NEVADA ENVIRONMENTAL RESPONSE TRUST
WEIR DEWATERING TREATMENT PLANT

1489 WEST WARM SPRINGS ROAD, STE. 110
HENDERSON, NEVADA, 89014
PHONE: 702.946.6700 FAX: 702.997.7140
www.tetratech.com

TETRA TECH

SITE PLAN

PROJECT LOCATION:
510 SOUTH FOURTH STREET
HENDERSON, NEVADA 89015

CLIENT INFORMATION:
NEVADA ENVIRONMENTAL
RESPONSE TRUST

Tt PROJECT No.:
200-01299-16015

CLIENT PROJECT No.:

PROJECT DESCRIPTION / NOTES:
WEIR DEWATERING TREATMENT: GENERAL CONTRACTOR PACKAGE

ISSUED:
02-15-2017 - 75% SUBMITTAL TO BOR

VICINITY MAP:

NOT TO SCALE

ENGINEER OF RECORD
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Bar Measures 1 inch

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General	G-002	Drawing Index
General	G-003	General Notes
General	G-004	Site Access
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Civil	C-201	Not used
Civil	C-202	Not used
Civil	C-20X	Not used
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Civil	C-301-2	Historic Lateral Weir Influent Pipeline Plan and Profile
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HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

INDEX OF DRAWINGS

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	C. FLORES

G-002

GENERAL NOTES

GENERAL:

1. ALL LABOR, MATERIALS, AND METHODS OF CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE MINIMUM ENGINEERING AND CONSTRUCTION STANDARDS ADOPTED BY CLARK COUNTY, LATEST EDITION. WHERE CONFLICTS OR OMISSIONS EXIST, THE CLARK COUNTY STANDARDS SHALL DICTATE. SUBSTITUTIONS AND DEVIATION FROM PLANS AND SPECIFICATIONS SHALL BE PERMITTED ONLY WHEN WRITTEN APPROVAL HAS BEEN ISSUED BY THE ENGINEER.
2. SHOP DRAWINGS OF ALL MATERIALS BEING USED SHALL BE SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.
3. ALL MATERIALS AND CONSTRUCTION TO BE IN ACCORDANCE WITH THE CLARK COUNTY CONSTRUCTION SPECIFICATIONS, LATEST EDITION, UNLESS OTHERWISE WAIVED.
4. GENERAL CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS IN HAND BEFORE BEGINNING ANY CONSTRUCTION.
5. THE LOCATION OF UTILITIES SHOWN ON THE DRAWINGS HAVE BEEN DETERMINED FROM UTILITY LOCATES AND RECORD DRAWINGS. THERE MAY BE OTHER UTILITIES NOT SHOWN ON THE DRAWINGS WHICH PRESENTLY EXIST IN THE AREA OF CONSTRUCTION.
6. LOCATE, VERIFY AND MAINTAIN CONTROL POINTS SHOWN ON THE DRAWINGS AND ESTABLISH TEMPORARY CONTROL POINTS AS NEEDED. THE CONSTRUCTION MANAGER (CM) SHALL RESTORE SURVEY MONUMENTS THAT ARE DAMAGED OR DESTROYED DURING CONSTRUCTION.
7. MAINTAIN A CURRENT SET OF CONSTRUCTION PLANS AND ALL PERMITS ON THE □OB SITE DURING ALL PHASES OF CONSTRUCTION. PROVIDE TOTAL (2) SETS OF RECORD DRAWINGS WITHIN TWO (2) WEEKS AFTER COMPLETION OF THIS PRO□ECT.
8. BASE MAPPING COORDINATE SYSTEM AND CONTROL POINTS PROVIDED BY ATKINS ENGINEERING.
9. ALL EXCESS FILL FROM SITE SHALL BE STOCKPILED WHERE SHOWN ON THE DRAWINGS.
10. CLEAR AREAS INDICATED SHALL BE COMPLETELY CLEAR OF ALL TIMBER, RUBBISH, AND ALL OTHER DEBRIS AND OBSTRUCTIONS RESTING ON OR PROTRUDING THROUGH THE SURFACE OF THE GROUND.
10. PROVIDE THROUGH ACCESS TO EXISTING BUILDINGS AND FACILITIES THROUGHOUT CONSTRUCTION.
11. CONDUCT SITE GRADING PROCEDURES IN A MANNER TO MINIMIZE DAMAGE TO EXISTING BUILDINGS AND FACILITIES, AS APPLICABLE.
12. VERIFY LOCATION AND GRADE OF ALL CONNECTIONS TO NEW AND EXISTING PIPING AND UTILITIES PRIOR TO BEGINNING WORK.
13. IF FIELD CONDITIONS ARE FOUND TO BE DIFFERENT THAN SHOWN ON THE DRAWINGS, PROVIDE IMMEDIATE NOTIFICATION SO THAT APPROPRIATE ACTION CAN BE TAKEN.
14. NOTIFY UTILITY COMPANIES WHICH MAY HAVE THEIR UTILITIES WITHIN THE CONSTRUCTION AREAS TO LOCATE THEIR FACILITIES IN THE FIELD FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING CONSTRUCTION.

DEMOLITION:

1. OBTAIN NECESSARY PERMITS AND LICENSES FOR PERFORMING THE DEMOLITION WORK, AS APPLICABLE.
2. NOTIFY ALL UTILITY COMPANIES OR LOCAL AUTHORITIES FURNISHING GAS, WATER, ELECTRICAL, TELEPHONE, OR SEWER SERVICE SO THEY CAN REMOVE, RELOCATE, DISCONNECT, CAP OR PLUG THEIR EQUIPMENT IN ORDER TO FACILITATE DEMOLITION.
3. WHERE REQUIRED, PROTECT ALL UTILITIES AND OTHER IMPROVEMENTS SHOWN ON THESE PLANS AND UTILITIES AND OTHER IMPROVEMENTS NOT SHOWN.
4. WHERE REQUIRED, PROTECT ALL WALLS, STRUCTURES, AND UTILITIES NOT MARKED FOR REMOVAL OR DEMOLITION AND PROMPTLY REPAIR ANY DAMAGE.
5. REMOVE UNSALVAGEABLE MATERIALS AND YARD WASTE FROM THE SITE IMMEDIATELY AND DISPOSE OF IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.

EARTHWORK, GRADING, STABILIZATION, PAVING AND DRAINAGE:

1. REFER TO THE FINAL COUNTY APPROVED GEOTECHNICAL DOCUMENTATION FOR ALL RECOMMENDATIONS ON EARTHWORK, BACKFILL, COMPACTION, GRADING AND SUBGRADE PREPARATION.
2. STABILIZED SUBGRADE SHALL BE PER GEOTECHNICAL REPORT, REPORT OF GEOTECHNICAL INVESTIGATION, WEIR DEWATERING TREATMENT, CENTRAL WATER TREATMENT PLANT, NEVADA ENVIRONMENTAL RESPONSE TRUST, HENDERSON, NEVADA, TETRA TECH, DATED FEBRUARY 14, 2017, AND REPORT OF GEOTECHNICAL INVESTIGATION, WEIR DEWATERING TREATMENT, PUMP STATIONS, NEVADA ENVIRONMENTAL RESPONSE TRUST, HENDERSON, NEVADA, TETRA TECH, DATED FEBRUARY 14, 2017.
3. ALL ORGANIC SOILS BELOW UTILITY TRENCHES SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL AND COMPACTED.
4. ALL EARTHFILL SHALL HAVE MAXIMUM LIFT THICKNESS OF 6 INCHES, MOISTURE CONDITIONED TO WITHIN □/- 2% OF OPTIMUM MOISTURE CONTENT AND SHALL BE COMPACTED TO THE MINIMUM DRY DENSITIES AS MEASURED BY ASTM D1557 AS INDICATED IN THE FINAL COUNTY APPROVED GEOTECHNICAL DOCUMENTATION.
5. MOISTURE REQUIREMENTS SHALL BE MET USING THE FOLLOWING:
   A. DRY SUBGRADE: ADD WATER, THEN MIX TO MAKE MOISTURE CONTENT UNIFORM THROUGHOUT.
   B. WET SUBGRADE: AERATE MATERIAL BY BLADING, DICING, HARROWING, OR OTHER METHODS, TO HASTEN DRYING PROCESS.
6. ALL PIPES SHALL HAVE 2 FEET MINIMUM COVER UNLESS OTHERWISE SPECIFIED IN PLANS, TAKING CARE TO PROVIDE PROPER GRADE ELEVATIONS AND ALIGNMENTS.
7. CONDUCT IN-PLACE FIELD DENSITY TESTS FOR QUALITY ASSURANCE AREA USING ASTM D1557 NUCLEAR DENSOMETER METHOD. QUALITY ASSURANCE FIELD DENSITY TESTING FREQUENCY FOR EMBANKMENT IS ONE TEST PER 500 LINEAL FEET MINIMUM. FREQUENCY FOR LIFT FOR TANK FLOOR AND FOUNDATION BACKFILL IS AT LEAST ONE TEST PER 2,500 SQUARE FEET OF PLACEMENT.
8. CONDUCT SITE GRADING PROCEDURES IN A MANNER TO MINIMIZE DAMAGE TO EXISTING BUILDINGS AND FACILITIES.
9. GENERAL CONTRACTOR SHALL COMPLY WITH THE ADDITIONAL REQUIREMENTS FOR THE CLARK COUNTY GRADING PERMIT, INCLUDING:
   A. PREPARATION OF A FINAL REPORT, INCLUDING ALL TESTING RESULTS AND THEIR COMPLIANCE WITH THE APPROVED PRO□ECT DRAWINGS AND SPECIFICATIONS. THIS REPORT SHALL BE SUBMITTED TO CLARK COUNTY FOR APPROVAL.
   B. THE QA TESTING FIRM SHALL REQUEST FROM THE COUNTY A FINAL INSPECTION OF THE PRO□ECT SITE TO CHECK FOR COMPLIANCE WITH THE APPROVED PRO□ECT DRAWINGS AND SPECIFICATIONS.
   C. AFTER THE FINAL REPORT HAS BEEN APPROVED, THE QA TESTING FIRM SHALL ACCOMPANY THE COUNTY DURING FINAL INSPECTION.
10. AFTER OTHER EARTHWORK HAS BEEN FINISHED, AND FILLING AND BACKFILLING OPERATIONS ARE COMPLETED, ALL AREAS ON THE SITE SHALL BE BROUGHT TO GRADE WITHIN A TOLERANCE OF □/- 0.1 FEET AT THE INDICATED ELEVATIONS, SLOPES AND CONTOURS.

EROSION CONTROL NOTES:

1. TEMPORARY STABILIZATION IS REQUIRED OF ALL SOIL LEFT BARE FOR GREATER THAN 14 DAYS.
2. MAINTAIN TRACKING CONTROL DEVICES. REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PRO□ECT EACH DAY. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
3. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE CLARK COUNTY PERFORMANCE STANDARDS AND THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE MANUAL.
4. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY□ REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.5.
5. INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT □OCATIONS AND ALL BMP'S IN ACCORDANCE WITH THE NERT AP-5 SOLIDS REMOVAL STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AS REVIEWED AND ACCEPTED BY THE CLARK COUNTY DEPARTMENT OF BUILDING AND FIRE PREVENTION, OCTOBER 5, 2015. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO THE NEVADA STORM WATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.12.
6. ACCUMULATED SEDIMENT IN BMP'S SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORM WATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED STORM EVENT, WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN BMP DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.
7. GOOD HOUSEKEEPING: THE SITE SHOULD BE KEPT IN AN ORDERLY FASHION, THE CONSTRUCTION MANAGER (CM) SHALL INSURE THE FOLLOWING ITEMS ARE ADDRESSED.
   a. AN EFFORT TO STORE ONLY WHAT IS NEEDED ON THE SITE.
   □. KEEP ALL STORED MATERIALS IN A NEAT AND ORDERLY FASHION IN THE ORIGINAL CONTAINERS WHEN POSSIBLE.
   c. FOLLOW ALL MANUFACTURERS RECOMMENDED PROCEDURES FOR DISPOSAL OF WASTE MATERIAL.
   d. INSPECT DAILY TO INSURE WASTE MATERIAL IS DISPOSED OF PROPERLY.

