITY CREEK MAINTENANCE & REPAIR PLAN

90% GMP

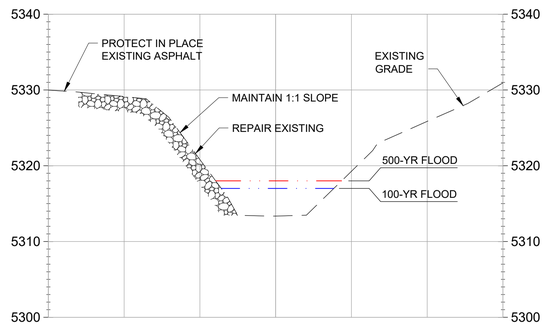
DRAWING NO.

01-C-11

C:\bcpw\d1569769\01-C-11.dwg Jun 13, 2024 - 9:48am



1 01-C-11 SECTION
SCALE: 1" = 10'



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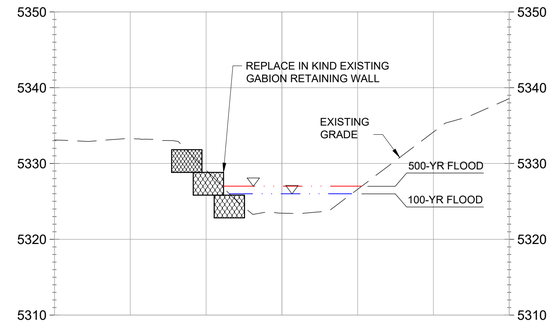

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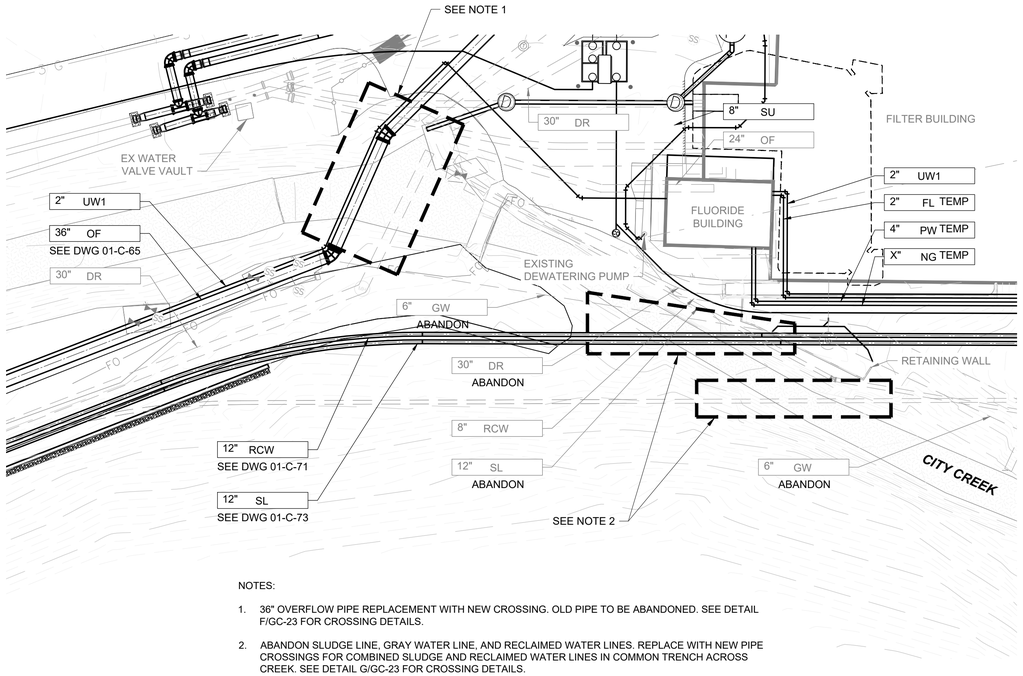
SCALE: 1" = 10'



NOTES:

1. 36" OVERFLOW PIPE REPLACEMENT WITH NEW CROSSING. OLD PIPE TO BE ABANDONED. SEE DETAIL F/GC-23 FOR CROSSING DETAILS.
2. ABANDON SLUDGE LINE, GRAY WATER LINE, AND RECLAIMED WATER LINES. REPLACE WITH NEW PIPE CROSSINGS FOR COMBINED SLUDGE AND RECLAIMED WATER LINES IN COMMON TRENCH ACROSS CREEK. SEE DETAIL G/GC-23 FOR CROSSING DETAILS.

CITY CREEK PIPE CROSSINGS
SCALE: 1" = 20'

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

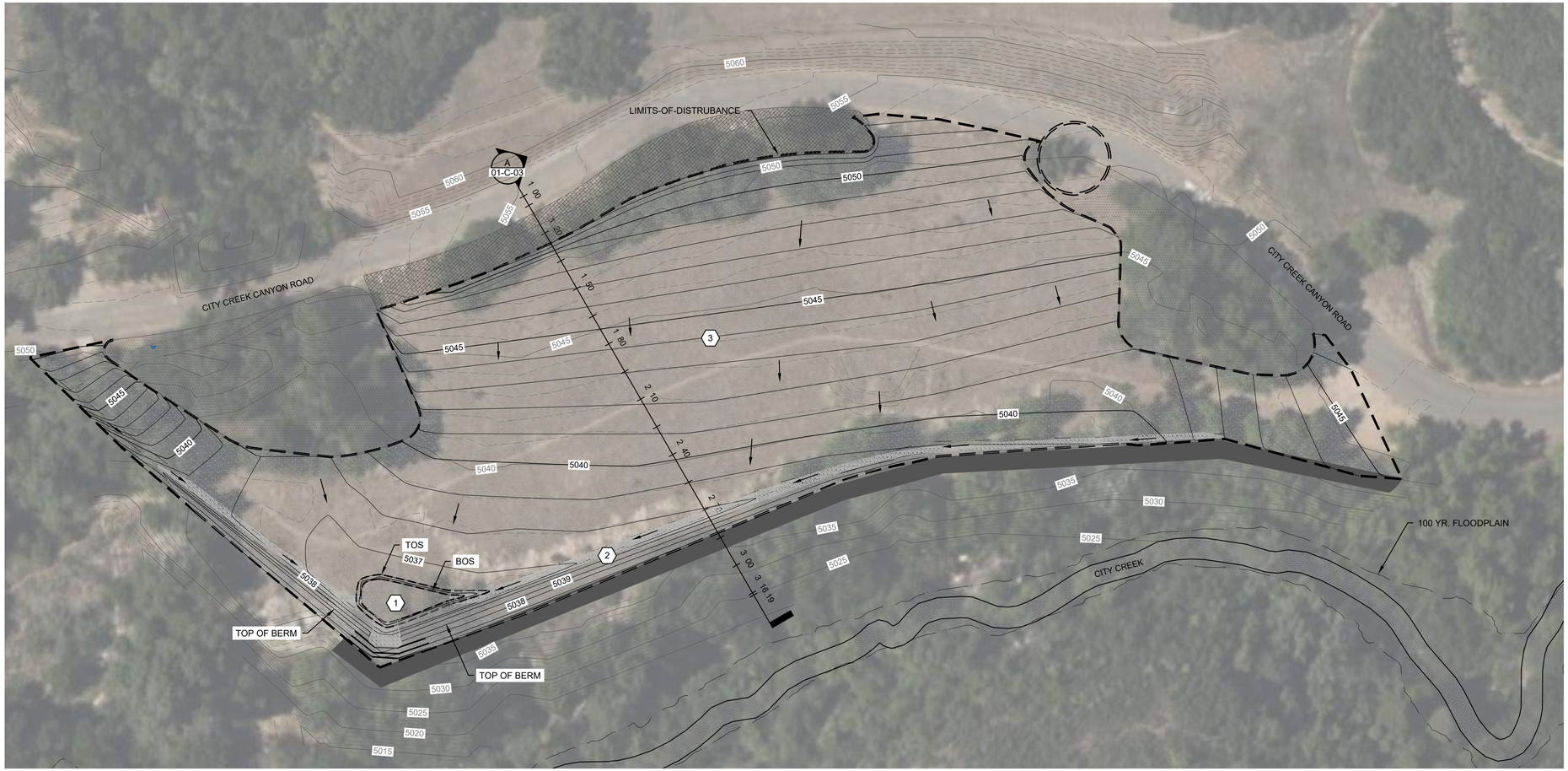
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

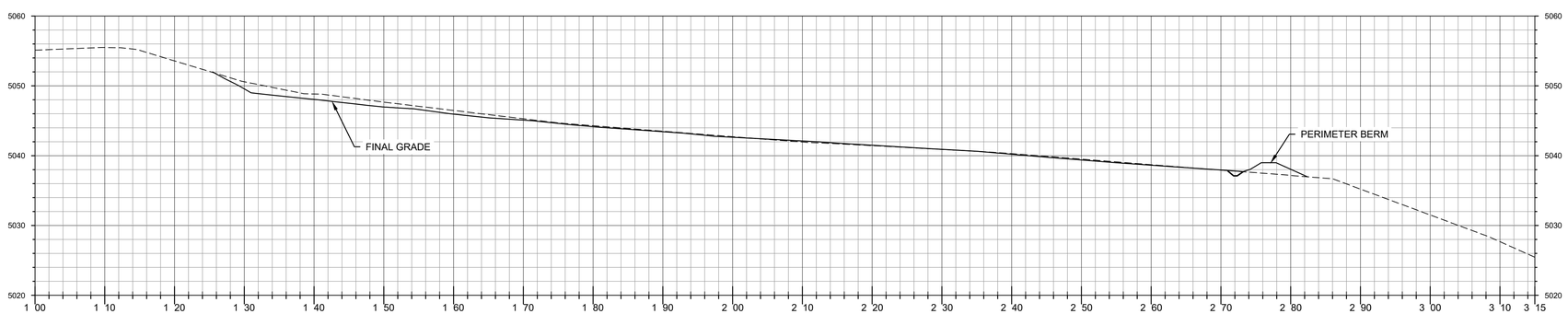
CITY CREEK MAINTENANCE & REPAIR SECTIONS & DETAILS

90% GMP

DRAWING NO.
01-C-12

C:\bcpw\d1569769\01-C-12.dwg Jun 13, 2024 - 9:58am





A 01-C-03 SITE CROSS SECTION
SCALE: 1" = 10'

N

15 0 30 60
SCALE IN FEET

GENERAL NOTES

1. FOR SITE RESTORATION SEE SEEDING SPECIFICATION 32 92 19.

KEY NOTES

1. REMOVE SEDIMENTATION BASIN.
2. REMOVE PERIMETER BERM AND RESTORE TO PREVIOUS GRADE.
3. CONTRACTOR TO REMOVE ALL LAYDOWN AND STAGING MATERIALS AND CLEAROUT DISTURBED AREAS FOR PREPARATION OF RESTORATION.
4. FOR ALL DISTURBED AREAS PROVIDE TEMPORARY IRRIGATION AND RESEED.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: P.SCHUHEN
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

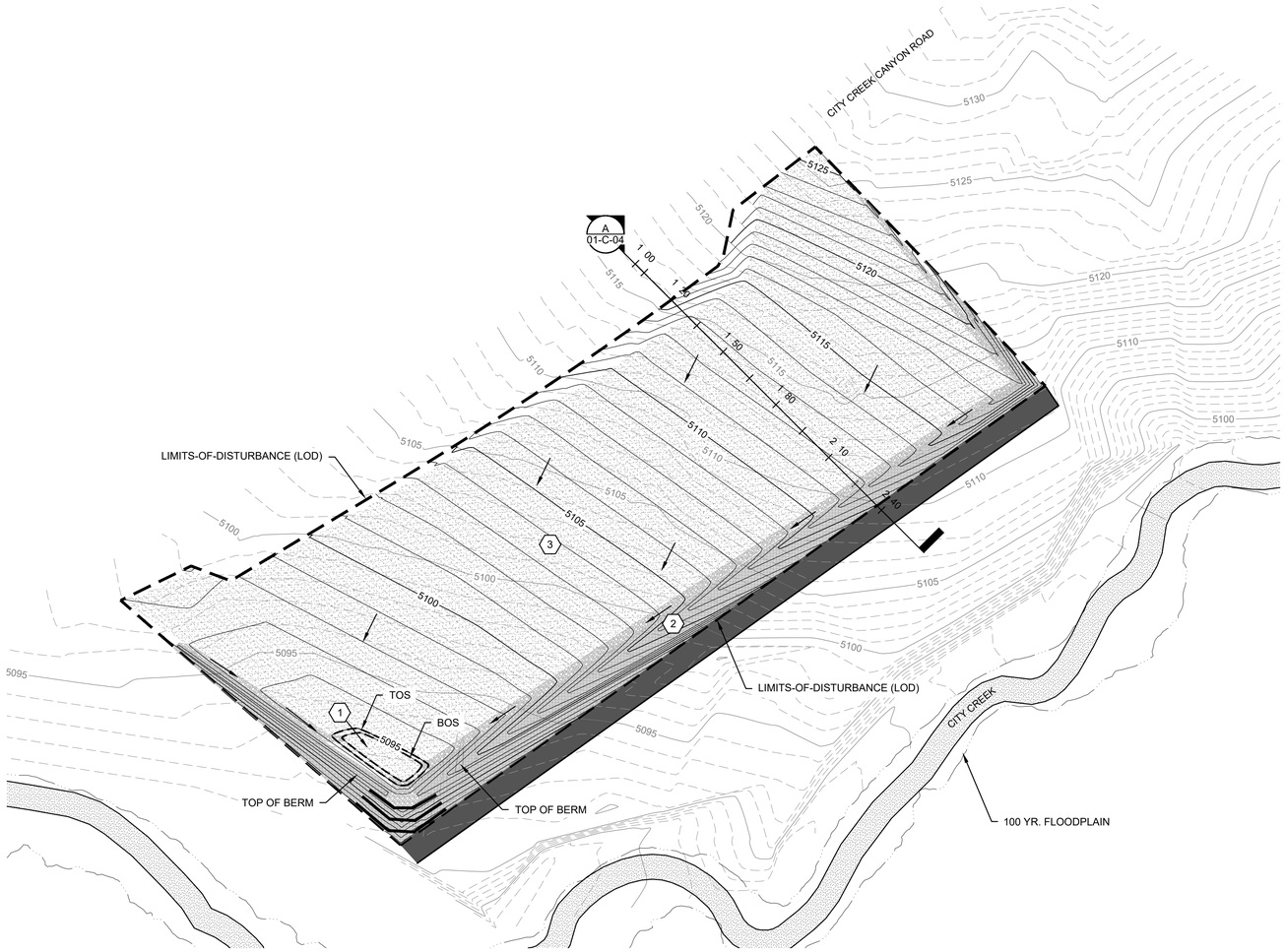
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

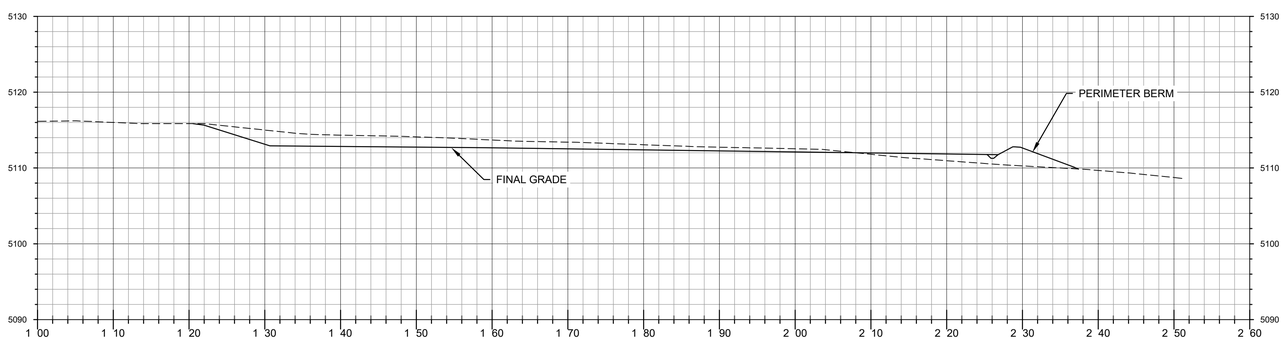
RESTORATION PLAN - PVR

90% GMP

DRAWING NO.
01-C-14

C:\bcpw\d1569769\01-C-14.dwg Jun 13, 2024 - 3:28pm





A
01-C-04 SITE CROSS SECTION
SCALE: 1" = 10'

N

15 0 30 60
SCALE IN FEET

GENERAL NOTES

1. FOR SITE RESTORATION SEE SEEDING SPECIFICATION 32 92 19.

KEY NOTES

1. REMOVE SEDIMENTATION BASIN.
2. REMOVE PERIMETER BERM AND RESTORE TO PREVIOUS GRADE.
3. CONTRACTOR TO REMOVE ALL LAYDOWN AND STAGING MATERIALS AND CLEAROUT DISTURBED AREAS FOR PREPARATION OF RESTORATION.
4. FOR ALL DISTURBED AREAS PROVIDE TEMPORARY IRRIGATION AND RESEED.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: P.SCHUHEN
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
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SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

RESTORATION PLAN – PICNIC SITES 13–14

90% GMP

DRAWING NO.
01–C–15

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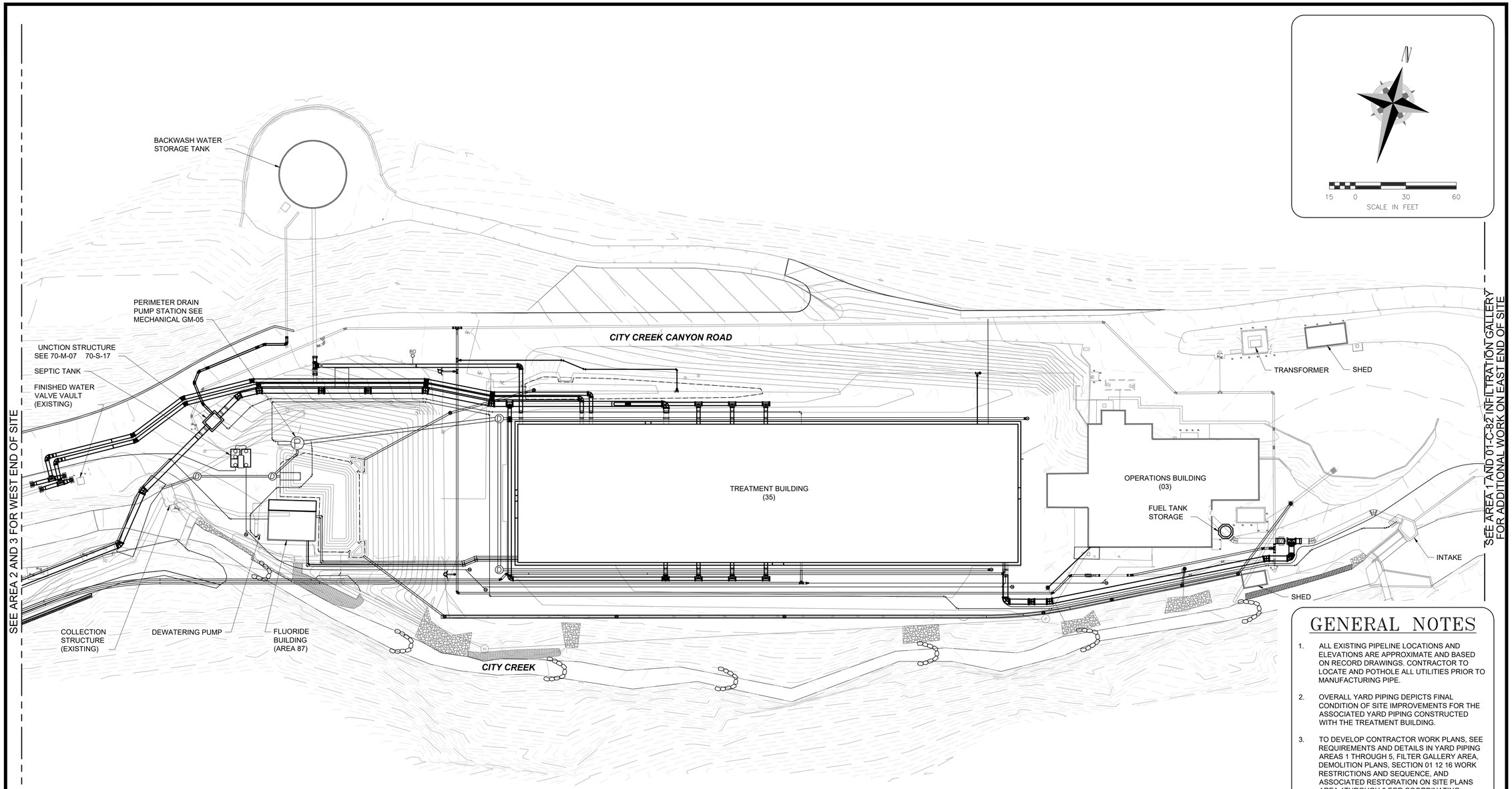


GENERAL NOTES

1. ALL EXISTING PIPELINE LOCATIONS AND ELEVATIONS ARE APPROXIMATE AND BASED ON RECORD DRAWINGS. CONTRACTOR TO LOCATE AND POTHOLE ALL UTILITIES PRIOR TO MANUFACTURING PIPE.
2. OVERALL YARD PIPING DEPICTS FINAL CONDITION OF SITE IMPROVEMENTS FOR THE ASSOCIATED YARD PIPING CONSTRUCTED WITH THE TREATMENT BUILDING.
3. TO DEVELOP CONTRACTOR WORK PLANS, SEE REQUIREMENTS AND DETAILS IN YARD PIPING AREAS 1 THROUGH 5, FILTER GALLERY AREA, DEMOLITION PLANS, SECTION 01 12 16 WORK RESTRICTIONS AND SEQUENCE, AND ASSOCIATED RESTORATION ON SITE PLANS AREA 1THROUGH 5 FOR COORDINATING CONSTRUCTION ACTIVITIES. PLAN AND PROFILE SHEETS DEPICTS EXISTING PIPING AS ABANDONED. THIS WILL NOT OCCUR UNTIL AFTER TREATMENT BUILDING IS COMPLETED. CONTRACTOR TO PROVIDE BYPASS PIPING AND PUMPING FOR TEMPORARY CONDITIONS. SEE 33 01 30 BYPASS PIPING AND PUMPING
4. PRIOR TO COMMENCING YARD PIPING ACTIVITIES REVIEW YARD PIPING NOTES ON GC-01 AND YARD PIPING DETAILS. PIPE MATERIALS AND SPECIFICATIONS ARE LABELED ON THE ASSOCIATED PLAN AND PROFILE SHEETS ABOVE THE PROFILES.

Brown AND Caldwell

SCALE: 1" = 80'

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

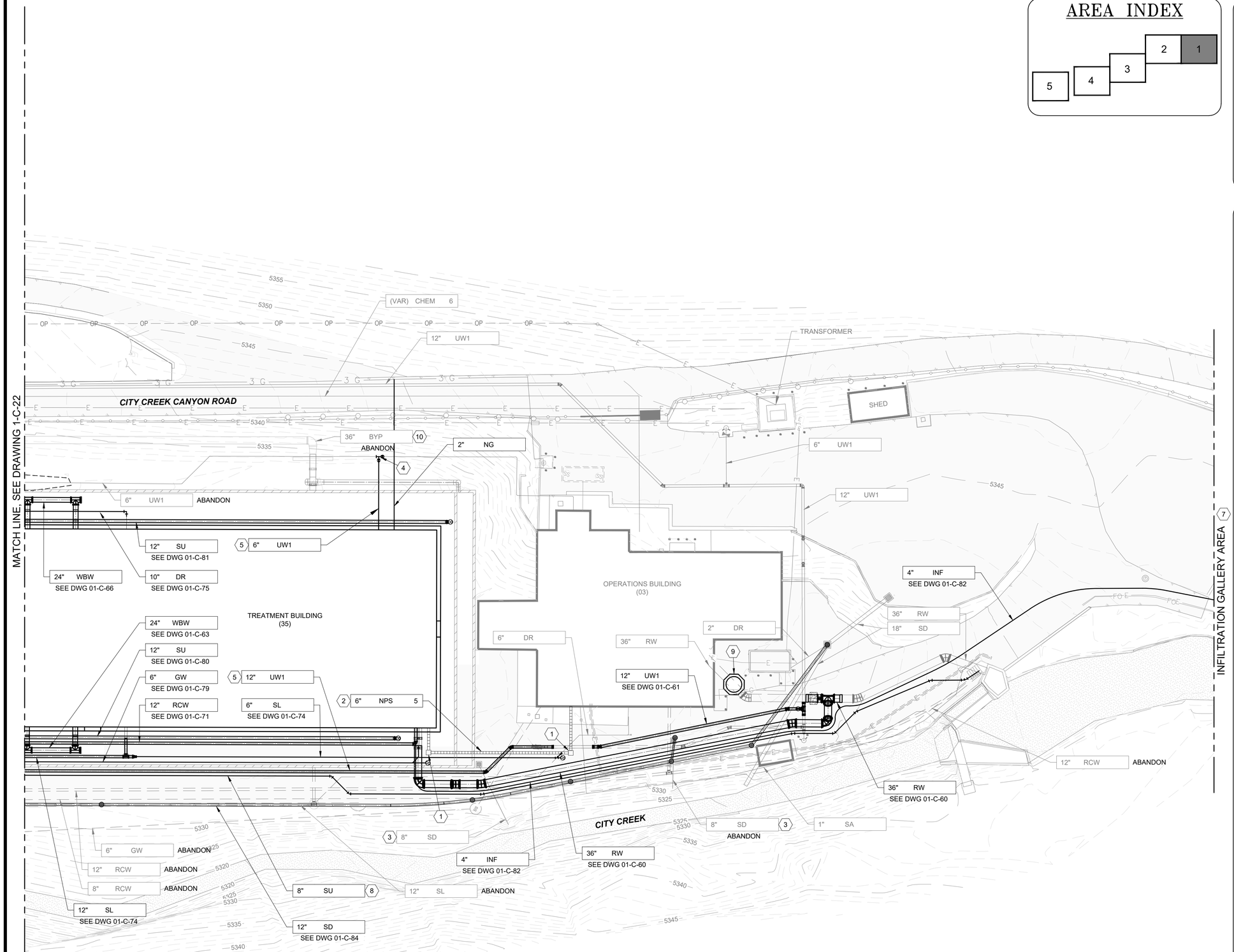
NO.	DATE	MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

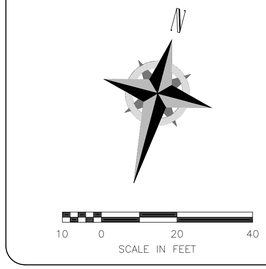
OVERALL YARD PIPING

90% GMP

DRAWING NO.
01-C-20



AREA INDEX



GENERAL NOTES

1. ALL EXISTING PIPELINE LOCATIONS AND ELEVATIONS ARE APPROXIMATE AND BASED ON RECORD DRAWINGS. CONTRACTOR TO LOCATE AND POTHOLE ALL UTILITIES PRIOR TO MANUFACTURING PIPE.
2. INDIVIDUAL YARD PIPING PLAN AND PROFILES INDICATED AT BOTTOM OF LABEL FOR REFERENCE SHEET NUMBER.
3. PIPES WITH "ABANDON" LABEL TO REMAIN IN SERVICE DURING CONSTRUCTION OF TREATMENT BUILDING.
4. ALL STORM AND DRAINAGE PIPING SHOWN ON 01-C-10 STORM WATER AND DRAINAGE PLAN.
5. FILTER BUILDING TO BE DEMOLISHED AFTER COMMISSIONING OF TREATMENT BUILDING. PLANS DEPICT CONSTRUCTION PHASE AND CONTRACTOR IS REQUIRED TO PROTECT AND MAINTAIN EXISTING OPERATIONS. SEE SITE PLAN FOR FINAL RESTORATION.

KEY NOTES

1. PROVIDE PULL BOX PER DETAIL B/GC-23.
2. INSTALL CONTAINMENT SLEEVE COMMON TRENCH PER DETAIL D/GC-20.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD LOCATING AND RELOCATING EXISTING STORM DRAIN PIPING THAT CONFLICTS WITH PROPOSED DESIGN. PROVIDE TEMPORARY DRAINAGE FACILITIES DURING CONSTRUCTION.
4. 6-INCH FLG M TEE (1) GATE VALVE. PROVIDE (2) RESTRAINT OINT COUPLERS FOR CONNECTION TO EXISTING PIPE. POUR THRUST BLOCK PER DETAIL C/GC-26. ABANDON LINE TO WEST.
5. FIELD ROUTE PIPELINE. SEE YARD PIPING NOTES GC-01.
6. PIPE CONFLICT WITH ACTIVE OPERATIONAL PIPELINES, SEE 01 02 16 WORK SEQUENCE FOR CONSTRAINT REQUIREMENTS. CONTRACTOR IS RESPONSIBLE TO MAINTAIN OPERATIONS. SUBMIT BY-PASS PLANS FOR APPROVAL PRIOR TO IMPLEMENTING. UPON COMPLETION OF TREATMENT BUILDING PIPE CAN BE ABANDONED. SEE DEMOLITION PLANS FOR ADDITIONAL DETAILS.
7. INFILTRATION GALLERY SEE GM - 04 AND 01-C-82 PLAN AND PROFILE INFILTRATION GALLERY.
8. FIELD ROUTE 8" SU PER GENERAL NOTES ON GC-01. PROVIDE A CONTINUOUS POSITIVE SLOPE WITH NO HIGH OR LOW POINTS.
9. EXISTING FUEL STORAGE TO BE REMOVED AND REPLACED WITH NEW. PRIOR TO CONSTRUCTION OF NEW FUEL STORAGE, REMOVE PIPE AND PROVIDE STRUCTURAL FILL.
10. 36" BYP CRITICAL LINE TO MAINTAIN OPERATIONS. CONTRACTOR TO TAKE ADDITIONAL PRECAUTIONS WHEN HEAR PIPELINE.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

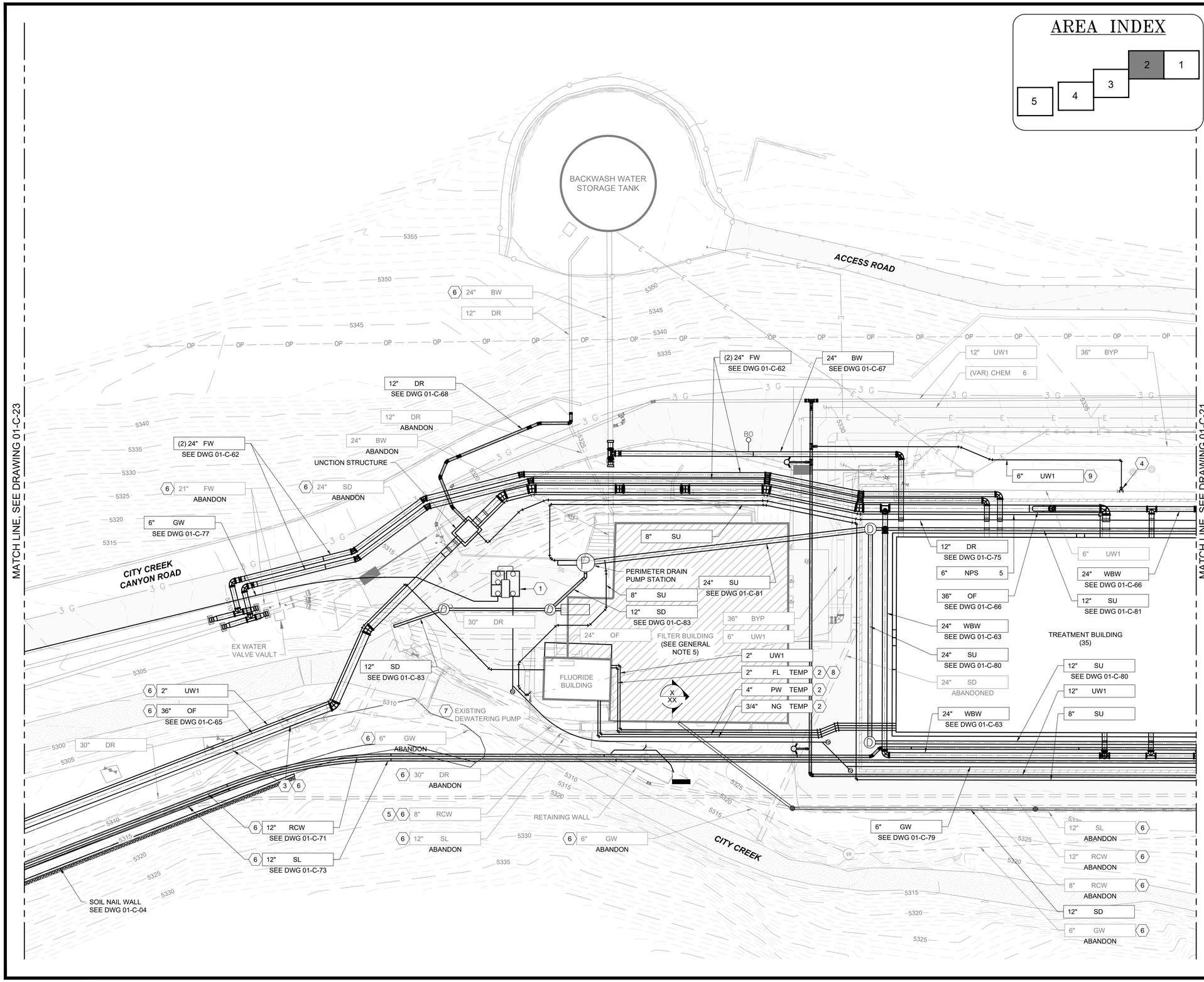
NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

YARD PIPING - AREA 1

90% GMP

DRAWING NO.
01-C-21



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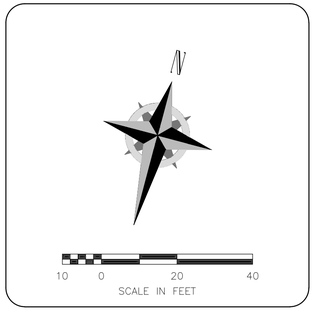

GENERAL NOTES

1. ALL EXISTING PIPELINE LOCATIONS AND ELEVATIONS ARE APPROXIMATE AND BASED ON RECORD DRAWINGS. CONTRACTOR TO LOCATE AND POTHOLE ALL UTILITIES PRIOR TO MANUFACTURING PIPE.
2. INDIVIDUAL YARD PIPING PLAN AND PROFILES INDICATED AT BOTTOM OF LABEL FOR REFERENCE SHEET NUMBER.
3. PIPES WITH "ABANDON" LABEL TO REMAIN IN SERVICE DURING CONSTRUCTION OF TREATMENT BUILDING.
4. ALL STORM AND DRAINAGE PIPING SHOWN ON 01-C-10 STORM WATER AND DRAINAGE PLAN.
5. FILTER BUILDING TO BE DEMOLISHED AFTER COMMISSIONING OF TREATMENT BUILDING PLANS DEPICT CONSTRUCTION PHASE AND CONTRACTOR IS REQUIRED TO PROTECT AND MAINTAIN EXISTING OPERATIONS SEE SITE PLAN FOR FINAL RESTORATION

KEY NOTES

1. FOR DESIGN AND CONSTRUCTION OF SEPTIC TANK AND DRAINFIELD, SEE REFERENCE DOCUMENT "CITY CREEK SEPTIC DESIGN".
2. PROVIDE TEMPORARY PIPE BETWEEN FLUORIDE BUILDING AND TREATMENT BUILDING FOR STARTUP AND COMMISSIONING. INSTALL PERMANENT PIPING AFTER FILTER BUILDING IS DEMOLISHED.
3. DEMOLISH AND INSTALL NEW SEPTIC TANK AND DRAIN FIELD PRIOR TO PIPE INSTALLATION.
4. 6-INCH FLG M TEE (1) GATE VALVES. PROVIDE (2) RESTRAINT OINT COUPLERS FOR CONNECTION TO EXISTING PIPE. POUR THRUST BLOCK PER DETAIL C/GC-26.
5. PROTECT IN PLACE EXITING 8" RCW, OR RELOCATE TO INSTALL PIPE.
6. PIPE CONFLICT WITH ACTIVE OPERATIONAL PIPELINES, SEE 01 02 16 WORK SEQUENCE FOR CONSTRAINT REQUIREMENTS. CONTRACTOR IS RESPONSIBLE TO MAINTAIN OPERATIONS. SUBMIT BY-PASS PLANS FOR APPROVAL PRIOR TO IMPLEMENTING. UPON COMPLETION OF TREATMENT BUILDING PIPE CAN BE ABANDONED. SEE DEMOLITION PLANS FOR ADDITIONAL DETAILS.
7. EXISTING DEWATERING PUMP MECHANISM TO BE REMOVED. CONNECT 8" DRAIN LINE TO CASING OR WETWELL SECTION AND SLOPE TOWARDS PERIMETER DRAIN PUMP STATION TO CAPTURE FLUORIDE BUILDING PERIMETER DRAIN DISCHARGE.
8. INSTALL 6" HDPE CARRIER PIPE. FOR MORE THAN 1 CHEMICAL LINE SEE DETAIL B/GC-23 AND DETAIL D/GC-20.
9. RELOCATE 6" UW1 TO MAINTAIN SERVICE TO FILTER BUILDING DURING CONSTRUCTION. PIPE TO BE ABANDONED AFTER COMPLETION OF TREATMENT BUILDING.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

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0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

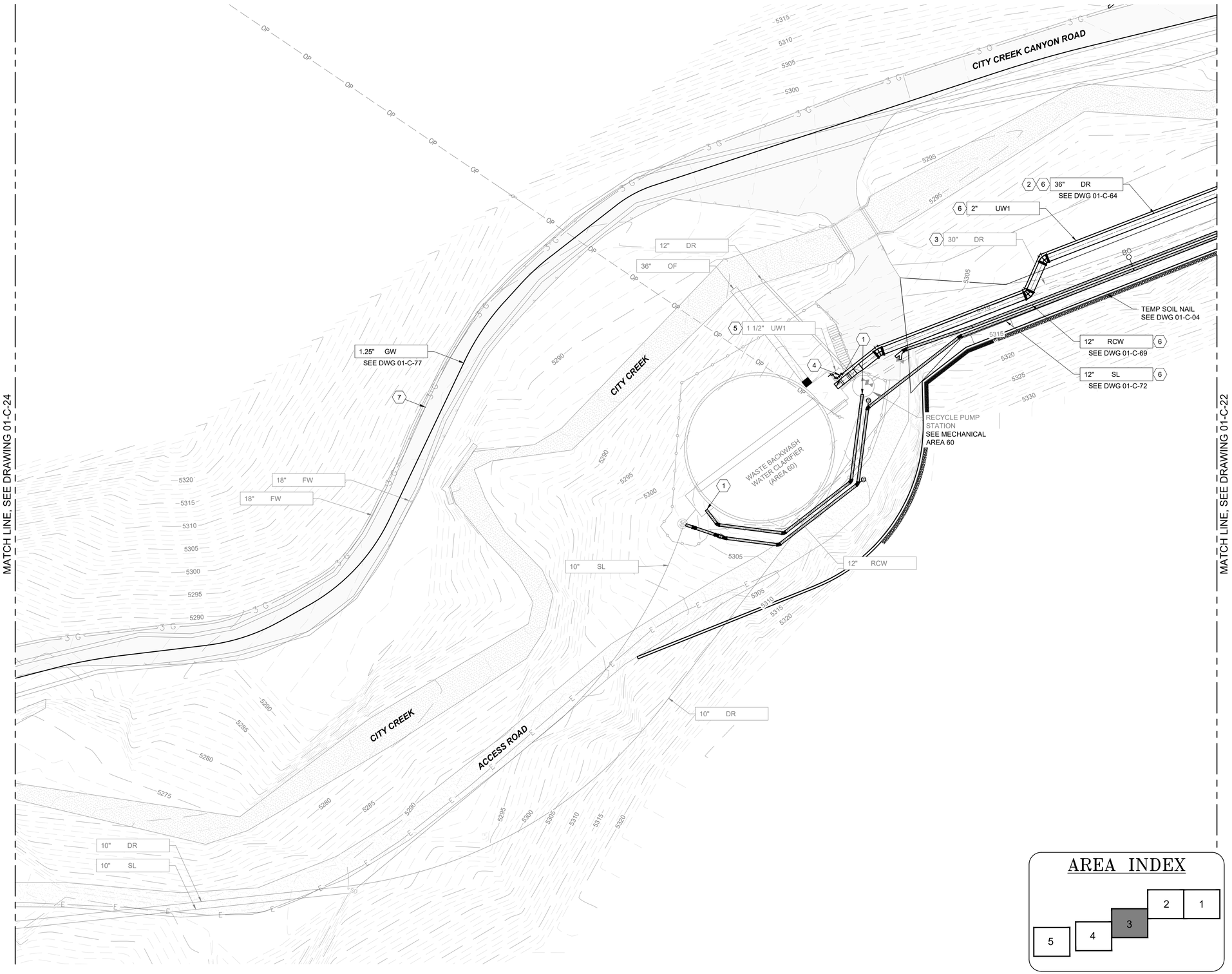
CITY CREEK TREATMENT PLANT UPGRADES
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
BRIC PACKAGE

YARD PIPING – AREA 2

90% GMP

DRAWING NO.
01-C-22

C:\bcpw\d1569769\01-C-22.dwg, Jun 13, 2024 - 10:34am



N

10 0 20 40

SCALE IN FEET

GENERAL NOTES

1. ALL EXISTING PIPELINE LOCATIONS AND ELEVATIONS ARE APPROXIMATE AND BASED ON RECORD DRAWINGS. CONTRACTOR TO LOCATE AND POTHOLE ALL UTILITIES PRIOR TO MANUFACTURING PIPE.
2. INDIVIDUAL YARD PIPING PLAN AND PROFILES INDICATED AT BOTTOM OF LABEL FOR REFERENCE SHEET NUMBER.
3. PIPES WITH "ABANDON" LABEL TO REMAIN IN SERVICE DURING CONSTRUCTION OF TREATMENT BUILDING.
4. ALL STORM AND DRAINAGE PIPING SHOWN ON 01-C-10 STORM WATER AND DRAINAGE PLAN.
5. FILTER BUILDING TO BE DEMOLISHED AFTER COMMISSIONING OF TREATMENT BUILDING. PLANS DEPICT CONSTRUCTION PHASE AND CONTRACTOR IS REQUIRED TO PROTECT AND MAINTAIN EXISTING OPERATIONS. SEE SITE PLAN FOR FINAL RESTORATION.

KEY NOTES

1. COORDINATE WITH OPERATIONS SHUT DOWN AND CONNECTION OF NEW PIPELINE.
2. USE POSITIVE SHORING SYSTEMS TO PREVENT SOIL SETTLEMENT BETWEEN EXISTING AND NEW 30" DR ALIGNMENT.
3. PIPE IS IN POOR CONDITION, TAKE EXTRA PRECAUTION WHEN EXCAVATING AROUND EXISTING 30" DR.
4. INSTALL 2" BACKFLOW PREVENTER FOR 2" UW1.
5. EXISTING 1 1/2" UW1 TO BACKWASH TANK TO BE ABANDONED, LOCATION UNKNOWN.
6. PIPE CONFLICT WITH ACTIVE OPERATIONAL PIPELINES, SEE 01 02 16 WORK SEQUENCE FOR CONSTRAINT REQUIREMENTS. CONTRACTOR IS RESPONSIBLE TO MAINTAIN OPERATIONS. SUBMIT BYPASS PLANS FOR APPROVAL PRIOR TO IMPLEMENTING. UPON COMPLETION OF TREATMENT BUILDING, PIPE CAN BE ABANDONED. SEE DEMOLITION PLANS FOR ADDITIONAL DETAILS.
7. GAS LINE SHOWN FROM UTILITY GIS DATA. VERIFY LOCATION PRIOR TO EXCAVATING.

AREA INDEX

Brown AND Caldwell

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

SCALE:

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
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SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

YARD PIPING - AREA 3

90% GMP

DRAWING NO.
01-C-23

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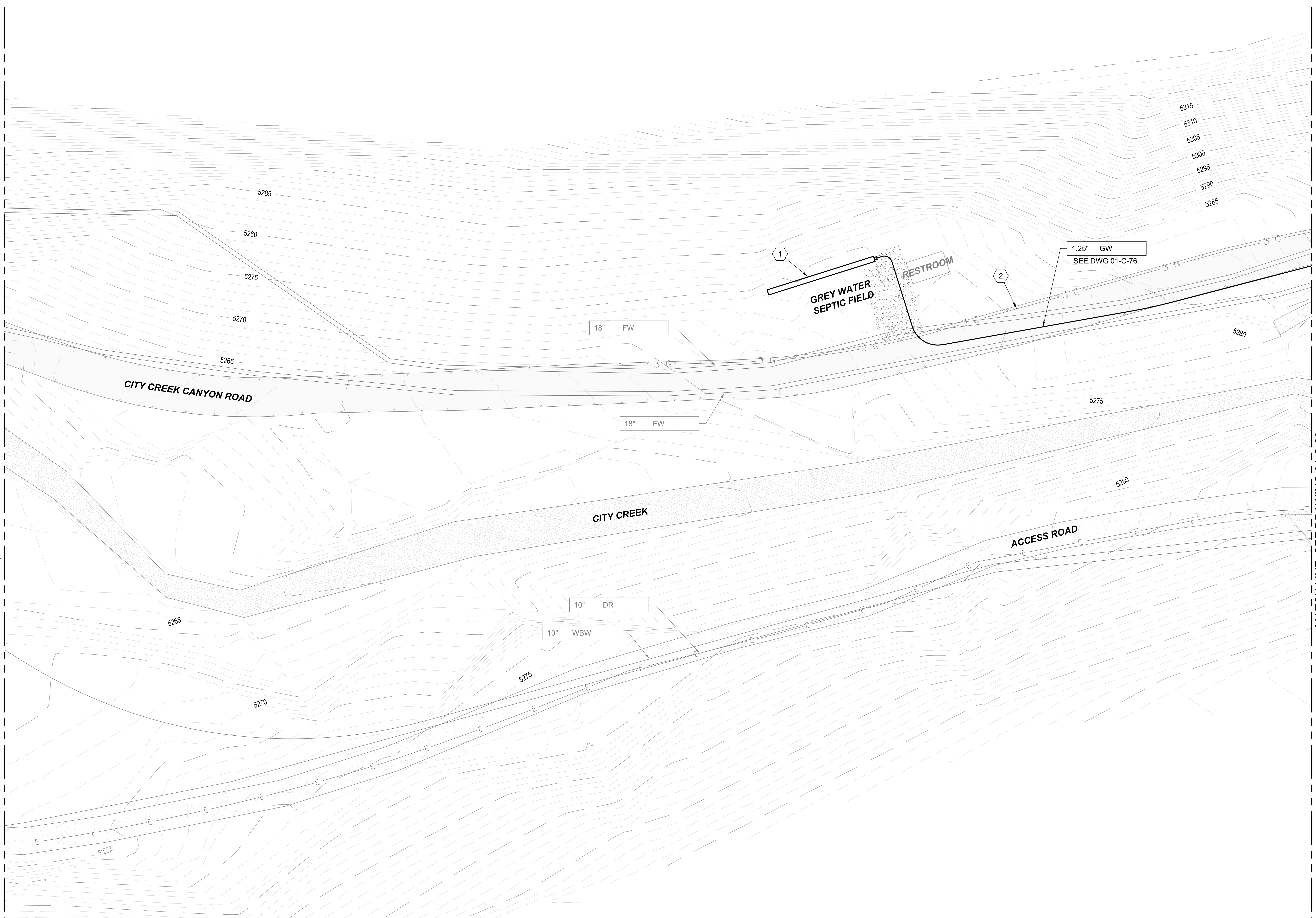
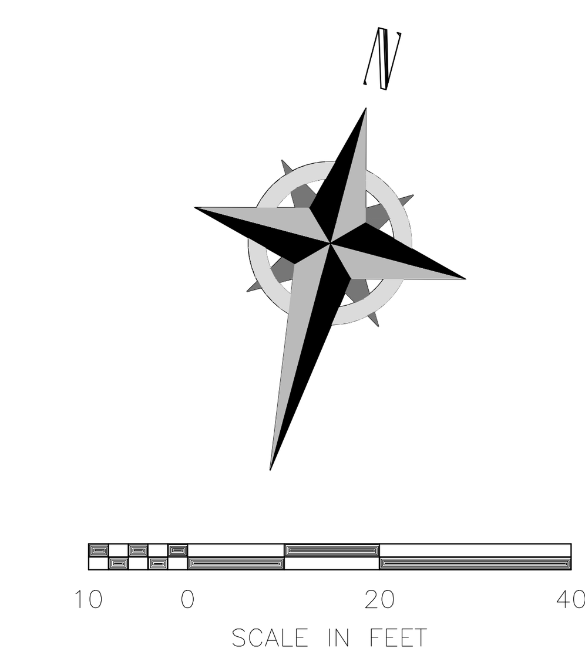




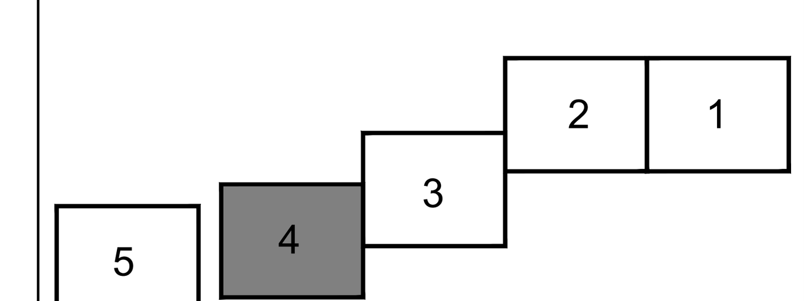
GENERAL NOTES

1. ALL EXISTING PIPELINE LOCATIONS AND ELEVATIONS ARE APPROXIMATE AND BASED ON RECORD DRAWINGS. CONTRACTOR TO LOCATE AND POTHOLE ALL UTILITIES PRIOR TO MANUFACTURING PIPE.
2. INDIVIDUAL YARD PIPING PLAN AND PROFILES INDICATED AT BOTTOM OF LABEL FOR REFERENCE SHEET NUMBER.

⬡ KEY NOTES

1. FOR DESIGN AND CONSTRUCTION OF SEPTIC TANK AND DRAINFIELD, SEE REFERENCE DOCUMENT "CITY CREEK SEPTIC DESIGN".
2. GAS LINE SHOWN FROM UTILITY GIS DATA. VERIFY LOCATION PRIOR TO EXCAVATING.

AREA INDEX



Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO: 512260079

REVISIONS

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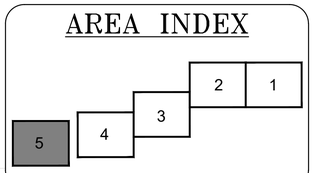
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

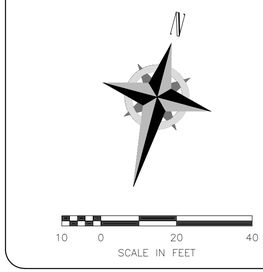
YARD PIPING – AREA 4

90% GMP

DRAWING NO.
01-C-24

AREA INDEX



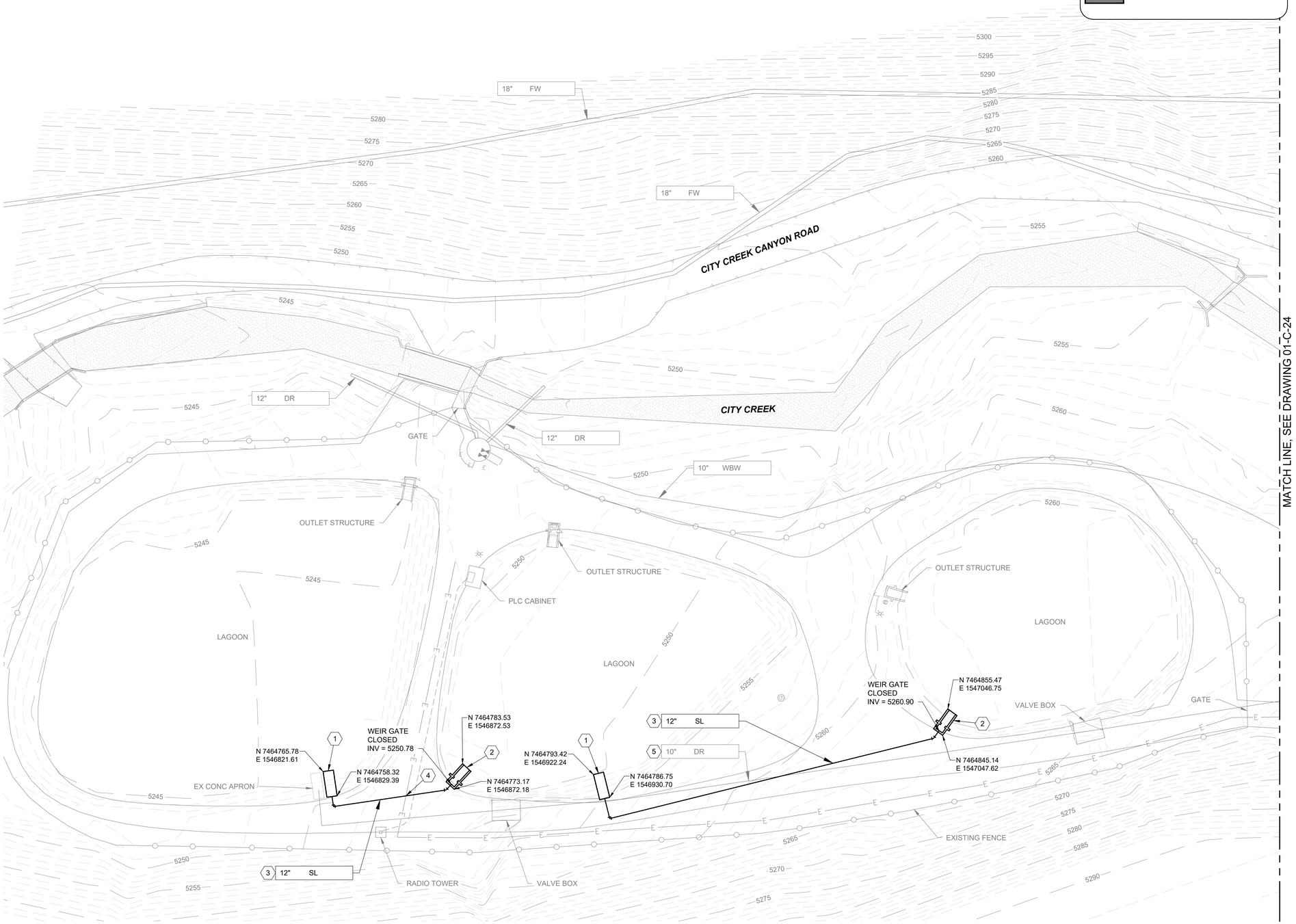


GENERAL NOTES

1. ALL EXISTING PIPELINE LOCATIONS AND ELEVATIONS ARE APPROXIMATE AND BASED ON RECORD DRAWINGS. CONTRACTOR TO LOCATE AND POTHOLE ALL UTILITIES PRIOR TO MANUFACTURING PIPE.

KEY NOTES

1. DRYING BED INLET AND APRON - SEE STRUCTURAL SHEET 35-S-35.
2. DRYING BED WEIR OUTLET STRUCTURE - SEE STRUCTURAL SHEET 35-S-35 CONC SLAB STEP.
3. CONSTRUCT 12" SL DR25 C900 WITH CONTINUOUS SLOPE TO GRAVITY FLOW.
4. RAISE ELECTRICAL CONDUIT ABOVE 12" SL.
5. PRIOR TO ABANDONING 10" DR, COORDINATE WITH OPERATIONS FOR SHUTDOWN AND BYPASS.



Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512260079

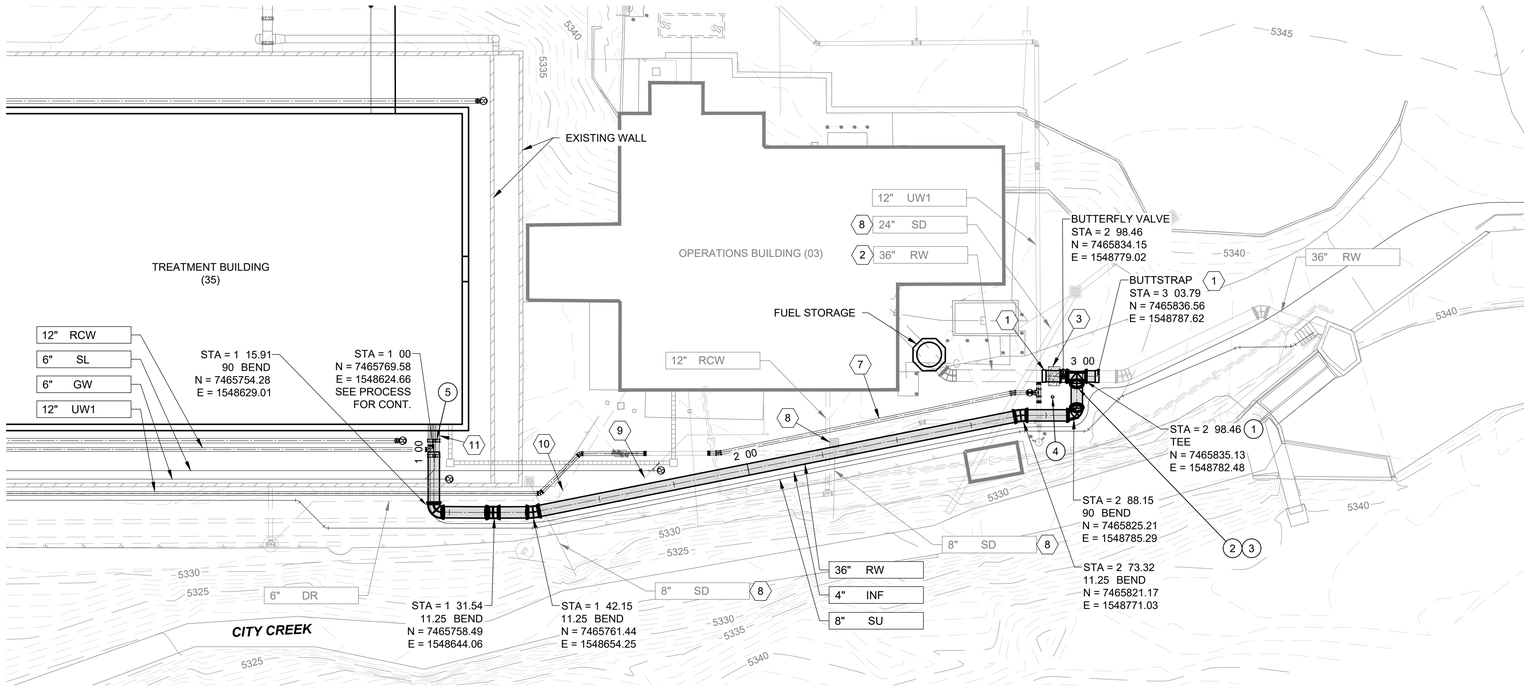
NO.	DATE	REVISIONS	MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

YARD PIPING – AREA 5

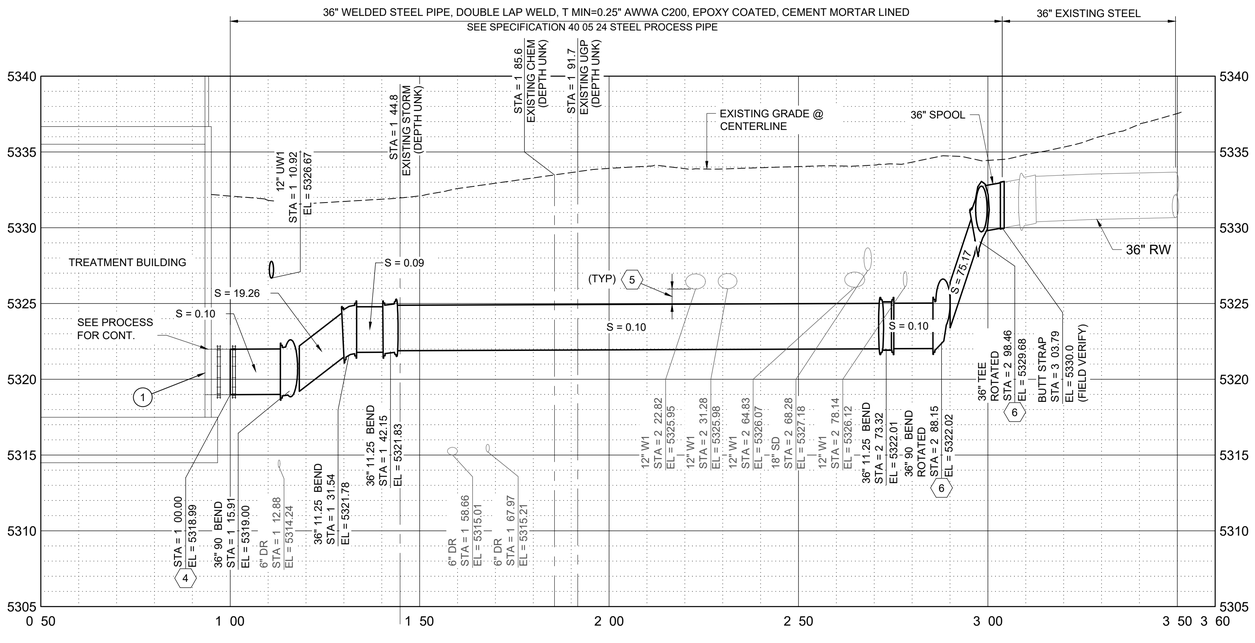
90% GMP

DRAWING NO.
01-C-25



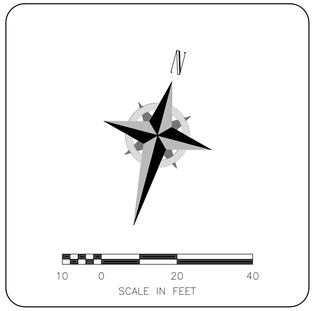
36" RW (RAW WATER) LINE - PLAN

SCALE: 1" = 20'



36" RW (RAW WATER) LINE - PROFILE

1" = 20'
1" = 5'



KEY NOTES

1. BUTT STRAP DETAIL SEE C/GC-22.
2. ONCE THE WATER TREATMENT PLANT IS COMMISSIONED AND OPERATIONAL, ABANDON EXISTING 36" RW TO THE OPERATIONS BUILDING. SEE 01 12 16 WORK SEQUENCE.
3. PROVIDE BLIND FLANGE AND MINIMUM DIRECT BEARING THRUST BLOCK OF 81 SF PER DETAIL C/GC-26.
4. PROVIDE DOUBLE HARNESS COUPLING AT PIPE CONNECTION TO STRUCTURE PER DETAIL A/GC-20. AND PIPE CONNECTION TO STRUCTURE DETAIL B/GC-20.
5. PROVIDE UTILITY SUPPORT PER DETAIL A/GC-22 FOR ALL CROSSINGS LESS THAN 2FT CLEARANCE (TYPICAL FOR ALL CROSSINGS).
6. PRIOR TO MANUFACTURING PIPELINE CONTRACTOR TO VERIFY PIPE LOCATIONS AND DEPTH TO CLEAR ALL PIPELINES. CONTRACTOR TO FIELD ROTATE 90 BENDS AND AD UST SLOPE AS NEEDED.
7. RELOCATE 12" UW1 WATERLINE. SEE 01-C-61.
8. SEE 01-C-10 STORMWATER AND DRAINAGE PLAN FOR REVISIONS TO STORM INLET. PROVIDE TEMPORARY DRAINAGE DURING CONSTRUCTION WITH CONTRACTORS SWPPP.
9. RELOCATED OR PROVIDE TEMPORARY PIPING FOR 6" SL, SEE 01-C-74.
10. RELOCATE OR PROVIDE TEMPORARY PIPING FOR 6" GW, SEE 01-C-79
11. PIPES ARE STACKED ON TOP OF 36" RW. COORDINATE PIPE PENETRATIONS AND PIPELINE INSTALLATION.

CP GENERAL NOTES

1. CATHODIC PROTECTION DETAILS ARE IDENTIFIED WITH CIRCULAR CALLOUTS AND REFER TO DETAILS ON SHEETS GC-28 AND GC-29. CATHODIC PROTECTION SCHEDULE ON GC-30.
2. PROVIDE DIELECTRIC ISOLATION AT ALL BUILDING INTERFACES AND CONNECTIONS. PIPELINES TO BE ELECTRICALLY ISOLATED FROM METALLIC ELEMENTS AND STRUCTURES THAT ARE NOT CONTINUOUS WITH THE CP SYSTEM.
3. IF PLAIN END STUBOUTS ARE PROVIDED AT BUILDING CONNECTIONS, CONTRACTOR TO PROVIDE ISOLATION KIT WITHIN STRUCTURE WITH DIELECTRIC UNIONS OR DIELECTRIC FLANGES. PROVIDE ISOLATION FROM PIPE PENETRATION THROUGH WALL. SEE MECHANICAL FOR PIPE PENETRATION DETAILS. IF CONTRACTOR PROVIDES FLANGE CONNECTIONS FOR BUILDING OUTLETS IN ORDER TO ELECTRICALLY ISOLATE THE SYSTEM, INSTALL BURIED FLANGE ISOLATION KIT PER CP0, AND CONTINUOUS PETROLATUM WAX TAPE EXTENDING TO AND INTERFACING WITH FOUNDATION WALL.

CP KEY NOTES

1. WRAP TEE IN PETROLATUM WAX.
2. INSTALL ISOLATED FLANGES PER DETAIL CP03.
3. INSTALL INSULATING FLANGE TEST STATION PER DETAIL CP07.
4. INSTALL 4 ANODE TEST STATION PER DETAIL CP09.
5. PROVIDE RESTRAINT FLEXIBLE OINT BOND TO ALL COUPLERS PER DETAIL CP06.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

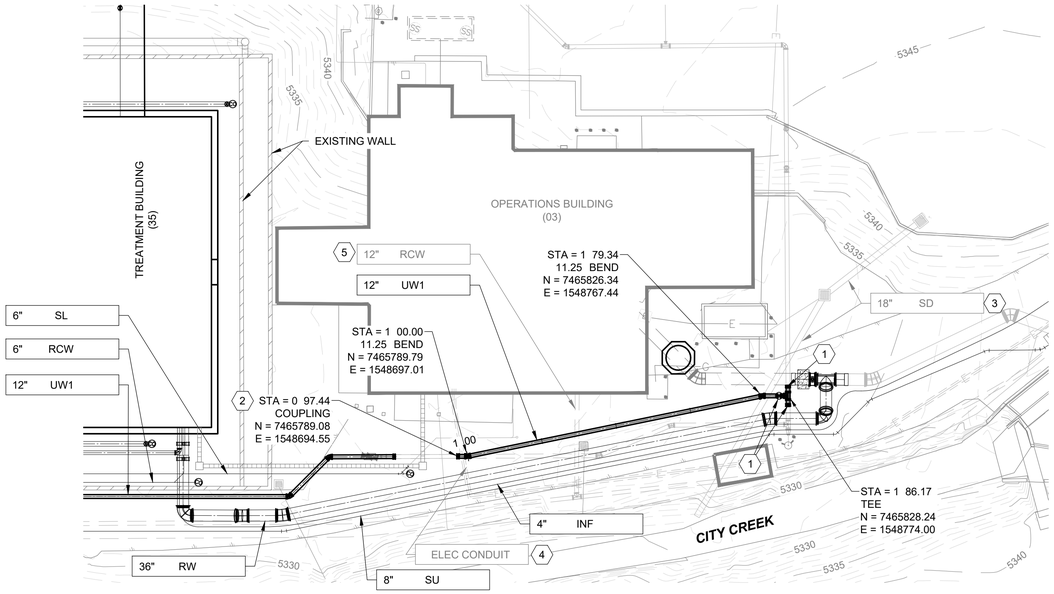
NO.	DATE	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	MADE BY	AUTH. BY
0	06/14/24		NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PLAN & PROFILE – 36" RW

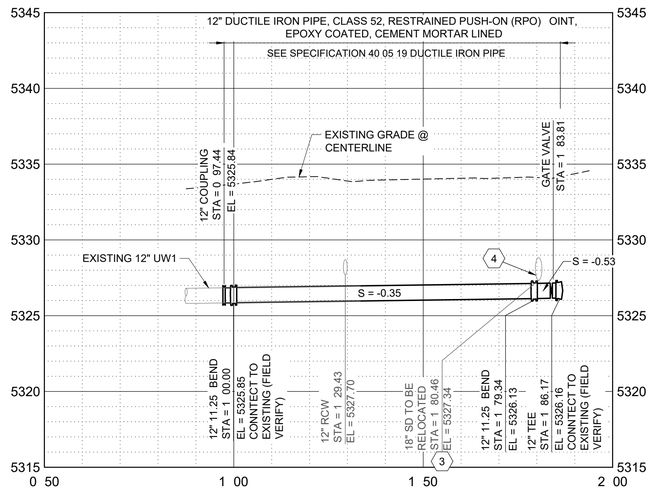
90% GMP

DRAWING NO.
01-C-60



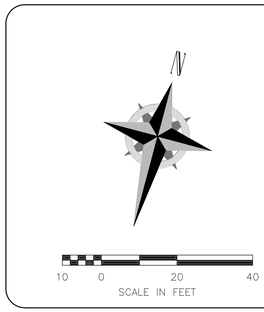
12" UW1 (UTILITY WATER) LINE RE-ROUTE - PLAN

SCALE: 1" = 20'



12" UW1 (UTILITY WATER) LINE RE-ROUTE - PROFILE

1" = 20'
1" = 5'



KEY NOTES

1. CUT IN 12" DIP FLXM TEE WITH 12" GV AND (2) RESTRAINT COUPLERS.
2. RECONNECT TO EXISTING 12" UW1 WITH 12" RESTRAINT COUPLER.
3. SEE 01-C-10 STORM WATER DRAINAGE PLAN FOR REVISIONS TO STORM INLETS. PROVIDE TEMPORARY DRAINAGE DURING CONSTRUCTION WITH CONTRACTORS SWPPP.
4. PROVIDE UTILITY SUPPORT PER DETAIL A / GC-22 FOR ALL CROSSINGS LESS THAN 2 FT (TYPICAL FOR ALL CROSSINGS).EXISTING PIPELINE OR UTILITY IMPACT.
5. EXISTING PIPELINE OR UTILITY IMPACTS. VERIFY OPERATIONALLY ACTIVE AND CONDITIONS PRIOR TO EXCAVATING. SUPPORT PIPELINE (DETAIL A/GC-22) UNTIL FUTURE ABANDONMENT MAY BEGIN AFTER TREATMENT BUILDING IS COMPLETED. PROVIDE BPASS PIPING AND PUMPING IF CONFLICT CAN NOT BE AVOIDED.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
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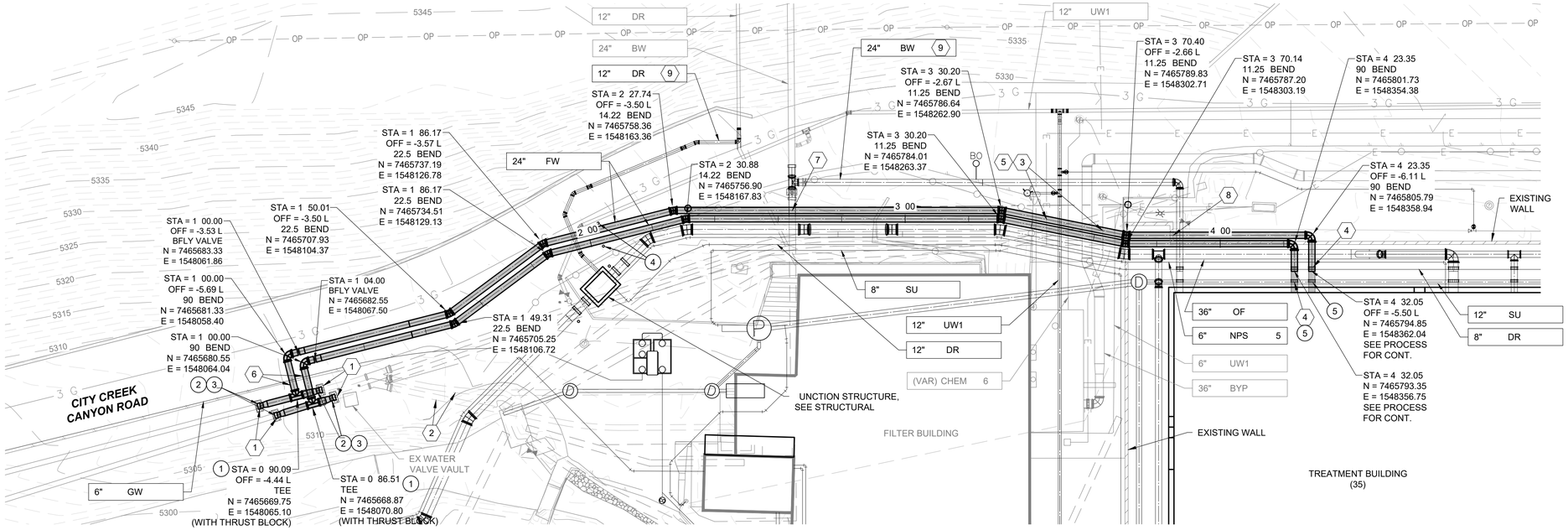
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PLAN & PROFILE - 12" UW1 RE-ROUTE

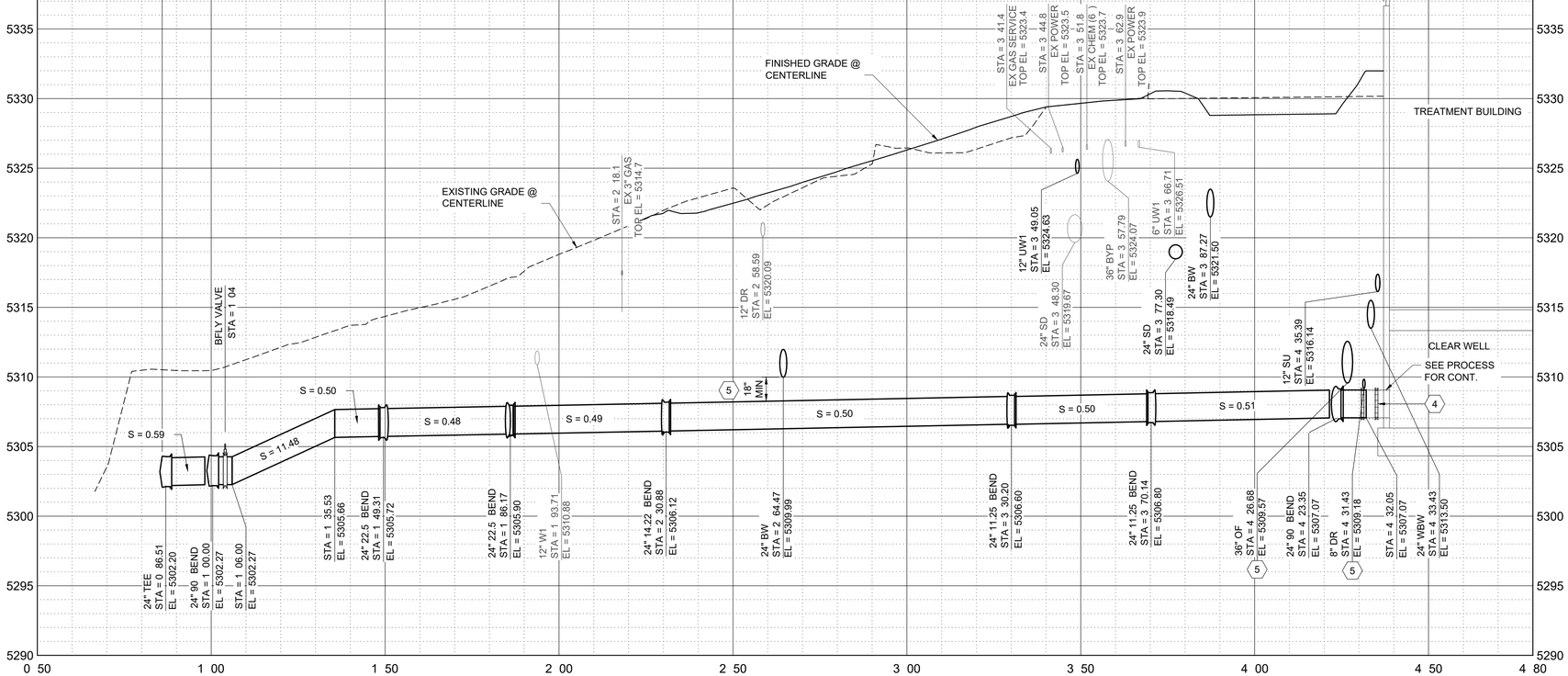
90% GMP

DRAWING NO.
01-C-61



(2) 24" FW (FILTERED WATER) LINE - PLAN

SCALE: 1" = 20'



(2) 24" FW (FILTERED WATER) LINE- PROFILE

1" = 20'
1" = 5'

(PROFILE APPLIES TO BOTH PIPELINES)

KEY NOTES

1. FOR CONNECTION TO EXISTING 21" RCP SEE DETAIL E/GC-23.
2. ONCE THE WATER TREATMENT PLANT IS COMMISSIONED AND OPERATIONAL, ABANDON EXISTING 24" FW TO FILTER BUILDING. SEE 01 12 16 WORK SEQUENCE.
3. ELECTRICAL DUCT BANK. TAKE ADDITIONAL PRECAUTION FOR SUPPORTING CONDUITS.
4. PROVIDE DOUBLE HARNESS COUPLING AT PIPE CONNECTION TO STRUCTURE PER DETAIL A/GC-20. AND PIPE CONNECTION TO STRUCTURE DETAIL B/GC-20.
5. PROVIDE UTILITY SUPPORT PER DETAIL A / GC-22 FOR ALL CROSSINGS LESS THAN 2 FT (TYPICAL FOR ALL CROSSINGS)
6. PRIOR TO MANUFACTURING PIPE, CONTRACTOR TO VERIFY PIPE LOCATIONS, DEPTHS, AND DIAMETERS. ROTATE 90 DEGREE BEND AND TEE TO MATCH EXISTING 21" CENTERLINE. "CONTRACTOR MAY ONLY PREFORM ONE CONNECTION AT A TIME IMPACTING OPERATIONS".
7. RELOCATE 24"BW LINE. SEE 01-C-67.
8. EXISTING TREATMENT BUILDING WALL IN CONFLICT WITH PIPELINE. ADDRESS REMOVAL OF WALL IN INTEGRATED EXCAVATION PLAN IEP.
9. EXISTING PIPELINE OR UTILITY IMPACTS. VERIFY OPERATIONALLY ACTIVE AND CONDITIONS PRIOR TO EXCAVATING. SUPPORT PIPELINE (DETAIL A/GC-22) UNTIL FUTURE ABANDONMENT MAY BEGIN AFTER TREATMENT BUILDING IS COMPLETED. PROVIDE BPASS PIPING AND PUMPING IF CONFLICT CAN NOT BE AVOIDED.

CP GENERAL NOTES

1. CATHODIC PROTECTION DETAILS ARE IDENTIFIED WITH CIRCULAR CALLOUTS AND REFER TO DETAILS ON SHEETS GC-28 AND GC-29. CATHODIC PROTECTION SCHEDULE ON GC-30.
2. PROVIDE DIELECTRIC ISOLATION AT ALL BUILDING INTERFACES AND CONNECTIONS. PIPELINES TO BE ELECTRICALLY ISOLATED FROM METALLIC ELEMENTS AND STRUCTURES THAT ARE NOT CONTINUOUS WITH THE CP SYSTEM.
3. IF PLAIN END STUBOUTS ARE PROVIDED AT BUILDING CONNECTIONS, CONTRACTOR TO PROVIDE ISOLATION KIT WITHIN STRUCTURE WITH DIELECTRIC UNIONS OR DIELECTRIC FLANGES. PROVIDE ISOLATION FROM PIPE PENETRATION THROUGH WALL. SEE MECHANICAL FOR PIPE PENETRATION DETAILS. IF CONTRACTOR PROVIDES FLANGE CONNECTIONS FOR BUILDING OUTLETS IN ORDER TO ELECTRICALLY ISOLATE THE SYSTEM, INSTALL BURIED FLANGE ISOLATION KIT PER CP0, AND CONTINUOUS PETROLATUM WAX TAPE EXTENDING TO AND INTERFACING WITH FOUNDATION WALL.

CP KEY NOTES

1. WRAP TEE AND PIPE IN PETROLATUM WAX.
2. INSTALL ISOLATED FLANGES PER DETAIL CP03.
3. INSTALL INSULATING FLANGE TEST STATION PER DETAIL CP07.
4. INSTALL ANODE TEST STATION PER DETAIL CP09.
5. PROVIDE RESTRAINT FLEXIBLE OINT BOND TO ALL COUPLERS PER DETAIL CP06.

Brown AND Caldwell

SCALE:

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

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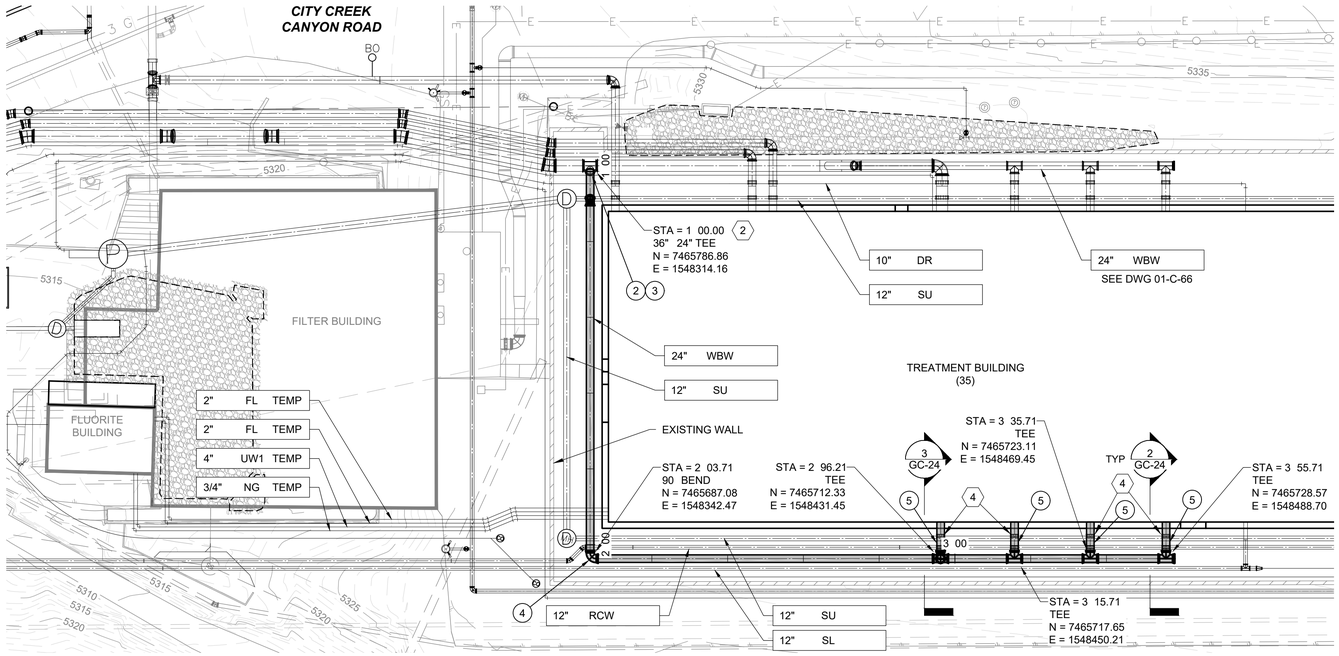
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PLAN & PROFILE – 24" FW

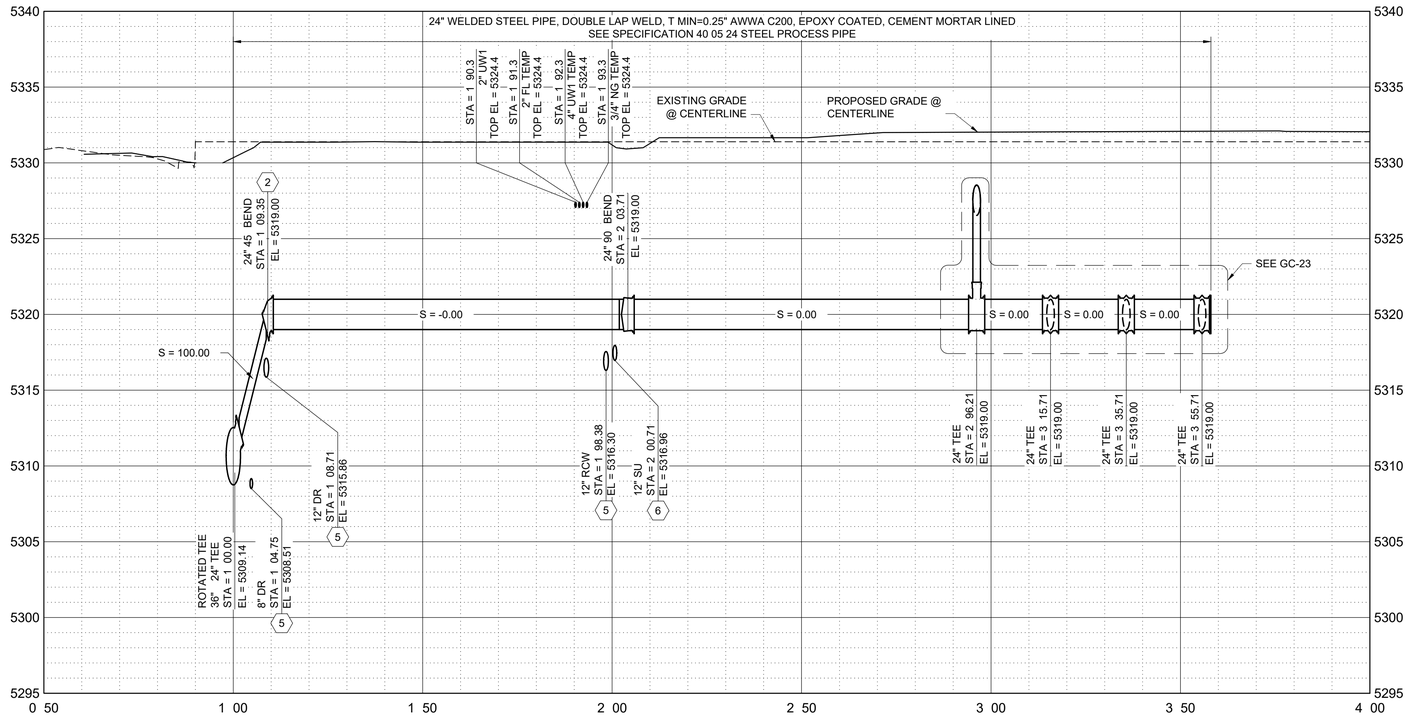
90% GMP

DRAWING NO.
01-C-62



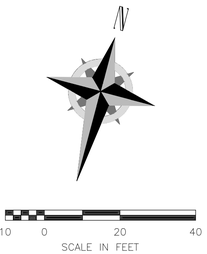
24" WBW (WASTE BACKWASH) LINE - PLAN

SCALE: 1" = 20'



24" WBW (WASTE BACKWASH) LINE - PROFILE

1" = 20'
1" = 5'



KEY NOTES

1. CONNECTIONS TO NEW TREATMENT BUILDING SEE DETAILS ON GC-24.
2. ROTATE 90 DEGREE BEND AND CONNECT INTO 36" OF PIPE. SEE 01-C-66
3. NOT USED
4. PROVIDE DOUBLE HARNESS COUPLING AT PIPE CONNECTION TO STRUCTURE PER DETAIL A/GC-20. AND PIPE CONNECTION TO STRUCTURE DETAIL B/GC-20.
5. PROVIDE UTILITY SUPPORT PER DETAIL A / GC-22 FOR ALL CROSSINGS LESS THAN 2 FT (TYPICAL FOR ALL CROSSINGS)
6. PROTECT STRUCTURAL UNDERDRAIN DRAIN ROCK SECTION WHEN TRENCHING OVER 12" SU TO PREVENT FINES FROM ENTERING.