SPILL CONTROL NOTES:

1. IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS NOTES OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
   a. MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
   □. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
   c. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF SIZE.
   d. THE SPILL PREVENTION PLAN WILL BE AD□USTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.
   e. THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.

STORMWATER COMPLIANCE NOTES:

1. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PRO□ECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
2. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE CLARK COUNTY PERFORMANCE STANDARDS AND THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE MANUAL.
3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY□ REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.5. ALSO COMPLY WITH THE BOR AND CLARK COUNTY PARKS AND RECREATION.
4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS, AND ALL BMPS WEEKLY, AND WITHIN 24 HOURS AFTER ANY RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.12.
5. ACCUMULATED SEDIMENT IN BMPS SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED STORM EVENT, WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN BMP DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.

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MARK	DATE	DESCRIPTION	BY
A	11/28/16	ISSUED FOR 60% SUBMITTAL	HCR
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HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

GENERAL NOTES

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	C. FLORES

G-003

LEGEND:

CONSTRUCTION STAGING AND PARKING

CONSTRUCTION ACCESS

N

0 100' 200' 400'

SCALE: 1" = 200'

EGRESS AND STAGING PLAN

SCALE: 1" = 200'

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SITE ACCESS

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G-004

SECTION LINE

CENTERLINE OR SURVEY LINE — INTERSECTING CENTERLINE

RIGHT-OF-WAY OR PROPERTY LINE

CUT LINE-ASPHALT CONC. OR PCC CONC.

DIRECTION OF FLOW

MISCELLANEOUS TOPOGRAPHIC SYMBOLS

VALVE (INITIALS INDICATE OWNERSHIP AND / OR TYPE)

GAS CATHODE PROTECTION RECTIFIER

UTILITY BOX (INITIALS INDICATE OWNERSHIP AND / OR TYPE)

PUBLIC SERVICE UTILITY POLE, LINE TO SHOW DIRECTION OF RUN OF OVERHEAD LINE

POLE WITH GUY ANCHOR

FIRE HYDRANT

FENCE

FLOW LINE OF DITCH OR CHANNEL

EXISTING UTILITY STUB-OUT

TRAFFIC CONTROL SIGN

STREET NAME SIGN

TEST HOLE

CONCRETE BLOCK WALL

FIRE ALARM BOX ON PEDESTAL — FA

CONCRETE MONUMENT

TREE (NO. INDICATES TRUCK DIA. IN INCHES) — NO.

MISCELLANEOUS SYMBOL (ABBREVIATION INDICATES TYPE) — ABBR.

HEDGE (NOTE SIZE & SPECIES)

STEPS (NOTE TYPE AND NO. OF RISERS)

EXISTING BUILDING

EXISTING BUILDING FOUNDATION

RETAINING WALL — (LOW SIDE) (HIGH SIDE)

AGENCY APPROVED	B	C	H	L	M	N

SPECIFICATION REFERENCE	

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SYMBOLS

DATE	DWG. NO. 101	SHEET 1 OF 4

PLAN ONLY | PROPOSED CONSTRUCTION | EXISTING

CURB AND GUTTER

VALLEY GUTTER — BACK OF CURB

DRIVEWAY — BACK OF SIDEWALK, RIGHT-OF-WAY LINE, BACK OF CURB

WHEELCHAIR RAMP

DROP INLET — GRATE — GRATE

EDGE OF PAVEMENT

ELEVATIONS — 0.00 — (0.00)

CUT OR FILL SLOPES — TOP OF SLOPE — TOE OF SLOPE

NOTE: FUTURE CONSTRUCTION ITEMS ON PLANS SHALL BE INDICATED BY A DASHED LINE AND APPROPRIATE NOTE.

AGENCY APPROVED	B	C	H	L	M	N

SPECIFICATION REFERENCE	
.	

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SYMBOLS

DATE	DWG. NO. 101	SHEET 2 OF 4

PLAN ONLY | PROPOSED CONSTRUCTION | EXISTING

WING TYPE HEADWALL

VALLEY GUTTER

UNDERGROUND UTILITY WITH MANHOLE AND CASING

OWNERSHIP INDICATED BY LINE LEGEND

SIZE AND TYPE OF CONDUIT SHALL BE PLACED ON CONDUIT WHEN AVAILABLE

LEGEND

TSI	=	TRAFFIC SIGNAL INTERCONNECT	SS	=	SANITARY SEWER
E	=	ELECTRIC	SD	=	STORM DRAIN
FA	=	FIRE ALARM	W	=	WATER
SL	=	STREET LIGHT	S-G	=	STEEL GAS
CATV	=	CABLE TELEVISION	PL-G	=	PLASTIC GAS
			T	=	TELEPHONE

PROFILE ONLY

CENTERLINE GRADE

TOP OF CURB OR FLOW LINE

PIPE

OR

OR

OR

OR

AGENCY APPROVED	B	C	H	L	M	N

SPECIFICATION REFERENCE	
.	

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SYMBOLS

DATE	DWG. NO. 101	SHEET 3 OF 4

MISCELLANEOUS ELECTRICAL SYMBOLS

PLAN ONLY | EXISTING | PROPOSED CONSTRUCTION

TRAFFIC SIGNAL CONTROLLER

PULL BOX (INITIALS INDICATE OWNERSHIP AND NUMBER INDICATES SIZE) — SL — SL-SIZE

TRAFFIC SIGNAL WITH LUMINAIRE

TRAFFIC SIGNAL DETECTOR LOOP

SERVICE POINT, PAD MOUNTED

7 GAGE LIGHTING STANDARD

11 GAGE LIGHTING STANDARD

LUMINAIRE 100 W (HPS) □ 55 W (IND) (H)

LUMINAIRE 150 W (HPS) □ 150 W (IND) (H)

200 W LUMINARE

LUMINAIRE 250 W (HPS) □ 150 W (IND) (H)

LUMINAIRE 400 W (HPS) □ 250 W (IND) (H)

750 W LUMINAIRE

TRAFFIC SIGNAL POLE

SCHOOL FLASHER

AGENCY APPROVED	B	C	(H)	L	M	N

SPECIFICATION REFERENCE	
.	

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

SYMBOLS

DATE 12-12-96	DWG. NO. 101	SHEET 4 OF 4

A□an	- A□andon	E□e□	- E□e□ation
AIP	- A□andoned in P□ace	Em□k	- Em□ankment
Agg	- Aggregate	ECR	- End o□Cur□ Return
A□t	- A□ternate	EC	- End o□Cur□e
A	- Anode, Gas	EBS	- Cathode Protection Bond Station
ACP	- As□estos Cement Pipe	ETS	- Cathode Protection Test Station
AC	- Aspha□tic Concrete	EVC	- End o□Vertica□Cur□e
A□e	- A□enue	Exist	- Existing
BC	- Back o□Cur□	Ft	- Feet or Foot
BCR	- Back o□Cur□ Radius	FG	- Finish Grade
BVC	- Beginning o□Vertica□Cur□e	FA	- Fire A□arm
BM	- Bench Mark	FH	- Fire Hydrant
Bdry Line	- Boundary Line	F□	- F□ow Line
CATV	- Ca□□e Te□□ision	Ga□	- Ga□□ani□ed
C-C	- Center to Center	GM	- Gas Meter
□	- Center□ine	GR	- Gas Pressure Regu□ator
CBC	- City o□Bou□der City	PL-G	- P□astic Gas
CLV	- City o□Las Vegas	S-G	- Stee□Gas
COH	- City o□Henderson	GB	- Grade Break
CM	- City o□Mes□uite	Gut	- Gutter
CNLV	- City o□North Las Vegas	Hdw□	- Headwa□□
CC	- C□ark County	In	- Inch
CCSD	- C□ark County Sanitation District	INT	- Intersection
CO	- C□ean Out, Sewer	INV	- In□ert
Comm	- Commercia□	ISL	- □s□and
Conc, PCC	- Concrete	□B	- □unction Box
Const	- Construction or Construct	LOC	- Length o□Cur□
Cor	- Corner	Lt	- Le□t
CMP	- Corrugated Meta□Pipe	LF	- Linear Feet
CSAP	- Corrugated Stee□Arch Pipe	LVVWD	- Las Vegas Va□ley Water Dictrict
CSP	- Corrugated Stee□Pipe	MH	- Manho□e
C&G	- Cur□□and Gutter	Max	- Maximum
CIP	- Cast Iron Pipe	Min	- Minimum
Co□	- Co□umn	Mon	- Mono□ithic
Cu Yd, CY	- Cu□ic Yard	N/o	- North o□
Cu Ft, CF	- Cu□ic Feet	NTS	- Not to Sca□e
Cu□	- Cu□□ert	OC	- On Center
CF	- Cur□□Face	OG	- Open-Graded Pa□□ement, Origina□Ground
Dept	- Department	P□mt	- Pa□□ement
Dia	- Diameter	PI	- Point o□Intersection
Dwy	- Dri□eway	PRC	- Point o□Re□erse Cur□e
DI	- Drop In□et	PC	- Point o□Cur□e
Esmt	- Easement	PT	- Point o□Tangency
E/o	- East o□	PCC	- Point o□Compound Cur□e
EP	- Edge o□Pa□□ement	PCC, Conc	- Port□and Cement Concrete
EO	- Edge o□Oi□		
E	- E□ectric		
EM	- E□ectric Meter		

AGENCY APPROVED	B	C	H	L	M	N

SPECIFICATION REFERENCE	
.	

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

ABBREVIATIONS

DATE	DWG. NO. 105	SHEET 1 OF 2

PP	- Power Po□e
P	- Power
P□	- Property Line
Prop	- Proposed
PB	- Pu□□ Box
RP	- Radius Point
R	- Radius
RR	- Rai□road
Rein□	- Rein□orced
RC	- Rein□orced Concrete
RCB	- Rein□orced Concrete Box
RCP	- Rein□orced Concrete Pipe
Re□oc	- Re□ocate
RT	- Right
R/W	- Right-o□-way
RD	- Road
SS	- Sanitary Sewer
Sht	- Sheet
S/o	- South o□
SW	- Sidewa□k
SQ FT, SF	- S□uare □oot
SQ YD, SY	- S□uare yard
Sta	- Station
SHP	- Stee□Highpressure Pipe
SD	- Storm Drain
STD	- Standard
Struct	- Structura□or Structure
Sur□	- Sur□ey
SL	- Street□ight
T	- Te□ephone
Temp	- Temporary
TBA	- To Be Adjusted
TBR	- To Be Remo□ed
TC	- Top o□Cur□
TP	- Top o□Pipe
TS	- Tra□□ic Signa□
TSI	- Tra□□ic Signa□Interconnect
Trans	- Transition
Typ	- Typica□
UG	- Underground
Var	- Varia□□e
Vert	- Vertica□
VC	- Vertica□Cur□e
VG	- Va□ley Gutter
VCP	- Vitri□ied C□ay Pipe
W	- Water
WM	- Water Meter
W/o	- West o□
Yd	- Yard

AGENCY APPROVED	B	C	H	L	M	N

SPECIFICATION REFERENCE	

UNIFORM STANDARD DRAWINGS
CLARK COUNTY AREA

ABBREVIATIONS

DATE	DWG. NO. 105	SHEET 2 OF 2

TETRA TECH
www.tetratech.com
1489 West Warm Springs Road, Suite 110
Henderson, NV 89014
Phone: 702.946.6700 Fax: 702.997.7140

MARK	DATE	DESCRIPTION	BY
A	11/28/16	ISSUED FOR 60% SUBMITTAL	HCR
B	01/27/17	ISSUED FOR DRAFT 90% SUBMITTAL	HCR
C	02/15/17	75% SUBMITTAL TO BOR	CG

NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

SYMBOLS AND ABBREVIATIONS

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	C. FLORES

C-001

EXISTING CONDITIONS PLAN

SCALE: 1" = 200'

0 100' 200' 400'

SCALE: 1" = 200'

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NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