CP KEY NOTES

1. NOT USED.
2. INSTALL ISOLATED FLANGES PER DETAIL CP03.
3. INSTALL INSULATING FLANGE TEST STATION PER DETAIL CP07.
4. INSTALL ANODE TEST STATION PER DETAIL CP09.
5. PROVIDE RESTRAINT FLEXIBLE OINT BOND TO ALL COUPLERS PER DETAIL CP06.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
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REVISIONS

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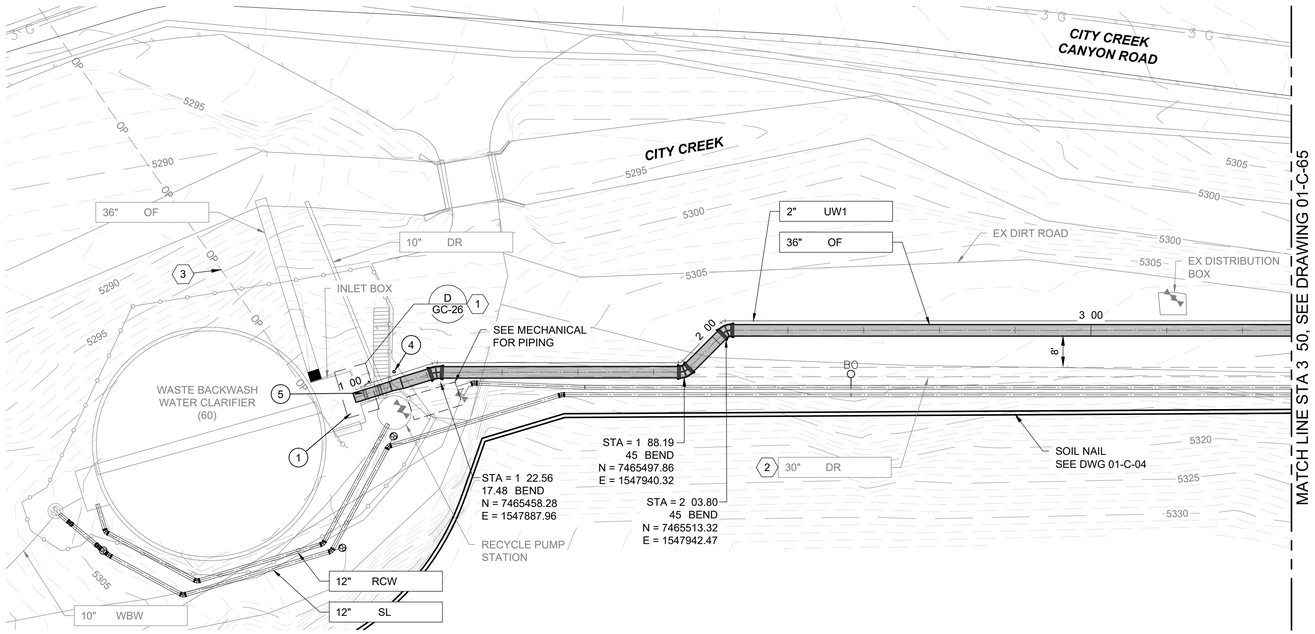
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PLAN & PROFILE – 24" WBW

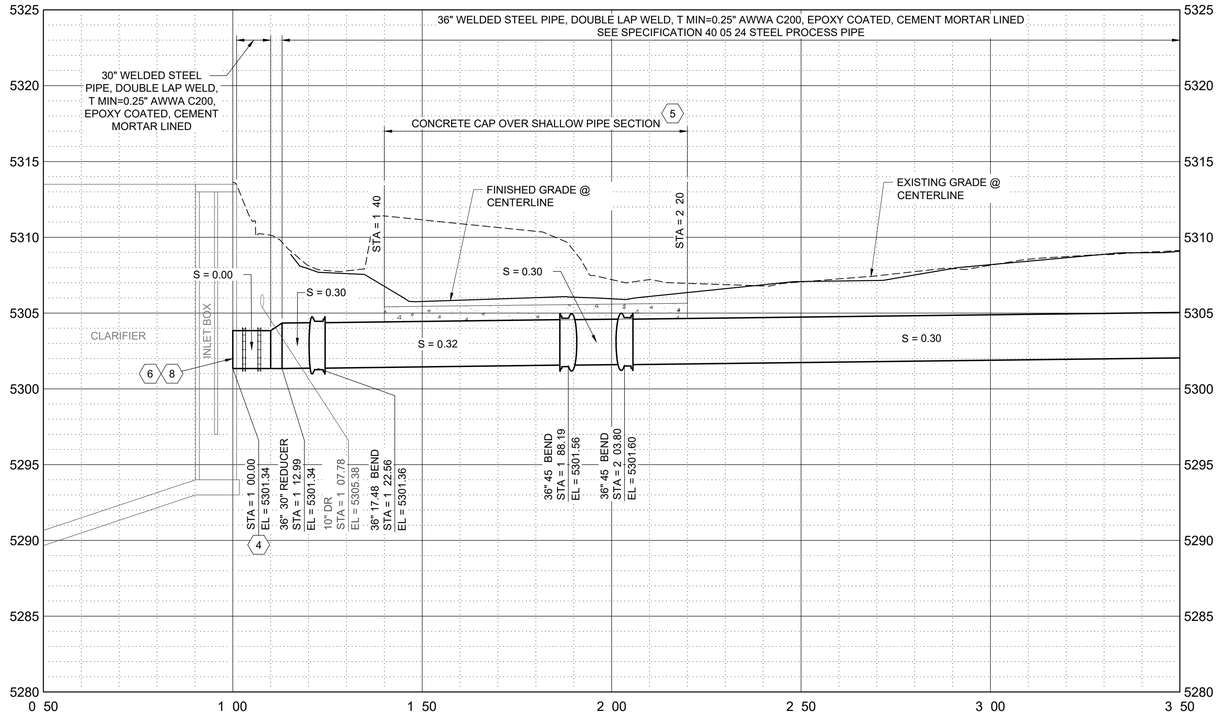
90% GMP

DRAWING NO.
01-C-63



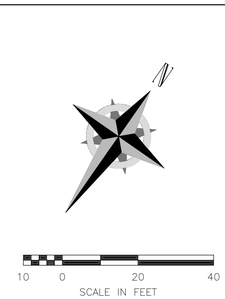
36" OF (OVERFLOW) LINE - PLAN

SCALE: 1" = 20'



36" OF (OVERFLOW) LINE - PROFILE

1" = 20'
1" = 5'



KEY NOTES

1. FOR CONNECTION TO EXISTING LNLET STRUCTURE SEE DETAILD/GC-26.
2. ABANDON IN PLACE, FILL WITH GROUT EXISTING 30" DR TO CLARIFIER SEE 01 12 16 WORK SEQUENCE.
3. ELECTRICAL OVERHEAD POWER. TAKE ADDITIONAL PRECAUTION FOR SUPPORTING CONDUITS.
4. PROVIDE DOUBLE HARNESS COUPLING AT PIPE CONNECTION TO STRUCTURE PER DETAIL A/GC-20. AND PIPE CONNECTION TO STRUCTURE DETAIL B/GC-20.
5. PROVIDE CONCRETE CAP CLASS B 6" THICK EXTENDED 2 FT ON EITHER SIDE OF THE TRENCH SECTION SET 12" ABOVE THE PIPE.
6. PRIOR TO MANUFACTURING PIPE, CONTRACTOR TO VERIFY PIPE LOCATIONS, DEPTHS, AND DIAMETER OF EXISTING PENETRATION TO INLET STRUCTURE.
7. RESTORE STAIRCASE WITH SIMILAR KIND. SEE STRUCTURAL FOR ADDITIONAL REQUIREMENTS.
8. LIMITED SHUT DOWN WINDOW ALLOWED FOR PERFORMING CONNECTION INTO CLARIFIER INLET STRUCTURE. SEE WORK SEQUENCE 01 12 16.

CP KEY NOTES

1. PROVIDE ELECTRICALLY ISOLATED CONNECTION TO STRUCTURE WITH LINK SEALS. SEE MECHANICAL PIPE PENETRATION DETAILS.
2. NOT USED.
3. NOT USED.
4. INSTALL ANODE TEST STATION PER DETAIL CP09.
5. PROVIDE RESTRAINT FLEXIBLE OINT BOND TO ALL COUPLERS PER DETAIL CP06.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

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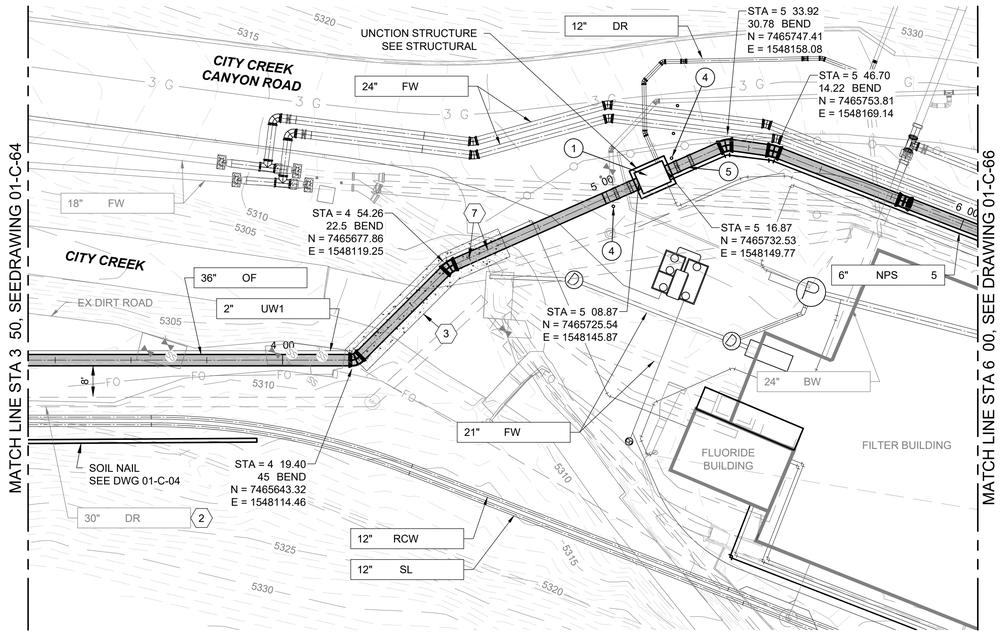
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PLAN & PROFILE – 36" OF STA 1+00 TO STA 3+50

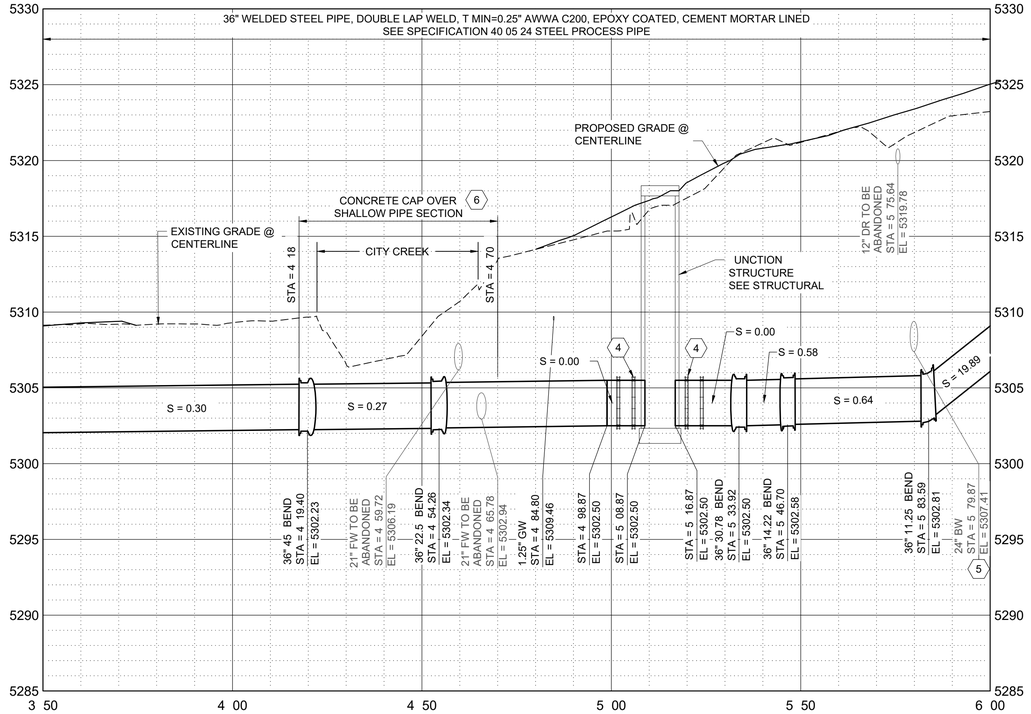
90% GMP

DRAWING NO.
01-C-64



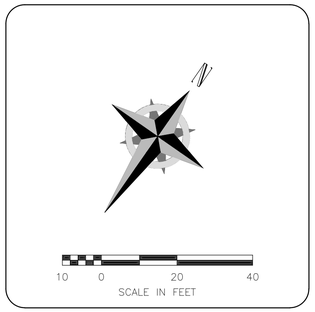
36" OF (OVERFLOW) LINE - PLAN

SCALE: 1" = 20'



36" OF (OVERFLOW) LINE - PROFILE

1" = 20'
1" = 5'



KEY NOTES

1. FOR CONNECTION TO UNCTION STRUCTURE SEE 70-S-15.
2. ABANDON IN PLACE, FILL WITH GROUT EXISTING 30" DR TO CLARIFIER SEE 01 12 16 WORK SEQUENCE.
3. REMOVE AND REPLACE CONCRETE CAP. SAW CUT CLEAN LINES AND POUR NEW CONCRETE CAP TO TOP OF SLOPE ALONG CREEK BANKS. CAULK WITH WATER TIGHT EXPANDABLE GROUT ALL OINTS WITH SIKAFIX HH OR EQUAL.
4. PROVIDE DOUBLE HARNESS COUPLING AT PIPE CONNECTION TO STRUCTURE PER DETAIL A/GC-20. AND PIPE CONNECTION TO STRUCTURE DETAIL B/GC-20.
5. PROVIDE UTILITY SUPPORT PER DETAIL A / GC-22 FOR ALL CROSSINGS LESS THAN 2 FT (TYPICAL FOR ALL CROSSINGS).
6. PROVIDE TRENCH SECTION OVER CREEK CROSSING PER DETAIL F / GC-23.
7. PRIOR TO INSTALLING 36" OF, PIPE CONFLICTS WITH EXISTING 21" FW LINES. PROVIDE TEMPORARY PIPING FOR START UP AND COMMISSIONING TO BY-PASS THIS SECTION UNTIL TREATMENT BUILDING IS COMPLETED AND THE 21" FW CAN BE DEMOLISHED. SEE 01 12 16 WORK SEQUENCE. PROVIDE BY-PASS PLAN.

CP KEY NOTES

1. PROVIDE ELECTRICALLY ISOLATED CONNECTION TO STRUCTURE WITH LINK SEALS. SEE MECHANICAL PIPE PENETRATION DETAILS.
2. NOT USED.
3. NOT USED.
4. INSTALL ANODE TEST STATION PER DETAIL CP09.
5. PROVIDE RESTRAINT FLEXIBLE OINT BOND TO ALL COUPLERS PER DETAIL CP06.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

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CHECKED BY: M.KOBE
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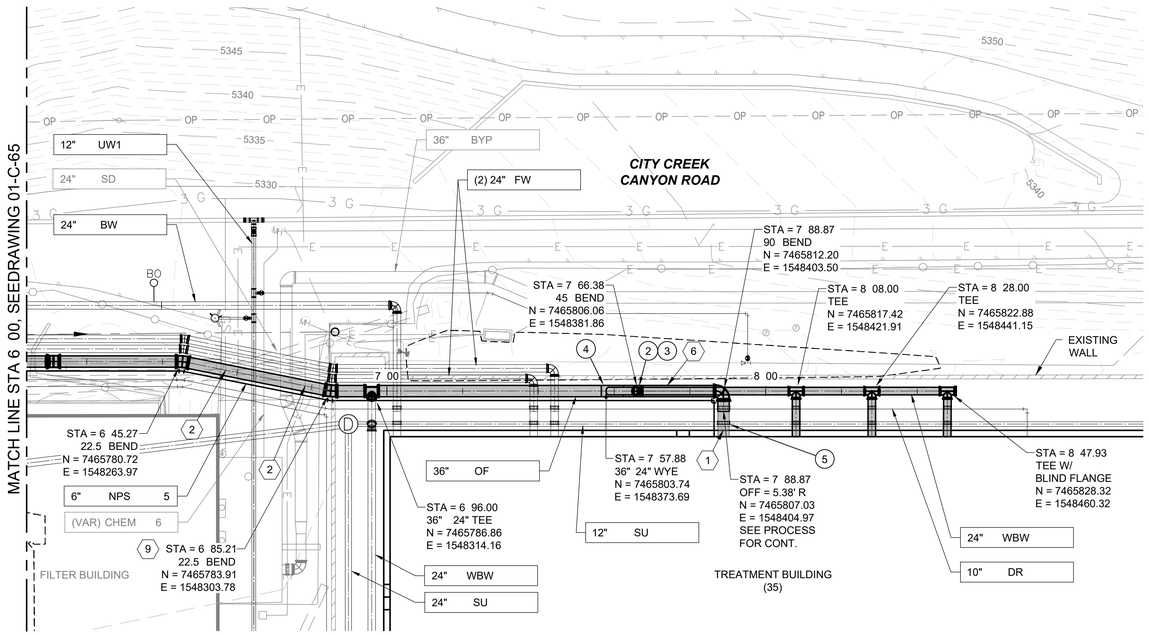
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PLAN & PROFILE – 36" OF STA 3+50 TO STA 6+00

SALT LAKE CITY

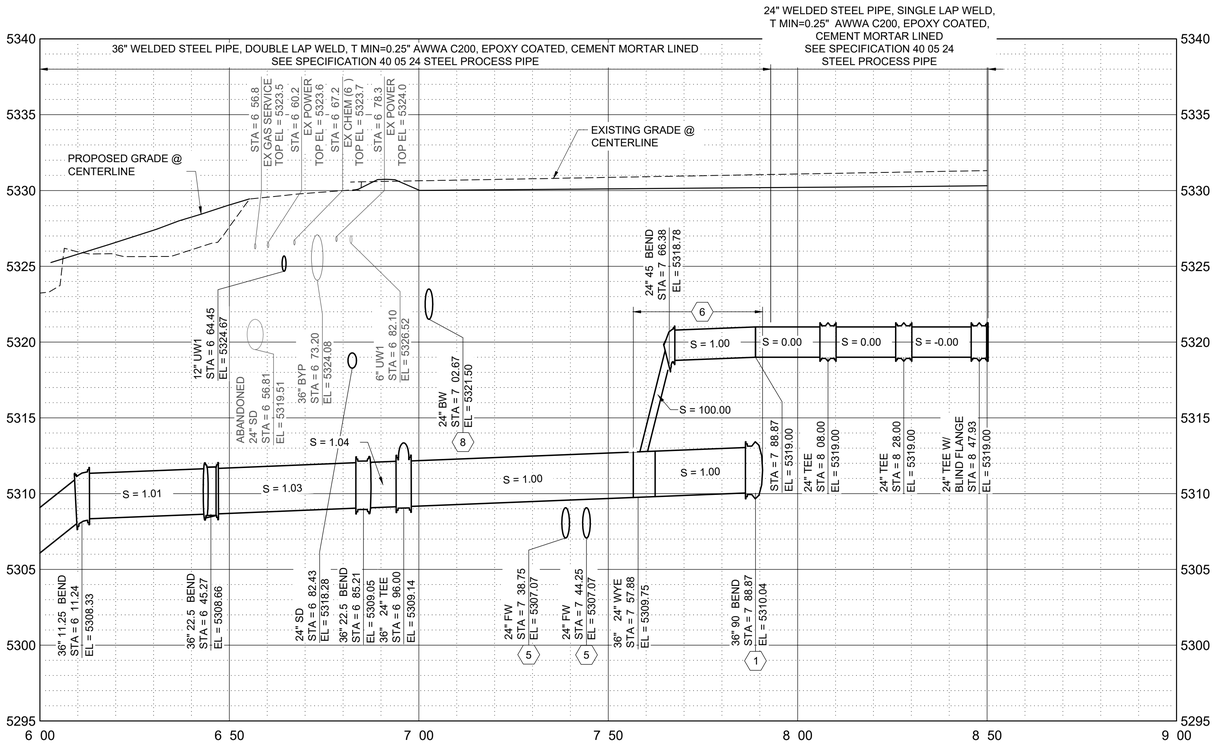
90% GMP

DRAWING NO.
01-C-65



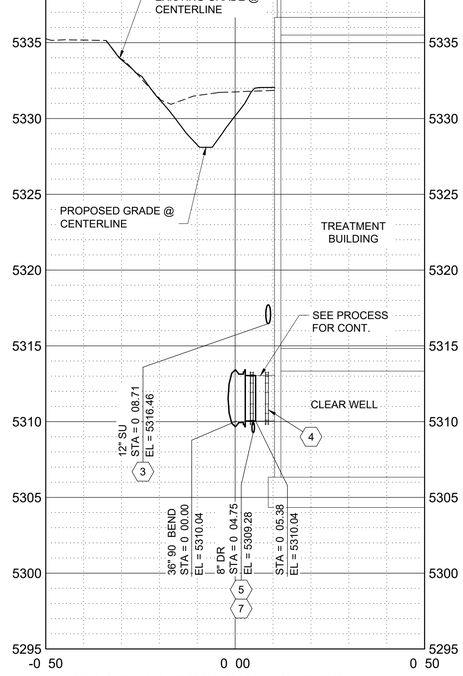
36" OF (OVERFLOW) LINE - PLAN

SCALE: 1" = 20'



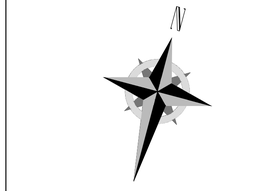
36" OF (OVERFLOW) LINE - PROFILE

1" = 20'
1" = 5'



36" OF (OVERFLOW) LINE FROM TREATMENT BUILDING - PROFILE B

1" = 20'
1" = 5'



KEY NOTES

1. FOR CONNECTION TO TREATMENT BUILDING SEE PROFILE B AND PROCESS-MECHANICAL FOR CONTINUATION INTO STRUCTURE.
2. ELECTRICAL DUCT BANK. TAKE ADDITIONAL PRECAUTION FOR SUPPORTING CONDUITS.
3. PROTECT STRUCTURAL UNDERDRAIN DRAIN ROCK SECTION WHEN TRENCHING OVER 12" SU TO PREVENT FINES FROM ENTERING.
4. PROVIDE DOUBLE HARNESS COUPLING AT PIPE CONNECTION TO STRUCTURE PER DETAIL A/GC-20. AND PIPE CONNECTION TO STRUCTURE DETAIL B/GC-20.
5. PROVIDE UTILITY SUPPORT PER DETAIL A / GC-22 FOR ALL CROSSINGS LESS THAN 2 FT (TYPICAL FOR ALL CROSSINGS)
6. STACKED PIPE SECTION. BACKFILL ENTIRE SECTION BETWEEN PIPES WITH 95 COMPACTION OF TYPE F - MINUS OR CLSM.
7. FOR CROSSING 12" DR SEE 01-C-75. VERIFY PLACEMENT OF HARNESS COUPLING IS NOT IN CONFLICT WITH PIPE CROSSING.
8. SEE CONNECTION WITH 24" WBW ON 01-C-63 FOR ANGLE AND ROTATION OF FITTINGS TO TEE.
9. ADDRESS REMOVAL OF WALL IN CONTRACTORS IEP FOR PIPELINE INSTALLATION UNDER WALL.

CP KEY NOTES

1. NOT USED.
2. INSTALL ISOLATED FLANGES PER DETAIL CP03.
3. INSTALL INSULATING FLANGE TEST STATION PER DETAIL CP07.
4. INSTALL ANODE TEST STATION PER DETAIL CP09.
5. PROVIDE RESTRAINT FLEXIBLE OINT BOND TO ALL COUPLERS PER DETAIL CP06.

Brown AND Caldwell

SCALE:

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512560079

REVISIONS

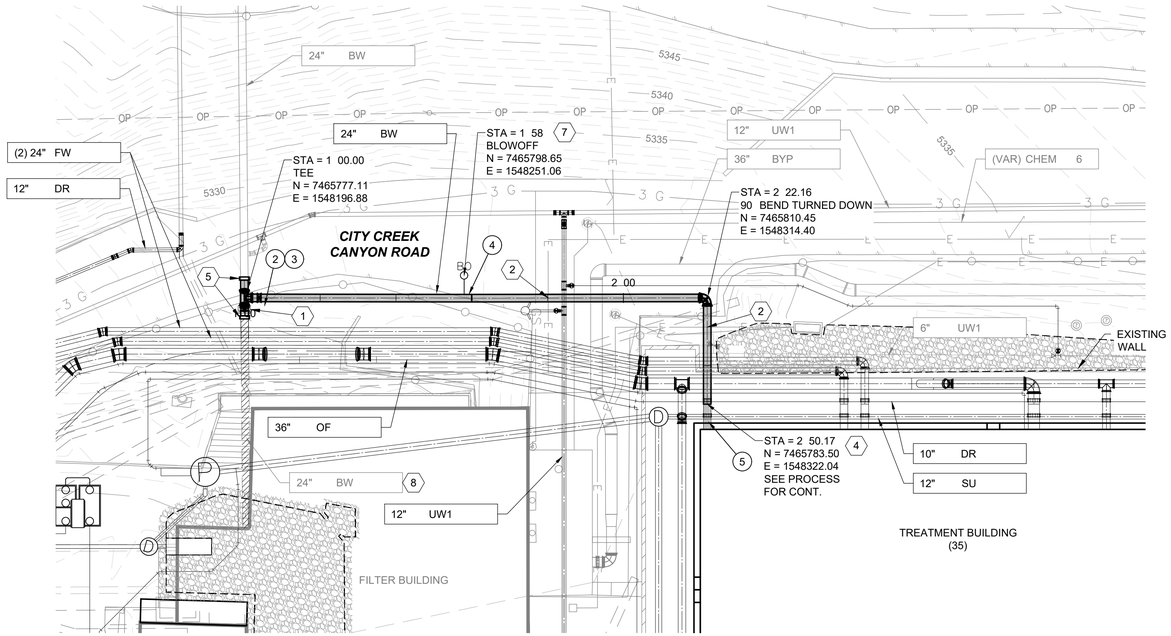
NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PLAN & PROFILE – 36" OF STA 6+00 TO STA 8+45.05

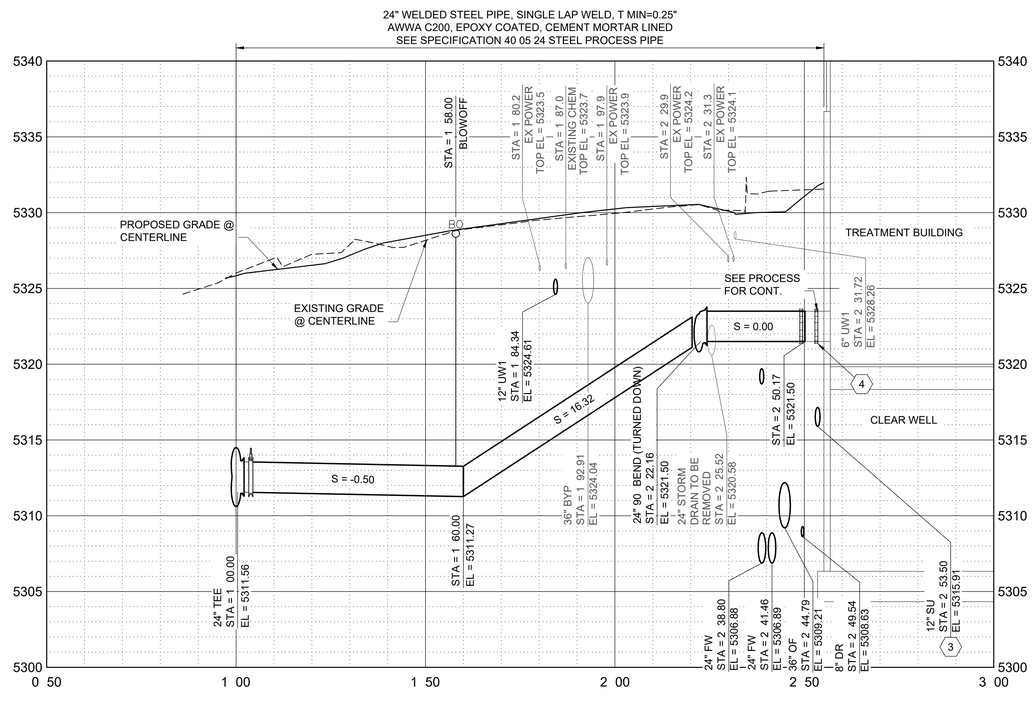
90% GMP

DRAWING NO.
01–C–66



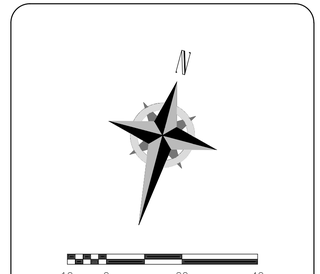
24" BW (BACKWASH) LINE - PLAN

SCALE: 1" = 20'



24" BW (BACKWASH) LINE - PROFILE

1" = 20'
1" = 5'



KEY NOTES

1. TEMPORARILY CONNECT TO EXISTING 24" BW FOR PIPE TESTING, AND COMMISSIONING. AT COMPLETION OF TREATMENT BUILDING, CAP AND BLOCK TEE PER DETAIL C / GC 26 TO FILTER BUILDING.
2. ELECTRICAL DUCT BANK. TAKE ADDITIONAL PRECAUTION FOR SUPPORTING CONDUITS.
3. PROTECT STRUCTURAL UNDERDRAIN DRAIN ROCK SECTION WHEN TRENCHING OVER 12" SU TO PREVENT FINES FROM ENTERING.
4. PROVIDE DOUBLE HARNESS COUPLING AT PIPE CONNECTION TO STRUCTURE PER DETAIL A/GC-20. AND PIPE CONNECTION TO STRUCTURE DETAIL B/GC-20.
5. RECONNECT TO EXISTING 24" STEEL PIPE WITH BUTT STRAP PER DETAIL C / GC-22.
6. RELOCATE UW1 LINE, SEE 1-C-22 AND FIELD ROUTING NOTES ON GC-01.
7. BLOWOFF PER DETAIL A / GC-27.
8. REMOVE 24" BW PIPE IN ITS ENTIRETY.

CP KEY NOTES

1. NOT USED.
2. INSTALL ISOLATED FLANGES PER DETAIL CP03.
3. INSTALL INSULATING FLANGE TEST STATION PER DETAIL CP07.
4. INSTALL ANODE TEST STATION PER DETAIL CP09.
5. PROVIDE RESTRAINT FLEXIBLE OINT BOND TO ALL COUPLERS PER DETAIL CP06.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

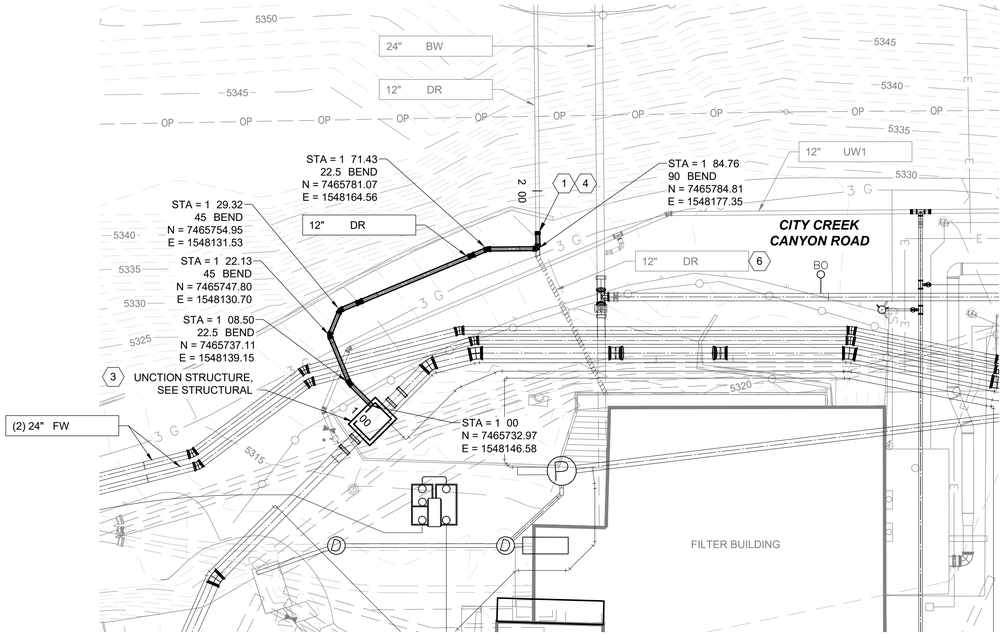
NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PLAN & PROFILE – 24" BW

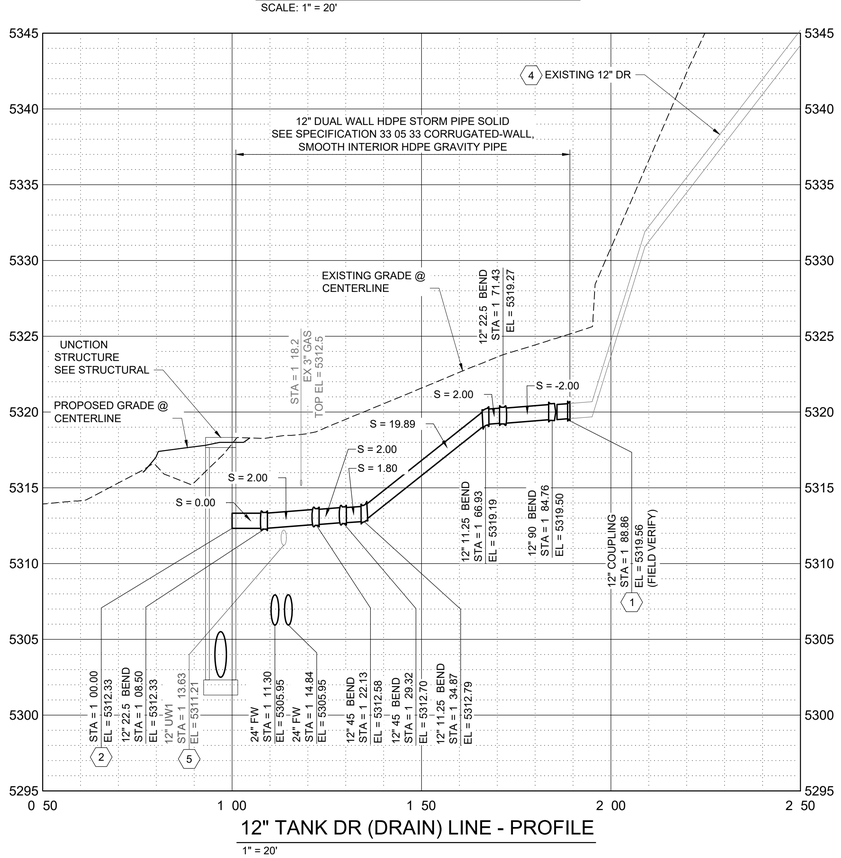
90% GMP

DRAWING NO.
01-C-67



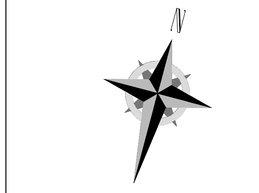
12" TANK DR (DRAIN) LINE - PLAN

SCALE: 1" = 20'



12" TANK DR (DRAIN) LINE - PROFILE

1" = 20'
1" = 5'



KEY NOTES

1. CONNECT TO EXISTING CORRUGATED METAL PIPE WITH HTRC CORRUGATED PIPE FLEXIBLE COUPLING OR EQUAL.
2. SEE PIPE PENETRATION MECHANICAL DETAIL SHEETS FOR CONNECTION TO UNCTION STRUCTURE.
3. UNCTION STRUCTURE SEE 70-S-15.
4. FINAL CONNECTION TO EXISTING TO BE PERFORMED AFTER TREATMENT BUILDING IS COMPLETED AND 36" OF PIPE HAS BEEN INSTALLED OTHERWISE PROVIDE TEMPORARY PIPING AND BY-PASS.
5. PROVIDE UTILITY SUPPORT PER DETAIL A / GC-22 FOR ALL CROSSINGS LESS THAN 2 FT (TYPICAL FOR ALL CROSSINGS).
6. REMOVE 12" DR PIPE IN ITS ENTIRELY.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

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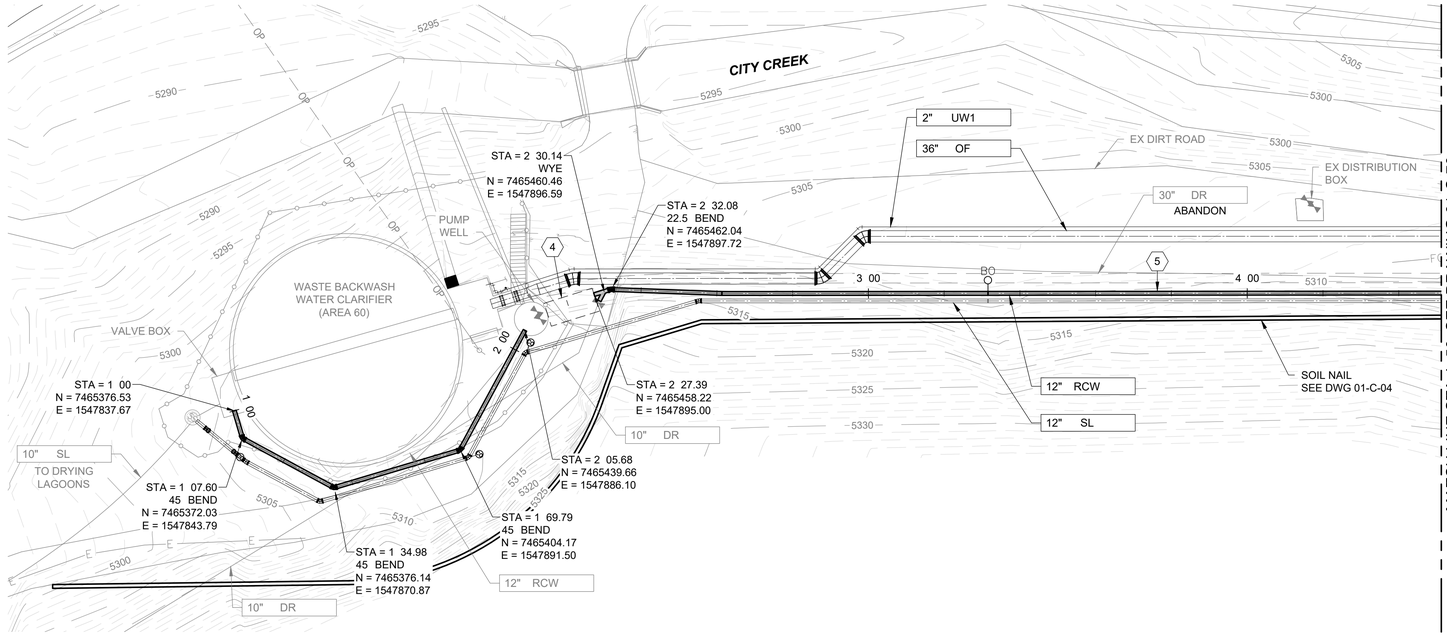
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PLAN & PROFILE – TANK 12" DR

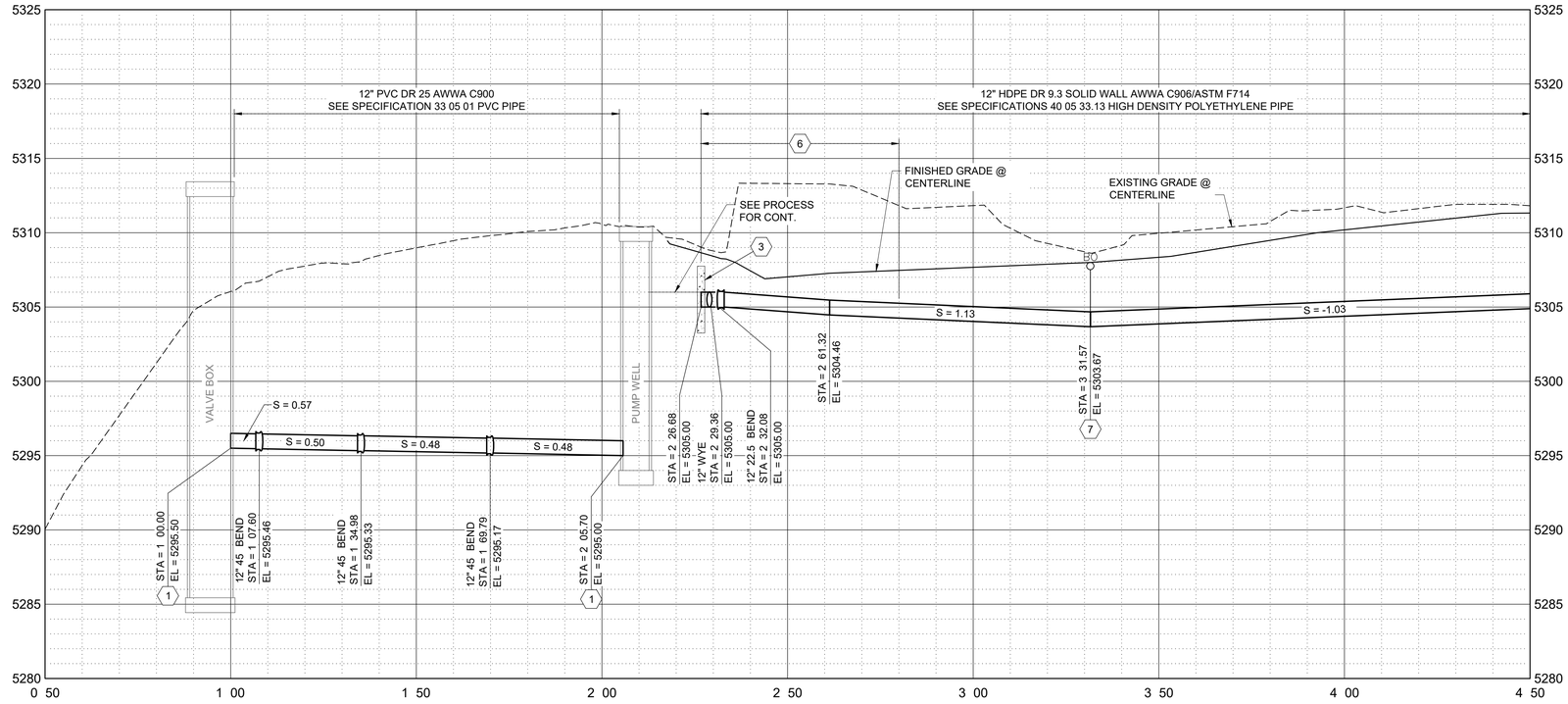
90% GMP

DRAWING NO.
01-C-68



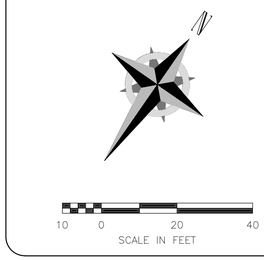
12" RCW (RECYCLED WATER) LINE - PLAN

SCALE: 1" = 20'



12" RCW (RECYCLED WATER) LINE - PROFILE

1" = 20'
1" = 5'



KEY NOTES

1. SEE PIPE PENETRATIONS ON MECHANICAL DETAIL SHEETS FOR CONNECTION TO EXISTING STRUCTURES.
2. OVERHEAD POWER, TAKE PRECAUTION WHEN WORKING AROUND POWER LINES.
3. SEE ANCHOR BLOCK FOR HDPE PIPE PER DETAIL E/GC-21.
4. MANIFOLD PIPING AND CONNECTIONS TO PUMP STATION SEE MECHANICAL 60-M-01.
5. PROPOSED ALIGNMENT IS IN CONFLICT WITH EXISTING PIPE THAT MUST REMAIN OPERATIONAL. PROVIDE TEMPORARY PIPING AND BYPASS PUMPING FOR COMMISSIONING AND TESTING TO KEEP BOTH PIPES ACTIVE.
6. PROVIDE CONCRETE CAP CLASS B, 6" THICK, AND EXTENDED 2 FT ON EITHER SIDE OF THE TRENCH SECTION. SET CAP 12" ABOVE PIPE.
7. PROVIDE BLOWOFF ASSEMBLY PER DETAIL A / GC-27.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

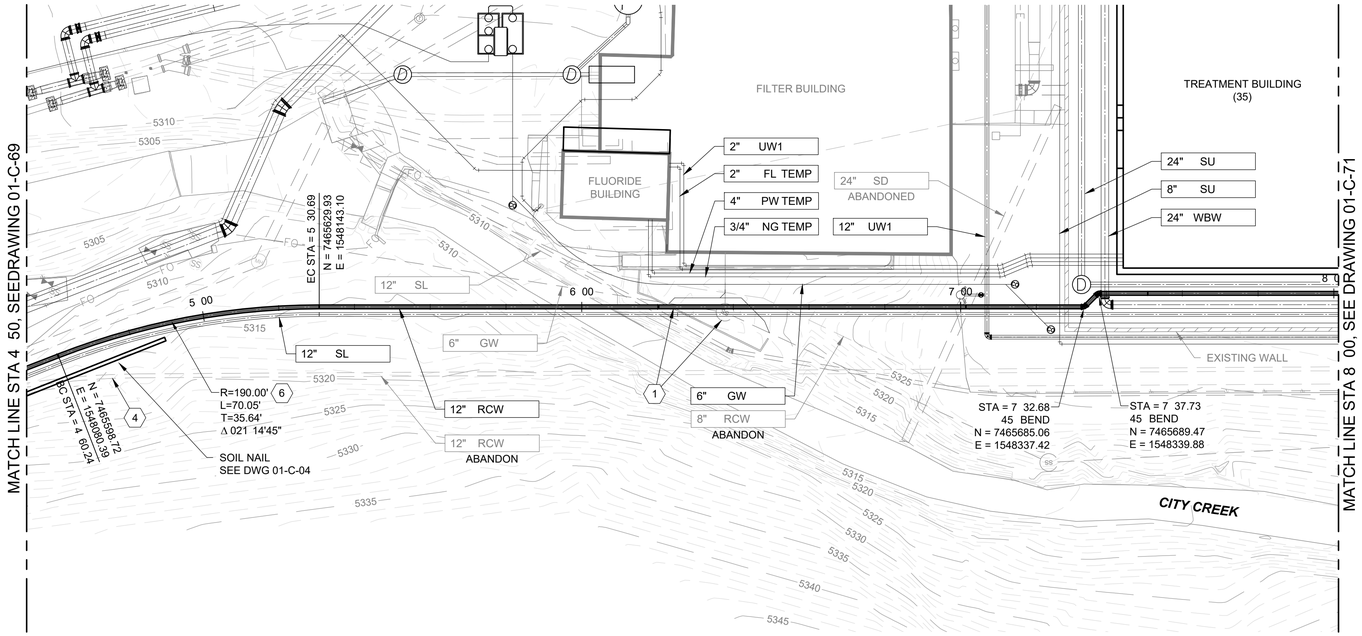
NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PLAN & PROFILE – 12" RCW STA 1+00 TO STA 4+50

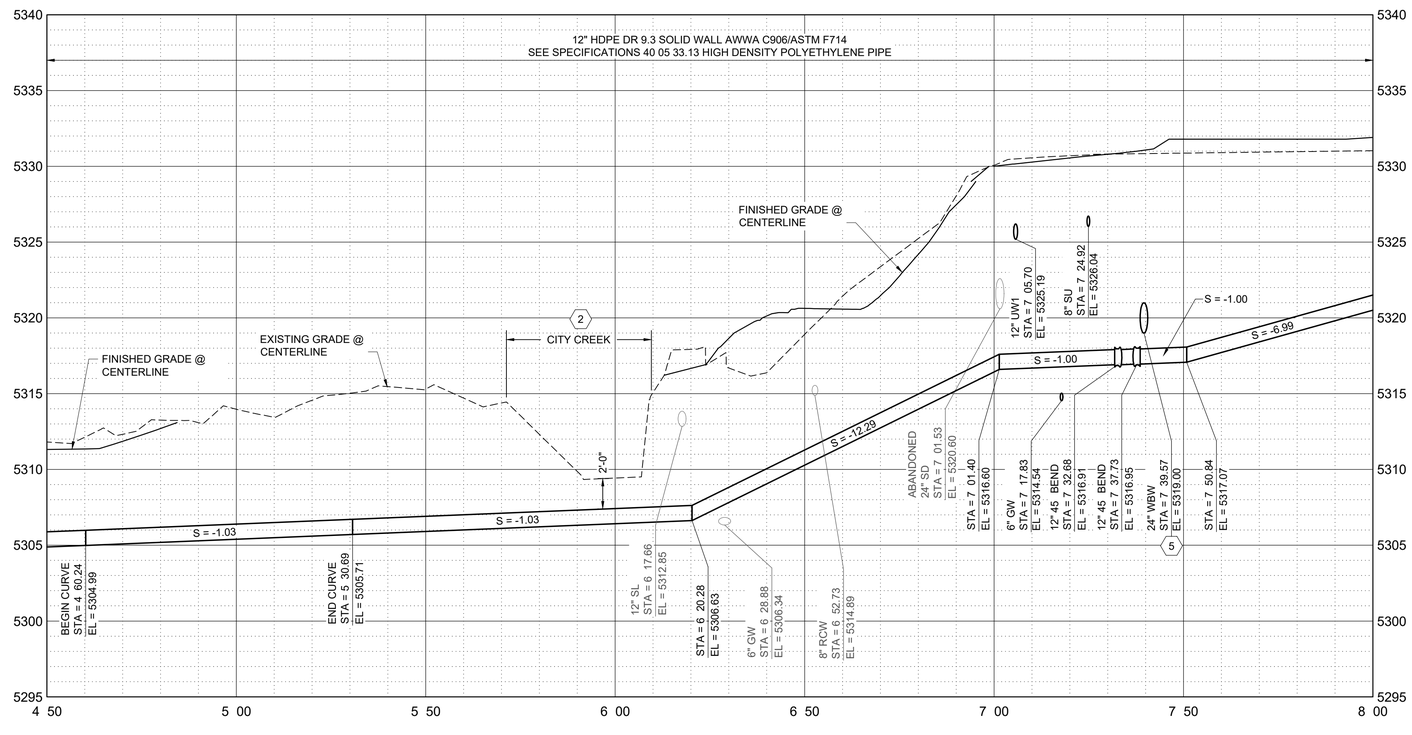
90% GMP

DRAWING NO.
01-C-69



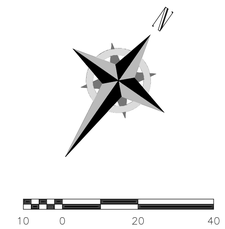
12" RCW (RECYCLED WATER) LINE - PLAN

SCALE: 1" = 20'



12" RCW (RECYCLED WATER) LINE - PROFILE

1" = 20'
1" = 5'



KEY NOTES

1. RESTORE RETAINING WALL, REBUILD RIP RAP, AND RECONNECT DRAIN LINES TO PREVIOUS CONDITION. CONTRACTOR MAY PROVIDE TEMPORARY PIPING UNTIL FINAL RECONFIGURATION OF THIS AREA IS PERFORMED WITH FILTER BUILDING DEMOLITION.
2. ENCASE PIPE AND TRENCH CREEK CROSSING PER DETAIL G / GC-23.
3. PROTECT STRUCTURAL UNDERDRAIN DRAIN ROCK SECTION WHEN TRENCHING OVER 12" SU TO PREVENT FINES FROM ENTERING.
4. PROPOSED ALIGNMENT IS IN CONFLICT WITH EXISTING PIPE THAT MUST REMAIN OPERATIONAL. PROVIDE TEMPORARY PIPING AND BYPASS PUMPING FOR COMMISSIONING AND TESTING TO KEEP BOTH PIPES ACTIVE.
5. PROVIDE UTILITY SUPPORT PER DETAIL A / GC-22 FOR ALL CROSSINGS LESS THAN 2 FT (TYPICAL FOR ALL CROSSINGS).
6. USE BEND RADIUS OF HDPE PIPE NO GREATER THAN 50 OF MAXIMUM MANUFACTURES RECOMMENDATION.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

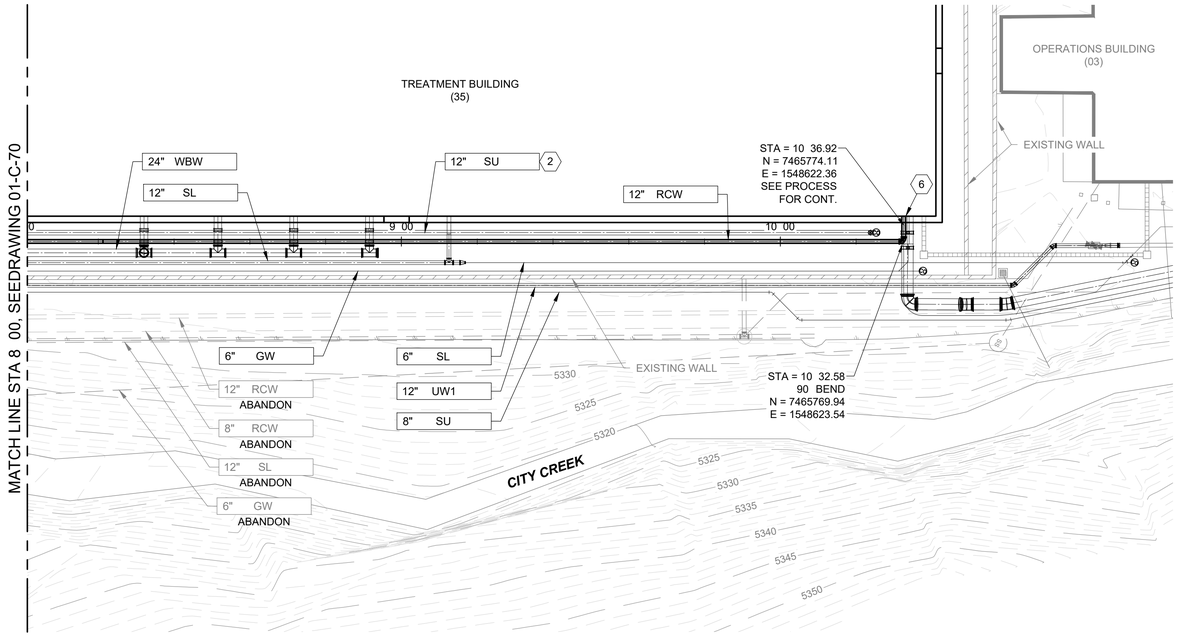
NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PLAN & PROFILE – 12" RCW
STA 4+50 TO STA 8+00

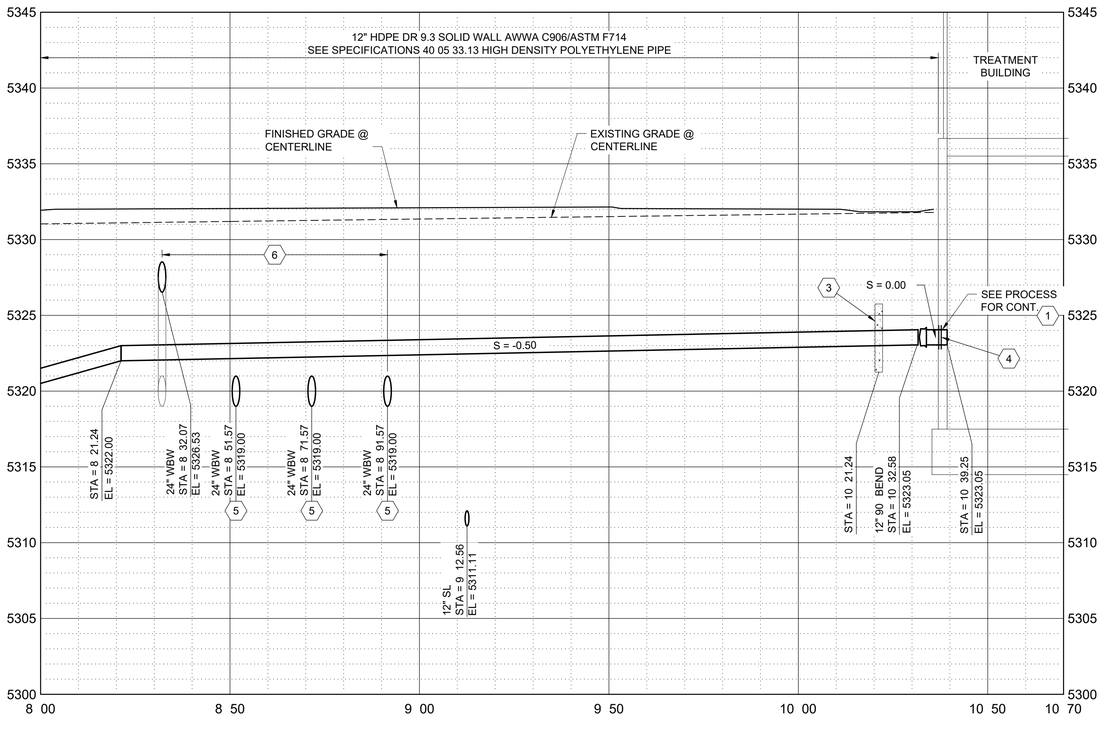
90% GMP

DRAWING NO.
01-C-70



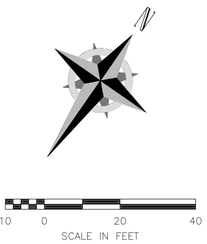
12" RCW (RECYCLED WATER) LINE - PLAN

SCALE: 1" = 20'



12" RCW (RECYCLED WATER) LINE - PROFILE

1" = 20'
1" = 5'



KEY NOTES

1. SEE PIPE PENETRATIONS ON MECHANICAL DETAIL SHEETS FOR CONNECTION TO EXISTING STRUCTURES.
2. PROTECT STRUCTURAL UNDERDRAIN DRAIN ROCK SECTION WHEN TRENCHING NEAR 12" SU TO PREVENT FINES FROM ENTERING.
3. SEE ANCHOR BLOCK FOR HDPE PIPE PER DETAIL E / GC-21
4. PROVIDE FLANGE CONNECTION TO BUILDING STUB OUT.
5. PROVIDE UTILITY SUPPORT PER DETAIL A / GC-22 FOR ALL CROSSINGS LESS THAN 2 FT (TYPICAL FOR ALL CROSSINGS)
6. STACKED PIPE SECTION. BACKFILL ENTIRE SECTION BETWEEN PIPES WITH 95 COMPACTION OF TYPE F - MINUS OR CLSM. PROVIDE CHIMNEY FOR STRUCTURAL UNDERDRAIN DRAIN ROCK.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

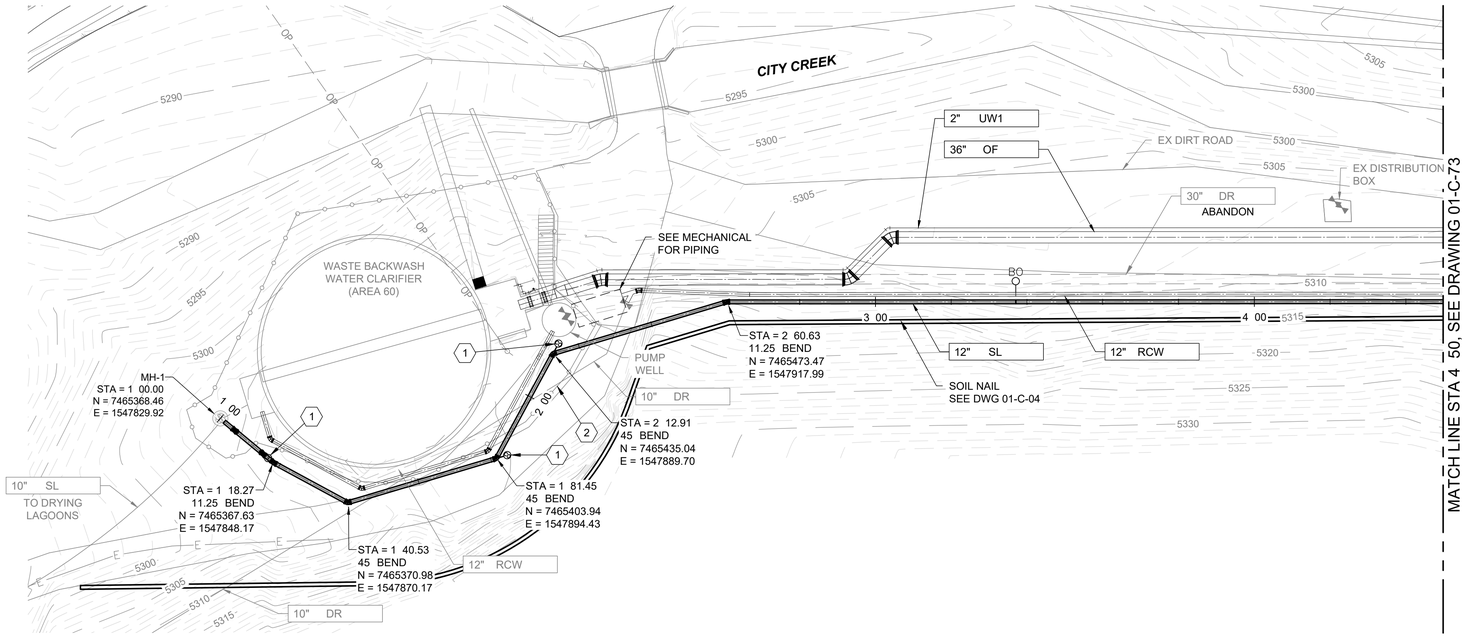
NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PLAN & PROFILE – 12" RCW
STA 8+00 TO STA 10+35.68

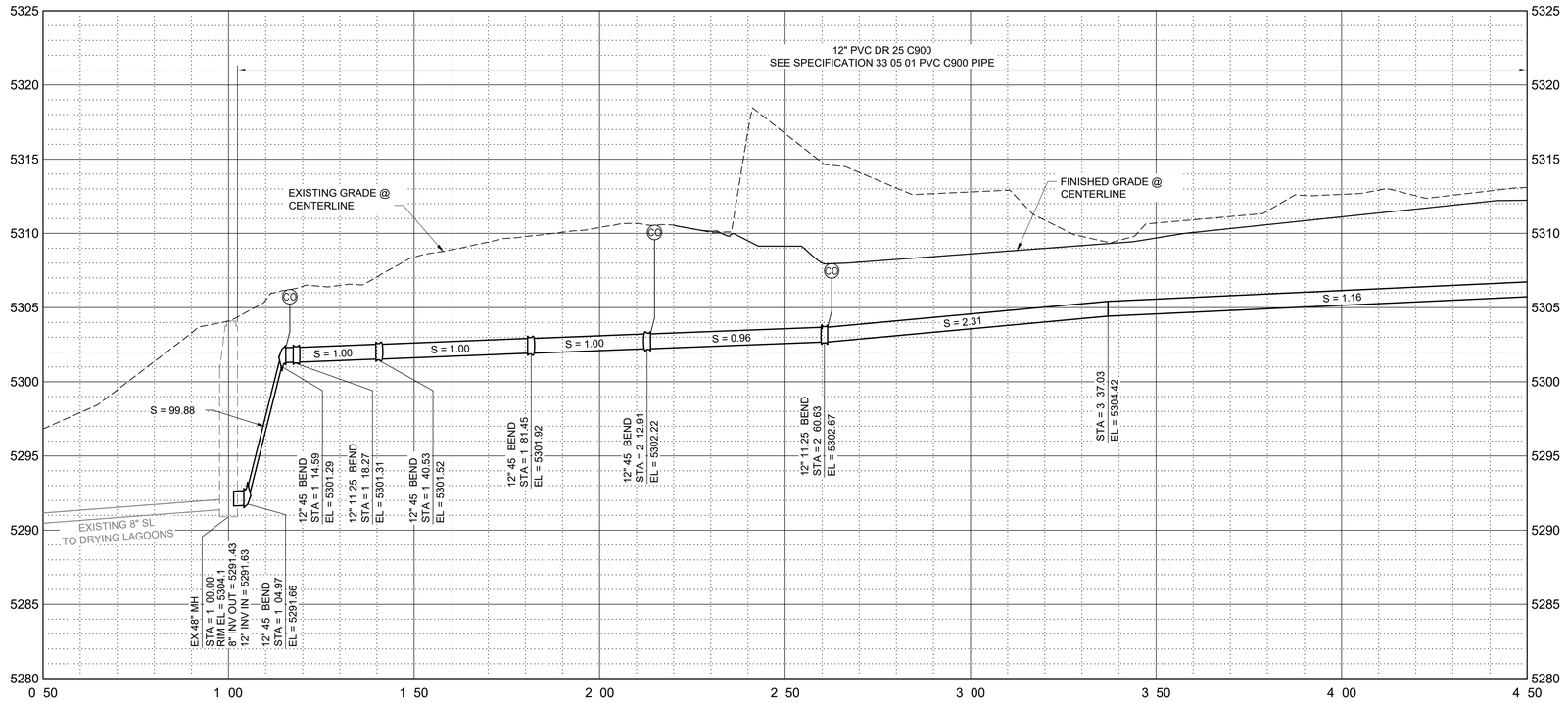
90% GMP

DRAWING NO.
01-C-71



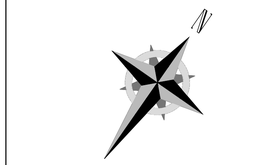
12" SL (SOLIDS) LINE - PLAN

SCALE: 1" = 20'



12" SL (SOLIDS) LINE - PROFILE

1" = 20'
1" = 5'



KEY NOTES

1. PROVIDE 6" CLEAN OUT PER DETAIL A/GC-26.
2. REMOVE AND REPLACE IN KIND EX. FENCE AS NEEDED TO COMPLETE THE WORK..

Brown AND Caldwell

SCALE:

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512560079

REVISIONS

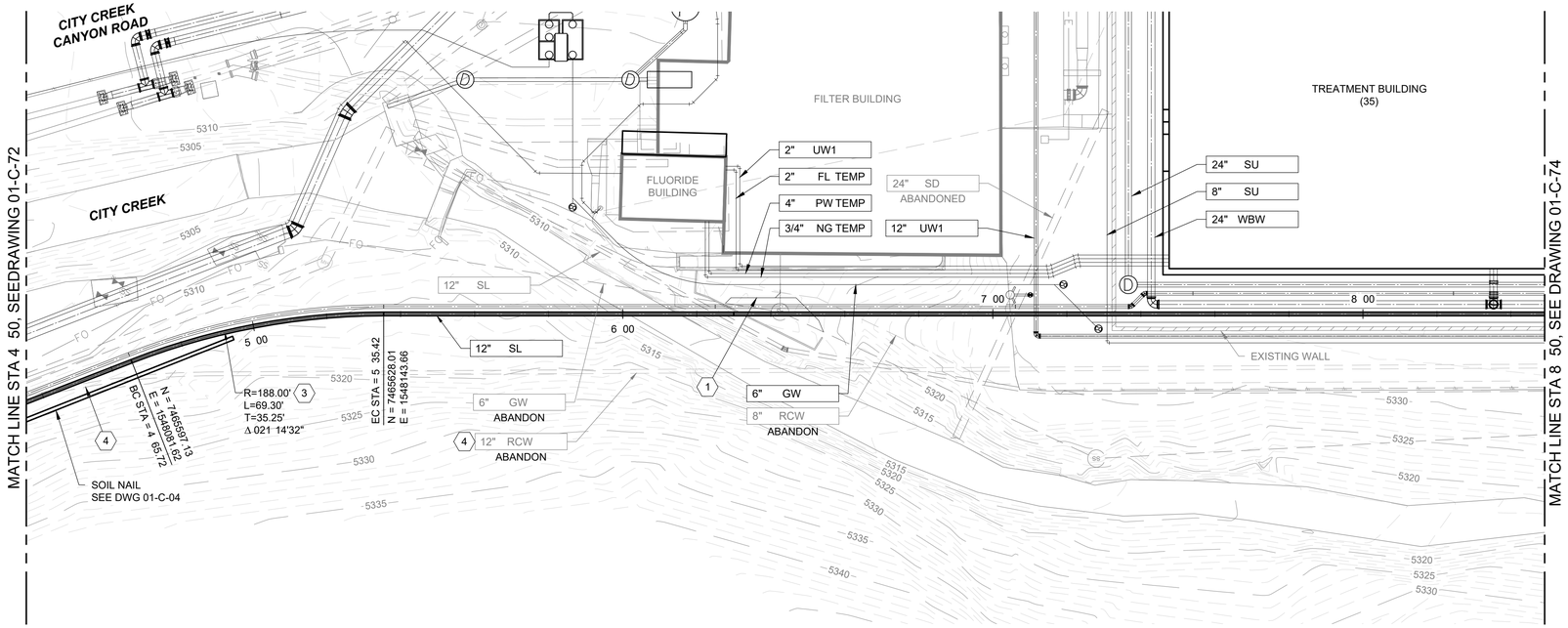
NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PLAN & PROFILE – 12" SL STA 1+00 TO STA 4+50

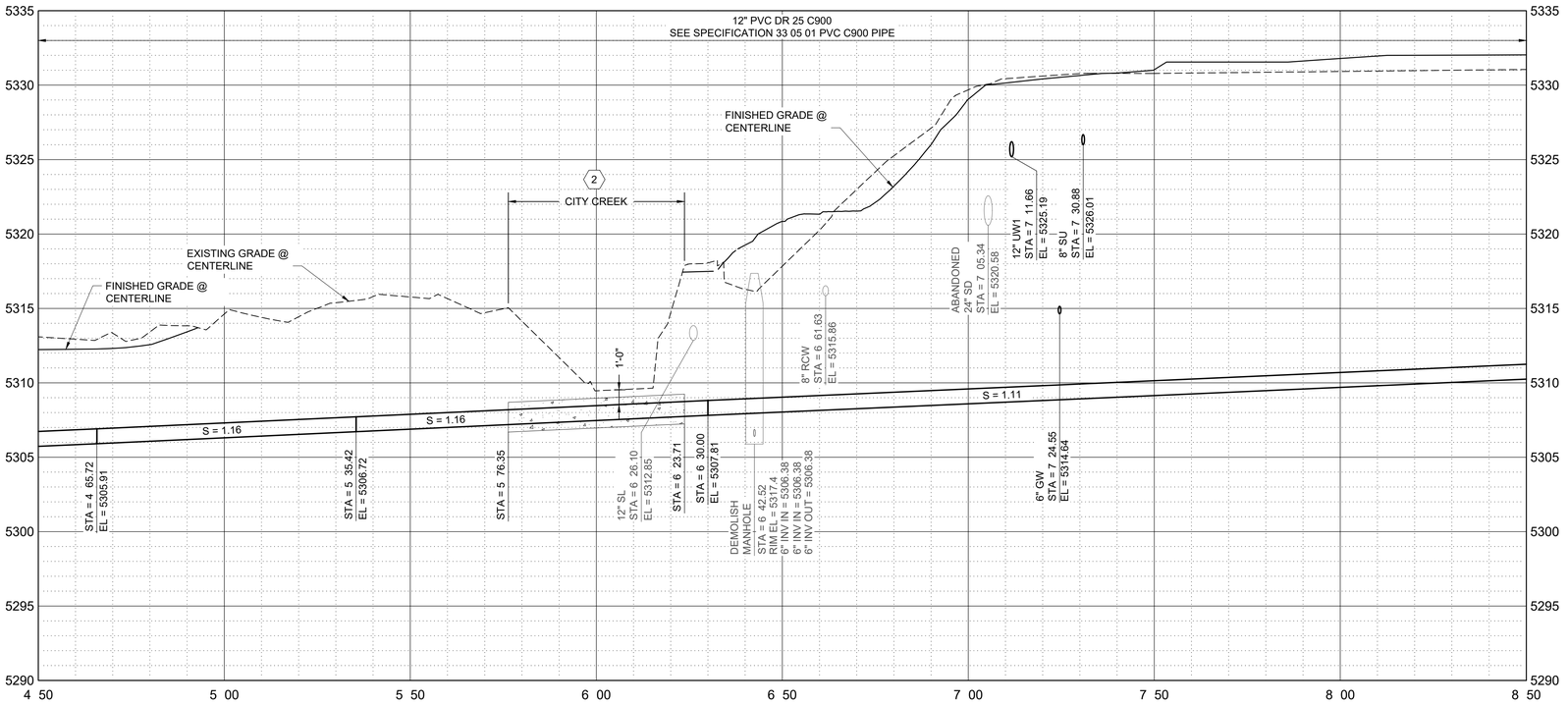
90% GMP

DRAWING NO.
01-C-72



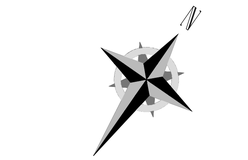
12" SL (SOLIDS) LINE - PLAN

SCALE: 1" = 20'



12" SL (SOLIDS) LINE - PROFILE

1" = 20'
1" = 5'



KEY NOTES

1. DEMOLISH MANHOLE AND PROVIDE BYPASS PIPING FOR 6" GW.
2. ENCASE PIPE AND TRENCH CREEK CROSSING PER DETAIL G/GC-23.
3. RADIUS NOT TO EXCEED 50 OF ALLOWABLE RADIUS PER MANUFACTURER.
4. PROPOSED ALIGNMENT IS IN CONFLICT WITH EXISTING PIPE THAT MUST REMAIN OPERATIONAL. PROVIDE TEMPORARY PIPING AND BYPASS PUMPING FOR COMMISSIONING AND TESTING TO KEEP BOTH PIPES ACTIVE.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

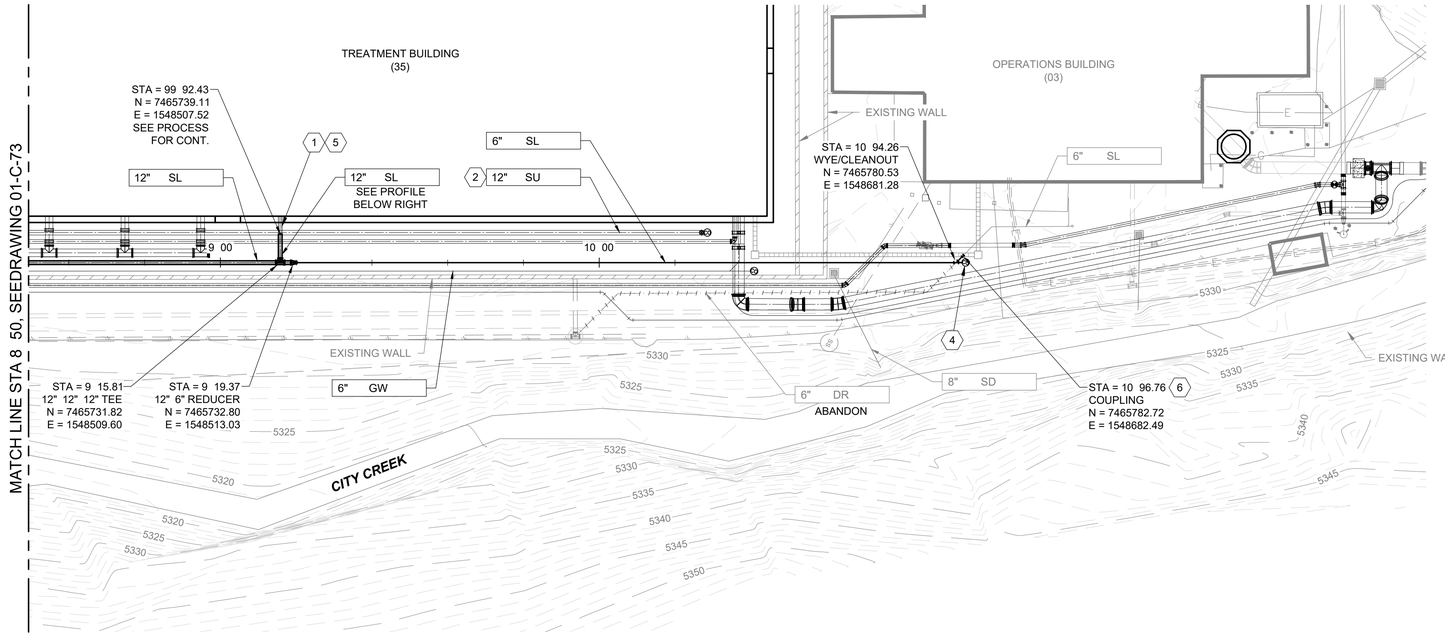
NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PLAN & PROFILE – 12" SL STA 4+50 TO STA 8+50

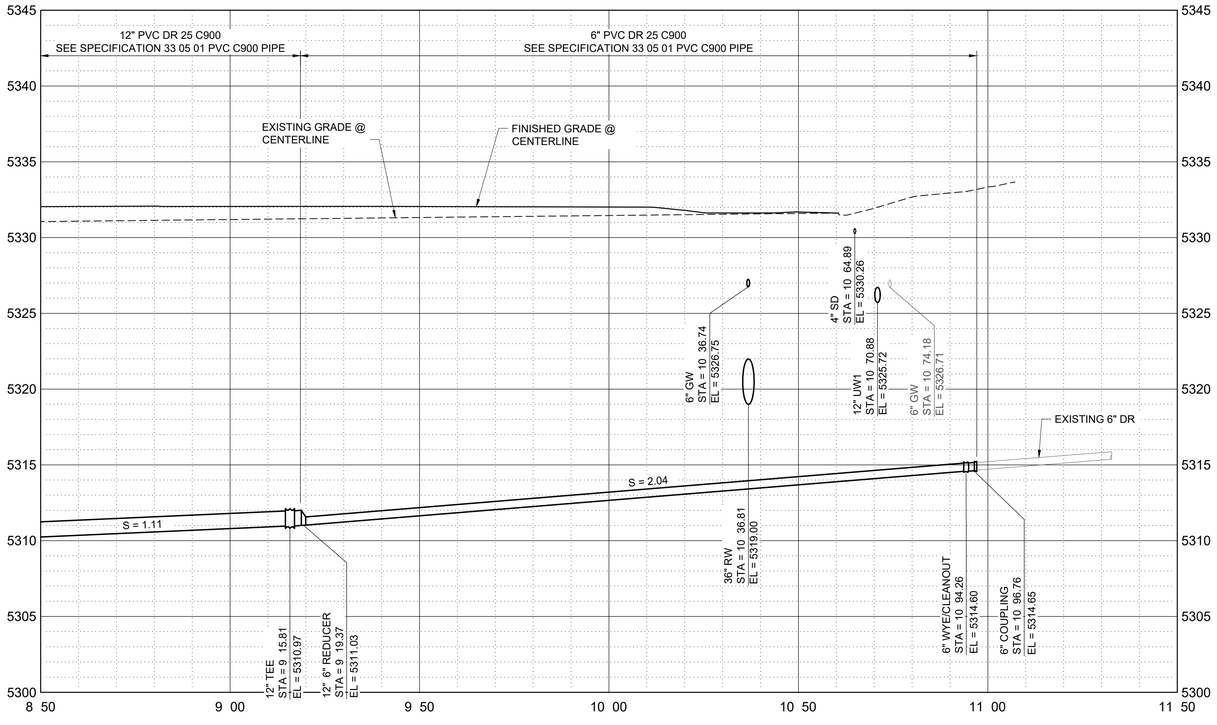
90% GMP

DRAWING NO.
01-C-73



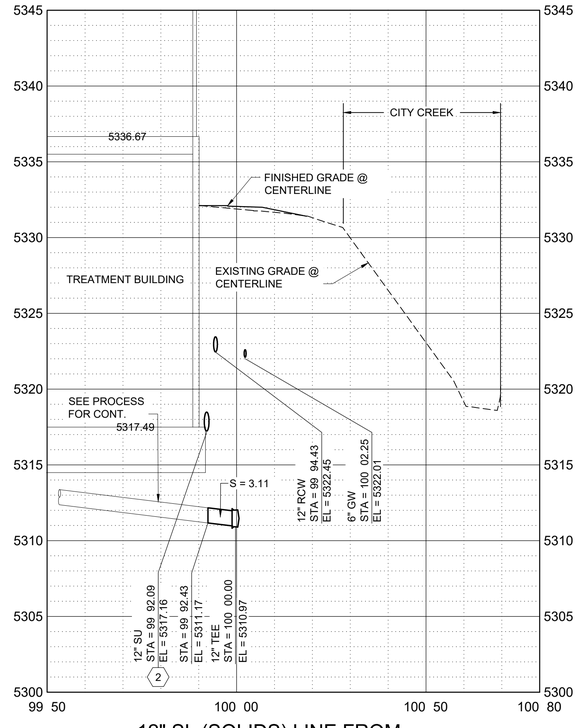
12" SL (SOLIDS) LINE - PLAN

SCALE: 1" = 20'



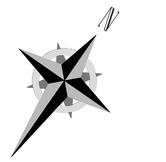
12" SL (SOLIDS) LINE - PROFILE

1" = 20'
1" = 5'



12" SL (SOLIDS) LINE FROM TREATMENT BUILDING - PROFILE B

1" = 20'
1" = 5'



KEY NOTES

1. FOR CONNECTIONS TO STRUCTURE SEE DETAIL B / GC-20.
2. PROTECT STRUCTURAL UNDERDRAIN DRAIN ROCK SECTION WHEN TRENCHING NEAR 12" SU TO PREVENT FINES FROM ENTERING.
3. RECONNECT TO EXISTING SOLIDS LINE FROM OPERATIONS BUILDING.
4. PROVIDE 6" CLEAN OUT PER DETAIL A / GC-26.
5. STACKED PIPE SECTION. BACKFILL ENTIRE SECTION BETWEEN PIPES WITH 95 COMPACTION OF TYPE F - 3/4 MINUS OR CLSM.
6. CONNECT TO EXISTING. VERIFY EXISTING PIPE MATERIAL AND OD FOR SI ING COUPLER.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512560079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

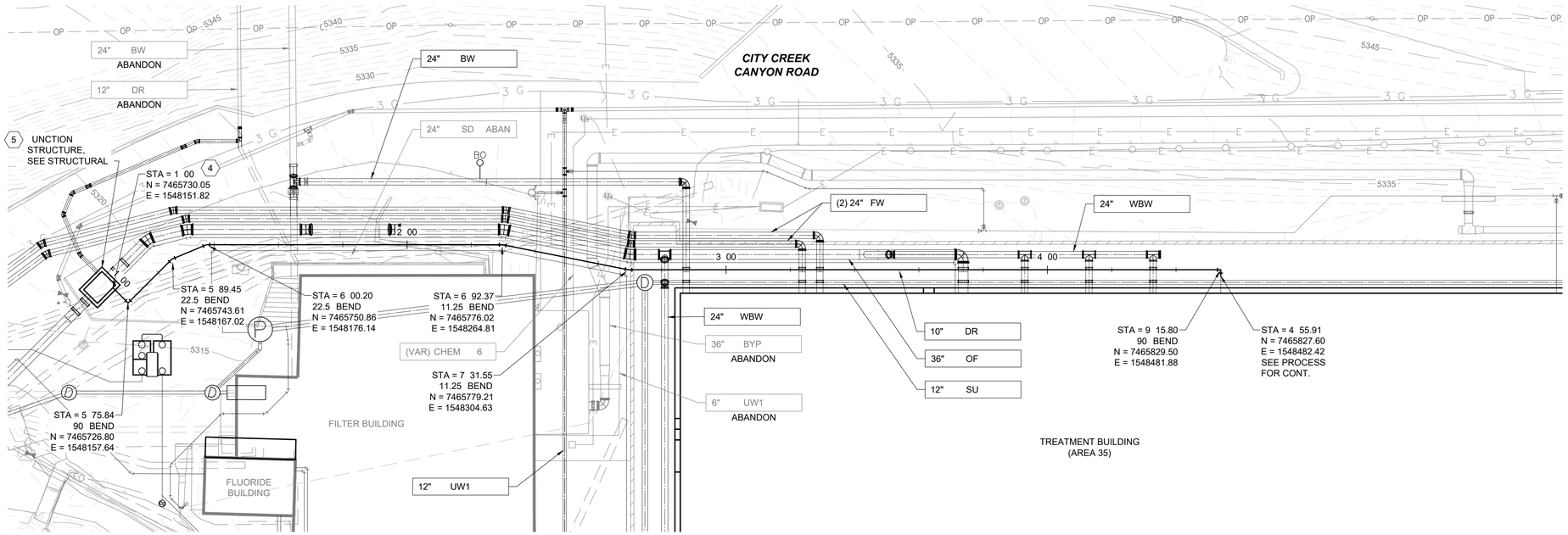
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PLAN & PROFILE – 12" SL
STA 8+50 TO STA 10+96.76

90% GMP

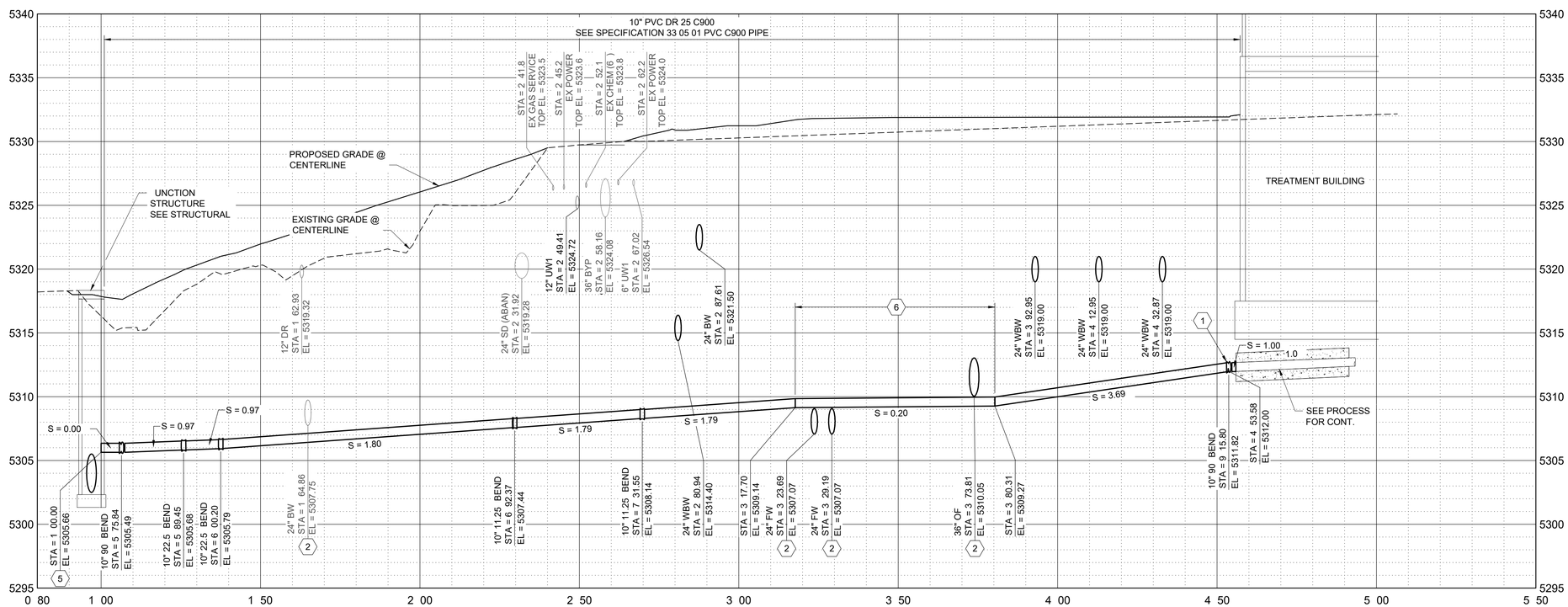
DRAWING NO.
01-C-74

C:\bcpw\d1569769\01-C-74.dwg Jun 13, 2024 - 9:55am



NORTH 10" DR (DRAIN) LINE - PLAN

SCALE: 1" = 20'



NORTH 10" DR (DRAIN) LINE- PROFILE

1" = 20'
1" = 5'

N

10 0 20 40
SCALE IN FEET

KEY NOTES

1. PIPE CONNECTION TO STRUCTURE DETAIL B / GC-20.
2. PROVIDE UTILITY SUPPORT PER DETAIL A / GC-22 FOR ALL CROSSINGS LESS THAN 2 FT (TYPICAL FOR ALL CROSSINGS)
3. CLEAN OUT PER DETAIL A / GC-26
4. SEE PIPE PENETRATIONS ON MECHANICAL DETAIL SHEETS FOR CONNECTION TO STRUCTURES.
5. UNCTION STRUCTURE SEE 70-S-15.
6. ENCASE ENTIRE SECTION IN TYPE K CLSM.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

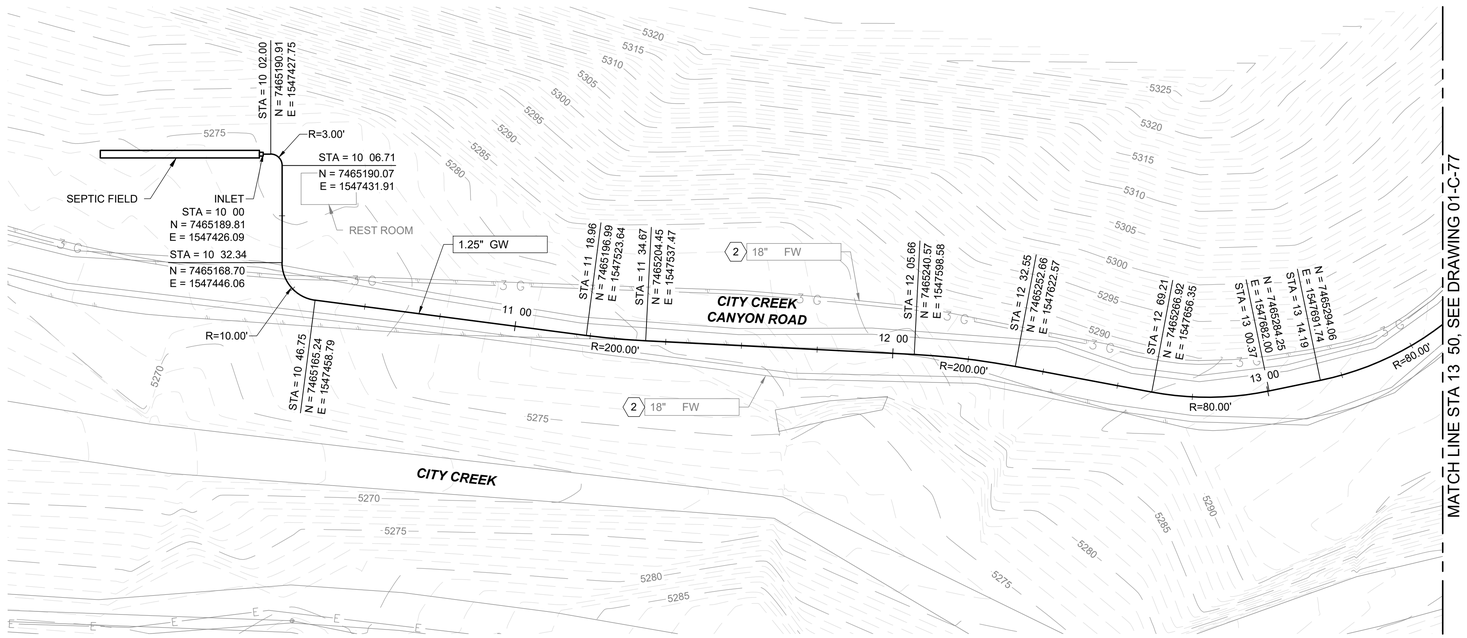
NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PLAN & PROFILE – NORTH 10" DR

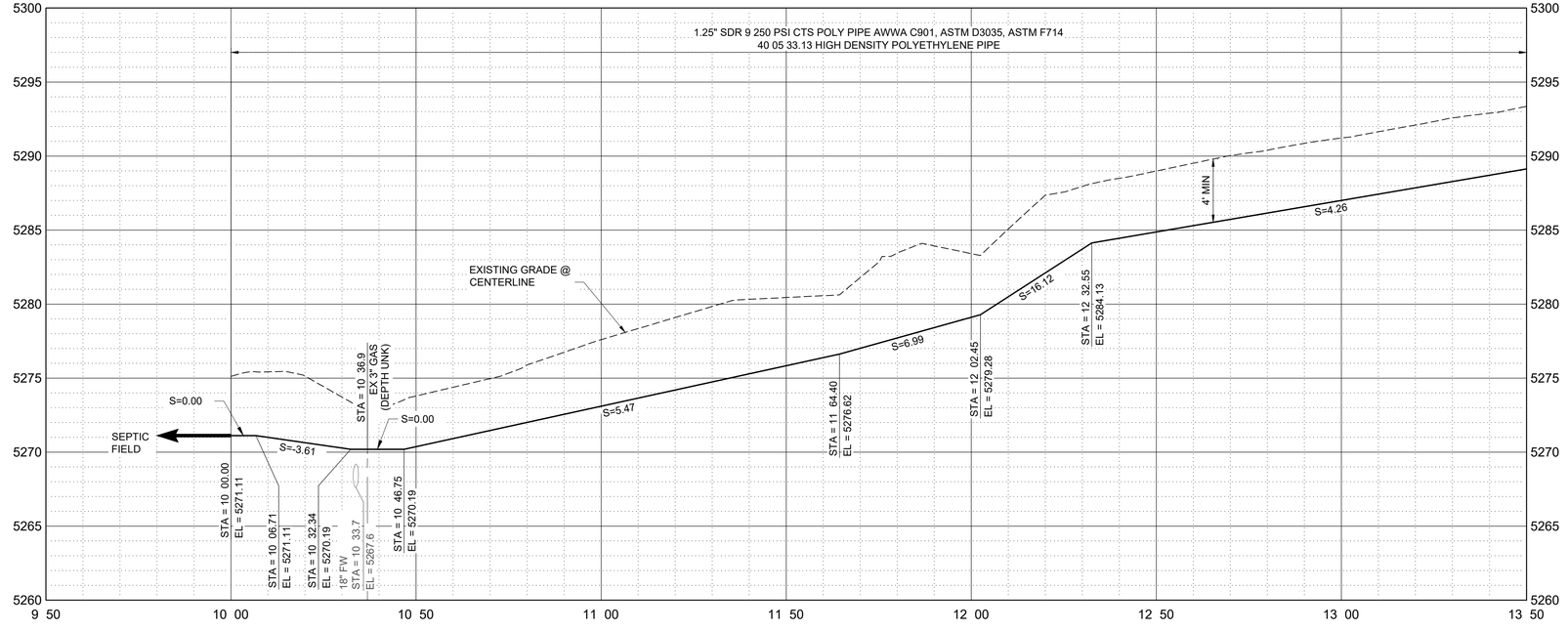
90% GMP

DRAWING NO.
01-C-75



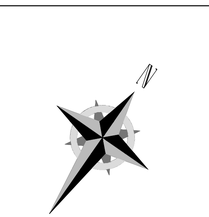
1.25" GW (GREY WATER) LINE - PLAN

SCALE: 1" = 20'



1.25" GW (GREY WATER) LINE - PROFILE

1" = 20'
1" = 5'



GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR ALL REQUIREMENTS ASSOCIATED TO THE INSTALLATION AND CONSTRUCTION OF SEPTIC TANK AND DRAIN FIELD IN ACCORDANCE WITH STATE PERMIT REQUIREMENTS.

⬡ KEY NOTES

1. FOR DESIGN AND CONSTRUCTION OF SEPTIC TANK AND DRAINFIELD, SEE REFERENCE DOCUMENT "CITY CREEK SEPTIC DESIGN".
2. AS SHOWN BOTH (2) 18" FW ARE UNCONFIRMED LOCATION AND BASED ON RECORD DRAWINGS. CONTRACTOR TO FIELD LOCATE AND POTHOLE PRIOR TO TRENCHING ACROSS PIPE. LOCATE ENTIRE 18" FW ALIGNMENT PARALLEL TO 1.25" SS.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

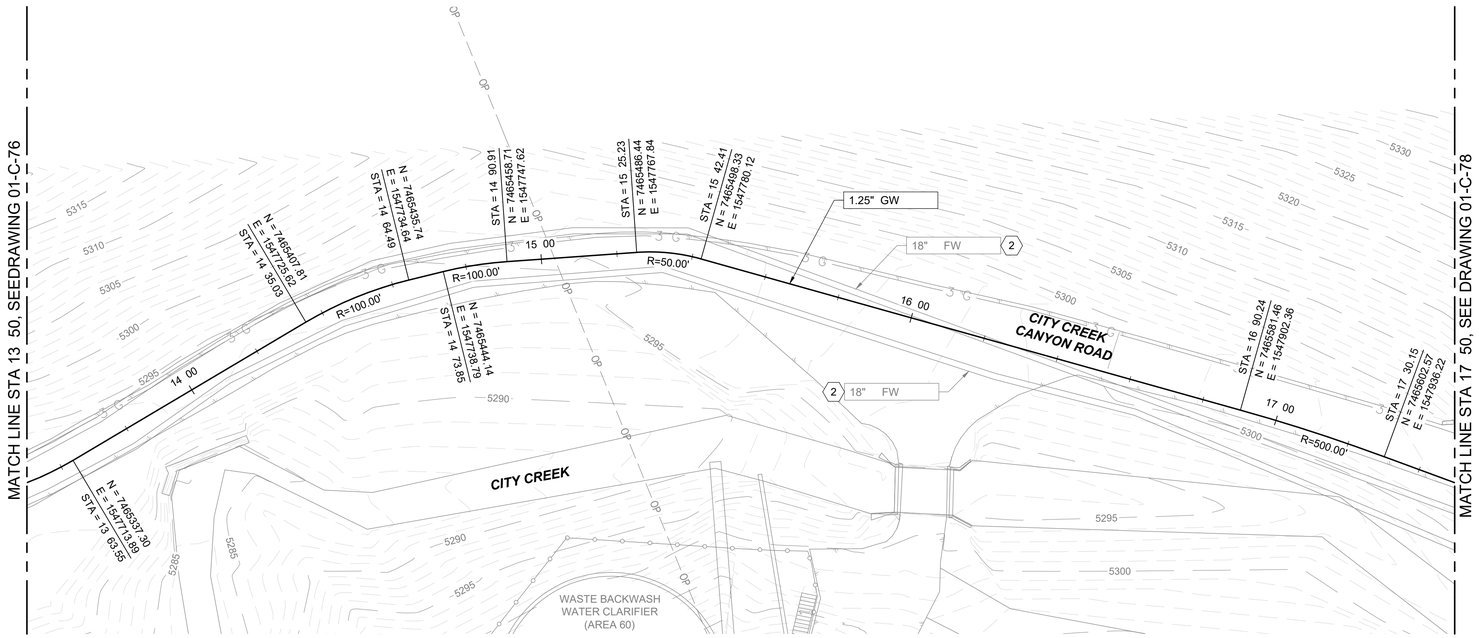
NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PLAN & PROFILE – 1.25" GW
STA 10+00 STA 13+50

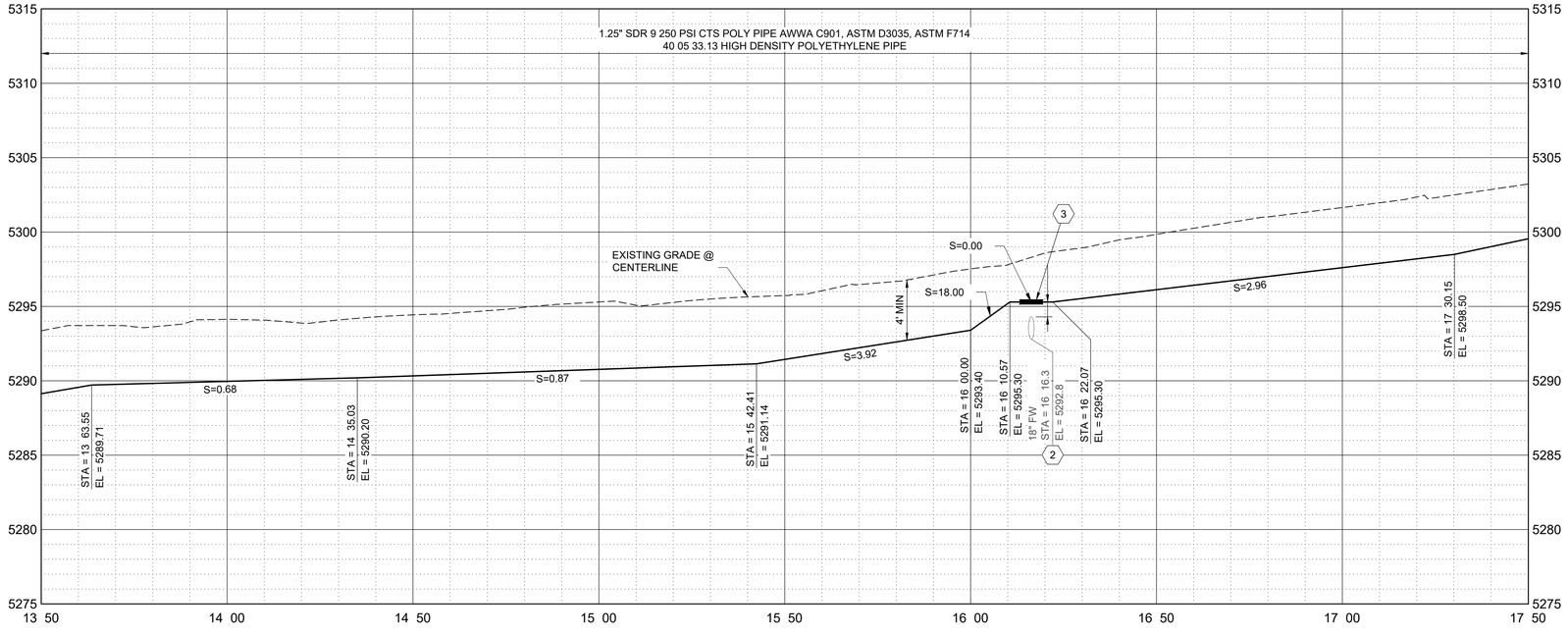
90% GMP

DRAWING NO.
01-C-76



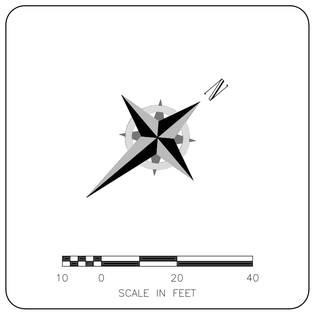
1.25" GW (GREY WATER) LINE - PLAN

SCALE: 1" = 20'



1.25" GW (GREY WATER) LINE - PROFILE

1" = 20'
1" = 5'



GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR ALL REQUIREMENTS ASSOCIATED TO THE INSTALLATION AND CONSTRUCTION OF SEPTIC TANK AND DRAIN FIELD IN ACCORDANCE WITH STATE PERMIT REQUIREMENTS.

⬡ KEY NOTES

1. FOR DESIGN AND CONSTRUCTION OF SEPTIC TANK AND DRAINFIELD, SEE REFERENCE DOCUMENT "CITY CREEK SEPTIC DESIGN".
2. AS SHOWN BOTH (2) 18" FW ARE UNCONFIRMED LOCATION AND BASED ON RECORD DRAWINGS. CONTRACTOR TO FIELD LOCATE AND POTHOLE PRIOR TO TRENCHING ACROSS PIPE. LOCATE ENTIRE 18" FW ALIGNMENT PARALLEL TO 1.25" SS.
3. COMPLY WITH STATE REQUIREMENTS FOR CROSSING. PROVIDE 18" MINIMUM VERTICAL CLEARANCE AND PROVIDE CONTAINMENT SLEEVE ACROSS 18" FW.

Brown AND Caldwell

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

NO.	DATE	REVISIONS	MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

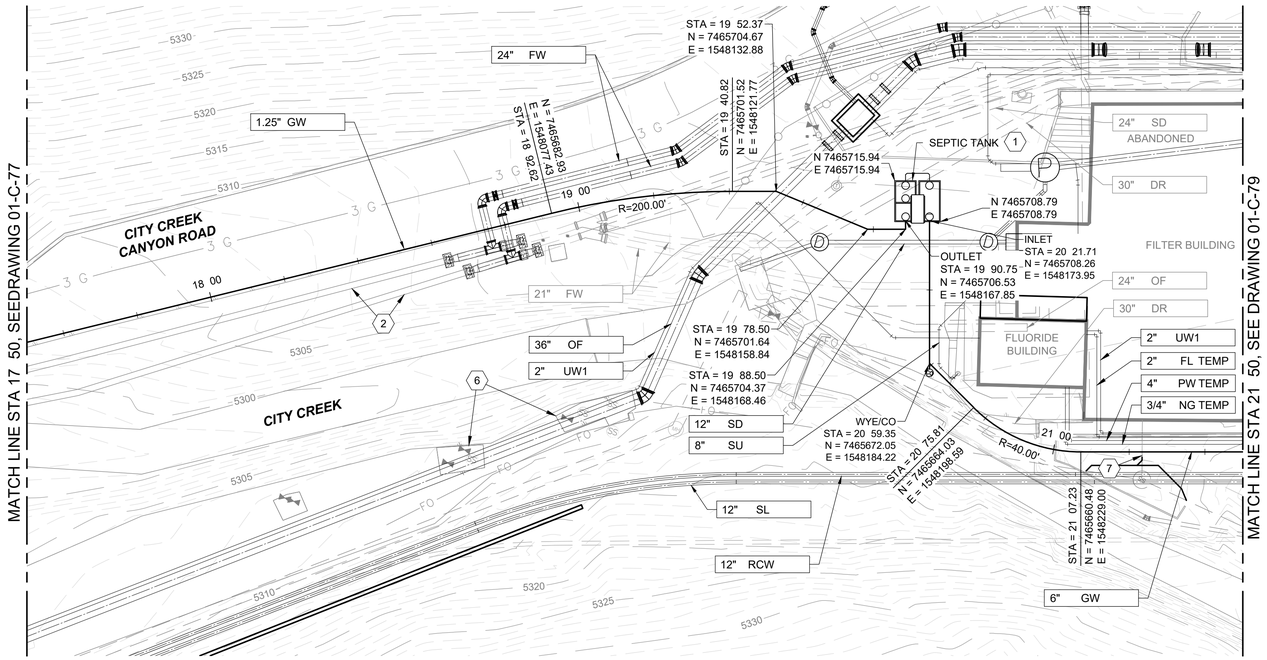
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PLAN & PROFILE – 1.25" GW
STA 13+50 TO 17+50

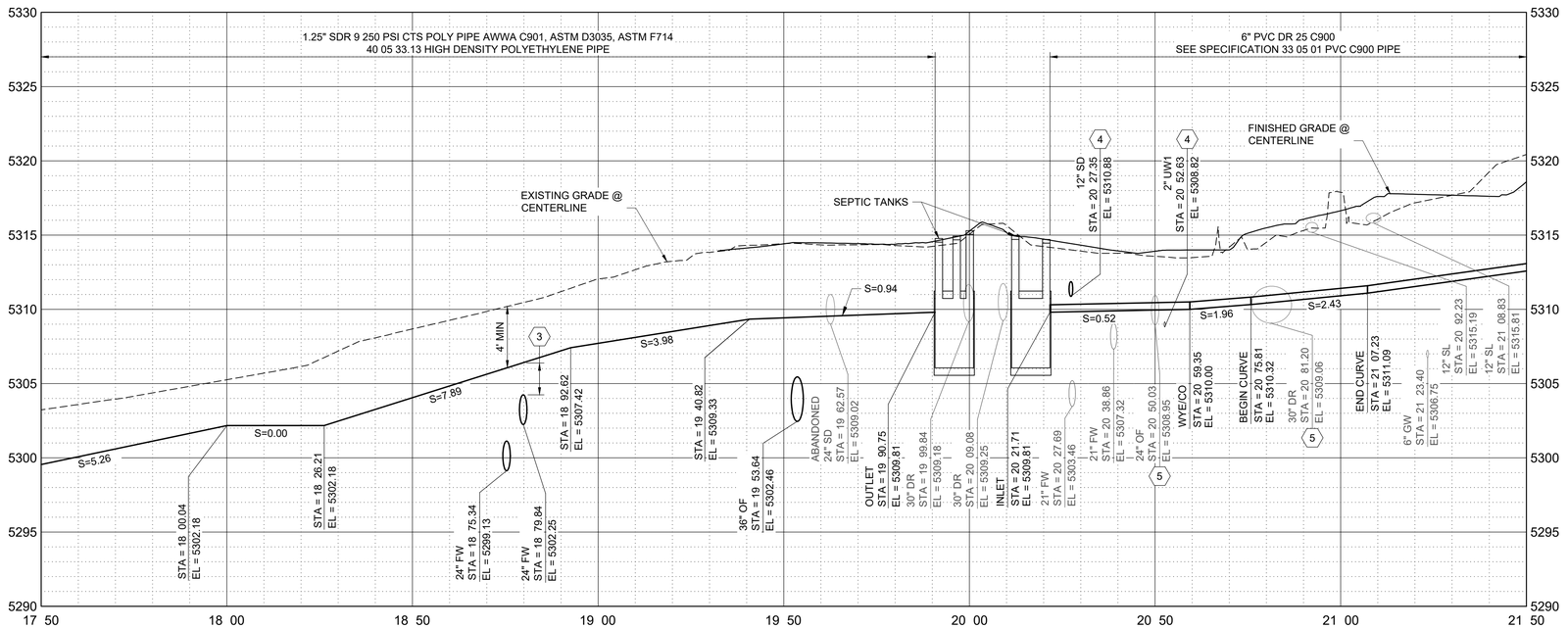
90% GMP

DRAWING NO.
01-C-77



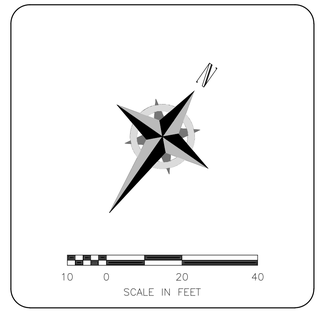
1.25" - 6" GW (GREY WATER) LINE - PLAN

SCALE: 1" = 20'



1.25" - 6" GW (GREY WATER) LINE - PROFILE

1" = 20'
1" = 5'



GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR ALL REQUIREMENTS ASSOCIATED TO THE INSTALLATION AND CONSTRUCTION OF SEPTIC TANK AND DRAIN FIELD IN ACCORDANCE WITH STATE PERMIT REQUIREMENTS.

⬡ KEY NOTES

1. FOR DESIGN AND CONSTRUCTION OF SEPTIC TANK AND DRAINFIELD, SEE REFERENCE DOCUMENT "CITY CREEK SEPTIC DESIGN".
2. AS SHOWN BOTH (2) 18" FW ARE UNCONFIRMED LOCATION AND BASED ON RECORD DRAWINGS. CONTRACTOR TO FIELD LOCATE AND POTHOLE PRIOR TO TRENCHING ACROSS PIPE. LOCATE ENTIRE 18" FW ALIGNMENT PARALLEL TO 1.25" SS.
3. COMPLY WITH STATE REQUIREMENTS FOR CROSSING. PROVIDE 18" MINIMUM VERTICAL CLEARANCE AND PROVIDE CONTAINMENT SLEEVE ACROSS 18" FW.
4. PROVIDE UTILITY SUPPORT PER DETAIL A / GC-22 FOR ALL CROSSINGS LESS THAN 2 FT (TYPICAL FOR ALL CROSSINGS).
5. EXISTING PIPELINES TO REMAIN IN SERVICE DURING CONSTRUCTION OF TREATMENT BUILDING. AFTER COMPLETION OF TREATMENT BUILDING PIPELINES CAN BE DEMOLISHED AND REMOVED OUT OF CONFLICT WITH PROPOSED PIPELINE. SEE 01 12 16 WORK SEQUENCE AND RESTRICTION. CONTRACTOR PROVIDE TEMPORARY PIPELINES AND BYPASS PUMPING DURING COMMISSIONING PERIOD.
6. UPON COMPLETION OF NEW SEPTIC TANK AND DRAIN FIELD DEMOLISH EXISTING SYSTEM. RESTORE AND STABILI E AREA AND CREEK BANK WITH RIP RAP.
7. PROVIDE TEMPORARY CONNECTIONS TO EXISTING DRAINS AND SANITARY SEWER CURRENT DISCHARGING TO SEPTIC TANK DURING COMMISSIONING PERIOD.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

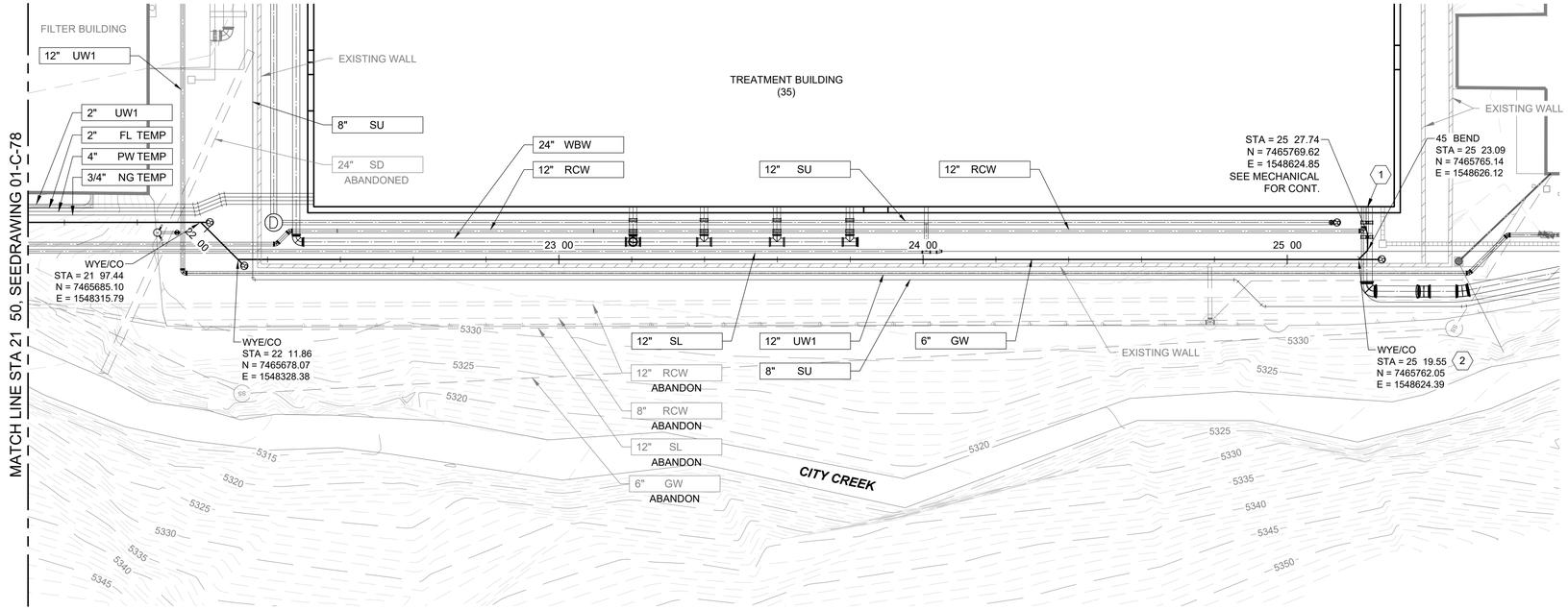
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PLAN & PROFILE – 1.25" – 6" GW STA 17+50 TO 21+50

SALT LAKE CITY

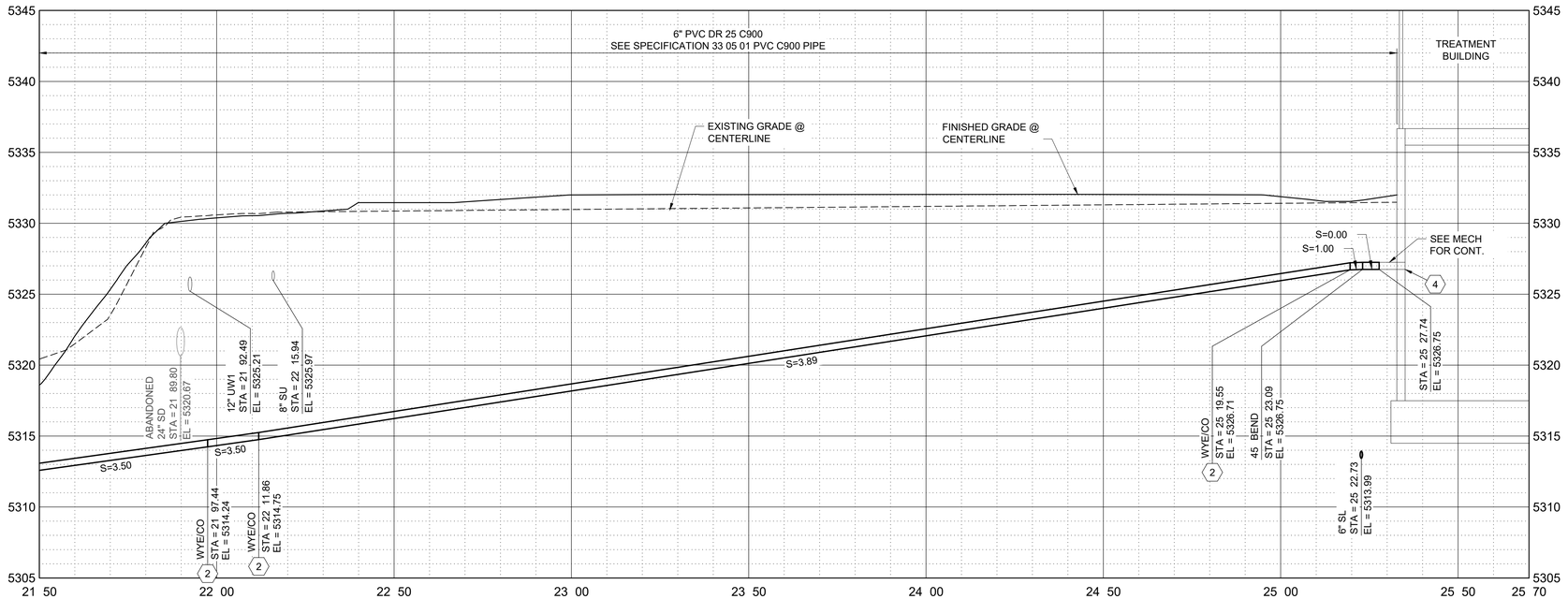
90% GMP

DRAWING NO.
01–C–78



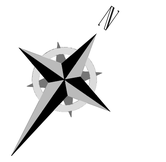
6" GW (GREY WATER) LINE - PLAN

SCALE: 1" = 20'



6" GW (GREY WATER) LINE - PROFILE

1" = 20'
1" = 5'



KEY NOTES

1. STACKED PIPE SECTION. BACKFILL ENTIRE SECTION BETWEEN PIPES WITH 95 COMPACTION OF TYPE F - 3/4 MINUS OR CLSM.
2. CLEAN OUT PER DETAIL A / GC-26.
3. PROTECT STRUCTURAL UNDERDRAIN DRAIN ROCK SECTION WHEN TRENCHING OVER 12" SU TO PREVENT FINES FROM ENTERING.
4. PIPE CONNECTION TO STRUCTURE DETAIL B/GC-20.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

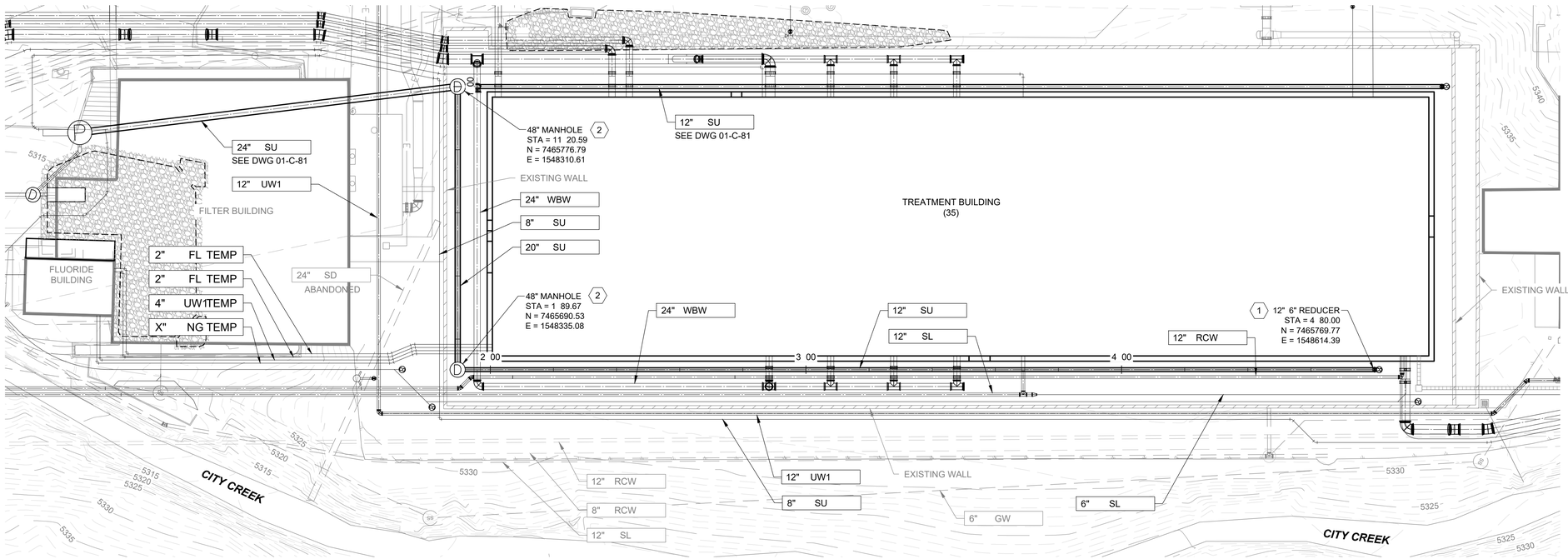
NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PLAN & PROFILE – 6" GW
STA 21+50 TO 25+27.74

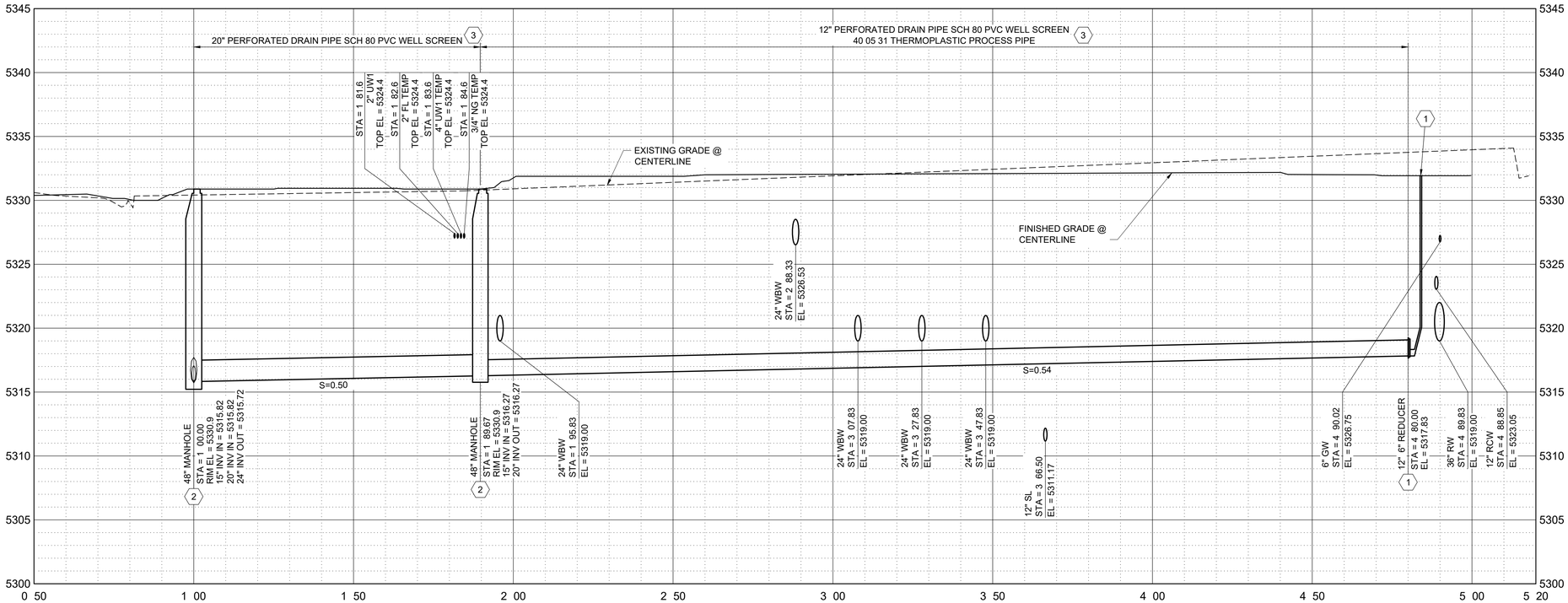
90% GMP

DRAWING NO.
01-C-79



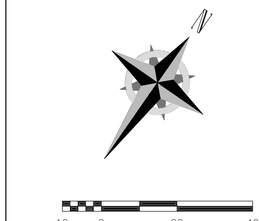
12" SD (STRUCTURAL UNDERDRAIN) LINE - PLAN

SCALE: 1" = 20'



12" SU (STRUCTURAL UNDERDRAIN) LINE - PROFILE

1" = 20'
1" = 5'



KEY NOTES

1. PROVIDE 12" 6" REDUCER TO CLEAN OUT PER DETAIL A/GC-26.
2. MANHOLE PER DETAIL A/GC-23.
3. PERFORATED DRAIN TRENCH SECTION PER DETAIL 2 / GC-25.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

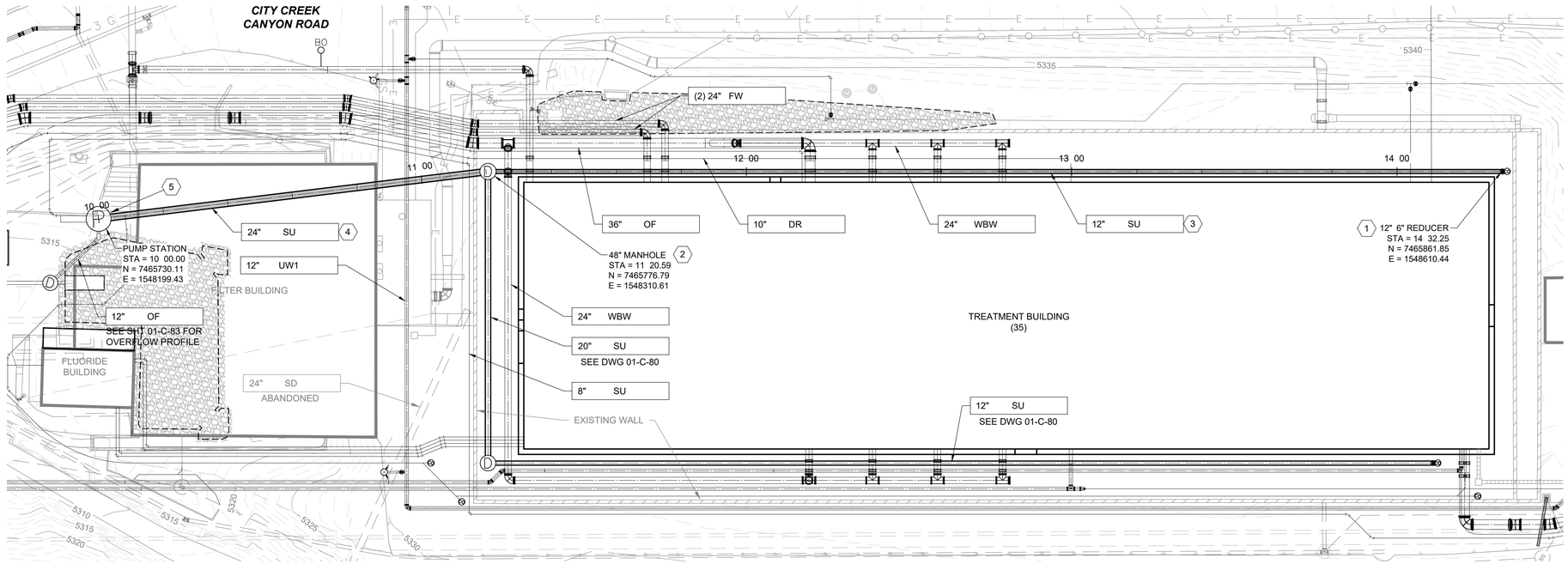
NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PLAN & PROFILE – 12" SU
STA 1+00 TO 4+80

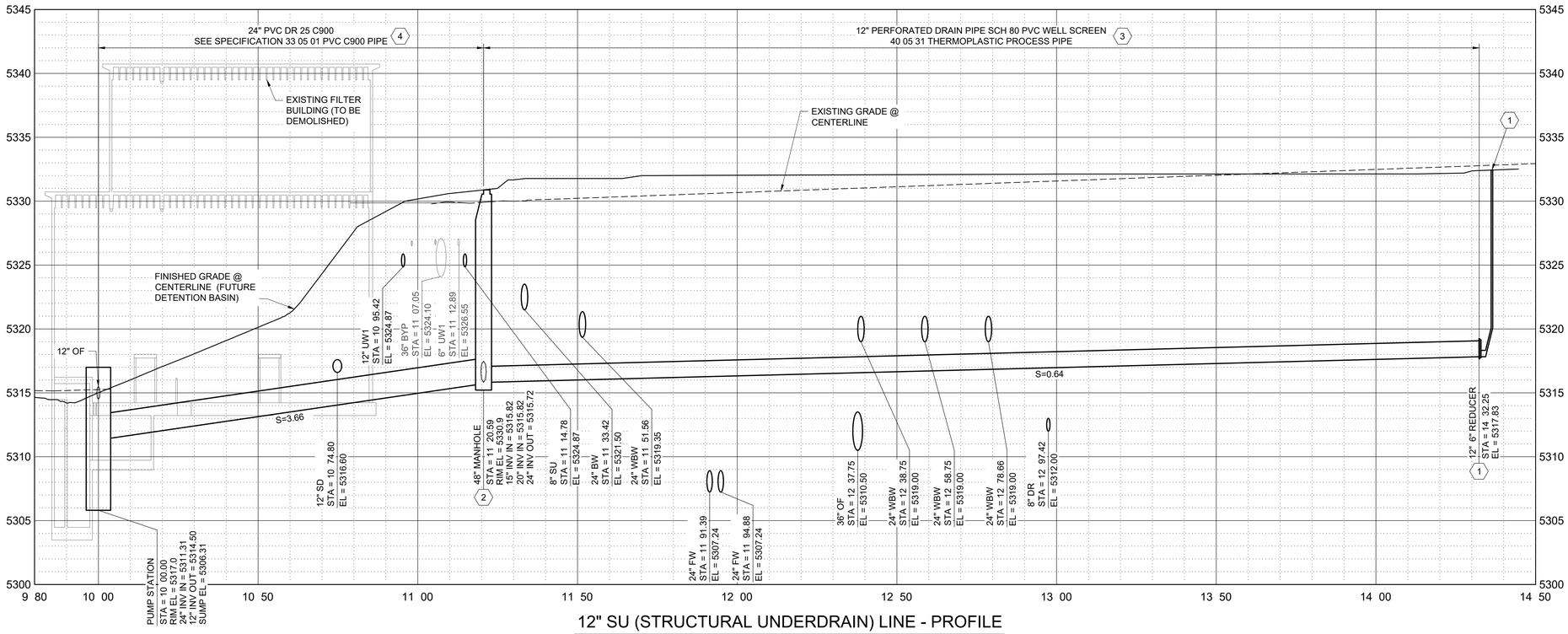
90% GMP

DRAWING NO.
01-C-80



12" SU (STRUCTURAL UNDERDRAIN) LINE - PLAN

SCALE: 1" = 20'



12" SU (STRUCTURAL UNDERDRAIN) LINE - PROFILE

1" = 20'
1" = 5'

KEY NOTES

1. PROVIDE 12" 6" REDUCER TO CLEAN OUT PER DETAIL A/GC-26.
2. MANHOLE PER DETAIL A/GC-23.
3. PERFORATED DRAIN TRENCH SECTION PER DETAIL 2 / GC-25.
4. THIS SECTION TO BE SOLID PIPE AND INSTALLED WITH DETAIL A / GC-21 TYPICAL TRENCH SECTION.
5. PERIMETER DRAIN PUMP STATION, SEE 01-M-01.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

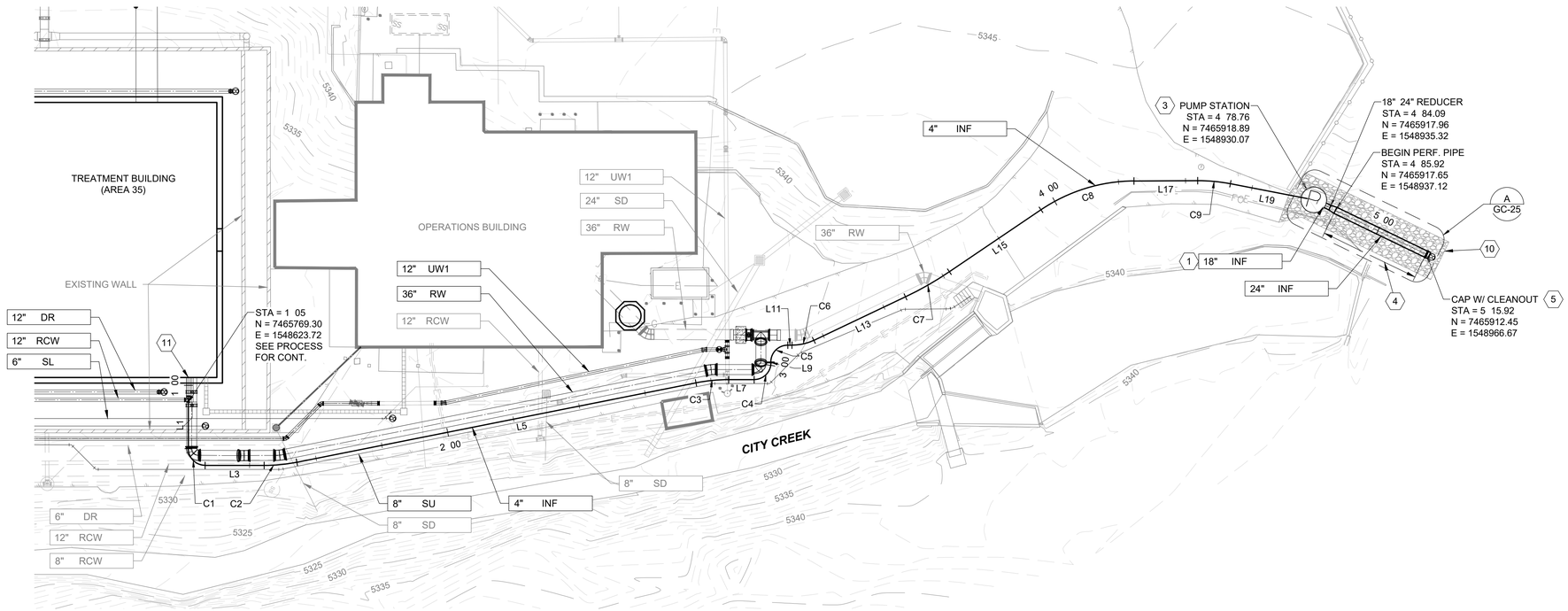
NO.	DATE		MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PLAN & PROFILE – 12" SU
STA 10+00 TO 14+32.25

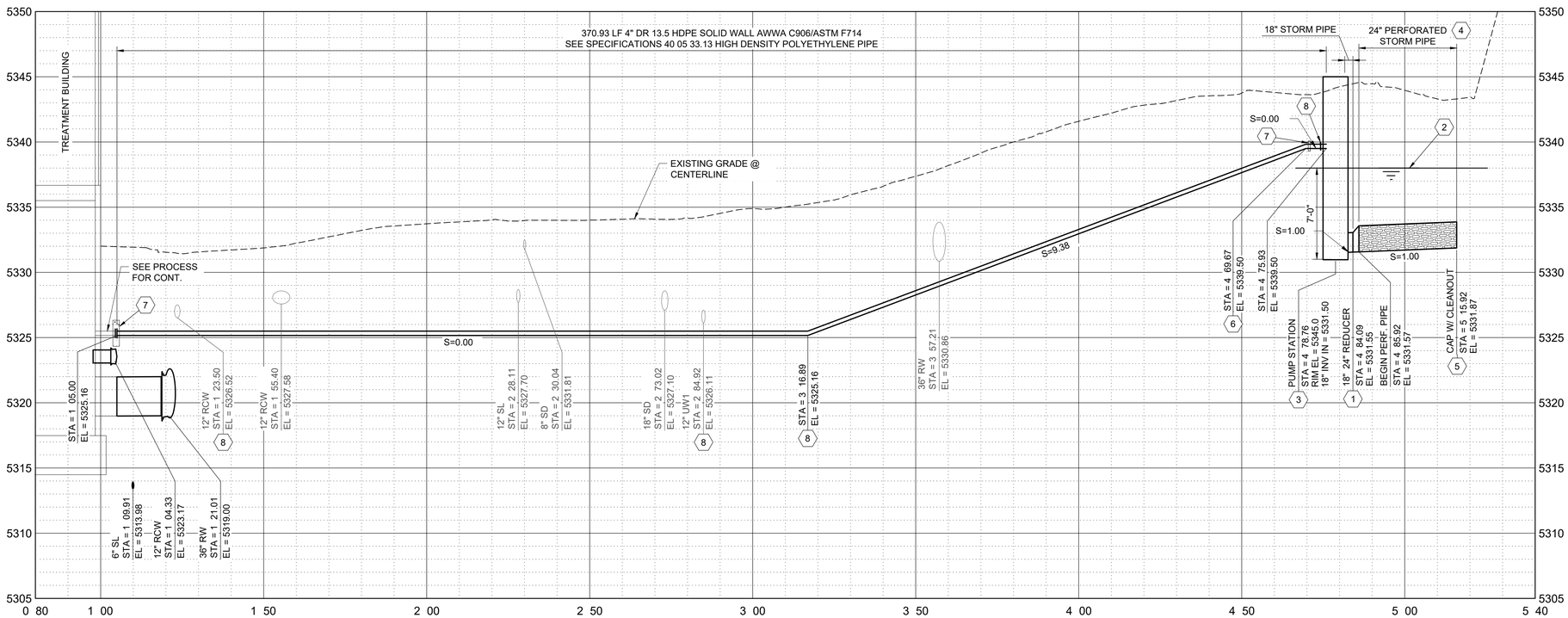
90% GMP

DRAWING NO.
01-C-81



INFILTRATION GALLERY - PLAN

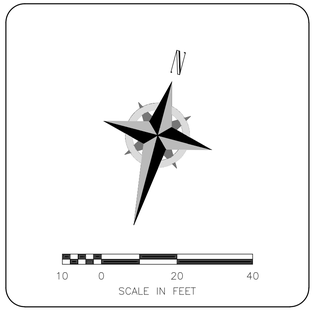
SCALE: 1" = 20'



INFILTRATION GALLERY - PROFILE

1" = 20'

1" = 5'



KEY NOTES

1. CONNECTION TO WETWELL WITH SOLID 18" PIPE. 18"X24" REDUCER FROM 24" PERFORATED STORM PIPE.
2. GROUND WATER ELEVATION 5336-FT /- CREEK BOTTOM 5338FT /- FIELD VERIFY ELEVATIONS SHOWN. SET INVERT OF PERFORATED PIPE 5FT BELOW GROUND WATER ELEVATION OR 7FT BELOW CREEK BOTTOM, WHICHEVER IS GREATER.
3. SEE GM-04 INFILTRATION GALLERY PUMP STATION.
4. PERFORATED DRAIN PIPE SECTION PER DETAIL 1 / GC-25.
5. CLEAN OUT PER DETAIL A / GC-26.
6. USE BEND RADIUS OF HDPE PIPE NO GREATER THAN 50 OF MAXIMUM MANUFACTURER'S RECOMMENDATION.
7. SEE ANCHOR BLOCK FOR HDPE PIPE PER DETAIL E / GC-21.
8. PROVIDE UTILITY SUPPORT PER DETAIL A/GC-22 UTILITY SUPPORT.
9. STACKED PIPE SECTION. BACKFILL ENTIRE SECTION BETWEEN PIPES WITH 95 COMPACTION OF TYPE F - 3/4 MINUS OR CLSM.
10. RESTORE AREA WITH GRAVEL ROAD SECTION PER DETAIL F / GC-10.
11. PROVIDE A FLANGE CONNECTION TO STRUCTURE.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512560079

REVISIONS

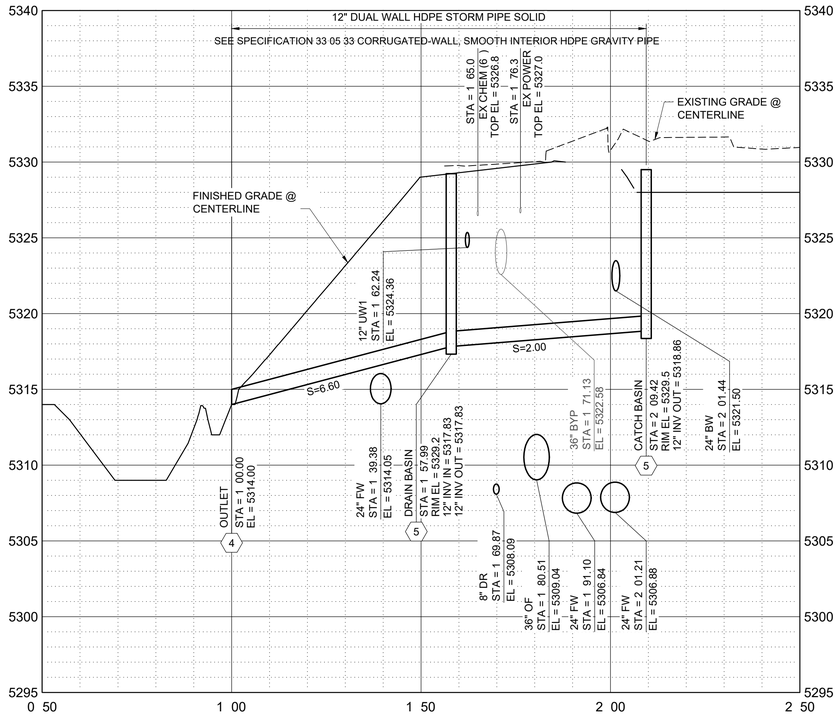
NO.	DATE	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	MADE BY	AUTH. BY
0	06/14/24		NO	SB

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PLAN & PROFILE – INFILTRATION GALLERY

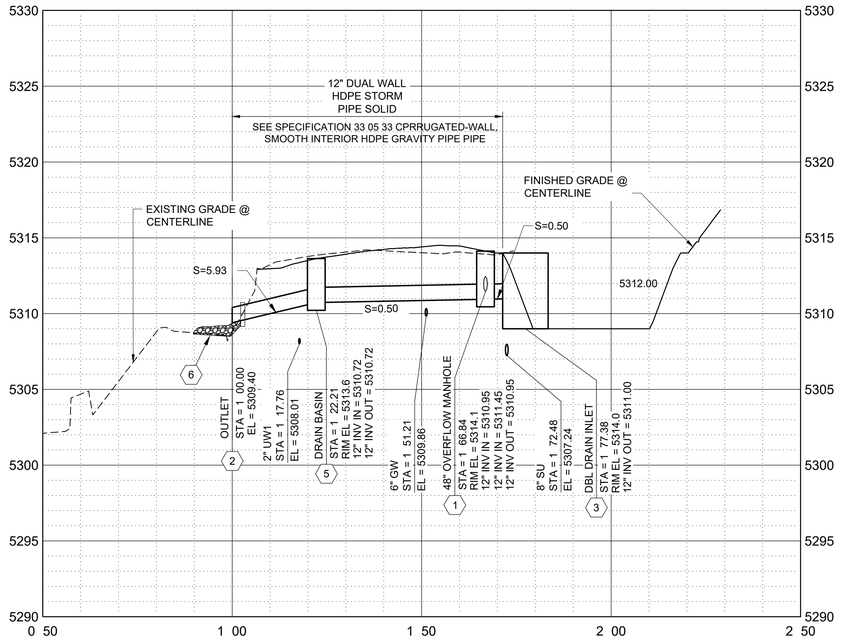
90% GMP

DRAWING NO.
01–C–82



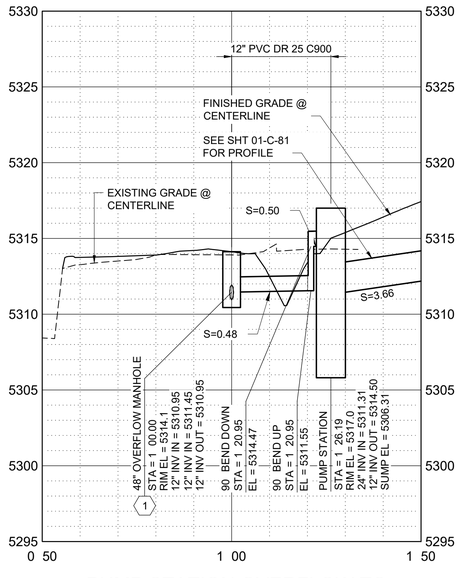
NORTH STORM DRAIN - PROFILE

1" = 20'
1" = 5'



POND DISCHARGE - PROFILE

1" = 20'
1" = 5'



PUMP STATION OVERFLOW TO POND DISCHARGE - PROFILE

1" = 20'
1" = 5'

KEY NOTES

1. CONSTRUCT OVERFLOW MANHOLE PER DETAIL A / GC-23. CONNECT OVERFLOW FROM PERIMETER DRAIN PUMP STATION AND OVERFLOW FROM DOUBLE INLET STRUCTURE.
2. RECONNECT TO EXISTING OUTFALL AD ACENT TO COLLECTION STRUCTURE.
3. OVERFLOW, SEE DETAIL D / GC-11 FOR DOUBLE INLET STRUCTURE.
4. DISCHARGE TO ENERGY DISSIPATION, SEE DETAIL C / GC-11.
5. DRAIN BASIN PER DETAIL A/ GC-12.
6. PLACE TYPE I 12" RIPRAP AT OUTFALL DISCHARGE LOCATION.

Brown AND Caldwell

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

STORM WATER & DRAINAGE PROFILES 1

SALT LAKE CITY

90% GMP

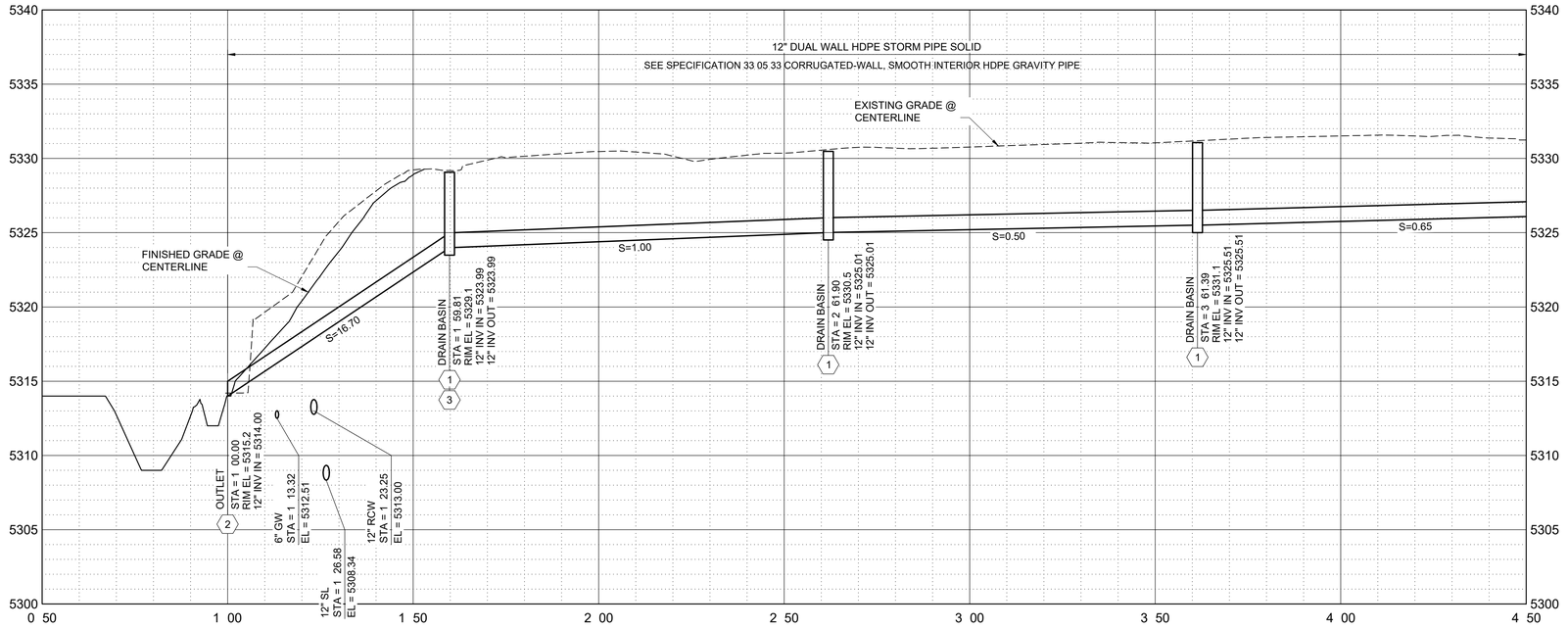
DRAWING NO.
01-C-83

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

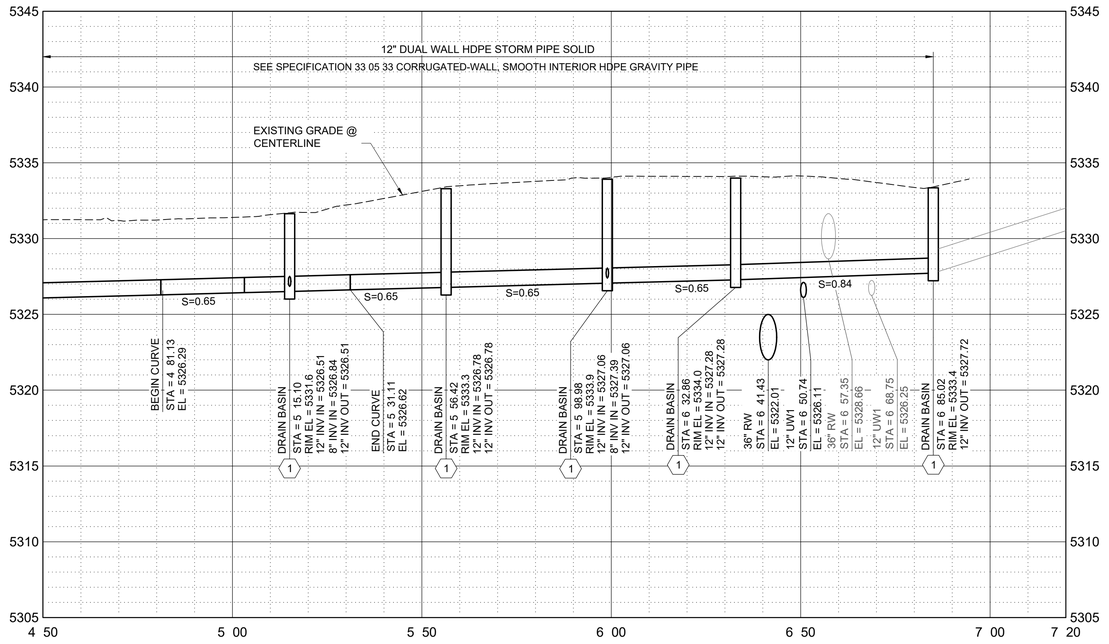
DESIGNED BY: N.OLTEAN
DRAWN BY: D.DAVIDSE
CHECKED BY: M.KOBE
APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

NO.	DATE	REVISIONS	MADE BY	AUTH. BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	NO	SB



SOUTH STORM DRAIN -
PROFILE STA 1 00 TO 4 50

1" = 20'
1" = 5'



SOUTH STORM DRAIN -
PROFILE STA 4 50 TO 6 90.02

1" = 20'
1" = 5'

KEY NOTES

1. CONSTRUCT DRAIN BASIN PER DETAIL A / GC-12.
2. DISCHARGE TO ENERGY DISSIPATION, SEE DETAIL C / GC-11.
3. PROVIDE SNOUT STYLE OIL SEPERATOR. NYLOPLAST ENVIROHOOD OR EQUAL

Brown AND Caldwell

SCALE:

VERIFY SCALE

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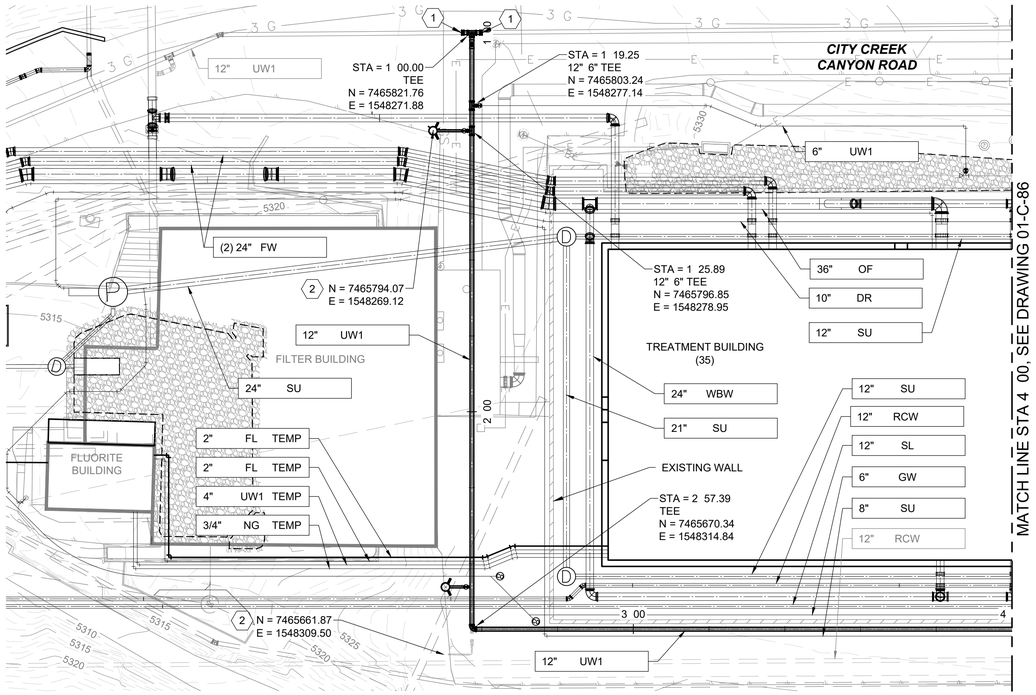
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

STORM WATER & DRAINAGE PROFILES 2

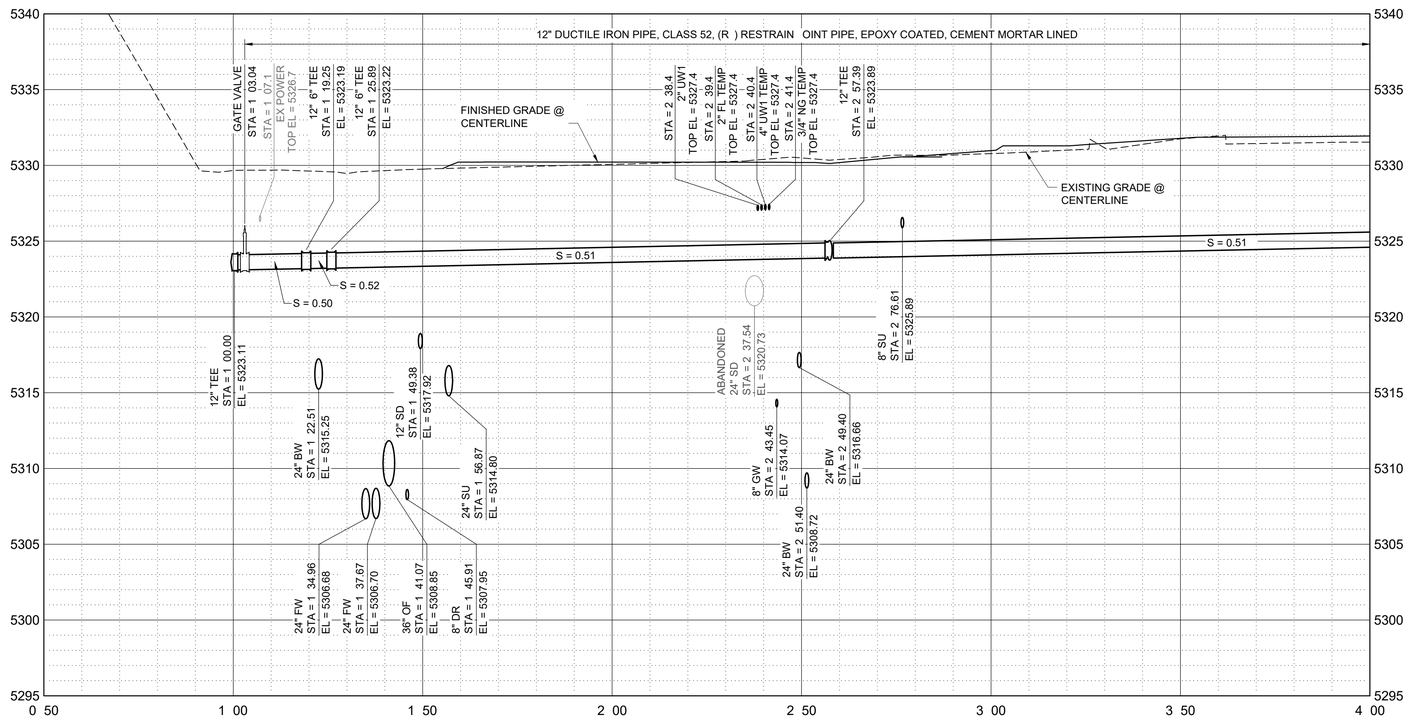
90% GMP

DRAWING NO.
01-C-84



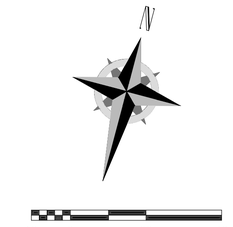
12" UW1 (UTILITY WATER) LOOP LINE - PLAN

SCALE: 1" = 20'



12" UW1 (UTILITY WATER) LOOP LINE - PROFILE

1" = 20'
1" = 5'



KEY NOTES

1. CUT IN 12" DIP FLXM TEE WITH 12" GV AND (2) RESTRAINT COUPLERS.
2. INSTALL FIRE HYDRANT PER DETAIL G/GC-22.

Brown AND Caldwell

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: N.OLTEAN
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APPROVED BY: S.BRENCHLEY
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO: 512660079

REVISIONS

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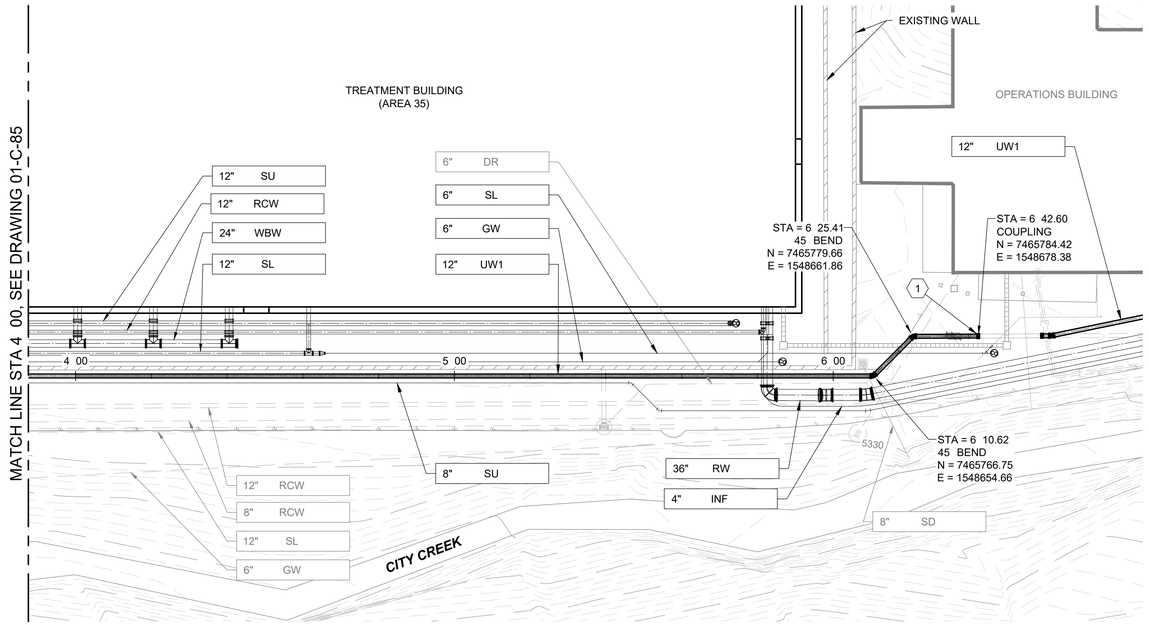
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

PLAN & PROFILE – 12" UW1 LOOP STA 1+00 TO 4+00

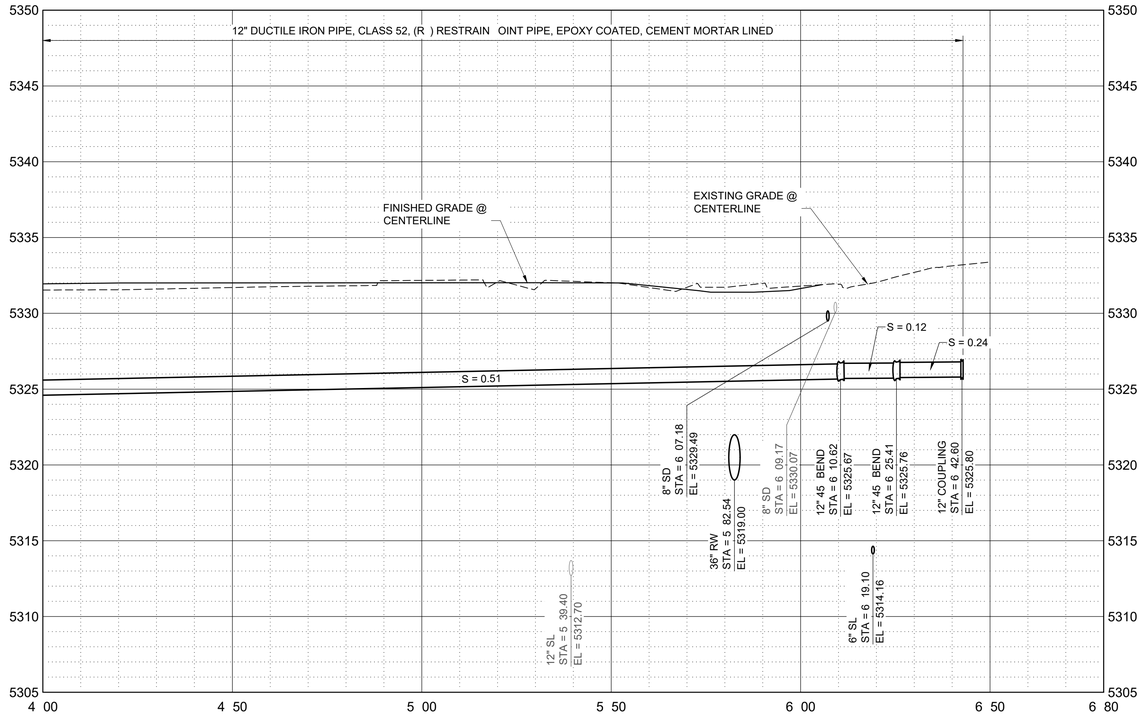
90% GMP

DRAWING NO.
01-C-85



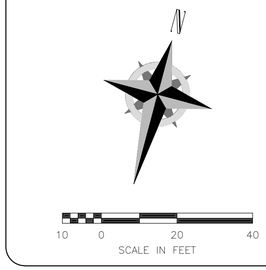
12" UW1 (UTILITY WATER) LOOP LINE - PLAN

SCALE: 1" = 20'



12" UW1 (UTILITY WATER) LOOP LINE - PROFILE

1" = 20'
1" = 5'



KEY NOTES

1. RECONNECT TO EXISTING 12" UW1 WITH 12" RESTRAINT COUPLER.

Brown AND Caldwell

SCALE:

VERIFY SCALE

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CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES

PLAN & PROFILE – 12" UW1 LOOP STA 4+00 TO 6+42.60

90% GMP

DRAWING NO.
01-C-86

BUILDING CODE ANALYSIS

AUTHORITY HAVING JURISDICTION: CITY OF SALT LAKE CITY

BUILDING CODES:
2021 INTERNATIONAL BUILDING CODE
2021 INTERNATIONAL MECHANICAL CODE
2021 INTERNATIONAL FUEL GAS CODE
2021 INTERNATIONAL PLUMBING CODE
2021 INTERNATIONAL ENERGY CONSERVATION CODE
2021 INTERNATIONAL FIRE CODE
2020 NATIONAL ELECTRICAL CODE
2010 AMERICANS WITH DISABILITIES ACT STANDARDS FOR ACCESSIBLE DESIGN

CONSTRUCTION TYPE: TYPE II-B (TABLE 601)

OCCUPANCY: FACTORY GROUP LOW HAZARD F-1 (306.2)
RISK CATEGORY (1604.5): III

ALLOWABLE AREAS: F-1 15,500 SF

ACTUAL AREAS: F-1 25,600 SF

ALLOWABLE HEIGHTS: F-1 2 STORIES, 55'

ACTUAL HEIGHT: F-1 1 STORY, 30' - 10"

FIRE RESISTANCE RATING FOR EXTERIOR WALLS (TABLE 601):

RATING FOR II-B CONSTRUCTION TYPE AND F-1
X > 30' = 0 HOUR

FIRE PROTECTION SYSTEMS:

FIRE ALARM AND DETECTION SYSTEMS (907.2)
AN APPROVED FIRE ALARM SYSTEM IN ACCORDANCE WITH NFPA 72 SHALL BE PROVIDED AND PROVIDE OCCUPANT NOTIFICATION IN ACCORDANCE WITH 907.5. A MINIMUM OF ONE MANUAL FIRE ALARM BOX SHALL BE PROVIDED TO INITIATE A FIRE ALARM SIGNAL FOR FIRE ALARM SYSTEM EMPLOYING AUTOMATIC FIRE DETECTORS.

PORTABLE FIRE EXTINGUISHERS (TABLE 906.3(1))

MAX FLOOR AREA PER EXTINGUISHER = 11,250 SF

MAXIMUM TRAVEL DISTANCE TO EXTINGUISHER: 75 FT

SPRINKLER SYSTEM NOT PROVIDED PER ARRANGEMENT WITH FIRE DEPT IN AM&M DATED XX/XXXX

MEANS OF EGRESS:

OCCUPANT LOAD (TABLE 1004.5):
MECHANICAL EQPT RM = 300 GROSS SQUARE FEET PER OCCUPANT

LEVEL 1 OCCUPIABLE AREA = 13,470 SF / 300 OCC LOAD FACTOR = 45 OCCUPANTS
BASEMENT OCCUPIABLE AREA - 9,485 SF / 300 OCC LOAD FACTOR = 32 OCCUPANTS

EGRESS:
MAXIMUM COMMON PATH OF EGRESS TRAVEL (TABLE 1006.2.1):
F(OCC LOAD >30, NO SPRINKLERS) = 75 FT

STORIES WITH ONE EXIT (TABLE 1006.3.3): 2 EXITS REQUIRED PER STORY

DOORS:
DIRECTION OF SWING (1010.1.2.1)
PIVOT OR SIDE-HINGED SWINGING DOORS SHALL SWING IN THE DIRECTION OF EGRESS TRAVEL WHERE SERVING A ROOM OR AREA CONTAINING AN OCCUPANT LOAD OF 50 OR MORE PERSONS.

EXIT ACCESS:
EGRESS THROUGH INTERVENING SPACES (IBC 1016.2)
EXCEPTION: MEANS OF EGRESS ARE NOT PROHIBITED THROUGH ADJOINING OR INTERVENING ROOMS OR SPACES IN A GROUP H, S, OR F OCCUPANCY WHERE THE ADJOINING OR INTERVENING ROOMS OR SPACES ARE THE SAME OR A LESSER HAZARD OCCUPANCY GROUP.

EXIT ACCESS TRAVEL DISTANCE (TABLE 1017.2): F-1 OCC, NO SPRINKLERS = 300 FEET MAX

HARDWARE:
MANUALLY OPERATED FLUSH BOLTS (1010.2.5): MANUALLY OPERATED FLUSH BOLTS OR SURFACE BOLTS ARE NOT PERMITTED.

EXC 1. WHERE A PAIR OF DOORS SERVES A STORAGE OR EQUIPMENT ROOM, MANUALLY OPERATED EDGE- OR SURFACE-MOUNTED BOLTS ARE PERMITTED ON THE INACTIVE LEAF.

EXC 2. WHERE A PAIR OF DOORS SERVES AN OCCUPANT LOAD OF LESS THAN 50 PERSONS IN A GROUP B OR F OCCUPANCY, MANUALLY OPERATED EDGE- OR SURFACE-MOUNTED BOLTS ARE PERMITTED ON THE INACTIVE LEAF. THE INACTIVE LEAF SHALL NOT CONTAIN DOORKNOBS, PANIC BARS OR SIMILAR OPERATING HARDWARE.

PANIC HARDWARE (1010.2.9.2): ROOMS CONTAINING ELECTRICAL EQUIPMENT RATED 800 AMPERES OR MORE THAT CONTAIN OVERCURRENT DEVICES, SWITCHING DEVICES OR CONTROL DEVICES AND WHERE THE EXIT OR EXIT ACCESS DOOR IS LESS THAN 25 FEET FROM THE EQUIPMENT WORKING SPACE AS REQUIRED BY NFPS 70, SUCH DOORS SHALL BE PROVIDED WITH A LATCH OR LOCK OTHER THAN PANIC HARDWARE OR FIRE EXIT HARDWARE. THE DOORS SHALL SWING IN THE DIRECTION OF EGRESS TRAVEL.

LARGE EQUIPMENT (NEC 110.26(C)(2)): AN ENTRANCE TO AND EGRESS FROM EACH END OF THE WORKING SPACE OF ELECTRICAL EQUIPMENT RATED 1,200 AMPS OR MORE THAT'S OVER 6 FT WIDE IS REQUIRED. THE OPENING MUST BE A MINIMUM OF 24 IN. WIDE AND 6-1/2 FT HIGH.

ACCESSIBILITY:

EQUIPMENT SPACES: SPACES FREQUENTED ONLY BY SERVICE PERSONNEL FOR MAINTENANCE, REPAIR, OR OCCASIONAL MONITORING OF EQUIPMENT ARE NOT REQUIRED TO BE ACCESSIBLE (IBC 1103.2.9).

MACHINERY SPACES: SPACES FREQUENTED ONLY BY SERVICE PERSONNEL FOR MAINTENANCE, REPAIR, OR OCCASIONAL MONITORING OF EQUIPMENT SHALL NOT BE REQUIRED TO BE ON AN ACCESSIBLE ROUTE. MACHINERY SPACES INCLUDE, BUT ARE NOT LIMITED TO MECHANICAL, ELECTRICAL OR COMMUNICATIONS EQUIPMENT ROOMS; PIPING OR EQUIPMENT CATWALKS; WATER OR SEWAGE TREATMENT PUMP ROOMS AND STATIONS; ELECTRIC SUBSTATIONS AND TRANSFORMER VAULTS (2010 ADA 203.5).

ENERGY CODE COMPLIANCE

ENERGY CODE: 2021 IECC

CLIMATE ZONE: 5B

LOCATION: SALT LAKE CITY, UTAH

PROJECT TYPE: NEW CONSTRUCTION

COMPLIANCE METHOD: COMMERCIAL PRESCRIPTIVE PATH - COMPONENT PERFORMANCE ALTERNATIVE

VERTICAL GLAZING/ WALL AREA: 7%

BUILDING AREA: 25,600 SF

ROOF ASSEMBLY: INSULATION ENTIRELY ABOVE DECK
R-30 CONTINUOUS INSULATION

FLOOR ASSEMBLY: CONCRETE FLOOR OVER UNCONDITIONED SPACE

WALL ASSEMBLY:

20" SOLID CONC WALL
FLUID-APPLIED AIR BARRIER
2", R-10 CONTINUOUS INSULATION
WATER-DRAINAGE EXTERIOR INSULATION AND FINISH SYSTEM (EIFS)

12" CONC MASONRY, PARTIALLY GROUTED
FLUID-APPLIED AIR BARRIER
3", R-15 CONTINUOUS INSULATION
1" AIR GAP
4" BRICK VENEER

12" CONC MASONRY, PARTIALLY GROUTED
FLUID-APPLIED AIR BARRIER
6", R-30 CONTINUOUS INSULATION
2" STANDING SEAM METAL PANEL ON SHEATHING

WINDOWS:

FIBERGLASS WALL PANEL SYSTEM
SHGC: 0.13
U-FACTOR: 0.10

ALUMINUM STOREFRONT
SHGC: 0.38
U-FACTOR: 0.45

DOORS:

OVERHEAD DOORS
U-FACTOR: 0.31

HOLLOW METAL DOORS
U-FACTOR: 0.37

GENERAL NOTES

1. UNLESS OTHERWISE NOTED, PLAN DIMENSIONS ARE TO NOMINAL SURFACE OF MASONRY AND CONCRETE.
2. DIMENSIONS OF DOORS, WINDOWS & OTHER ITEMS IN WALLS ARE BASED ON NOMINAL MASONRY COURSING OR ROUGH OPENING DIMENSIONS. FIELD VERIFY AND/OR COORDINATE DIMENSIONS OF ITEMS W/MASONRY &/OR FRMG CONSTRUCTION AS REQUIRED.
3. "FINISH FLOOR" REFERS TO TOP OF CONCRETE SLABS. FOR DEPRESSED FLOOR, PADS AND CURBS, SEE STRUCT DRAWINGS. SEE BUILDING SECTIONS FOR VARYING CONDITIONS.
4. REPETITIVE FEATURES ARE NOT DRAWN IN THEIR ENTIRETY AND SHALL BE COMPLETELY PROVIDED AS IF DRAWN IN FULL.
5. VERIFY ACTUAL SIZES OF ALL EQUIPMENT TO BE PROVIDED IN THIS CONTRACT OR BY OTHERS & COORD ALL ROUGH-IN & SUBSTRATE DIMENSIONS TO DETERMINE ACTUAL REQUIRED SIZES OF & LOCATIONS OF PADS, CURBS, KNOCKOUTS, BLOCKOUTS, ETC.
6. VERIFY AND COORD SIZE AND LOCATION OF ACCESS DOORS, CURBS, PADS, WALL MOUNTED EQUIPMENT AND ACCESSORIES TO PROVIDE ALL OPENINGS THROUGH FLOORS AND WALLS AND/OR ALL BASES, ANCHORS, INSERTS & BLOCKING.
7. NOTES ON DRAWINGS INDICATE SOME OF THE ITEMS TO BE PAINTED. REFER TO SPECIFICATIONS FOR OTHER REQUIREMENTS FOR ITEMS TO BE PAINTED AND PAINT SYSTEMS FOR EACH SUBSTRATE AND/OR MATERIAL.
8. REFER TO PROCESS, ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND OTHER CATEGORIES OF DRAWINGS FOR ADDITIONAL NOTES.
9. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS SHALL ESTABLISH LOCATION OF ALL PARTITIONS, OPENINGS, EQUIPMENT, ETC.
10. LARGER SCALE DRAWINGS AND DETAILS HAVE PRIORITY OVER SMALLER SCALE DRAWINGS.
11. CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR CONFLICTS IN THE DRAWINGS AND/OR SPECIFICATIONS TO REQUEST AND RECEIVE AN INTERPRETATION OR CLARIFICATION BEFORE PROCEEDING WITH CONSTRUCTION.
12. CONTRACTOR SHALL VERIFY FIELD CONDITIONS BEFORE PROCEEDING WITH CONSTRUCTION.