EXISTING CONDITIONS PLAN

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	C. FLORES

C-100

SITE AREA KEY		
AREA NO.	STRUCTURES	SHEET NUMBERS
NA	GENERAL	001-099
1	OVERALL SITEWORK	100-199
2	SUNRISE MOUNTAIN PUMP STATION	200-299
3	HISTORIC LATERAL PUMP STATION	300-399
4	CENTRAL WATER TREATMENT PLANT	400-499 (SEE INSET)

SITE AREA KEY		
AREA NO.	STRUCTURES	SHEET NUMBERS
5	CYCLONES	500-599
6	MULTI-MEDIA FILTERS	600-699
7	ION EXCHANGE	700-799
8	CENTRAL WATER TREATMENT PLANT WASTE, BACKWASH & EFFLUENT	800-899
NA	DETAILS	900-999

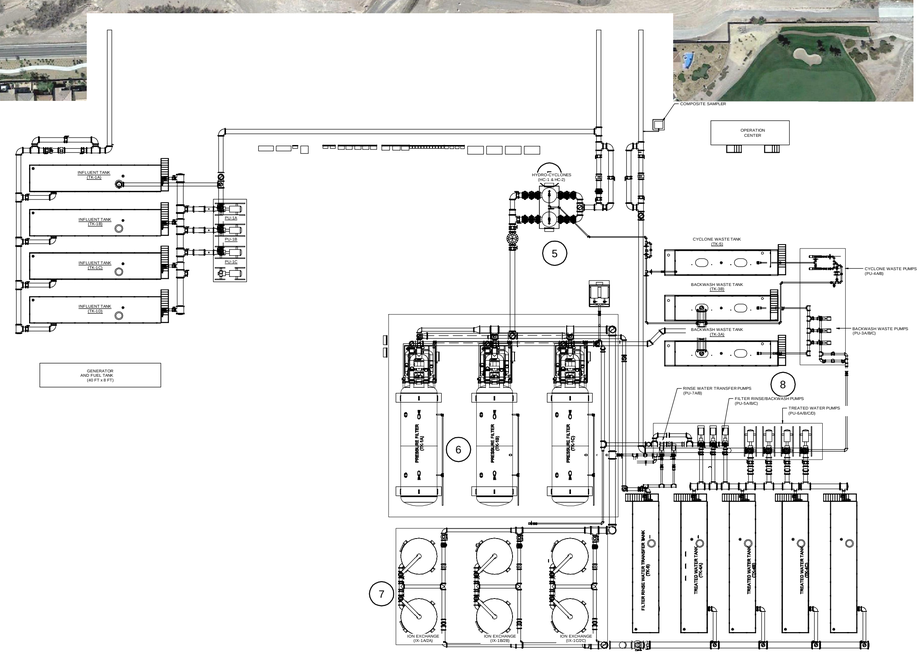
KEY PLAN

SCALE: 1" = 200'

N

0 100' 200' 400'

SCALE: 1" = 200'



CENTRAL WATER TREATMENT PLANT (INSET)

SCALE: N.T.S.

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NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

KEY PLAN

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	C. FLORES

C-101

CLARK COUNTY
BUREAU OF RECLAMATION

EXISTING 42" CULVERT

RIPRAP OUTLET PROTECTION WILL BE PROVIDED AT THE WTP EFFLUENT DISCHARGE PIPELINE OUTFALL TO THE LAS VEGAS WASH

100-YEAR FLOOD ZONE

100-YEAR FLOOD ZONE

SUNRISE MOUNTAIN PUMP STATION (SMPS)

CWTP EFFLUENT PIPELINE

LAS VEGAS WASH FLOOD WAY

INFLUENT FROM SUNRISE MOUNTAIN WEIR

EXISTING 12" DIAMETER GWETS EFFLUENT PIPELINE

PROPOSED BORING (TYP.)

B-8

HISTORIC LATERAL PUMP STATION (HLPS)

B-1

EX. 2-8" HDPE PIPE

B-2

B-3

B-4

B-5

B-6

B-7

HLPS INFLUENT PIPELINE ROUTE

EXISTING OH ELECTRICAL NV ENERGY 69 KV

INFLUENT LINE FROM HISTORIC LATERAL WEIR

BUREAU OF RECLAMATION

CITY OF HENDERSON

EAST RUSSELL ROAD

21S 63E 30

21S 63E 29

21S 63E 31

21S 63E 32

LIFT STATION

PABCO ROAD

WESTERN RIDGE STREET

WESTERN HILLS SUBDIVISION

McCORMICK ROAD

CENTRAL WATER TREATMENT PLANT (CWTP)

EXISTING GWETS INFLUENT PIPELINE (TYP.)

BASIC ENVIRONMENTAL CO. LLC

PROPERTY LINE

PITTMAN BYPASS

30" CITY OF HENDERSON SANITARY SEWER LINE

LEGEND:

B-7 PROPOSED BORING LOCATION

0 150 300
SCALE IN FEET

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NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

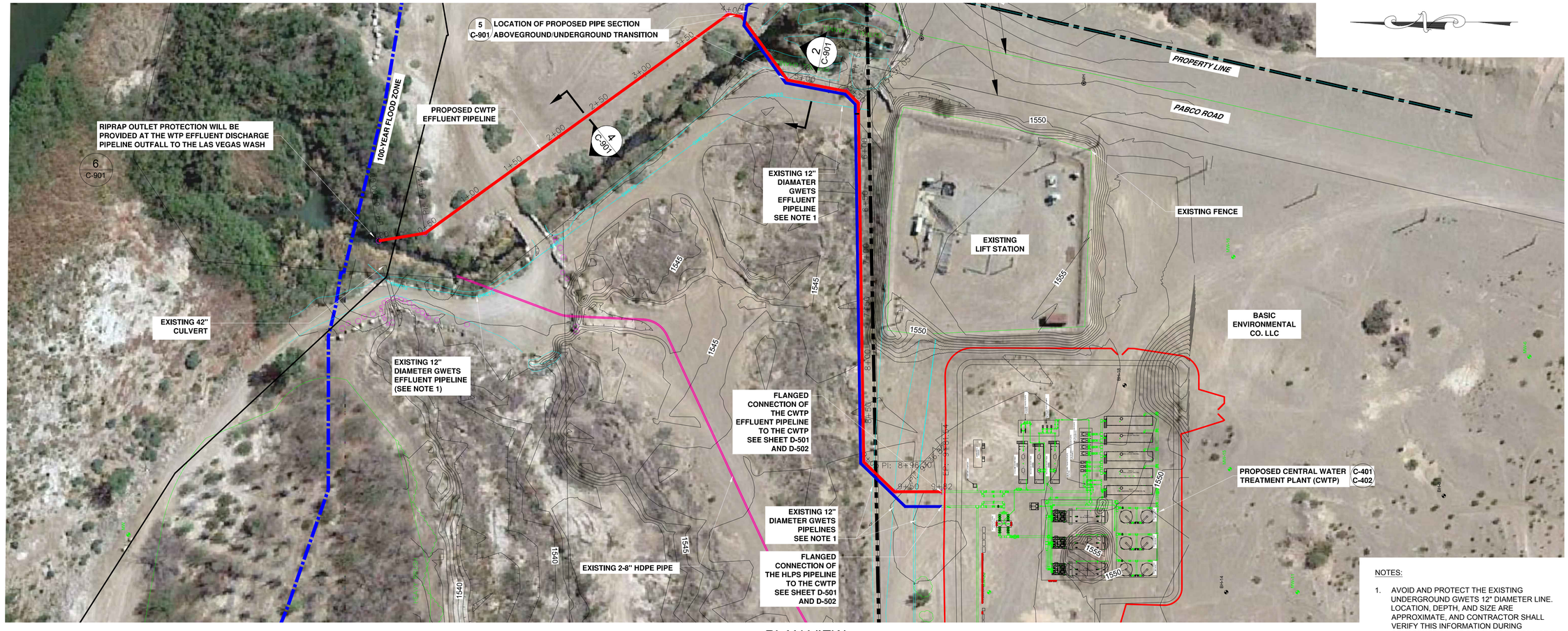
LAS VEGAS WASH WEIR DEWATERING
WEIR DEWATERING PIPELINE

OVERALL SITE PLAN

Project No.: 200-01299-16002
Designed By: P. PATTON
Drawn By: F. MENICHELLI
Checked By: D. SHEA

C-102
Sheet ##

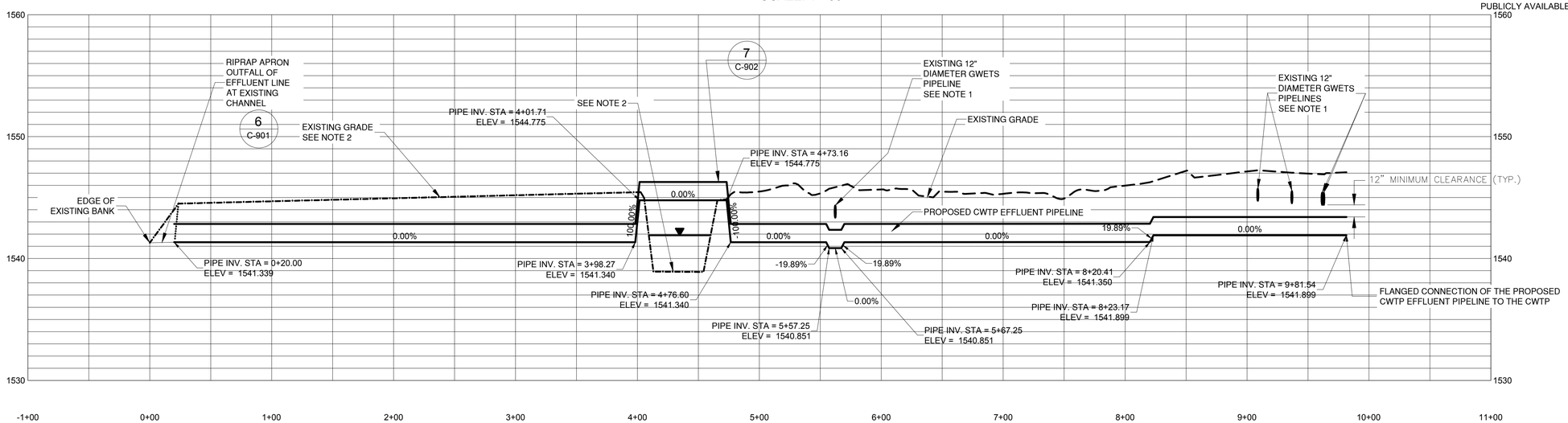
2/23/2017 3:16:55 PM - \\TTS139FS1\GROUPS\CADD\NERT DEWATERING\WORKING - UPDATED 020717\CIVIL DRAWINGS-PREF ROUTE-PLAN-PROFILES.DWG - LINTZ, ANDREW



NOTES:

1. AVOID AND PROTECT THE EXISTING UNDERGROUND GWETS 12" DIAMETER LINE. LOCATION, DEPTH, AND SIZE ARE APPROXIMATE, AND CONTRACTOR SHALL VERIFY THIS INFORMATION DURING CONSTRUCTION. IF CONFLICT EXISTS NOTIFY THE DESIGN ENGINEER.
2. ESTIMATED TOPOGRAPHY BASED ON PUBLICLY AVAILABLE LIDAR DATA.