SHORT AND BRENNAN ARCHITECTS

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.CARDONA
DRAWN BY: C.CARDONA
CHECKED BY: G.SHORT
APPROVED BY:
DATE: JUNE 2024
EWO NO. --
ACCOUNT NO. 512260079

REVISIONS

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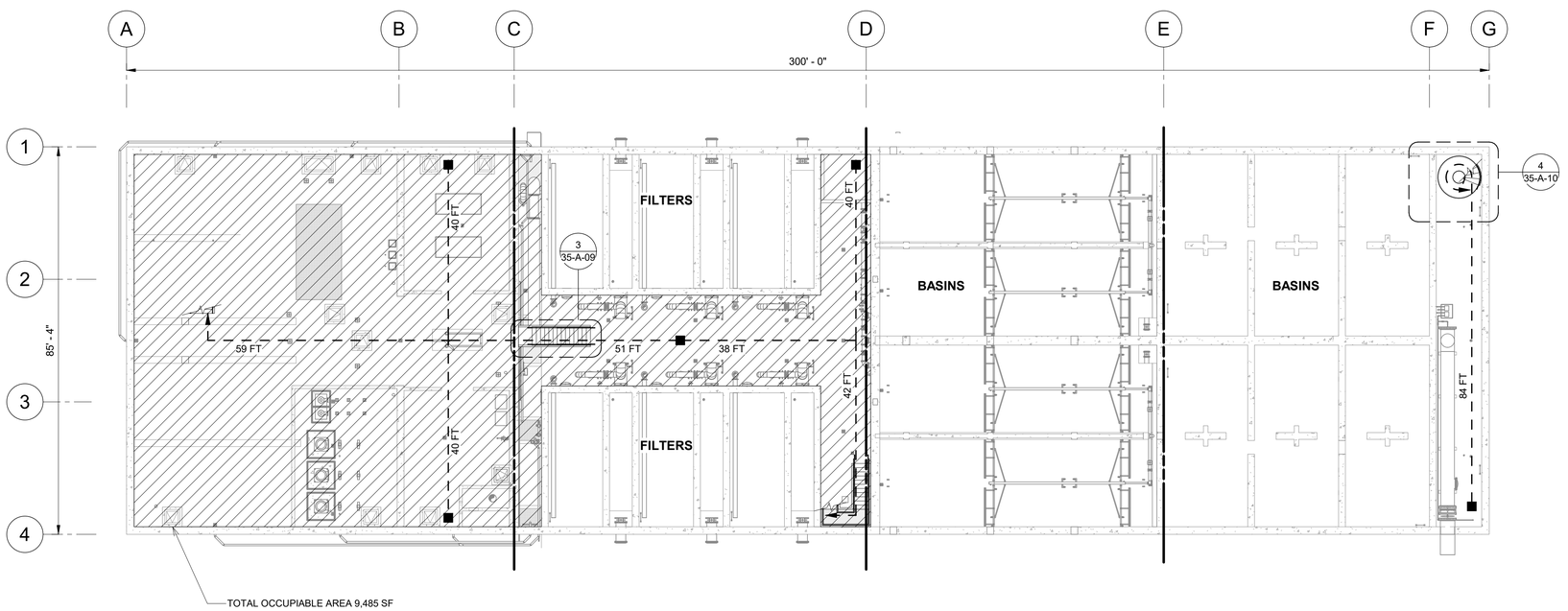
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

CODE SUMMARY

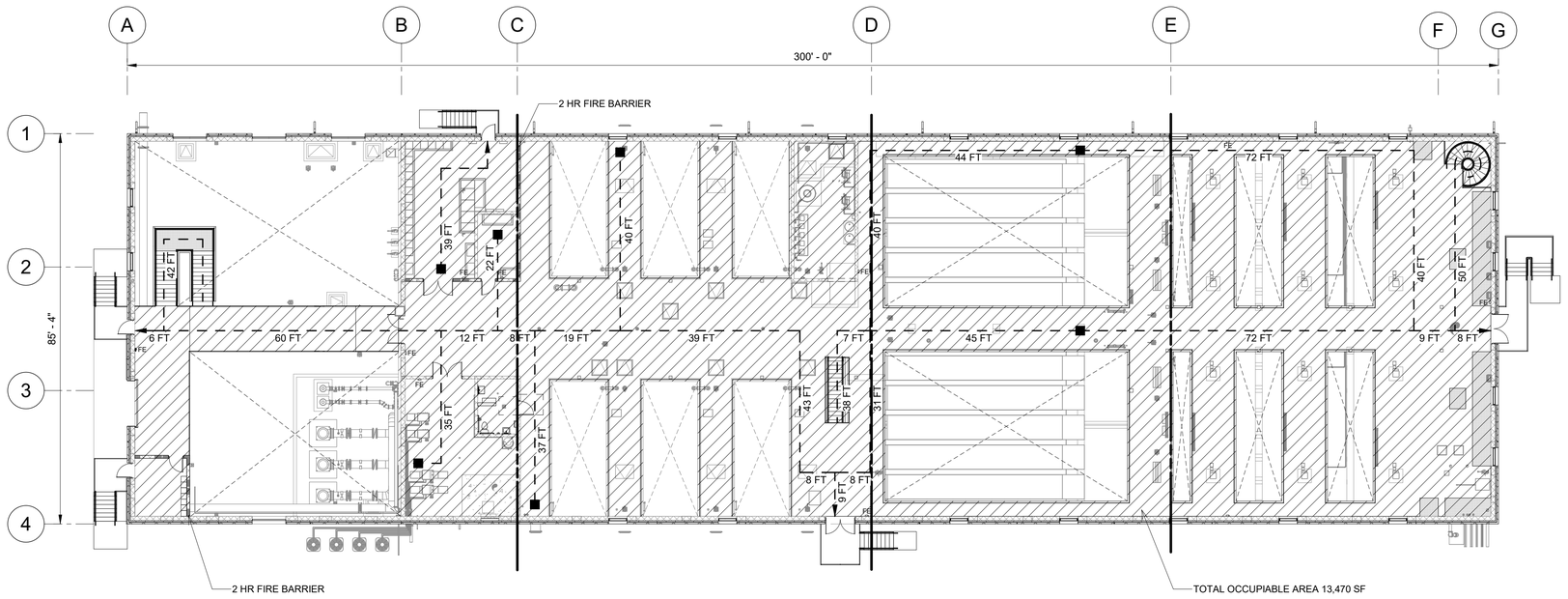
90% GMP

DRAWING NO.
GA-01



LOWER LEVEL EGRESS PLAN

SCALE: 1/16" = 1'-0"



MAIN LEVEL EGRESS PLAN

SCALE: 1/16" = 1'-0"

LIFE SAFETY LEGEND:

##	INDICATES DIRECTION OF EGRESS PATH, ## IS THE DISTANCE IN FEET TO EXIT FROM SQUARE DOT TO ARROW.
E	EXIT SIGN LOCATION
	INDICATES 2 HOUR FIRE RATING
	FIRE EXTINGUISHER, MULTI-PURPOSE DRY CHEMICAL WITH RECESSED CABINET
	OCCUPIABLE AREA

SCALE:

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SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

EGRESS PLANS

90% GMP

DRAWING NO.
GA-02

SHORT AND BRENNAN ARCHITECTS

DOOR SCHEDULE

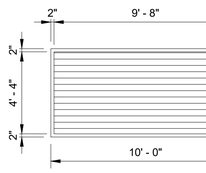
DOOR NO.	DOOR SIZE			DOOR PANEL			DOOR FRAME			HARDWARE SETS	FIRE RATING	DETAIL			COMMENTS	DOOR NO.
	HEIGHT	WIDTH	THICKNESS	TYPE	MATERIAL	FINISH	TYPE	MATERIAL	FINISH			HEAD	JAMB	SILL		
D01	7' - 2"	6' - 4"	0' - 1 3/4"	A	HM	PT	1	HM	PT	1.0	---	SIM: 6/GA-05	5/GA-05			D01
D02	7' - 2"	6' - 4"	0' - 1 3/4"	A	HM	PT	3	HM	PT	1.0	---	SIM: 6/GA-05	5/GA-05		REMOVABLE TRANSOM	D02
D03	10' - 0"	10' - 0"	0' - 3"	E	STL	MANUF FIN	---	---	MANUF FIN	2.1	---	9/GA-05	8/GA-05	7/GA-05	MOTOR-OPERATED	D03
D04	7' - 2"	3' - 0"	0' - 1 3/4"	B	HM	PT	5	HM	PT	2.0	---	SIM: 6/GA-05	5/GA-05			D04
D05	7' - 2"	3' - 0"	0' - 1 3/4"	B	HM	PT	2	HM	PT	2.0	---	SIM: 6/GA-05	5/GA-05			D05
D06	7' - 2"	3' - 0"	0' - 1 3/4"	B	HM	PT	2	HM	PT	2.0	---	SIM: 6/GA-05	5/GA-05			D06
D07	7' - 2"	3' - 0"	0' - 1 3/4"	B	HM	PT	5	HM	PT	5.0	---	SIM: 6/GA-05	5/GA-05			D07
D08	7' - 0"	3' - 0"	0' - 1 3/4"	C	HM	PT	5	HM	PT	6.0	90	SIM: 6/GA-05	5/GA-05		WIRE GLASS	D08
D09	7' - 2"	6' - 4"	0' - 1 3/4"	A	HM	PT	3	HM	PT	1.1	---	SIM: 6/GA-05	5/GA-05			D09
D10	7' - 2"	6' - 4"	0' - 1 3/4"	A	HM	PT	1	HM	PT	3.0	---	SIM: 6/GA-05	5/GA-05			D10
D11	7' - 2"	6' - 4"	0' - 1 3/4"	A	HM	PT	3	HM	PT	4.0	---	SIM: 6/GA-05	5/GA-05		REMOVABLE TRANSOM	D11
D12	7' - 2"	3' - 0"	0' - 1 3/4"	D	HM	PT	5	HM	PT	7.0	---	SIM: 6/GA-05	5/GA-05			D12

WINDOW & LOUVER SCHEDULE

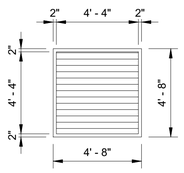
WINDOW TYPE	DIMENSIONS		MATERIAL	DETAILS			COMMENTS
	WIDTH	HEIGHT		HEAD	JAMB	SILL	
LA	10' - 0"	4' - 8"	ALUM	3/GA-05	SIM: 2/GA-05	SIM: 4/GA-05	
LB	4' - 8"	4' - 8"	ALUM	3/GA-05	SIM: 2/GA-05	SIM: 4/GA-05	
LC	2' - 8"	2' - 0"	ALUM	6/GA-05	SIM: 5/GA-05	SIM: 4/GA-05	
WA	4' - 0"	8' - 0"	ALUM	6/GA-05	SIM: 5/GA-05	4/GA-05	
WA2	4' - 0"	8' - 0"	ALUM	6/GA-05	SIM: 5/GA-05	4/GA-05	NOTE 1
WB	4' - 0"	8' - 0"	ALUM	6/GA-05	SIM: 5/GA-05	4/GA-05	
WC	4' - 0"	6' - 0"	ALUM	6/GA-05	SIM: 5/GA-05	4/GA-05	
WD	5' - 4"	4' - 0"	ALUM	SIM: 6/GA-05	SIM: 5/GA-05	SIM: 4/GA-05	
WE	10' - 0"	4' - 8"	ALUM	3/GA-05	2/GA-05	4/GA-05	
WF	7' - 4"	7' - 4"	ALUM	3/GA-05	2&5/GA-05	4/GA-05	
WG	7' - 4"	10' - 0"	ALUM	6/GA-05	SIM: 5/GA-05	1/GA-05	
WH	7' - 4"	17' - 4"	ALUM	3/GA-05	2&5/GA-05	1/GA-05	

NOTES:

1. ROOM TB107 - PROVIDE 3M SUN CONTROL WINDOW FILM NIGHT VISION 35 OR EQUAL FOR ALL GLASS



TYPE LA



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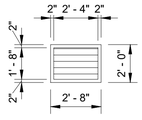
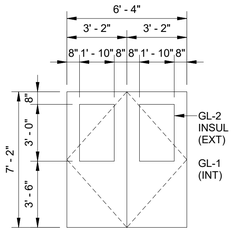


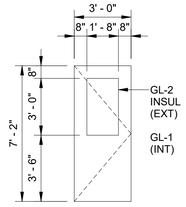
TYPE LC

LOUVER ELEVATIONS

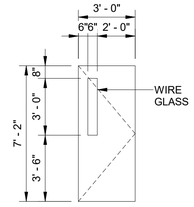
SCALE: 1/4" = 1'-0"



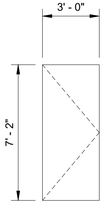
TYPE A



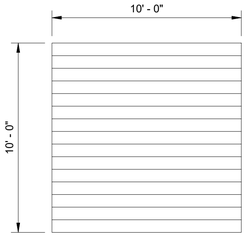
TYPE B



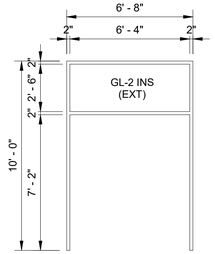
TYPE C



TYPE D



TYPE E



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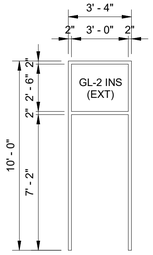
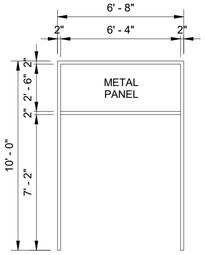


TYPE 2



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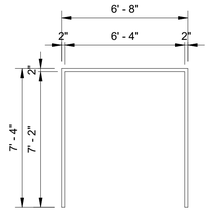

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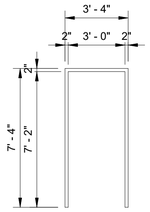
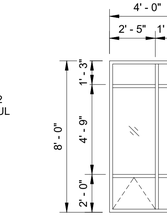


TYPE 5

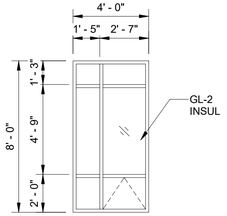
DOOR ELEVATIONS

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

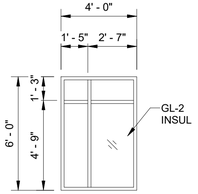


TYPE WA

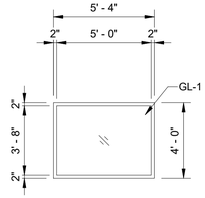
TYPE WA2



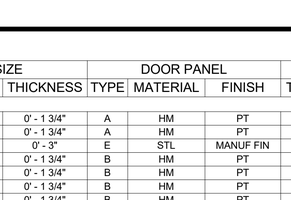
TYPE WB



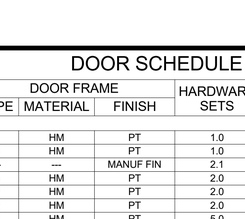
TYPE WC



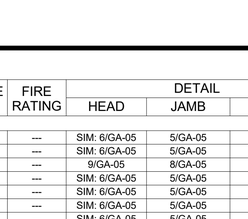
TYPE WD



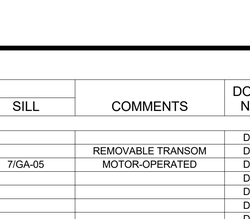
TYPE WE



TYPE WF



TYPE WG



TYPE WH

WINDOW ELEVATIONS

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

SHORT AND BRENNAN ARCHITECTS

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.CARDONA
DRAWN BY: C.CARDONA
CHECKED BY: G.SHORT
APPROVED BY:
DATE: JUNE 2024
EWO NO. --
ACCOUNT NO. 512260079

REVISIONS

NO.	DATE:		MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	CC	GS

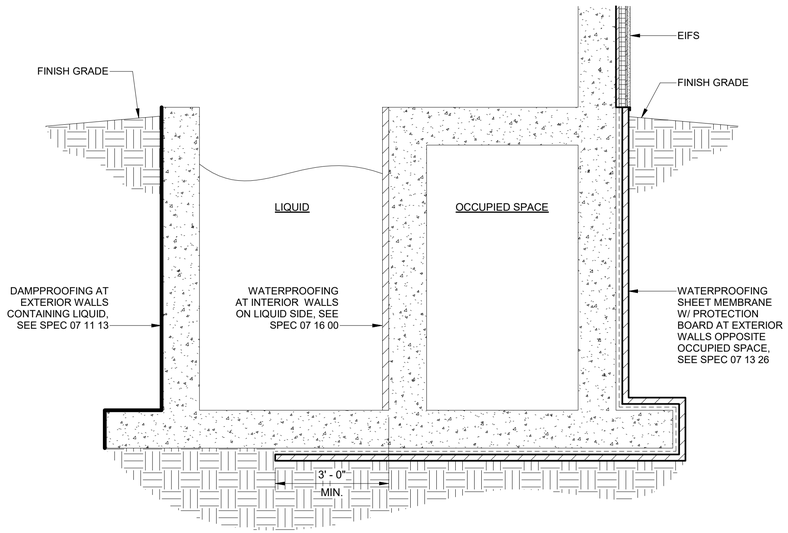
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

DOOR, WINDOW, & LOUVER SCHEDULES & ELEVATIONS

90% GMP

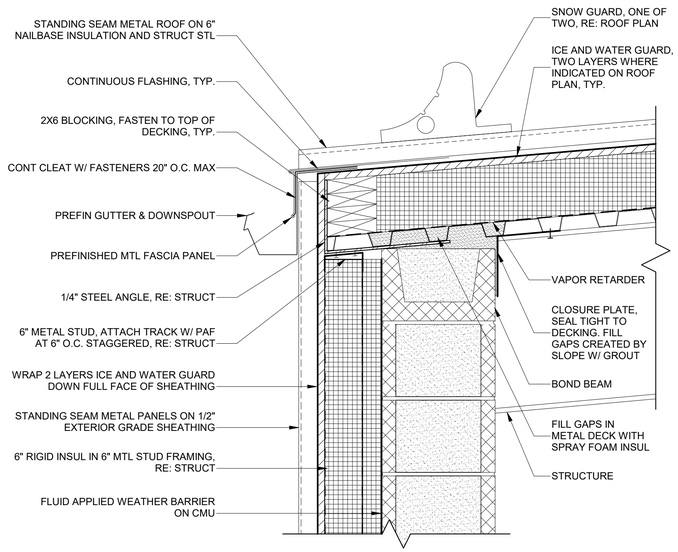
DRAWING NO.
GA-03

Plot Date: 6/13/2024 2:32:55 PM Path: BIM 360://153020 - City Creek WTP/153020-A-357DV21.rvt



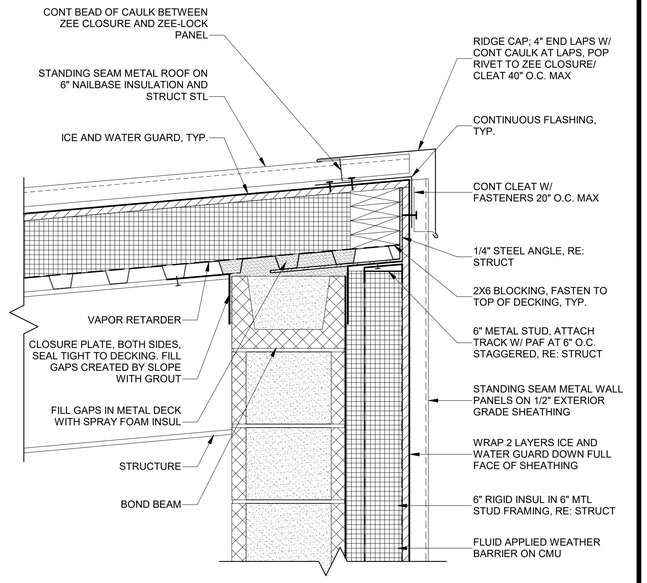
F 35-A-03 **WATERPROOFING & DAMPPROOFING LOCATIONS**

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



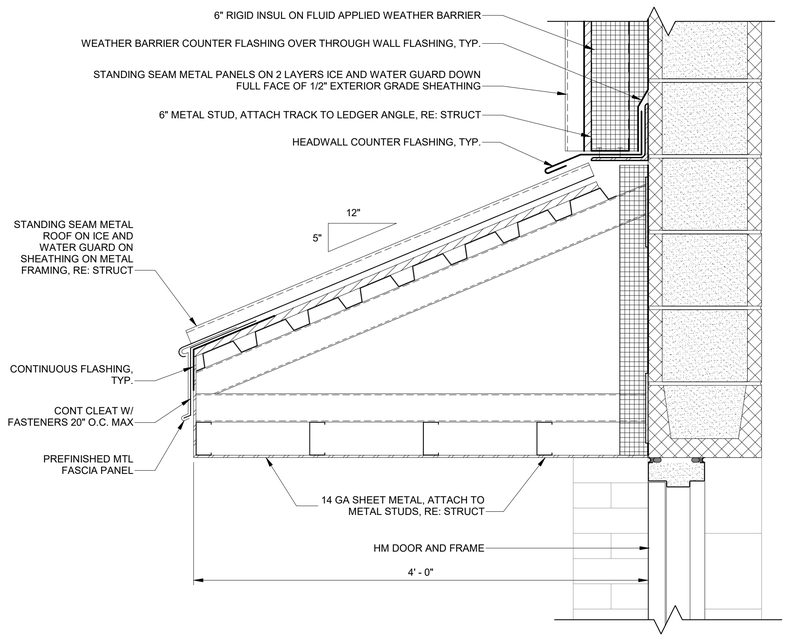
E 70-A-04 **T.O. LOWER WALL**

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



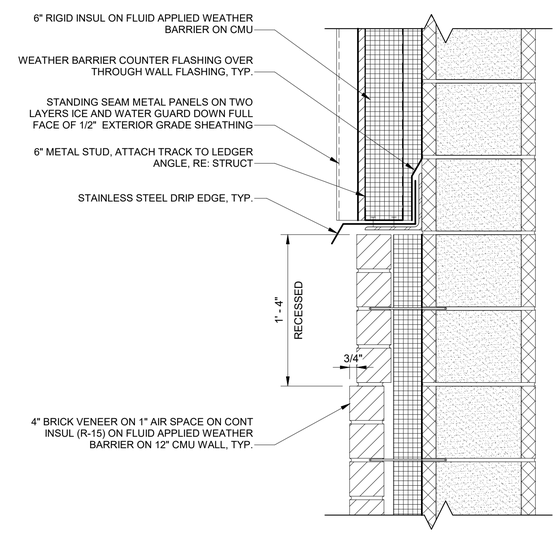
D 70-A-04 **T.O. UPPER WALL**

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



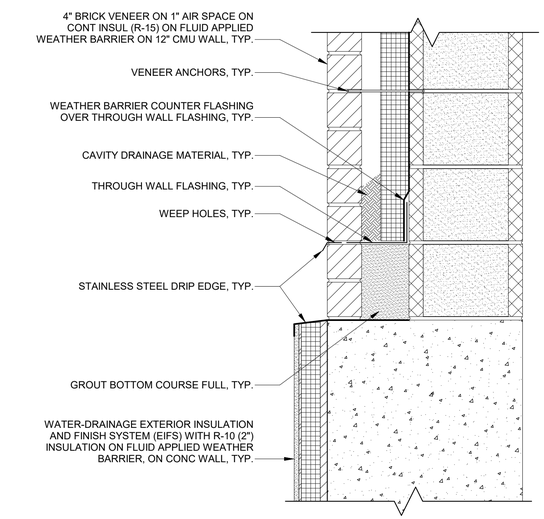
C 35-A-11 **CANOPY DETAIL**

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



B 70-A-04 **BRICK TO MTL TRANSITION**

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



A 70-A-04 **TYP. WALL BASE**

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

SHORT AND BRENNAN ARCHITECTS

SCALE:

VERIFY SCALE
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CHECKED BY: G.SHORT
APPROVED BY:
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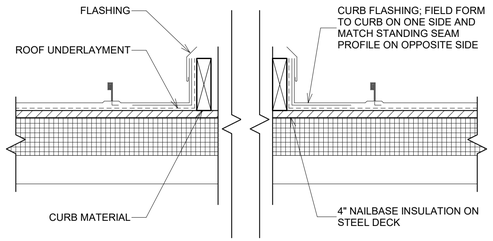
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

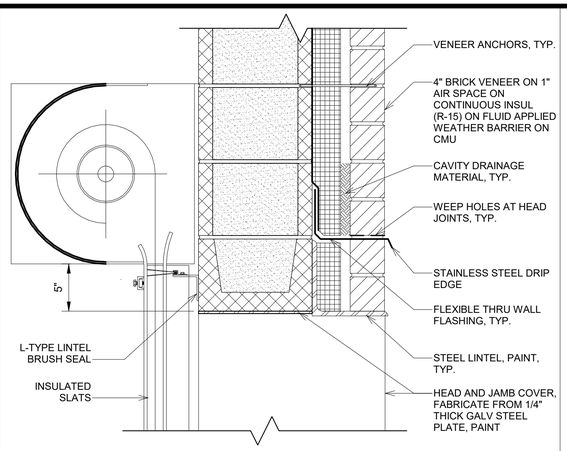
STANDARD ARCHITECTURAL DETAILS 1

90% GMP

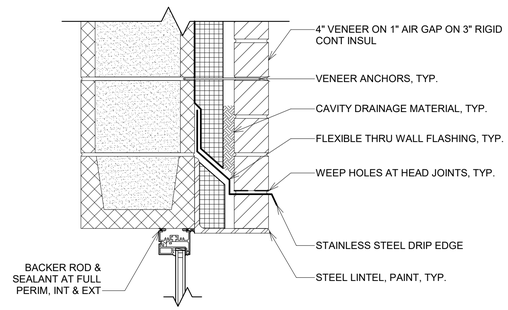
DRAWING NO.
GA-04



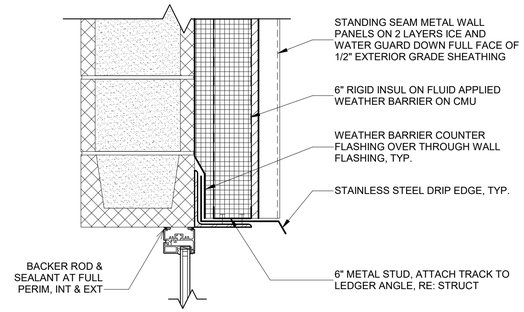
M 35-A-01 **ROOF PENETRATIONS** SCALE: 1 1/2" = 1'-0"



J 35-A-05 **OVERHEAD DOOR** SCALE: 1 1/2" = 1'-0"



F 70-A-04 **STOREFRONT HEAD @ BRICK** SCALE: 1 1/2" = 1'-0" SIM: DOOR & LOUVER HEAD @ BRICK



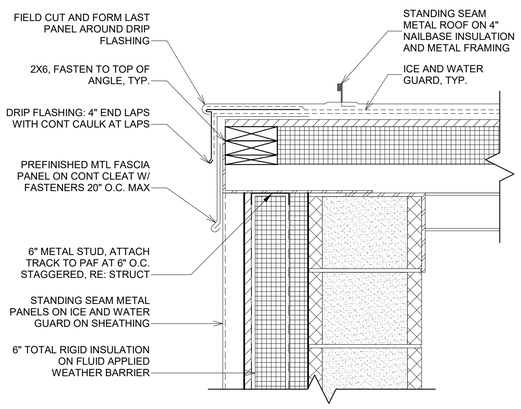
C 70-A-04 **TRANS. PANEL HEAD @ MTL** SCALE: 1 1/2" = 1'-0" SIM: LOUVER HEAD @ MTL

L 35-A-03 **TYP. CONTROL JOINT** SCALE: 1 1/2" = 1'-0"

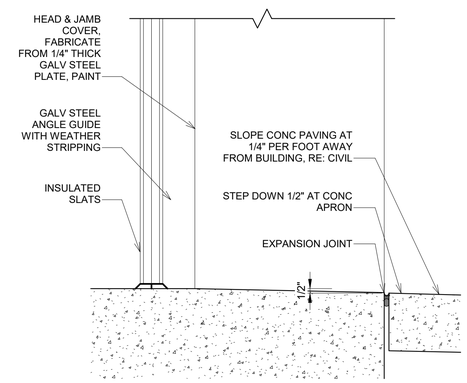
H 70-A-01 **OVERHEAD DOOR JAMB** SCALE: 1 1/2" = 1'-0"

E 70-A-01 **DOOR JAMB @ BRICK** SCALE: 1 1/2" = 1'-0" SIM: STOREFRONT & LOUVER JAMB @ BRICK

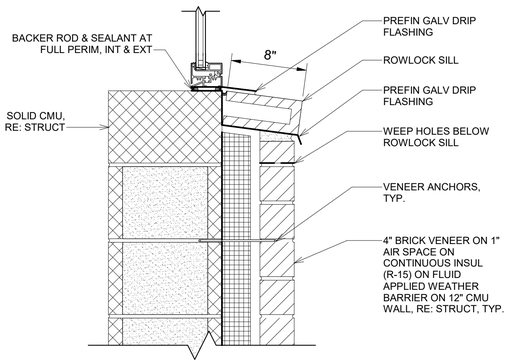
B 35-A-05 **TRANS. PANEL JAMB @ METAL** SCALE: 1 1/2" = 1'-0" SIM: LOUVER JAMB @ MTL



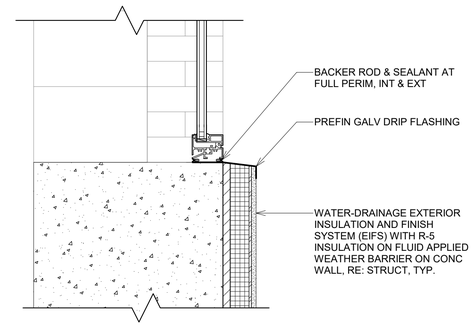
K 70-A-03 **TYP ROOF RAKE** SCALE: 1 1/2" = 1'-0"



G 35-A-05 **OVERHEAD DOOR SILL** SCALE: 1 1/2" = 1'-0"



D 70-A-04 **STOREFRONT SILL @ BRICK** SCALE: 1 1/2" = 1'-0" SIM: TRANS PANEL & LOUVER SILL @ BRICK



A 70-A-04 **TRANS. PANEL SILL @ EIFS** SCALE: 1 1/2" = 1'-0"

SHORT AND BRENNAN ARCHITECTS

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.CARDONA
DRAWN BY: C.CARDONA
CHECKED BY: G.SHORT
APPROVED BY:
DATE: JUNE 2024
EWO NO. --
ACCOUNT NO. 512260079

REVISIONS

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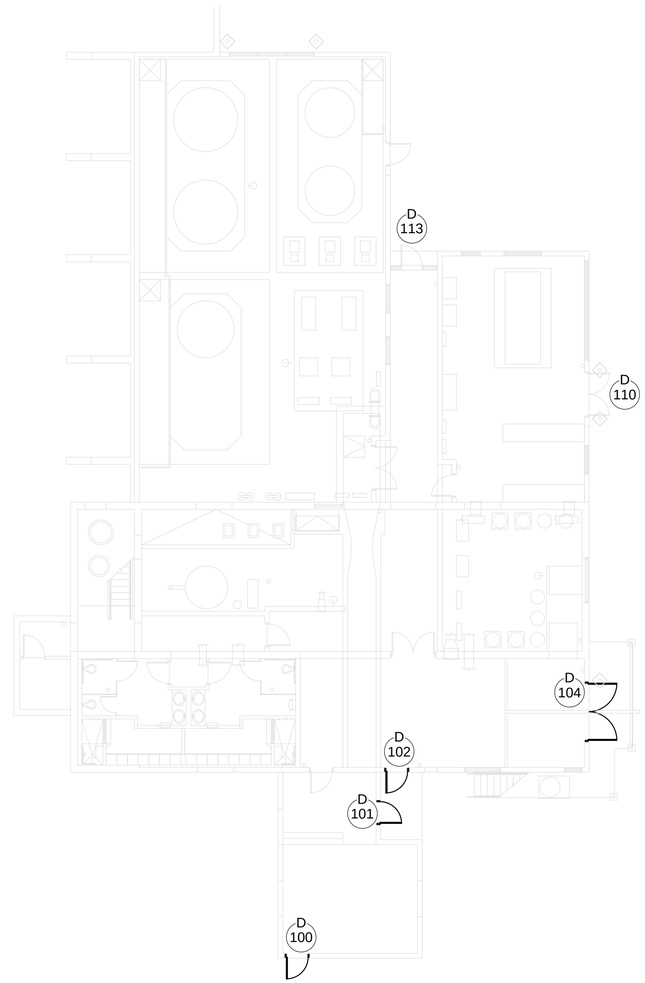
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

STANDARD ARCHITECTURAL DETAILS 2

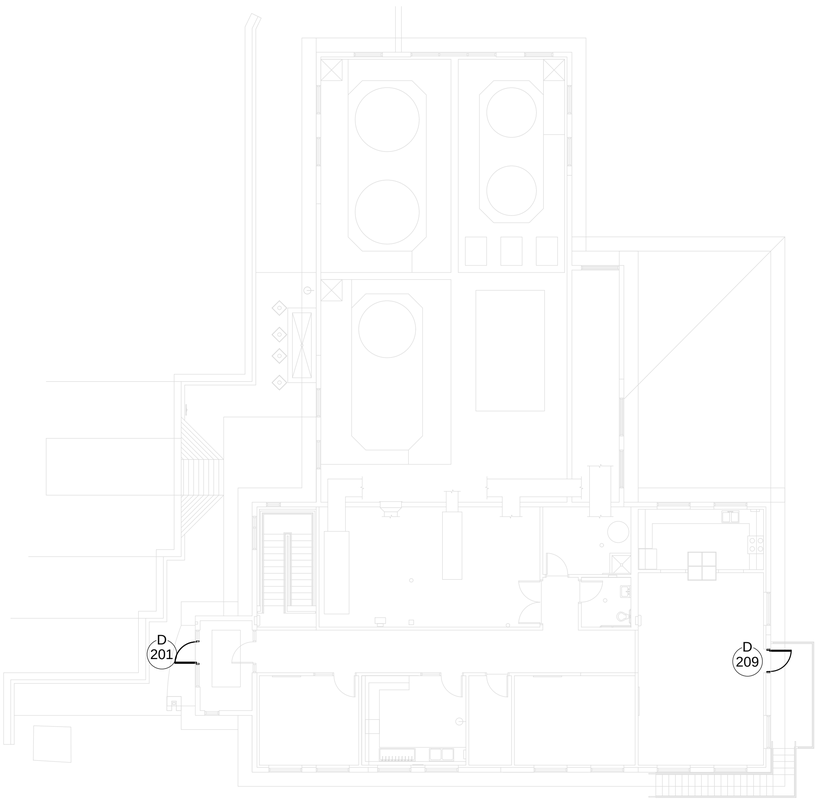
90% GMP

DRAWING NO.
GA-05

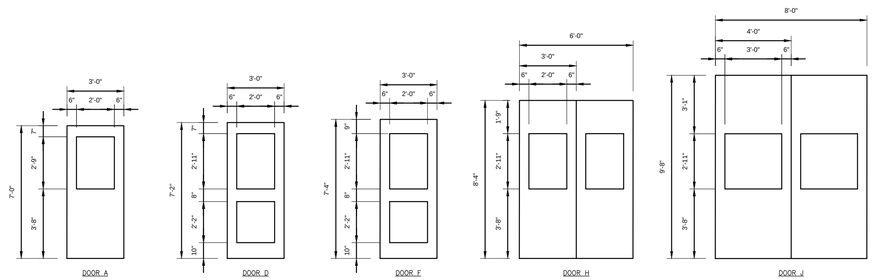
Plot Date: 7/13/2024 2:35:25 PM Path: RIM 360://153020 - City Creek WTP/153020-A-3570V21.rvt



1 FIRST FLOOR PLAN
03-A-01 SCALE: 3/32" = 1'-0"



2 SECOND FLOOR PLAN
03-A-01 SCALE: 3/32" = 1'-0"



3 EXIST DOOR ELEVATIONS
03-A-01 SCALE: 1/4" = 1'-0"

DOOR SCHEDULE

DOORS

DOOR NO.	TYPE	DIMENSIONS			MATERIAL	FINISH	HDWRE	COMMENTS
		W	H	TH				
100	A	3' - 0"	7' - 0"	1-3/4"	HM	PAINT	8.0	REPLACE EXISTING HARDWARE
101	A	3' - 0"	7' - 0"	1-3/4"	HM	PAINT	8.0	REPLACE EXISTING HARDWARE
102	A	3' - 0"	7' - 0"	1-3/4"	HM	PAINT	8.0	REPLACE EXISTING HARDWARE
104	J	8' - 0"	9' - 8"	1-3/4"	HM	PAINT	1.0	REPLACE EXISTING HARDWARE
110	H	6' - 0"	8' - 4"	1-3/4"	HM	PAINT	1.0	REPLACE EXISTING HARDWARE
113	F	3' - 0"	7' - 4"	1-3/4"	HM	PAINT	9.0	REPLACE EXISTING HARDWARE
201	D	3' - 0"	7' - 2"	1-3/4"	HM	PAINT	8.0	REPLACE EXISTING HARDWARE
209	D	3' - 0"	7' - 2"	1-3/4"	HM	PAINT	8.0	REPLACE EXISTING HARDWARE

GENERAL NOTES

1. ALL EXISTING DOORS AND FRAMES TO REMAIN.
2. DOORS TO RECEIVE NEW ELECTRONIC DOOR HARDWARE ARE CALLED OUT IN PLAN AND IN THE DOOR SCHEDULE

SHORT AND BRENNAN ARCHITECTS

SCALE:

VERIFY SCALE
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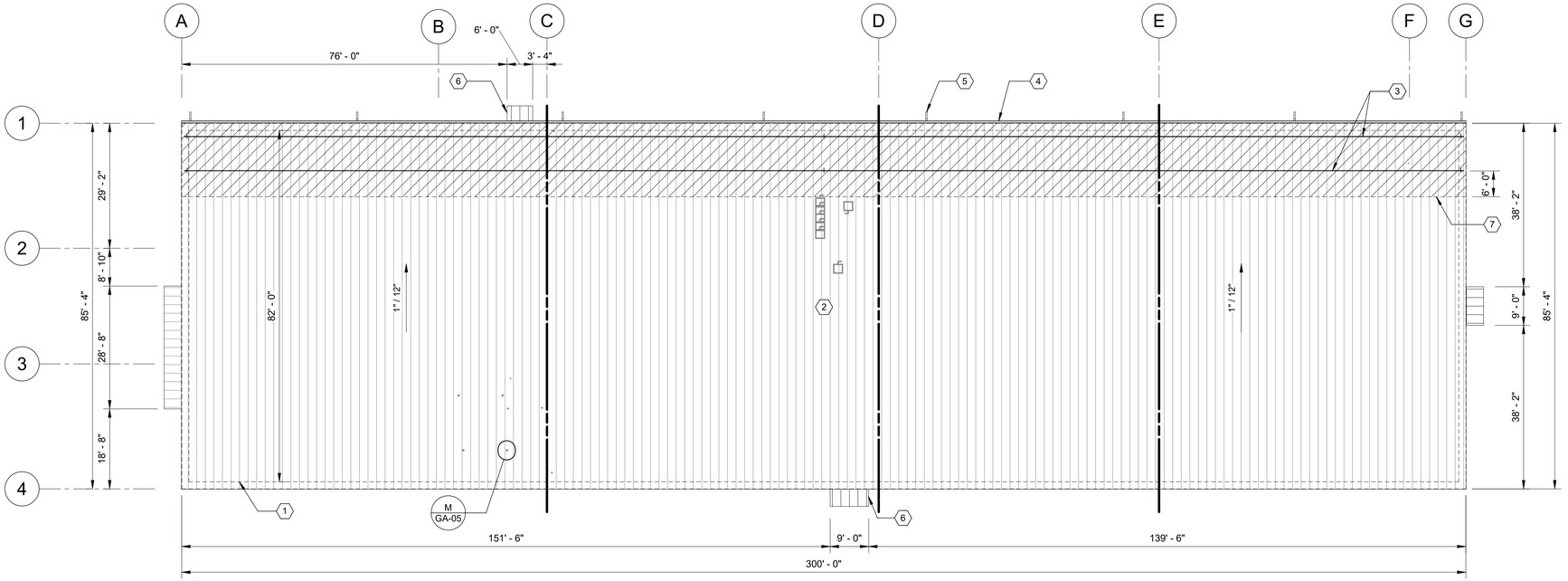
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

OPERATIONS - LOWER PLANS & DOOR SCHEDULE

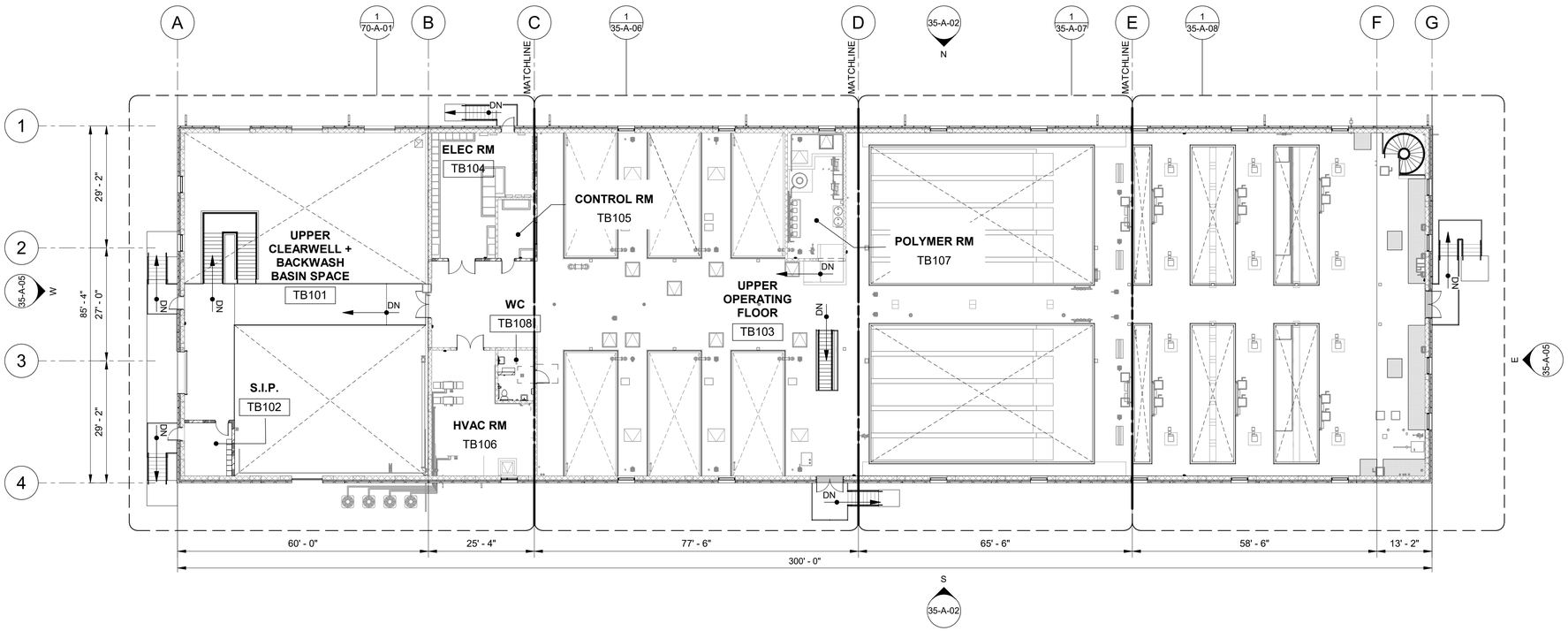
90% GMP

DRAWING NO.
03-A-01



ROOF PLAN

SCALE: 1/16" = 1'-0"



UPPER PLAN

SCALE: 1/16" = 1'-0"

GENERAL NOTES:

1. FOR WINDOW SCHED & TYPE LEGEND, SEE GA-03.
2. FOR DOOR SCHED & TYPE LEGEND, SEE SHEET GA-02.
3. ALL DIMENSIONS ARE TO FACE OF STUD OR FACE OF MASONRY UNLESS NOTED OTHERWISE.
4. DOOR & WINDOW IN MASONRY & CONCRETE WALLS LOCATION DIMENSIONS ARE TO ROUGH OPENING UNLESS NOTED OTHERWISE.
5. PROVIDE SOLID GROUTED CMU WALL FOR ALL WALL-MOUNTED EQUIPMENT, SEE STRUCTURAL.
6. FOR SITE WORK, INCLUDING BUT NOT LIMITED TO WALKWAYS, DRIVES, BOLLARDS, & EQUIP PADS EXTERIOR TO THE BUILDING ENVELOPE, SEE CIVIL DRAWINGS.
7. FOR STAIR DIMENSIONS, SEE ARCHITECTURAL.

KEYNOTES:

1. LINE OF CMU WALL BELOW, RE: STRUCT
2. STANDING SEAM METAL ROOFING ON UNDERLAYMENT ON NAILBASE INSULATION ON STL STRUCTURE, TYP, RE: STRUCT
3. SNOW GUARD, TYP.
4. PREFIN MTL GUTTER, MATCH ROOF COLOR, TYP.
5. PREFIN MTL DOWNSPOUT, MATCH ROOF COLOR, TYP.
6. SHEET METAL CANOPY OVER HM DOOR, RE:10/A-15-7003
7. SECOND LAYER OF ICE AND WATER GUARD, EXTEND 6 FEET PAST SECOND ROW OF SNOW GUARDS

SHORT AND BRENNAN ARCHITECTS

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

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DRAWN BY: C.CARDONA
CHECKED BY: G.SHORT
APPROVED BY:
DATE: JUNE 2024
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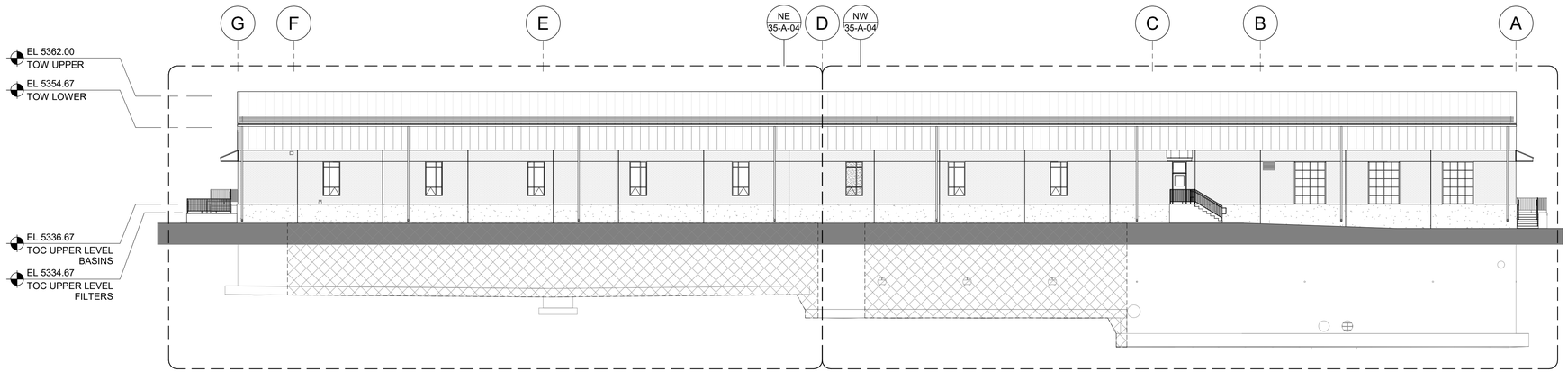
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

OVERALL PLANS

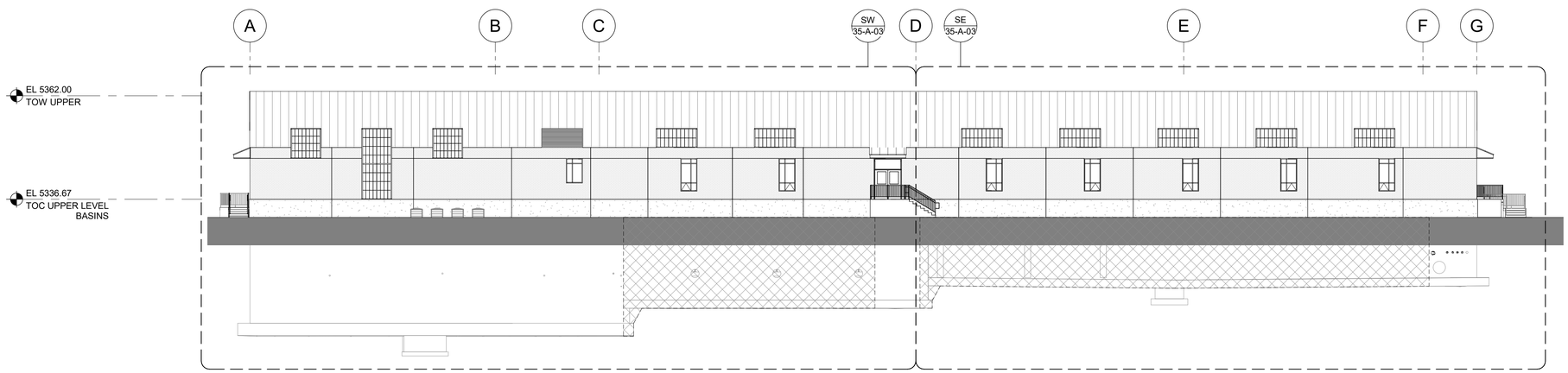
90% GMP

DRAWING NO.
35-A-01



NORTH OVERALL ELEVATION

SCALE: 1/16" = 1'-0"



SOUTH OVERALL ELEVATION

SCALE: 1/16" = 1'-0"

SHORT AND BRENNAN ARCHITECTS

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

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DRAWN BY: C.CARDONA
CHECKED BY: G.SHORT
APPROVED BY:
DATE: JUNE 2024
EWO NO. --
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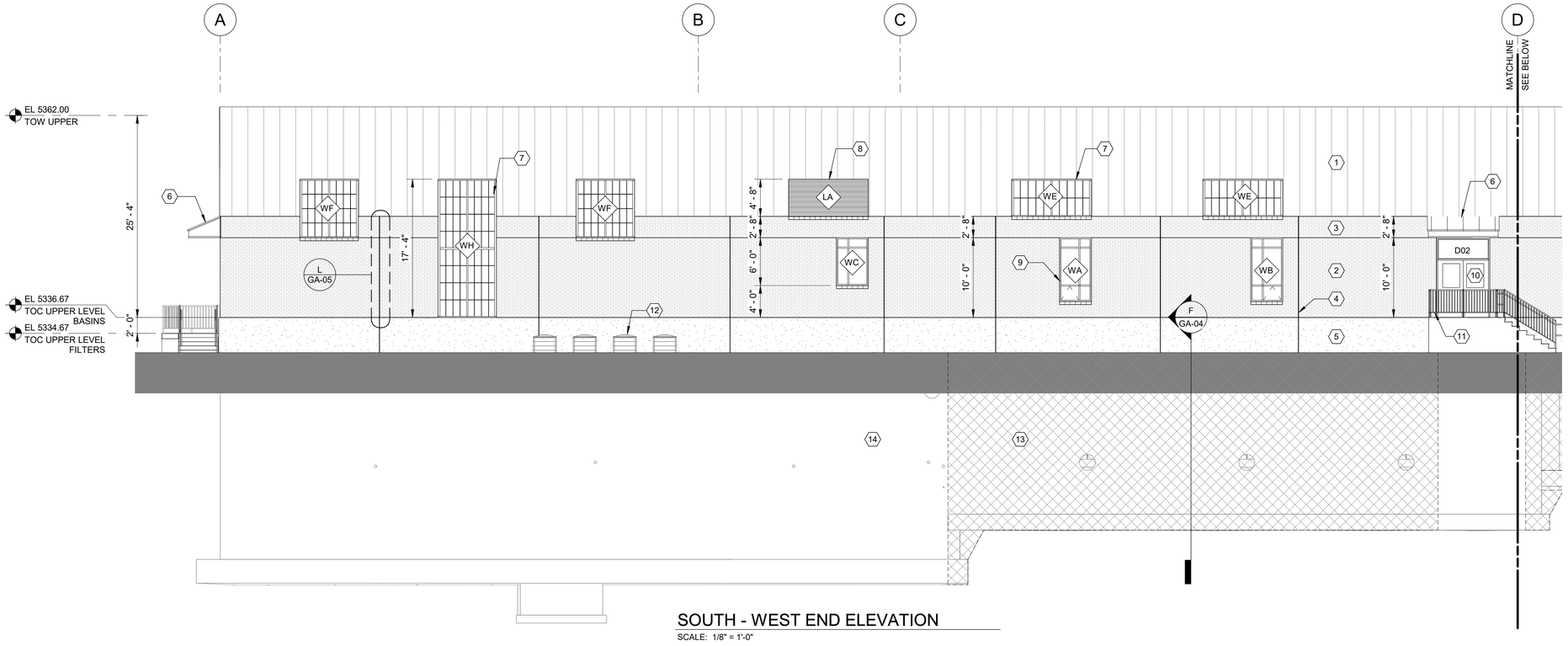
1	06/27/24	REVISED FOR GUARANTEE MAXIMUM PRICE (GMP)	CC	GS

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

ELEVATIONS 1

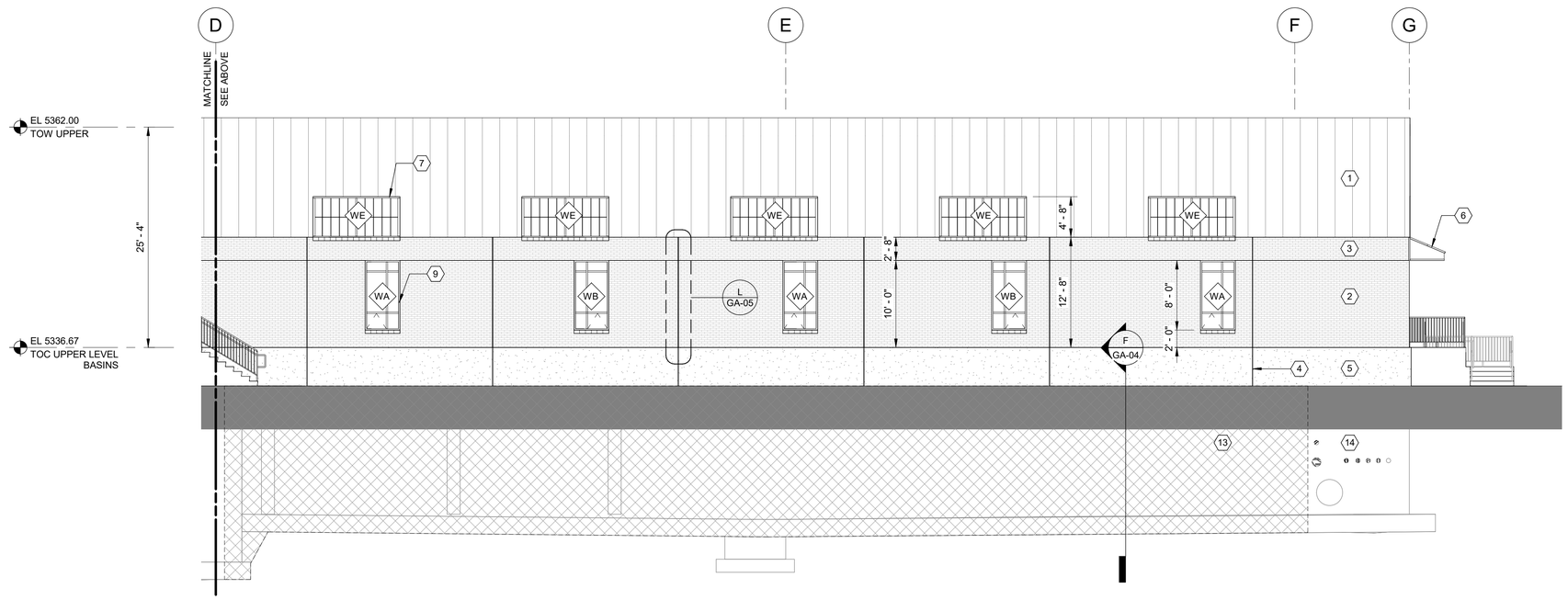
90% GMP

DRAWING NO.
35-A-02



SOUTH - WEST END ELEVATION

SCALE: 1/8" = 1'-0"



SOUTH - EAST END ELEVATION

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. FOR SURFACE MOUNTED LIGHT FIXTURES, SEE ELECTRICAL DRAWINGS.
2. FOR STAIR CONSTRUCTION, SEE STRUCTURAL.
3. FOR STAIR DIMENSIONS, SEE ARCHITECTURAL.

KEYNOTES:

1. STANDING SEAM METAL WALL PANELS
2. 4" BRICK VENEER
3. RECESSED BRICK COURSES
4. CONTROL JOINT, ALIGN EXPANSION JOINT W/COURSING, TYP., RE: STRUCT
5. WATER-DRAINAGE EXTERIOR INSULATION AND FINISH SYSTEM (EIFS)
6. SHEET METAL CANOPY OVER HM DOOR, RE:10/A-15-7003
7. TRANSLUCENT WALL PANEL, RE: WINDOW SCHEDULE
8. PREFINISHED MTL LOUVER. LOUVERS SHALL ALIGN W/MASONRY COURSING, TYP., RE: MECH
9. ALUM STOREFRONT, TYP., RE: WINDOW SCHEDULE
10. HM DOOR AND FRAME, PAINT, TYP., RE: DOOR SCHEDULE
11. REMOVABLE RAILING
12. MECH EQUIPMENT, RE: MECH
13. DAMPPROOFING AT EXTERIOR WALLS CONTAINING LIQUID, RE: 6/GA-04
14. WATERPROOFING SHEET MEMBRANE W/ PROTECTION BOARD AT EXTERIOR WALLS OPPOSITE OCCUPIED SPACE, RE: 6/GA-04

SHORT AND BRENNAN ARCHITECTS

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.CARDONA
DRAWN BY: C.CARDONA
CHECKED BY: G.SHORT
APPROVED BY:
DATE: JUNE 2024
EWO NO. --
ACCOUNT NO. 512260079

REVISIONS

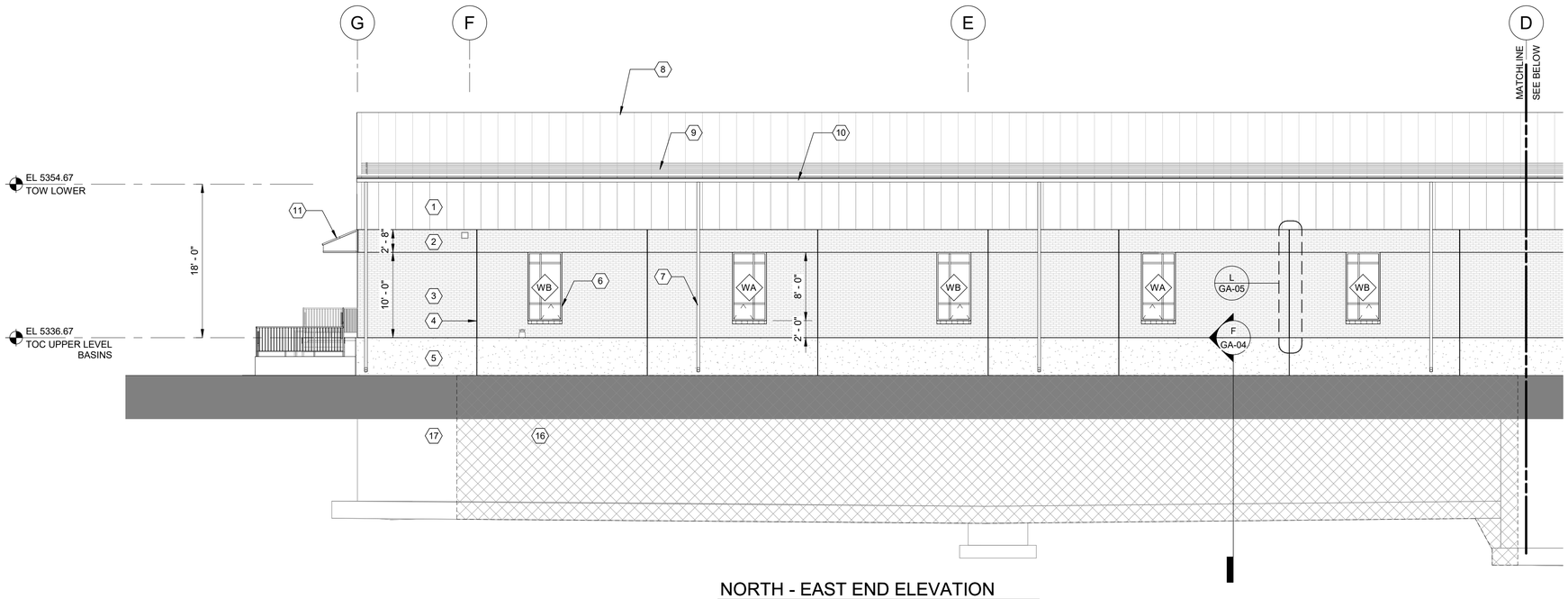
NO.	DATE:		MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	CC	GS
1	06/27/24	REVISED FOR GUARANTEE MAXIMUM PRICE (GMP)	CC	GS

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

ELEVATIONS 2

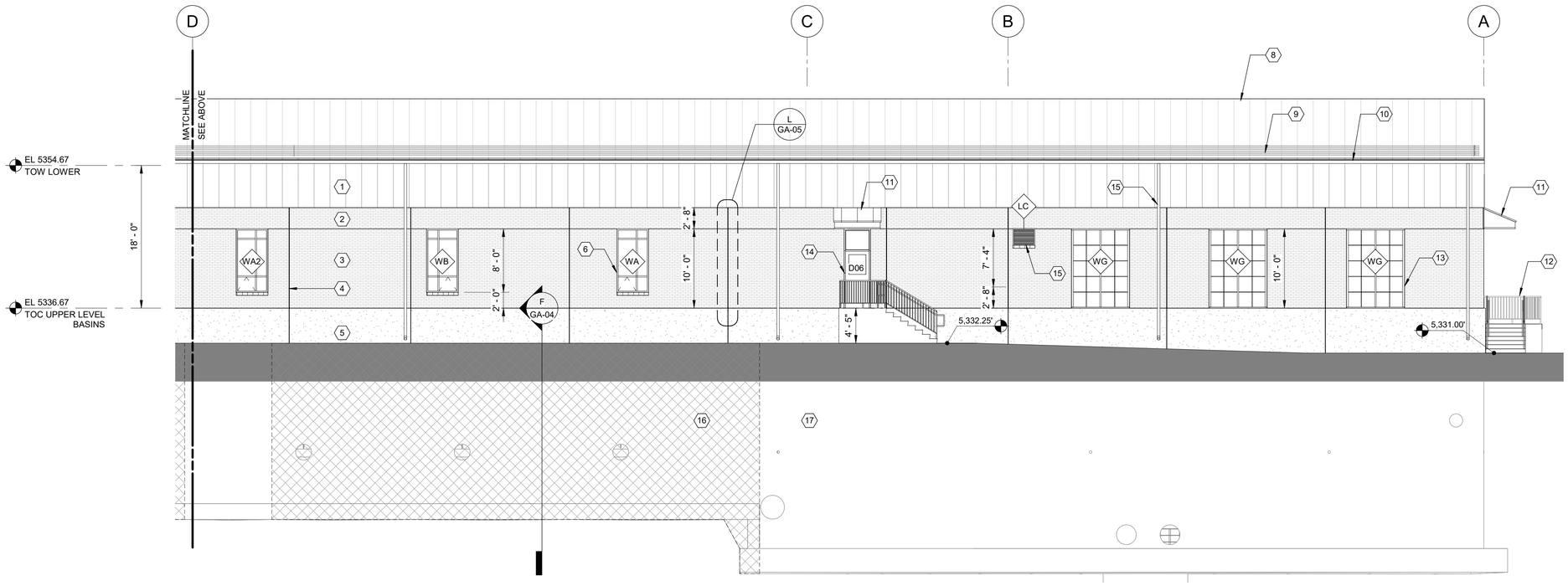
90% GMP

DRAWING NO.
35-A-03



NORTH - EAST END ELEVATION

SCALE: 1/8" = 1'-0"



NORTH - WEST END ELEVATION

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. FOR SURFACE MOUNTED LIGHT FIXTURES, SEE ELECTRICAL DRAWINGS.
2. FOR STAIR CONSTRUCTION, SEE STRUCTURAL.
3. FOR STAIR DIMENSIONS, SEE ARCHITECTURAL.

KEYNOTES:

1 STANDING SEAM METAL WALL PANELS
2 RECESSED BRICK COURSES
3 4" BRICK VENEER
4 CONTROL JOINT, ALIGN EXPANSION JOINT W/COURSING, TYP., RE: STRUCT
5 WATER-DRAINAGE EXTERIOR INSULATION AND FINISH SYSTEM (EIFS)
6 ALUM STOREFRONT, TYP., RE: WINDOW SCHEDULE
7 PREFINISHED GALV SHEET METAL DOWNSPOUT, TYP.
8 STANDING SEAM METAL ROOFING ON UNDERLAYMENT ON NAILBASE INSULATION ON STL STRUCTURE, TYP, RE: STRUCT
9 SNOW GUARD, TYP.
10 PREFIN MTL GUTTER, MATCH ROOF COLOR, TYP.
11 SHEET METAL CANOPY OVER HM DOOR, RE:10/A-15-7003
12 CONC STAIRS AND LANDINGS AND ALUM RAILINGS W/ VERTICAL PICKETS @ 4" SPACING, RE: STRUCT
13 TRANSLUCENT WALL PANEL, RE: WINDOW SCHEDULE
14 HM DOOR AND FRAME, PAINT, TYP., RE: DOOR SCHEDULE
15 PREFINISHED MTL LOUVER. LOUVERS SHALL ALIGN W/MASONRY COURSING, TYP., RE: MECH
16 DAMPPROOFING AT EXTERIOR WALLS CONTAINING LIQUID, RE: 6/GA-04
17 WATERPROOFING SHEET MEMBRANE W/ PROTECTION BOARD AT EXTERIOR WALLS OPPOSITE OCCUPIED SPACE, RE: 6/GA-04

SHORT AND BRENNAN ARCHITECTS

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.CARDONA
DRAWN BY: C.CARDONA
CHECKED BY: G.SHORT
APPROVED BY:
DATE: JUNE 2024
EWO NO. --
ACCOUNT NO. 512260079

REVISIONS

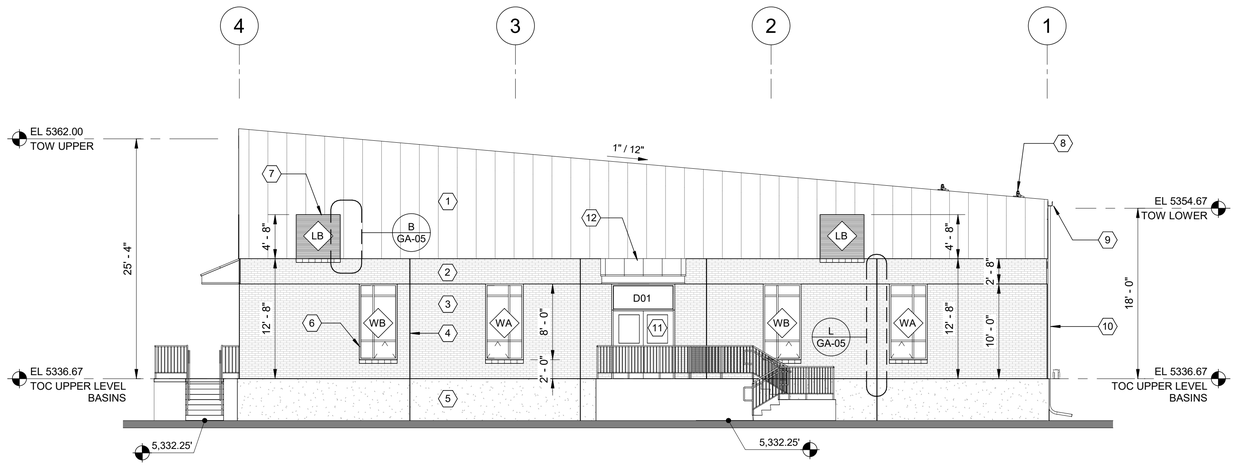
NO.	DATE:		MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	CC	GS
1	06/27/24	REVISED FOR GUARANTEE MAXIMUM PRICE (GMP)	CC	GS

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE
ELEVATIONS 3

90% GMP

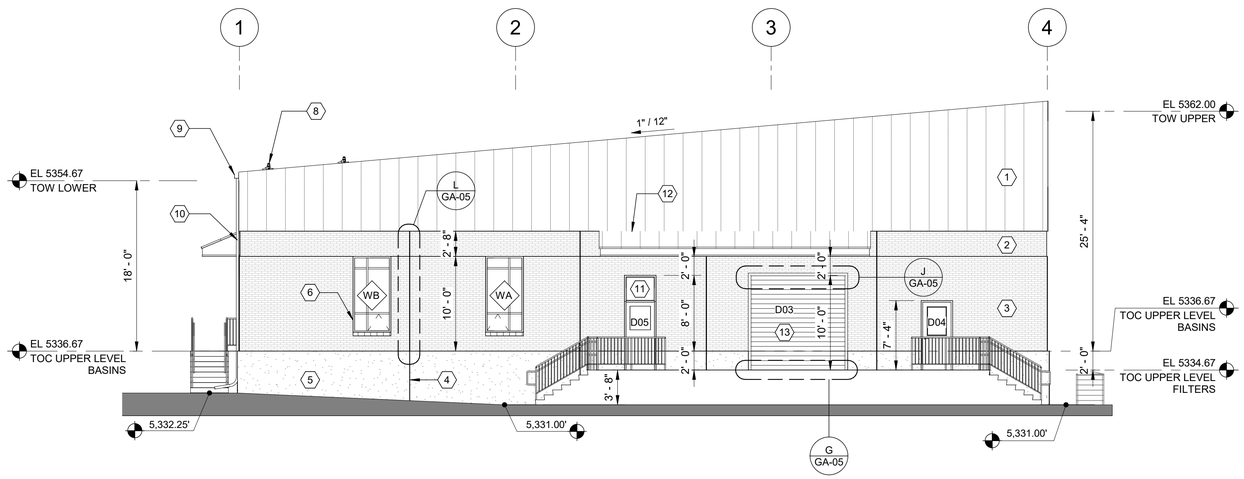
DRAWING NO.
35-A-04

Plot Date: 6/16/2024 3:16:03 PM Path: RIM 360://153020 - City Creek WTP/153020-A-3570v21.rvt



EAST ELEVATION

SCALE: 1/8" = 1'-0"



WEST ELEVATION

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. FOR SURFACE MOUNTED LIGHT FIXTURES, SEE ELECTRICAL DRAWINGS.
2. FOR STAIR CONSTRUCTION, SEE STRUCTURAL.
3. FOR STAIR DIMENSIONS, SEE ARCHITECTURAL.

KEYNOTES:

1 STANDING SEAM METAL WALL PANELS
2 RECESSED BRICK COURSES
3 4" BRICK VENEER
4 CONTROL JOINT, ALIGN EXPANSION JOINT W/COURSING, TYP., RE: STRUCT
5 WATER-DRAINAGE EXTERIOR INSULATION AND FINISH SYSTEM (EIFS)
6 ALUM STOREFRONT, TYP., RE: WINDOW SCHEDULE
7 PREFINISHED MTL LOUVER. LOUVERS SHALL ALIGN W/MASONRY COURSING, TYP., RE: MECH
8 SNOW GUARD, TYP.
9 PREFIN MTL GUTTER, MATCH ROOF COLOR, TYP.
10 PREFIN MTL DOWNSPOUT, MATCH ROOF COLOR, TYP.
11 HM DOOR AND FRAME, PAINT, TYP., RE: DOOR SCHEDULE
12 SHEET METAL CANOPY OVER HM DOOR, RE:10/A-15-7003
13 COILING DOOR, RE: DOOR SCHEDULE

SHORT AND BRENNAN ARCHITECTS

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.CARDONA
DRAWN BY: C.CARDONA
CHECKED BY: G.SHORT
APPROVED BY:
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO. 512260079

REVISIONS

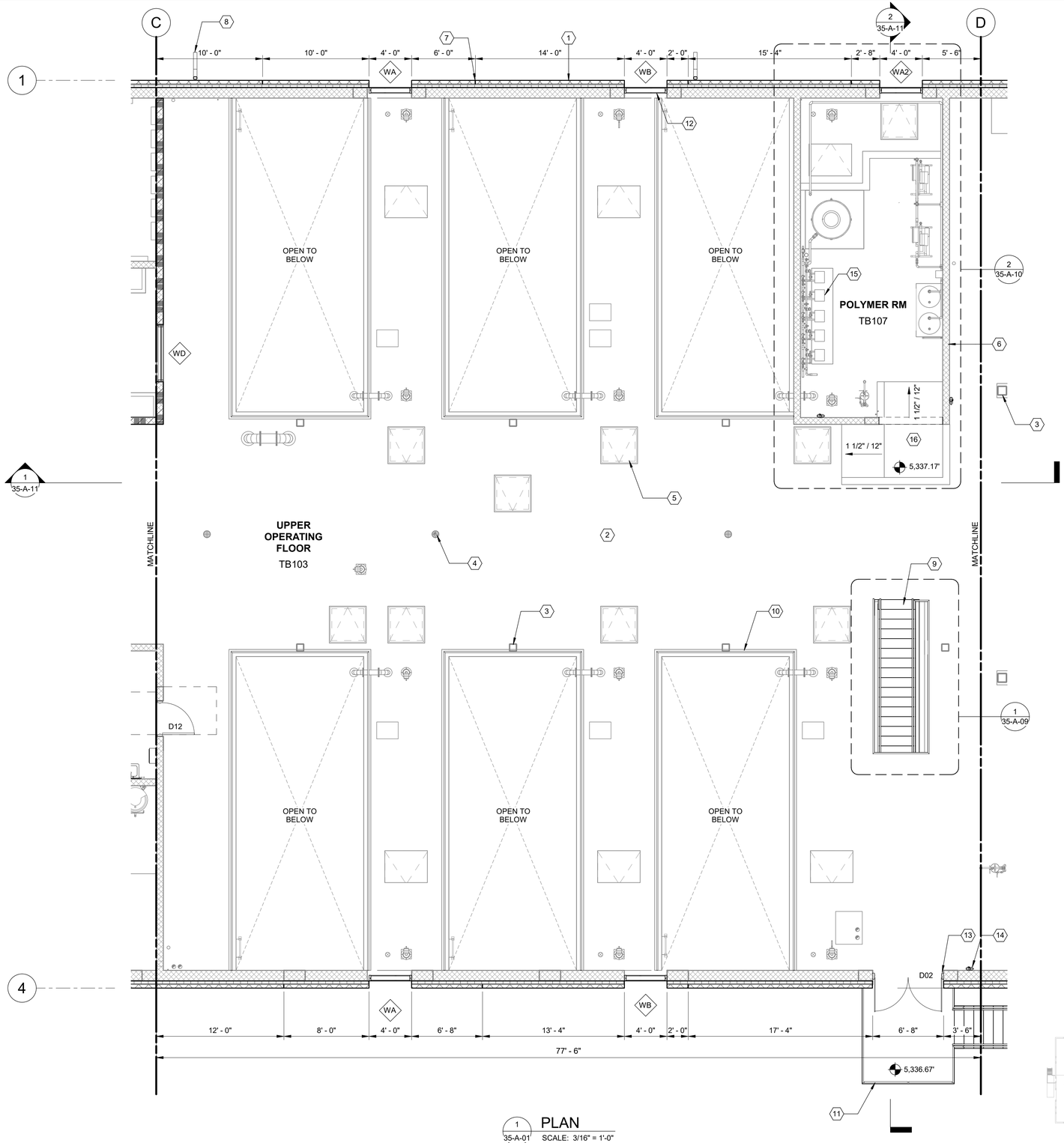
NO.	DATE:		MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	CC	GS
1	06/27/24	REVISED FOR GUARANTEE MAXIMUM PRICE (GMP)	CC	GS

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

ELEVATIONS 4

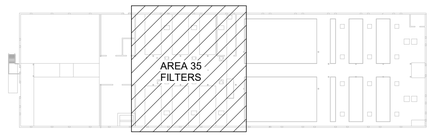
90% GMP

DRAWING NO.
35-A-05



PLAN

SCALE: 3/16" = 1'-0"



KEY PLAN

GENERAL NOTES:

1. FOR WINDOW SCHED & TYPE LEGEND, SEE GA-03.
2. FOR DOOR SCHED & TYPE LEGEND, SEE SHEET GA-02.
3. ALL DIMENSIONS ARE TO FACE OF STUD OR FACE OF MASONRY UNLESS NOTED OTHERWISE.
4. DOOR & WINDOW IN MASONRY & CONCRETE WALLS LOCATION DIMENSIONS ARE TO ROUGH OPENING UNLESS NOTED OTHERWISE.
5. PROVIDE SOLID GROUTED CMU WALL FOR ALL WALL-MOUNTED EQUIPMENT, SEE STRUCTURAL.
6. FOR SITE WORK, INCLUDING BUT NOT LIMITED TO WALKWAYS, DRIVES, BOLLARDS, & EQUIP PADS EXTERIOR TO THE BUILDING ENVELOPE, SEE CIVIL DRAWINGS.
7. FOR STAIR DIMENSIONS, SEE ARCHITECTURAL.

KEYNOTES:

1. 4" BRICK VENEER ON 1" AIRSPACE ON 3" RIGID INSULATION (R-15) ON MEMBRANE AIR BARRIER ON 12" CMU WALL, RE: STRUCT, TYP.
2. CONC FLOOR WITH SEALER/HARDENER, RE: STRUCT., TYP.
3. STEEL COLUMN, PAINT WHERE EXPOSED, RE: STRUCT
4. FLOOR DRAIN, RE: MECH
5. ACCESS HATCH, RE: STRUCTURAL
6. 8" CMU WALL, RE: STRUCT
7. MASONRY EXPANSION JOINT, ALIGN EXPANSION JOINT W/COURSING, TYP., RE: L/GA-05
8. PREFINISHED GALV SHEET METAL DOWNSPOUT, TYP.
9. ALUM STAIRS, LANDINGS, AND RAILINGS W/ VERTICAL PICKETS @ 4" O.C., RE: STRUCT
10. CONC CURB AND ALUM RAILINGS W/VERTICAL PICKETS @ 4" SPACING, RE: STRUCT
11. REMOVABLE RAILING
12. ALUM STOREFRONT, TYP., RE: WINDOW SCHEDULE
13. HM DOOR AND FRAME, PAINT, TYP., RE: DOOR SCHEDULE
14. FIRE EXTINGUISHER AND BRACKET
15. PROCESS MECHANICAL EQUIPMENT AND/OR PIPING, RE: PROCESS MECHANICAL
16. CONC LANDING AND RAMP, RE: STRUCT

SHORT AND BRENNAN ARCHITECTS

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.CARDONA
DRAWN BY: C.CARDONA
CHECKED BY: G.SHORT
APPROVED BY:
DATE: JUNE 2024
EWO NO. --
ACCOUNT NO. 512260079

REVISIONS

NO.	DATE:		MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	CC	GS

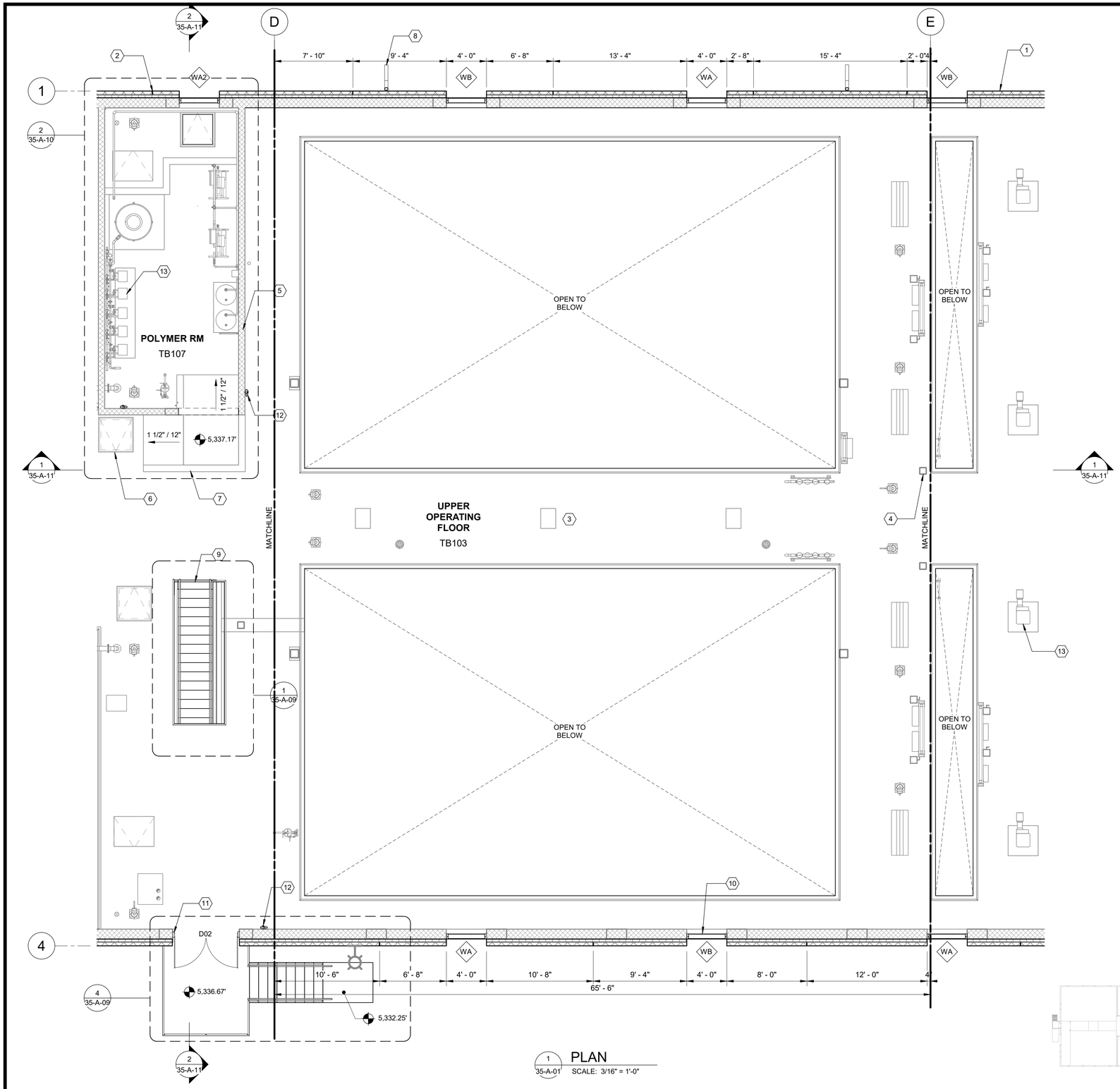
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

TREATMENT - FILTER BASINS
UPPER PLAN

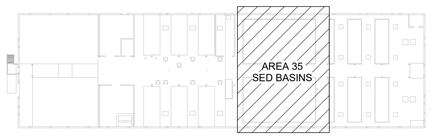
90% GMP

DRAWING NO.
35-A-06

Plot Date: 6/13/2024 2:21:08 PM Path: BIM 360://153020 - City Creek WTP/153020-A-3570V21.rvt



1 PLAN
35-A-01 SCALE: 3/16" = 1'-0"



KEY PLAN

GENERAL NOTES:

1. FOR WINDOW SCHED & TYPE LEGEND, SEE GA-03.
2. FOR DOOR SCHED & TYPE LEGEND, SEE SHEET GA-02.
3. ALL DIMENSIONS ARE TO FACE OF STUD OR FACE OF MASONRY UNLESS NOTED OTHERWISE.
4. DOOR & WINDOW IN MASONRY & CONCRETE WALLS LOCATION DIMENSIONS ARE TO ROUGH OPENING UNLESS NOTED OTHERWISE.
5. PROVIDE SOLID GROUTED CMU WALL FOR ALL WALL-MOUNTED EQUIPMENT, SEE STRUCTURAL.
6. FOR SITE WORK, INCLUDING BUT NOT LIMITED TO WALKWAYS, DRIVES, BOLLARDS, & EQUIP PADS EXTERIOR TO THE BUILDING ENVELOPE, SEE CIVIL DRAWINGS.
7. FOR STAIR DIMENSIONS, SEE ARCHITECTURAL.

KEYNOTES:

1. 4" BRICK VENEER ON 1" AIRSPACE ON 3" RIGID INSULATION (R-15) ON MEMBRANE AIR BARRIER ON 12" CMU WALL, RE: STRUCT, TYP.
2. MASONRY EXPANSION JOINT, ALIGN EXPANSION JOINT W/COURSING, TYP., RE: L/GA-05
3. CONC FLOOR WITH SEALER/HARDENER, RE: STRUCT., TYP.
4. STEEL COLUMN, PAINT WHERE EXPOSED, RE: STRUCT
5. 8" CMU WALL, RE: STRUCT
6. ACCESS HATCH, RE: STRUCTURAL
7. CONC LANDING AND RAMP, RE: STRUCT
8. PREFINISHED GALV SHEET METAL DOWNSPOUT, TYP.
9. ALUM STAIRS, LANDINGS, AND RAILINGS W/ VERTICAL PICKETS @ 4" O.C., RE: STRUCT
10. ALUM STOREFRONT, TYP., RE: WINDOW SCHEDULE
11. HM DOOR AND FRAME, PAINT, TYP., RE: DOOR SCHEDULE
12. FIRE EXTINGUISHER AND BRACKET
13. PROCESS MECHANICAL EQUIPMENT AND/OR PIPING, RE: PROCESS MECHANICAL

SHORT AND BRENNAN ARCHITECTS

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.CARDONA
DRAWN BY: C.CARDONA
CHECKED BY: G.SHORT
APPROVED BY:
DATE: JUNE 2024
EWO NO. --
ACCOUNT NO. 512260079

NO.	DATE:	REVISIONS	MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	CC	GS

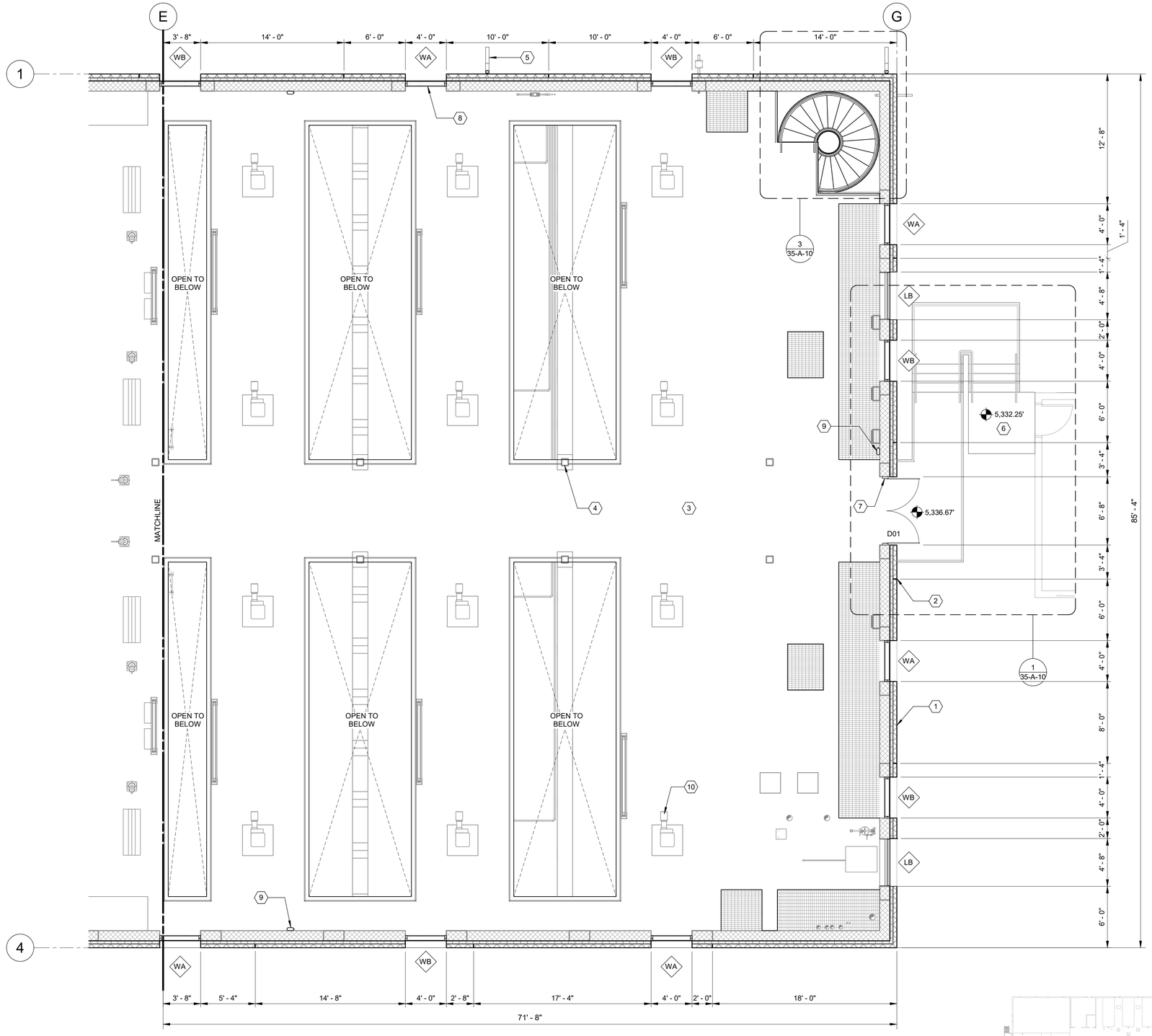
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

TREATMENT - SED BASINS
UPPER PLAN

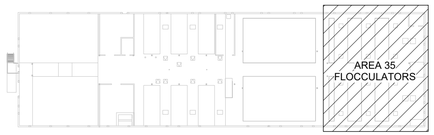
90% GMP

DRAWING NO.
35-A-07

Plot Date: 6/13/2024 2:21:31 PM Path: RIM 360://15.3020 - City Creek WTP/15.3020-A-357DV21.rvt



1 PLAN
35-A-01 SCALE: 3/16" = 1'-0"



KEY PLAN

N

GENERAL NOTES:

1. FOR WINDOW SCHED & TYPE LEGEND, SEE GA-03.
2. FOR DOOR SCHED & TYPE LEGEND, SEE SHEET GA-02.
3. ALL DIMENSIONS ARE TO FACE OF STUD OR FACE OF MASONRY UNLESS NOTED OTHERWISE.
4. DOOR & WINDOW IN MASONRY & CONCRETE WALLS LOCATION DIMENSIONS ARE TO ROUGH OPENING UNLESS NOTED OTHERWISE.
5. PROVIDE SOLID GROUTED CMU WALL FOR ALL WALL-MOUNTED EQUIPMENT, SEE STRUCTURAL.
6. FOR SITE WORK, INCLUDING BUT NOT LIMITED TO WALKWAYS, DRIVES, BOLLARDS, & EQUIP PADS EXTERIOR TO THE BUILDING ENVELOPE, SEE CIVIL DRAWINGS.
7. FOR STAIR DIMENSIONS, SEE ARCHITECTURAL.

KEYNOTES:

1 4" BRICK VENEER ON 1" AIRSPACE ON 3" RIGID INSULATION (R-15) ON MEMBRANE AIR BARRIER ON 12" CMU WALL, RE: STRUCT, TYP.
2 MASONRY EXPANSION JOINT, ALIGN EXPANSION JOINT W/COURSING, TYP., RE: L/GA-05
3 CONC FLOOR WITH SEALER/HARDENER, RE: STRUCT., TYP.
4 STEEL COLUMN, PAINT WHERE EXPOSED, RE: STRUCT
5 PREFINISHED GALV SHEET METAL DOWNSPOUT, TYP.
6 CONC SLAB ON GRADE, RE: CIVIL
7 HM DOOR AND FRAME, PAINT, TYP., RE: DOOR SCHEDULE
8 ALUM STOREFRONT, TYP., RE: WINDOW SCHEDULE
9 FIRE EXTINGUISHER AND BRACKET
10 PROCESS MECHANICAL EQUIPMENT AND/OR PIPING, RE: PROCESS MECHANICAL

SHORT AND BRENNAN ARCHITECTS

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.CARDONA
DRAWN BY: C.CARDONA
CHECKED BY: G.SHORT
APPROVED BY:
DATE: JUNE 2024
EWO NO. --
ACCOUNT NO. 512260079

NO	DATE:	REVISIONS	MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	CC	GS

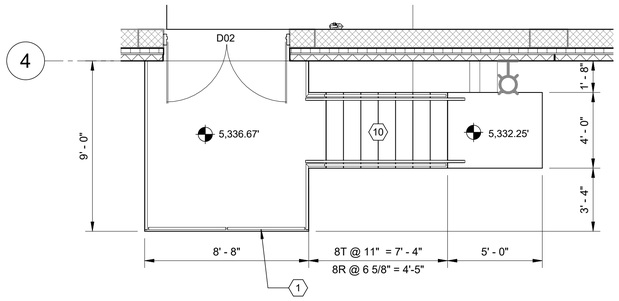
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

TREATMENT - FLOC BASINS
UPPER PLAN

90% GMP

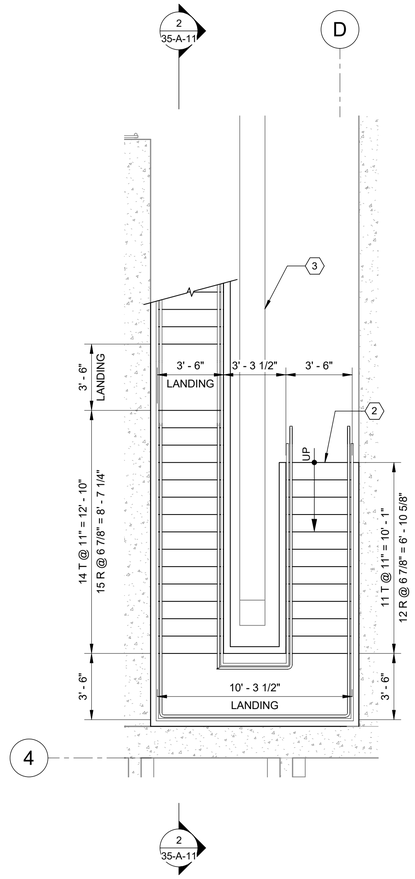
DRAWING NO.
35-A-08

Plot Date: 6/13/2024 2:22:07 PM Path: BIM 360://153020 - City Creek WTP/153020-A-3570v21.rvt



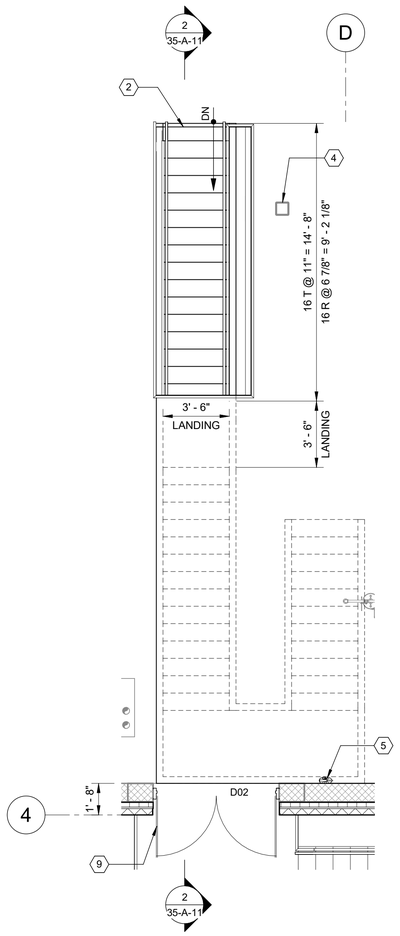
4 / 35-A-07 FILTERS SOUTH STAIR - UPPER LEVEL

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



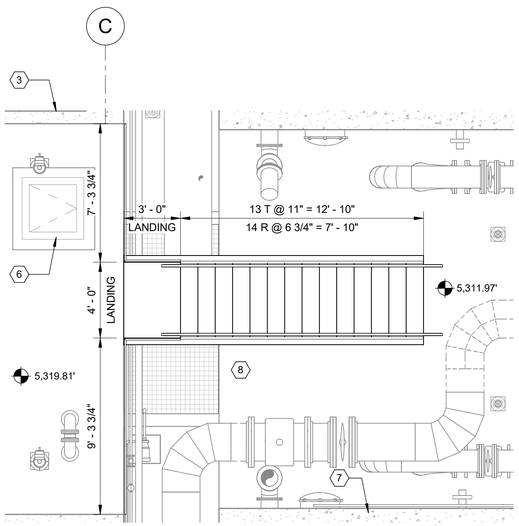
2 FILTERS SOUTH STAIR - LOWER LEVEL

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



1 / 35-A-06 FILTERS SOUTH STAIR - UPPER LEVEL

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



3 / GA-02 FILTERS WEST STAIR - LOWER LEVEL

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

GENERAL NOTES:

1. FOR WINDOW SCHED & TYPE LEGEND, SEE GA-03.
2. FOR DOOR SCHED & TYPE LEGEND, SEE SHEET GA-02.
3. ALL DIMENSIONS ARE TO FACE OF STUD OR FACE OF MASONRY UNLESS NOTED OTHERWISE.
4. DOOR & WINDOW IN MASONRY & CONCRETE WALLS LOCATION DIMENSIONS ARE TO ROUGH OPENING UNLESS NOTED OTHERWISE.
5. PROVIDE SOLID GROUTED CMU WALL FOR ALL WALL-MOUNTED EQUIPMENT, SEE STRUCTURAL.
6. FOR SITE WORK, INCLUDING BUT NOT LIMITED TO WALKWAYS, DRIVES, BOLLARDS, & EQUIP PADS EXTERIOR TO THE BUILDING ENVELOPE, SEE CIVIL DRAWINGS.
7. FOR STAIR DIMENSIONS, SEE ARCHITECTURAL.

KEYNOTES:

1 REMOVABLE RAILING
2 ALUM STAIRS, LANDINGS, AND RAILINGS W/ VERTICAL PICKETS @ 4" O.C., RE: STRUCT
3 CONC WALL, RE: STRUCT
4 STEEL COLUMN, PAINT WHERE EXPOSED, RE: STRUCT
5 FIRE EXTINGUISHER AND BRACKET
6 ACCESS HATCH, RE: STRUCTURAL
7 PROCESS MECHANICAL EQUIPMENT AND/OR PIPING, RE: PROCESS MECHANICAL
8 CONC SLAB ON GRADE, RE: STRUCT
9 HM DOOR AND FRAME, PAINT, TYP., RE: DOOR SCHEDULE
10 CONC STAIRS AND LANDINGS AND ALUM RAILINGS W/ VERTICAL PICKETS @ 4" SPACING, RE: STRUCT

SHORT AND BRENNAN ARCHITECTS

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.CARDONA
DRAWN BY: C.CARDONA
CHECKED BY: G.SHORT
APPROVED BY:
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO. 512260079

REVISIONS

NO	DATE:		MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	CC	GS

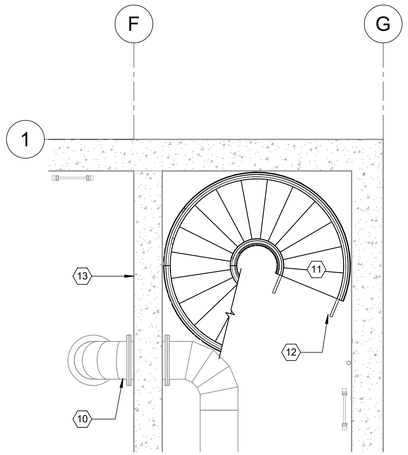
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

TREATMENT - ENLARGED PLANS 1

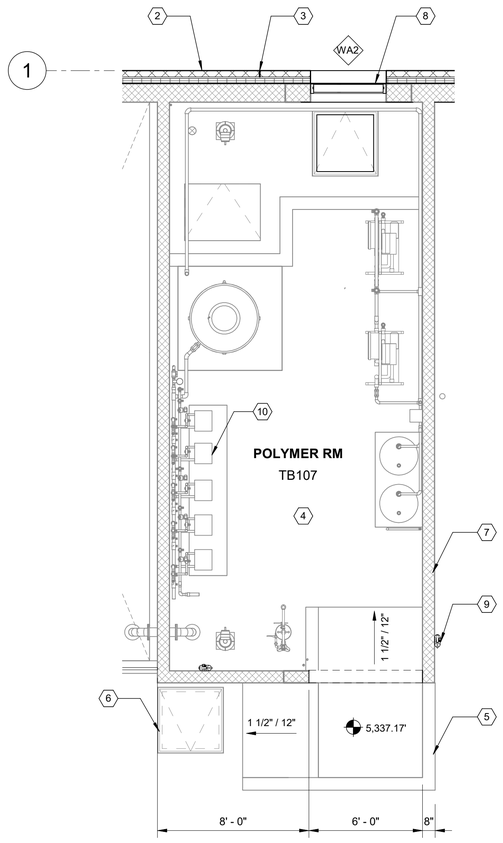
90% GMP

DRAWING NO.
35-A-09

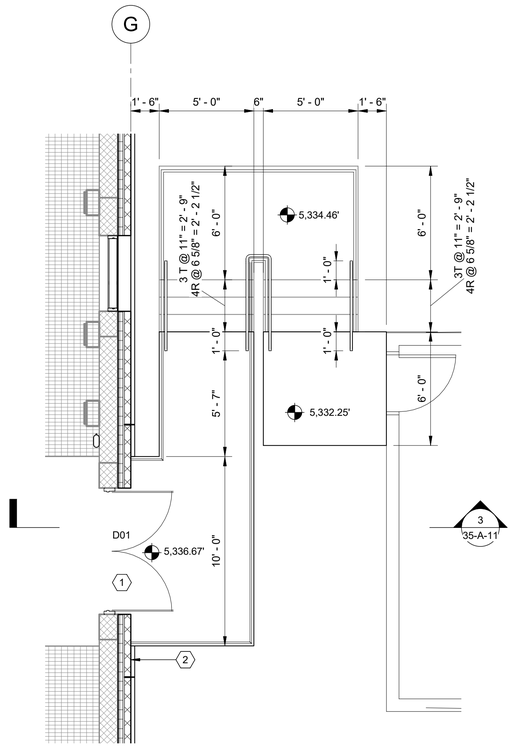
Plot Date: 2/13/2024 2:22:54 PM Path: BIM 360://153020 - City Creek WTP/153020-A-3570v21.rvt



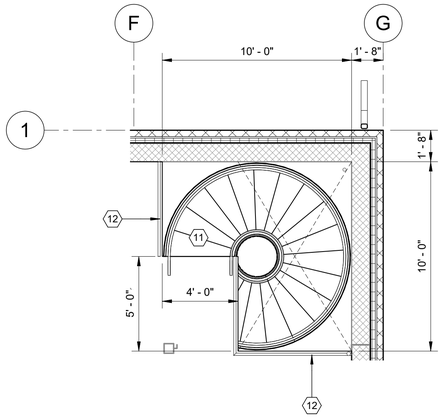
4 GA-02 FLOC SPIRAL STAIR - LOWER LEVEL
SCALE: 1/4" = 1'-0"



2 35-A-06 POLYMER ROOM
SCALE: 1/4" = 1'-0"



1 35-A-08 FLOC EAST STAIR - UPPER LEVEL
SCALE: 1/4" = 1'-0"



3 35-A-08 FLOC SPIRAL STAIR - UPPER LEVEL
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. FOR WINDOW SCHED & TYPE LEGEND, SEE GA-03.
2. FOR DOOR SCHED & TYPE LEGEND, SEE SHEET GA-02.
3. ALL DIMENSIONS ARE TO FACE OF STUD OR FACE OF MASONRY UNLESS NOTED OTHERWISE.
4. DOOR & WINDOW IN MASONRY & CONCRETE WALLS LOCATION DIMENSIONS ARE TO ROUGH OPENING UNLESS NOTED OTHERWISE.
5. PROVIDE SOLID GROUTED CMU WALL FOR ALL WALL-MOUNTED EQUIPMENT, SEE STRUCTURAL.
6. FOR SITE WORK, INCLUDING BUT NOT LIMITED TO WALKWAYS, DRIVES, BOLLARDS, & EQUIP PADS EXTERIOR TO THE BUILDING ENVELOPE, SEE CIVIL DRAWINGS.
7. FOR STAIR DIMENSIONS, SEE ARCHITECTURAL.

KEYNOTES:

1 HM DOOR AND FRAME, PAINT, TYP., RE: DOOR SCHEDULE
2 4" BRICK VENEER ON 1" AIRSPACE ON 3" RIGID INSULATION (R-15) ON MEMBRANE AIR BARRIER ON 12" CMU WALL, RE: STRUCT, TYP.
3 MASONRY EXPANSION JOINT, ALIGN EXPANSION JOINT W/COURSING, TYP., RE: L/GA-05
4 CONC FLOOR WITH SEALER/HARDENER, RE: STRUCT., TYP.
5 CONC LANDING AND RAMP, RE: STRUCT
6 ACCESS HATCH, RE: STRUCTURAL
7 8" CMU WALL, RE: STRUCT
8 ALUM STOREFRONT, TYP., RE: WINDOW SCHEDULE
9 FIRE EXTINGUISHER AND BRACKET
10 PROCESS MECHANICAL EQUIPMENT AND/OR PIPING, RE: PROCESS MECHANICAL
11 FABRICATED METAL SPIRAL STAIR
12 ALUM STAIRS, LANDINGS, AND RAILINGS W/ VERTICAL PICKETS @ 4" O.C., RE: STRUCT
13 CONC WALL, RE: STRUCT

SHORT AND BRENNAN ARCHITECTS

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.CARDONA
DRAWN BY: C.CARDONA
CHECKED BY: G.SHORT
APPROVED BY:
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO: 512260079

REVISIONS

NO	DATE:		MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	CC	GS

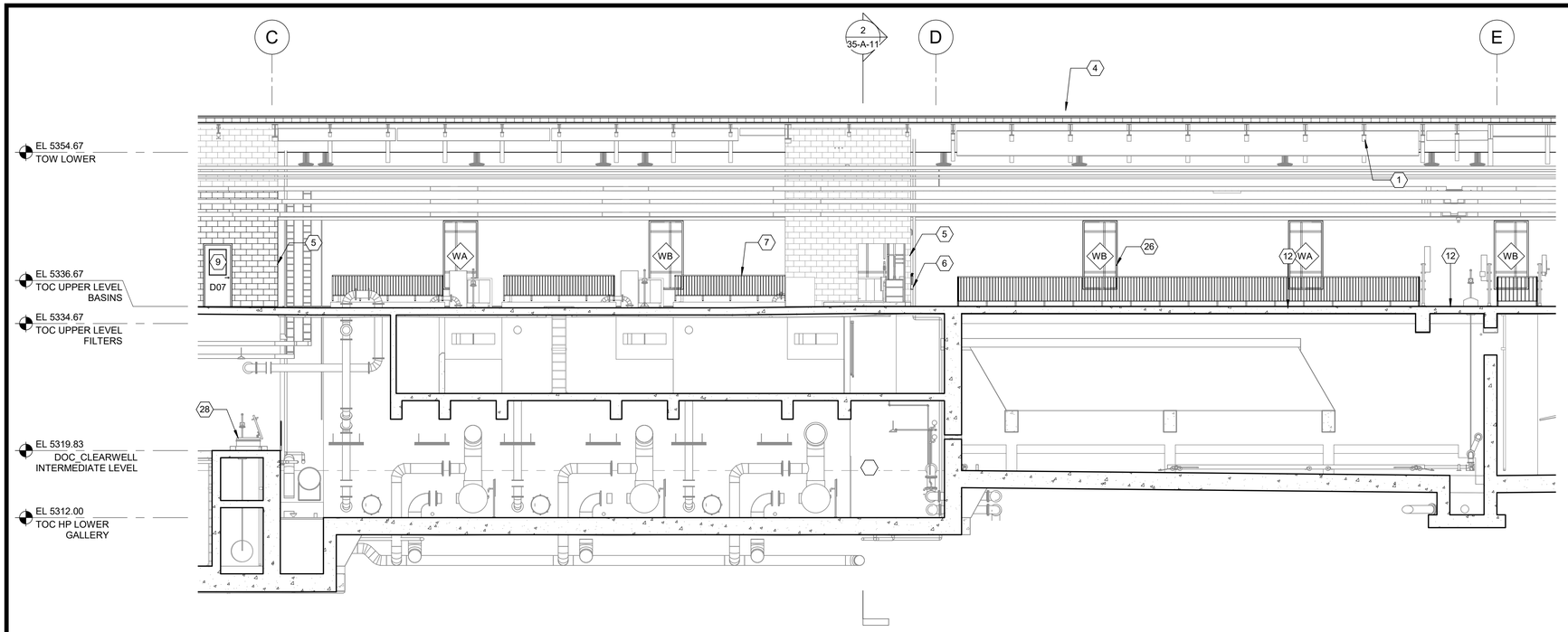
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

TREATMENT - ENLARGED PLANS 2

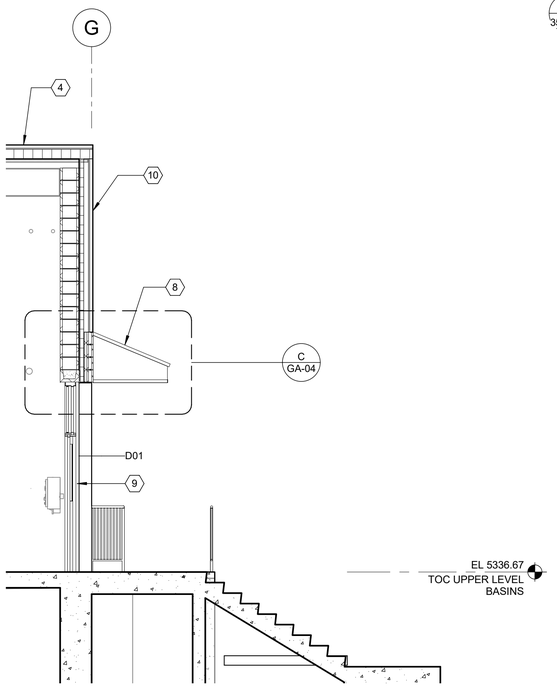
90% GMP

DRAWING NO.
35-A-10

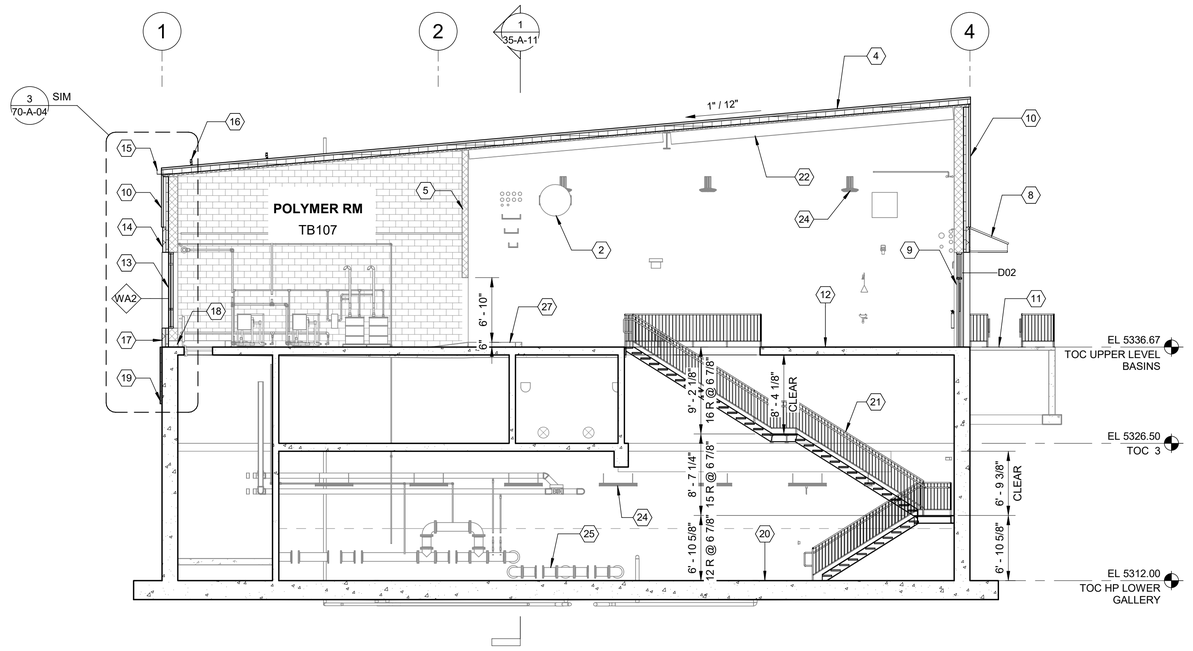
Plot Date: /13/2024 2:23:04 PM Path: BIM 360://153020 - City Creek WTP/153020-A-3570V21.rvt



1 / 35-A-06 **BUILDING SECTION - FILTERS AND SED BASINS**
SCALE: 1/8" = 1'-0"



3 / 35-A-10 **WALL SECTION - FLOC EAST WALL**
SCALE: 1/4" = 1'-0"



2 / 35-A-06 **BUILDING SECTION - FILTERS**
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. FOR WINDOW SCHED & TYPE LEGEND, SEE GA-03.
2. FOR DOOR SCHED & TYPE LEGEND, SEE SHEET GA-02.
3. ALL DIMENSIONS ARE TO FACE OF STUD OR FACE OF MASONRY UNLESS NOTED OTHERWISE.
4. DOOR & WINDOW IN MASONRY & CONCRETE WALLS LOCATION DIMENSIONS ARE TO ROUGH OPENING UNLESS NOTED OTHERWISE.
5. PROVIDE SOLID GROUTED CMU WALL FOR ALL WALL-MOUNTED EQUIPMENT, SEE STRUCTURAL.
6. FOR SITE WORK, INCLUDING BUT NOT LIMITED TO WALKWAYS, DRIVES, BOLLARDS, & EQUIP PADS EXTERIOR TO THE BUILDING ENVELOPE, SEE CIVIL DRAWINGS.
7. FOR STAIR DIMENSIONS, SEE ARCHITECTURAL.

KEYNOTES:

1. GALVANIZED STEEL JOISTS AND DECKING, RE: STRUCT., TYP.
2. MECH EQUIPMENT, RE: MECH
3. ELECTRICAL EQUIPMENT, RE: ELEC.
4. STANDING SEAM METAL ROOFING ON UNDERLAYMENT ON NAILBASE INSULATION ON STL STRUCTURE, TYP, RE: STRUCT
5. 8" CMU WALL, RE: STRUCT
6. FIRE EXTINGUISHER AND BRACKET
7. CONC CURB AND ALUM RAILINGS W/VERTICAL PICKETS @ 4" SPACING, RE: STRUCT
8. SHEET METAL CANOPY OVER HM DOOR, RE:10/A-15-7003
9. HM DOOR AND FRAME, PAINT, TYP., RE: DOOR SCHEDULE
10. STANDING SEAM METAL WALL PANELS ON 3/4" SHEATHING ON 6" STUDS W/ 3" RIGID INSULATION (R-15) ON MEMBRANE AIR BARRIER ON 12" CMU WALL, RE: STRUCT, TYP.
11. CONC ADA RAMP AND RAILINGS, RE: STRUCT
12. CONC FLOOR WITH SEALER/HARDENER, RE: STRUCT., TYP.
13. TRANSLUCENT WALL PANEL, RE: WINDOW SCHEDULE
14. RECESSED BRICK COURSES
15. PREFIN MTL GUTTER, MATCH ROOF COLOR, TYP.
16. SNOW GUARD, TYP.
17. 4" BRICK VENEER ON 1" AIRSPACE ON 3" RIGID INSULATION (R-15) ON MEMBRANE AIR BARRIER ON 12" CMU WALL, RE: STRUCT, TYP.
18. 12" CONCRETE CURB IN POLYMER ROOM, RE: STRUCT, TYP.
19. WATER-DRAINAGE EXTERIOR INSULATION AND FINISH SYSTEM (EIFS) WITH R-5 INSULATION
20. CONC SLAB ON GRADE, RE: STRUCT
21. ALUM STAIRS, LANDINGS, AND RAILINGS W/ VERTICAL PICKETS @ 4" O.C., RE: STRUCT
22. GALV STEEL BEAMS AND DECK, RE: STRUCT
23. STEEL COLUMN, PAINT WHERE EXPOSED, RE: STRUCT
24. LIGHT FIXTURE, RE: ELEC, TYP.
25. PROCESS MECHANICAL EQUIPMENT AND/OR PIPING, RE: PROCESS MECHANICAL
26. ALUM STOREFRONT, TYP., RE: WINDOW SCHEDULE
27. CONC LANDING AND RAMP, RE: STRUCT
28. ACCESS HATCH, RE: STRUCTURAL

SHORT AND BRENNAN ARCHITECTS

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.CARDONA
DRAWN BY: C.CARDONA
CHECKED BY: G.SHORT
APPROVED BY:
DATE: JUNE 2024
EWO NO. --
ACCOUNT NO. 512260079

REVISIONS

NO.	DATE:		MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	CC	GS

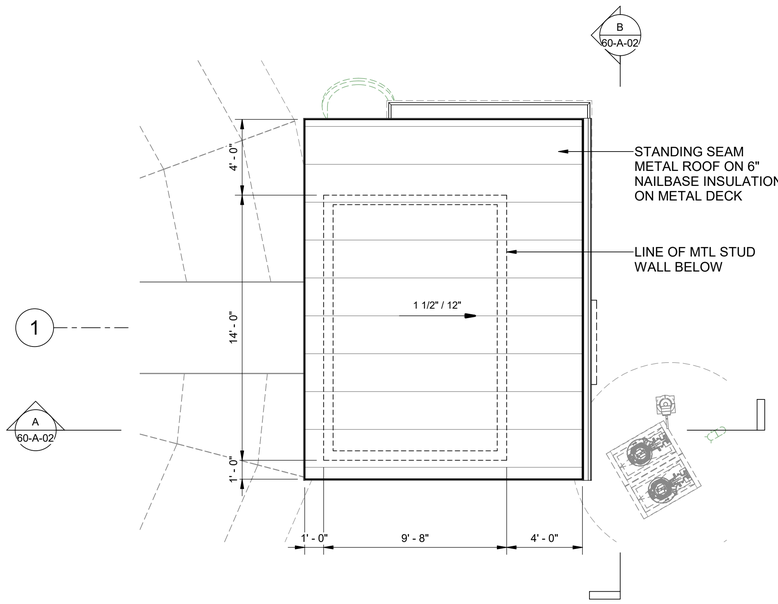
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

TREATMENT - BUILDING SECTIONS

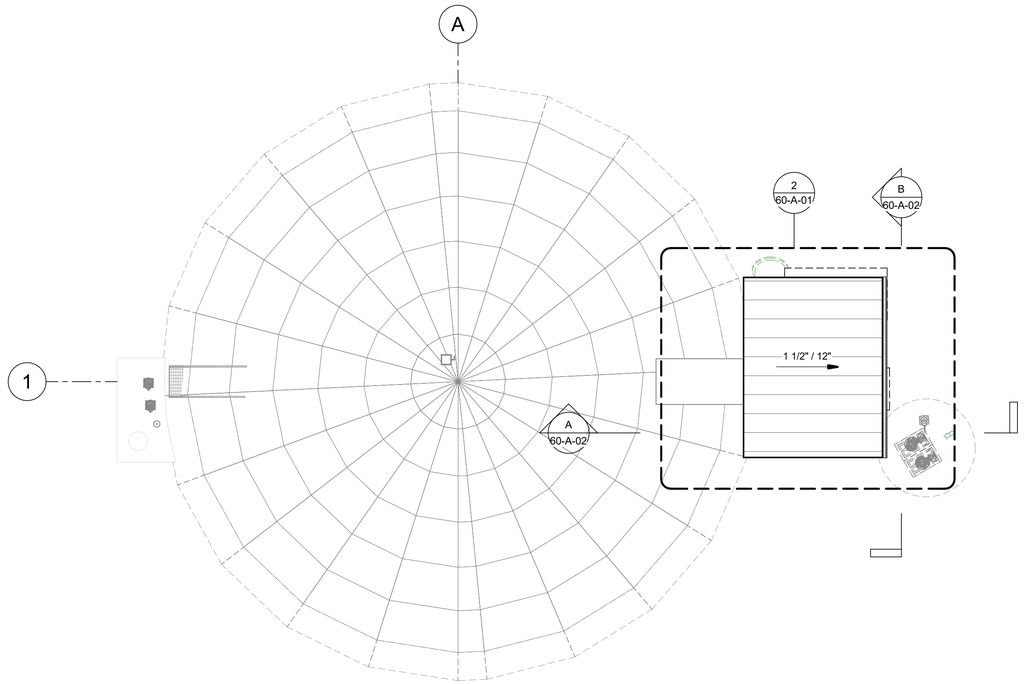
90% GMP

DRAWING NO.
35-A-11

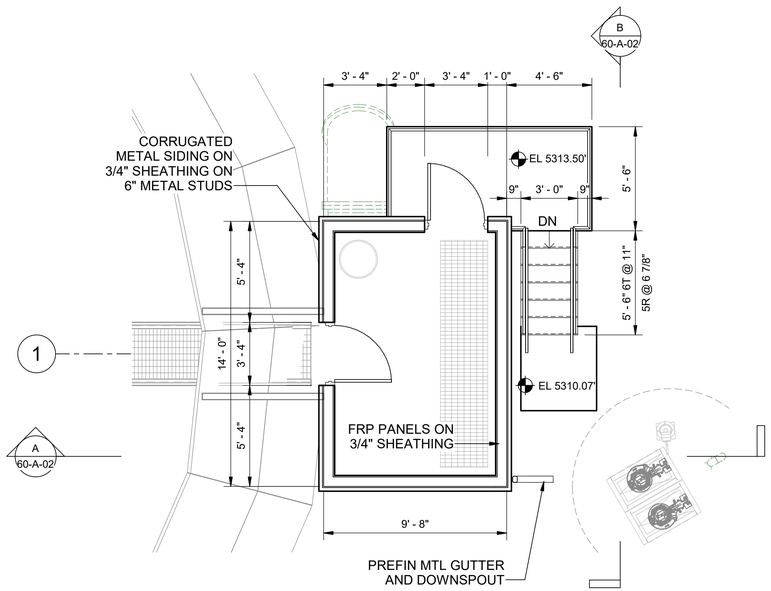
Plot Date: 6/13/2024 2:23:19 PM Path: RIM 360://153020 - City Creek WTP/153020-A-3570V21.rvt



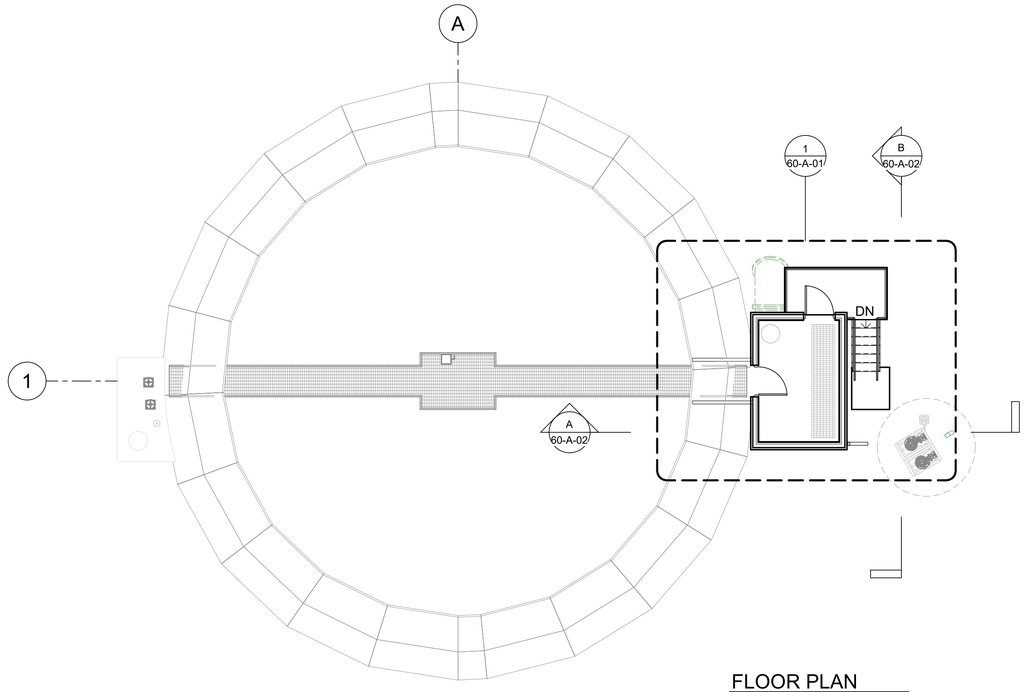
2 60-A-01 ENLARGED ROOF PLAN
SCALE: 1/4" = 1'-0"



ROOF PLAN
SCALE: 1/8" = 1'-0"



1 60-A-01 ENLARGED FLOOR PLAN
SCALE: 1/4" = 1'-0"



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

SHORT AND BRENNAN ARCHITECTS

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.CARDONA
DRAWN BY: C.CARDONA
CHECKED BY: G.SHORT
APPROVED BY: G.SHORT
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO: 512260079

REVISIONS

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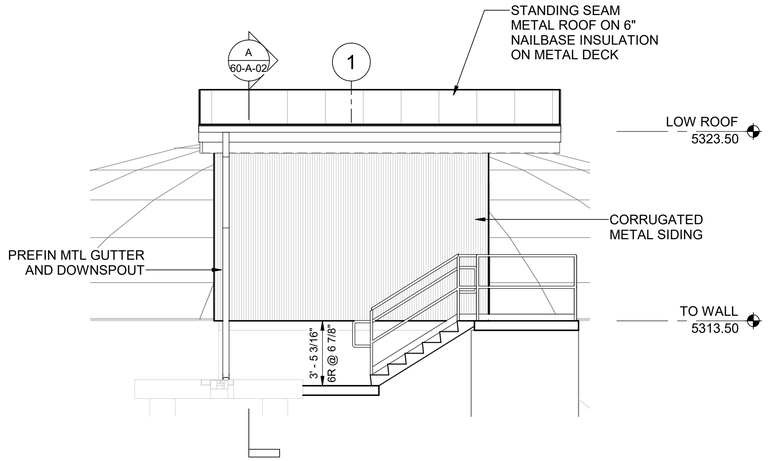
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

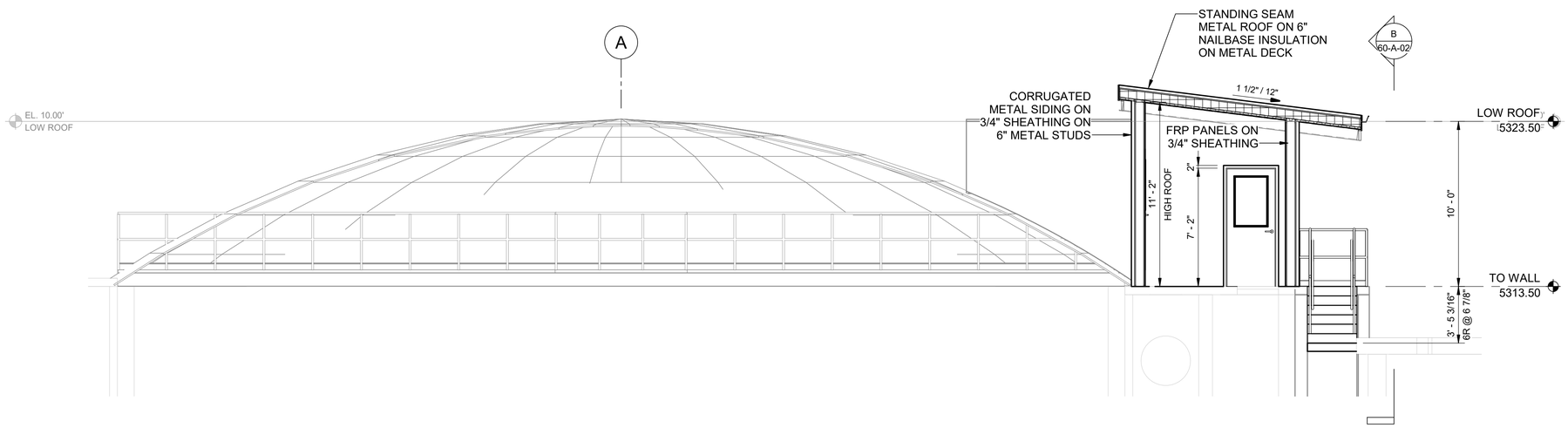
CLARIFIER - PLAN

90% GMP

DRAWING NO.
60-A-01



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



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

SHORT AND BRENNAN ARCHITECTS

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.CARDONA
DRAWN BY: C.CARDONA
CHECKED BY: G.SHORT
APPROVED BY: G.SHORT
DATE: JUNE 2024
EWO NO: --
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REVISIONS

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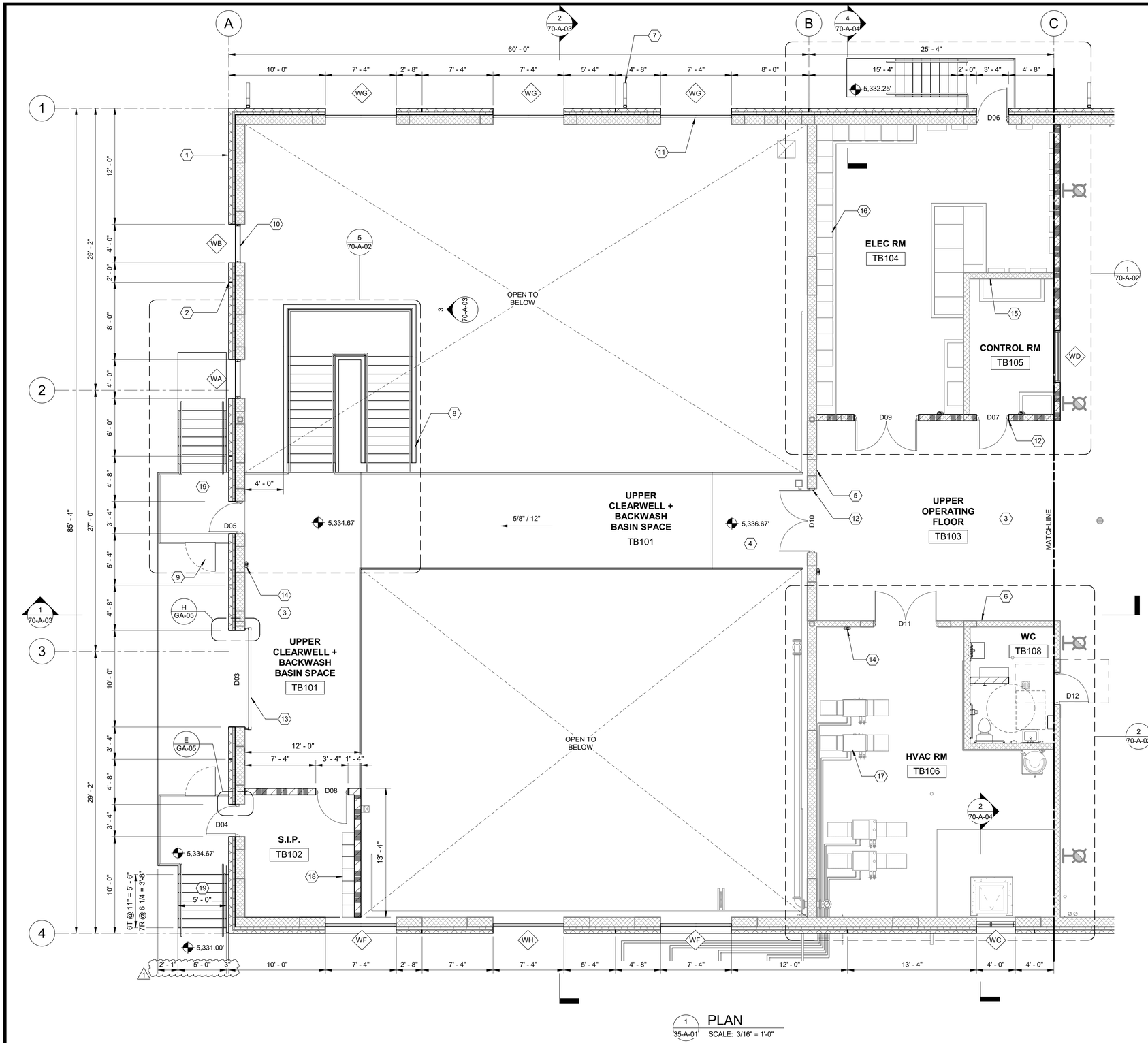
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

CLARIFIER - SECTION & DETAILS

90% GMP

DRAWING NO.
60-A-02

Plot Date: /13/2024 2:28:00 PM Path: BIM 360://153020 - City Creek WTP/153020-A-60v21.rvt



1 PLAN
35-A-01 SCALE: 3/16" = 1'-0"

GENERAL NOTES:

1. FOR WINDOW SCHED & TYPE LEGEND, SEE GA-03.
2. FOR DOOR SCHED & TYPE LEGEND, SEE SHEET GA-02.
3. ALL DIMENSIONS ARE TO FACE OF STUD OR FACE OF MASONRY UNLESS NOTED OTHERWISE.
4. DOOR & WINDOW IN MASONRY & CONCRETE WALLS LOCATION DIMENSIONS ARE TO ROUGH OPENING UNLESS NOTED OTHERWISE.
5. PROVIDE SOLID GROUTED CMU WALL FOR ALL WALL-MOUNTED EQUIPMENT, SEE STRUCTURAL.
6. FOR SITE WORK, INCLUDING BUT NOT LIMITED TO WALKWAYS, DRIVES, BOLLARDS, & EQUIP PADS EXTERIOR TO THE BUILDING ENVELOPE, SEE CIVIL DRAWINGS.
7. FOR STAIR DIMENSIONS, SEE ARCHITECTURAL.

KEYNOTES:

1. 4" BRICK VENEER ON 1" AIRSPACE ON 3" RIGID INSULATION (R-15) ON MEMBRANE AIR BARRIER ON 12" CMU WALL, RE: STRUCT, TYP.
2. MASONRY EXPANSION JOINT, ALIGN EXPANSION JOINT W/COURSING, TYP., RE: L/GA-05
3. CONC FLOOR WITH SEALER/HARDENER, RE: STRUCT., TYP.
4. CONC LANDING AND RAMP, RE: STRUCT
5. 12" CMU WALL, RE: STRUCT
6. 8" CMU WALL, RE: STRUCT
7. PREFINISHED GALV SHEET METAL DOWNSPOUT, TYP.
8. ALUM STAIRS, LANDINGS, AND RAILINGS W/ VERTICAL PICKETS @ 4" O.C., RE: STRUCT
9. ALUM SWINGING GATE
10. ALUM STOREFRONT, TYP., RE: WINDOW SCHEDULE
11. TRANSLUCENT WALL PANEL, RE: WINDOW SCHEDULE
12. HM DOOR AND FRAME, PAINT, TYP., RE: DOOR SCHEDULE
13. COILING DOOR, RE: DOOR SCHEDULE
14. FIRE EXTINGUISHER AND BRACKET
15. PAINT @ INTERIOR OF CONTROL ROOM AND RESTROOM CMU WALLS
16. ELECTRICAL EQUIPMENT, RE: ELEC.
17. MECH EQUIPMENT, RE: MECH
18. 18" X 18" DOUBLE TIER LOCKERS, TYP.
19. CONC STAIRS AND LANDINGS AND ALUM RAILINGS W/ VERTICAL PICKETS @ 4" SPACING, RE: STRUCT

SHORT AND BRENNAN ARCHITECTS

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.CARDONA
DRAWN BY: C.CARDONA
CHECKED BY: G.SHORT
APPROVED BY:
DATE: JUNE 2024
EWO NO. --
ACCOUNT NO. 512260079

REVISIONS

NO.	DATE:		MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	CC	GS
1	06/27/24	REVISED FOR GUARANTEE MAXIMUM PRICE (GMP)	CC	GS

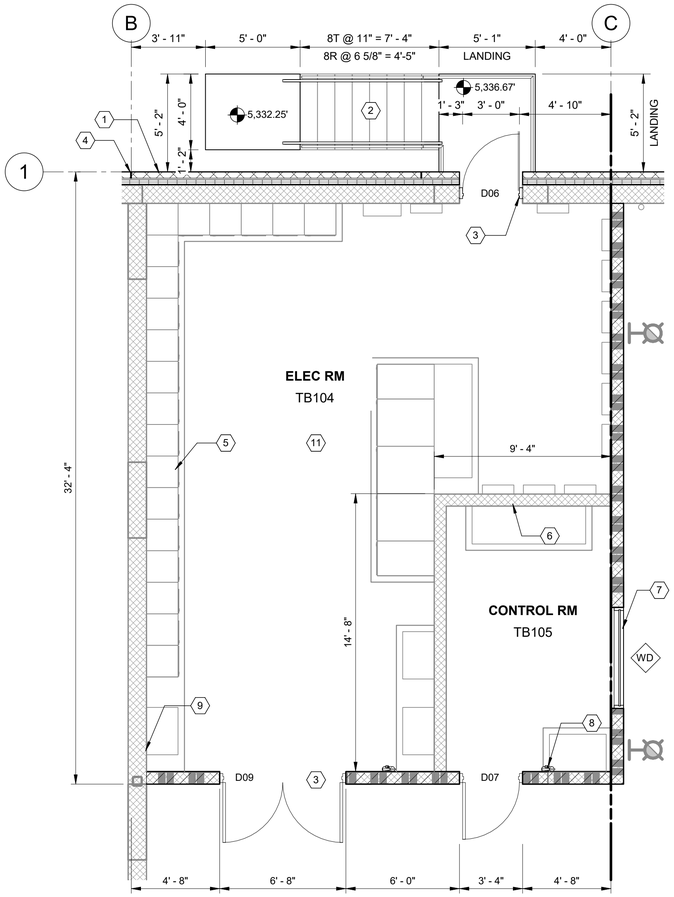
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

CLEARWELL - UPPER PLAN

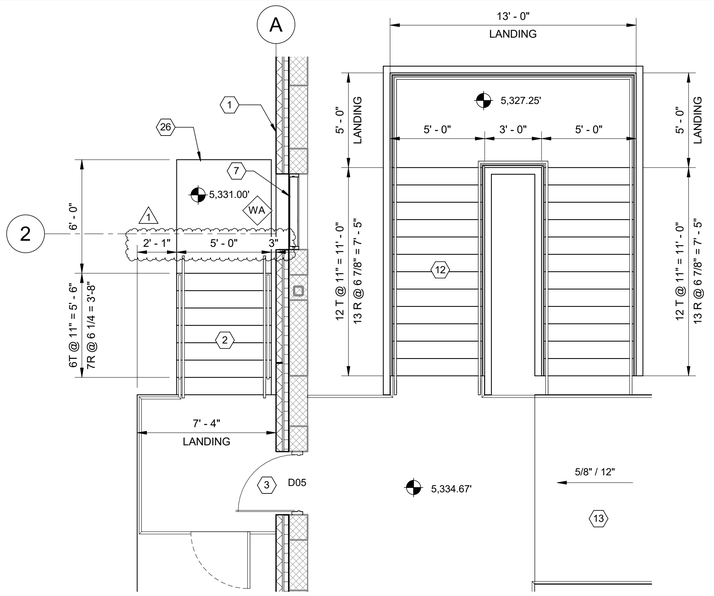
90% GMP

DRAWING NO.
70-A-01

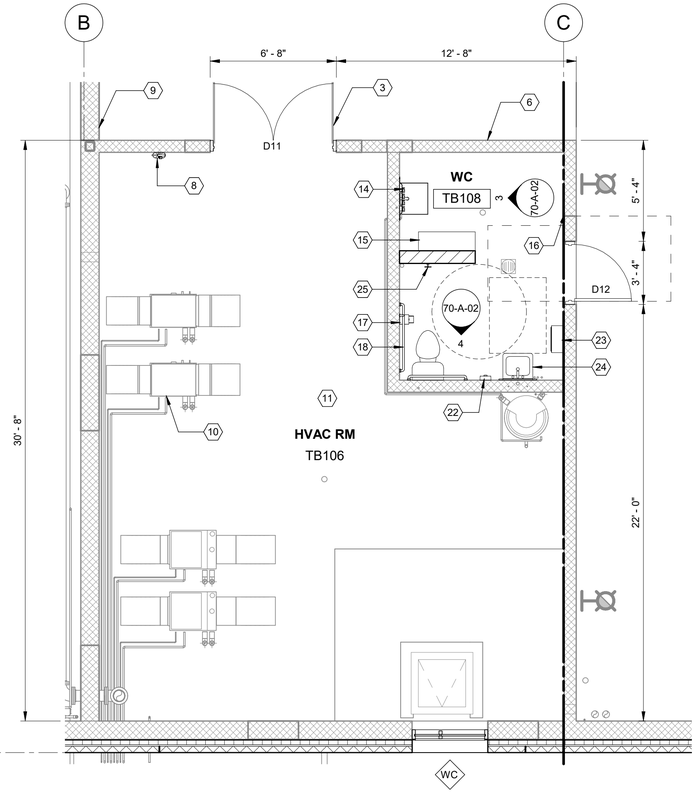
Plot Date: 7/18/2024 3:16:26 PM Path: RIM 360://153020 - City Creek WTP/153020-A-3570V21.rvt



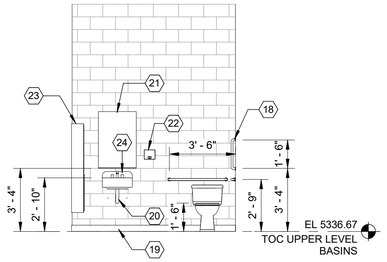
1 35-A-02 ELECTRICAL ROOM
SCALE: 1/4" = 1'-0"



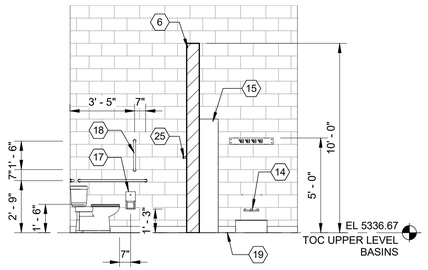
5 70-A-01 CLEARWELL WEST STAIRS
SCALE: 1/4" = 1'-0"



2 35-A-02 HVAC ROOM
SCALE: 1/4" = 1'-0"



4 70-A-02 SOUTH WC INTERIOR ELEV
SCALE: 1/4" = 1'-0"



3 70-A-02 WEST WC INTERIOR ELEV
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. FOR WINDOW SCHED & TYPE LEGEND, SEE GA-03.
2. FOR DOOR SCHED & TYPE LEGEND, SEE SHEET GA-02.
3. ALL DIMENSIONS ARE TO FACE OF STUD OR FACE OF MASONRY UNLESS NOTED OTHERWISE.
4. DOOR & WINDOW IN MASONRY & CONCRETE WALLS LOCATION DIMENSIONS ARE TO ROUGH OPENING UNLESS NOTED OTHERWISE.
5. PROVIDE SOLID GROUTED CMU WALL FOR ALL WALL-MOUNTED EQUIPMENT, SEE STRUCTURAL.
6. FOR SITE WORK, INCLUDING BUT NOT LIMITED TO WALKWAYS, DRIVES, BOLLARDS, & EQUIP PADS EXTERIOR TO THE BUILDING ENVELOPE, SEE CIVIL DRAWINGS.
7. FOR STAIR DIMENSIONS, SEE ARCHITECTURAL.

KEYNOTES:

1. 4" BRICK VENEER ON 1" AIRSPACE ON 3" RIGID INSULATION (R-15) ON MEMBRANE AIR BARRIER ON 12" CMU WALL, RE: STRUCT, TYP.
2. CONC STAIRS AND LANDINGS AND ALUM RAILINGS W/ VERTICAL PICKETS @ 4" SPACING, RE: STRUCT
3. HM DOOR AND FRAME, PAINT, TYP., RE: DOOR SCHEDULE
4. MASONRY EXPANSION JOINT, ALIGN EXPANSION JOINT W/COURSING, TYP., RE: L/GA-05
5. ELECTRICAL EQUIPMENT, RE: ELEC.
6. 8" CMU WALL, RE: STRUCT
7. ALUM STOREFRONT, TYP., RE: WINDOW SCHEDULE
8. FIRE EXTINGUISHER AND BRACKET
9. 12" CMU WALL, RE: STRUCT
10. MECH EQUIPMENT, RE: MECH
11. CONC FLOOR WITH SEALER/HARDENER, RE: STRUCT., TYP.
12. ALUM STAIRS, LANDINGS, AND RAILINGS W/ VERTICAL PICKETS @ 4" O.C., RE: STRUCT
13. CONC ADA RAMP AND RAILINGS, RE: STRUCT
14. MOP SINK WITH CUSTODIAL MOP AND BROOM HOLDER, RE: MECH
15. FREESTANDING STORAGE SHELF
16. PAINT @ INTERIOR OF CONTROL ROOM AND RESTROOM CMU WALLS
17. TOILET TISSUE DISPENSER
18. GRAB BARS
19. 4" COVE BASE
20. UNDERLAVATORY GUARD
21. MIRROR UNIT
22. SOAP DISPENSER
23. COMBINATION TOWEL DISPENSER/WASTE RECEPTACLE
24. WALL-MOUNTED SINK
25. WALL HOOK
26. CONC SLAB ON GRADE, RE: STRUCT

SHORT AND BRENNAN ARCHITECTS

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.CARDONA
DRAWN BY: C.CARDONA
CHECKED BY: G.SHORT
APPROVED BY:
DATE: JUNE 2024
EWO NO. --
ACCOUNT NO. 512260079

NO.	DATE:	REVISIONS	MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE (GMP)	CC	GS
1	06/27/24	REVISED FOR GUARANTEE MAXIMUM PRICE (GMP)	CC	GS

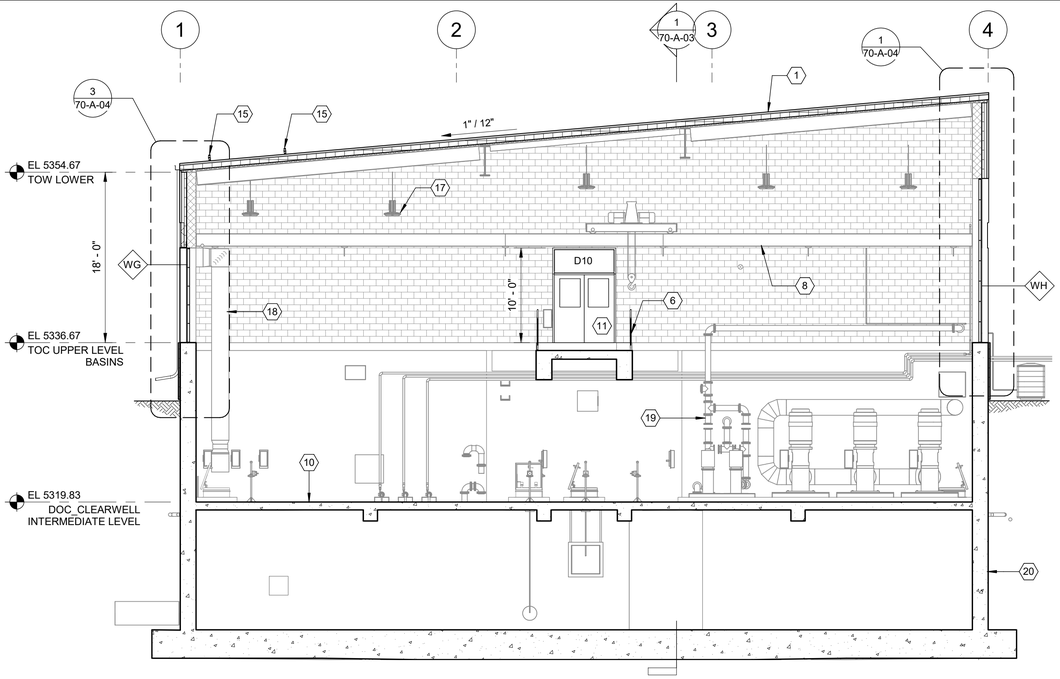
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

CLEARWELL – ENLARGED PLANS

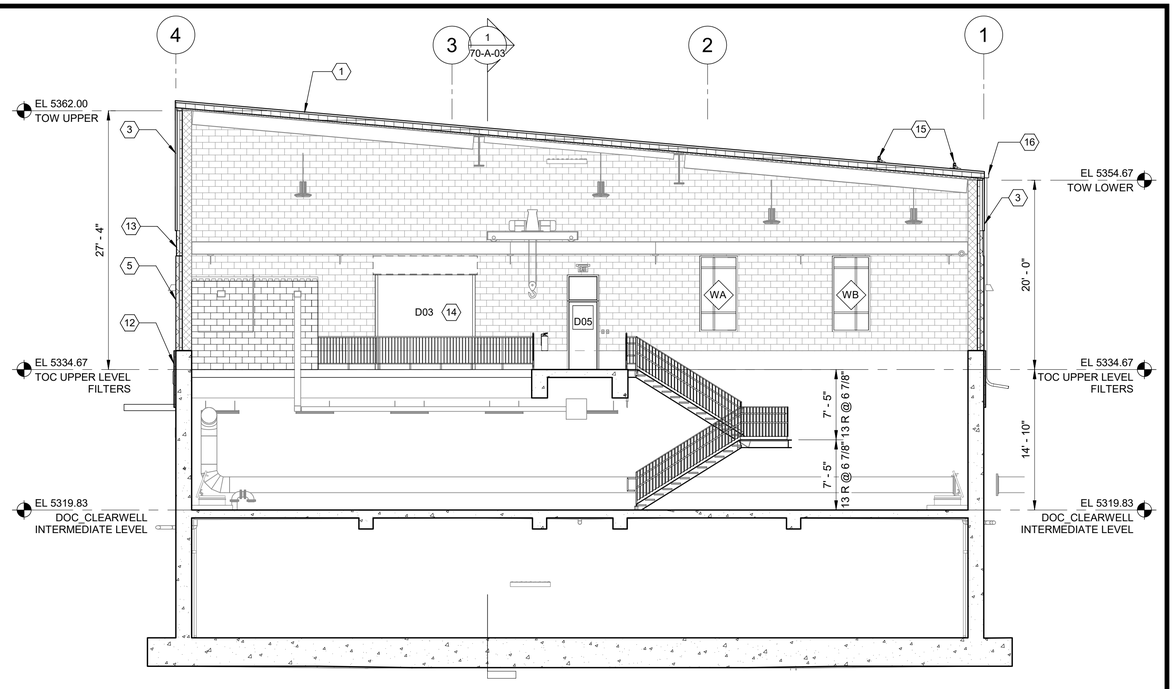
90% GMP

DRAWING NO.
70-A-02

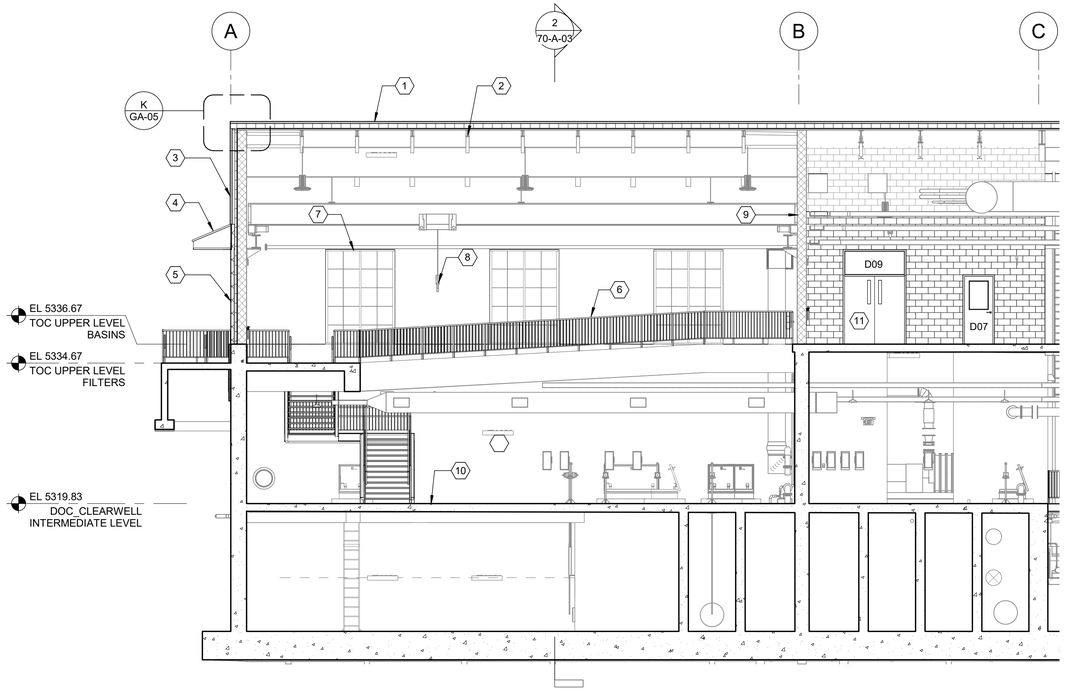
Plot Date: 6/18/2024 3:16:36 PM Path: BIM 360://15.3020 – City Creek WTP/15.3020-A-3570v21.rvt



2 70-A-01 SECTION
SCALE: 1/8" = 1'-0"



3 70-A-01 INTERIOR ELEVATION
SCALE: 1/8" = 1'-0"



1 70-A-01 SECTION
SCALE: 1/8" = 1'-0"

KEYNOTES:

1. STANDING SEAM METAL ROOFING ON UNDERLAYMENT ON NAILBASE INSULATION ON STL STRUCTURE, TYP, RE: STRUCT
2. GALV STEEL BEAMS AND DECK, RE: STRUCT
3. STANDING SEAM METAL WALL PANELS ON 3/4" SHEATHING ON 6" STUDS W/ 3" RIGID INSULATION (R-15) ON MEMBRANE AIR BARRIER ON 12" CMU WALL, RE: STRUCT, TYP.
4. SHEET METAL CANOPY OVER HM DOOR, RE:10/A-15-7003
5. 4" BRICK VENEER ON 1" AIRSPACE ON 3" RIGID INSULATION (R-15) ON MEMBRANE AIR BARRIER ON 12" CMU WALL, RE: STRUCT, TYP.
6. CONC ADA RAMP AND RAILINGS, RE: STRUCT
7. TRANSLUCENT WALL PANEL, RE: WINDOW SCHEDULE
8. BRIDGE CRANE, RE: STRUCTURAL AND PROCESS MECHANICAL
9. 12" CMU WALL, RE: STRUCT
10. CONC FLOOR WITH SEALER/HARDENER, RE: STRUCT., TYP.
11. HM DOOR AND FRAME, PAINT, TYP., RE: DOOR SCHEDULE
12. WATER-DRAINAGE EXTERIOR INSULATION AND FINISH SYSTEM (EIFS) WITH R-5 INSULATION
13. RECESSED BRICK COURSES
14. COILING DOOR, RE: DOOR SCHEDULE
15. SNOW GUARD, TYP.
16. PREFIN MTL GUTTER, MATCH ROOF COLOR, TYP.
17. LIGHT FIXTURE, RE: ELEC, TYP.
18. MECH EQUIPMENT, RE: MECH
19. PROCESS MECHANICAL EQUIPMENT AND/OR PIPING, RE: PROCESS MECHANICAL
20. CONC WALL, RE: STRUCT

SHORT AND BRENNAN ARCHITECTS

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

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DRAWN BY: C.CARDONA
CHECKED BY: G.SHORT
APPROVED BY:
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO. 512260079

NO	DATE:	REVISIONS	MADE BY	AUTH BY
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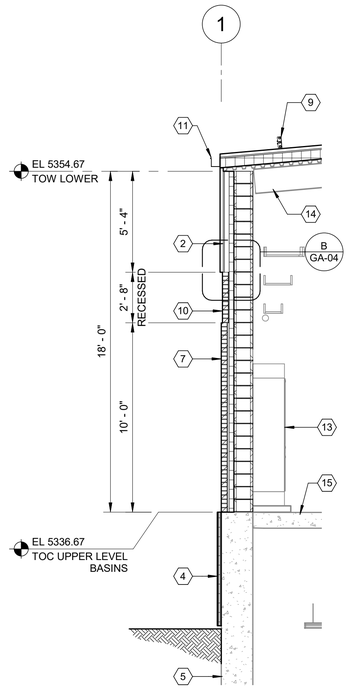
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

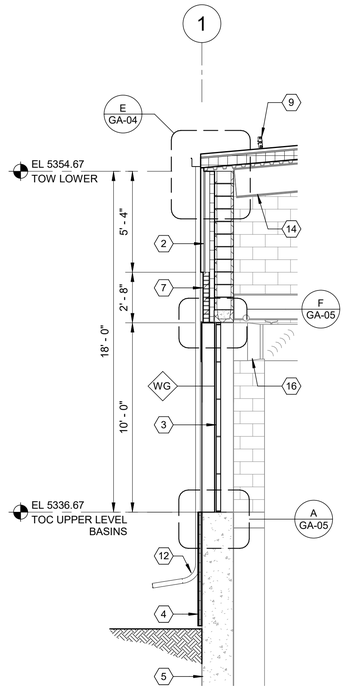
CLEARWELL - BUILDING SECTIONS

90% GMP

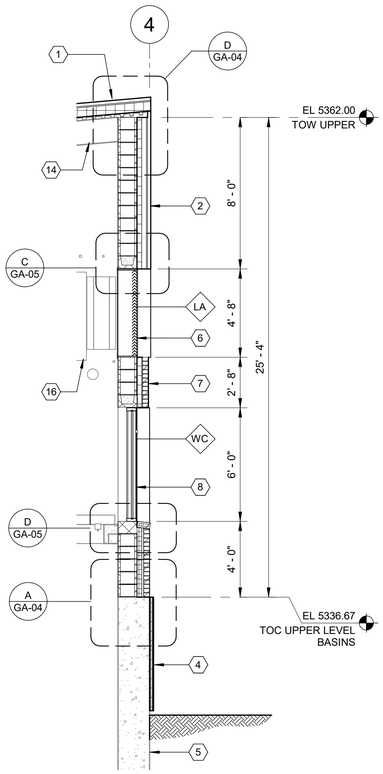
DRAWING NO.
70-A-03



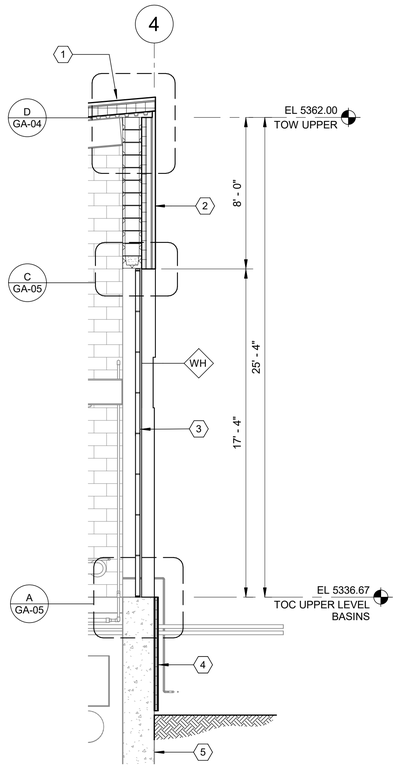
4 TYP LOW ROOF
70-A-01 SCALE: 1/4" = 1'-0"



3 LOW ROOF @ TRANSLUCENT PANEL
35-A-11 SCALE: 1/4" = 1'-0"



2 HIGH ROOF @ WINDOW & LOUVER
70-A-01 SCALE: 1/4" = 1'-0"



1 HIGH ROOF AT TRANSLUCENT PANEL
70-A-03 SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. FOR WINDOW SCHED & TYPE LEGEND, SEE GA-03.
2. FOR DOOR SCHED & TYPE LEGEND, SEE SHEET GA-02.
3. ALL DIMENSIONS ARE TO FACE OF STUD OR FACE OF MASONRY UNLESS NOTED OTHERWISE.
4. DOOR & WINDOW IN MASONRY & CONCRETE WALLS LOCATION DIMENSIONS ARE TO ROUGH OPENING UNLESS NOTED OTHERWISE.
5. PROVIDE SOLID GROUTED CMU WALL FOR ALL WALL-MOUNTED EQUIPMENT, SEE STRUCTURAL.
6. FOR SITE WORK, INCLUDING BUT NOT LIMITED TO WALKWAYS, DRIVES, BOLLARDS, & EQUIP PADS EXTERIOR TO THE BUILDING ENVELOPE, SEE CIVIL DRAWINGS.
7. FOR STAIR DIMENSIONS, SEE ARCHITECTURAL.

KEYNOTES:

1 STANDING SEAM METAL ROOFING ON UNDERLAYMENT ON NAILBASE INSULATION ON STL STRUCTURE, TYP, RE: STRUCT
2 STANDING SEAM METAL WALL PANELS ON 3/4" SHEATHING ON 6" STUDS W/ 3" RIGID INSULATION (R-15) ON MEMBRANE AIR BARRIER ON 12" CMU WALL, RE: STRUCT, TYP.
3 TRANSLUCENT WALL PANEL, RE: WINDOW SCHEDULE
4 WATER-DRAINAGE EXTERIOR INSULATION AND FINISH SYSTEM (EIFS) WITH R-5 INSULATION
5 CONC WALL, RE: STRUCT
6 PREFINISHED MTL LOUVER, LOUVERS SHALL ALIGN W/MASONRY COURSING, TYP., RE: MECH
7 4" BRICK VENEER ON 1" AIRSPACE ON 3" RIGID INSULATION (R-15) ON MEMBRANE AIR BARRIER ON 12" CMU WALL, RE: STRUCT, TYP.
8 ALUM STOREFRONT, TYP., RE: WINDOW SCHEDULE
9 SNOW GUARD, TYP.
10 RECESSED BRICK COURSES
11 PREFIN MTL GUTTER, MATCH ROOF COLOR, TYP.
12 PREFIN MTL DOWNSPOUT, MATCH ROOF COLOR, TYP.
13 ELECTRICAL EQUIPMENT, RE: ELEC.
14 GALV STEEL BEAMS AND DECK, RE: STRUCT
15 CONC FLOOR WITH SEALER/HARDENER, RE: STRUCT., TYP.
16 MECH EQUIPMENT, RE: MECH

SHORT AND BRENNAN ARCHITECTS

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

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SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

CLEARWELL - WALL SECTIONS

90% GMP

DRAWING NO.
70-A-04

Plot Date:6/13/2024 2:30:55 PM Path: BIM 360://15302O - City Creek WTP/15302O-A-357OV21.rvt

BUILDING CODE ANALYSIS

BUILDING CODES: 2021 INTERNATIONAL BUILDING CODE
2021 INTERNATIONAL MECHANICAL CODE
2021 INTERNATIONAL FUEL GAS CODE
2021 INTERNATIONAL PLUMBING CODE
2021 INTERNATIONAL ENERGY CONSERVATION CODE
2021 INTERNATIONAL EXISTING BUILDING CODE
2021 INTERNATIONAL FIRE CODE
2020 NATIONAL ELECTRICAL CODE

CONSTRUCTION TYPE: TYPE II-B (TABLE 601)

OCCUPANCY: MODERATE-HA ARD FACTORY INDUSTRIAL, GROUP F-1 (306.2)

HIGH-HA ARD, GROUP H-4 (307.5)

RISK CATEGORY (TABLE 1604.5): CATEGORY III

ALLOWABLE AREAS: F-1 15,500 SF
H-4 17,500 SF

ACTUAL AREAS: F-1 156 SF
H-4 468 SF

ALLOWABLE HEIGHTS: F-1 2 STORIES, 55'
H-4 3 STORIES, 55'

ACTUAL HEIGHT: F-1 1 STORY, 18'-0"
H-4 1 STORY, 12'-8"

FIRE PROTECTION SYSTEMS: PORTABLE FIRE EXTINGUISHERS (TABLE 906.3(1))

MAX FLOOR AREA PER EXTINGUISHER = 11,250 SF

MAXIMUM TRAVEL DISTANCE TO EXTINGUISHER: 75 FT

MEANS OF EGRESS: DOOR SWING (1010.1.2) - DOORS SHALL SWING IN THE DIRECTION OF EGRESS WHERE SERVING A ROOM OR AREA CONTAINING AN OCCUPANT LOAD OF 50 OR MORE.

MIXED USE OCCUPANCY: SEPARATED OCCUPANCIES (508.4)
F-1 / H-4

ALLOWABLE BUILDING AREA (508.4.2)
(F-1) 156 / 15,500 (H-4) 468 / 17,500 =
(F-1) 0.10 (H-4) 0.27 = 0.37 1.0

SEPARATION OF OCCUPANCIES: PER TABLE 508.4
F-1 (NON-SPRINKLERED) / H-4 (SPRINKLERED): 2 HR FIRE BARRIER

PROVIDED: 2 HR FIRE BARRIER: COMPRISED OF 8" STRUCTURAL BRICK, WITH 4.4" MIN. FINISHED THICKNESS FACE TO FACE PER IBC TABLE 721.1(2)

EXIT ACCESS: OCCUPANT LOAD (TABLE 1004.5):
MECHANICAL EQPT RM = 300 GSF PER OCCUPANT
F-1 156/300 = 1 OCCUPANT
H-4 468/300 = 2 OCCUPANTS

COMMON PATH OF EGRESS TRAVEL (TABLE 1006.2.1):
F (OCC LOAD 30, NO SPRINKLERS) = 75 FT MAX
H-4 (OCC LOAD 10, SPRINKLERS) = 75 FT MAX
SEE SPRINKLER EXCEPTION BELOW

EXIT ACCESS TRAVEL DISTANCE (TABLE 1017.2):
F-1 OCC NO SPRINKLERS = 250 FEET MAX
H-4 OCC SPRINKLERS = 175 FEET MAX

STORIES WITH ONE EXIT (TABLE 1006.3.3): 2 EXITS REQUIRED PER STORY

EGRESS THROUGH INTERVENING SPACES (1016.2) - EGRESS FROM A ROOM OR SPACE SHALL NOT PASS THROUGH AD OINING OR INTERVENING ROOMS OR AREAS, EXCEPT WHERE SUCH AD OINING ROOMS OR AREA AND THE AREA SERVED ARE ACCESSORY TO ONE ANOTHER AND PROVIDE A DISCERNIBLE PATH OF EGRESS.

EXCEPTION: MEANS OF EGRESS ARE NOT PROHIBITED THROUGH AD OINING OR INTERVENING ROOMS OR SPACES IN A GROUP F OCCUPANCY WHEN THE AD OINING OR INTERVENING ROOMS OR SPACES ARE THE SAME OR A LESSER HA ARD OCCUPANCY GROUP.

ACCESSIBILITY: EQUIPMENT SPACES (1103.2.9): SPACES FREQUENTED ONLY BY SERVICE PERSONNEL FOR MAINTENANCE, REPAIR, OR OCCASIONAL MONITORING OF EQUIPMENT ARE NOT REQUIRED TO BE ACCESSIBLE.

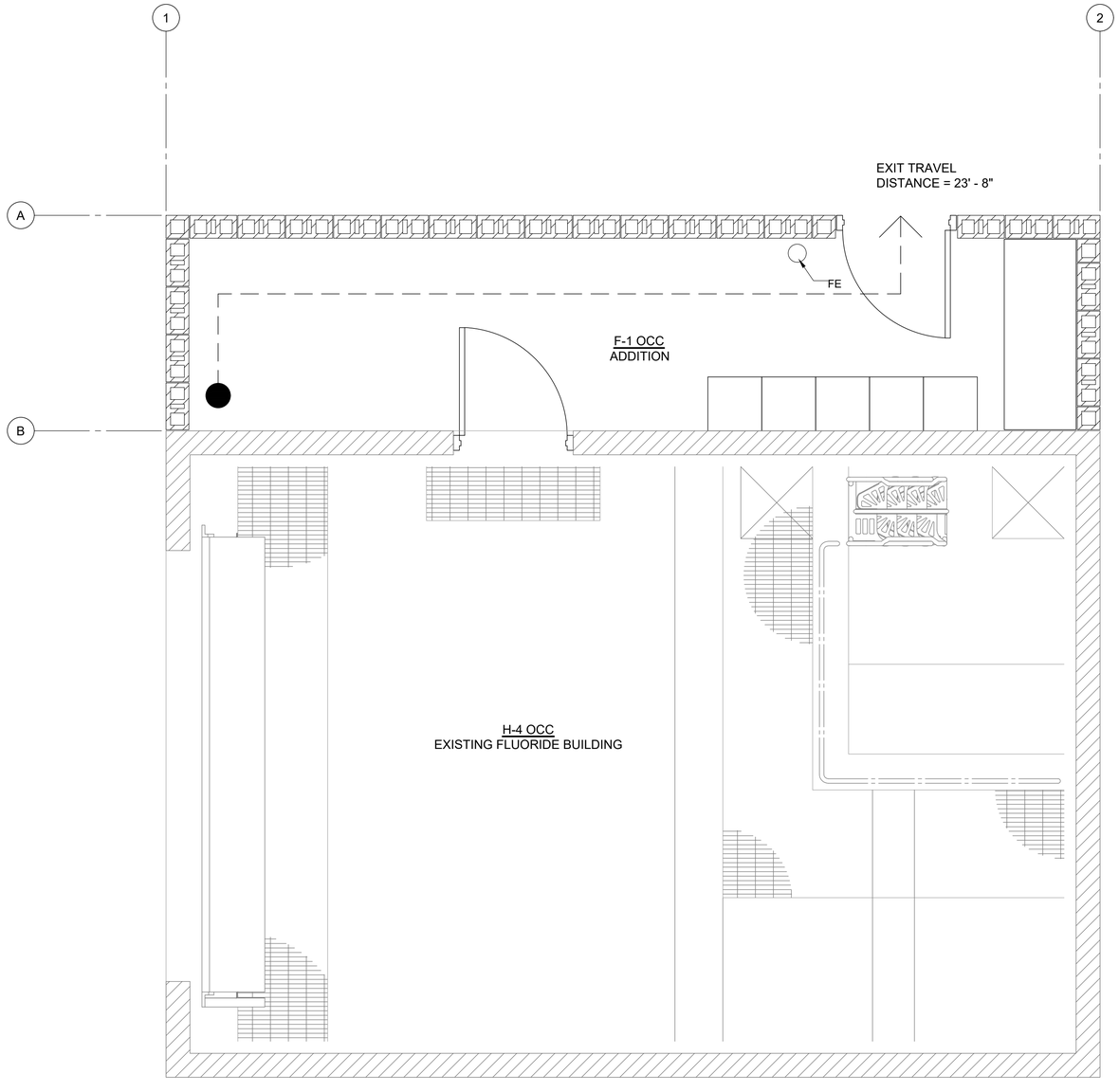
KEY BOXES: IFC 506.1: KEY BOXES PER UL 1037 IS WILL BE PROVIDED IN LOCATIONS APPROVED BY THE FIRE CODE OFFICIAL

SPRINKLERS (415.4): GROUP H OCCUPANCIES SHALL BE EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.2.5.

EXCEPTION: SPRINKLERS NOT PROVIDED PER ARRANGEMENT WITH FIRE DEPARTMENT IN AM M DATED XX/XX/XXXX

OCCUPANT LOAD

ROOM NO.	ROOM NAME	AREA	OCC	LOAD FACTOR	OCC LOAD
101	FLUORIDE - ADD	468 SF	H-4	300	2
102	FLUORIDE - EXIST	156 SF	F-1	300	1



EGRESS PLAN
SCALE: 1/2" = 1'-0"

GENERAL NOTES

1. UNLESS OTHERWISE NOTED, PLAN DIMENSIONS ARE TO NOMINAL SURFACE OF MASONRY AND CONCRETE.
2. DIMENSIONS OF DOORS, WINDOWS OTHER ITEMS IN WALLS ARE BASED ON NOMINAL MASONRY COURSING OR ROUGH OPENING DIMENSIONS. FIELD VERIFY AND/OR COORDINATE DIMENSIONS OF ITEMS W/MASONRY /OR FRMG CONSTRUCTION AS REQUIRED.
3. "FINISH FLOOR" REFERS TO TOP OF CONCRETE SLABS. FOR DEPRESSED FLOOR, PADS AND CURBS, SEE STRUCT DRAWINGS. SEE BUILDING SECTIONS FOR VARYING CONDITIONS.
4. REPETITIVE FEATURES ARE NOT DRAWN IN THEIR ENTIRETY AND SHALL BE COMPLETELY PROVIDED AS IF DRAWN IN FULL.
5. VERIFY ACTUAL SI ES OF ALL EQUIPMENT TO BE PROVIDED IN THIS CONTRACT OR BY OTHERS COORD ALL ROUGH-IN SUBSTRATE DIMENSIONS TO DETERMINE ACTUAL REQUIRED SI ES OF LOCATIONS OF PADS, CURBS, KNOCKOUTS, BLOCKOUTS, ETC.
6. VERIFY AND COORD SI E AND LOCATION OF ACCESS DOORS, CURBS, PADS, WALL MOUNTED EQUIPMENT AND ACCESSORIES TO PROVIDE ALL OPENINGS THROUGH FLOORS AND WALLS AND/OR ALL BASES, ANCHORS, INSERTS BLOCKING.
7. NOTES ON DRAWINGS INDICATE SOME OF THE ITEMS TO BE PAINTED. REFER TO SPECIFICATIONS FOR OTHER REQUIREMENTS FOR ITEMS TO BE PAINTED AND PAINT SYSTEMS FOR EACH SUBSTRATE AND/OR MATERIAL.
8. REFER TO PROCESS, ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND OTHER CATEGORIES OF DRAWINGS FOR ADDITIONAL NOTES.
9. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS SHALL ESTABLISH LOCATION OF ALL PARTITIONS, OPENINGS, EQUIPMENT, ETC.
10. LARGER SCALE DRAWINGS AND DETAILS HAVE PRIORITY OVER SMALLER SCALE DRAWINGS.
11. CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR CONFLICTS IN THE DRAWINGS AND/OR SPECIFICATIONS TO REQUEST AND RECEIVE AN INTERPRETATION OR CLARIFICATION BEFORE PROCEEDING WITH CONSTRUCTION.
12. CONTRACTOR SHALL VERIFY FIELD CONDITIONS BEFORE PROCEEDING WITH CONSTRUCTION.

SHORT AND BRENNAN ARCHITECTS

SCALE:

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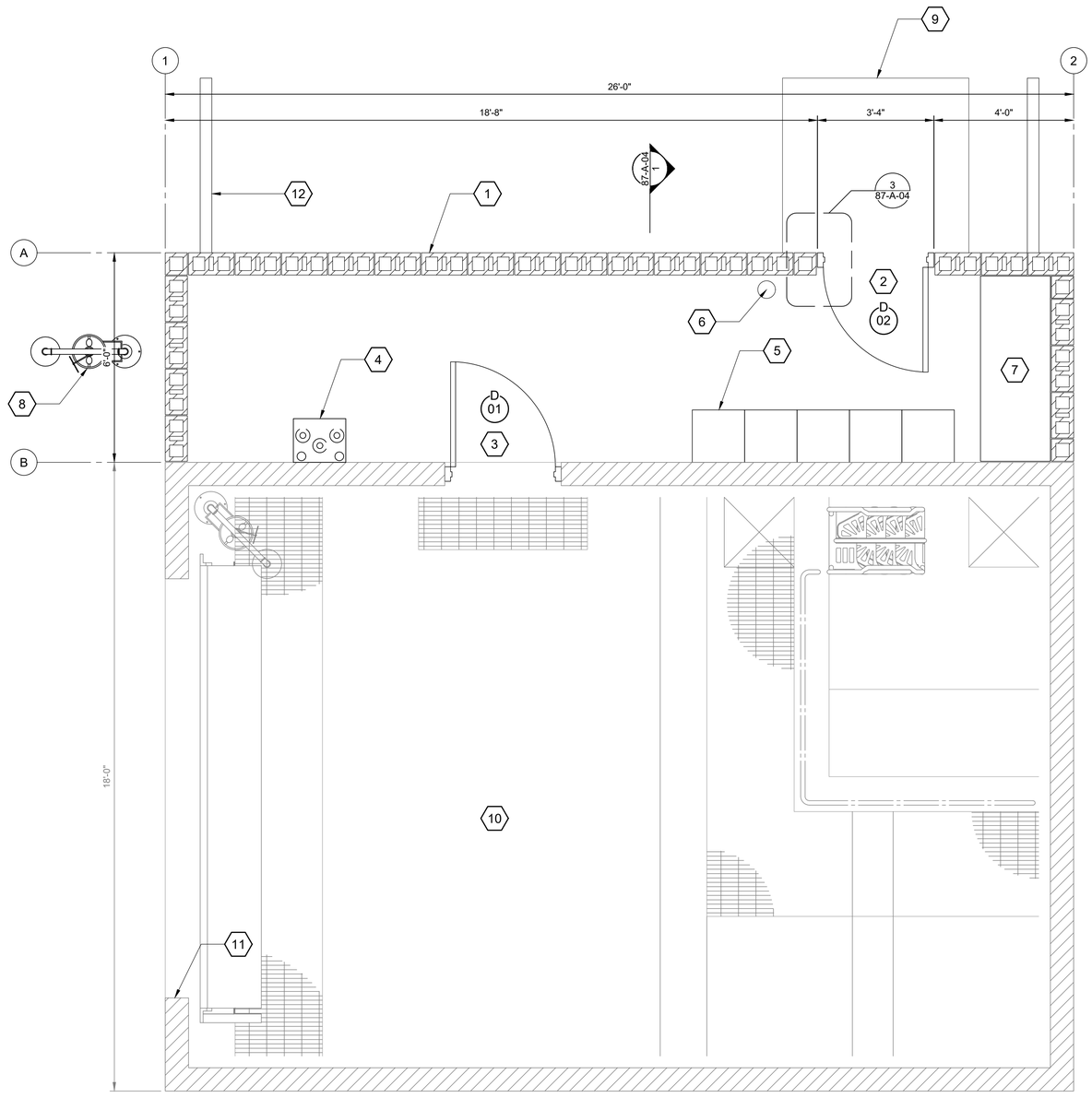
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

FLUORIDE – CODE SUMMARY & EGRESS PLAN

90% GMP

DRAWING NO.
87-A-01



PLAN
SCALE: 1/2" = 1'-0"

KEY NOTES

1. STRUCTURAL BRICK WALL, TYP., RE: STRUCT
2. NEW HM DOOR AND FRAME, RE: DOOR SCHEDULE
3. REMOVE AND REPLACE EXISTING HM DOOR, RE: DOOR SCHEDULE
4. ELEC EQUIPMENT, RE: ELEC
5. 18" X 18" DOUBLE TIER LOCKERS
6. FIRE EXTINGUISHER AND BRACKET
7. BUILT-IN SHELVING
8. NEW EYEWASH STATION, RE: PLUMB
9. CONC APRONS @ MAN DOORS, RE: CIVIL AND STRUCT
10. REMOVE AND REPLACE EXISTING EPOXY FLOOR IN EXISTING BUILDING
11. OVERHEAD DOOR REPAIR
12. PREFINISHED METAL DOWNSPOUT WITH CONC SPLASH BLOCK, TYP.

SHORT AND BRENNAN ARCHITECTS

SCALE:

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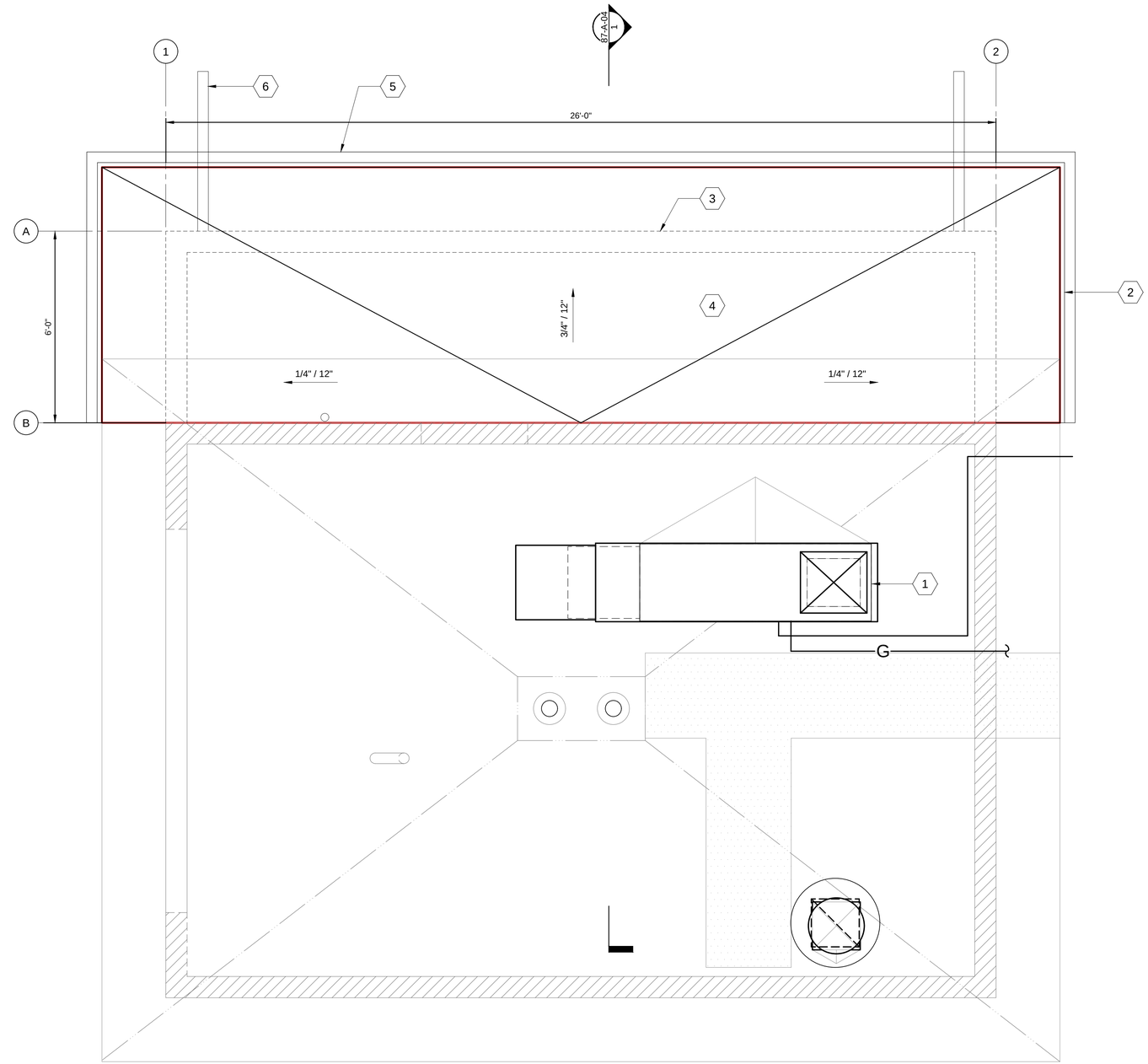
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

FLUORIDE - FLOOR PLAN

90% GMP

DRAWING NO.
87-A-02



PLAN
SCALE: 1/2" = 1'-0"

KEY NOTES

1. EQUIPMENT, RE: MECH
2. PREFINISHED METAL FASCIA, TYP.
3. LINE OF WALL BELOW
4. MEMBRANE ROOFING ON COVER BOARD ON RIGID INSULATION (R-30) ON CONC DECK, TYP., RE: STRUCT
5. PREFINISHED GALV METAL GUTTER, TYP.
6. PREFINISHED METAL DOWNSPOUT WITH CONC SPLASH BLOCK, TYP.

SHORT AND BRENNAN ARCHITECTS

SCALE:

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BRIC PACKAGE

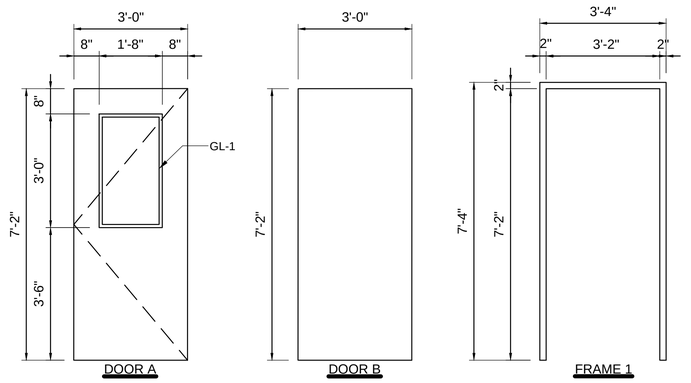
FLUORIDE - ROOF PLAN

90% GMP

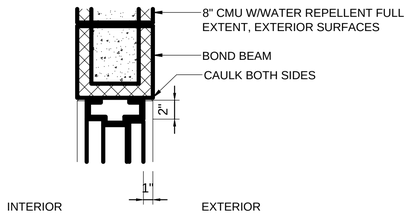
DRAWING NO.
87-A-03

DOOR SCHEDULE

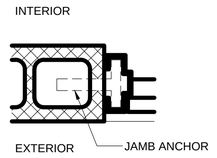
DOOR NO.	TYPE	DOORS DIMENSIONS W	H	TH	MATERIAL	GENERAL HDWRE	RATING	FRAMES TYPE	DETAILS SILL	JAMB	HEAD	MATERIAL	COMMENTS
1	A	3'-0"	7'-2"	1 3/4"	HM	---	---	1	2/87-A-04	3/87-A-04	4/87-A-04	HM	REPLACE EXISTING
2	B	3'-0"	7'-2"	1 3/4"	HM	---	---	1	2/87-A-04	3/87-A-04	4/87-A-04	HM	



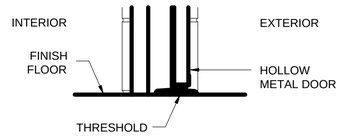
5 87-A-04 DOOR AND FRAME ELEVATIONS
SCALE: 1/2" = 1'-0"



4 87-A-04 DOOR HEAD
SCALE: 1/2" = 1'-0"



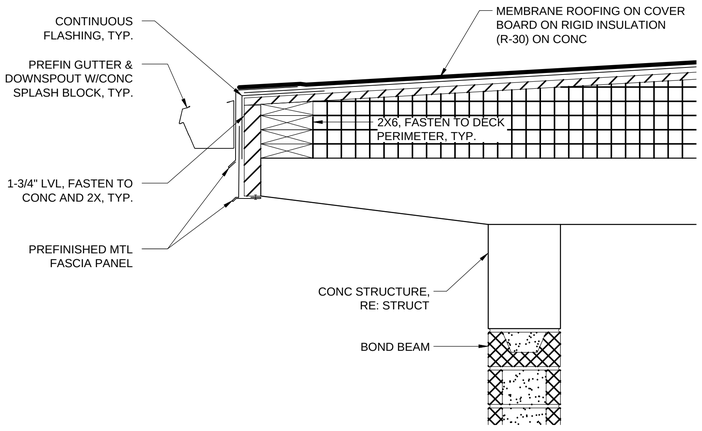
3 87-A-04 DOOR JAMB
SCALE: 1/2" = 1'-0"



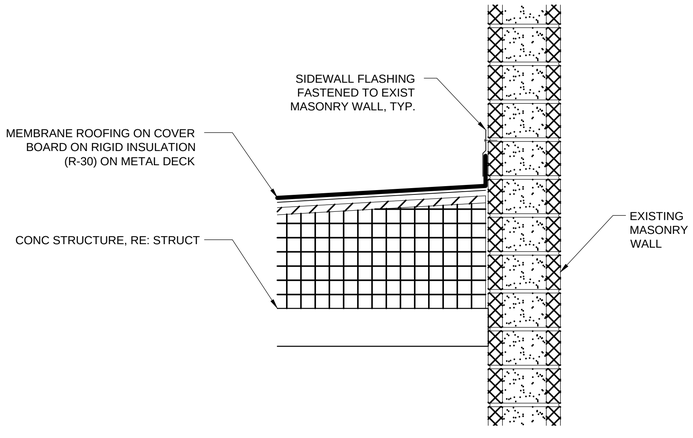
2 87-A-04 DOOR SILL
SCALE: 1/2" = 1'-0"

KEY NOTES

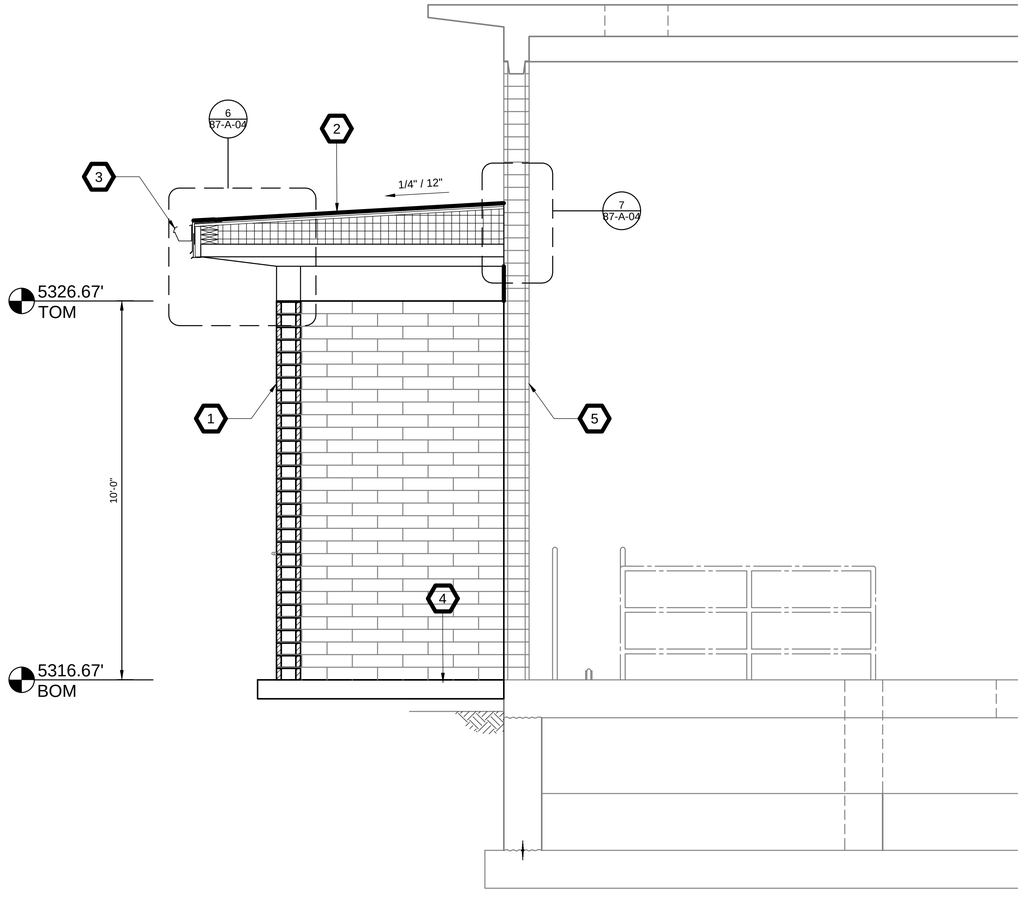
1. ATLAS BRICK WALL W/ WATER REPELLENT @ EXTERIOR FULL EXTENT, TYP., RE: STRUCT
2. MEMBRANE ROOFING ON COVER BOARD ON RIGID INSULATION (R-30) ON CONC DECK, TYP., RE: STRUCT
3. PREFINISHED GALV METAL FASCIA
4. CONC SLAB ON GRADE
5. EXISTING MASONRY WALL



6 87-A-04 ROOF EAVE DETAIL
SCALE: 1/2" = 1'-0"



7 87-A-04 ROOF SIDEWALL DETAIL
SCALE: 1/2" = 1'-0"



1 87-A-02 SECTION
SCALE: 1/2" = 1'-0"

SHORT AND BRENNAN ARCHITECTS

SCALE:

VERIFY SCALE
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SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

FLUORIDE - SECTIONS & DETAILS

90% GMP

DRAWING NO.
87-A-04

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1. Design Criteria

1.1. Governing Building Code.....2018 International Building Code (IBC)
A. Risk Category.....IV

1.2. Floor Live Loading
A. Walkways and Platforms, Grating.....100 psf Live Load
B. Upper Level Slabs.....250 psf Live Load
C. Electrical Room.....300 psf Live Load
D. Lower Level Slab (Clearwell Building).....250 psf Live Load or actual weights, if larger
E. Base Slab.....Maximum Fluid Level and Hydrostatic Load (Varies)

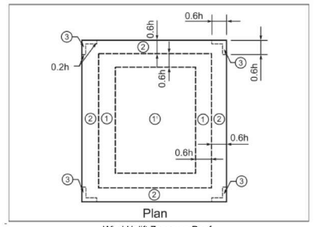
1.3. Roof Live Loading
A. Roof Live Load.....25 psf
B. Roof Snow Load.....65 psf + Drift per IBC
1. Ground Snow Load, P_g.....70 psf
2. Snow Exposure Factor, C_e.....1.0
3. Importance Factor, Is.....1.2
4. Thermal Factor, C_t.....1.1
5. Slope Factor, C_s.....1.0
C. Roof Rain Load Intensity
1. 15-min duration/100-year return period, i_{15}.....1.11 in. per hour
2. 60-min duration/100-year return period, i_{60}.....1.85 in. per hour

1.4. Earthquake
A. Seismic Design Category.....D
B. Spectral Response Accelerations
S_s = 1.23 g S_{DS} = 0.74 g
S_1 = 0.46 g S_{D1} = 0.24 g
C. Soil Site Class.....B
F_a = 0.90 F_v = 0.80
D. Basic Seismic-Force-Resisting System.....Special Concrete and Masonry Shear Walls
R = 5.0 Ω_0 = 2.5 C_d = 2.5
E. Importance Factor, Ie.....1.5
F. Redundancy Factor, ρ.....1.0
G. Analysis Procedure.....Equivalent Lateral Force (Static)
H. Seismic Design Coefficient, C_s.....0.22
I. Design Base Shear.....444 kips
J. Building Seismic Movement

Level	Total Displacement	
	Elastic	Inelastic
Roof	0.009"	0.033"
Base (Ground)	-	-

1.5. Wind
A. Basic Design Wind Speed, V.....120 mph
B. Velocity pressure exponent coefficient, K_d.....0.85
C. Ground elevation factor, K_e.....0.85
D. Exposure category.....C
E. Internal Pressure Coefficient, GC_{pi}.....0.18
F. Topographic Factor, K_{zt}.....1.0
G. Components and Cladding Design Pressure

Design Wind Pressure - LRFD (psf)						
Location		Tributary Area (ft²)				
		< 10	50	200	> 500	
Walls	Within 7.7 ft of building corner	+24.9 /-33.2	+22.4 /-28.1	+20.2 /-23.7	+18.7 /-23.6	
	All other areas	+24.9 /-27.0	+22.4 /-24.4	+20.2 /-22.2	+18.7 /-20.8	
Roof	Zone 3	-79.7	-79.7	-79.7	-79.7	
	Zone 2	-58.5	-58.5	-58.5	-58.5	
	Zone 1	-44.3	-44.3	-44.3	-44.3	
	Zone 1'	-25.5	-25.5	-25.5	-25.5	



Wind Uplift Zones on Roof

1.6. Foundation
A. Subsurface Conditions:
Soils report and log of borings was obtained by the Owner for the Engineer's use in the design of the foundation, and is not a part of the Contract Documents. This report and log of borings is available for the Contractor's information, but is not a warranty of the subsurface conditions. The Contractor may use the report at their own risk.
B. Soils Report by Gerhart Cole, dated February 2022.
C. Soil Bearing Pressure: .....3000 psf on compacted fill
D. Frost Depth: .....36 inches below grade
E. Lateral Soil Pressure Coefficients with Compacted Structural Fill:
1. Active: .....0.27 (retaining walls)
2. At-rest: .....0.43 (rigid foundation walls)
3. Passive: 3.70
4. Active Seismic: 0.36
5. At-rest Seismic: 0.27
F. Coefficient of Friction: 0.45

1.7. Classification for Fire Rated Construction
A. For the purpose of determining fire-resistive assemblies, the following framing systems shall be considered unrestrained.
1. Open web steel framing members supporting metal decking.
2. Single span and simply supported end spans of multiple bays that are supported by bearing walls:
a. Steel beams supporting concrete slabs, metal decking, or precast concrete units.
b. Open web steel joists supporting concrete slabs or precast concrete units.
c. Concrete slabs, precast concrete units, or metal decking.
3. Interior spans of multiple bays supported by bearing walls:
a. Steel beams supporting metal decking or precast concrete units.
b. Open web steel joists supporting precast concrete units.
B. All other steel floor and roof framing members shall be considered restrained.
C. Diagonal members in vertical braced frames shall be considered as secondary members for fire proofing protection.