PLAN VIEW
SCALE: 1"=50'



PROFILE:
SCALE: 1"= 50' HORZ.
1"= 5' VERT

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MARK	DATE	DESCRIPTION	BY
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B	02/15/17	75% SUBMITTAL TO BOR	DS

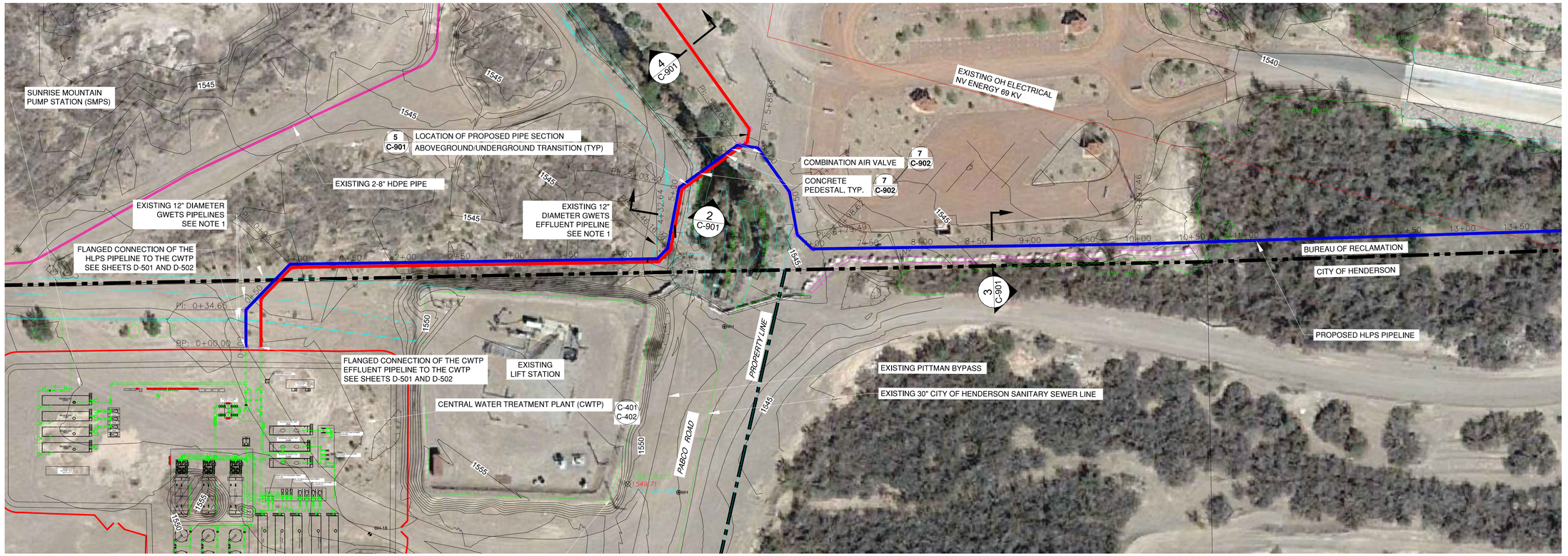
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

LAS VEGAS WASH WEIR DEWATERING
WEIR DEWATERING PIPELINE

EFFLUENT LINE
PLAN AND PROFILE
SHEET 1 OF 5

Project No.:	200-01299-16002
Designed By:	P. PATTON
Drawn By:	F. MENICHELLI
Checked By:	D. SHEA

C-301-1
Sheet ##



PLAN VIEW
SCALE: 1"=50'

NOTES:

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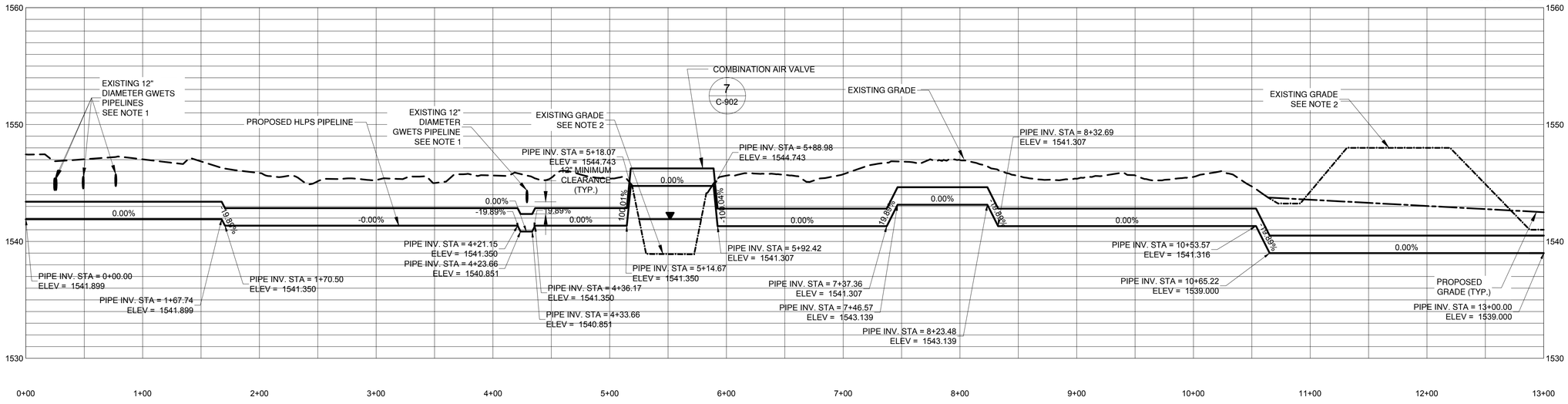

PROFILE:
SCALE: 1"= 50' HORZ.
1"= 5' VERT

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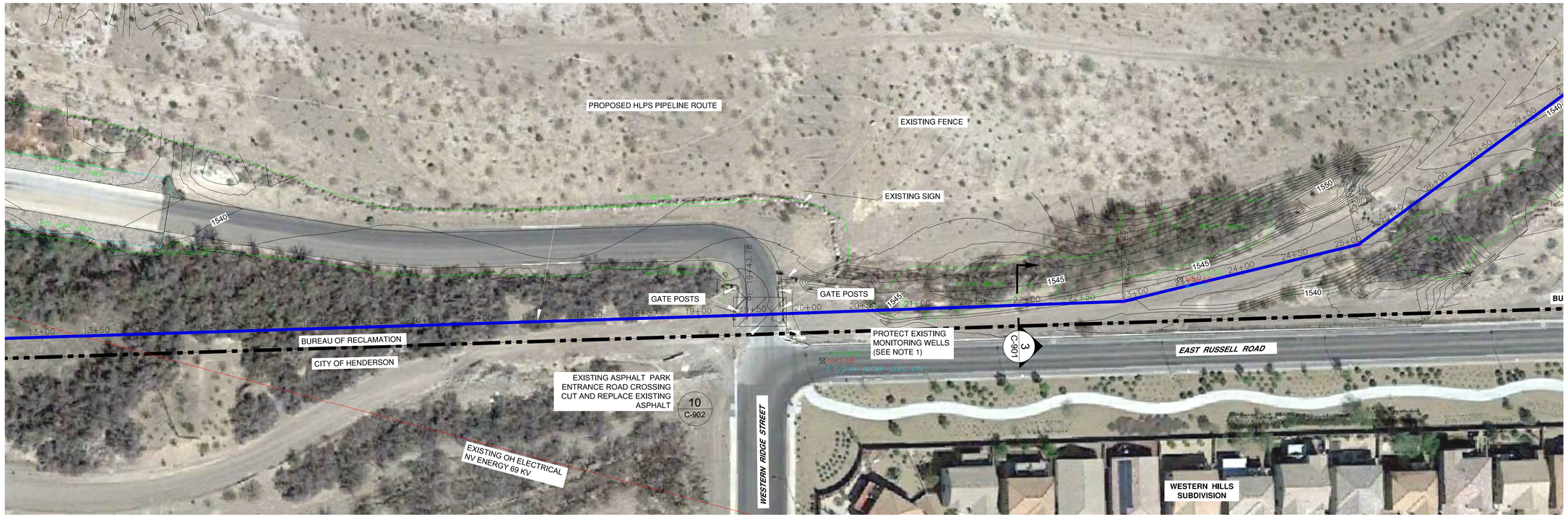
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

LAS VEGAS WASH WEIR DEWATERING
WEIR DEWATERING PIPELINE

HISTORIC LATERAL WEIR INFLUENT PIPELINE PLAN AND PROFILE

Project No.:	200-01299-16002
Designed By:	P. PATTON
Drawn By:	F. MENICHELLI
Checked By:	D. SHEA

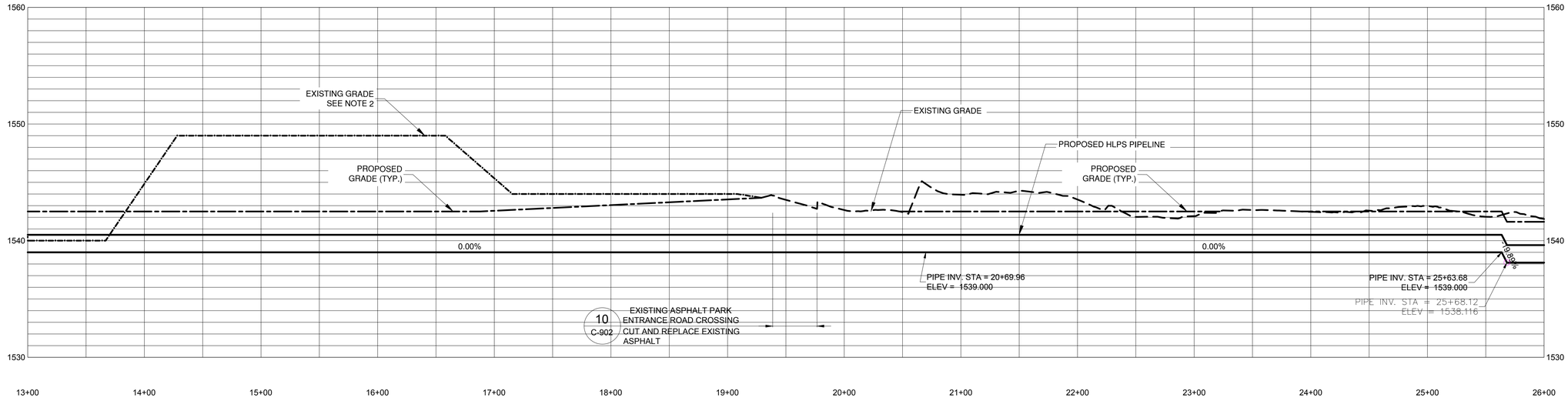
C-301-2
Sheet ##



PLAN VIEW
SCALE: 1"=50'

NOTES:

1. REMOVE AND REPLACE EXISTING ENTRANCE GATE AS NECESSARY FOR PIPE LINE INSTALLATION.
2. ESTIMATED TOPOGRAPHY BASED ON PUBLICLY AVAILABLE LIDAR DATA.



PROFILE:
SCALE: 1"= 50' HORZ.
1"= 5' VERT

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NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

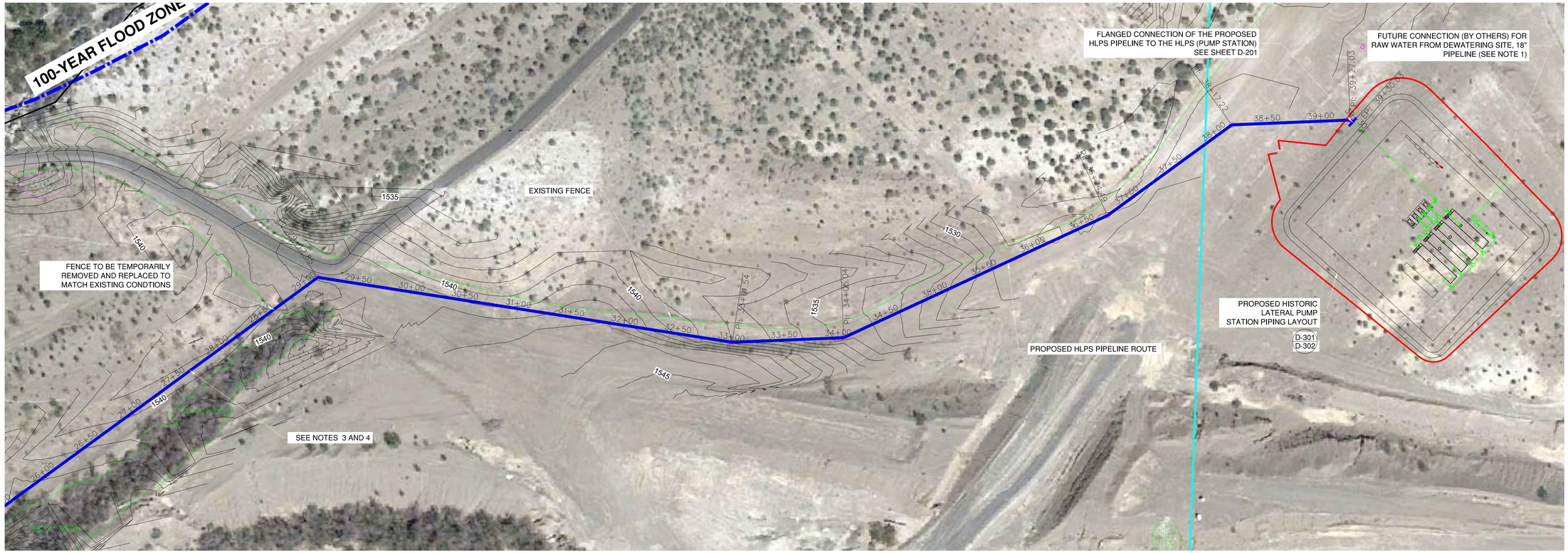
LAS VEGAS WASH WEIR DEWATERING
WEIR DEWATERING PIPELINE

HISTORIC LATERAL WEIR
INFLUENT PIPELINE
PLAN AND PROFILE

Project No.:	200-01299-16002
Designed By:	P. PATTON
Drawn By:	F. MENICHELLI
Checked By:	D. SHEA