2. Earthwork

2.1. All footings shall bear on a minimum of 6 inches of Compacted Structural fill at least 36 inches below lowest finished adjacent grade. The fill shall extend a minimum of twice the fill thickness beyond the perimeter of the footing. The minimum thickness of fill for footings bearing on bedrock shall be increased to 12 inches below bottom of footing. For footings bearing partially on bedrock and partially on soil, the minimum thickness of fill shall be 36 inches. Refer to the Geotechnical Report for additional information.

2.2. Excavations that extend below ground water level shall be dewatered. The water level should be maintained a minimum of 2 feet below the base of the excavation during placement of fill or concrete. Refer to the Geotechnical Report for additional dewatering recommendations.

2.3. Compacted structural fill: Structural fill shall be provided at all locations and extents described by the TYPICAL COMPACTED STRUCTURAL FILL DETAIL. All fill material shall be a well-graded granular material with a maximum size less than 3 inches and with not more than 30 percent passing a No. 200 sieve and a plasticity index of 10 or less. It shall be compacted within 2 percent of Optimum Moisture Content to 95 percent of the maximum laboratory density as determined by ASTM D1557. All fill shall be tested (See Specifications and the Quality Assurance section of the GSN).

2.4. It shall be the responsibility of the Contractor to brace and shore excavations as required.

Concrete

3.1. Materials shall comply with the Standards specified in American Concrete Institute (ACI) 318-19, "Building Code Requirements for Structural Concrete" and ACI 350-06, "Code Requirements for Environmental Engineering Concrete Structures."
A. Concrete mix design requirements shall be as follows (see Spec. Section 03 30 00):

Location	f'c at 28 days (psi)	Max W/C Ratio	Air Content (%)	Max Aggregate Size	Exposure Classes*			
					F	S	C	W
Class B Non-structural concrete	4500	0.45	4-6	3/4"	F1	S0	C2	W1
Class C-1 Typical cast-in-place concrete including: joists, beams, walls, columns	4500	0.40	4-6	3/4"	F0	S0	C1	W1
Class C-2 Liquid-containing Structures including but not limited to: filter walls and slabs, sedimentation, flocculation, , mat foundations	4500	0.40	4-6	3/4"	F0	S0	C1	W2
Class C-3 Clearwell walls and foundations	5000	0.40	4-6	3/4"	F0	S0	C2	W2
Class D-1 Topping concrete	000	0.42	4-6	3/8"	F0	S0	C1	W2
Class D-2 Wall starter course	5000	0.40	4-6	3/8"	F0	S0	C2	W2
Class E Pipe bedding and encasement, electrical conduit encasement (duct banks), and concrete fill	2000	-	-	3/4"	F0	S0	C2	W0
Class F Encasement of reinforcement extension for future construction	500	-	-	-	F0	S0	C1	W0

* Exposure Classes are per ACI 318, Section 19.3.1.1, where F, S, W, and C are exposure categories for freezing and thawing, sulfate, water contact, and corrosion protection of reinforcement, respectively.

B. Cementitious Materials:
1. Portland Cement (ASTM C595):
a. Type 1L (MS)
2. Fly Ash (ASTM C618, Class F): maximum fly ash content as a percentage of total weight of cementitious materials shall be as indicated in Specification Section 03 30 00.
C. Concrete Density (Maximum Air Dry Weight):
1. Normal weight concrete shall be approximately 145 to 155 pounds per cubic foot. Aggregate shall be ASTM C33.
D. Steel Reinforcement:
1. All detailing, fabrication, and erection of reinforcing bars, unless otherwise noted, shall be in accordance with ACI detailing manual (ACI SP-66), latest edition.
2. All reinforcing to be welded shall conform to ASTM A706. Rebar welding shall be in accordance with AWS D1.4.
3. ASTM A615 Grade 60, fy = 60,000 psi min. unless noted otherwise.
4. Reinforcement at concrete shear walls and all components of shear walls including coupling beams and wall piers shall comply with ASTM A706, Grade 60. ASTM A615 Grade 60 reinforcement shall be permitted if:
a. The actual yield strength based on mill tests does not exceed 78,000 psi, and
b. The ratio of actual tensile strength to the actual yield strength is not less than 1.25.
c. Mill tests shall be submitted to the Engineer.
E. Wire Reinforcement:
1. Welded wire fabric (WWF): ASTM A1064.
F. Vapor Barrier, where noted on drawings, shall be 10 mil minimum class A or B plastic water vapor retarder per ASTM E1745. Install per ASTM E1643. Lap joints 6" and seal with manufacturer's recommended tape or adhesive.
G. Curing compounds and other surface treatments, concrete admixtures, and sub-slab drainage shall be reviewed by contractor and certified compatible with finishes to be applied later in the construction sequence.
H. Admixtures:
1. Air-entraining admixtures, comply with ASTM C260 (when used).
a. Tolerance on air content as delivered shall be +/- 1.5%.
2. Corrosion Inhibiting admixture, comply with ASTM C1582 (when used):
a. Corrosion inhibiting additive containing a minimum of 30 percent calcium nitrite dosed at 3 gallons per cubic yard shall be added to all reinforced concrete with class C-3.
3. Waterproofing Admixture: Add waterproofing admixture in concrete placed at all liquid-containing areas as specified in Specification Section 03 30 00. Add Penetron International "PENETRON ADMIX SB", Xypex "Admix C-Series", Kryton "Krystol Internal Membrane (KIM)", or approved equivalent admixture to the concrete mix at the dosing rate recommended by the manufacturer. Alternate equal products may be submitted for review and consideration by the architect/engineer.
4. The use of super plasticizers and water reducers is allowed, but not required.
5. Calcium chloride or admixtures containing calcium chloride shall not be added to the concrete mix.
I. Chloride Ion: Maximum water soluble chloride ion concentrations in hardened concrete at age between 28 and 42 days contributed from the ingredients including water, aggregates, cementitious materials, and admixtures shall not exceed a maximum, by weight of cement, of 1.00% for concrete with exposure class C0, 0.30% for concrete with exposure class C1, and 0.15% for concrete with exposure class C2.
J. Slump Limit: As indicated in Specification Section 03 30 00. The concrete supplier shall indicate the final slump of each concrete mix in the submitted mix design.
K. Shrinkage Limit:
1. Liquid containing structures using Class C-2 concrete mix are intended to be watertight. Provide test results for Class C-2 concrete mix meeting the following requirement: drying shrinkage limit of 0.032 percent tested in accordance with ASTM C157. Drying shrinkage test results shall be submitted with mix designs.
2. Interior slabs on grade shall have a drying shrinkage limit of 0.040 percent tested in accordance with ASTM C157. Drying shrinkage test results shall be submitted with mix designs.
L. Only one grade or type of concrete shall be poured on the site at any given time.
M. Plastic coated tie wires and chairs shall be used to support reinforcing bars, tie bars and tendons.

3.2. Formwork shall comply with ACI Standards Publication 347 and the project specifications. The Contractor shall be responsible for the design, detailing, care, placement and removal of the formwork and shores.
A. Pre-camber forms and screeds with a camber of 1/4" per every 10'-0" of span to compensate for dead load deflection, unless noted otherwise.

3.3. Exposed ends of reinforcing bars at sawcut openings in existing concrete: Contractor shall remove reinforcing bars 1 1.2 inches back from face of opening by flame gouging. Fill hole and repair surface with concrete repair mortar.

3.4. All pipe penetrations 6" diameter and above shall be cast into the work. Coordinate with mechanical and electrical drawings for location and type. Core drilling for pipe penetrations smaller than 6" diameter shall be allowed, however, contractor must coordinate location and layout with Engineer prior to installation.

3.5. Except as otherwise required, exposed concrete corners and edges shall have ¾" chamfers. Re-entrant corners shall not have fillets.

3.6. Concrete cover requirements for deformed bar reinforcing steel shall comply with ACI 318, "Building Code Requirements for Structural Concrete".
A. Cast-in-place Concrete: Specified Cover
1. Cast against and permanently exposed to earth: .....3"
2. Concrete exposed to earth, wastewater, chemicals, or weather:.....2"
3. Concrete exposed to or above any liquid .....2"
4. Concrete not in the above categories unless noted otherwise on the design drawings: 1.1/2"

3.7. Construction Joints and Control Joints:
A. Provide a surface intentionally roughened to ¼" amplitude in all wall footings. A continuous keyway shall not be used for concrete shear wall to footing connections, unless specifically indicated. Refer to project plans, schedules and details for the shear wall to footing connection requirements.
B. All horizontal and vertical construction joints shall have a surface intentionally roughened to ¼" amplitude. A continuous 2 X 4 keyway may be used on elements other than shear walls.
C. Provide reinforcement dowels to match the member reinforcement across the joint, unless noted otherwise. For dowels across construction joints and wall to footing connections of concrete shear walls, refer to specific project plans, schedules, and details.
D. Construction joints in suspended concrete pours shall be made at the center of spans.
E. Slabs on grade shall have construction or control joints spaced not to exceed 30 times the slab thickness in any direction.
F. Control joints shall be installed in slabs on grade so the length to width ratio of the slab is no more than 1.25:1. Control joints shall be completed within 12 hours of concrete placement. See typical details for joint configuration.
G. Control joints in mat foundations, suspended slabs, and walls shall be located as shown in the construction documents. The contractor may submit alternate control joint locations for review.
1. Reinforcing shall be continuous through control and construction joints, unless noted otherwise.
2. Control joints in concrete foundation walls shall line up with concrete mat foundation control joints.

3.8. Detailing: All reinforcing, including welded wire fabric, shall be detailed, bolstered & supported to comply with ACI 315, "Details and Detailing of Concrete Reinforcement" and the Concrete Reinforcing Steel Institute (CRSI) recommendations. Reinforcing bars shall not be welded unless specifically shown on drawings.
A. All reinforcing shall be developed in compliance with the CONCRETE REINFORCING BAR DEVELOPMENT AND LAP SPLICE SCHEDULE. As indicated in the drawings or upon approval of the Engineer of Record, standard tension hooks or headed bars described by the TENSION HOOK DEVELOPMENT SCHEDULE or the TENSION HEADED BAR DEVELOPMENT SCHEDULE may be used in lieu of straight bars.
B. All mechanical splices shall have the capacity to develop at least 1.25fy of the bar in tension or compression. Type 2 couplers have the capacity to develop the full tension capacity of the bar. Type 1 couplers shall not be used in shear wall jamb columns. Mechanical splices shall have a current ICC or IAPMO code evaluation report; "Lenton" (IAPMO No. 0129), "Taper-Lock" (IAPMO No. 0319) or "SAS Stressteel" (ICC ESR-1163), "Bar-Lock" (ICC ESR-2495) or approved equivalent may be used. Mechanical couplers on adjacent bars shall be staggered a minimum of 24" apart along the longitudinal axis of the reinforcing bars.
C. All embedded elements and dowels shall be securely tied to formwork or to adjacent reinforcing prior to the placement of concrete.
D. Use chairs or other support devices recommended by CRSI to support and tie reinforcement bars and welded wire fabric prior to placing concrete. Welded wire fabric shall be continuously supported at 36" o.c. maximum.
E. See typical details for reinforcing at wall intersections and ends, reinforcing around wall openings and suspended slab openings, vertical wall dowels, concrete column ties and splices in vertical column reinforcing.
F. See typical details for column cross-ties. The 90-degree hooks of two successive crossties engaging the same longitudinal bars shall be alternated end for end.
G. Where required, reinforcement is to be terminated in a standard hook or headed bar anchor. Refer to the TENSION HOOK DEVELOPMENT SCHEDULE, the TENSION HEADED BAR DEVELOPMENT SCHEDULE and the REINFORCEMENT END HOOK SCHEDULE as appropriate. Unless otherwise noted, a standard hook or headed bar are equivalent and may be substituted at the Contractor's option.
H. Contractor shall coordinate placement of all openings, curbs, dowels, sleeves, conduits, bolts, inserts and other embedded items prior to concrete placement.
I. Provide anchorage inserts on concrete walls and concrete ceilings in galleries, pipe chases, and tunnels as required by mechanical and electrical installations. Use Unistrut P3200 series hot dip galvanized or equal unless otherwise specified.
J. All reinforcement shall be bent cold, and shall be bent only once at the same location. All reinforcement shall be shop bent, unless otherwise permitted by the Engineer.

3.9. Minimum Reinforcing: Wall reinforcing shall be as follows, unless noted otherwise:

Wall Thickness	Horizontal Reinforcing	Vertical Reinforcing
6"	#4 @ 13" o.c.	#4 @ 18" o.c.
8"	#5 @ 15" o.c.	#4 @ 16" o.c.
10"	#5 @ 12" o.c.	#4 @ 13" o.c.
12"	#4 @ 13" o.c. Each Face	#4 @ 18" o.c. Each Face
Others	0.25% of Wall Area	0.15% of Wall Area

Spacing shall exceed neither three times the wall thickness nor 18". In addition to the above reinforcing, 2 - #5 x continuous horizontal bars shall be placed at the bottom of the wall (near the footing) and at each floor level, at the roof level and at the top of wall.

3.10. No aluminum conduit or product containing aluminum or any other material injurious to concrete shall be embedded in concrete.

3.11. Unless otherwise noted, all slabs on grade shall be 4" thick.

4. Masonry

4.1. Materials shall comply with the Standards specified in TMS 402-16 and TMS 602-16, "Building Code Requirements and Specification for Masonry Structures."
A. Materials, unless noted otherwise:
1. Concrete Masonry Units: ASTM C 90, Medium Weight.
2. Material Strength: The Prism Test Method or the Unit Strength Method according to TMS 602-16 Section 1.4B may be used to determine the compressive strength of masonry assemblies. The contractor shall select the desired method and meet the required material strengths as follows:
a. Prism Test Method, TMS 602-16 Section 1.4B.3:
1) Concrete Masonry Unit Assembly, f'm = 2000 psi.
b. Unit Strength Method, TMS 602-16 Section 1.4B.2:
1) Concrete Masonry Units, minimum unit strength of 2000 psi average or better. (f'm = 2000 psi)
3. Mortar: Use Type "S" according to ASTM C270, proportion specification. Admixtures shall not be added to the mortar mix.
4. Grout: For masonry assemblies with f'm = 2,000 psi or less conform to ASTM C476, proportion specification. Grout that does not meet the requirements of ASTM C476 proportion specification or that is used in masonry assemblies with f'm > 2,000 psi shall meet the following requirements: Meet the material requirements of ASTM C476, obtain a minimum compressive strength of f'm or 2,000 psi, whichever is larger, at 28 days tested according to ASTM C1019, and a slump of 8 in. to 11 in. as determined by ASTM C143.
a. Self-Consolidating Grout: Conform to the material requirements of ASTM C476, obtain a minimum compressive strength of f'm or 2,000 psi, whichever is larger, at 28 days tested according to ASTM C1019, obtain a slump flow of 24 in. to 30 in. as determined by ASTM C1611, and shall have a Visual Stability Index less than or equal to 1 as determined in accordance with ASTM C1611 Appendix X.1. Field addition of admixtures is not permitted.
5. Reinforcing: Grade 60 reinforcing steel shall comply with ASTM A615. Wire joint reinforcing shall comply with ASTM A951.
6. Deformed Bar Anchors (DBA): All DBAs shall comply with ASTM A496.
7. Anchor Bolts (AB): ASTM A307 with ASTM A563 heavy hex nuts and hardened washers, Grade A, unless noted otherwise.
8. Headed Stud Anchors (HSA): Manufacture all HSAs in conformance with ASTM A108 with dimensions complying with AISC specifications.

4.2. Construction Requirements:
A. Mortar Joints: Joints shall be "concave", "V-joint" or "weathered raked" for structural members unless noted otherwise on architectural drawings.
B. Masonry walls, beams and columns shall be constructed with running bond, unless noted otherwise.
C. Grouting Requirements: Comply with IBC Section 2104 and TMS 602 Section 3.5. Grout shall be mechanically consolidated and mechanically reconsolidated according to TMS 602 Section 3.5 E.
1. Grout Pour Heights that exceed 4 feet shall meet the following requirements:
a. Provide cleanouts in the bottom course of masonry for each grout pour in accordance with TMS 602 Section 3.2 F.
b. For grout other than Self Consolidating Grout a demonstration panel representative of the proposed wall construction and construction procedures shall be provided and approved by the Architect. The demonstration panel may be a part of the completed construction as approved by the Architect.
c. For Self-Consolidating Grout placed in masonry that has cured for at least 4 hours, place in lifts not exceeding the Maximum Grout Pour Height in listed in TMS 602 Section 3.5C.
2. When grouting, form grout keys between grout pours. Form grout keys between grout lifts when the first lift is permitted to set prior to placement of the subsequent lift.
a. Form a grout key by terminating the grout a minimum of 1.1/2 in. below a mortar joint.
b. Do not form grout keys within beams.
c. At beams or lintels laid with closed bottom units, terminate the grout pour at the bottom of the beam or lintel without forming a grout key.
D. Reinforcing Bars shall not be welded unless specifically shown on drawings. In such cases, use only AWS standards. Do not substitute reinforcing bars for DBAs or HSAs.
E. Control Joints: Spacing shall not exceed 40'-0" or 2.5 times the wall height, whichever is less. Joints shall not be located over masonry openings. See drawings for locations.
F. Grout all beam and joist pockets solid after installation of beams and joists.
G. Masonry Veneer Attachment and Reinforcing:
1. Joint reinforcement: Veneer shall have continuous, galvanized 9 gauge wire joint reinforcement spaced vertically at 18" o.c. maximum. Mechanically attach veneer anchors to the continuous wire joint reinforcing with Hohmann & Barnard Seismiclip Interlock System (S.I.S.) clips.
2. Veneer shall be attached with anchors as follows:

Backup	Insulation Present	Veneer Anchors	Fasteners to Backup
Concrete walls	Yes or No	Hohmann & Barnard 305 Dovetail with 315-BT	Cast in place
Reinforced masonry walls with joints aligned in veneer	Yes or No	Hohmann & Barnard 270-2X Ladder Eye Wire	Cast in place
Reinforced masonry walls with joints not aligned in veneer	Yes	Hohmann & Barnard 362-CX Gripstay Channel Slot with 363-BT	corrosion resistant screw or sleeve expansion anchors with 200 lb. allowable capacity
	No	Hohmann & Barnard 362-C Gripstay Channel Slot with 363-BT	corrosion resistant screw or sleeve expansion anchors with 200 lb. allowable capacity
Wood or steel studs	Yes	Hohmann & Barnard HB-213-2X	#10 corrosion resistant screws
	No	Hohmann & Barnard DW-10HS	#10 corrosion resistant screws

3. Anchors shall be spaced at a maximum of 16" o.c horizontally and 18" o.c. vertically.
4. Anchors, slots, channels and ties shall be galvanized.
5. Other methods of attachment may be used with written acceptance by the Architect and Structural Engineer.
6. Steel Lintels: Provide steel angle lintels or steel ledger angles at all openings through the masonry veneer. Provide one inch of bearing for each foot of width of opening, with a minimum bearing of six inches. See the Steel Angle Lintel Schedule or typical details for size.

4.3. Detailing Requirements:
A. Standards: Reinforcing detailing shall comply with American Concrete Institute (ACI) Standard 315, "Details and Detailing of Concrete Reinforcement."
B. Reinforcement Protection (cover):
1. Joint reinforcement shall have not less than 5/8" mortar coverage from the exposed face.
2. Other reinforcement shall have a minimum coverage of one bar diameter over all the bars, but not less than 3/4". When masonry is exposed to soil, minimum coverage shall be 1.5".
C. Vertical steel reinforcement shall be placed and secured against displacement prior to grouting by wire positioners or other suitable devices: at intervals not exceeding the least dimension of the grout lift height, or bar splice locations, or 64". Vertical reinforcing shall be located at the center of the wall, unless noted otherwise.
D. Lap Splice Lengths: Lap all masonry reinforcing bars per the "Masonry Reinforcing Bar Lap Splice Schedule." Joint reinforcement shall lap a minimum of 6".
E. Corner Bars: Horizontal reinforcement shall be continuous at all corners and at intersecting walls. Provide corner bars with the required lap splice length.
F. Dowels: All vertical reinforcing shall be doweled to the foundation wall, footing (structure below) and to the structure above with the same size dowel, spacing (and in the same core) as the vertical wall reinforcing unless noted otherwise.
G. Wall Openings 24" wide and wider: Provide reinforced masonry lintels per Masonry Lintel Schedule over the top of, and 2 - #5 bars, in grouted spaces, on all sides and adjacent to every unscheduled opening, unless noted otherwise. Bars for all openings shall extend a minimum of 24" beyond the corners of the opening. Vertical bars shall extend from floor level below to the floor, or roof, level above. Where a 24" extension is not possible, extend bars as far beyond the opening as possible and terminate them with a 90 degree standard ACI hook.
H. Horizontal wall reinforcing shall be continuous through joining concrete walls, masonry walls, columns, and pilasters. Provide a key between the wall and the column or pilaster. Horizontal wall reinforcing shall be placed inside the column vertical reinforcing.

REAVELEY Engineers
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SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.HAWKES
DRAWN BY: S.SHEPHERD
CHECKED BY: J.HARPER
APPROVED BY: C.PRICE
DATE: JUNE 2024
EWO NO. --
ACCOUNT NO. 512260079

REVISIONS

NO.	DATE:		MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE(GMP)	CH	CP

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

GENERAL STRUCTURAL NOTES 1

90% GMP

DRAWING NO.
GS-01

I. Anchor bolts and headed stud anchors shall be set in a grouted cell. Anchor bolts and headed stud anchors shall have 1" grout surrounding the shank at its penetration. Grout shall be flush with the face or top of the masonry.
J. All masonry column ties shall terminate with 135 degree hooks plus a 6 bar diameter extension (4" minimum).
K. The exposed face of all embed plates shall be set flush with the face of masonry wall or column.

4.4. Minimum Reinforcing:
All masonry walls shall be reinforced as follows, unless shown otherwise on the drawings. Reinforcing shall be placed in grouted cells.

Wall Thickness	Horizontal Reinforcing	Vertical Reinforcing
6"	#4 @ 48" o.c.	#5 @ 32" o.c.
8"	#5 @ 48" o.c.	#5 @ 32" o.c.
10"	#6 @ 48" o.c.	#6 @ 32" o.c.
12"	2 - #5 @ 48" o.c.	#6 @ 32" o.c.

5. Structural Steel

5.1. Material:
A. Steel W-Shapes: ASTM A992, (F_y = 50 ksi), except as noted otherwise
B. All Other Shapes and Plates: ASTM A36 (Fy = 36 ksi), except as noted otherwise
C. All Stainless Steel Shapes: Type 316 meeting ASTM A276, S30403 (Type 304L), except as noted otherwise. All stainless steel shall be passivated per ASTM A380.
D. All Stainless Steel Hollow Structural Sections (HSS): ASTM A554, S30403 (Type 304L)
E. All Stainless Steel Plate, Strip, and Sheet: ASTM A240, S30403 (Type 304L)
F. All Stainless Steel Bolts and Anchor Rods: ASTM F593F, S31600 (Type 316).
G. All Stainless Steel Nuts: ASTM F594, S31600 (Type 316).
H. Steel Rectangular and Square Hollow Structural Sections (HSS): ASTM A500, Grade C (Fy = 50 ksi)
I. Steel Round HSS: ASTM A500, Grade C (Fy = 46 ksi)
J. Steel Pipe: ASTM A53, Grade B (Fy = 35 ksi)
K. Steel Deck:
1. Galvanized Steel Sheet: ASTM A653 or A1063, Grade 50 with G60 galvanized coating.
2. Ungalvanized Steel Sheet: ASTM A1008 or A1039, Grade 50
L. High-Strength Bolts:
1. Group A: ASTM F3125 Grades A325 & F1852
2. Group B: ASTM F3125 Grades A490 & F2280
M. Steel Deformed Bar Anchors (DBA): ASTM A496 or ASTMA1064, 70 ksi minimum yield strength.
N. Steel Headed Stud Anchors (HSA): ASTM A108, with dimensions complying with AISC specifications
O. Steel Anchor Rods: ASTM F1554, Grade 36, unless noted otherwise, with ASTM A563 heavy hex nuts and ASTM F436 hardened washers

5.2. Fabrication and construction shall comply with the following Codes and Standards:
A. American Institute of Steel Construction (AISC) 360-16, "Specification for Structural Steel Buildings"
B. American Institute of Steel Construction (AISC) Design Guide 27 "Structural Stainless Steel"
C. AISC 341-16, "Seismic Provisions for Structural Steel Buildings"
D. AISC 303-16, "Code of Standard Practice for Steel Buildings and Bridges" excluding the following: Section 3.3 (last two sentences of first paragraph), Section 4.4, Section 4.4.1, Section 4.4.2, Section 4.5, and Section 7.13.3
E. AISC/RCSC 2014, "Specification for Structural Joints Using High-Strength Bolts"
F. American Welding Society (AWS) D1.1:2015, "Structural Welding Code – Steel" (specific items do not apply when they conflict with the AISC requirements)
G. American Welding Society (AWS) D1.8:2016, "Structural Welding Code – Seismic Supplement" (specific items do not apply when they conflict with the AISC requirements)
H. American Welding Society (AWS) D1.6:2017, "Structural Welding Code – Stainless Steel"

5.3. Structural shapes and plates shall be fabricated from newly rolled (milled) one-piece sections without splices, unless specifically noted otherwise on the structural drawings. Connections for structural steel shall comply with the structural drawings, unless written approval is given by the Structural Engineer.

5.4. Steel completely encased in concrete shall not be galvanized or painted and shall have a clean surface for bonding to concrete unless otherwise noted on the drawings.

5.5. Structural steel shall be painted in accordance with the specification. Shop primer shall be compatible with finish coatings. Monorail capacities shall be painted on the side of the monorail beams.

5.6. Welding:
A. Welding shall conform to AWS D1.1-1 and AISC 314-16.
B. It is recommended the steel erection contractor and steel fabricator contact the Quality Assurance Agency prior to beginning any welds. A program of joint preparation and welding procedures should be worked out between the two parties before the welding is started so that correct welds will be made from the beginning.
C. Certification of Welders: All shop and field welding shall be executed by AWS certified welders who have been specifically certified for the process of welding being performed. The welder's certification will be considered as being current unless the welder is not engaged in the process of welding being performed for a period exceeding six months or there is a specific reason to question a welder's ability as required by AWS. Certification and records must comply with AWS Standards. Certification and appropriate records must be provided to the Architect prior to beginning work.
D. Electrodes for shop and field welds shall conform to AWS A5.1 or A5.5, Class E-70 XX or as noted otherwise. E60 XX may be used for welding steel floor and roof decks.
E. Stainless Steel welding shall conform to AWS D1.6 with A5.4 or A5.9 electrodes.
F. Minimum Welds: All intersecting steel shapes that are not bolted shall be connected by a fillet weld all around, unless noted otherwise. Fillet weld sizes that are not shown shall be 1/16" less than the thinnest of the connected parts for thicknesses 1/4" and larger. Fillet welds on plates less than 1/4" shall be of the same size as the thinnest of the connected parts.
G. Reinforcing Bars: Do not weld rebar except as specifically detailed in the drawings. In such cases, use only AWS standards. Do not substitute reinforcing bars for deformed bar anchors (DBAs), machine bolts, or headed stud anchors (HSAs).
H. Bolts: Do not apply any welds, including "tack" welds to bolts, including anchor bolts, except as specifically detailed in the drawings.
I. Headed Stud Anchor (HSA) welding and Deformed Bar Anchor (DBA) welding shall conform to the manufacturer's specifications. Welding shall comply with AWS D1.1 Section 7.6 through 7.9 and Annex G.
J. Special Provisions for Collector Welds: Welds used in members and connections of collector elements shall comply with these requirements. Welding methods, procedures and quality control shall comply with AWS D1.1, AWS D1.8 and the following:
1. A welding procedure specification (WPS) is required per AWS D1.1/D1.6. WPS variables shall be within the parameters established by the filler metal manufacturer.
2. Backer bars shall be removed from the beam bottom flange to column plates. This requirement also applies to all non-fusible backing used at beam to column CJP welds. Backing at beam flange to column flange plate joints shall not be welded to the underside of the beam flange, nor tack welded at this location.
3. Use weld tabs as specified in AWS D1.1 Section 5.31. Remove weld tabs to within 1/8 inch of the base metal surface after welding. Finish the edge where weld tabs are removed to a surface roughness of 500 micro-inches.
4. Quality requirements for weld access holes for all moment frame welds shall comply with AWS D1.8 Section 6.10. Weld access hole shape shall be per AWS D1.8 Figure 6.2.
5. Preheat, and interpass temperatures shall comply with AWS D1.1 Section 3.5 and AWS D1.6
6. Imperfections such as cracks, gouges, grooves, arch strikes and notches will not be permitted within the moment frame connection. Imperfections within the moment frame connection shall be repaired or removed.

5.7. Bolted Connections:
A. Structural bolts at steel framing shall be galvanized and conform to ASTM A 325N (Type 1) for connection of galvanized or painted framing. High strength bolts shall be fully tensioned unless connecting HSS shapes or otherwise noted. Stainless Steel Type 316 bolts shall be used for connection of stainless steel and aluminum framing.
B. Provide snug tightened joints with Group A (threads not excluded) bolts for steel to steel connections, unless noted otherwise. Snug tightened joints shall be used in connections for simple span framing and beam (or girder) to bearing plate connections. Snug tight is the condition that exists when all of the plies in a connection have been pulled into firm contact by the bolts in the joint and all of the bolts in the joint have been tightened sufficiently to prevent the removal of the nuts without the use of a wrench. The snug tightened condition is typically achieved with a few impacts of an impact wrench, application of an electric torque wrench until the wrench begins to slow, or the full effort of a worker on an ordinary spud wrench.
C. Provide pretensioned joints with Group A (threads not excluded) Type 1 bolts for steel to steel connections subject to significant load reversal, fatigue with no load reversal, tensile fatigue, and the conditions listed in AISC 360 Section J.1.10. Tighten bolts by the turn of the nut, calibrated wrench, or direct tension indicator method. Alternate fastener designs as defined by AISC shall be submitted to the Engineer for review and acceptability prior to installation.
D. Provide slip critical joints with Group A Type 1 bolts for steel to steel connections subject to fatigue with load reversal, joints that utilize oversized holes, and joints that utilize slotted holes not loaded perpendicular to the long direction of the slot. Faying surfaces shall meet the requirements of a slip-critical Class A surface. Tighten bolts by the turn of the nut, calibrated wrench, or direct tension indicator method. Alternate fastener designs as defined by AISC shall be submitted to the Engineer for review and acceptability prior to installation.
E. Provide hardened washers beneath the turned element of all bolts or nuts. Provide hardened beveled washers, to compensate for the lack of parallelism, where the outer face of the bolted parts has a slope greater than one in twenty with respect to the plane normal to the bolt axis. Hardened washers or plates installed over oversized holes or slotted holes shall be at least 5/16" thick and shall conform to ASTM F436. Plates or bars installed at slotted holes shall have a size sufficient to completely cover the slot after installation.
F. Where a steel to steel beam connection is not detailed in the drawings, provide a standard AISC framed connection with the capacity to support one half of the total uniform load capacity of the given shape for the span and for the steel specified.
G. Bolts, nuts and washers shall not be reused.

5.8. Beam Web Stiffener Plates:
A. Provide full-height web stiffener plates to each side of all beams above all bearing points. Unless noted otherwise, stiffener plates shall be the thickness indicated in the typical stiffener plate detail.

5.9. Metal Bar Grating:
A. Metal bar grating shall comply with the most recent requirements of the National Association of Architectural Metals Manufacturers, Metal Bar Grating Division (NAAMM MBG). Products shall conform to the latest edition of the Metal Bar Grating Manual, ANSI/NAAMM MBG 531, or the Heavy Duty Metal Bar Grating Manual, ANSI/NAAMM MBG 532, as appropriate.
B. Materials: Unless noted otherwise, metal bar grating of the following types shall conform with the following standards:
1. Steel: ASTM A569 (allowable fiber unit stress F = 18,000 psi)
2. Stainless Steel: ASTM A167, alloys 304/316 (allowable fiber unit stress F = 20,000 psi)
3. Aluminum: ASTM B221, alloys 6063-T6/6061-T6 (allowable fiber unit stress F = 12,000 psi)
C. Metal bar grating shall be provided with mill finish, unless otherwise noted.
D. Unless noted otherwise, provide W-19-4 (1.1/2" x 3/16") Steel grating in locations where metal bar grating is specified.

All metal bar grating shall be firmly and positively anchored to supporting members. Unless noted otherwise, weld grating to supporting members with 3/16" fillet welds, 3/4" long. Locate welds at each end of bearing bars approximately 6 in from each side of grating panel. At intermediate supports in panel, locate one weld at middle of panel.

6. Aluminum

6.1. Material:
A. All aluminum Structural Shapes: ASTM B308, Alloy 6061-T6.
B. All Aluminum Pipe and Tube: ASTM B241, Alloy 6061-T6.
C. All Aluminum Square and Rectangular Tubing: ASTM B221, Alloy 6063-T52.
D. All Aluminum Plate and Sheet: ASTM B209, Alloy 6061-T6.
E. All Aluminum Raised Pattern (checkered) Plate: ASTM B632, Alloy 6061-T6.

6.2. Fabrication and construction shall comply with the following Codes and Standards:
A. Aluminum Association, 2015 Aluminum Design Manual.

6.3. Aluminum in contact with concrete or masonry surfaces shall have the contact surfaces coated with an alkali-resistant bituminous paint.

6.4. Aluminum in contact with steel and/or stainless steel shall use neoprene, EPDM, or bonding washers/gaskets to ensure separation of dissimilar materials. Submit proposed products to Engineer for review.

6.5. Welding:
A. It is recommended the aluminum erection contractor and aluminum fabricator contact the Quality Assurance Agency prior to beginning any welds. A program of joint preparation and welding procedures should be worked out between the two parties before the welding is started so that correct welds will be made from the beginning.
B. Certification of Welders: All shop and field welding shall be executed by AWS certified welders who have been specifically certified for the process of welding being performed. The welder's certification will be considered as being current unless the welder is not engaged in the process of welding being performed for a period exceeding six months or there is a specific reason to question a welder's ability as required by AWS. Certification and records must comply with AWS Standards. Certification and appropriate records must be provided to the Engineer prior to beginning work.
C. Electrodes
1. Aluminum: 4043 Alloy

6.6. Aluminum Bar Grating:
A. Unless otherwise noted, all grating and grating stair treads shall be aluminum.
B. Metal bar grating shall comply with the most recent requirements of the National Association of Architectural Metals Manufacturers, Metal Bar Grating Division (NAAMM MBG). Products shall conform to the latest edition of the Metal Bar Grating Manual, ANSI/NAAMM MBG 531, or the Heavy Duty Metal Bar Grating Manual, ANSI/NAAMM MBG 532, as appropriate.
C. Materials: Unless noted otherwise, metal bar grating of the following types shall conform with the following standards:
1. Aluminum: ASTM B221, alloys 6063-T6/6061-T6.
2. See standard detail for grating thickness unless noted otherwise on the drawings. The minimum bearing bar width shall be 3/16". Provide abrasive nosing at stair landings and treads (checkered plate nosing is not allowed).
D. Metal bar grating shall be provided with mill finish, unless otherwise noted.
E. Metal bar grating, including stair treads, shall have serrated edges for slip resistance unless noted otherwise. All metal bar grating shall be firmly and positively anchored to supporting members. Unless noted otherwise, weld grating to supporting members with 3/16" fillet welds, 3/4" long. Locate welds at each end of bearing bars approximately 6 in from each side of grating panel. At intermediate supports in panel, locate one weld at middle of panel.

7. Miscellaneous

7.1. Post-Installed Anchors in Concrete and Masonry
A. All post-installed anchors shall be Type 316 Stainless Steel unless noted otherwise.
B. Anchorage to hardened concrete and grout-filled masonry shall include all mechanical and adhesive anchors and epoxy doweled reinforcing bars of size, quantity, spacing, and embedment as shown on the drawings. Additional anchors shall not be used without approval from the Engineer prior to installation.
C. Special inspection is required during the installation of all post-installed anchors. Refer to applicable code evaluation reports and the Quality Assurance and Statement of Special Inspections sections of the General Structural Notes.
D. Anchorage to Concrete:
1. All post-installed anchors into hardened concrete shall be selected from the pre-approved products identified in the Specification Section 05 05 20, unless noted otherwise.
2. Adhesive anchors shall be installed into concrete having a minimum age of 21 days. For installations sooner than 21 days, consult the adhesive manufacturer.
E. Anchorage to Masonry:
1. All post-installed anchors into grout-filled masonry shall be selected from the pre-approved products identified in the Specification Section 05 05 20, unless noted otherwise.
F. Expansion anchors shall be stainless steel "Kwik Bolt TZ" by Hilti Inc. or equivalent approved by Owner.
G. Alternate anchors or adhesives are permitted with approval of the Engineer. The Contractor shall submit the proposed anchor product data and code evaluation report demonstrating the anchor is equivalent to or exceeds the capacity of the specified anchor.
H. Installation of adhesive anchors horizontally or upwardly inclined to support sustained tension loads shall be performed by personnel certified by an applicable certification program. Certification shall include written and performance tests in accordance with the ACI/CRSI Adhesive Anchor Installer Certification program, or equivalent. Proof of current certification shall be submitted to the Engineer for approval prior to commencement of installation.
I. Anchors shall be installed according to the Manufacturer's Printed Installation Instructions and applicable code evaluation reports including:
1. Hole diameter, depth, and cleaning procedure
2. Adhesive mixing, preparation, and placement
3. Installation torque
J. Locate all existing reinforcement and embedded items prior to drilling into concrete or masonry elements. Do not damage rebar or embeds while drilling or installing anchors.
K. Grout all defective or abandoned holes with non-shrink grout or an injectable epoxy adhesive matching the surrounding concrete compressive strength. Consult the Architect for additional requirements at architecturally exposed concrete.
L. Drilled anchors are not allowed in post-tensioned concrete without approval of the Architect and Engineer.
Holes for post-installed anchors may not be core drilled unless specifically allowed by the manufacturer's installation instructions and the code evaluation report.

8. Special Instructions

8.1. The project specifications are not superseded by the General Structural Notes but are intended to be complementary to them. Consult the specifications for additional requirements in each section. Notes and specific details on the drawings shall take precedence over General Structural Notes and typical details

8.2. All omissions or conflicts, including dimensions, between the various elements of the consultants' drawings and/or specifications shall be brought to the attention of the Engineer before proceeding with any work involved. In case of conflict, follow the most stringent requirement as directed by the Engineer without additional cost to the Owner. Any work done by the Contractor after discovery of such discrepancy shall be done at the Contractor's risk.

8.3. The structural drawings shall be used in conjunction with the other drawings. Primary structural elements and overall structural layout are indicated within the structural plans and details. Some secondary elements, architectural layouts, alcoves, elevations, slopes, depressions, curbs, mechanical equipment and electrical equipment, are not indicated within the structural drawings. Detailing and shop drawing production for structural elements will require information (including dimensions) contained in the structural and/or other consultants' drawings.

8.4. Structural Dimensions controlled by or related to the mechanical or electrical equipment and dimensions related to the existing facilities shall be verified by the contractor prior to construction. Contractor is responsible for coordinating all construction dimensions and notifying construction manager of discrepancies in a timely fashion.

8.5. Mechanical and electrical equipment supports, anchorages, openings, recesses, and embedments not specified on the structural drawings, but specified on other contract drawings shall be provided prior to casting concrete.

8.6. Contract Drawings and specifications represent the finished structure. Contractor is responsible for means, methods, and sequence of construction, and shall make adequate provision to maintain the integrity of all structures at all stages of construction. Determination of and provisions for construction loading shall be provided by the contractor.

8.7. Contractor shall take adequate precautions to ensure the safety of workers and visitors to the site, including but not limited to, shoring, bracing, and access restriction. Comply with all Federal, State, and local safety codes and standards.

8.8. Slope drainage surfaces uniformly to drain. Slope shall be 1/8" to 1/4" per foot except where noted otherwise on the plans.

8.9. Openings through new and existing walls and slabs for pipes, ducts, conduits, etc., are not all shown on the structural drawings. The contractor shall coordinate with other disciplines and provide these openings in accordance with the other contract documents.

8.10. Shoring and Bracing Requirements:
A. Floor and Roof Structures -- The General Contractor is responsible for the method and sequence of all structural erection. The Contractor shall provide temporary shoring and bracing as the method of erection requires to provide adequate vertical and lateral support. Shoring and bracing shall remain in place as the chosen method requires until all permanent members are in place and all final connections are completed, including all roof and floor attachments. The building shall not be considered stable until all connections are complete.
B. Foundation walls must be braced until the complete floor or roof systems is completed. Do not backfill until floor or roof systems are in place.
C. Walls above grade shall be braced until the structural system is complete. Walls shall not be considered to be self-supporting.

8.11. All expansion joints (E.J.) shown in the structural drawings shall be considered seismic separation joints, unless noted otherwise.

8.12. Submittals: A copy of all shop drawings that have been submitted for review must be kept at the construction site for reference. These drawings must bear the appropriate review stamps. The shop drawing review shall not relieve the Contractor of the responsibility of completing the project according to the contract documents. The General Contractor shall review and mark all shop drawings prior to submitting them to the Engineer for review. Shop Drawings made from reproductions of (these) contract drawings will be rejected.

8.13. Project Coordination: It shall be the responsibility of the General Contractor to coordinate with all trades any and all items that are to be integrated into the structural system. Openings or penetrations through, or attachments to the structural system that are not indicated on these drawings shall be the responsibility of the General Contractor and shall be coordinated with the Engineers. The order of construction is the responsibility of the General Contractor. It is the Contractor's obligation to provide all items necessary for the chosen procedure.

8.14. Contractor shall field verify all dimensions, and conditions. If the contract drawings do not represent actual conditions, Contractor shall notify Engineer prior to fabrication or construction within that area.

8.15. Notice of Copyright: The structural drawings, plans, schedules, notes and details are hereby copyrighted by Reaveley Engineers. Submission or distribution of documents to meet official regulatory requirements or for similar purposes in connection with the project is not to be construed as publication in derogation of Reaveley Engineers' reserved rights. The documents defining the structure are instruments of service prepared by Reaveley Engineers for one use only. Furthermore, these documents shall not be reproduced, or copied, in whole or in part by the Contractor or subcontractors for preparation of shop drawings or other submittals.

9. Quality Assurance

9.1. Quality Assurance Agency Requirements:
A. The Owner shall engage a qualified Quality Assurance Agency (QAA) to provide all special inspection and quality assurance testing for the project. The QAA shall provide all information necessary for the building official to determine that the agency meets the applicable requirements.
1. The QAA shall be objective, competent and independent from the Contractor responsible for the work being inspected. The agency shall disclose to the building official and the registered design professional in responsible charge possible conflicts of interest so that objectivity can be confirmed.
2. The QAA shall have adequate equipment to perform required tests. The equipment shall be periodically calibrated.
3. The QAA shall employ experienced personnel educated in conducting, supervising and evaluating tests and special inspections. Experience or training shall be considered relevant where the documented experience or training is related in complexity to the same type of special inspection or testing activities for projects of similar complexity and material qualities.
4. The QAA shall send copies of all inspection and testing reports to the building official, Owner, Architect, Engineer and Contractor. Reports shall indicate that the work inspected was or was not completed in conformance to the approved construction documents. Discrepancies shall be brought to the immediate attention of the Contractor for correction. If they are not corrected, the discrepancies shall be brought to the attention of the, Architect and Engineer.
5. The QAA shall submit a final report documenting required special inspections and tests, and correction of any discrepancies noted in the inspections or tests. The final report shall be distributed to the building official, Owner, Architect and Engineer in a timely manner prior to the completion of the project.

9.2. Contractor Responsibilities:
A. The Contractor shall submit a written statement of responsibility to the building official and the Owner or the owner's authorized agent prior to the commencement of work on the systems or components listed in the statement of special inspections. The Contractor's statement of responsibility shall contain acknowledgement or awareness of the special requirements contained in the statement of special inspections.
B. Notification of QAA: The Contractor shall notify the QAA in a timely manner so that inspection and testing may be performed as outlined in the statement of special inspections.

9.3. Structural Observations by the Engineer of Record.
A. The Engineer of Record will perform structural observations at critical phases of the project as listed below. Observations will be made on a periodic basis throughout the construction of the structural system. Copies of the Engineer's report will be distributed to the Architect, Contractor, Owner, and QAA.
B. The contractor shall notify the Structural Engineer at least 24 hours in advance before any of the following actions.
1. Placing concrete in any footing, mat footing, deep foundation, grade beam, or pier.
2. Closing any wall forms.
3. Placing concrete in any column, beam, wall, or suspended slab.
4. Grouting any masonry.
5. Completing the structural steel framing.
6. Completing the welding of major sections of steel decking.
C. Observation visits to the site by the Engineer's field representatives shall not be construed as inspection or approval of construction.

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SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.HAWKES
DRAWN BY: S.SHEPHERD
CHECKED BY: J.HARPER
APPROVED BY: C.PRICE
DATE: JUNE 2024
EWO NO.: --
ACCOUNT NO.: 512260079

NO.	DATE:	REVISIONS	MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE(GMP)	CH	CP

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

GENERAL STRUCTURAL NOTES 2

90% GMP

DRAWING NO.
GS-02

10. Statement of Special Inspections

10.1. The following materials, systems and components require special inspection or testing per Chapter 17 of the International Building Code (IBC).

10.2. For items requiring continuous inspection, a special inspector must be present onsite during the performance of that task. In most cases, periodic inspections/tests shall be performed prior to commencing the task, intermittently during the task, and at the completion of the task. Frequency marked with (E) designates periodic inspections that must be performed prior to or upon completion of every task.

Structural Steel per IBC Section 1705.2.1, 1705.12.1 & 1705.13.1

Item	Frequency	Detailed Instructions
Prior to Welding (Table N5.4-1, AISC 360-16):		
Verify welding procedures (WPS) and consumable certificates	Periodic (E)	
Material identification	Periodic	Verify type and grade of material.
Welder identification	Periodic	A system shall be maintained by which a welder who has welded a joint or member can be identified.
Fit-up groove welds	Periodic	Verify joint preparation, dimensions, cleanliness, tacking, and backing.
Access holes	Periodic	Verify configuration and finish.
Fit-up of fillet welds	Periodic	Verify alignment, gaps at root, cleanliness of steel surfaces, and tack weld quality and location.
During Welding (Table N5.4-2, AISC 360-16):		
Use of qualified welders	Periodic	Verify that welders are appropriately qualified.
Control and handling of welding consumables	Periodic	Verify packaging and exposure control.
Cracked tack welds	Periodic	Verify that welding does not occur over cracked tack welds.
Environmental conditions	Periodic	Verify wind speed is within limits as well as precipitation and temperature.
WPS followed	Periodic	Verify items such as settings on welding equipment, travel speed, welding materials, shielding gas type/flow rate, preheat applied, interpass temperature maintained, and proper position.
Welding techniques	Periodic	Verify interpass and final cleaning, each pass is within profile limitations, and each pass meets quality requirements.
Steel headed stud anchors	Periodic	Verify placement and installation of steel headed stud anchors.
After Welding (Table N5.4-3, AISC 360-10):		
Welds cleaned	Periodic	Verify that welds have been properly cleaned.
Size, length, and location of welds	Periodic (E)	
Welds meet visual acceptance criteria	Periodic (E)	Verify weld meets visual acceptance criteria based upon crack prohibition, weld/base-metal fusion, crater cross section, weld profiles, weld size, undercut, and porosity.
Arc strikes	Periodic (E)	
k-area	Periodic (E)	When welding of doubler plates, continuity plates or stiffeners has been performed in the k-area, visually inspect the web k-area for cracks within 3 in. of the weld.
Weld access holes in rolled heavy shapes and built-up heavy shapes (flange >2")	Periodic (E)	After rolled heavy shapes and built-up heavy shapes are welded, visually inspect the weld access holes for cracks.

Item	Frequency	Detailed Instructions
Backing & weld tabs removed	Periodic (E)	
Repair activities	Periodic (E)	
Document acceptance or rejection of welded joint/member	Periodic (E)	
No prohibited welds	Periodic (E)	Verify no prohibited welds have been added without approval of the EOR.
Nondestructive Testing (Section N5.5, AISC 360-16):		
CJP welds (Risk Cat. or IV)	Periodic (E)	Ultrasonic testing shall be performed on 100% of CJP groove welds in butt, T- and corner joints subject to transversely applied tension loading in materials 5/16-inch thick or greater per Section N5.5b. A reduction in the rate of ultrasonic testing is allowed per Section N5.5e.
Welded joints subject to fatigue	Periodic (E)	Reduction of ultrasonic testing is prohibited.
Prior to Bolting (Table N5.6-1, AISC 360-16):		
Certifications of fasteners	Continuous	
Fasteners marked	Periodic	Verify that fasteners have been marked in accordance with ASTM requirements.
Proper fasteners for joint	Periodic	Verify grade, type, and bolt length if threads are excluded from the shear plane.
Proper bolting procedure	Periodic	Verify proper procedure is used for the joint detail.
Connecting elements	Periodic	Verify appropriate faying surface condition and hole preparation, if specified, meet requirements.
Pre-installation verification testing	Periodic	Observe and document verification testing by installation personnel for fastener assemblies and methods used.
Proper storage	Periodic	Verify proper storage of bolts, nuts, washers, and other fastener components.
During Bolting (Table N5.6-2, AISC 360-16):		
Fastener assemblies	Periodic	Verify that fastener assemblies are of suitable condition, paced in all holes, and washers and nuts are positioned as required.
Snug-tight prior to pretensioning	Periodic	Verify that joints are brought to snug-tight condition prior to pretensioning operation.
Fastener component	Periodic	Verify that fastener component not turned by wrench is prevented from rotating.
Pretensioned fasteners	Periodic	Verify that fasteners are Pretensioned in accordance with RCSC Specification, progressing systematically from the most rigid point toward the free edges.
After Bolting (Table N5.6-3, AISC 360-16):		
Document acceptance or rejection of bolted connections	Periodic (E)	
Other Steel Inspections (Section N5.8, AISC 360-16: Table J8-1, J10-1, AISC 341-17):		
Structural steel and stainless steel details	Periodic	All fabricated steel and all steel frames shall be inspected to verify compliance with the details shown in the construction documents, such as braces, stiffeners, member locations, and proper application of joint details at each connection.

Item	Frequency	Detailed Instructions
Anchor rods and other embedments supporting structural steel	Periodic	Shall be on the premises during the placement of anchor rods and other embedments supporting structural steel for compliance with construction documents. Verify the diameter, grade, type, and length of the anchor rod or embedded item, and the extent or depth of embedment prior to placement of concrete.
Galvanized steel members	Periodic	Exposed cut surfaces of galvanized structural steel main members and exposed corners of rectangular HSS shall be visually inspected for cracks subsequent to galvanizing. Cracks shall be repaired or the member shall be rejected.
H-piles	Periodic	Verify that no holes or unapproved attachments occur within the protected zones of piling *(see Table J10-1 of AISC 341-16).*
Steel Elements of Composite Construction (Table N6.1, AISC 360-16; Tables J9-1 thru J9-3, AISC 341-17):		
Placement and installation of steel deck	Continuous	
Placement and installation of steel headed stud anchors	Continuous	
Document acceptance or rejection of steel elements	Continuous	
Reinforcing steel	Periodic	Verify appropriate reinforcement size, spacing, and orientation; that it has not been re-bent in field; that it is correctly tied and supported; and that required steel clearances have been provided.
Composite member size	Periodic	Verify that composite member is the required size.

Steel Construction Other Than Structural Steel per IBC Section 1705.2.2

Item	Frequency	Detailed Instructions
Steel Roof and Floor Decks (IBC Table 1705.2.2):		
Material verification of cold-formed steel deck	Periodic	Confirm that identification markings are provided to conform to ASTM standards specified on construction documents.
Floor and roof deck welds	Periodic	Visual inspection is required to confirm that weld meets acceptance criteria of AWS D1.3. Welder qualifications should also be verified.

Concrete Construction per IBC Sections 1705.3 &1705.12

Item	Frequency	Detailed Instructions
Reinforcing steel	Periodic	Verify prior to placing concrete that reinforcing is of specified type, grade and size; that it is free of oil, dirt and rust; that it is located and spaced properly; that hooks, bends, ties, stirrups and supplemental reinforcement are placed correctly; that lap lengths, stagger and offsets are provided; and that all mechanical connections are installed per the manufacturer's instructions and/or evaluation report.
Welding of reinforcing steel	Periodic	Verify weldability of reinforcing steel other than A706. Continuous inspection is required for welding of reinforcing steel used in boundary elements of special structural walls or shear reinforcement.
Cast-in bolts & embeds	Periodic	

Item	Frequency	Detailed Instructions
Post-installed adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads	Continuous	All post-installed anchors/dowels shall be special inspected in accordance with the approved code evaluation report and with ACI Section 17.8.2.
Post-installed mechanical anchors and adhesive anchors not defined above	Periodic	
Use of required mix design	Periodic	Verify that all mixes used comply with the approved construction documents; ACI 318: Ch. 19, 26.4.3-26.4.4; and IBC 1904.1, 1908.2, 1908.3.
Concrete sampling for strength tests, slump, air content, and temperature	Continuous	Samples for strength tests shall be taken in accordance with ASTM C172, cured per ASTM C31 and tested in accordance with ASTM C39 by a testing agency complying with ASTM C1077. Acceptance criteria for strength tests shall be per ACI 318 Section 26.12.3. For each mix placed, samples shall be taken not less than once a day, nor less than once for each 150 yd^3 of concrete, nor less than once for each 5000 ft^2 of surface area for slabs or walls. At the time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and air content tests and determine the temperature of the concrete.
Concrete & shotcrete placement	Continuous	
Curing temperature and techniques	Periodic	Verify that concrete is maintained at a temperature of at least 50°F and in a moist condition for at least 7 days after placement. Verify that high-early-strength concrete is maintained at a temperature of at least 50°F and in a moist condition for at least 3 days after placement. Accelerated curing methods may be used (see ACI 318: 26.5.3.2(c)). Shotcrete shall be maintained at a temperature of at least 40°F for the same period of time as noted for concrete and kept in the moist condition during curing periods in accordance to IBC 1908.9 All concrete materials, reinforcement, forms, fillers, and ground shall be free from frost. In hot weather conditions ensure that appropriate measures are taken to avoid plastic shrinkage cracking and that the specified water/cement ratio is not exceeded.
In-situ strength verification	Periodic	Verify that adequate strength has been achieved prior to the removal of shores and forms.
Formwork	Periodic	Verify that the forms are placed plumb and conform to the shapes, lines, and dimensions of the members as required by the approved construction documents.
Reinforcement in special structural walls and all components of special structural walls including coupling beams and wall piers	Continuous	Verify that ASTM A 615 reinforcing steel used in these areas complies with ACI 318: 20.2.2.5 by means of certified mill test reports. If this reinforcing steel is to be welded chemical tests shall be performed in accordance with AWS D1.4.
Welding of Reinforcing Steel (IBC Table 1705.3):		

Item	Frequency	Detailed Instructions
Verification of weldability	Periodic	Verify weldability of reinforcing steel other than A706 based upon carbon equivalent and in accordance with AWS D1.4. Continuous inspection is required for welding of reinforcing steel used in boundary elements of special structural walls or shear reinforcement.
Other reinforcing steel	Periodic	Visually inspect all welds in accordance with AWS D1.4.
Single-pass fillet welds, 5/16" max	Periodic	
All other welds	Continuous	

Masonry Construction per IBC Section 1705.4

Item	Frequency	Detailed Instructions
Prior to Construction (Article 3.1.1, TMS-402/ACI 530.1-13):		
Review material certificates, mix designs, test results and construction procedures	Periodic	Verify that materials conform to the requirements of the approved construction documents. Mix design, test results, material certificates, and construction procedures should be submitted for review. Mortar mix designs shall conform to ASTM C 270 while grout shall comply with the proportion or strength requirements of ASTM C 476 or be based upon compressive strength tests in accordance with ASTM C1019. Material certificates shall be provided for the following: reinforcement; anchors, ties, fasteners, and metal accessories; masonry units; mortar and grout materials. Construction procedures for cold-weather or hot-weather construction shall be reviewed.
Verify f'_m and f'_{AAC} prior to construction	Periodic	Determine the compressive strength for each wythe by the "unit strength method" or by the "prism test method" as specified in Section 1.4B of ACI 530.1-13 prior to construction.
Proportions of site-prepared mortar	Periodic	Verify that mortar is of the type and color specified on the construction documents, that it conforms to ASTM C 270, and that it is mixed in accordance with Article 2.6 A of TMS-602/ACI 530.1-13.
Construction of mortar joints	Periodic	Verify that mortar joints comply with Article 3.3 B of TMS-602/ACI 530.1-13.
Properties of thin-bed mortar for AAC masonry	Periodic	Verify that mortar complies with Article 2.1 C of TMS-602/ACI 530.1-13.
Preparation of required grout specimens, mortar specimens and/or prisms shall be observed	Periodic	If the prism test method is used a minimum of three prisms shall be constructed in accordance with ASTM C1314. If the unit strength method is selected the compressive strength of the grout shall be determined per ASTM C1019 (not required if grout complies with ASTM C476).
Prior to Grouting (Table 3.1.2, TMS-402/ACI 530-13):		
Grout space	Periodic	Verify that grout space is free of mortar droppings, debris, loose aggregate, and other deleterious materials and that cleanouts are provided per Article 3.2 D and 3.2 F of TMS-602/ACI 530.1-13.
Grade, type, and size of reinforcement and anchor bolts	Periodic	Verify that reinforcement, joint reinforcement, wall ties, anchor bolts and veneer anchors comply with the approved construction documents and Section 1.6 of TMS 402/ACI 530-13.
Placement of reinforcement and connectors	Periodic	Verify that reinforcement, joint reinforcement, wall ties, anchor bolts and veneer anchors are installed in accordance with the approved construction documents and Articles 3.2 E, 3.4, and 3.6 A of TMS 602/ACI 530.1-13.
Proportions of site-prepared grout	Continuous	Verify that grout is proportioned per ASTM C 476 and has a slump between 8-11 inches. Self-consolidated grout shall not be proportioned onsite. (see Articles 2.6 B and 2.4 G.1.b of TMS 602/ACI 530.1-13.
Placement of masonry units and construction of mortar joints	Periodic	Verify that face shells and head joints are fully mortared and that vertical cells are aligned and unobstructed openings for grout are provided. All units are to be clean and placed while mortar is soft and plastic. Verify that mortar joints are placed in accordance with Article 3.3 B of TMS 602/ACI 530.1-13.
During Masonry Construction (Table 3.1.2, TMS-402/ACI530-13):		
Size and location of structural elements	Periodic	Verify that structural elements are placed in locations specified on the approved construction documents and to the tolerances noted in Section 3.3F of TMS 602/ACI 530.1-13.
Type, size, and location of anchors, including other details of anchorage of masonry to structural members or other construction	Periodic	Verify that correct anchorages and connections are provided per the approved plans and Sections 1.16.4.3 and 1.17.1 of TMS 402/ACI 530-13. Verify that structural elements are placed in locations specified on the approved construction documents. Headed or bent bar anchor bolts shall be embedded in grout.
Welding of reinforcement	Continuous	
Preparation, construction, and protection of masonry during cold weather (<40°F) or hot weather (>90°F)	Periodic	Verify that cold-weather construction is performed in accordance with Article 1.8 C of TMS 602/ACI 530.1-13 and hot weather construction per Article 1.8 D of TMS 602/ACI 530.1-13.
Placement of grout	Continuous	
Self-consolidating grout	Continuous	
Observation of grout specimens, mortar specimens, and/or prisms	Continuous	Confirm that specimens/prisms are performed as required by Article 1.4 of TMS-602/ACI 530.1-13.
Minimum Testing:		
Verification of Slump Flow and Visual Stability Index (VSI) for self-consolidating grout	Periodic	Compressive strength tests should be performed in accordance with ASTM C 1019 for slump flow and ASTM C 1611 for VSI.
Verification of f'_m and f'_{AAC}	Periodic	Determine the compressive strength for each wythe by the "unit strength method" or by the "prism test method" as specified in Article 1.4 B of TMS 602/ACI 530.1-13 prior to construction.
Verification of proportions of materials in premixed or pre-blended mortar and grout	Periodic	Verify that proportions for mortar meet ASTM C 270 and proportions for grout meet ASTM C 476.
Post-installed anchors or dowels		All post-installed anchors/dowels shall be specially inspected as required by the approved ICC-ES report.

Soils per IBC Section 1705.6

Item	Frequency	Detailed Instructions
Verify subgrade is adequate to achieve design bearing capacity	Periodic	Prior to placement of concrete.
Verify excavations extend to proper depth and material	Periodic	Prior to placement of compacted fill or concrete.
Verify that subgrade has been appropriately prepared prior to placing compacted fill	Periodic	Prior to placement of compacted fill.
Perform classification and testing of compacted fill materials	Periodic	All materials shall be checked at each lift for proper classifications and gradations not less than once for each 10,000ft² of surface area.
Verify proper materials, densities and lift thicknesses during placement and compaction.	Continuous	

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C. HAWKES
DRAWN BY: S. SHEPHERD
CHECKED BY: J. HARPER
APPROVED BY: C. PRICE
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO: 512260079

REVISIONS

NO.	DATE:		MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE(GMP)	CH	CP

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

SPECIAL INSPECTION NOTES

90% GMP

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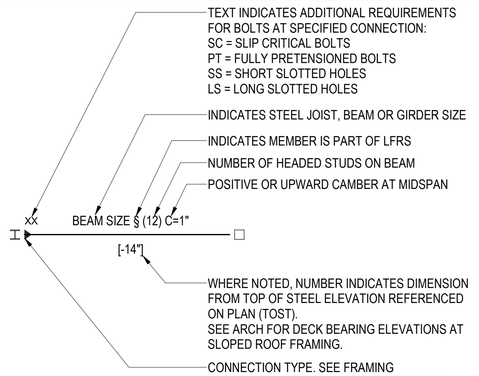
DRAWING NO.
GS-03

PLAN LEGEND

- S — FOOTING STEP
- FOOTING - CONTINUOUS
- FOOTING - THICKENED SLAB
- FOOTING - SQUARE FOOTING - RECTANGULAR FOOTING - MAT FOOTING
- 0" — CHANGE IN ELEVATION
- SLAB BLOCK-OUT AT COLUMN
- CJ — SLAB CONTROL/CONSTRUCTION JOINT
- SPECIAL SLAB OR DECK AREA
- SPECIAL SLAB OR DECK AREA
- SPECIAL SLAB OR DECK AREA
- RECESSED/DEPRESSED SLAB
- OPENING
- CONCRETE HOUSEKEEPING PAD
- INDICATES WINDOW WASHING TIE-BACK
- CONCRETE BEAM
- CONCRETE SUSPENDED SLAB
- CONCRETE OVER STEEL DECK
- STEEL DECK
- STEEL GRATE
- CONCRETE WALL
- CONCRETE WALL - RECESSED (FDTN PLAN)
  CONCRETE LINTEL (FRAMING PLAN)
- CONCRETE WALL - RECESSED AT DOOR
- CONCRETE PIER IN CONCRETE WALL. TOP OF PIER RECESSED BELOW SLAB.
- CONCRETE COLUMN
- CONCRETE JAMB COLUMN POURED MONOLITHIC WITH CONCRETE WALL
- MASONRY WALL
- MASONRY WALL - RECESSED (FDTN PLAN)
  MASONRY LINTEL (FRAMING PLAN)
- MASONRY COLUMN IN MASONRY WALL
- BRICK WALL
- BRICK WALL - RECESSED (FDTN PLAN)
  BRICK LINTEL (FRAMING PLAN)
- BRICK COLUMN IN BRICK WALL
- STEEL BRACED FRAME - ABOVE
- STEEL BRACED FRAME
- STEEL BEAM OR GIRDER
- STEEL JOIST OR PURLIN
- STEEL COLUMN - TUBE (HSS)
- STEEL COLUMN - WIDE FLANGE
- STEEL COLUMN - PIPE (HSS)

STEEL FRAMING MEMBER DESIGNATION



STEEL FRAMING CONNECTION LEGEND

- MOMENT FRAME CONNECTION (LFRS)
- GRAVITY BEAM MOMENT CONNECTION
- WELDED SINGLE PLATE COLLECTOR/CHORD CONNECTION
- STRAP PLATE COLLECTOR/CHORD CONNECTION AT BEAMS PARALLEL TO MARK.
- DOUBLE ANGLE CONNECTION
- DROP-IN BEAM CONNECTION

PLAN MARKS

BF-#	BRACED FRAME
CB-#	CONCRETE BEAM
CC-#	CONCRETE COLUMN
CCSS-#	CANTILEVERED CONCRETE SUSPENDED SLAB
CDP-#	CONCRETE DRILLED PIER
CFW-#	CONCRETE FOUNDATION WALL
CGB-#	CONCRETE GRADE BEAM
CJ-#	CONCRETE JOIST
CJC-#	CONCRETE JAMB COLUMN
CL-#	CONCRETE LINTEL
CP-#	CONCRETE PIER
CRW-#	CONCRETE RETAINING WALL
CSG-#	CONCRETE SLAB ON GRADE
CSH-#	CONCRETE SHEAR HEAD
CSS-#	CONCRETE SUSPENDED SLAB
CSW-#	CONCRETE SHEAR WALL
CW-#	CONCRETE WALL
FC#	CONTINUOUS FOOTING
FM#	MAT FOOTING
FR#	RECTANGULAR FOOTING
FS#	SQUARE FOOTING
FTS#	THICKENED SLAB FOOTING
HD-#	HOLD DOWN ANCHOR
MC-#	MASONRY COLUMN
MF-#	MOMENT FRAME
ML-#	MASONRY LINTEL
MP-#	MASONRY PIER
MW-#	MASONRY WALL
PTB-#	POST-TENSIONED CONCRETE BEAM
SBP-#	STEEL BASE PLATE
SC-#	STEEL COLUMN
SCP-#	STEEL CAP PLATE
SD-#	STEEL DECK
SDA-#	STEEL DECK ATTACHMENT
SG-#	STEEL GIRDER
SJ-#	STEEL JOIST
SND-#	SNOW DRIFT
WB-#	WOOD BEAM
WBW-#	WOOD BEARING WALL
WC-#	WOOD COLUMN
WD-#	WOOD DIAPHRAGM
WJ-#	WOOD JOIST
WSW-#	WOOD SHEAR WALL

ABBREVIATIONS

@	AT
AB	ANCHOR BOLT (S)
ABV	ABOVE
ALT	ALTERNATE
APPROX	APPROXIMATE
ARCH	ARCHITECT(URAL)
BLDG	BUILDING
BLW	BELOW
BM	BEAM
BOT	BOTTOM
BRG	BEARING
BTWN	BETWEEN
CJ	CONSTRUCTION JOINT OR CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CTR	CENTER
D.B.	DECK BEARING
db	DIAMETER OF REINFORCING BAR
DBA	DEFORMED BAR ANCHORS
DBL	DOUBLE
DET	DETAIL
DIA (OR Ø)	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DK	DECK
DN	DOWN
DWG	DRAWING
DWL	DOWEL
E.F.	EACH FACE
E.J.	EXPANSION JOINT (SEISMIC SEPARATION JOINT)
E.W.	EACH WAY
EA	EACH
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
ENG	ENGINEER
EQ	EQUAL
EQUIP	EQUIPMENT
EXIST (E)	EXISTING
EXP	EXPANSION / EXPOSED
EXT	EXTERIOR
F.D.	FLOOR DRAIN
F.F.	FINISH FLOOR
F.V.	FIELD VERIFY
FDTN	FOUNDATION
FIN	FINISH
FL	FLOOR
FT	FOOT
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GLB	GLU-LAMINATED BEAM
GR	GRADE
GSN	GENERAL STRUCTURAL NOTES
HB	HORIZONTAL BRIDGING
HORIZ	HORIZONTAL
HSA	HEADED STUD ANCHORS
HSS	HOLLOW STRUCTURAL STEEL
HT	HEIGHT
I.F.	INSIDE FACE
IBC	INTERNATIONAL BUILDING CODE
ICC	INTERNATIONAL CODE COUNCIL
IN	INCH
INSUL	INSULATION
INT	INTERIOR
JST	JOIST
JT	JOINT
K	KIPS - 1,000 POUNDS
KLF	KIPS PER LINEAL FOOT
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
LBS	POUNDS
Ld, Lt, Lsb, Lsbt, Ldc, Lsc	SEE CONCRETE REINFORCING BAR DEVELOPMENT AND LAP LENGTH SCHEDULE
LF	LINEAL FOOT
LFRS	LATERAL FORCE RESISTING SYSTEM (SFRS & WFRS)
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LSH	LONG SIDE HORIZONTAL
LSV	LONG SIDE VERTICAL
MAS	MASONRY
MAX	MAXIMUM
MCJ	MASONRY CONTROL JOINT
MECH	MECHANICAL
MFGR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
NIC	NOT IN CONTRACT
NORM	NORMAL
NTS	NOT TO SCALE
O.C.	ON CENTER
O.F.	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE

ABBREVIATIONS

OWSJ	OPEN WEB STEEL JOIST
P.T.	POST-TENSIONED
PAF	POWDER ACTUATED FASTENER
PCF	POUNDS/CUBIC FOOT
PJP	PARTIAL JOINT PENETRATION
PL	PLATE
PLF	POUNDS/LINEAL FOOT
PNL	PANEL
PSF	POUNDS/SQ FOOT
PSI	POUNDS/SQ INCH
R.D.	ROOF DRAIN
REINF	REINFORCING
REQD	REQUIRED
SDS	SELF-DRILLING SCREW
SFRS	SEISMIC FORCE RESISTING SYSTEM
SHT	SHEET
SI	SPECIAL INSPECTION (SP. INSP.)
SIM	SIMILAR
SOG	SLAB ON GRADE
SQ	SQUARE
SST	STAINLESS STEEL
STAG	STAGGERED
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STRUCT	STRUCTURAL
T & B	TOP AND BOTTOM
T.O.	TOP OF
TEMP	TEMPERATURE
THDS	THREADS
TOC	TOP OF CONCRETE
TOCP	TOP OF CONCRETE PIER
TOF	TOP OF FOOTING
TOS	TOP OF SLAB
TOST	TOP OF STEEL
TOW	TOP OF WALL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W.P.	WORK POINT
W/	WITH
WF	WIDE FLANGE
WFRS	WIND FORCE RESISTING SYSTEM
WT	WEIGHT
WWF	WELDED WIRE FABRIC
YD	YARD

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C. HAWKES
DRAWN BY: S. SHEPHERD
CHECKED BY: J. HARPER
APPROVED BY: C. PRICE
DATE: JUNE 2024
EWO NO. --
ACCOUNT NO. 512260079

REVISIONS

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SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

LEGENDS & ABBREVIATIONS

90% GMP

DRAWING NO.
GS-04

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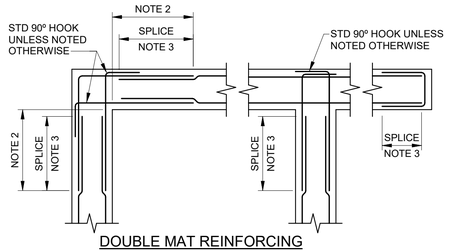
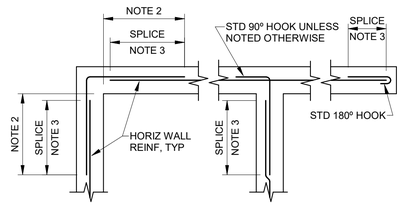


DOUBLE MAT REINFORCING



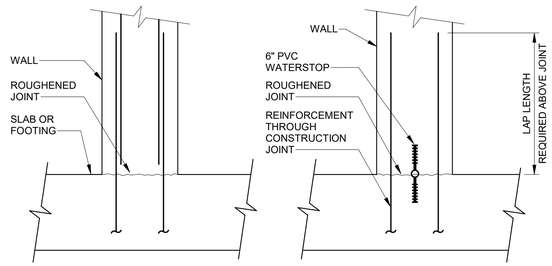
SINGLE MAT REINFORCING

NOTES:

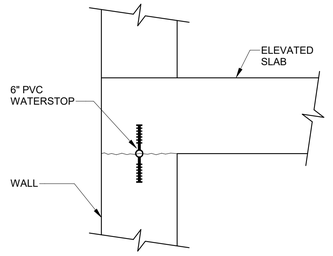
1. UNLESS NOTED OTHERWISE, SIZE AND SPACING OF CORNER OR INTERSECTION REINFORCING SHALL MATCH HORIZONTAL REINFORCING SHOWN IN SPECIFIC SECTIONS OR DETAILS. VERTICAL REINFORCING NOT SHOWN FOR CLARITY.
2. UNLESS NOTED OTHERWISE, BAR SPLICE SHALL BE LOCATED OUTSIDE OF CORNER OR INTERSECTION AREA TO AVOID CONGESTION. CONTRACTORS OPTION TO PROVIDE SINGLE BENT BAR IN LIEU OF SPLICE CONFIGURATION AT ONE END ONLY.
3. SEE GENERAL STRUCTURAL NOTES FOR SPLICE LENGTH. HORIZONTAL WALL BARS SHALL BE CONSIDERED TOP BARS FOR DEVELOPMENT AND SPLICE LENGTHS.

A STANDARD HORIZONTAL WALL REINFORCING

35-S-05



TYPICAL JOINT WITHOUT WATERSTOP JOINT WITH PVC WATERSTOP

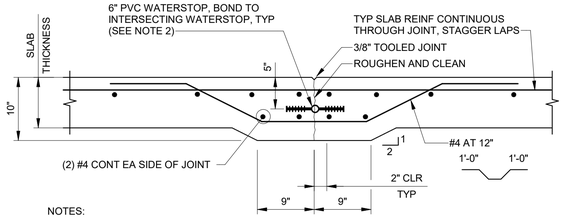


NOTES:

1. SEE SECTIONS AND DETAILS FOR TYPE OF JOINT REQUIRED.
2. ALL REINFORCING TO CONTINUE THROUGH JOINT.

WALL/ELEVATED SLAB JOINT WITH PVC WATERSTOP

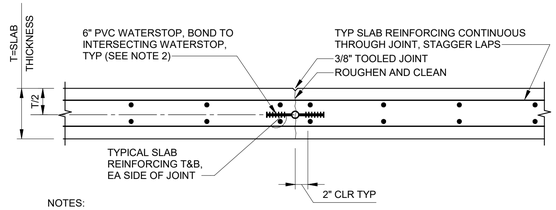
B STANDARD HORIZONTAL CONSTRUCTION JOINT



NOTES:

1. 10" THICKENED SLAB AND ADDITIONAL #4 REQUIRED ONLY AT JOINTS WITH WATERSTOPS.
2. FOR SLABS 10" THICK OR GREATER, NO THICKENING REQUIRED.

ONE LAYER OF REINFORCING

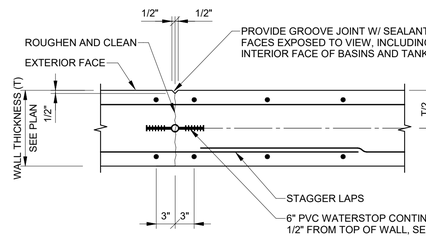


NOTES:

1. ALL REINFORCING SHALL BE CONTINUOUS THROUGH JOINT.
2. WATERSTOP REQUIRED AT LIQUID HOLDING BASINS AND TANKS, AND BELOW GRADE SLABS.

DOUBLE MAT OF REINFORCING

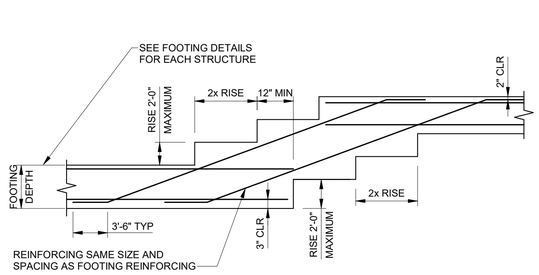
C STANDARD SLAB CONSTRUCTION JOINT



NOTES:

1. ALL REINFORCING SHALL BE CONTINUOUS THROUGH JOINT.
2. WATERSTOP REQUIRED AT LIQUID HOLDING BASINS AND TANKS, AND BELOW GRADE WALLS.

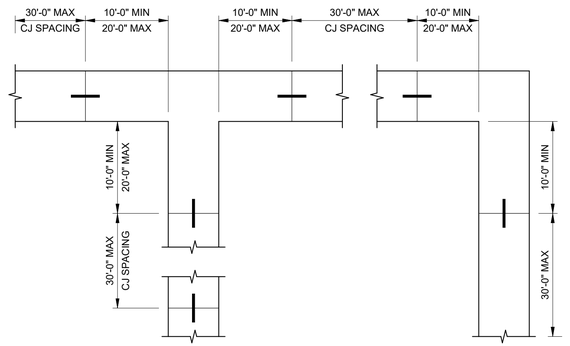
D STANDARD VERTICAL WALL CONSTRUCTION JOINT



NOTES:

1. STEPS SHALL BE 1 VERTICAL (MAXIMUM) TO 2 HORIZONTAL UNLESS OTHERWISE NOTED.
2. LOCATE STEPS AS REQUIRED TO MAINTAIN FOOTING CONTROL, ELEVATIONS SHOWN ON PLAN.

E STANDARD STEP IN WALL FOOTING



PLAN

WALL CONSTRUCTION JOINT SPACING

NOTES:

1. COORDINATE CONSTRUCTION JOINT LOCATIONS AND TIME BETWEEN CONCRETE POURS WITH SPECIFICATION 03 30 00.
2. LOCATE WALL CONSTRUCTION JOINTS AS SHOWN, UNLESS INDICATED OTHERWISE.

F STANDARD WALL CONSTRUCTION JOINT SPACING

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SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.HAWKES
DRAWN BY: S.SHEPHERD
CHECKED BY: J.HARPER
APPROVED BY: C.PRICE
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO. 512260079

REVISIONS

NO	DATE:		MADE BY	AUTH BY
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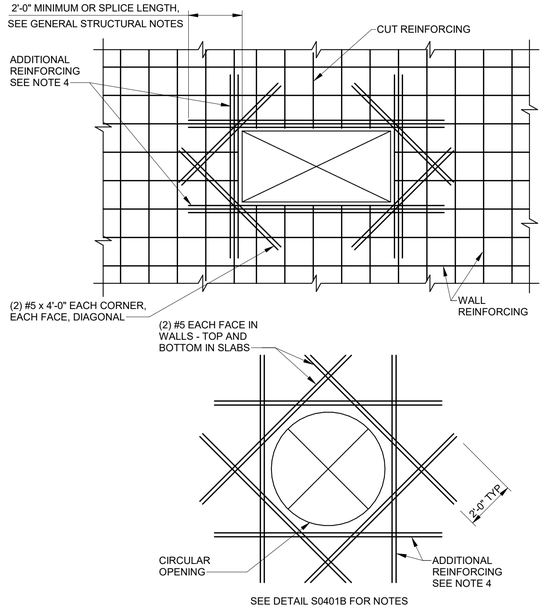
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

STANDARD STRUCTURAL DETAILS 1

90% GMP

DRAWING NO.
GS-05



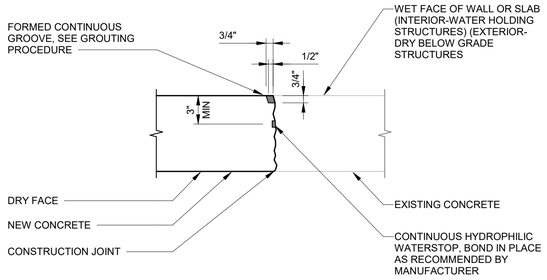
SEE DETAIL S0401B FOR NOTES

ADDITIONAL REINFORCING NOTES:

1. THIS DETAIL APPLIES TO OPENINGS UP TO 4'-0" MAXIMUM DIMENSION, UNLESS OTHERWISE SHOWN ON THE DRAWINGS. AT OPENINGS 12" OR LESS, NO ADDITIONAL REINFORCING IS REQUIRED. OFFSET REINFORCING, STILL MAINTAINING REQUIRED.
2. OPENINGS ARE NOT ALL SHOWN ON STRUCTURAL DRAWINGS. PROVIDE OPENINGS IN ACCORDANCE WITH ARCHITECTURAL, MECHANICAL, AND OTHER CONTRACT DRAWINGS.
3. ADDITIONAL REINFORCEMENT MAY BE OMITTED WHERE OPENING IS FRAMED BY BEAMS OR WALLS.
4. ADDITIONAL REINFORCING (4) SIDES OF OPENING, EACH FACE, EQUAL TO NUMBER AND SIZE OF CUT REINFORCING. WHERE AN ODD NUMBER OF REBAR ARE CUT, PROVIDE (ODD NO. +1)/2 EACH SIDE OF OPENING (MIN 2 ADDITIONAL BARS EACH SIDE).
5. MINIMUM SPACING BETWEEN OPENINGS TO BE 2X MAXIMUM OPENING SIZE.
6. OPENINGS SPACED CLOSER THAN THE MINIMUM SPACING SHALL BE REINFORCED AS A SINGLE OPENING.
7. OPENINGS LARGER THAN ALLOWED ON THIS DETAIL REQUIRE CONSULTATION WITH THE STRUCTURAL ENGINEER.

A ADDITIONAL REINFORCING AT OPENINGS IN WALLS

35-S-09



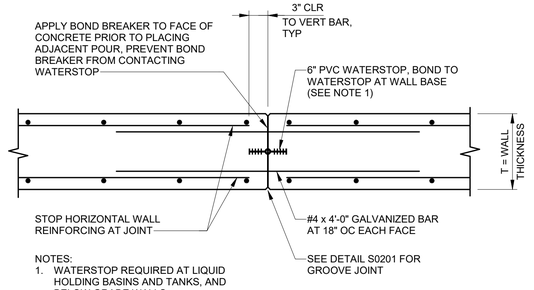
NOTE:

FOR USE IN NON-MOVING CONSTRUCTION JOINTS AND ONLY WHERE SPECIFICALLY INDICATED ON PLANS.

GROUTING PROCEDURE:

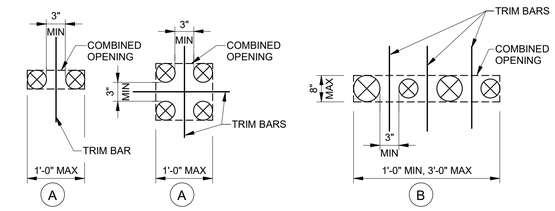
1. WAIT UNTIL NEW CONCRETE IS A MINIMUM OF 28 DAYS OLD PRIOR TO GROUTING GROOVE.
2. ROUGHEN AND CLEAN SURFACES OF GROOVE WITH POWER WIRE BRUSH OR SANDBLASTING.
3. SATURATE AREA FOR 24 HOURS PRIOR TO GROUTING.
4. DRY PACK WITH TYPE II NON-SHRINK GROUT.
5. USE STEEL HAMMER AND STEEL TOOL TO DENSELY PACK GROUT INTO GROOVE.
6. WATER CURE GROUT FOR 4 DAYS MINIMUM.

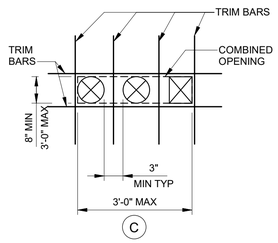
B HYDROPHILIC / GROOVE WATERSTOP



NOTES:
1. WATERSTOP REQUIRED AT LIQUID HOLDING BASINS AND TANKS, AND BELOW GRADE WALLS.

C WALL CONTROL JOINT





NOTE: SEE DETAIL E/GS-06 FOR TRIM BAR NOTES AND REQUIREMENTS.

TRIM BAR NOTES:

1. OPENINGS IN CONCRETE WHICH ARE CLOSER TO ONE ANOTHER THAN THE DIAMETER OR SHORTER SIDE OF THE LARGER OF THE TWO ARE CONSIDERED TO FORM A COMBINED OPENING.
2. THESE DIAGRAMS ARE FOR COMBINED OPENINGS WHOSE LARGER DIMENSION DOES NOT EXCEED 3'-0". SEE DRAWINGS FOR "ADDITIONAL REINFORCING AT OPENINGS" DETAIL FOR LARGER COMBINED OPENINGS
3. TRIM BAR SIZE IS SELECTED TO MATCH TYPICAL WALL OR SLAB REINFORCING IN EACH DIRECTION. PLACE TRIM BARS AT EACH FACE OR LAYER OF TYPICAL REINFORCING.
4. TRIM BAR EXTENSION PAST EDGES OF COMBINED OPENINGS SHALL BE 1'-0" FOR #4 BARS, 1'-6" FOR #5 BARS, AND ONE DEVELOPMENT LENGTH FOR LARGER BARS.
5. DISPLACE PRINCIPAL REINFORCEMENT TO EACH SIDE OF COMBINED OPENING OR PLACE BETWEEN INDIVIDUAL OPENINGS. DO NOT CUT PRINCIPAL REINFORCEMENT.
6. SEE " ADDITIONAL REINFORCING AT OPENINGS" DETAIL FOR TRIM BARS FOR INDIVIDUAL OPENINGS.
7. SUBMIT SPECIAL SITUATIONS TO ENGINEER FOR REVIEW.