C-301-3
Sheet ##

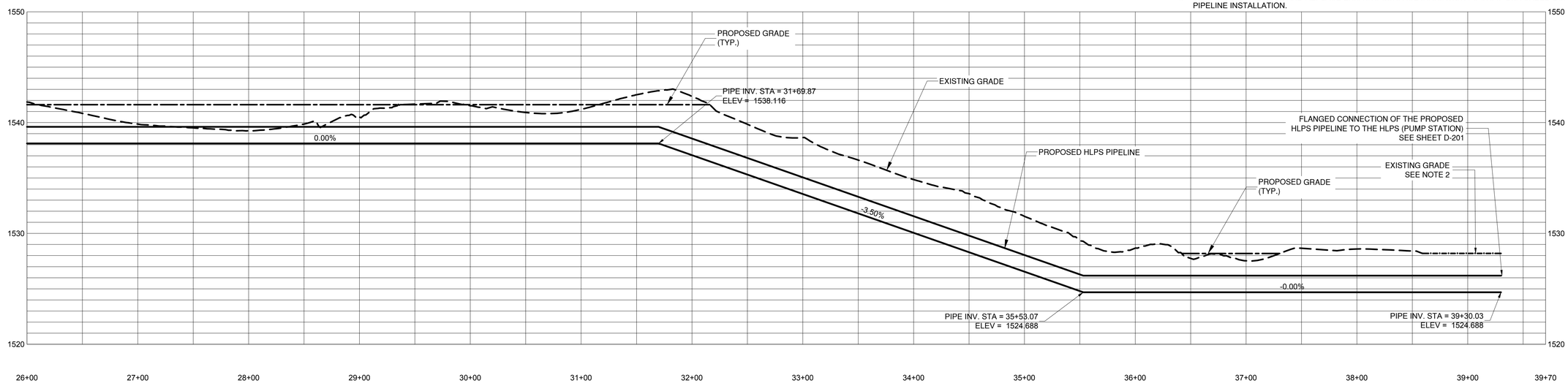
2/23/2017 4:37:55 PM - \\TTS139FS1\GROUPS\CADD\NERT DEWATERING\WORKING - UPDATED 020717\CIVIL DRAWINGS-PREF ROUTE-PLAN-PROFILES.DWG - LINTZ, ANDREW



PLAN VIEW
SCALE: 1"=50'

NOTES:

1. THE DETAILED ALIGNMENT AND DESIGN FOR THE RAW WATER PIPELINE FROM THE HISTORIC LATERAL WEIR DEWATERING SITE IS CURRENTLY BEING PREPARED BY OTHERS (I.E. SOUTHERN NEVADA WATER AUTHORITY CONTRACTOR).
2. ESTIMATED TOPOGRAPHY BASED ON PUBLICLY AVAILABLE LIDAR DATA.
3. SITE RESTORATION DUE TO PIPELINE INSTALLATION WILL BE PERFORMED IN ACCORDANCE WITH BOR AND CLARK COUNTY PARKS AND RECREATION REQUIREMENTS.
4. TEMPORARILY REMOVE AND REPLACE EXISTING SURFACE IRRIGATION PIPING IF DISTURBED DURING PIPELINE INSTALLATION.



PROFILE:
SCALE: 1"= 50' HORZ.
1"= 5' VERT

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MARK	DATE	DESCRIPTION
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NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

LAS VEGAS WASH WEIR DEWATERING
WEIR DEWATERING PIPELINE

HISTORIC LATERAL WEIR INFLUENT PIPELINE PLAN AND PROFILE

Project No.:	200-01299-16002
Designed By:	P. PATTON
Drawn By:	F. MENICHELLI
Checked By:	D. SHEA

C-301-4
Sheet ##

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MARK	DATE	DESCRIPTION	BY
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B	02/15/17	75% SUBMITTAL TO BOR	

NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

HISTORICAL LATERAL PUMP STATION SITE PLAN

Project No.:	200-01299-16015
Designed By:	C. FLORES
Drawn By:	H. REYES
Checked By:	C. FLORES

C-303

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NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

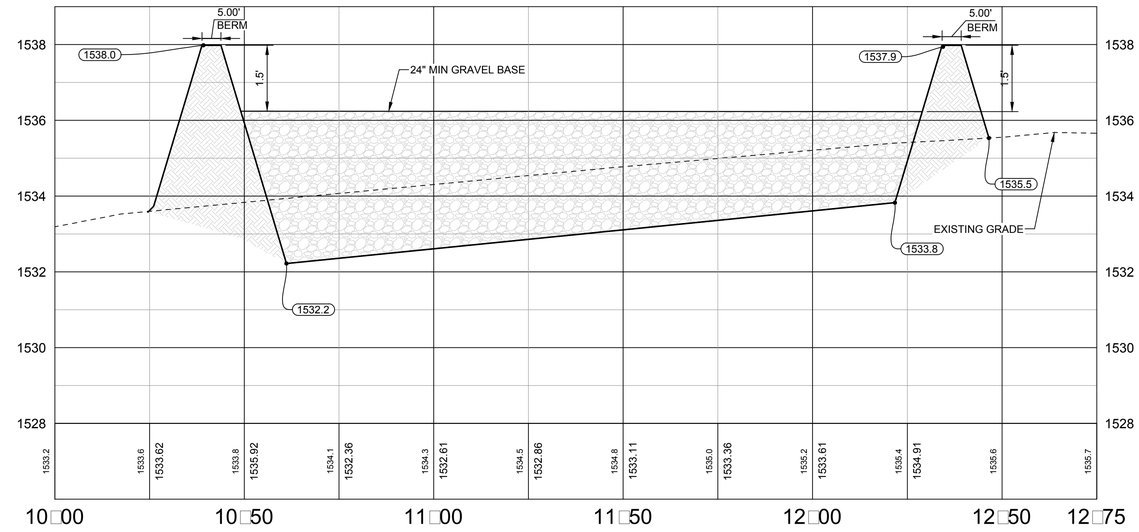
WEIR DEWATERING TREATMENT

HISTORICAL LATERAL PUMP STATION SITE GRADING PLAN

Project No.:	200-01299-16015
Designed By:	C. FLORES
Drawn By:	H. REYES
Checked By:	C. FLORES

C-304

2/15/2017 11:51:39 AM - P:\IER\01299\200-01299-16015\CAD\SHEETFILES\C-402.DWG - GULMIRE, CALEB



SECTION A

SCALE: 1" = 20'H 1" = 2'V

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NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

HISTORICAL LATERAL PUMP STATION SECTION

Project No.:	200-01299-16015
Designed By:	C. FLORES
Drawn By:	H. REYES
Checked By:	C. FLORES

C-306

N 26733314.36
E 831935.68

L=14.137, R=9.000
Δ=90.0000

N89° 08' 14"E
167.35'

S89° 08' 26"E
130.01'

N 26733310.49
E 832270.38

L=15.912, R=10.130
Δ=90.0000

TOB

TOB

TOP OF GRAVEL

N89° 08' 26"E
37.33'

OFFICE TRAILER

CENTRAL WATER
TREATMENT PLANT (CWTP)

N0° 00' 00"E
104.48'

INFLUENT TANK

INFLUENT TANK

INFLUENT TANK

INFLUENT TANK

PU-1A

PU-1B

PU-1C

SUNRISE MOUNTAIN
PUMP STATION (SMPS)

5.00'
BERM

3.00'

GENERATOR

CYCLONE
WASTE TANK

CYCLONE
WASTE PUMPS

BACKWASH
WASTE TANK

BACKWASH
WASTE TANK

BACKWASH
WASTE PUMPS

CYCLONES

MULTI-MEDIA FILTER

MULTI-MEDIA FILTER

MULTI-MEDIA FILTER

FILTER RINSE/
BACKWASH PUMPS

TREATED
WATER PUMPS

S0° 21' 30"W
180.69'

N 26733184.86
E 832059.04

8' TALL CHAIN LINK FENCE

L=14.137, R=9.000
Δ=90.0000

N89° 08' 27"W
123.32'

N 26733186.88
E 831935.72

16' DOUBLE GATE

ION EXCHANGE

ION EXCHANGE

ION EXCHANGE

FILTER RINSE WATER
TRANSFER TANK

TREATED WATER TANK

TREATED WATER TANK

TREATED WATER TANK

16' DOUBLE GATE

N1° 30' 44"W
65.32'

5.00'
BERM

N 26733119.67
E 832279.38

16' DOUBLE GATE

L=14.072, R=9.000
Δ=89.5893

N 26733110.73
E 832069.76

N 26733110.73
E 832270.38

BASIC ENVIRONMENTAL COMPANY (BEC) EASEMENT

B
C-405

C
C-405

N

0 10' 20' 40'
SCALE: 1" = 20'

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Phone: 702.946.6700 Fax: 702.997.7140

MARK	DATE	DESCRIPTION	BY
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B	02/15/17	75% SUBMITTAL TO BOR	CG

NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

SUNRISE MOUNTAIN PS AND CENTRAL WTP SITE PLAN

Project No.:	200-01299-16015
Designed By:	C. FLORES
Drawn By:	H. REYES
Checked By:	C. FLORES

C-401

GWETS LINE

FROM SMWA

FROM HLPS

TO WASH

B C-405

C C-405

N

0 10' 20' 40'

SCALE: 1" = 20'

EARTHWORK
CUT = 2,087 CY
FILL = 1,846 CY
NET = 241 CY (CUT)
CUT FACTOR = 1.1
FILL FACTOR = 1.0

CENTRAL WATER TREATMENT PLANT (CWTP)

INFLUENT TANK

INFLUENT TANK

INFLUENT TANK

INFLUENT TANK

PU-1A

PU-1B

PU-1C

CYCLONES

CYCLONE WASTE TANK

CYCLONE WASTE PUMPS

BACKWASH WASTE TANK

BACKWASH WASTE TANK

BACKWASH WASTE PUMPS

OFFICE TRAILER

GENERATOR

MULTI-MEDIA FILTER

MULTI-MEDIA FILTER

MULTI-MEDIA FILTER

FILTER RINSE/ BACKWASH PUMPS

TREATED WATER PUMPS

ION EXCHANGE

ION EXCHANGE

ION EXCHANGE

FILTER RINSE WATER TRANSFER TANK

TREATED WATER TANK

TREATED WATER TANK

TREATED WATER TANK

5.00' BERM

5.00' BERM

3:1

3:1

TOB

TOB

TOS

TOB

TOB

1553.72

1553.25

1552.75

1553.34

1553.44

1553.42

1553.05

1553.36

1553.72

1553.72

16' DOUBLE GATE

16' DOUBLE GATE

16' DOUBLE GATE

8' TALL CHAIN LINK FENCE

BASIC ENVIRONMENTAL COMPANY (BEC) EASEMENT

NOTES:
1. ALL SPOT ELEVATIONS ARE AT BOTTOM OF GRAVEL. REFER TO SHEET C-405 FOR SECTIONS.

TETRA TECH
www.tetratech.com
1489 West Warm Springs Road, Suite 110
Henderson, NV 89014
Phone: 702.946.6700 Fax: 702.997.7140

MARK	DATE	DESCRIPTION	BY
A	11/28/16	ISSUED FOR 60% SUBMITTAL	HCR
B	01/27/17	ISSUED FOR DRAFT 90% SUBMITTAL	HCR
C	02/15/17	75% SUBMITTAL TO BOR	CG

NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

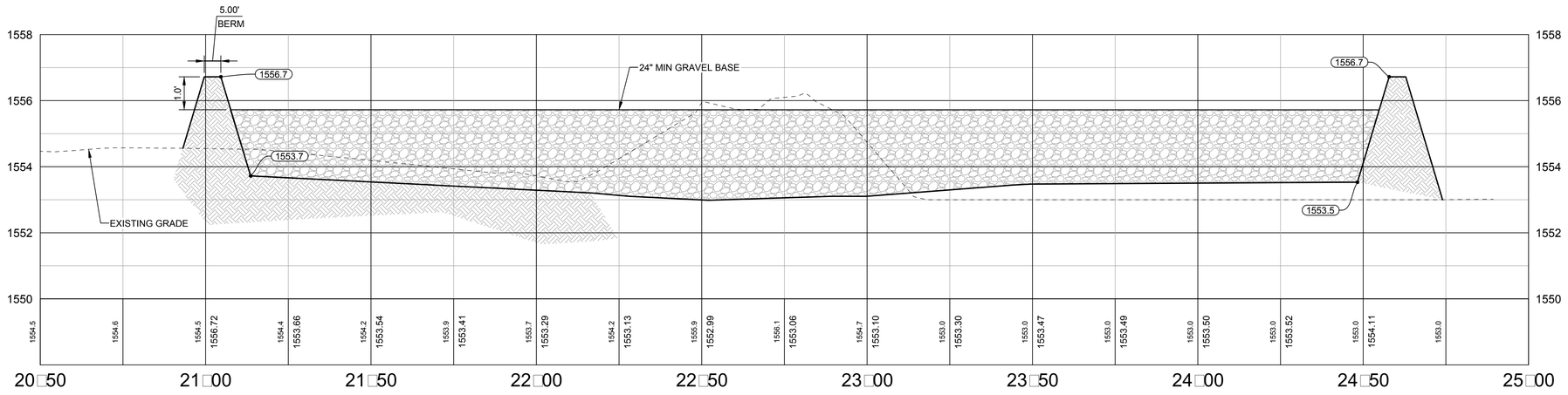
WEIR DEWATERING TREATMENT

SUNRISE MOUNTAIN PS AND CENTRAL WTP SITE GRADING PLAN

Project No.:	200-01299-16015
Designed By:	C. FLORES
Drawn By:	H. REYES
Checked By:	C. FLORES

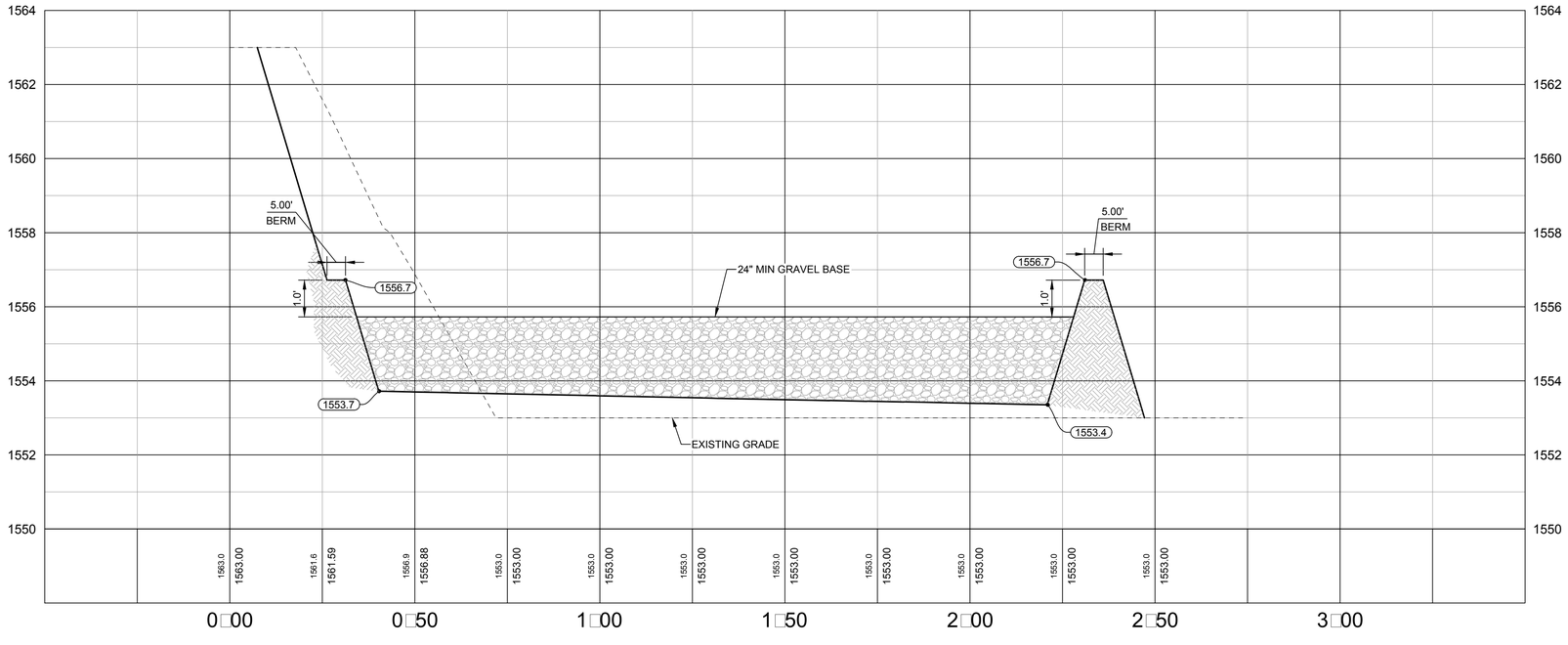
C-402

2/20/2017 5:47:27 PM - P:\IER\01299\200-01299-16015\CAD\SHEETFILES\C-402.DWG - GUILMIRE, CALEB



SECTION B

SCALE: 1" = 20'H 1" = 2'V



SECTION C

SCALE: 1" = 20'H 1" = 2'V

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A	11/28/16	ISSUED FOR 60% SUBMITTAL	HCR
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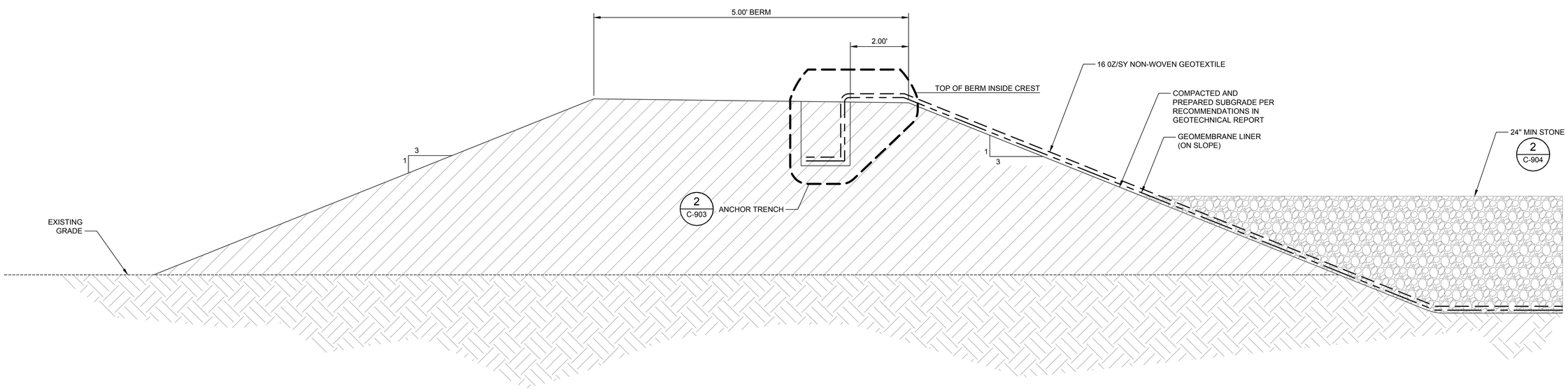
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT
SUNRISE MOUNTAIN PS
AND CENTRAL WTP
SECTION

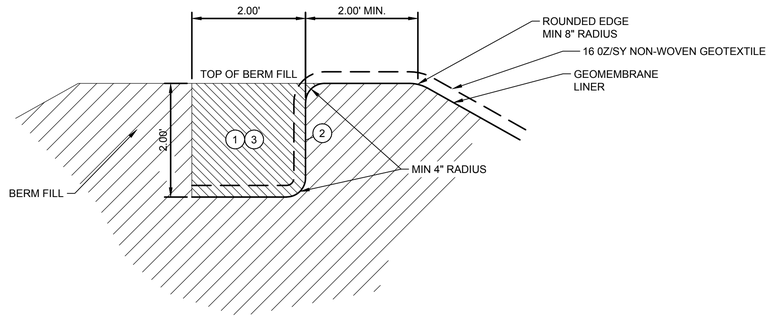
Project No.:	200-01299-16015
Designed By:	C. FLORES
Drawn By:	H. REYES
Checked By:	C. FLORES

C-405



1 903 TYPICAL GEOMEMBRANE INSTALLATION

NOT TO SCALE



1. EXCAVATE CONTINUOUS ANCHOR TRENCH ALONG TOP OF BERM FILL.
2. INSTALL GEOMEMBRANE LINER PER MANUFACTURER'S RECOMMENDATIONS.
3. COMPACTED SOIL BACKFILL PER RECOMMENDATIONS IN GEOTECHNICAL REPORT.

2 903 ANCHORING OF GEOMEMBRANE AT TOP OF SLOPE

SCALE: 3/4"=1'-0"

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MARK	DATE	DESCRIPTION	BY
A	02/15/17	75% SUBMITTAL TO BOR	CG

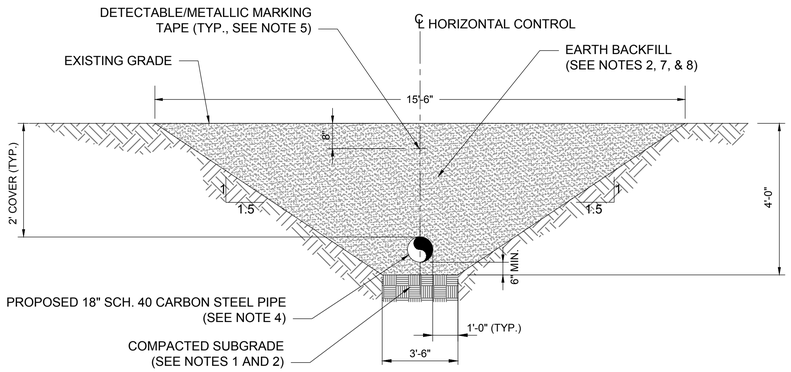
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

CIVIL DETAILS

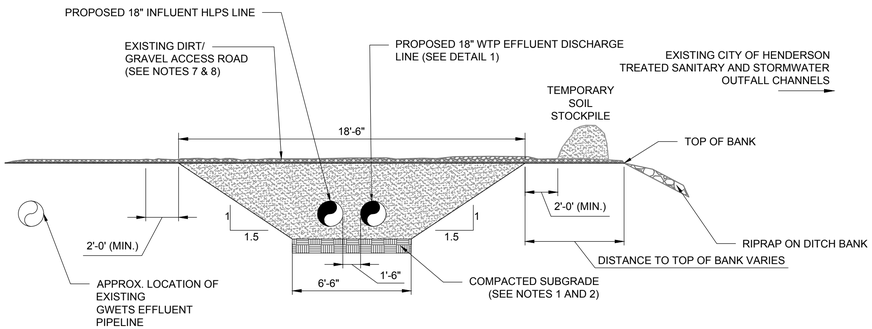
Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	C. GULMIRE
Checked By:	C. FLORES