TRIM BAR REQUIREMENTS:

A. IF THE COMBINED OPENING IS SMALLER THAN 1'-0", PROVIDE (1) #5 EACH FACE BETWEEN OPENINGS.

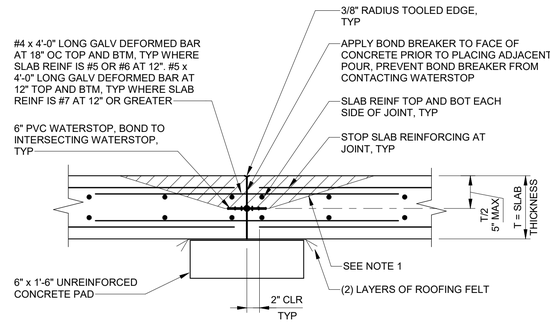
B. IF THE LARGER DIMENSION OF A COMBINED OPENING EXCEEDS 1'-0" BUT THE SMALLER DIMENSION IS LESS THAN OR EQUAL TO 8", AND PROVIDED THE COMBINED OPENING IS ALIGNED WITH THE PRINCIPAL REINFORCEMENT, PROVIDE (1) #5 EACH FACE BETWEEN OPENINGS.

C. IN OTHER CASES WHERE OPENINGS ARE ARRANGED IN A SINGLE LINE, PROVIDE (1) #5 EACH FACE BETWEEN OPENINGS AND (1) #5 EACH FACE AROUND PERIMETER OF COMBINED OPENING.

D. WHERE INDIVIDUAL OPENINGS OF A COMBINED OPENING FORM TWO OR MORE ROWS, SEPARATE THE ROWS BY AT LEAST 8" OF CONCRETE. PROVIDE (2) #5 EACH FACE BETWEEN ROWS OF OPENINGS, (1) #5 EACH FACE BETWEEN OPENINGS IN THE PERPENDICULAR DIRECTION, AND (1) #5 EACH FACE AROUND THE PERIMETER OF COMBINED OPENINGS. PROVIDE STANDARD HOOKS WHERE BARS TERMINATE WITHIN THE COMBINED OPENING.

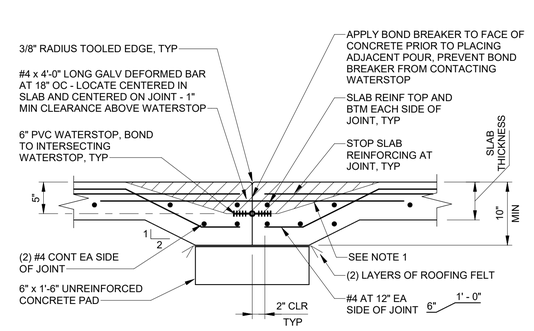
D COMBINED OPENING TRIM BARS

E COMBINED OPENING TRIM BARS NOTES AND REQUIREMENTS



NOTE:
1. CONCRETE SHALL BE PLACED AND WORKED UNDER WATERSTOP BY HAND, MAKING SURE THAT AIR AND ROCK POCKETS HAVE BEEN ELIMINATED PRIOR TO PLACING CONCRETE ON TOP OF WATERSTOP. VIBRATE CONCRETE ALL AROUND WATERSTOP TO ASSURE COMPLETE EMBEDMENT OF THE WATERSTOP IN THE CONCRETE.

F BASE SLAB CONTROL JOINT 2



NOTE:
1. CONCRETE SHALL BE PLACED AND WORKED UNDER WATERSTOP BY HAND, MAKING SURE THAT AIR AND ROCK POCKETS HAVE BEEN ELIMINATED PRIOR TO PLACING CONCRETE ON TOP OF WATERSTOP. VIBRATE CONCRETE ALL AROUND WATERSTOP TO ASSURE COMPLETE EMBEDMENT OF THE WATERSTOP IN THE CONCRETE.

G BASE SLAB CONTROL JOINT 1

REAVELEY Engineers
675 East 500 South, Suite 400
Salt Lake City, UT 84102
P 801 486 3883
F 801 485 0911
www.reaveley.com

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.HAWKES
DRAWN BY: S.SHEPHERD
CHECKED BY: J.HARPER
APPROVED BY: C.PRICE
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO. 512260079

REVISIONS

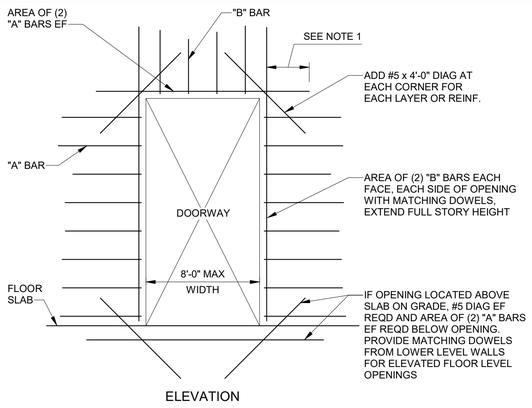
NO.	DATE:		MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE(GMP)	CH	CP

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

STANDARD STRUCTURAL DETAILS 2

90% GMP

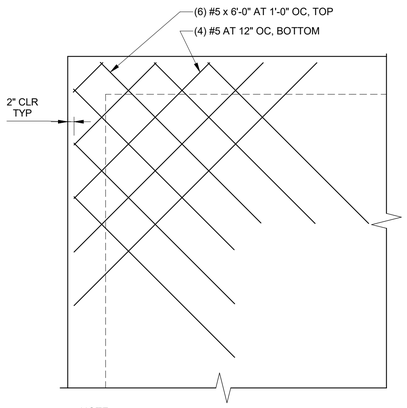
DRAWING NO.
GS-06



NOTES:

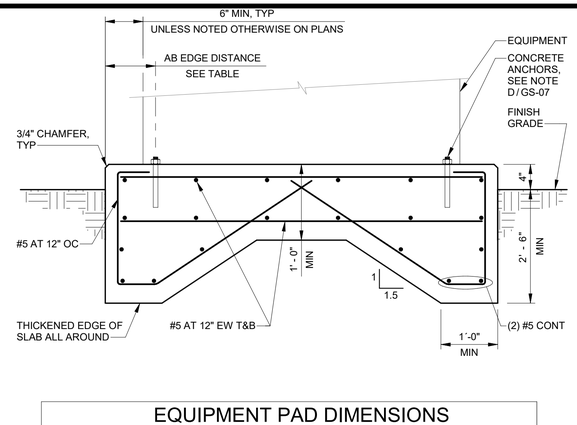
1. PROVIDE MINIMUM LAP, SEE GENERAL STRUCTURAL NOTES.
2. TYPICAL FOR ALL DOORWAY OPENINGS IN ABOVE GROUND BUILDING CONCRETE WALLS UNLESS INDICATED OTHERWISE ON PLANS. TYPICAL FOR ALL DOORWAY OPENINGS IN BUILDINGS AND UTILIDORS AT GALLERY LEVEL UNLESS INDICATED OTHERWISE ON PLANS.

A DOORWAY OPENING REINFORCING



NOTE:
ADDITIONAL CORNER BARS REQUIRED FOR ALL CORNERS OF STRUCTURAL SLABS.

B SUSPENDED SLAB CORNER REINFORCEMENT



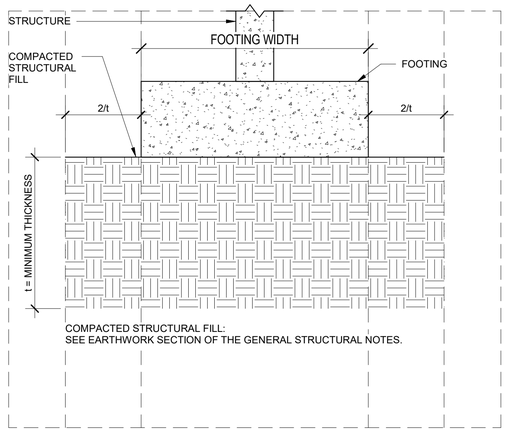
EQUIPMENT PAD DIMENSIONS										
AB DIA (IN.)	1/2	5/8	3/4	7/8	1	1 1/4	1 3/8	1 1/2	1 3/4	2
MIN AB EDGE DISTANCE	4 1/2	4 1/2	4 1/2	5 1/4	6	7 1/2	8 1/4	9	10 1/2	12

SEE D / GS-07 FOR NOTES

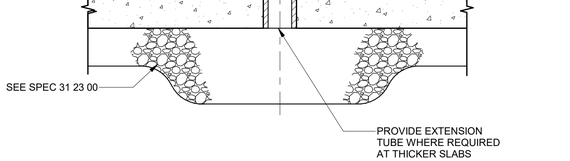
C CONCRETE EQUIPMENT PAD DETAILS

1. PAD SIZE SHALL BE MINIMUM INDICATED OR AS SHOWN ON THE PLANS OR AS INDICATED BY THE MANUFACTURER AND APPROVED BY THE PROJECT REPRESENTATIVE.
2. COORDINATE LOCATION OF ELECTRICAL CONDUIT AND DRAINAGE PIPING PENETRATIONS WITHIN THE EQUIPMENT PAD. STUB UP PENETRATIONS ON THE SAME SIDE OF THE EQUIPMENT AS REQUIRED FOR CONNECTION TO EQUIPMENT. EQUIPMENT DRAINS SHALL BE LOCATED AS REQUIRED FOR DRAINAGE FROM EQUIPMENT. EQUIPMENT PAD SHALL BE CONFIGURED ACCORDINGLY.
3. THE SIZE, NUMBER, TYPE, LOCATION, AND THREAD PROJECTION OF THE ANCHOR BOLTS SHALL BE DETERMINED BY THE EQUIPMENT MANUFACTURER AND AS APPROVED BY THE PROJECT REPRESENTATIVE. ANCHOR BOLTS SHALL BE HELD IN POSITION WITH A TEMPLATE OR OTHER ACCEPTABLE MEANS, MATCHING THE BASE PLATE, WHILE PAD IS BEING PLACED.
4. EQUIPMENT BASES SHALL BE INSTALLED LEVEL, SEE SPECIFICATION SECTION 43 05 13 FOR LEVELING REQUIREMENT.
5. WEDGES OR SHIMS SHALL BE USED TO SUPPORT THE BASE WHILE THE GROUT IS PLACED. ANCHOR BOLTS MAY BE USED FOR LEVELING WITH DOUBLE NUTS. HOWEVER, PRIOR TO TIGHTENING, THE BASE PLATE MUST BE HARD-SHIMMED AND THE LEVELING NUTS BACKED OFF. EACH ANCHOR BOLT MUST HAVE IT'S OWN SHIM PACK AND THE NUT FULLY TIGHTENED PRIOR TO GROUTING. WEDGES OR SHIMS THAT ARE LEFT IN PLACE SHALL NOT BE EXPOSED TO VIEW.
6. FOR GROUT APPLICATION, SEE SPECIFICATION SECTION 43 05 13.
7. ANCHOR BOLTS AND EQUIPMENT PADS FOR RIGID EQUIPMENT MOUNTS SHALL COMPLY WITH SPECIFICATION SECTION 43 05 13. REQUIREMENTS IN SECTION 43 05 13 SHALL CONTROL OVER THE STANDARD DETAILS SHOWN ON THIS DRAWING.

D CONCRETE EQUIPMENT PAD DETAIL NOTES



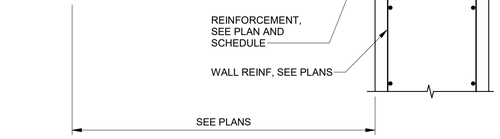
H TYPICAL COMPACTED STRUCTURAL FILL DETAIL



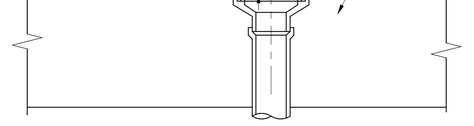
NOTES:

1. INSTALL PRESSURE RELIEF VALVE IN VERTICAL POSITION.

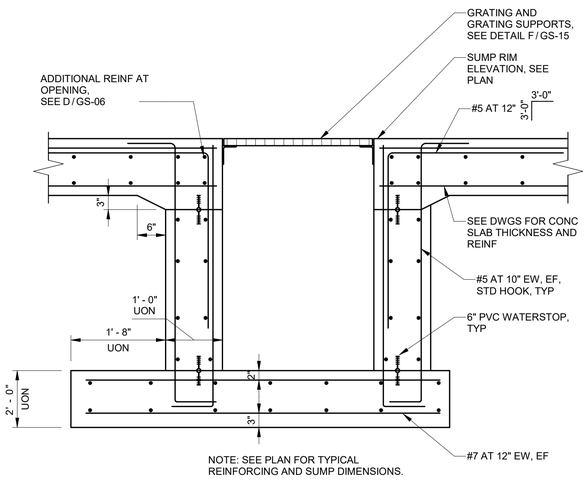
E PRESSURE RELIEF VALVE



F CANTILEVER CONCRETE LANDINGS

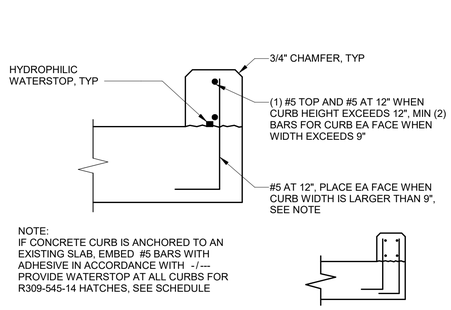


G SLAB AT FLOOR DRAIN



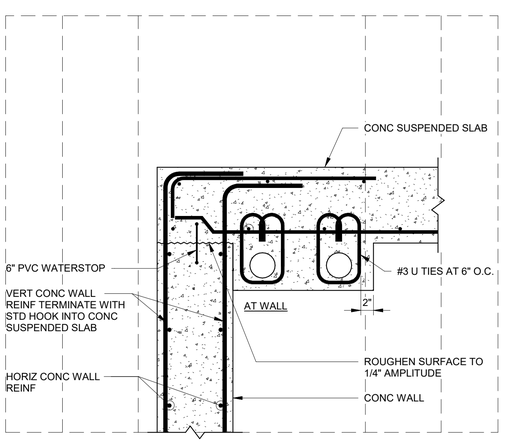
K TYPICAL SUMP

70-S-01



L CONCRETE CURB

70-S-03



M PIPE ENCASEMENT DETAIL

REAVELEY Engineers
675 East 500 South, Suite 400
Salt Lake City, UT 84102
P 801 486 3883
F 801 485 0911
www.reaveley.com

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C. HAWKES
DRAWN BY: S. SHEPHERD
CHECKED BY: J. HARPER
APPROVED BY: C. PRICE
DATE: JUNE 2024
EWO NO. ---
ACCOUNT NO. 512260079

REVISIONS

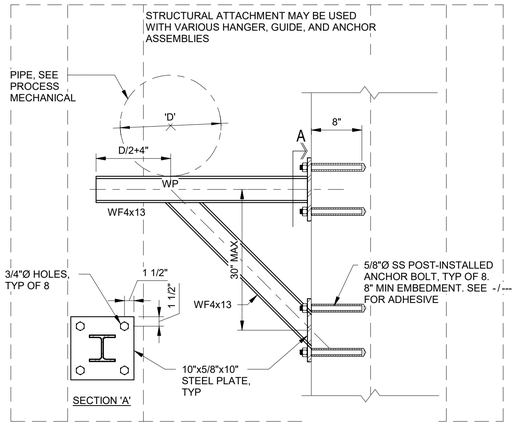
NO.	DATE:	ISSUED FOR GUARANTEE MAXIMUM PRICE(GMP)	MADE BY	AUTH BY
0	06/14/24		CH	CP

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

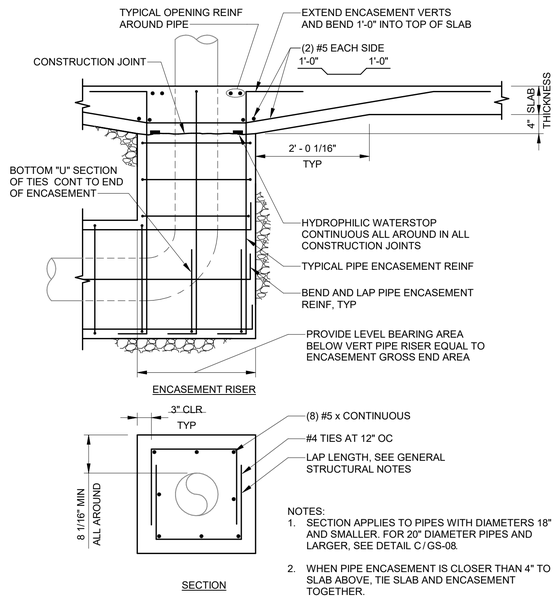
STANDARD STRUCTURAL DETAILS 3

90% GMP

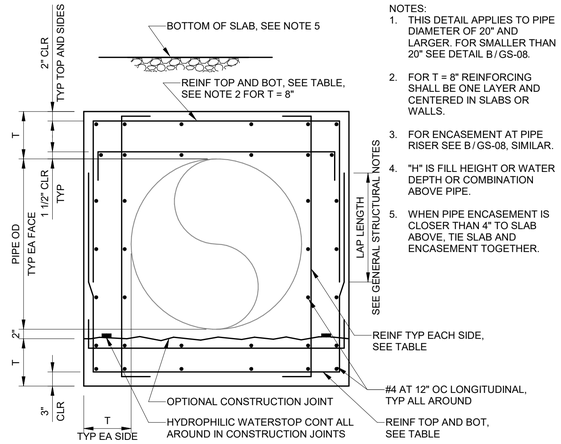
DRAWING NO.
GS-07



NOTE:
USE TYPE R ONLY WHERE SPECIFIED ON THE DRAWINGS. SPACING SHALL BE AS REQ'D, BUT SHALL NOT EXCEED SPANS SHOWN IN TABLE A/M2301. GALVANIZE OR PROVIDE COATING FOR ALL EXPOSED STEEL, SEE SPECIFICATIONS.

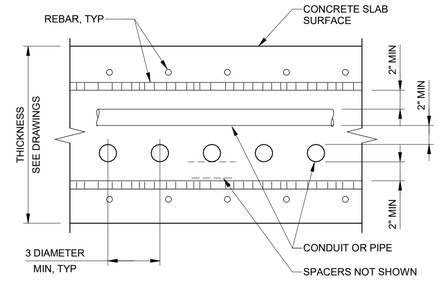


NOTES:
1. SECTION APPLIES TO PIPES WITH DIAMETERS 18" AND SMALLER. FOR 20" DIAMETER PIPES AND LARGER, SEE DETAIL C / GS-08.
2. WHEN PIPE ENCASEMENT IS CLOSER THAN 4" TO SLAB ABOVE, TIE SLAB AND ENCASEMENT TOGETHER.



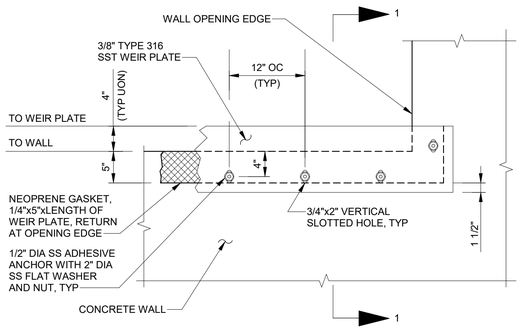
NOTES:
1. THIS DETAIL APPLIES TO PIPE DIAMETER OF 20" AND LARGER. FOR SMALLER THAN 20" SEE DETAIL B / GS-08.
2. FOR T = 8" REINFORCING SHALL BE ONE LAYER AND CENTERED IN SLABS OR WALLS.
3. FOR ENCASEMENT AT PIPE RISER SEE B / GS-08, SIMILAR.
4. "H" IS FILL HEIGHT OR WATER DEPTH OR COMBINATION ABOVE PIPE.
5. WHEN PIPE ENCASEMENT IS CLOSER THAN 4" TO SLAB ABOVE, TIE SLAB AND ENCASEMENT TOGETHER.

PIPE ENCASEMENT TABLE								
PIPE DIA (in)	H=10 FEET		H=20 FEET		H=30 FEET		H=40 FEET	
	T (in)	REINF	T (in)	REINF	T (in)	REINF	T (in)	REINF
20 THRU 32	8	#5 AT 12"	10	#5 AT 12"	10	#5 AT 12"	10	#6 AT 12"
36 THRU 42	10	#5 AT 12"	10	#6 AT 12"	10	#7 AT 12"	10	#6 AT 6"
48 THRU 54	10	#6 AT 12"	10	#7 AT 12"	10	#7 AT 6"	12	#7 AT 6"
60	10	#6 AT 12"	10	#7 AT 8"	14	#7 AT 6"	14	#7 AT 6"
UP TO 90	12	#7 AT 12"	14	#8 AT 12"	18	#8 AT 12"	24	#8 AT 12"



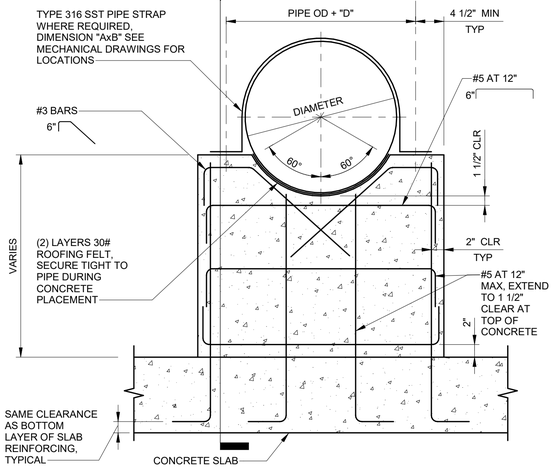
NOTES:
1. CONTRACTOR SHALL SUBMIT PROPOSED EMBEDDED CONDUIT/PIPE LAYOUT TO THE CONSTRUCTION MANAGER FOR APPROVAL. NO CONDUIT OR PIPE SHALL BE INSTALLED WITHIN CONCRETE FORMWORK PRIOR TO CONSTRUCTION MANAGER APPROVAL OF LAYOUT. SUBMITTAL SHALL HAVE SUFFICIENT INFORMATION TO VERIFY CONCRETE COVERS AND CONDUIT/PIPE SPACINGS.
2. WHERE APPROVED BY THE CONSTRUCTION MANAGER FOR PLACEMENT WITHIN CONCRETE ELEMENTS, ALL CONDUITS AND PIPES EMBEDDED WITHIN A CONCRETE ELEMENT SHALL:
   a. NOT BE LARGER IN OUTSIDE DIAMETER THAN 1/3 THE OVERALL THICKNESS OF THE CONCRETE SLAB OR WALL THAT THEY ARE EMBEDDED IN;
   b. NOT BE SPACED CLOSER THAN 3 DIAMETERS OR WIDTHS ON CENTER;
   c. HAVE A MINIMUM OF 2 INCHES OF COVER FROM THE THE NEAREST CONCRETE SURFACE AND A MINIMUM OF 1 INCHES FROM THE NEAREST REBAR;
   d. NOT BE EMBEDDED IN CONCRETE BEAMS, STRUTS OR COLUMNS;
   e. NOT BE PIPE OR CONDUIT OF ALUMINUM CONSTRUCTION;
   f. NOT SIGNIFICANTLY IMPAIR THE STRENGTH OF CONSTRUCTION AS DETERMINED BY THE STRUCTURAL ENGINEER.
3. CONDUIT SHALL BE SUPPORTED WITH ALL PLASTIC CONDUIT SPACERS, REBAR SPACERS OR SOLID CONCRETE BRICK.

A CONCRETE PIPE SADDLE SECTION

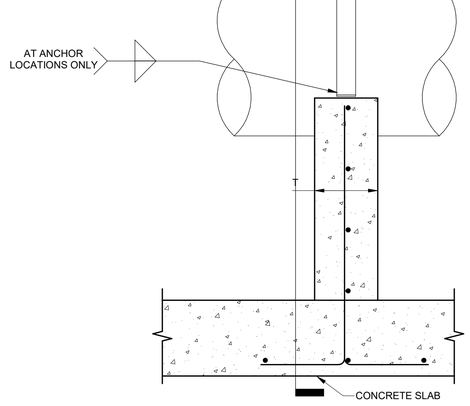


NOTE:
ALL FASTENERS, WASHERS SHALL BE TYPE 316 SST.

B CONCRETE PIPE ENCASEMENT LESS THAN 18" DIA



C CONCRETE PIPE ENCASEMENT 20" DIA AND GREATER



CONCRETE PIPE SADDLE NOTE:
FOR THICKNESS GREATER THAN 10 INCHES, USE (2) LAYERS OF REINFORCING, TURN HORIZONTAL BARS 90 DEG TO HOOK AROUND VERTICAL BARS. 1 1/2" CLEARANCE ON CONCRETE.

PIPE SIZE	DIMENSIONS				
	A	B	C	D	T
6" - 12"	1/4"	2"	3/4"	3"	8"
14" - 18"	1/4"	4"	3/4"	3"	8"
20" - 36"	3/8"	5"	3/4"	3"	10"
42" - 54"	3/8"	6"	1"	4"	12"
60" - 72"	3/8"	6"	1 1/8"	4"	16"

D CONC EMBEDDED CONDUITS OR PIPES

E WEIR DETAIL
E / 35-S-07

F CONCRETE PIPE SADDLE
F / GS-08

G CONCRETE PIPE SADDLE SECTION
G / GS-08

REAVELEY Engineers
675 East 500 South, Suite 400
Salt Lake City, UT 84102
P 801 486 3883
F 801 485 0911
www.reaveley.com

SCALE:
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.HAWKES
DRAWN BY: S.SHEPHERD
CHECKED BY: J.HARPER
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REVISIONS

NO.	DATE:		MADE BY	AUTH BY
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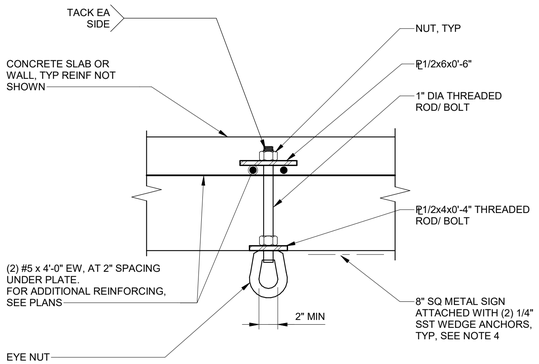
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE
STANDARD STRUCTURAL DETAILS 4

90% GMP

DRAWING NO.
GS-08

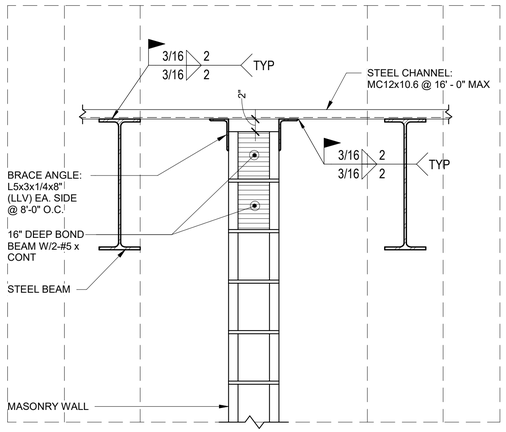
Plot Date: /13/2024 9:31:54 AM Path: BIM 360://153020 - City Creek WTP/153020-S-3570v21.rvt



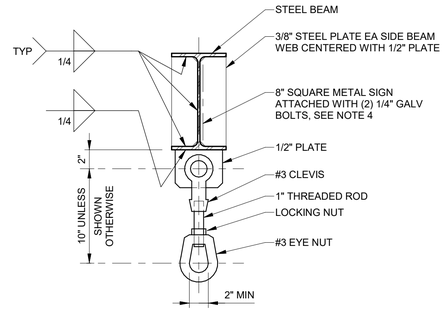
NOTES:
1. LIFTING EYE COMPONENTS SHALL BE HOT DIP GALVANIZED OR STAINLESS STEEL.
2. MAXIMUM LOAD CAPACITY SHALL BE 2,000 LBS.
3. CONTRACTOR SHALL LOAD TEST ALL LIFTING EYES.
4. SIGN SHALL STATE THE FOLLOWING:
   LIFTING EYE CAPACITY: 2,000 LBS.

A LIFTING EYE DETAIL - CONC SLAB, BEAM, OR WALL CONN

NOTE: WALLS MAY BE BRACED BY INTERSECTING WALLS PROVIDED THAT THE WALLS PROVIDING THE BRACING ARE EQUAL TO OR GREATER IN HEIGHT THAN THE WALL THEY BRACE. THE LENGTH OF THE MASONRY SUPPORT WALL SHALL BE 4'-0" MINIMUM. THE MAXIMUM LENGTH OF THE WALL THAT MAY BE BRACED WITH OTHER WALLS IS 16'-0".



B 35-S-17 NON BRNG MASONRY TO UNDERSIDE OF DECK



NOTES:
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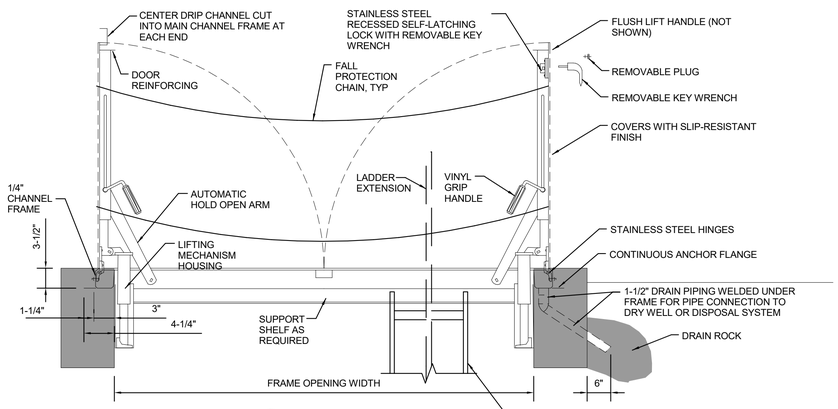
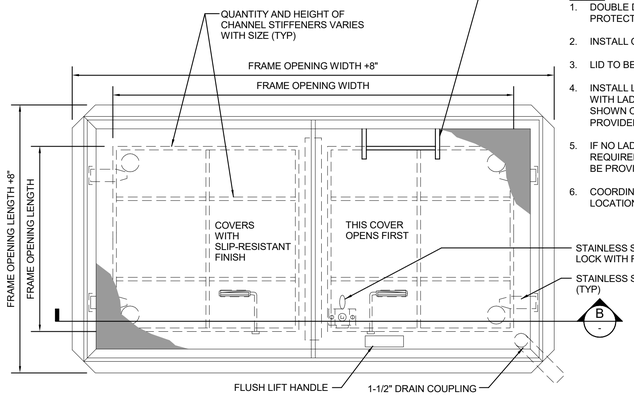
C LIFTING EYE DETAIL - TO STEEL BEAM CONNECTION



B - SECTION NTS



NOTES:
1. DOUBLE DOOR ACCESS HATCHES SHALL HAVE FALL PROTECTION CHAINS.
2. INSTALL OWNER PROVIDED LOCK AS REQUIRED.
3. LID TO BE 6" ABOVE EXISTING GRADE IN UNPAVED AREAS.
4. INSTALL LADDER, WHERE IDENTIFIED ON DRAWINGS, WITH LADDER-UP SAFETY POST. WHERE A LADDER IS SHOWN ON THE DRAWINGS, NO SAFETY GRATE SHALL BE PROVIDED.
5. IF NO LADDER WITH LADDER-UP SAFETY POST IS REQUIRED BY THE DRAWINGS, A SAFETY GRATE SHALL BE PROVIDED.
6. COORDINATE LIMIT SWITCH/INTRUSION SWITCH LOCATION WITH FIBER OPTIC DRAWINGS.

E TYPICAL DOUBLE DOOR HATCH

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.HAWKES
DRAWN BY: S.SHEPHERD
CHECKED BY: J.HARPER
APPROVED BY: C.PRICE
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO. 512260079

REVISIONS

NO	DATE:		MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE(GMP)	CH	CP

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

STANDARD STRUCTURAL DETAILS 5

90% GMP

DRAWING NO.
GS-09

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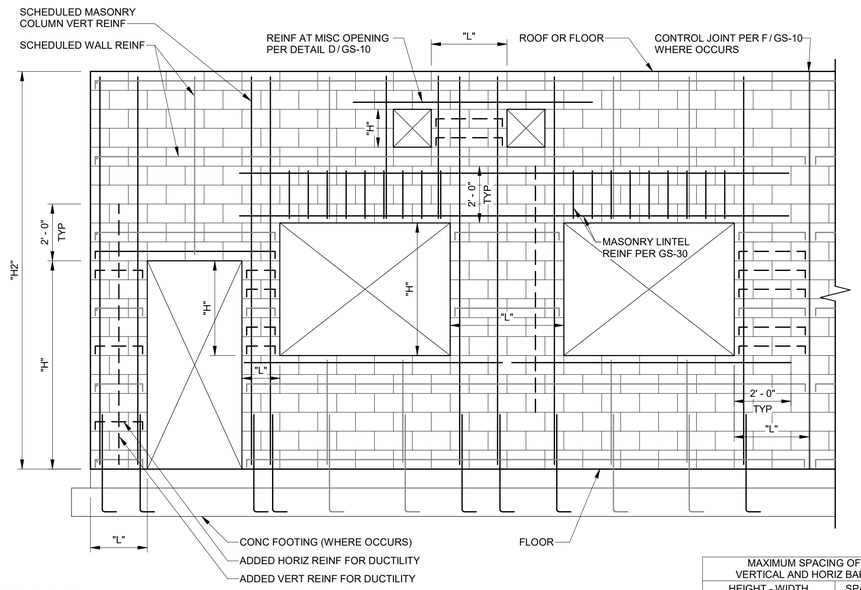


NOTES:
1. ADDED BAR SIZE SHALL BE (1) #4 MINIMUM.
2. ALL ADDED BARS SHALL BE EMBEDDED IN GROUT.
3. ALL ADDED HORIZONTAL REINFORCING SHALL BE TERMINATED WITH A 90 DEG OR 180 DEG STANDARD HOOK AROUND THE VERTICAL REINFORCING.
4. FOR WALLS WITH "H2" AND "L"≥12'-0" ADDITIONAL REINFORCING FOR DUCTILITY IS NOT REQUIRED.
5. TYPICAL WALL REINFORCING SHALL BE AS SHOWN ON AREA SCHEDULES OR PLAN DRAWINGS.
6. SEE DETAILS S0902, S0903, AND S0904 FOR ADDITIONAL INFORMATION.

WALL REINFORCING LEGEND:

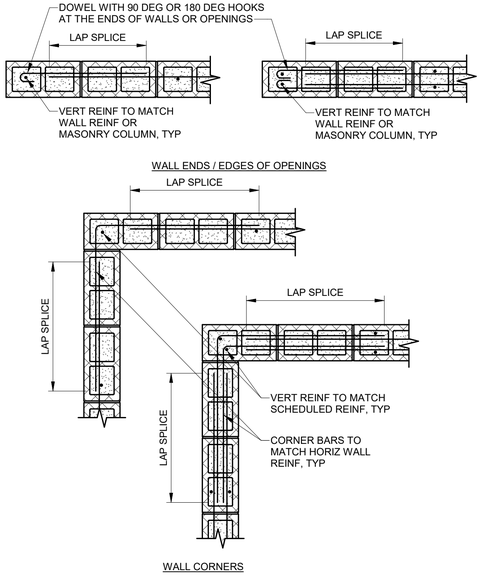
SCHEDULED WALL REINF

SCHEDULED OPENING REINF

ADDED REINF FOR DUCTILITY

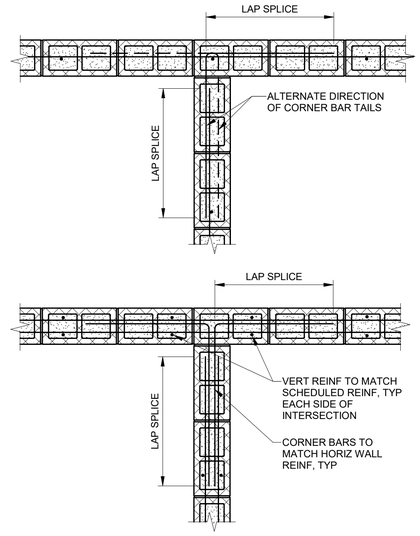
MAXIMUM SPACING OF VERTICAL AND HORIZ BARS	
HEIGHT - WIDTH	SPACING
("H" OR "L") < 4'-0"	8" OC
4'-0" ≤ ("H" OR "L") < 6'-0"	16" OC
6'-0" ≤ ("H" OR "L") < 8'-0"	24" OC
8'-0" ≤ ("H" OR "L") < 10'-0"	32" OC
10'-0" ≤ ("H" OR "L") < 12'-0"	40" OC
12'-0" ≤ ("H" OR "L")	48" OC

A 35-S-17 TYPICAL MASONRY WALL ELEVATION



WALL CORNERS

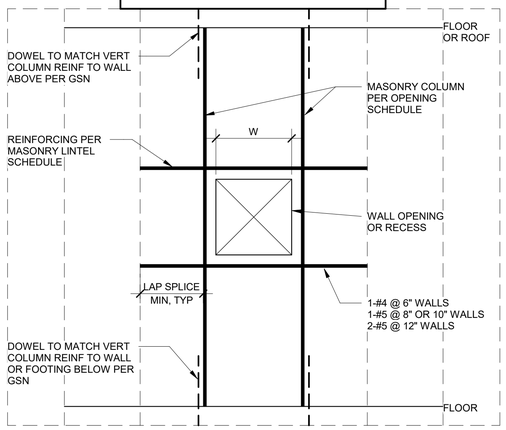
B 35-S-17 STANDARD MASONRY CORNER REINFORCING



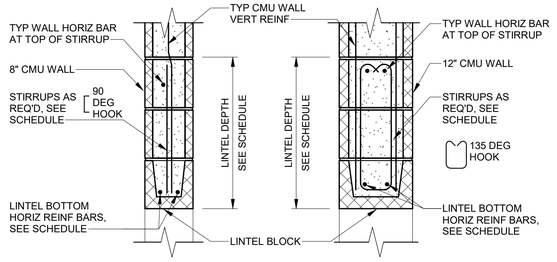
WALL INTERSECTION

C 35-S-17 TYPICAL MASONRY INTERSECTION REINFORCING

OPENING SCHEDULE	
OPENING WIDTH	COLUMN SIZE
W≤3'-4"	8" LONG W/1-#5 @ 6" & 8" WALLS 8" LONG W/2-#5 @ 10" & 12" WALLS
3'-4"<W≤6'-0"	MC-1
6'-0"<W≤10'-0"	MC-2
NOTES: 1. COLUMNS AND LINTELS NOTED ON THE PLANS TAKE PRECEDENCE OVER COLUMNS AND LINTELS SHOWN IN THIS DETAIL.	



D REINF AROUND MISC OR RECESSED MASONRY OPENINGS



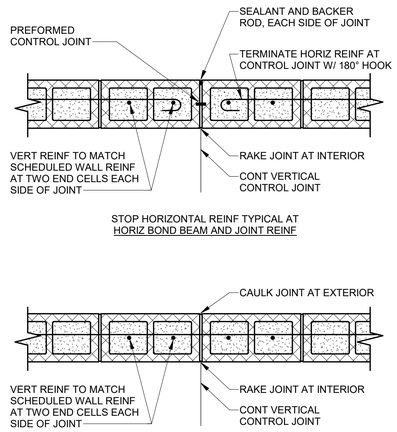
8" LINTEL SECTION 12" LINTEL SECTION

OPENING WIDTH	HORIZ REINF	LINTEL DEPTH
≤ 6'-8"	(1) #5	8"
< 6'-8" TO < 12'-0"	(2) #5	16"
< 12'-0" TO 14'-0"	(2) #6	24"

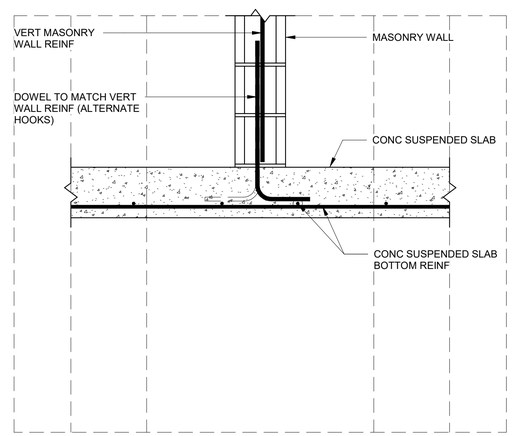
WHERE LINTEL DEPTH >8", MAY USE 8" DEEP LINTEL BLOCK AND 8" CMU BLOCKS WITH INNER WEB REMOVED. FILL LINTEL DEPTH WITH ONE MONOLITHIC CONCRETE GROUT POUR.

NOTE:
CMU LINTEL DETAIL TYP, UNLESS NOTED OTHERWISE ON PLANS.

E CMU LINTEL REINFORCING



F TYPICAL CONTROL JOINTS IN MASONRY WALLS



G 35-S-09 CONC SUSPENDED SLAB WITH MASONRY WALL ABOVE

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SCALE:

VERIFY SCALE
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APPROVED BY: C.PRICE
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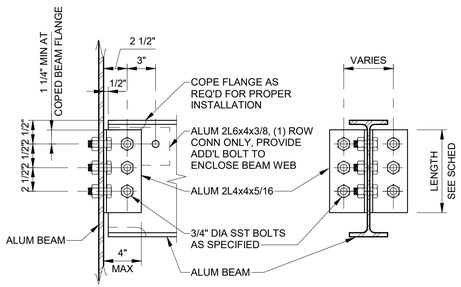
BRIC PACKAGE

STANDARD STRUCTURAL DETAILS 6

90% GMP

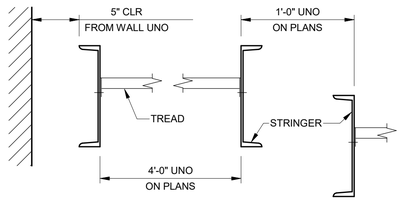
DRAWING NO.
GS-10



DOUBLE ANGLES				
NOMINAL BEAM DEPTH, INCHES	ROWS OF BOLTS	BOLT DIA	LENGTH OF DOUBLE ANGLE, INCHES	COMMENTS
10 - 12	3	3/4"	0' - 7 1/2"	-
7 - 8 - 9	2	3/4"	0' - 5"	SEE NOTE 3
5 - 6	1	3/4"	0' - 3"	SEE NOTE 3
4	1	3/4"	0' - 2 3/4"	SEE NOTE 3

NOTES:
1. UNLESS NOTED OTHERWISE, NUMBER OF ROWS IS EQUAL TO NUMBER OF BOLTS TO ENCLOSE BEAM WEB.
2. ALL BEAM FRAMING CONNECTIONS SHALL CONFORM TO THIS DETAIL UNLESS SPECIFICALLY NOTED OTHERWISE OR APPROVED IN WRITING BY THE ENGINEER.
3. FOR NOMINAL BEAM DEPTHS LESS THAN 8", EXTEND LONG LEG OF DOUBLE ANGLE ALONG BEAM WEB AND PROVIDE ADDITIONAL BOLT TO ENCLOSE BEAM WEB AS SHOWN.
4. PROVIDE ADDITIONAL 1 1/2" LENGTH TO DOUBLE ANGLE FOR STAGGERED BOLT CONNECTIONS WHERE REQUIRED.
5. DIMENSION SHALL BE 3" UNLESS OTHERWISE REQUIRED FOR PROPER FABRICATION.
6. PER OSHA 1926.756(C) ISSUED 1-23-01, AN ERECTION SEAT, DESIGNED AND DETAILED BY THE STEEL FABRICATOR SHALL BE PROVIDED AT DOUBLE CONNECTIONS AT COLUMN AND/OR AT BEAM WEBS OVER A COLUMN IF THE FOLLOWING CONDITION CANNOT BE MET: WHEN BEAMS ON OPPOSITE SIDES OF A COLUMN, OR A BEAM WEB OVER A COLUMN, ARE CONNECTED SHARING COMMON CONNECTION HOLES, AT LEAST ONE BOLT WITH ITS WRENCH-TIGHT NUT SHALL REMAIN CONNECTED TO THE FIRST BEAM ERECTED (I.E. TWO BEAMS OF SIMILAR DEPTH WITH THE SAME NUMBER OF BOLT ROWS WILL REQUIRE AN ERECTION SEAT). THE ERECTION SEAT SHALL BE DESIGNED BY THE FABRICATOR TO SUPPORTS THE CONSTRUCTION LOAD DURING THE DOUBLE CONNECTION PROCESS.

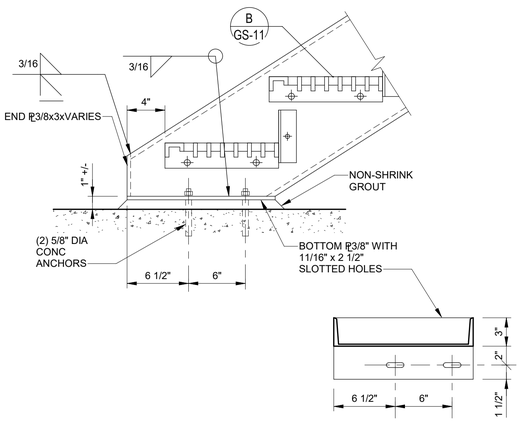
A BEAM/ BEAM CONNECTION
70-S-14



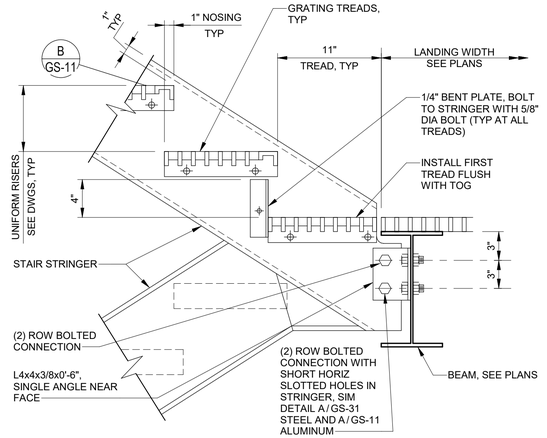
NOTES:
1. PROVIDE UNIFORM RISERS, 7" MAX UNLESS NOTED OTHERWISE, SEE DRAWINGS.
2. PROVIDE PROTECTION FOR DISSIMILAR METALS AND CONCRETE AS SPECIFIED.
3. C12x20.7 STRINGERS (STEEL) AND AMERICAN STANDARD C12x7.41 (ALUMINUM) TYPICAL UNLESS NOTED OTHERWISE ON PLANS.
4. GALVANIZED STEEL GRATING OR ALUMINUM TREADS (SEE PLANS), UNLESS NOTED OTHERWISE ON PLANS.
5. STAIR GUARDRAIL AND HANDRAIL NOT SHOWN.
6. STAIR MFR TO COORDINATE BOLTED TREADS AND GUARDRAIL CONNECTIONS.
7. AT STEEL STAIR CONSTRUCTION; HOT DIP GALVANIZE ALL MEMBERS AND FASTENERS AFTER FABRICATION. AT ALUMINUM STAIR CONSTRUCTION; ALL FASTENERS SHALL BE STAINLESS STEEL.
8. FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO FABRICATION.
9. ALL CONCRETE ANCHORS TO BE GALVANIZED AT STEEL CONSTRUCTION OR STAINLESS STEEL AT ALUMINUM CONSTRUCTION, UNLESS NOTED OTHERWISE.
10. SEE DETAILS C / GS-11 THROUGH H / GS-11 FOR ADDITIONAL INFORMATION.

STAIRWAY WIDTH	TREAD BEARING BARS	
	STEEL TREAD	ALUM TREAD
2'-3" OR LESS	3/4" x 3/16"	1" x 3/16"
2'-9" OR LESS	1" x 3/16"	1 1/4" x 3/16"
3'-3" OR LESS	1 1/4" x 3/16"	1 1/2" x 3/16"
4'-7" OR LESS	1 1/2" x 3/16"	1 3/4" x 3/16"

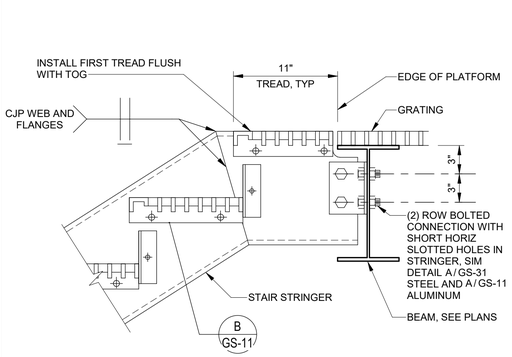
B STAIR - STEEL/ALUMINUM
70-S-14



C STAIR - STEEL/ALUMINUM
35-S-34

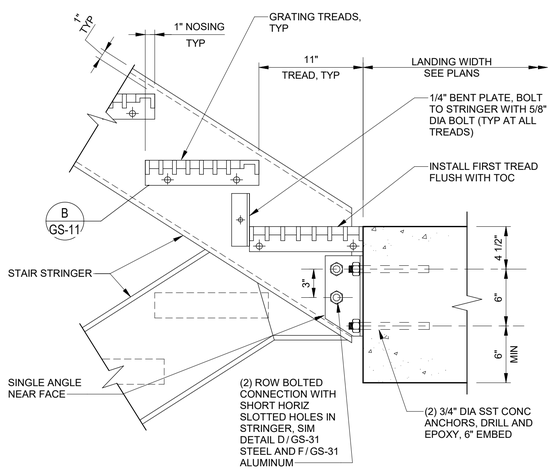


D STAIR - STEEL/ALUMINUM LANDING AT GRATING
35-S-34

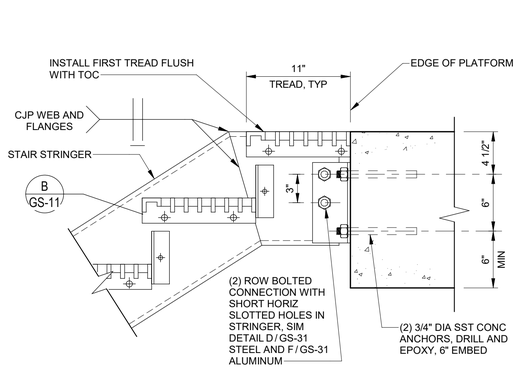


NOTE:
USE 5356 WELD FILLER FOR CJP WELDS

E STAIR - STEEL/ALUMINUM TOP AT GRATING
35-S-34

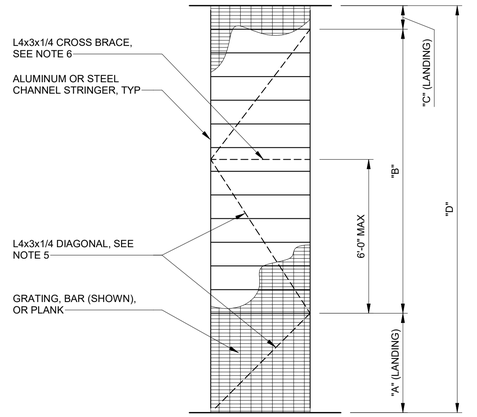


F STAIR - STEEL/ALUMINUM LANDING AT CONCRETE



NOTE:
USE 5356 WELD FILLER FOR CJP WELDS

G STAIR - STEEL/ALUMINUM TOP AT CONCRETE
35-S-34



NOTES:
1. FOR DIMENSIONS "A", "B", "C", AND "D" SEE STAIR DIMENSIONS ON STRUCTURAL AND/ OR ARCHITECTURAL DRAWINGS.
2. WHERE DIMENSION "A", "B", OR "C" IS LESS THAN OR EQUAL TO 4'-0", BRACING IS NOT REQUIRED IN STAIR LENGTH DEFINED.
3. ANGLE MATERIAL SHALL MATCH STRINGER MATERIAL.
4. ANGLES SHALL BE BOLTED TO BOTTOM FACE OF STRINGER CHANNEL'S LOWER FLANGE WITH 3/4" DIA BOLT. BOLT SHALL BE STAINLESS STEEL.
5. WHERE ANGLES INTERFERE WITH STAIR TREAD PROVIDE SPACER PLATE BETWEEN ANGLE AND CHANNEL FLANGE TO PROVIDE ADEQUATE CLEARANCE BETWEEN ANGLE AND TREAD.
6. PROVIDE CROSS BRACE AT ALL LOCATIONS OF DIAGONAL/ STRINGER CONNECTIONS.

H METAL STAIR BRACING

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SCALE:

VERIFY SCALE
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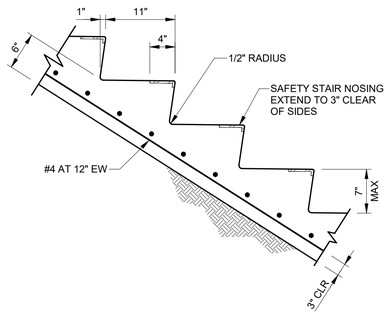
BRIC PACKAGE

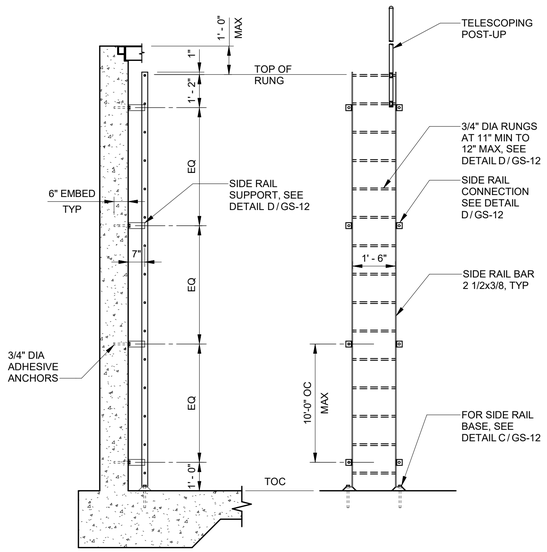
STANDARD STRUCTURAL DETAILS 7

90% GMP

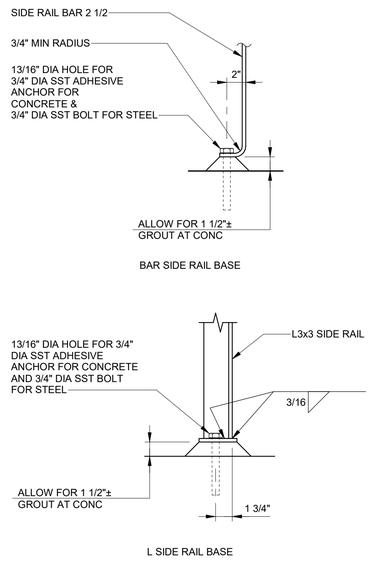
DRAWING NO.
GS-11



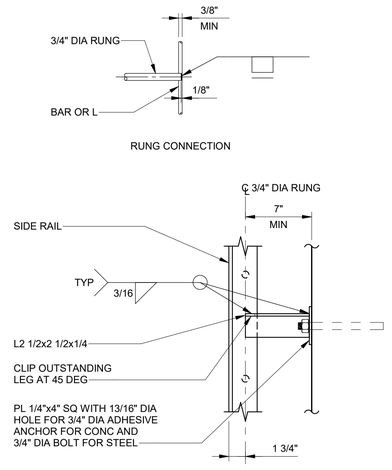
A 35-S-35 TYPICAL CONCRETE STAIRS ON GRADE



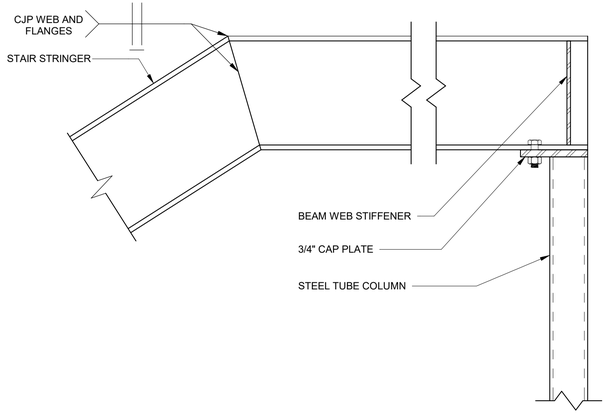
B STEEL LADDER UNDER COVER DETAILS



C SIDE RAIL BASE



D SIDE RAIL SUPPORT



E 70-S-14 STAIR - STEEL/ALUMINUM

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675 East 500 South, Suite 400
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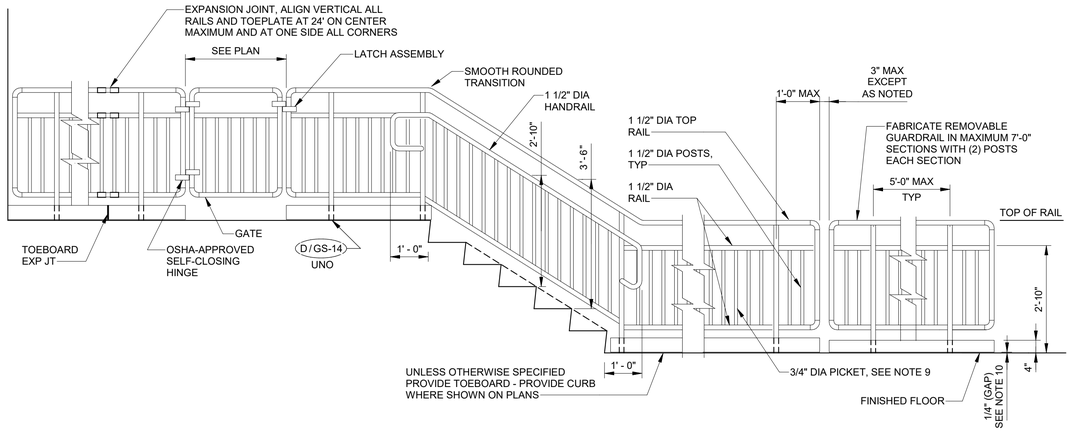
BRIC PACKAGE

STANDARD STRUCTURAL DETAILS 8

90% GMP

DRAWING NO.
GS-12



A TYPICAL HANDRAIL / GUARDRAIL - WITH PICKETS

GENERAL NOTES:

1. UNLESS NOTED OTHERWISE, HANDRAIL, GUARDRAIL, AND MOUNTING APPURTENANCES SHALL BE ANODIZED ALUMINUM.
2. ALL FASTENERS SHALL BE STAINLESS STEEL, TYPE 316.
3. NUMBER OF ANCHORS AND SIZE OF ANCHORS ARE MINIMUM. PROVIDE LARGER ANCHOR SIZE IF NECESSARY TO MEET LOAD REQUIREMENTS. CONTRACTOR'S SUPPLIER AND ENGINEER ARE RESPONSIBLE FOR DESIGNING BASE BRACKET AND STAINLESS STEEL ANCHOR BOLT SIZE AND EMBEDMENT DEPTH INTO CONCRETE TO RESIST LOADS TAKING INTO ACCOUNT ANCHOR EDGE DISTANCES AND CONCRETE STRENGTHS AT THE POINT OF ATTACHMENT.
4. UNLESS SPECIFICALLY INDICATED OTHERWISE, GUARDRAIL MOUNTING MAY BE BY ANY SHOWN METHOD AS APPLICABLE.
5. RAILING POST LOCATION SHALL BE FIELD MEASURED AND RAILING FABRICATED TO FIT.
6. TOP AND MIDDLE RAILS SHALL BE CONTINUOUS EXCEPT AT GUARDRAIL SECTIONS SPECIFICALLY CALLED OUT ON DRAWINGS AS REMOVABLE GUARDRAIL.
7. THE SPACING OF EXPANSION JOINTS IN GUARDRAILS AND TOEBOARDS SHALL NOT EXCEED 24 FEET.
8. ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE, GROUT, OR DISSIMILAR METALS SHALL HAVE CONTACT SURFACE PROTECTED IN ACCORDANCE WITH SPECIFICATIONS.
9. AT HANDRAIL / GUARDRAIL WITH PICKETS; PICKETS AND INTERMEDIATE RAILINGS SHALL BE PROVIDED SUCH THAT A 4 INCH DIAMETER SPHERE CANNOT PASS THROUGH ANY OPENING UP TO A HEIGHT OF 34 INCHES. FROM A HEIGHT OF 34 INCHES TO 42 INCHES ABOVE THE ADJACENT WALKING SURFACE, A SPHERE 8 INCHES IN DIAMETER SHALL NOT PASS. THE TRIANGULAR OPENINGS FORMED BY THE RISER, TREAD AND BOTTOM RAIL AT THE OPEN SIDE OF A STAIRWAY SHALL BE OF A SIZE SUCH THAT A SPHERE 6 INCHES IN DIAMETER CANNOT PASS THROUGH THE OPENING.
10. WHERE BOLTED BASE PLATE EXTENDS ABOVE WALKWAY SURFACE NOTCH TOEBOARD TO FIT AROUND BASE PLATE WITH MAXIMUM OF 1/4" GAP.
11. SEE DETAILS A / GS-14 THROUGH G / GS-14 FOR ADDITIONAL INFORMATION.

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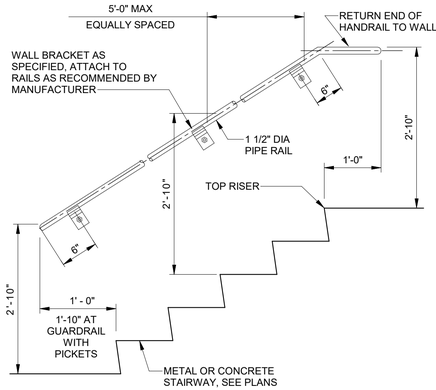
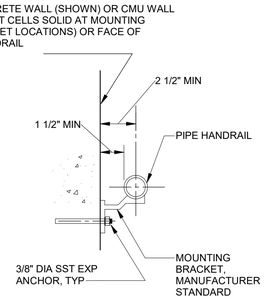
STANDARD STRUCTURAL DETAILS 9

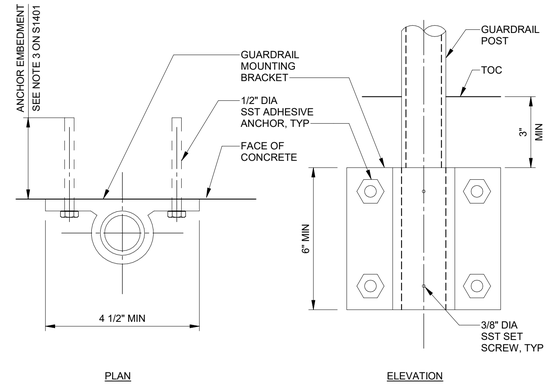
90% GMP

DRAWING NO.
GS-13

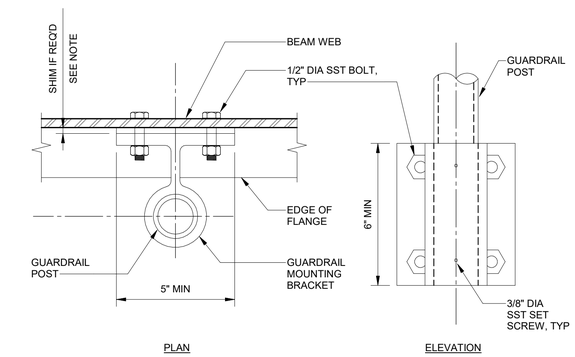




A WALL HANDRAIL - WITHOUT PICKETS

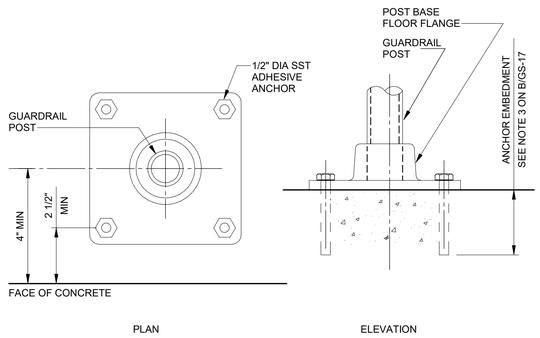


B SIDE MOUNT AT CONCRETE SLAB

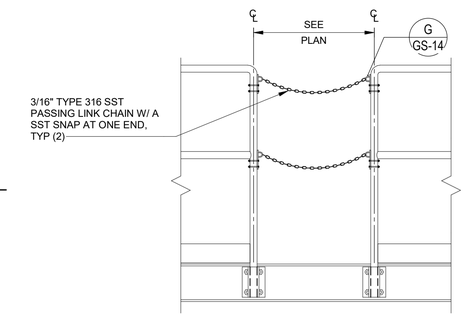


NOTE:
SHIM MATERIAL SHALL MATCH BEAM MATERIAL AND SHALL BE FULL SIZE OF GUARDRAIL MOUNTING BRACKET.

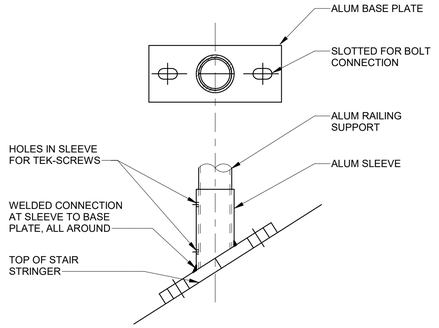
C SIDE MOUNT AT METAL BEAMS



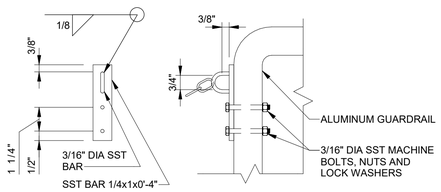
D BASE FLANGE MOUNT



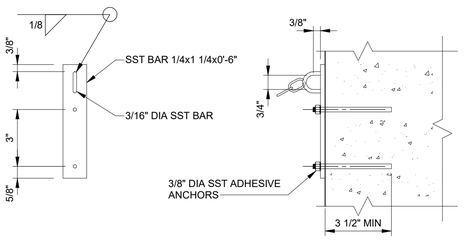
E CHAINS AT GUARDRAIL OR WALL OPENING



F RAILING-TOP MOUNT



CHAIN AT GUARD



CHAIN STAPLE AT CONCRETE WALL

G CHAINS AT GUARD / CHAIN STAPLE AT CONCRETE WALL

G
GS-14

REAVELEY Engineers
675 East 500 South, Suite 400
Salt Lake City, UT 84102
P 801 486 3883
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www.reaveley.com

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.HAWKES
DRAWN BY: S.SHEPHERD
CHECKED BY: J.HARPER
APPROVED BY: C.PRICE
DATE: JUNE 2024
EWO NO. --
ACCOUNT NO. 512260079

REVISIONS

NO	DATE:		MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAX/MUM PRICE(GMP)	CH	CP

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

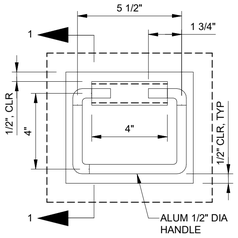
STANDARD STRUCTURAL DETAILS 10

90% GMP

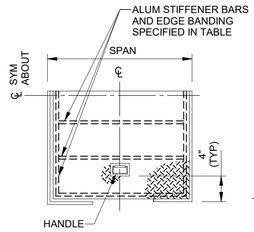
DRAWING NO.
GS-14

MINIMUM REQUIREMENTS FOR ALUMINUM COVER PLATES			
MAX SPAN	PLATE THICKNESS, INCH	STIFFENER BAR SIZE, INCH	SPACING, INCH
2'-0"	1/4	-	-
5'-0"	1/4	3/8 x 2	12
7'-0"	1/4	3/8 x 2	12

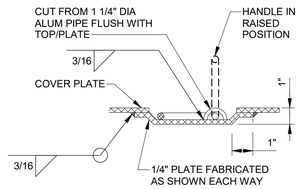
NOTES:
1. EDGE BAND SAME AS STIFFENER BARS.
2. COVERS FOR FOOT TRAFFIC ONLY. VEHICLE TRAFFIC NOT PERMITTED.
3. ALUMINUM COVER PLATES SHALL BE ROLLED TREAD PLATE.



HANDLE



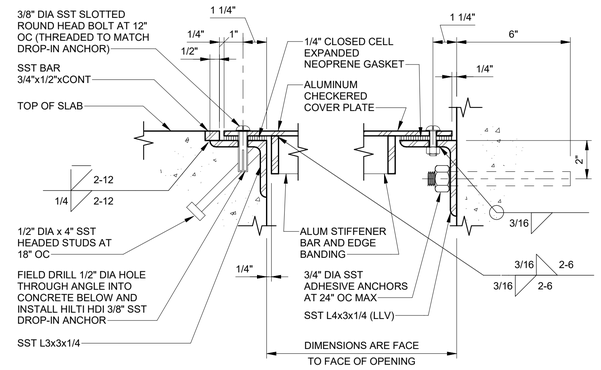
COVER PLATE



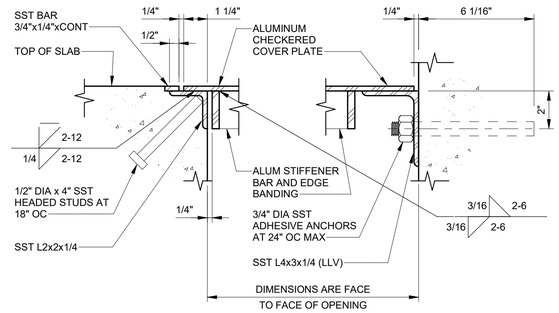
HANDLE SECTION 1 - 1

NOTE:
SEE DETAILS B, C, AND D FOR ADDITIONAL INFORMATION.

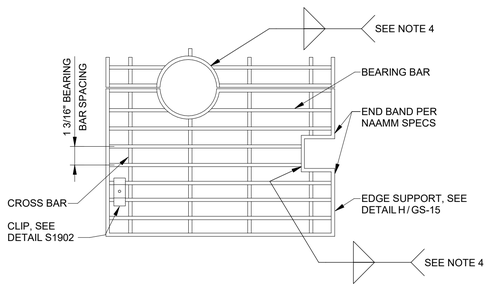
A COVER PLATE



B COVER PLATE WITH GASKET



C COVER PLATE AT NEW CONCRETE

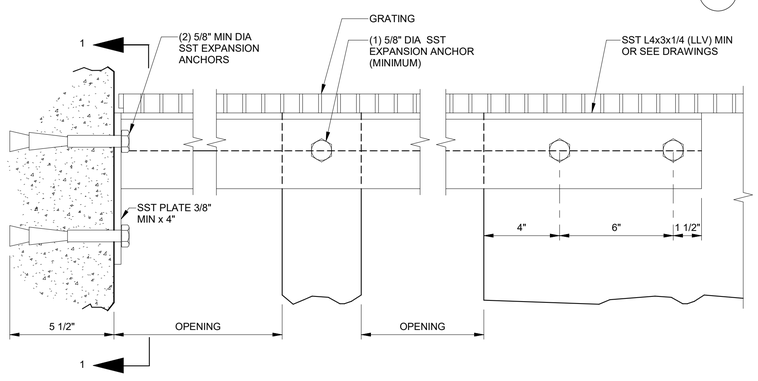


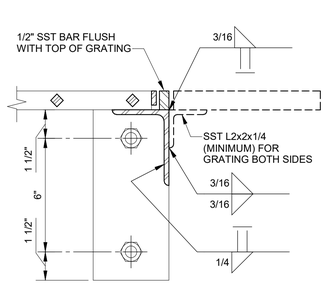
NOTES:

1. CONFORM TO THE METAL BAR GRATING MANUAL OF NAAMM. MATCH SUPPLEMENTAL GRATING SUPPORT BEAM FINISH TO GRATING MATERIAL. USE SST GRATING SUPPORT ANGLES AND EMBEDS AT ALL AL AND SST GRATING. USE GALV STEEL GRATING SUPPORT ANGLES AND EMBEDS AT ALL GALV STEEL GRATING.
2. AL GRATING SHALL BE SWAGE LOCKED AND SERRATED. GALV AND SST GRATING SHALL BE WELDED.
3. PROVIDE REMOVABLE GRATING WITH (4) HOLD DOWN CLIPS WITH SELF-TAPPING SCREWS APPROXIMATELY 4" FROM THE CORNERS OF EACH PIECE.
4. WELD BEARING AND CROSS BARS TO END BANDS AT AL GRATING.
5. CLEAR SPAN IS PLAN DIMENSION, FACE TO FACE OF OPENING.
6. AL GRATING SCHEDULE AND DETAILS ARE DESIGNED FOR PEDESTRIAN LOAD ONLY (100 PSF MAXIMUM). NO VEHICLE LOADS ARE ALLOWED.
7. GALV AND SST GRATING DESIGNED FOR 300 PSF (GOLF CART TRAFFIC) UNO ON DRAWINGS. PROVIDE 2" MINIMUM END BEARING. SEE PLANS FOR BEARING BAR SIZE AND SPANS.
8. ALL AL SURFACES IN CONTACT WITH CONCRETE, GROUT, OR DISSIMILAR METALS SHALL HAVE CONTACT SURFACE PROTECTED IN ACCORDANCE WITH SPECIFICATIONS.

SERRATED ALUMINUM GRATING SCHEDULE		
CLEAR SPAN MAXIMUM	BEARING BAR SIZE	MINIMUM END BEARING
4'-0"	1 1/2 x 3/16	1"
4'-6"	1 3/4 x 3/16	1"
5'-0"	2 x 3/16	1 1/2"
6'-0"	2 1/4 x 3/16	1 1/2"
6'-6"	2 1/2 x 3/16	2"

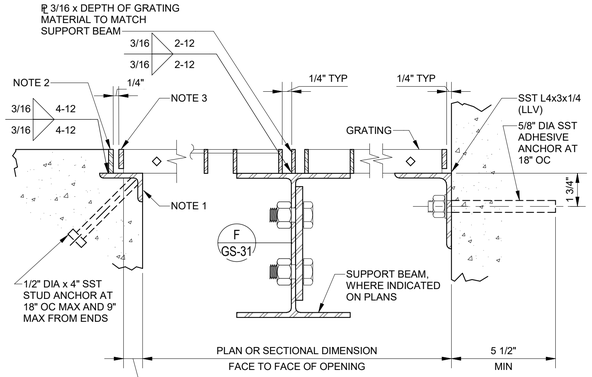
F ALUMINUM GRATING PLAN





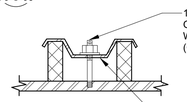
NOTES:
1. STRUCTURAL MEMBERS AND HARDWARE SHALL BE STAINLESS STEEL AT ALUMINUM AND SST GRATING AND GALV STEEL AT GALV STEEL GRATING. GALVANIZED STEEL MEMBERS SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.

G GRATING SUPPORT AT OPENINGS



NOTES:
1. SST L3x2x1/4 (LLH) MITER AND WELD CORNERS.
2. CONTINUOUS SST FLAT BAR, 1/4" x DEPTH OF GRATING. WELD CORNERS.
3. END EDGE BAND, 1/4" LESS THAN DEPTH OF GRATING, TYPICAL AT BEARING SEATS.
4. PROVIDE GALV STEEL ANGLES AND FLAT BARS AT GALV STEEL GRATING.

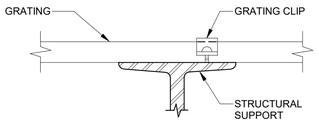
D GRATING SUPPORT AT CONCRETE
70-S-03



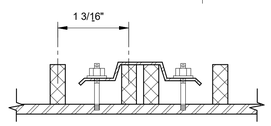
1/4" DIAMETER STUD DRILLED AND TAPPED INTO GRATING SUPPORT FRAME. STUD, HEX NUT AND WASHER SHALL ALL BE STAINLESS STEEL (GALV STEEL AT GALV STEEL GRATING).

8 GAGE STAINLESS STEEL HOLD DOWN CLIP (GALV STEEL AT GALV STEEL GRATING).

INTERIOR CLIP

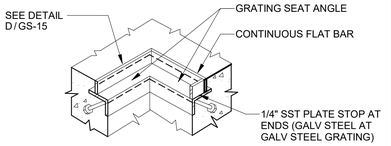


CLIPS ON FRAMING

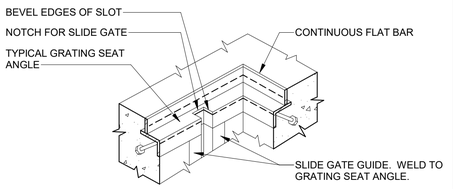


CLIP AT EDGES

E GRATING CLIPS



TYPICAL GRATING SUPPORT AT END RETURN



GRATING SUPPORT AT SLIDE GATE

H GRATING SUPPORT
GS-19

REAVELEY Engineers
675 East 500 South, Suite 400
Salt Lake City, UT 84102
P 801 486 3883
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www.reaveley.com

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C. HAWKES
DRAWN BY: S. SHEPHERD
CHECKED BY: J. HARPER
APPROVED BY: C. PRICE
DATE: JUNE 2024
EWO NO.: ---
ACCOUNT NO.: 512260079

REVISIONS

NO.	DATE:		MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE(GMP)	CH	CP

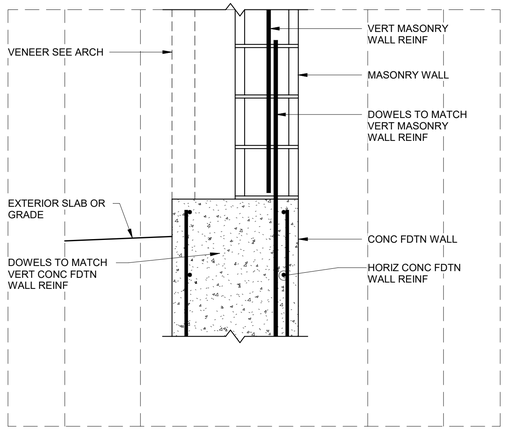
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

STANDARD STRUCTURAL DETAILS 11

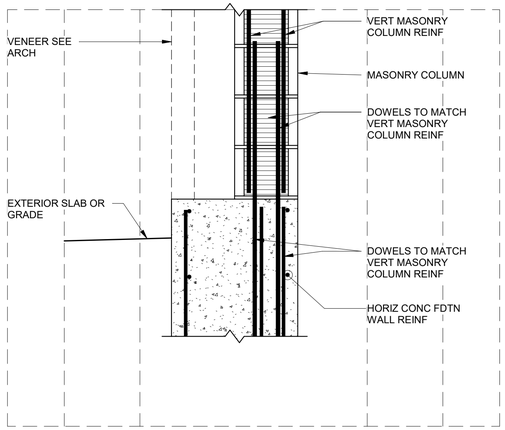
90% GMP

DRAWING NO.
GS-15

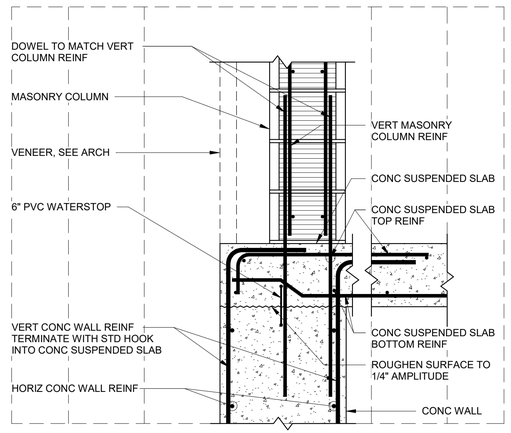
Plot Date: /13/2024 9:32:18 AM Path: BIM 360://15.3020 - City Creek WTP/15.3020-S-3570v21.rvt



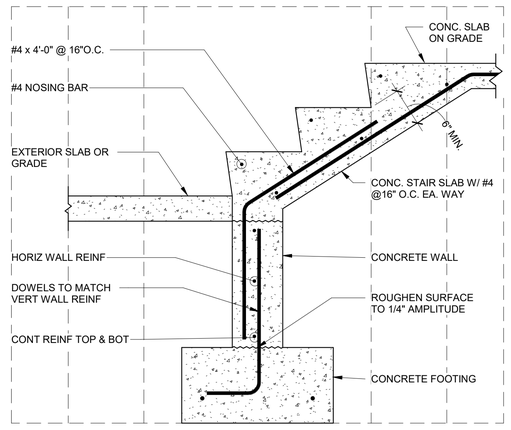
A 70-S-05 MASONRY WALL W/ VENEER ON CONC FDTN WALL



B 70-S-05 MASONRY COL W/ VENEER ON CONC FDTN WALL



C 70-S-05 CONC SUSPENDED SLAB TO CONC WALL @ CMU



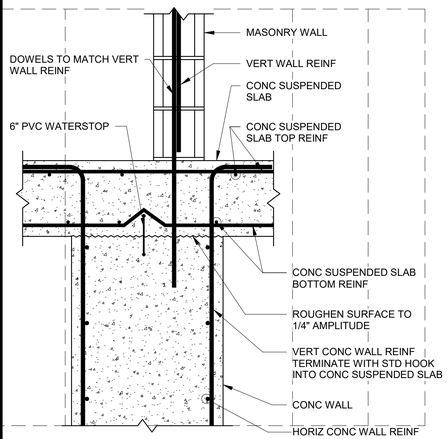
D 35-S-34 TYP CONC STAIR TO FOUNDATION WALL

E 70-S-05 TYP CONC SUSPENDED SLAB TO CONC WALL

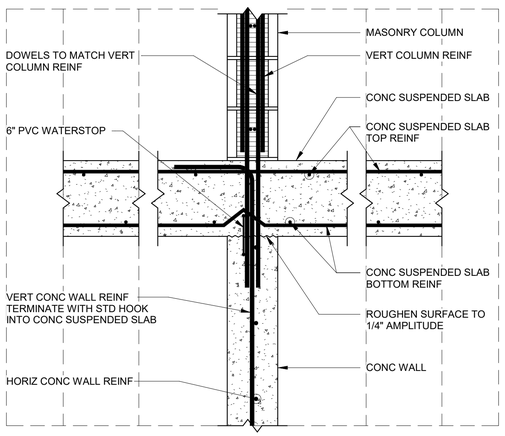
F 70-S-05 CONC SUSPENDED SLAB TO CONC WALL @ CMU

G 70-S-05 CONC SUSPENDED SLAB TO CONC WALL @ CMU

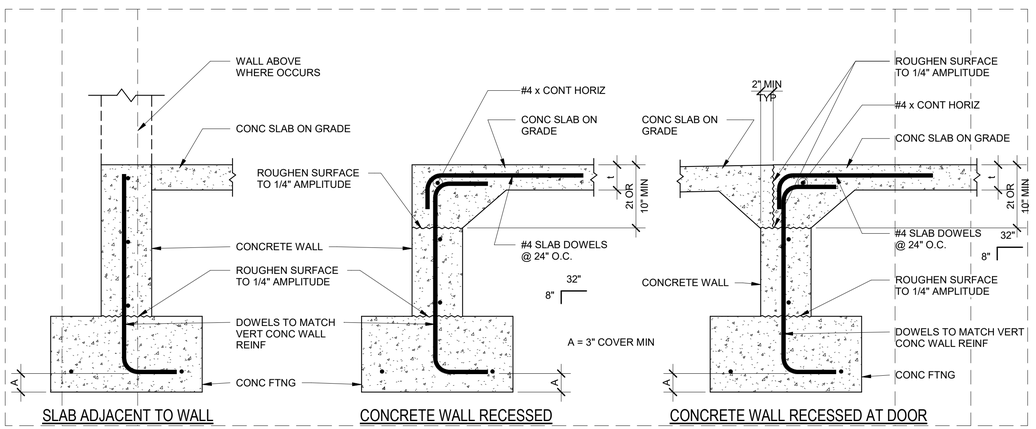
H 70-S-05 STEEL COLUMN @ CONC SUSPENDED SLAB



J 70-S-05 CONC SUSPENDED SLAB TO CONC WALL



K 70-S-05 TYP CONC SUSPENDED SLAB TO CONC WALL



L 35-S-34 TYPICAL CONCRETE FOUNDATION WALL WITH CONCRETE SLAB ON GRADE

REAVELEY Engineers
675 East 500 South, Suite 400
Salt Lake City, UT 84102
P 801 486 3883
F 801 485 0911
www.reaveley.com

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C. HAWKES
DRAWN BY: S. SHEPHERD
CHECKED BY: J. HARPER
APPROVED BY: C. PRICE
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO. 512260079

REVISIONS

NO.	DATE:		MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE(GMP)	CH	CP

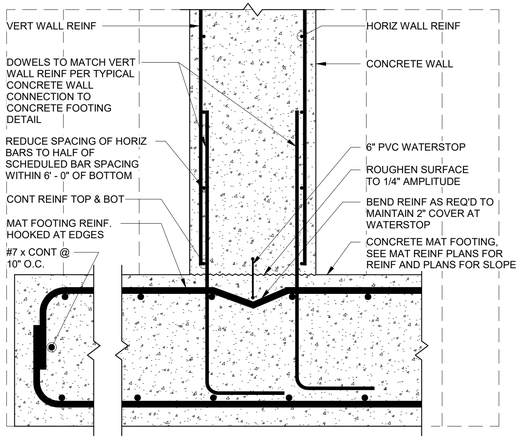
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

STANDARD STRUCTURAL DETAILS 12

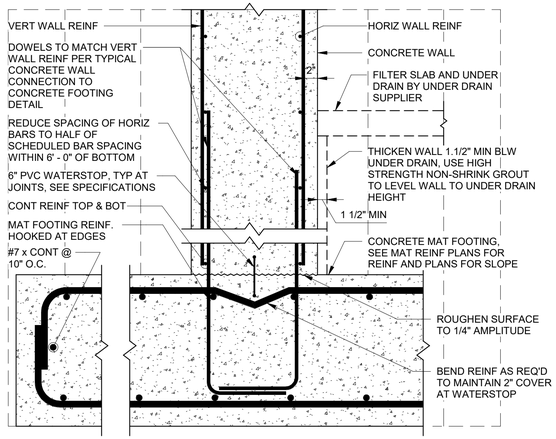
90% GMP

DRAWING NO.
GS-16

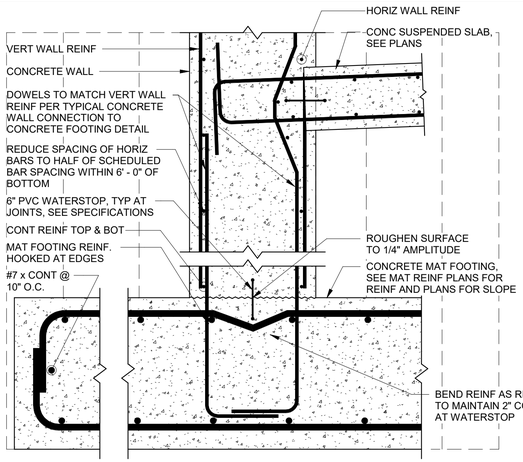
Plot Date: 7/3/2024 9:32:21 AM Path: RIM 360://15302O - City Creek\WTP/15302O-S-3570V21.rvt



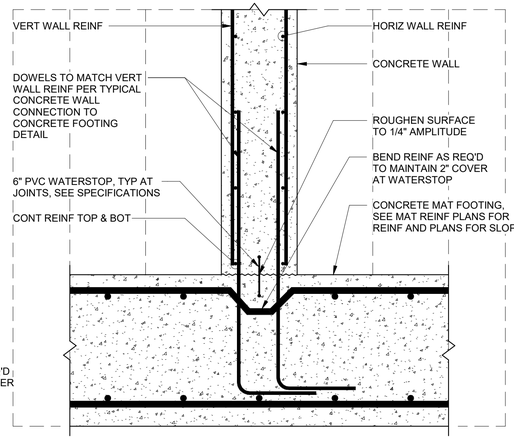
A 35-S-11 TYP CONC WALL ON CONC MAT FOOTING



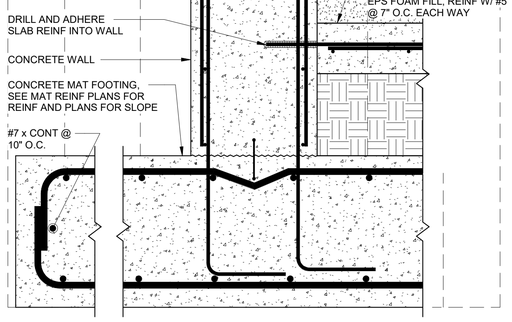
B 35-S-05 CONC WALL ON MAT FOOTING @ FILTER UNDER DRAIN



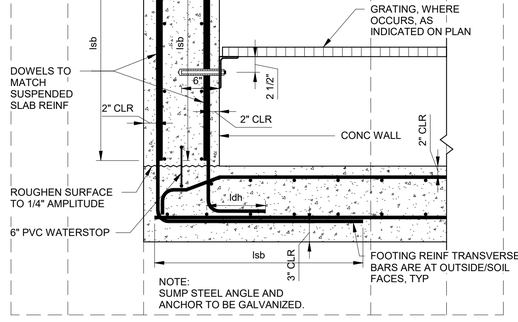
C 35-S-05 CONC WALL ON MAT FOOTING @ SUSPENDED SLAB



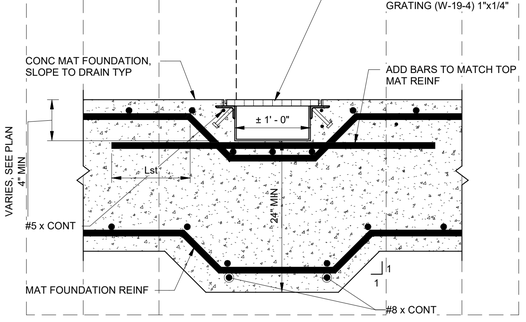
D 35-S-05 TYP CONC WALL ON CONC MAT FOOTING



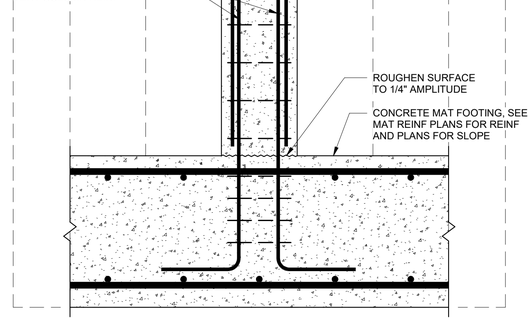
E 35-S-05 CONC WALL ON CONC MAT FOOTING



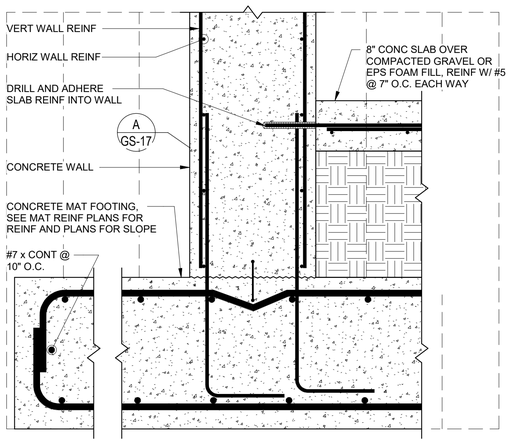
F GS-17 GRATING DETAIL



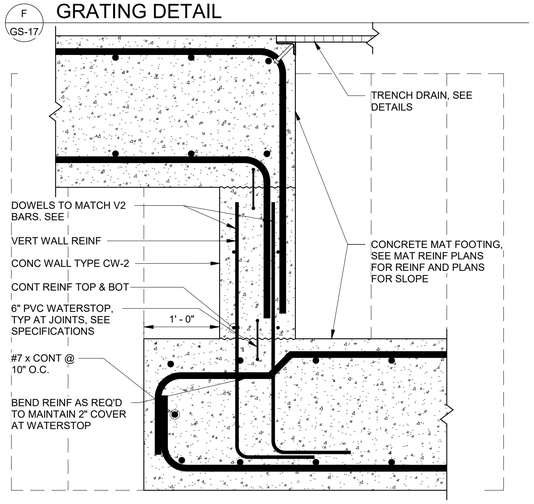
G MAT FOUNDATION TRENCH DRAIN



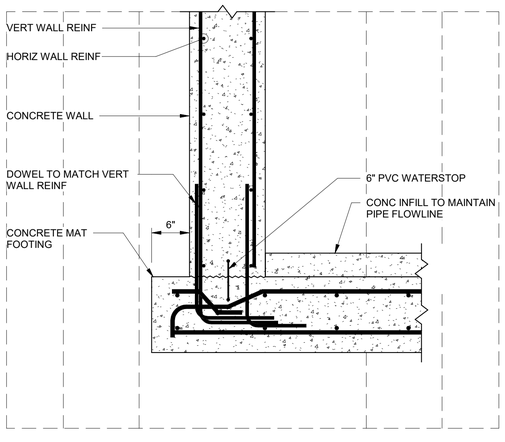
H 35-S-05 TYP CONC COLUMN ON CONCRETE MAT FOOTING



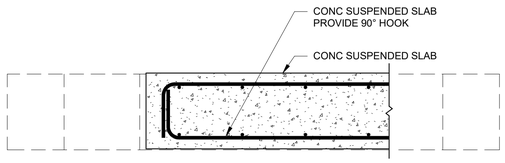
J 35-S-05 CONC WALL ON CONC MAT FOOTING



K GRATING DETAIL AT MAT FOOTING



L 70-S-15 CONC WALL ON CONC MAT FOOTING



M 35-S-12 TYPICAL SLAB EDGE DETAIL

REAVELEY Engineers
675 East 500 South, Suite 400
Salt Lake City, UT 84102
P 801 486 3883
F 801 485 0911
www.reaveley.com

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C. HAWKES
DRAWN BY: S. SHEPHERD
CHECKED BY: J. HARPER
APPROVED BY: C. PRICE
DATE: JUNE 2024
EWO NO: ---
ACCOUNT NO. 512260079

REVISIONS

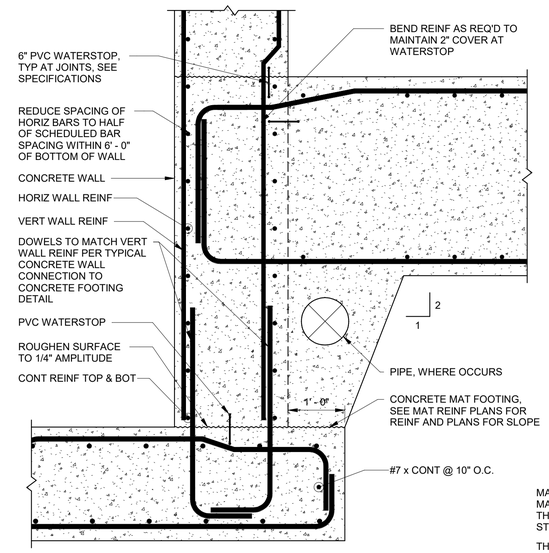
NO	DATE:	ISSUED FOR GUARANTEE MAXIMUM PRICE(GMP)	MADE BY	AUTH BY
0	06/14/24		CH	CP

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

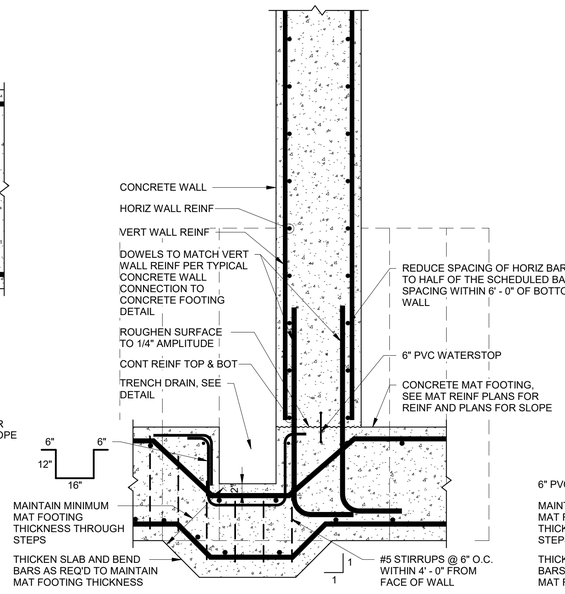
STANDARD STRUCTURAL DETAILS 13

90% GMP

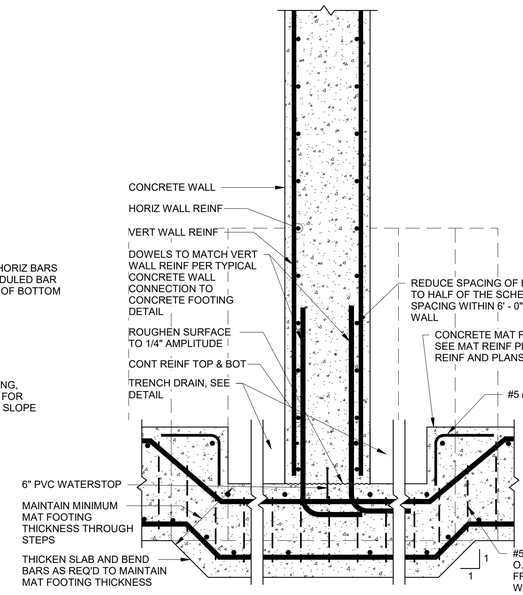
DRAWING NO.
GS-17



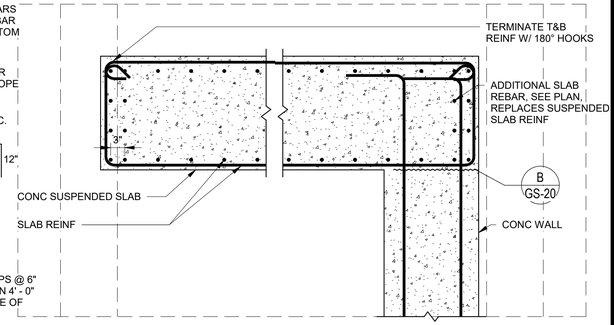
A TYP CONC WALL ON CONC MAT FOOTING
35-S-05



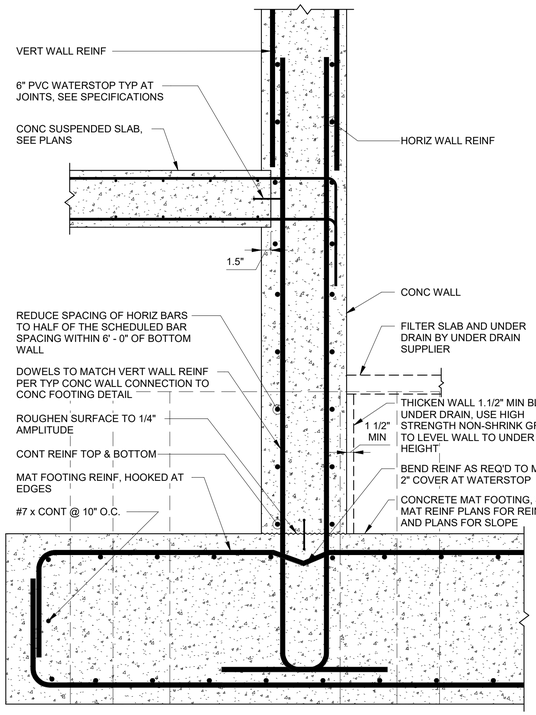
B TYP CONC WALL ON CONC MAT FOOTING
35-S-11



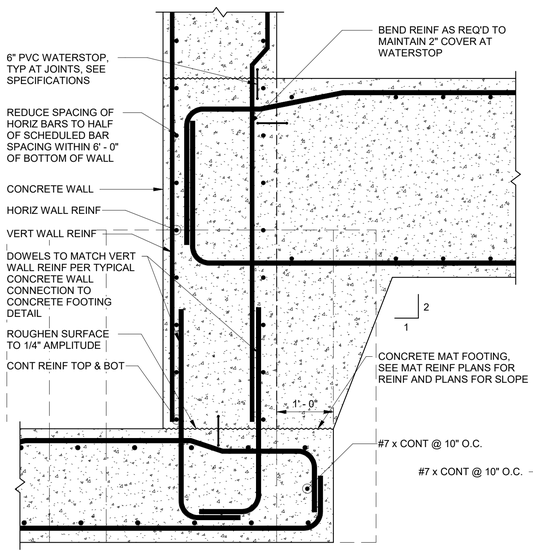
C TYP CONC WALL ON CONC MAT FOOTING
35-S-11



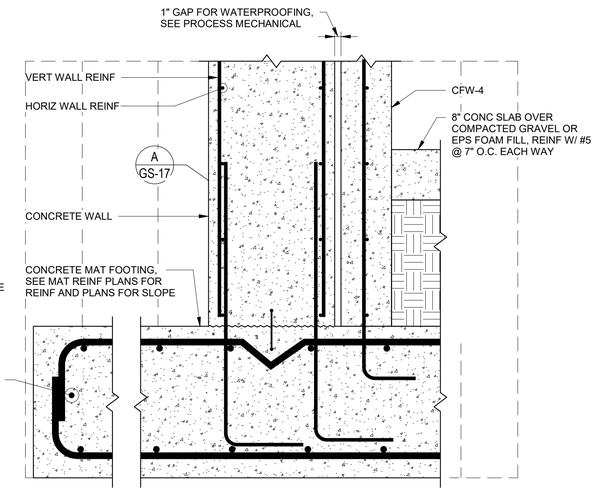
D SLAB BEAM AT SEDIMENTATION
35-S-12



E TYP CONC WALL ON CONC MAT FOOTING
35-S-05



F TYP CONC WALL ON CONC MAT FOOTING
35-S-05



G CONC WALL ON CONC MAT FOOTING
35-S-05

REAVELEY Engineers
675 East 500 South, Suite 400
Salt Lake City, UT 84102
P 801 486 3883
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SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C. HAWKES
DRAWN BY: S. SHEPHERD
CHECKED BY: J. HARPER
APPROVED BY: C. PRICE
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO. 512260079

REVISIONS

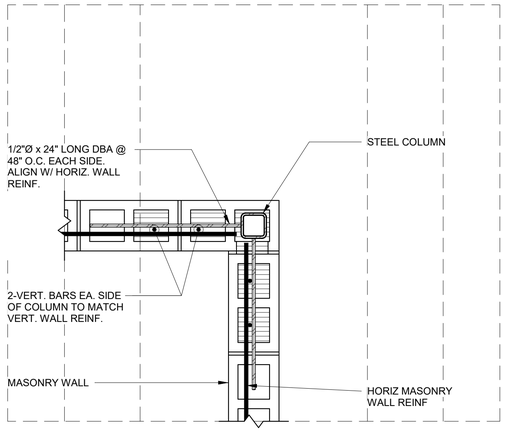
NO	DATE:		MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE(GMP)	CH	CP

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

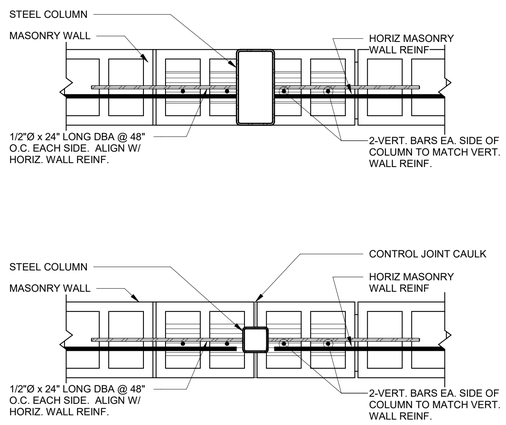
STANDARD STRUCTURAL DETAILS 14

90% GMP

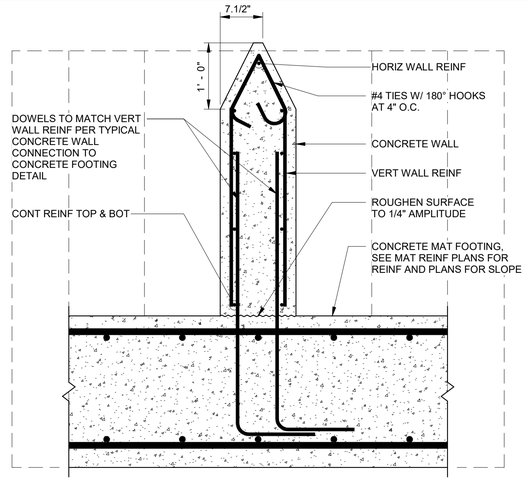
DRAWING NO.
GS-18



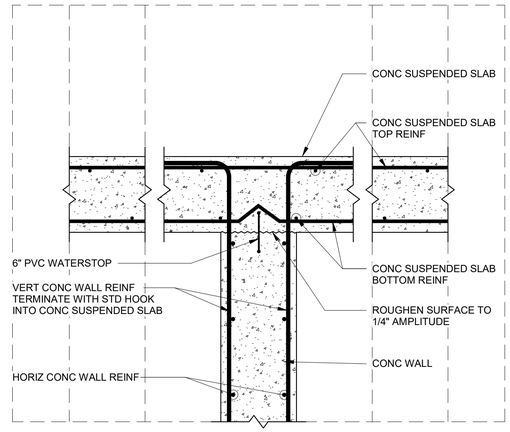
A 70-S-05 TYPICAL STEEL COLUMN IN MASONRY WALL



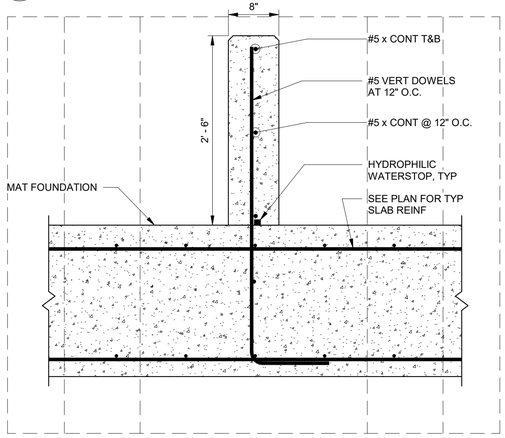
B 70-S-05 TYPICAL STEEL COLUMN IN MASONRY WALL



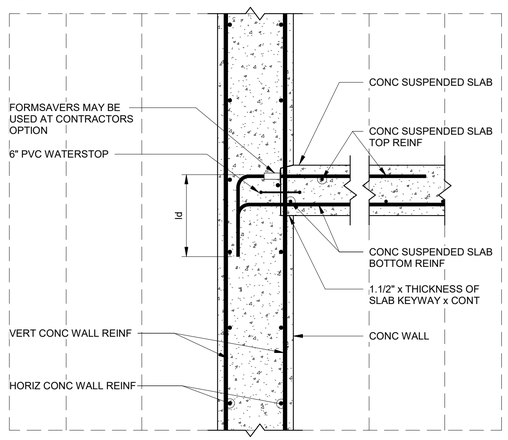
C 35-S-11 CONC WALL ON CONC MAT FOOTING



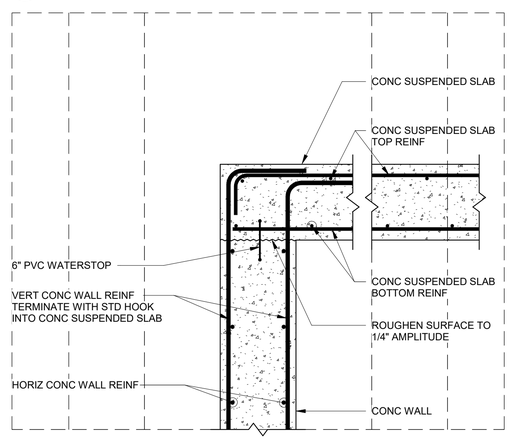
H 35-S-09 TYP CONC SUSPENDED SLAB TO CONC WALL



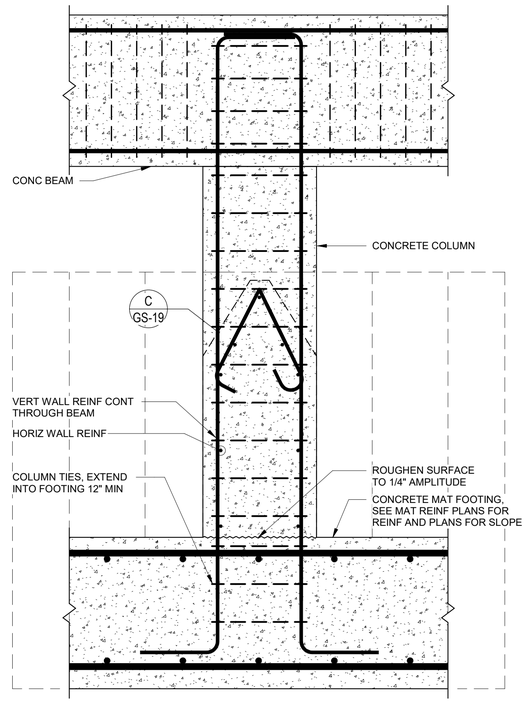
E 35-S-09 INTERIOR CONTAINMENT CURB DETAIL



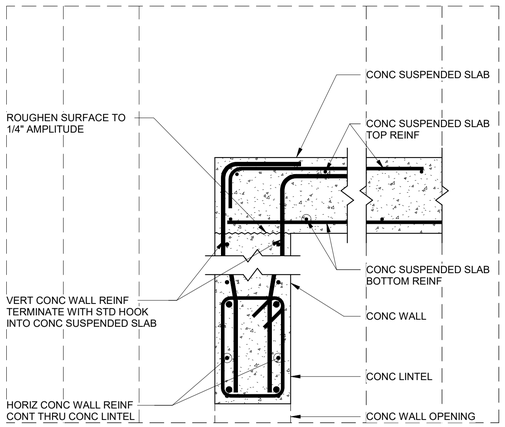
F 35-S-07 TYP CONC SUSPENDED SLAB AT CONC WALL



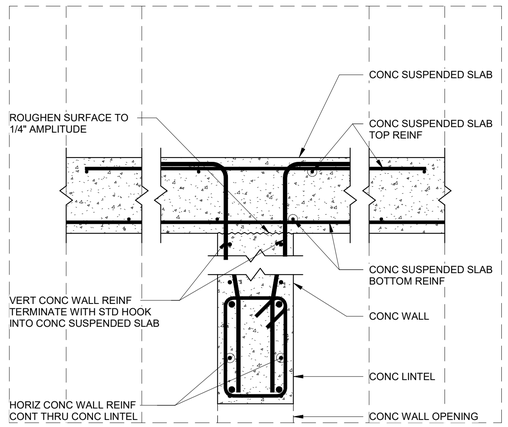
G 35-S-09 TYP CONC SUSPENDED SLAB TO CONC WALL



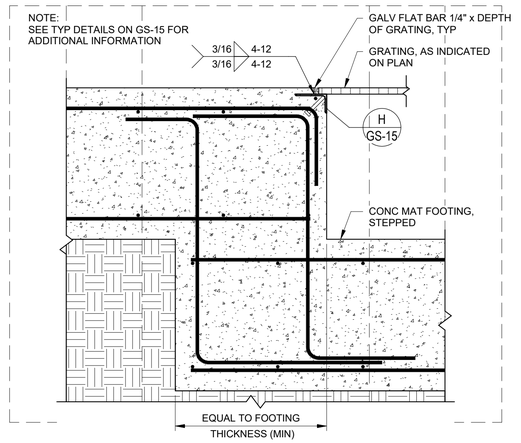
M 35-S-11 CONC WALL ON CONC FOOTING @ CONC BEAM



J SUSPENDED SLAB TO CONC WALL ABV OPENING



K SUSPENDED SLAB TO CONC WALL ABV OPENING



L PIPE CHASE DETAIL

REAVELEY Engineers
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SCALE:

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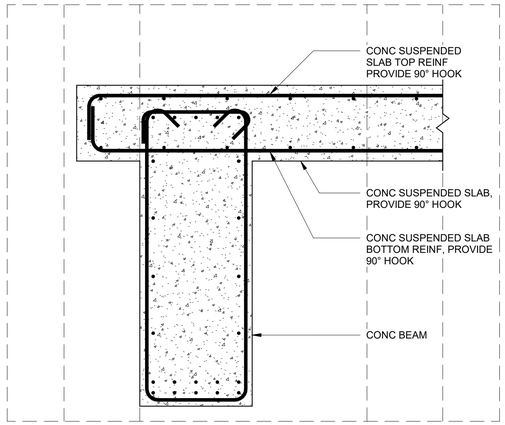
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

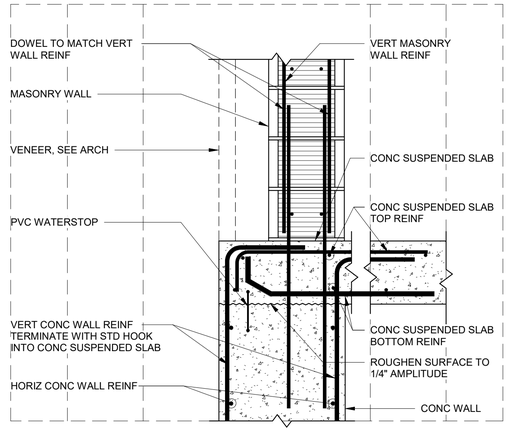
STANDARD STRUCTURAL DETAILS 15

90% GMP

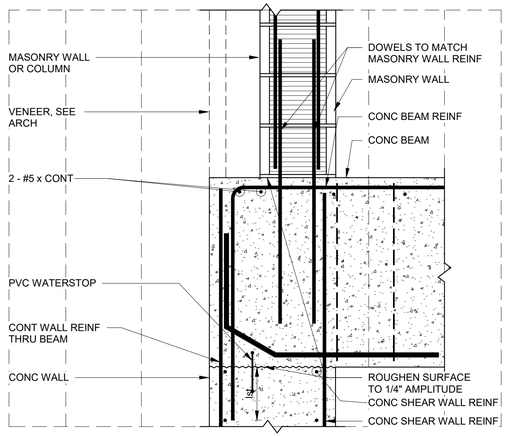
DRAWING NO.
GS-19



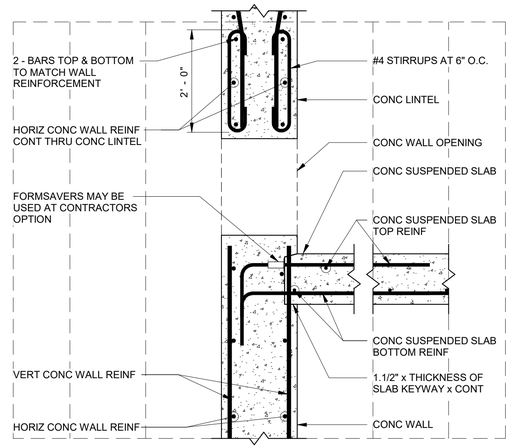
A 35-S-12 CONC SUSPENDED SLAB AT CONC BEAM



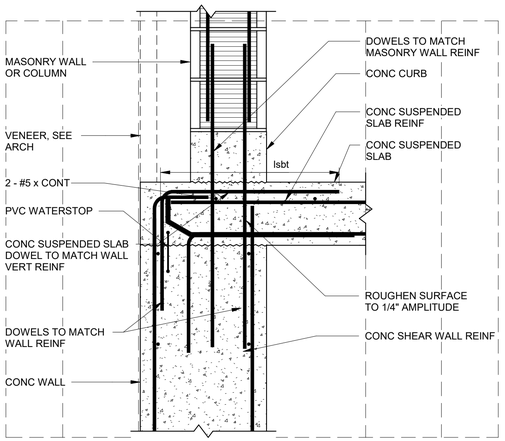
B 35-S-09 CONC SUSPENDED SLAB TO CONC WALL @ CMU



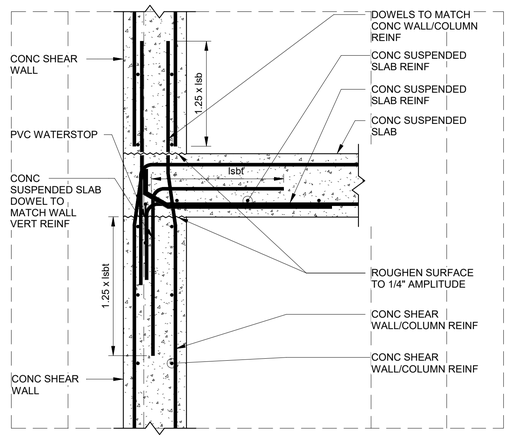
C 35-S-12 CONC BEAM AT CONC WALL



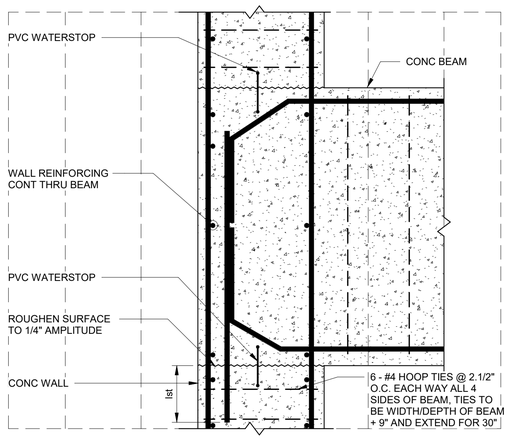
D 35-S-07 CONC SUSPENDED SLAB AT CONC WALL



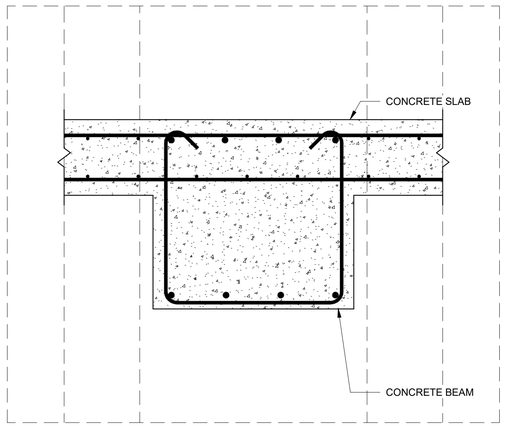
E 35-S-09 CONC SUSPENDED SLAB TO CONC WALL



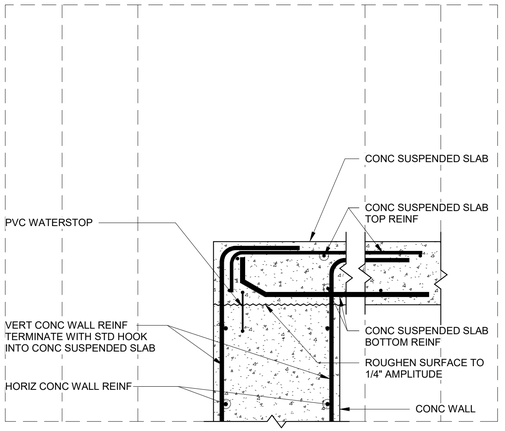
F 35-S-07 CONC SUSPENDED SLAB TO CONC WALL



G 35-S-11 CONC BEAM & JOIST AT CONC WALL



H CONC BEAM & JOIST



J 35-S-12 CONC SUSPENDED SLAB TO CONC WALL @ CMU

REAVELEY Engineers
675 East 500 South, Suite 400
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SCALE:

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DRAWN BY: S. SHEPHERD
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APPROVED BY: C. PRICE
DATE: JUNE 2024
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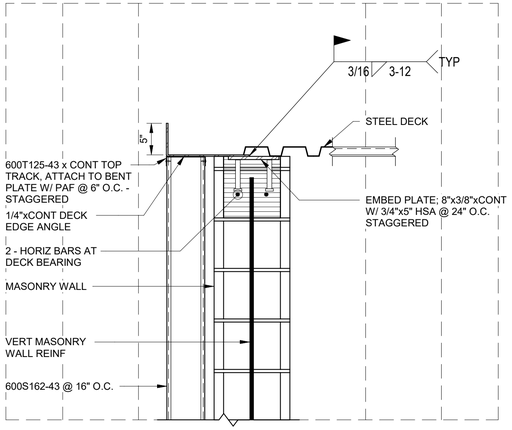
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

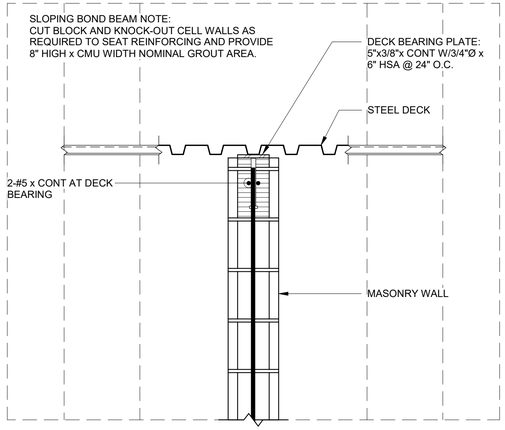
STANDARD STRUCTURAL DETAILS 16

90% GMP

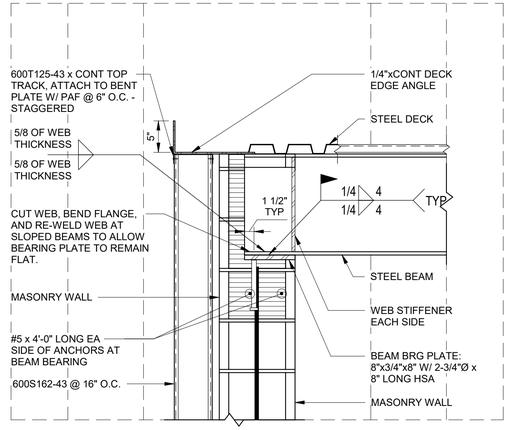
DRAWING NO.
GS-20



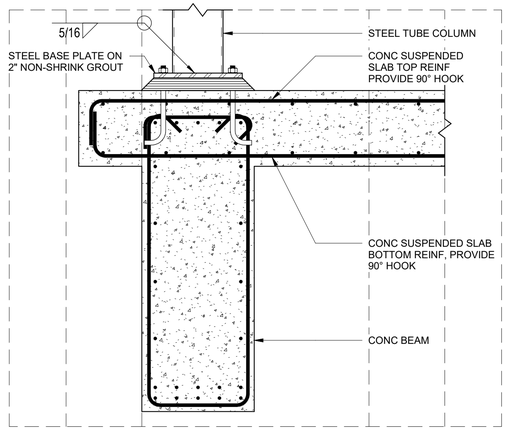
A 35-S-17 ROOF DECK CONNECTION TO 12" MASONRY WALL



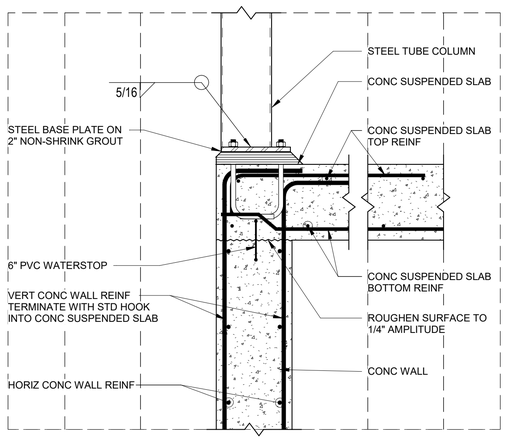
B 35-S-17 TYP ROOF DECK BEARING AT MASONRY WALL



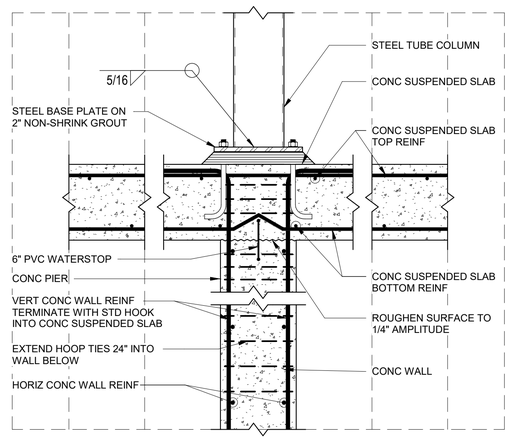
C 35-S-17 TYP STEEL BEAM BEARING AT 12" MASONRY WALL



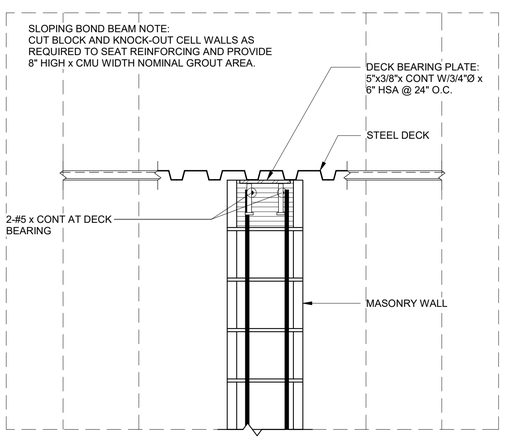
D 35-S-12 CONC SUSPENDED SLAB AT CONC BEAM



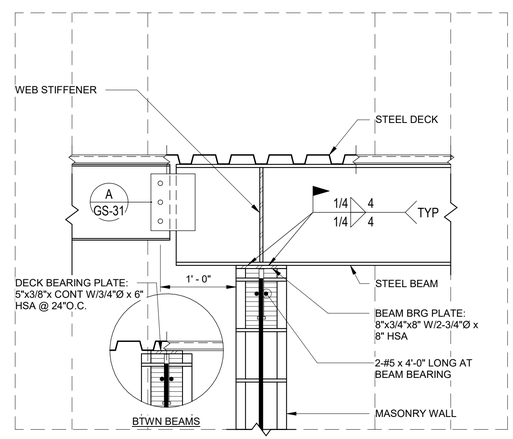
E 35-S-09 TYP CONC SUSPENDED SLAB TO CONC WALL



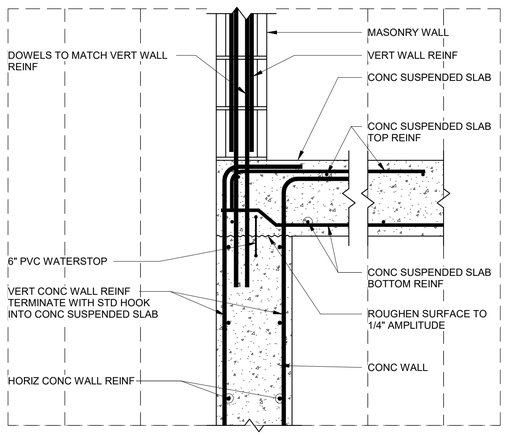
F 35-S-15 TYP CONC SUSPENDED SLAB TO CONC WALL



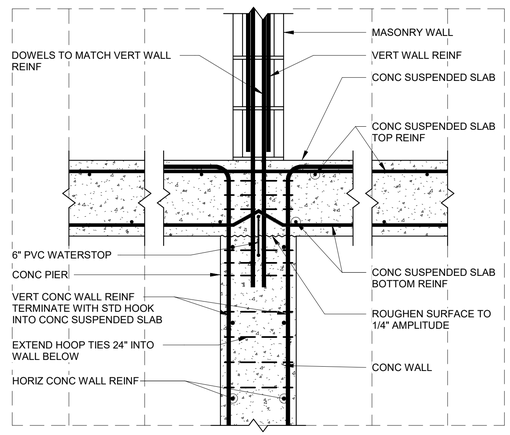
G 35-S-17 TYP ROOF DECK BEARING AT MASONRY WALL



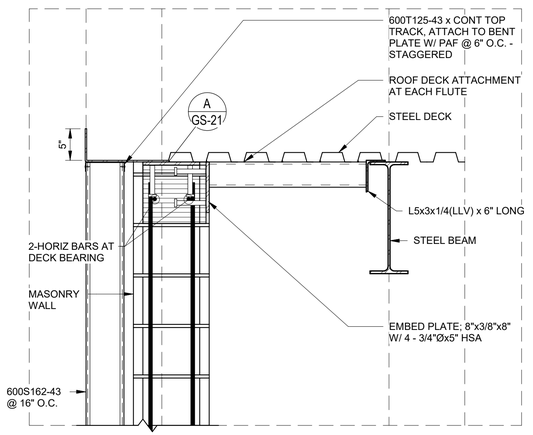
H 35-S-17 STEEL BEAM/DECK BEARING AT MASONRY WALL



J 70-S-05 TYP CONC SUSPENDED SLAB TO CONC WALL



K TYP CONC SUSPENDED SLAB TO CONC WALL



L 35-S-17 DECK BEARING AT MASONRY WALL

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C. HAWKES
DRAWN BY: S. SHEPHERD
CHECKED BY: J. HARPER
APPROVED BY: C. PRICE
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SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

STANDARD STRUCTURAL DETAILS 17

90% GMP

DRAWING NO.
GS-21

REAVELEY Engineers
675 East 500 South, Suite 400
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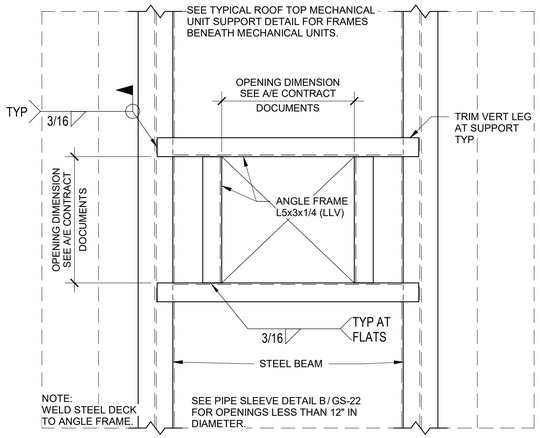
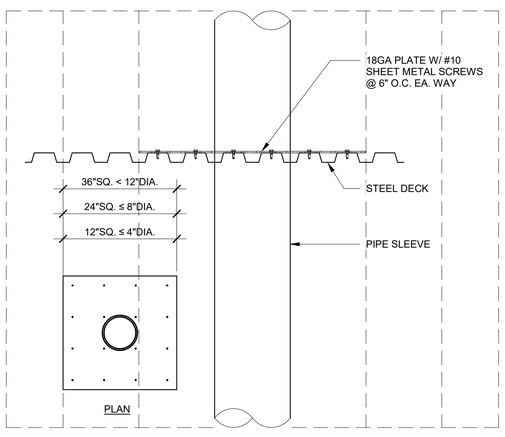
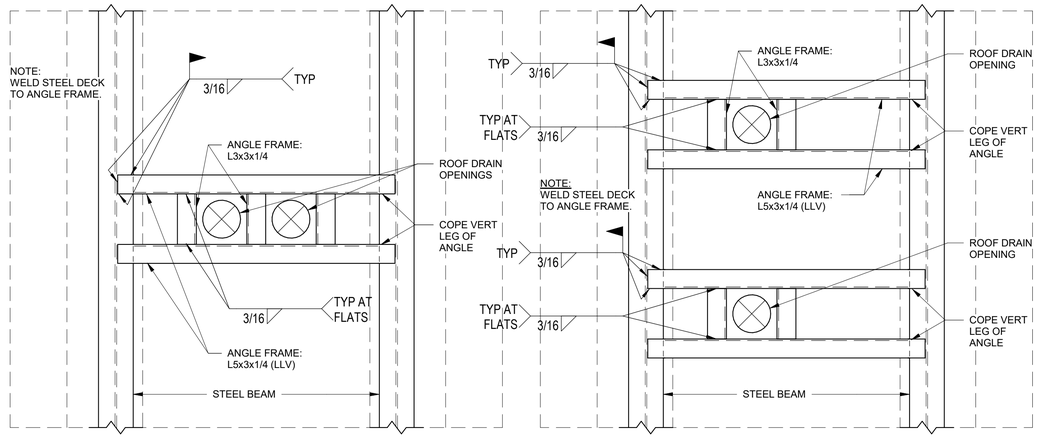


A TYPICAL ROOF OPENING DETAIL (PLAN VIEW)

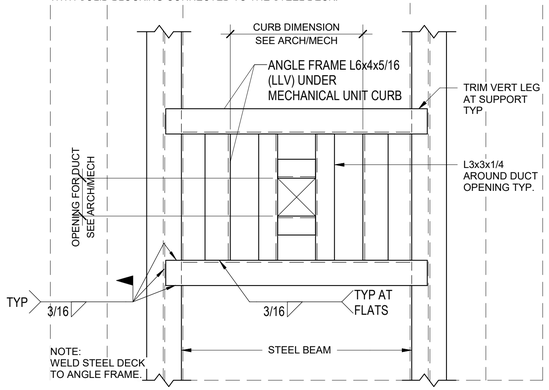


B TYPICAL PIPE SLEEVE HOLE THRU ROOF DECK

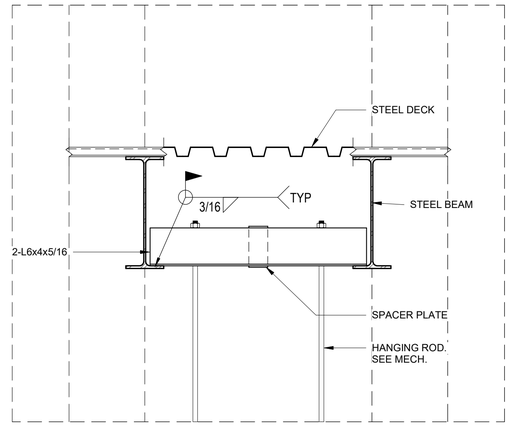


C TYPICAL ROOF DRAIN OPENING (PLAN VIEW)

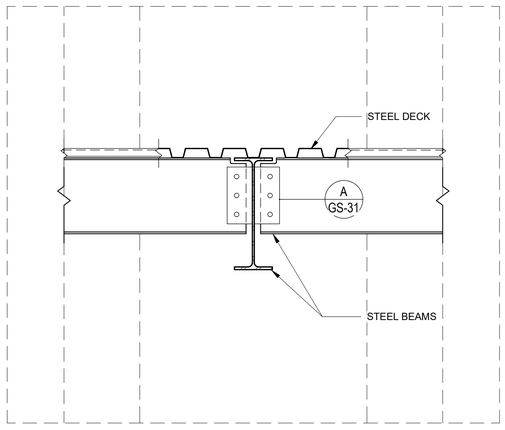
WHERE THE MECHANICAL UNIT WEIGHS LESS THAN 600#, THE L6x4x5/16 SUPPORT ANGLES MAY CHANGED TO L5x3x1/4 (LLV).
SOLID BLOCK THE FLUTES OF THE STEEL DECK BENEATH THE CURB OF THE MECHANICAL UNIT. THIS MAY BE DONE WITH A HSS1.1/2x1.1/2x1/4 x6" LONG TACK WELDED TO THE STEEL DECK OR WITH SOLID BLOCKING CONNECTED TO THE STEEL DECK.



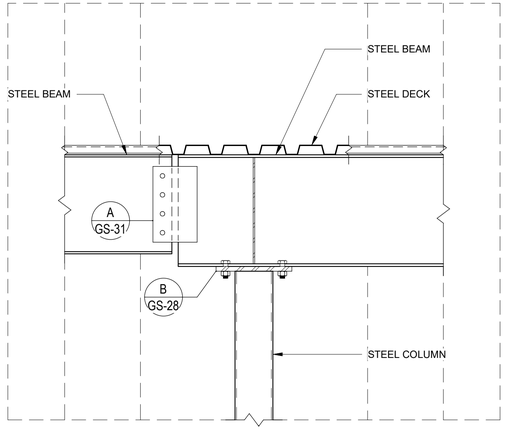
D ROOF TOP MECH UNIT DETAIL (PLAN VIEW)



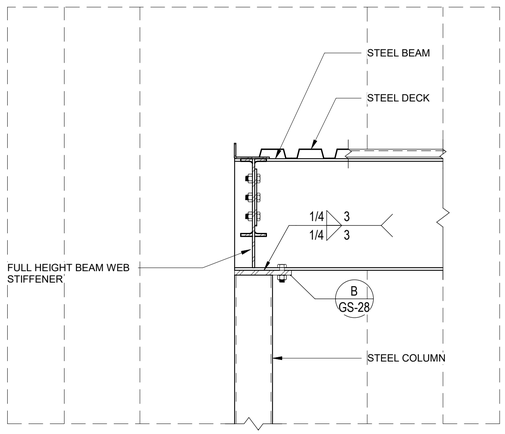
E HANGING MECHANICAL UNIT SUPPORT DETAIL



F 35-S-17 STEEL ROOF BEAM CONNECTION - TWO SIDES



G 35-S-17 STEEL BEAM TO STEEL COLUMN AT DROP-IN BEAM



H 35-S-17 STEEL BEAM AT STEEL COLUMN

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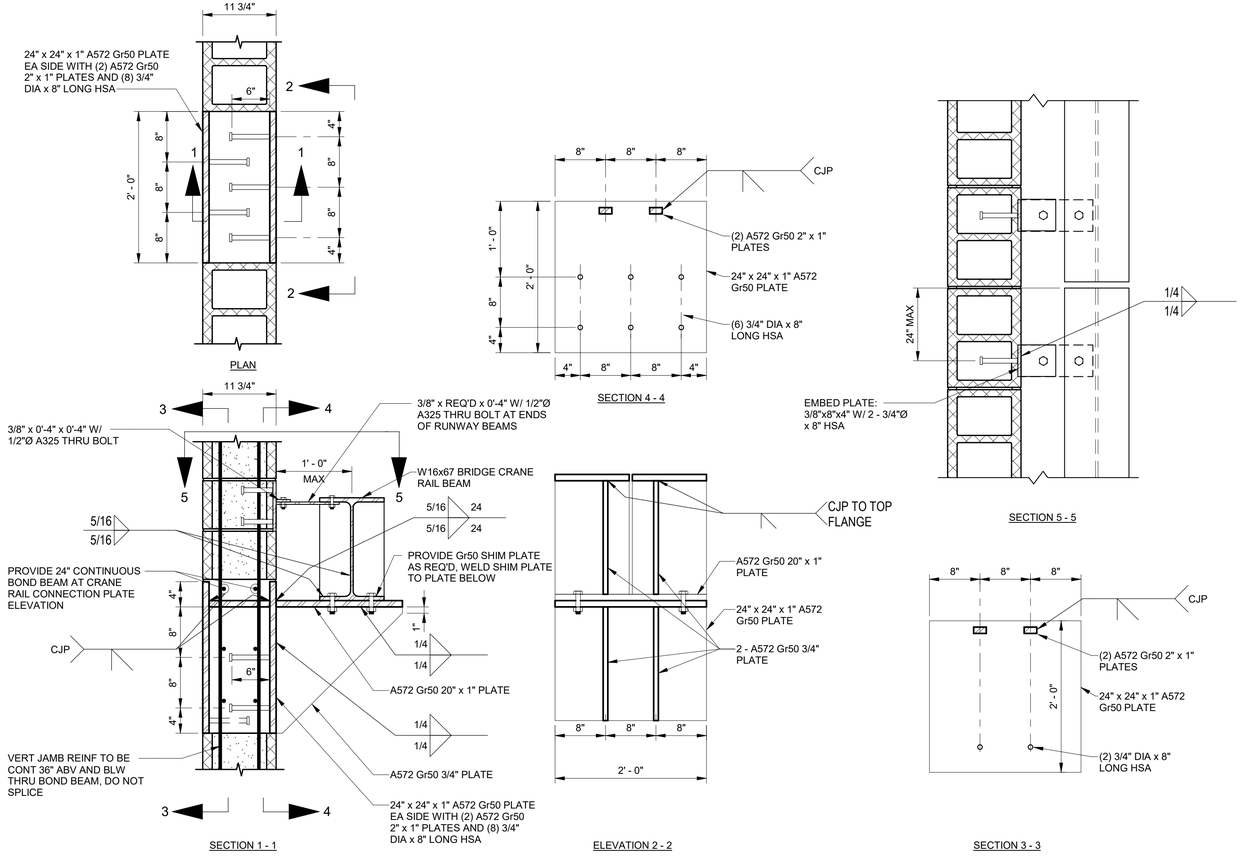
BRIC PACKAGE

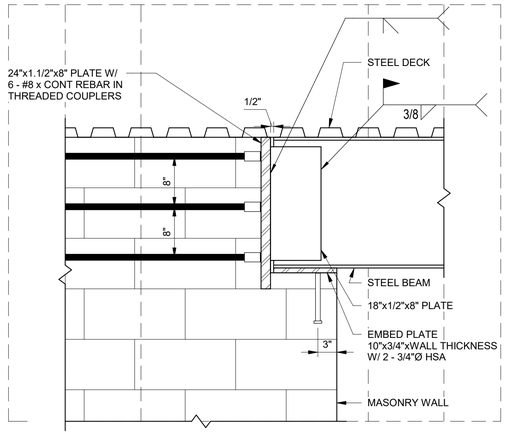
STANDARD STRUCTURAL DETAILS 18

90% GMP

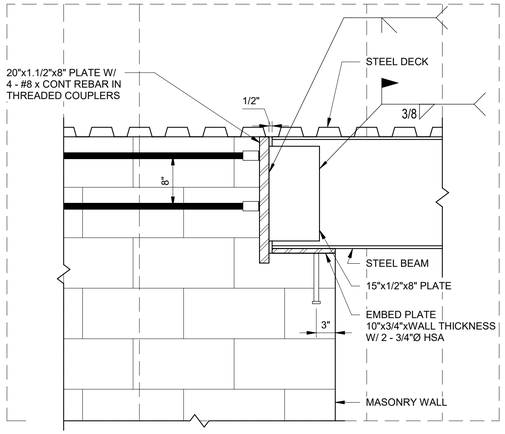
DRAWING NO.
GS-22



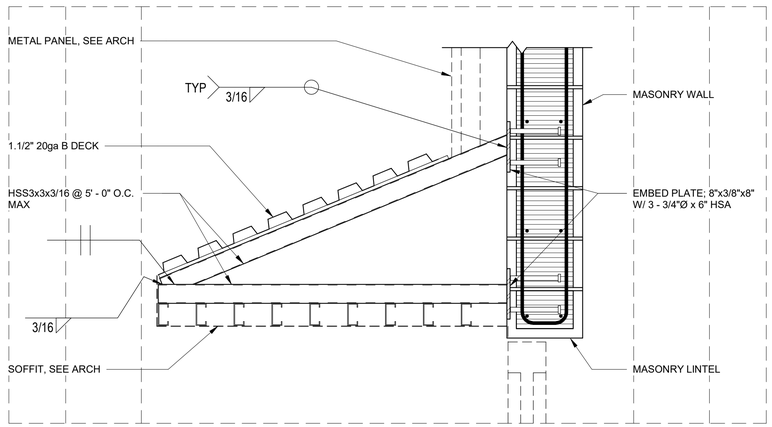
A 70-S-07 BRIDGE CRANE DETAIL



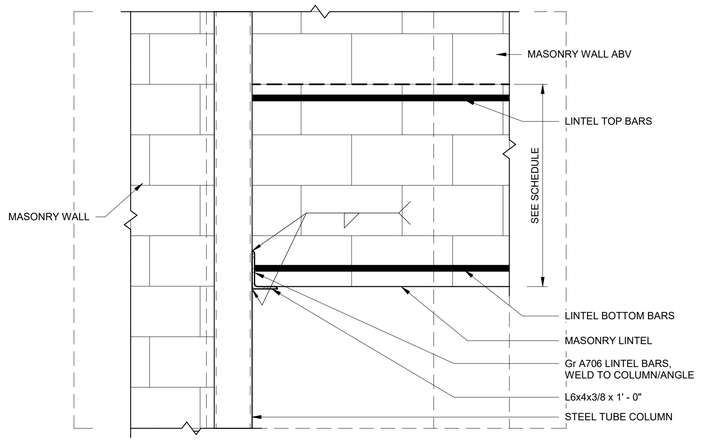
B 35-S-17 STEEL BEAM TO MASONRY WALL DRAG DETAIL



C 35-S-17 STEEL BEAM TO MASONRY WALL DRAG DETAIL



D 35-S-17 CANOPY DETAIL



E 70-S-07 MASONRY LINTEL AT STEEL TUBE COLUMN

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.HAWKES
DRAWN BY: S.SHEPHERD
CHECKED BY: J.HARPER
APPROVED BY: C.PRICE
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO. 512260079

REVISIONS

NO.	DATE:		MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAX/MUM PRICE(GMP)	CH	CP

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

STANDARD STRUCTURAL DETAILS 19

90% GMP

DRAWING NO.
GS-23

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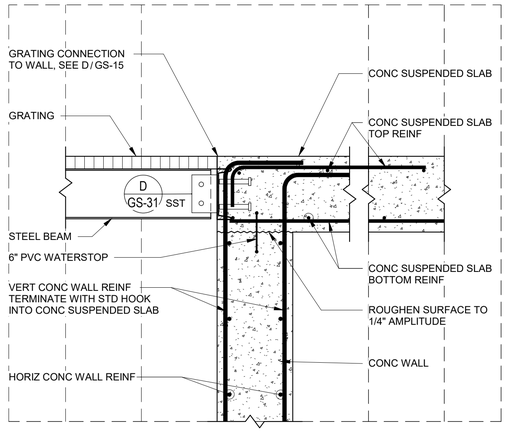
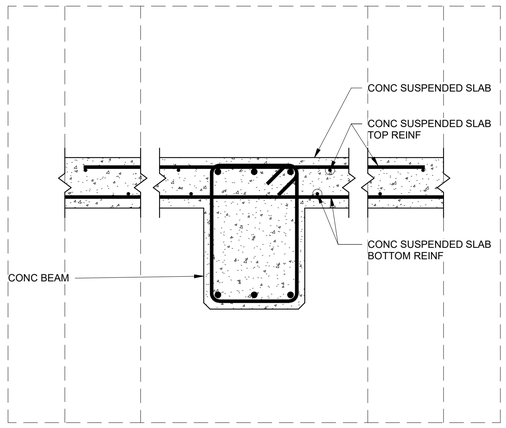
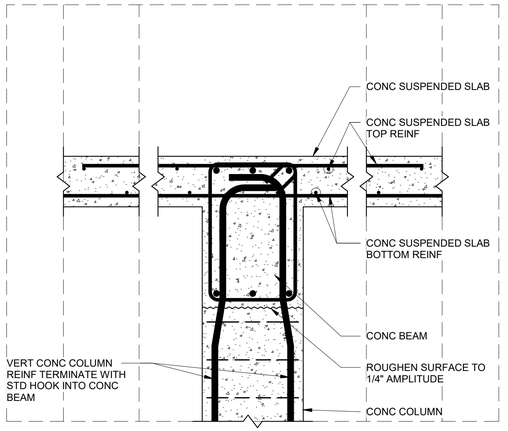


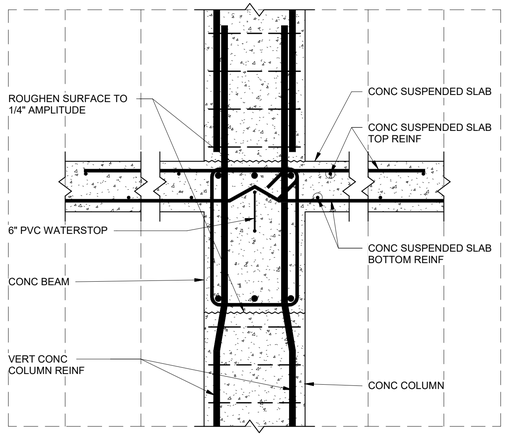
A 70-S-03 TYP CONC SUSPENDED SLAB TO CONC WALL



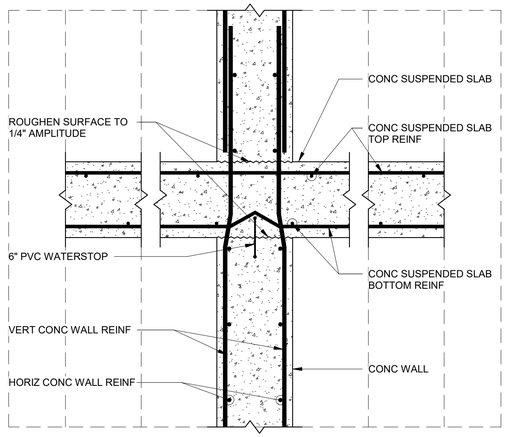
B 70-S-03 CONC SUSPENDED SLAB TO CONC BEAM



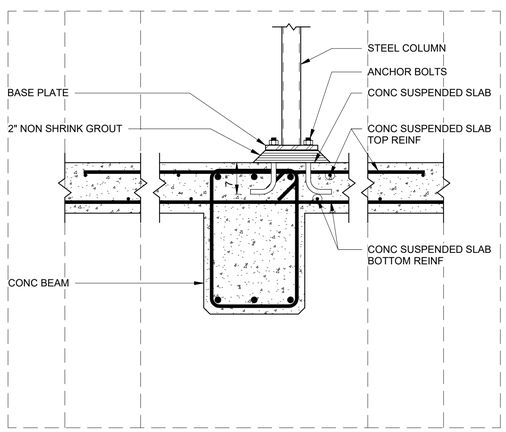
C 70-S-03 CONC SUSPENDED SLAB TO CONC BEAM



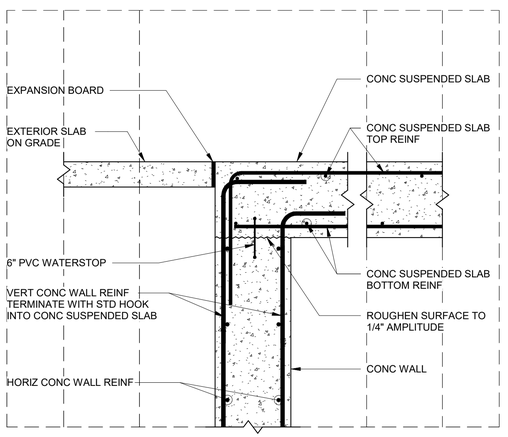
D 70-S-03 CONC SUSPENDED SLAB TO CONC BEAM/COLUMN



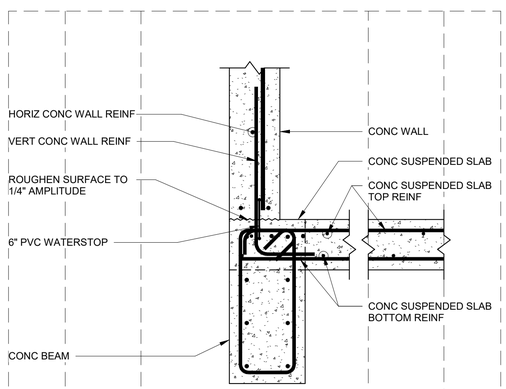
E 70-S-03 TYP CONC SUSPENDED SLAB TO CONC WALL



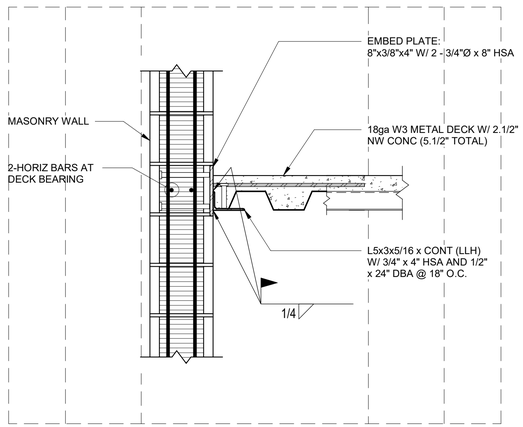
F 35-S-09 CONC SUSPENDED SLAB TO CONC BEAM



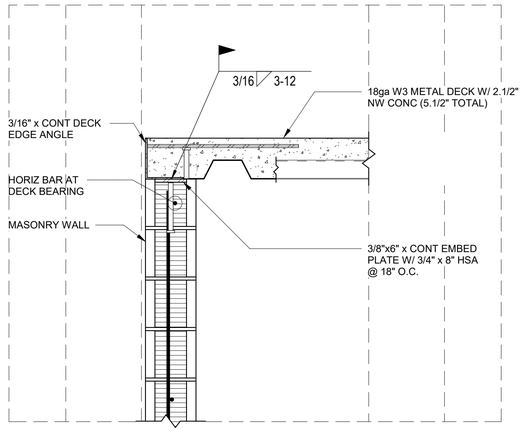
G 35-S-34 TYP CONC SUSPENDED SLAB TO CONC WALL



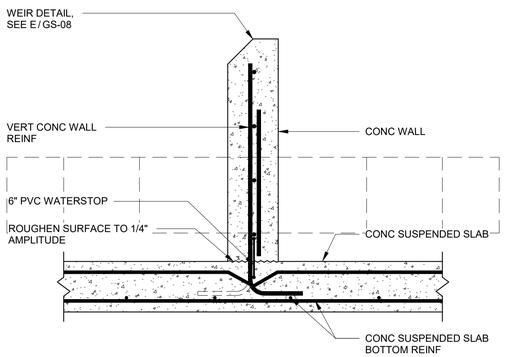
H 35-S-07 CONC SUSPENDED SLAB AT CONC WALL



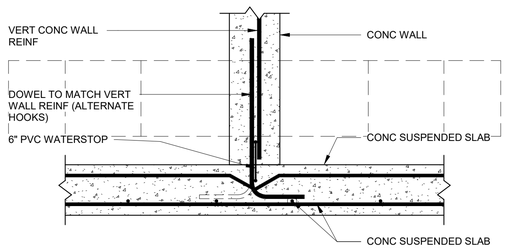
J 70-S-07 SHELTER IN PLACE LID DETAIL



K 70-S-07 SHELTER IN PLACE LID DETAIL



L 35-S-07 CONC WEIR AT CONC SLAB DETAIL



M 35-S-07 CONC SUSPENDED SLAB WITH CONC WALL ABOVE

REAVELEY Engineers
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Salt Lake City, UT 84102
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www.reaveley.com

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C. HAWKES
DRAWN BY: S. SHEPHERD
CHECKED BY: J. HARPER
APPROVED BY: C. PRICE
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO. 512260079

REVISIONS

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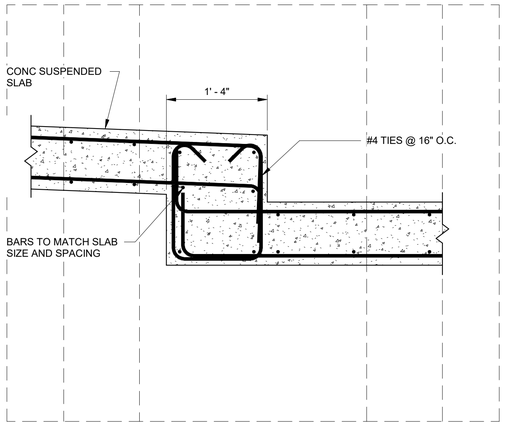
SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

STANDARD STRUCTURAL DETAILS 20

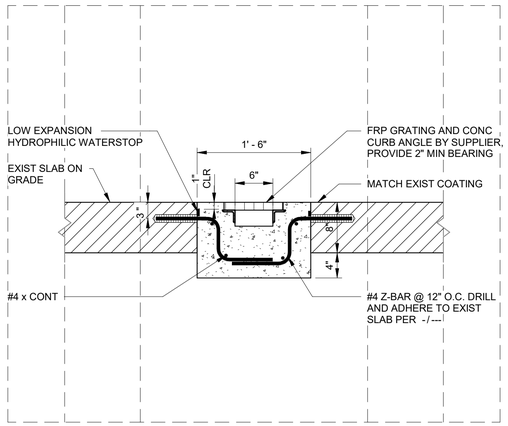
90% GMP

DRAWING NO.
GS-24

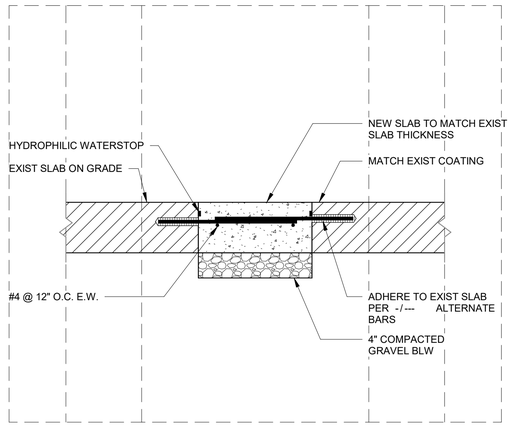
Plot Date: 6/13/2024 9:32:40 AM Path: R:\M 360\15302O - City Creek WTP\15302O-S-3570V21.rvt



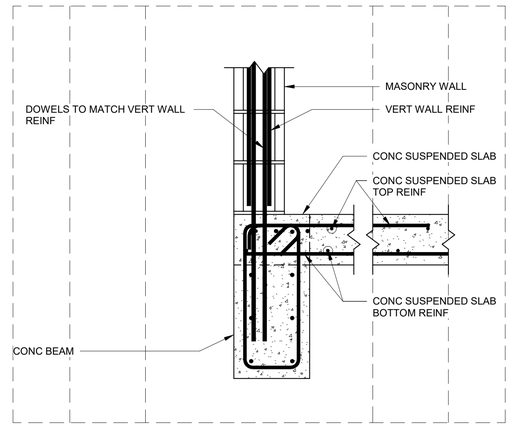
A 35-S-07 CONC SLAB STEP DETAIL



B NEW TRENCH IN EXIST SLAB



C NEW SLAB AT EXIST SLAB



D 70-S-05 CONC SUSPENDED SLAB AT CONC WALL

F TRANSITION DETAIL AT BRICK TO METAL PANEL

G 35-S-13 CONC WALL DETAIL

H CONC SUSPENDED SLAB AT CONC WALL

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C. HAWKES
DRAWN BY: S. SHEPHERD
CHECKED BY: J. HARPER
APPROVED BY: C. PRICE
DATE: JUNE 2024
EWO NO. ---
ACCOUNT NO. 512260079

REVISIONS

NO.	DATE:		MADE BY	AUTH BY
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SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE
STANDARD STRUCTURAL DETAILS 21

90% GMP

DRAWING NO.
GS-25

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Plot Date: 6/13/2024 9:32:51 AM Path: RIM 360://153020 - City Creek WTP/153020-S-3570v21.rvt

CONCRETE BEAM SCHEDULE

* BEAM DEPTH INCLUDES SLAB THICKNESS

BEAM			REINFORCEMENT				NOTES	STIRRUPS			
MARK	WIDTH	DEPTH*	NO.	SIZE	LOCATION	TYPE		SIZE	TYPE	END	SPACING
CB-1	16"	36"	4	#8	BOTTOM	2H	-	#4	A1	EACH	2", 4 @12" O.C. THEN @ 16" O.C. TO CL
			4	#7	TOP	2H1					
CB-2	16"	36"	6	#8	BOTTOM	2H	-	#4	A1	EACH	2", 4 @12" O.C. THEN @ 16" O.C. TO CL
			4	#7	TOP	2H1					
CB-3	16"	36"	6	#8	BOTTOM	2H	2" BOTTOM COVER	#4	B1	EACH	2", 6 @10" O.C. THEN @ 16" O.C. TO CL
			6	#8	BOTTOM	2H	4" BOTTOM COVER				
			4	#7	TOP	2H1					
CB-4	16"	36"	4	#8	BOTTOM	2H		#4	A1	EACH	6" O.C.
			4	#7	TOP	2H1					
CB-5	16"	36"	4	#8	BOTTOM	2H		#4	A1	EACH	2", 4 @12" O.C. THEN @ 16" O.C. TO CL
			4	#7	TOP	2H1					
CB-6	18"	30"	6	#8	BOTTOM	H		#4	A1	EACH	12" O.C.
			4	#6	TOP	H1					
			2			O1					
CB-7	20"	36"	5	#8	BOTTOM	2H		#4	A1	WEST	2", 4 @ 8.1/2", 15 @ 10.3/4", THEN @ 16" O.C. TO CL
			4	#6	TOP	2H1			A1	EAST	2", 17 @ 10.3/4", THEN @ 16" O.C. TO CL
CB-8	20"	36"	6	#8	BOTTOM	2H		#5	A1	EACH	2", THEN @ 6" O.C. TO CL
			4	#8	TOP	2H1					
CB-9	20"	36"	4	#8	BOTTOM	2H		#4	A1	EACH	2", THEN @ 7" O.C. TO CL
			4	#6	TOP	2H1					
CB-10	20"	36"	4	#8	BOTTOM	H4		#4	A1	EACH	2", THEN @ 15.1/2" O.C. TO CL
			4	#6	TOP	H1					
			2	#6	TOP	O1					
CB-11	20"	36"	4	#8	BOTTOM	H4		#4	A1	WEST	2", 24 @ 11" O.C., THEN @ 16" O.C. TO CL
			4	#6	TOP	H1		#4	A1	EAST	2", 14 @ 11" O.C., THEN @ 16" O.C. TO CL
CB-12	20"	36"	6	#8	BOTTOM	2H		#5	A1	EACH	2", 18 @ 12" O.C., THEN @ 12" O.C. TO CL
			4	#8	TOP	2H1					
CB-13	18"	24"	5	#8	BOTTOM	H					
			4	#8	TOP	O1		#4	A1	EACH	2", 10 @ 4" O.C., THEN @ 7.1/2" O.C. TO CL
			8	#8	TOP	H1					
CB-14	12"	24"	4	#8	BOTTOM	H					
			4	#8	TOP	2H1		#4	A1	EACH	2", 12 @ 4" O.C.

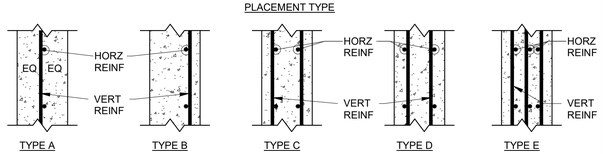
D CONCRETE BEAM SCHEDULE

CONCRETE FOUNDATION WALL SCHEDULE

MARK	THICK	HORIZONTAL REINFORCING	VERTICAL REINFORCING	T & B HORIZ. BARS	PLACEMENT
CFW-1	1' - 8"	#7 @ 6" O.C. O.F. #8 @ 6" O.C. I.F.	#7 @ 6" O.C. O.F. #8 @ 6" O.C. I.F.	1 - #7 O.F. 1 - #8 I.F.	TYPE C
CFW-2	1' - 6"	#6 @ 9" O.C. E.F.	#7 @ 6" O.C. E.F.	1 - #6 E.F.	TYPE C
CFW-3	2' - 0"	#7 @ 10" O.C. E.F.	#7 @ 10" O.C. E.F.	1 - #7 E.F.	TYPE C
CFW-4	8"	#6 @ 11" O.C.	#5 @ 12" O.C.	1 - #6	TYPE A
CFW-5	1' - 0"	#5 @ 10" O.C. E.F.	#4 @ 9" O.C. E.F.	1 - #6 E.F.	TYPE C
CFW-6	8"	#5 @ 15" O.C.	#4 @ 16" O.C.	1 - #5	TYPE A
CFW-7	1' - 0"	#5 @ 10" O.C. E.F.	#5 @ 10" O.C. E.F.	1 - #5 E.F.	TYPE D

NOTES:
1. HORIZONTAL WALL REINFORCING SHALL BE CONTINUOUS THRU CONSTRUCTION & CONTROL JOINTS.
2. SPLICES IN HORIZONTAL WALL REINFORCING SHALL BE TYPE Lsb, STAGGERED SUCH THAT SPLICES DO NOT OVERLAP. SPLICES IN TWO CURTAINS SHALL NOT OCCUR IN THE SAME LOCATION.

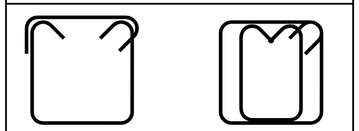
PLACEMENT TYPE



E.F. = EACH FACE
O.F. = OUTSIDE FACE (AGAINST SOIL)
I.F. = INSIDE FACE
3L = THREE LAYERS

B CONCRETE FOUNDATION WALL SCHEDULE

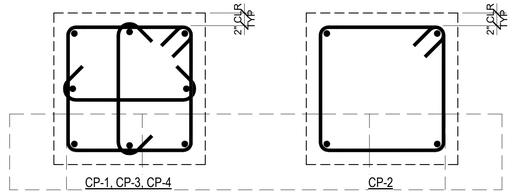
CONCRETE BEAM STIRRUP DIAGRAMS



E BEAM STIRRUP DIAGRAMS

CONCRETE PIER SCHEDULE

MARK	DIMENSIONS		REINFORCING		REMARKS
	DEPTH	WIDTH	VERTICAL	TIES	
CP-1	1' - 6"	1' - 8"	8 - #5	#4 @ 16" O.C.	
CP-2	1' - 6"	1' - 6"	4 - #6	#3 TIES @ 6" O.C.	
CP-3	2' - 0"	1' - 6"	8 - #6	#4 TIES @ 9" O.C.	
CP-4	1' - 8"	1' - 6"	8 - #8	#4 TIES @ 9" O.C.	



C CONCRETE PIER REINFORCEMENT/TIE DIAGRAM - PLAN

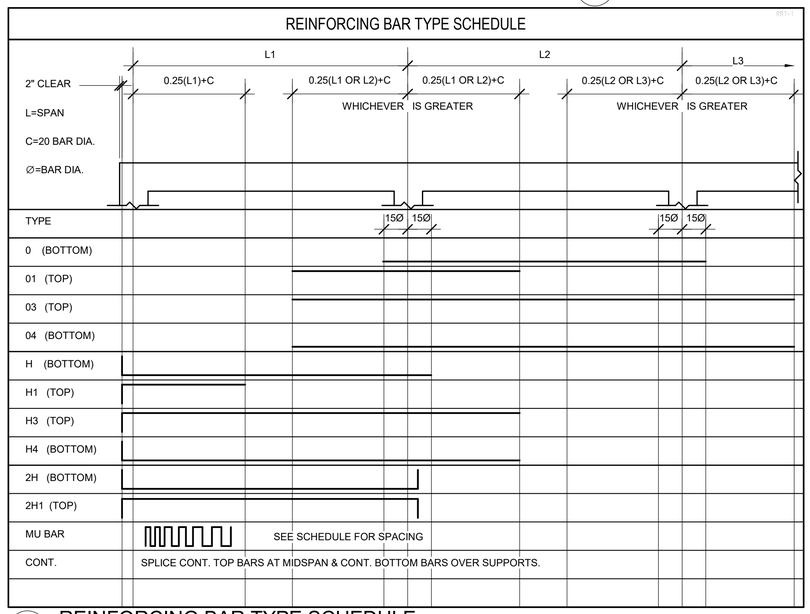
CONCRETE FOOTING SCHEDULE

MARK	WIDTH	LENGTH	THICK	CROSSWISE REINFORCING				LENGTHWISE REINFORCING				REMARKS
				NO.	SIZE	LENGTH	SPACE	NO.	SIZE	LENGTH	SPACE	
FM-1	SEE PLAN	SEE PLAN	24"	-	#7	CONT	10" O.C.	-	#7	CONT	10" O.C.	TOP & BOTTOM, DECREASE SPACING OF BARS PARALLEL TO WALL BY HALF WITHIN 6'- 0" OF FOUNDATION WALLS
				-	#7	CONT	10" O.C.	-	#7	CONT	10" O.C.	
FM-2	SEE PLAN	SEE PLAN	36"	-	#8	CONT	10" O.C.	-	#8	CONT	10" O.C.	TOP & BOTTOM, DECREASE SPACING OF BARS PARALLEL TO WALL BY HALF WITHIN 6'- 0" OF FOUNDATION WALLS
				-	#8	CONT	10" O.C.	-	#8	CONT	10" O.C.	
FM-3	SEE PLAN	SEE PLAN	12"	-	#5	CONT	10" O.C.	-	#5	CONT	10" O.C.	TOP & BOTTOM
				-	#5	CONT	10" O.C.	-	#5	CONT	10" O.C.	
FC2.0	2' - 0"	CONT	12"	-	#4	1' - 6"	48" O.C.	3	#4	CONT	EQ	

1. PLACE ALL FOOTING REINFORCING IN BOTTOM OF FOOTING WITH 3" CLEAR CONCRETE COVER UNLESS NOTED OTHERWISE.
2. TOP REINFORCING, WHERE SPECIFIED, SHALL BE PLACED IN THE TOP OF THE FOOTING WITH 2" CLEAR CONCRETE COVER.
3. SPOT FOOTINGS SHALL BE CENTERED UNDER COLUMNS AND CONTINUOUS FOOTINGS SHALL BE CENTERED UNDER WALLS, UNLESS NOTED OTHERWISE.
4. ALL FOOTINGS SHALL BE FORMED. FOOTINGS SHALL NOT BE EARTH FORMED OR OVERSIZED WITHOUT WRITTEN PERMISSION FROM THE STRUCTURAL ENGINEER.

A CONCRETE FOOTING SCHEDULE

REINFORCING BAR TYPE SCHEDULE



F REINFORCING BAR TYPE SCHEDULE

REAVELEY Engineers
675 East 500 South, Suite 400
Salt Lake City, UT 84102
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F 801 485 0911
www.reaveley.com

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C.HAWKES
DRAWN BY: S.SHEPHERD
CHECKED BY: J.HARPER
APPROVED BY: C.PRICE
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO: 512260079

REVISIONS

NO.	DATE:		MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE(GMP)	CH	CP

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE
STANDARD STRUCTURAL SCHEDULES 1

90% GMP

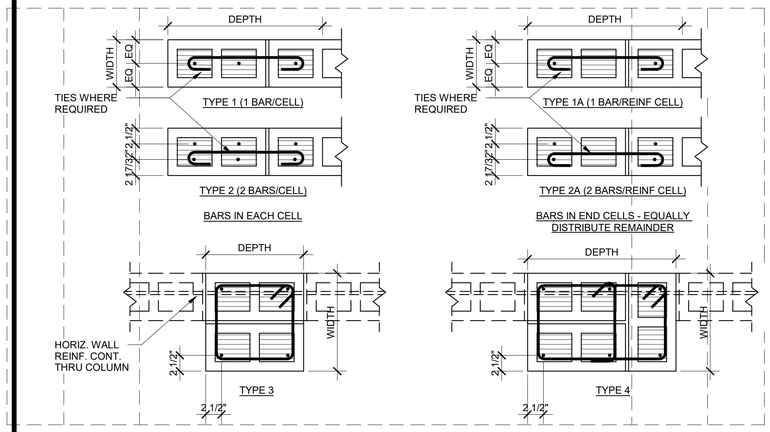
DRAWING NO.
GS-26

MASONRY COLUMN SCHEDULE

MARK	DIMENSIONS		REINFORCING			REMARKS
	WIDTH	DEPTH	VERTICAL	TIES	TYPE	
MC-1	1' - 0"	1' - 4"	4 - #6	--	TYPE 2	
MC-2	1' - 0"	2' - 0"	6 - #6	--	TYPE 2	
MC-3	1' - 0"	2' - 8"	8 - #6	--	TYPE 2	
MC-4	1' - 0"	4' - 0"	12 - #6	--	TYPE 2	
MC-5	8"	1' - 4"	4 - #5	--	TYPE 2	

NOTES

1. HORIZONTAL WALL REINFORCING BARS SHALL BE CONTINUOUS THROUGH MASONRY COLUMNS. AT WALL ENDS OR OPENINGS TERMINATE HORIZONTAL WALL REINFORCING WITH A 90° OR 180° HOOK.
2. FOR TYPE 2 & 2A COLUMNS, HORIZONTAL WALL REINFORCING SHALL BE LOCATED TO THE INSIDE OF VERTICAL COLUMN BARS..
3. UNLESS NOTED OTHERWISE, VERTICAL COLUMN REINFORCING AND TIES SHALL EXTEND THE FULL STORY HEIGHT OF THE WALL.
4. MASONRY COLUMN VERTICAL BARS OR DOWELS IN CONCRETE FOUNDATION WALLS SHALL HAVE TIES TO MATCH MASONRY COLUMN TIES.
5. VERTICAL REINFORCING IN TYPE 1 & 2 COLUMNS SHALL BE DISTRIBUTED EQUALLY IN EACH CELL.
6. PLACE VERTICAL COLUMN BARS IN EACH END CELL FOR TYPE 1A & 2A COLUMNS. REMAINING REINFORCING SHALL BE SPACED EQUALLY THROUGHOUT THE COLUMN WITH ONE BAR PER CELL FOR TYPE 1A AND TWO BARS PER CELL FOR TYPE 2A.
7. ALL CELLS IN COLUMNS SHALL BE GROUTED SOLID.



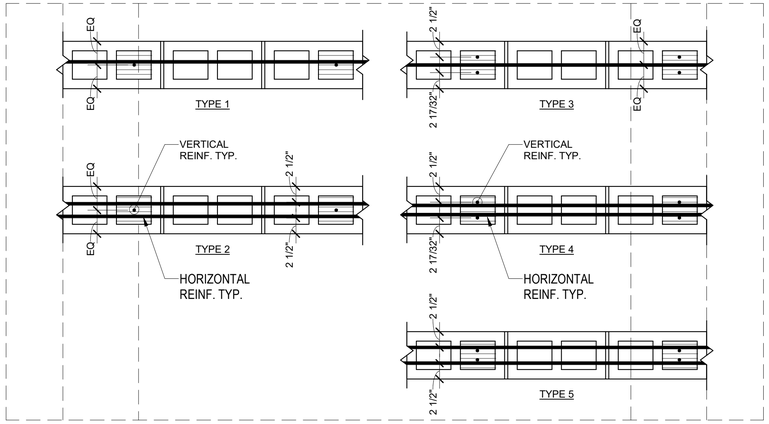
A TYPICAL MASONRY COLUMN TYPES - PLAN VIEW

MASONRY WALL SCHEDULE

MARK	THICK	MATERIAL	REINFORCING		TYPE	REMARKS
			VERTICAL	HORIZONTAL		
MW-1	8"	CMU	#5 @ 24" O.C.	#4 @ 24" O.C.	TYPE 1	
MW-2	1' - 0"	CMU	#6 @ 32" O.C.	2 - #5 @ 48" O.C.	TYPE 2	SOLID GROUTED
MW-3	1' - 0"	CMU	#6 @ 16" O.C.	2 - #5 @ 48" O.C.	TYPE 2	SOLID GROUTED
MW-4	8"	ATLAS BRICK - 8x4x16	#5 @ 32" O.C.	#4 @ 24" O.C.	TYPE 1	SOLID GROUTED

NOTES

1. SEE PLANS, DETAILS AND GENERAL STRUCTURAL NOTES FOR ADDITIONAL REINFORCING REQUIREMENTS.
2. GROUT SOLID ALL CELLS BELOW GRADE, CELLS CONTAINING EMBEDS (HSA'S, DBA'S, ANCHOR BOLTS, ETC.), AND CELLS CONTAINING REINFORCING. CONSOLIDATE GROUT AS PER THE GENERAL STRUCTURAL NOTES.
3. HORIZONTAL WALL REINFORCING SHALL CONTINUE THROUGH MASONRY LINTELS. WHERE BOTH HORIZONTAL WALL REINFORCING AND LINTEL REINFORCING OCCUR IN THE SAME COURSE, THE LARGER BARS ARE TO REPLACE THE SMALLER BARS.



B TYPICAL MASONRY WALL TYPES - PLAN VIEW

MASONRY LINTEL SCHEDULE

MARK	DIMENSIONS		REINFORCING		MAXIMUM SPAN	REMARKS
	DEPTH	WIDTH	HORIZONTAL	STIRRUPS		
ML-1	24"	8"	2- #5 CONT.	#4 @ 8" O.C.	3'-4"	
ML-2	32"	12"	2- #6 CONT. TOP & BOTTOM	#4 @ 18" O.C.	6'-8"	
ML-3	40"	12"	2- #7 CONT. TOP & BOTTOM	#4 @ 8" O.C.	10'-0"	
ML-4	32"	8"	2- #6 CONT. TOP & BOTTOM	#4 @ 8" O.C.	6'-8"	
ML-5	24"	12"	2- #5 CONT. TOP & BOTTOM	#4 @ 8" O.C.	4'-0"	

NOTES:

1. MASONRY LINTELS ML-1 THROUGH ML-4 SHALL NOT BE LOCATED BELOW ANY FLOOR, OR ROOF BEAM, OR GIRDER, OR ANY OTHER CONCENTRATED LOAD UNLESS SHOWN SPECIFICALLY ON THE PLAN SHEET. JOISTS SHALL NOT BEAR ON ANY LINTEL LESS THAN 16" DEEP.
2. FOR MASONRY LINTELS NOT SHOWN ON THE DRAWINGS THAT CARRY ANY FLOOR, OR ROOF BEAM, OR GIRDER, OR ANY OTHER CONCENTRATED LOAD, OR THAT SPAN GREATER THAN 10'-0" CONSULT THE STRUCTURAL ENGINEER.
3. EXTEND ALL HORIZONTAL REINFORCING 48 BAR DIAMETERS BEYOND THE EDGE OF THE OPENING. IF HORIZONTAL REINFORCING CANNOT BE EXTENDED 48 BAR DIAMETERS BEYOND THE EDGE OF THE OPENING, PROVIDE 90 DEGREE STANDARD HOOK.
4. GROUT MASONRY LINTELS MONOLITHICALLY WITH THE SUPPORT WALL OR COLUMN AT EACH END.
5. SPLICE TOP BARS AT MIDSPAN OF LINTEL ONLY.
6. SPLICE BOTTOM BARS OVER SUPPORTS ONLY.
7. FOR WALL ABOVE LINTEL, DOWEL VERTICAL REINFORCING INTO FULL DEPTH OF THE LINTEL OR 48 BAR DIAMETERS, WHICHEVER IS LESS.
8. HORIZONTAL WALL REINFORCING SHALL CONTINUE THROUGH MASONRY LINTELS. WHERE BOTH HORIZONTAL WALL REINFORCING AND LINTEL REINFORCING WOULD OCCUR IN THE SAME COURSE, THE LARGER BARS ARE TO REPLACE THE SMALLER BARS.
9. SEE E/GS-10 FOR LINTEL SCHEMATICS.

C MASONRY LINTEL SCHEDULE

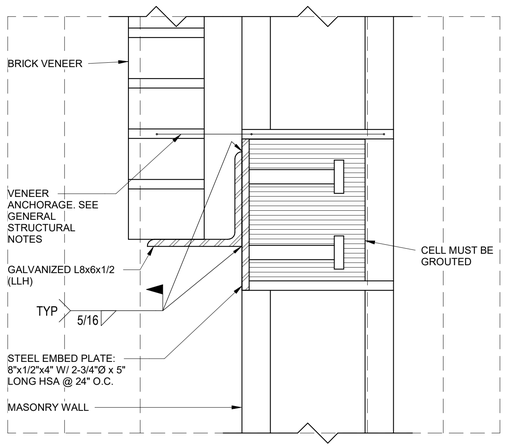
MASONRY REINFORCING BAR LAP SPLICE SCHEDULE

BAR SIZE	f'm = 2000 psi							f'm = 2500 psi		
	6" CMU	8" CMU		10" CMU		12" CMU		6" BRICK	8" BRICK	
	CLASS	CLASS		CLASS		CLASS		CLASS	CLASS	
	A	A	B	A	B	A	B	A	A	B
#3	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"
#4	18"	13"	21"	12"	20"	12"	20"	16"	12"	20"
#5	28"	20"	35"	16"	32"	13"	32"	25"	18"	33"
#6	**	38"	54"	29"	54"	24"	54"	**	34"	54"
#7	-	52"	**	40"	**	33"	63"	-	47"	-
#8	-	**	-	61"	**	50"	**	-	**	-
#9	-	-	-	79"	-	64"	-	-	-	-

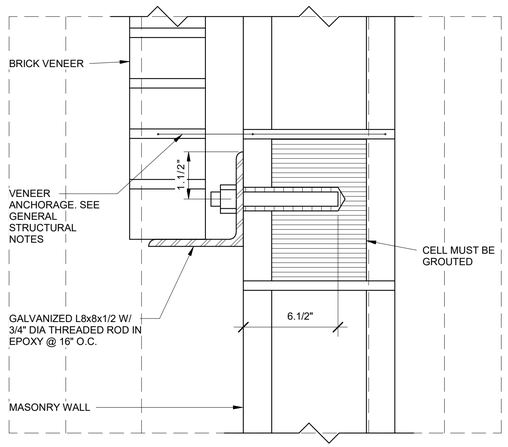
NOTES:

1. CLASS A SPLICES MAY BE USED WHEN ONLY ONE BAR IS CONTINUOUS IN THE MASONRY CELL OR COURSE.
2. CLASS B SPLICES SHALL BE USED WHEN TWO BARS ARE CONTINUOUS IN THE MASONRY CELL OR COURSE.
3. ** INDICATES THAT A LAP SPLICE IS NOT ALLOWED AND MECHANICAL BAR COUPLERS ARE REQUIRED FOR THE BAR SPLICES. SPLICES SHALL BE OFFSET 2'-0" TO AVOID CONGESTION.
4. WHERE VERTICAL BARS HAVE A REQUIRED LAP SPLICE GREATER THAN THE HEIGHT OF THE GROUT POUR, THE BAR SPLICE SHALL BE MADE WITH A MECHANICAL BAR COUPLER. WHERE THE HEIGHT OF THE GROUT POUR EXCEEDS 60 INCHES, HIGH LIFT GROUTING PROCEDURES SHALL BE FOLLOWED.
5. WHERE MECHANICAL BAR COUPLERS ARE USED, THE CONNECTOR SHALL DEVELOP 125% OF THE SPECIFIED YIELD STRENGTH OF THE BAR IN TENSION AND COMPRESSION.

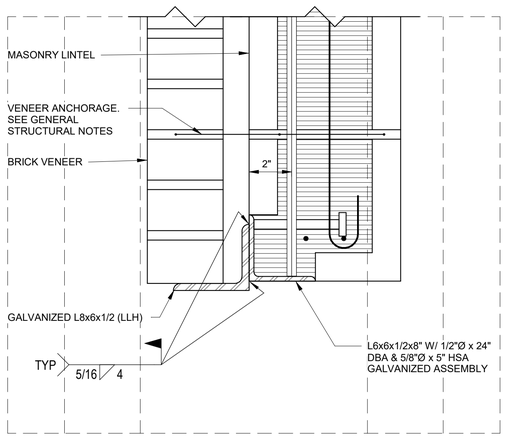
D MASONRY REINFORCING BAR LAP SPLICE SCHEDULE



E BRICK LEDGER AT MASONRY WALL



F BRICK LEDGER AT MASONRY WALL-ALTERNATE



G BRICK LEDGER AT MASONRY WALL

REAVELEY Engineers
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Salt Lake City, UT 84102
P 801 486 3883
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www.reaveley.com

SCALE:

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGNED BY: C. HAWKES
DRAWN BY: S. SHEPHERD
CHECKED BY: J. HARPER
APPROVED BY: C. PRICE
DATE: JUNE 2024
EWO NO: --
ACCOUNT NO. 512260079

REVISIONS

NO	DATE:		MADE BY	AUTH BY
0	06/14/24	ISSUED FOR GUARANTEE MAXIMUM PRICE(GMP)	CH	CP

SALT LAKE CITY DEPARTMENT OF PUBLIC UTILITIES
CITY CREEK TREATMENT PLANT UPGRADES
BRIC PACKAGE

STANDARD STRUCTURAL SCHEDULES 2

90% GMP

DRAWING NO.
GS-27

Plot Date: 6/13/2024 9:33:03 AM Path: BIM 360://153020 - City Creek WTP/153020-S-3570V21.rvt