C-903



1 - TYPICAL TRENCH SECTION

SCALE: NTS

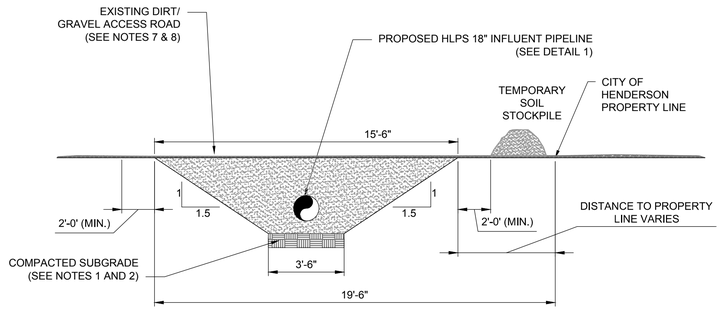


2 C-301-2 HISTORIC LATERAL WEIR PIPELINE AND WTP EFFLUENT DISCHARGE PIPELINE CROSS SECTION (TYP.)

SCALE: NTS

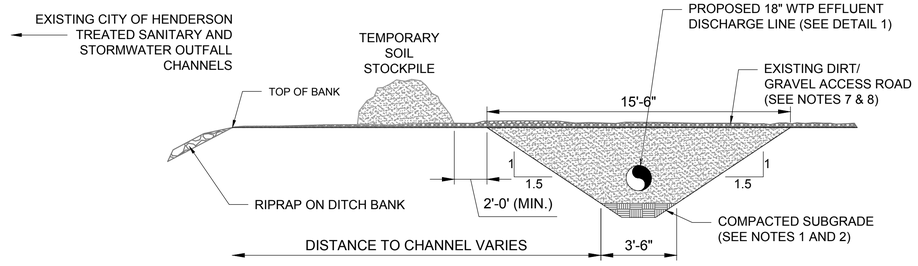
GENERAL NOTES:

1. COMPACT UPPER 6 INCHES OF SUBGRADE TO A MINIMUM OF 90 PERCENT OF MODIFIED PROCTOR MAXIMUM DRY DENSITY ASTM D1557.
2. EARTH BACKFILL TO BE COMPACTED TO A MINIMUM OF 90 PERCENT OF MAXIMUM DRY DENSITY (+/- 3 PERCENT OF OPTIMUM MOISTURE CONTENT) PER ASTM D1557 (MODIFIED PROCTOR).
3. THE EXISTING DIRT/GRAVEL ACCESS ROAD TO THE WEST OF THE PROPOSED PIPELINE TRENCH SHALL BE USED FOR TEMPORARY CONSTRUCTION ACCESS.
4. INFLUENT AND EFFLUENT PIPELINES SHALL BE 18-INCH (OUTSIDE DIAMETER) SCHEDULE 40 CARBON STEEL PIPE WITH VICTAULIC/GROOVED ENDS. STEEL PIPING WILL BE JOINED USING VICTAULIC AGS FLEXIBLE COUPLINGS (STYLE W77) OR OTHER ENGINEER APPROVED EQUIVALENT.
5. ALL SUBSURFACE PIPING AND CONDUIT SHALL HAVE DETECTABLE METALLIC TAPE INSTALLED WITHIN 8 INCHES OF THE TRENCH FINISHED TO FACILITATE LOCATING THE NEWLY INSTALLED UNDERGROUND UTILITIES DURING FUTURE PIPELINE MAINTENANCE AND/OR POTENTIAL REPAIR.
6. PIPELINE INTERFACE/CONNECTIONS TO THE CENTRAL WATER TREATMENT PLANT AND HISTORIC LATERAL PUMP STATION ARE APPROXIMATE. CONTRACTOR SHALL MAKE THE CONNECTIONS AT THESE LOCATIONS BASED ON ACTUAL FIELD CONDITIONS AT THE TIME OF CONSTRUCTION.
7. GRADING AT THE SURFACE OF THE PIPELINE TRENCHES WILL MATCH TO THE EXISTING/SURROUNDING GRADES AND SHALL ALSO PROMOTE DRAINAGE OF SURFACE/STORM WATER AWAY FROM THE TRENCH TO THE LAS VEGAS WASH TO THE NORTH UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
8. ALL AREAS DISTURBED DURING THE INSTALLATION OF THE WEIR DEWATERING PIPELINES SHALL BE RESTORED TO THE PRE-CONSTRUCTION CONDITIONS THAT INCLUDES CONTOUR GRADES, EXISTING VEGETATION TYPES, GRAVEL OR PAVED SURFACES, ETC. UNLESS OTHERWISE DIRECTED BY THE NEVADA ENVIRONMENTAL RESPONSE TRUST, CLARKE COUNTY, AND/OR OTHER APPLICABLE REGULATORY AUTHORITY.
9. ALL SOIL STOCKPILES WILL BE PLACED A MINIMUM OF 2 FEET BEYOND THE EDGE OF THE OPEN TRENCH EXCAVATION.
10. USE A NONWOVEN, 16 OZ/SY GEOTEXTILE BENEATH THE RIPRAP BEDDING LAYER, MIRAFI 1160N OR EQUIVALENT. PLACE RIPRAP AND BEDDING MATERIAL SO AS NOT TO DAMAGE GEOTEXTILE.



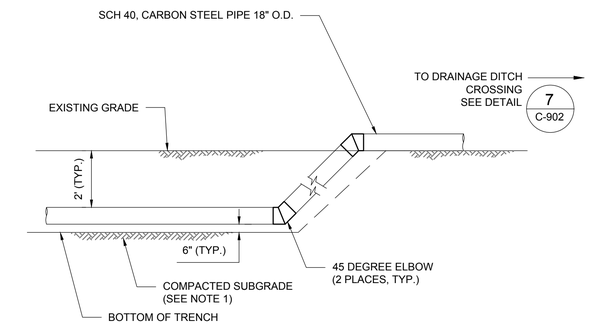
3 C-301-2 HLPS INFLUENT PIPELINE CROSS SECTION (TYP.)

SCALE: NTS



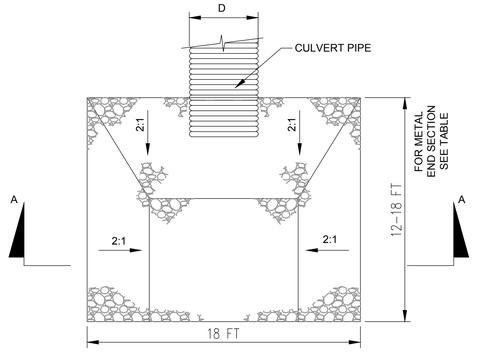
4 C-301-2 WTP EFFLUENT DISCHARGE PIPELINE (TYP.)

SCALE: NTS



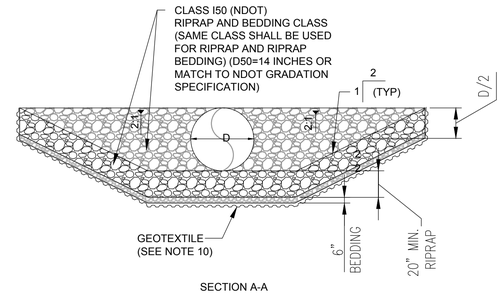
5 C-301-2 PIPE SECTION TRANSITION TO ABOVEGRADE/UNDERGROUND (TYP.)

SCALE: NTS



6 C-301-2 RIPRAP APRON FOR END SECTIONS (TYP.)

SCALE: NTS



SECTION A-A

NOTE:
TRANSITION END OF RIPRAP APRON DOWN TO UPPER EDGE OF EXISTING STREAM CHANNEL. APRON MAY BE SKEWED AND DIMENSIONS ADJUSTED TO MATCH AND LINE UP WITH DOWNSTREAM CHANNEL TO SUIT EXISTING CONDITIONS. EXACT LAYOUT AND DIMENSIONS TO BE DETERMINED IN THE FIELD DURING CONSTRUCTION BY THE FIELD ENGINEER.

TETRA TECH
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MARK	DATE	DESCRIPTION
A	11/28/16	ISSUED FOR 60% SUBMITTAL
B	2/15/17	75% SUBMITTAL TO BOR

BY: DS DS

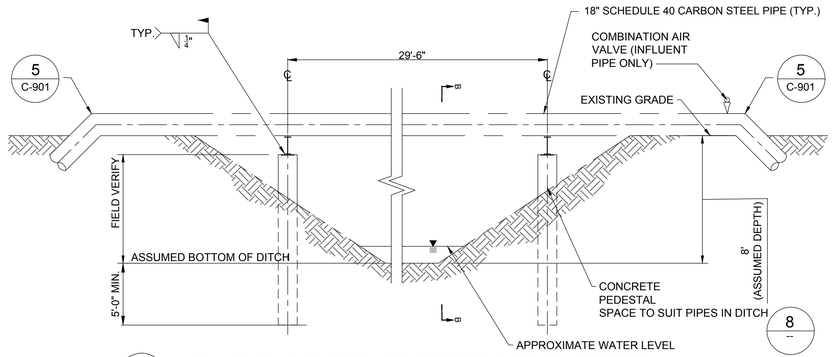
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

LAS VEGAS WASH WEIR DEWATERING
WEIR DEWATERING PIPELINE

DETAILS

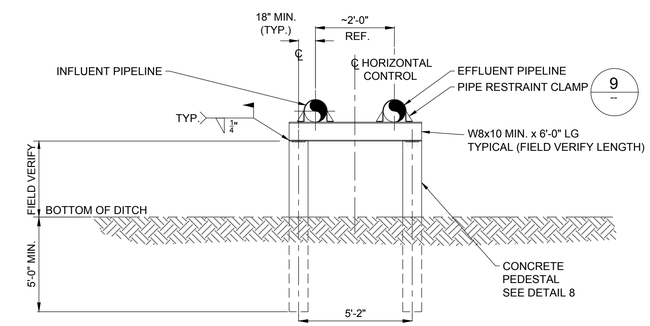
Project No.:	200-01299-16002
Designed By:	P. PATTON
Drawn By:	F. MENICHELLI
Checked By:	D. SHEA

C-901
Sheet ##



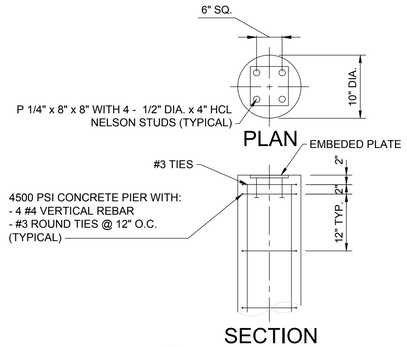
7 C-301-2 INFLUENT AND EFFLUENT PIPELINES SUPPORT

SCALE: NTS



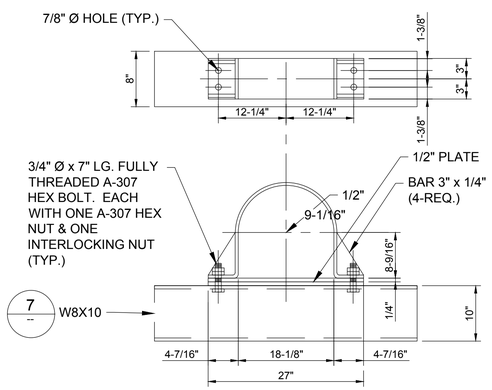
B C-301-2 INFLUENT AND EFFLUENT PIPELINE SUPPORT SECTION

SCALE: NTS



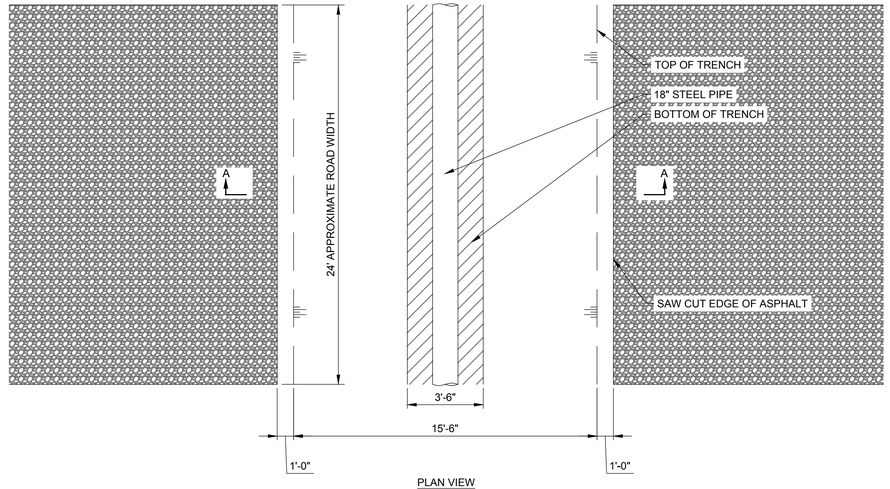
8 PEDESTAL DETAIL

SCALE: NTS

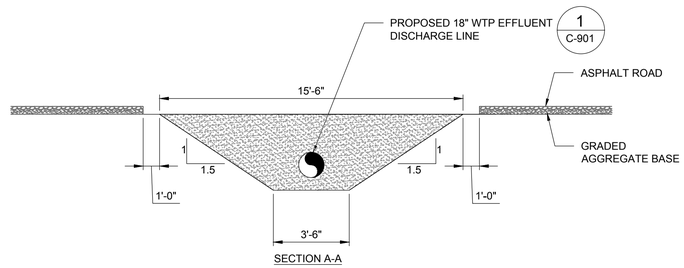


9 PIPE RESTRAINT CLAMP (TYP.)

SCALE: NTS



PLAN VIEW



SECTION A-A

10 C-301-3 ASPHALT ROAD CUT AT PARK ENTRANCE

SCALE: NTS

NOTES:

1. SAW CUT ASPHALT ROAD A MINIMUM OF 1 FT FROM TOP EDGE OF TRENCH. REPAIR ROADWAY CUT WITH EQUIVALENT DEPTH OF ASPHALT AND COMPACTED ROAD BASE.
2. COMPACT SUBGRADE AND FILL MATERIAL BELOW COMPACTED ROAD BASE TO 95% OF MODIFIED PROCTOR (ASTM D1557).
3. ASPHALT ROAD MIX TO COMPLY WITH SECTION 401.02.02 OF THE NDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2014.

TETRA TECH
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MARK	DATE	DESCRIPTION	BY
A	11/28/16	ISSUED FOR 60% SUBMITTAL	DS
B	02/15/17	75% SUBMITTAL TO BOR	DS

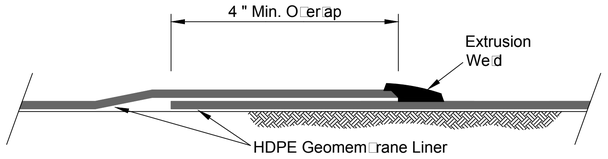
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

LAS VEGAS WASH WEIR DEWATERING
WEIR DEWATERING PIPELINE

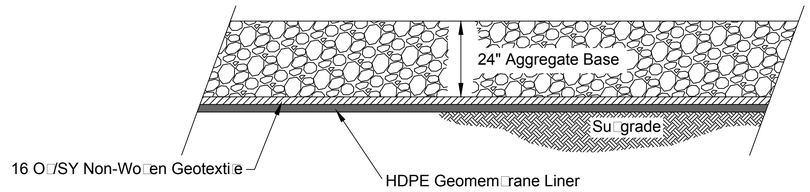
DETAILS

Project No.:	200-01299-16002
Designed By:	P. PATTON
Drawn By:	F. MENICHELLI
Checked By:	D. SHEA

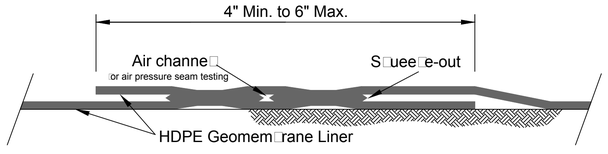
C-902
Sheet ##



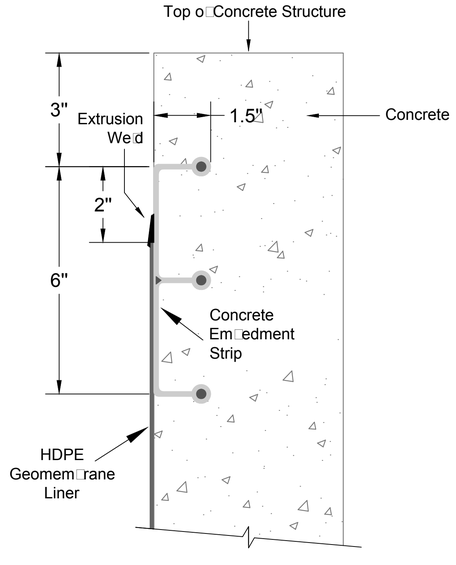
1 C-904 TYPICAL EXTRUSION WELD
NOT TO SCALE



2 C-904 TYPICAL GEOMEMBRANE LINER FLOOR INSTALLATION
NOT TO SCALE



3 C-904 TYPICAL HOT WEDGE DOUBLE TRACK FUSION WELD
NOT TO SCALE



4 C-904 CONCRETE EMBEDMENT STRIP
NOT TO SCALE

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Phone: 702.946.6700 Fax: 702.997.7140

MARK	DATE	DESCRIPTION	BY
A	02/15/17	75% SUBMITTAL TO BOR	CG

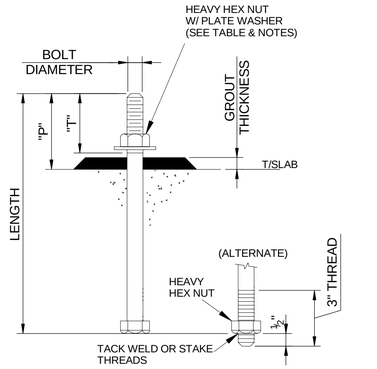
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

SYMBOLS
CIVIL DETAILS

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	C. GULMIRE
Checked By:	C. FLORES

C-904



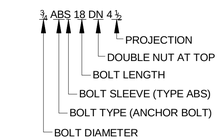
MARK			THREAD	PROJ.	MIN WASHER THICKNESS	MIN WASHER DIMENSION
DIAMETER	TYPE	LENGTH	"T" (MIN)	"P" (MAX)		
$\frac{3}{4}$	AB	18	4"	$4\frac{1}{2}$"	$\frac{5}{16}$"	2"
1	AB	24	5"	$5\frac{1}{2}$"	$\frac{3}{8}$"	3"

*DIM UNO.

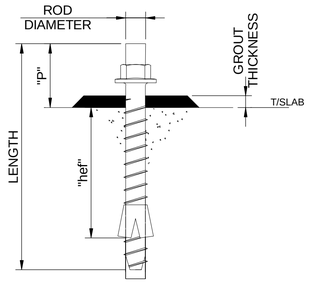
TYPE AB EMBEDDED ANCHOR BOLT

NOTES:

1. USE HEAVY HEX NUTS, ASTM A-193 (GRADE 303 OR 305) FOR ALL BOLTS. PROVIDE DOUBLE NUTS FOR MARK No.'s WITH DN.
2. BOLTS SHALL BE ASTM A193 THREADED ROD OR A193 GRADE 303 OR 305 STAINLESS STEEL UNLESS NOTED OTHERWISE.
3. THREADS SHALL BE UNC-2.
4. ANCHOR BOLTS FOR ALL EQUIPMENT AND COLUMNS SHALL BE SET BY TEMPLATE.
5. EXPANSION ANCHORS WHERE REQUIRED SHALL BE HILTI KWIK BOLT TZ. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
6. BUNDLE ANCHOR BOLTS FOR SHIPMENT BY MARK No. AND TAG WITH MARK No. AND EQUIPMENT DESCRIPTION.
7. SEE DETAIL DRAWINGS FOR ACTUAL BOLT DIMENSIONS.
8. EPOXY FOR POST INSTALLING ANCHOR RODS AND REBAR DOWELS SHALL BE HILTI HIT-RE-500 V3 ADHESIVE ANCHORS WITH RODS AS SHOWN ON SCHEDULE. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.



TYP ANCHOR BOLT CALL-OUT



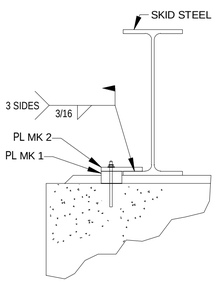
MARK	
DIAMETER	* h_{ef}
$\frac{3}{8}$"	2"
$\frac{1}{2}$"	$3\frac{1}{8}$"
$\frac{5}{8}$"	4"
$\frac{3}{4}$"	$4\frac{3}{8}$"

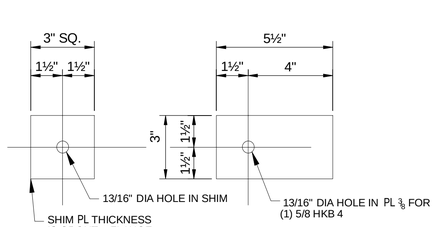
*ANCHOR DIMENSIONS UNO
HKB ANCHORS SHALL BE HILTI KWIK BOLT TZ EXPANSION ANCHORS, OR APPROVED ALTERNATE. INSTALL ANCHORS PER MANUFACTURES RECOMMENDATIONS.

TYPE HKB EXPANSION ANCHOR

MARK						
DIAMETER *	TYPE *	LENGTH *	HOLE DIAMETER	HOLE DEPTH (MIN)	PROJ. "P" *	ROD TYPE
1	EAB	18	1"	12 $\frac{1}{2}$"	6"	HILTI HAS

TYPE EAB EPOXY ANCHOR





DETAIL PL MK 1 DETAIL PL MK 2

1 SKID CLAMP
- SCALE: NONE

STRUCTURAL NOTES:

A. GENERAL SITE INFORMATION
1. DESIGN CODE ASCE 7-10/ IBC-2015 RISK CATEGORY III. CLARK COUNTY, NEVADA.
2. WIND SPEED 120 MPH; EXPOSURE C; OCCUPANCY CATEGORY III.
3. SEISMIC DESIGN PARAMETERS: S_s=0.490; S_1=0.161.
   SITE CLASS: D; SEISMIC DESIGN CATEGORY C .

B. FOUNDATION CONSTRUCTION
1. FOUNDATION CONSTRUCTION AND SITE PREPARATION METHODS SHALL FOLLOW RECOMMENDATIONS OUTLINED IN GEOTECHNICAL REPORT; PROVIDED BY TETRA TECH.
   SPECIFIC REQUIREMENTS ARE:
   FOUNDATION SYSTEM: SLAB ON GRADE
   FROST DEPTH: 0 FT
   SOIL COMPOSITION: SILTY SAND WITH GRAVEL.
   ALLOWABLE BEARING PRESSURE: 2500 PSF
   MODULUS OF SUBGRADE REACTION: 100 PCI

2. EXCAVATION AND BACKFILL:
   A. FOLLOW SPECIFIC RECOMMENDATIONS OUTLINED OF THE REFERENCED ABOVE GEOTECHNICAL REPORT.
   B. ENTIRE AREA AROUND EACH FOUNDATION MUST BE THOROUGHLY PROBED FOR UNDERGROUND PIPE, CONDUIT, HIGH PRESSURE LINES, ETC., BEFORE ANY EXCAVATION IS BEGUN.
   C. STRUCTURAL BACKFILL SHALL CONSIST OF GRANULAR NON-EXPANSIVE SAND, GRAVEL AND SAND-GRAVEL MIXTURES, WITH PLASTICITY INDEX BELOW 15, WITH 100% LESS THAN 4" SIZE ROCKS AND MAX. 20% PASSING NO. 200 SIEVE. IT SHALL BE PLACED IN 6" MAX. LIFTS. STRUCTURAL FILL IN FOUNDATION AREAS SHOULD BE COMPACTED TO 100% OF THE ASTM D1557, MODIFIED PROCTOR DENSITY.

3. SUBGRADE CONDITIONS SHOULD BE INSPECTED BY A GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF ANY CONCRETE. STRUCTURAL FILL SHALL BE INSPECTED AND TESTED.

C. CONCRETE
1. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 301 SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, LATEST EDITION, ACI-318 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE., ACI 350 CONCRETE STRUCTURES FOR CONTAINMENT OF HAZARDOUS MATERIALS. CONCRETE STRENGTH TEST SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI-318, CHAPTER 5.

2. CONCRETE AND REINFORCEMENT SHALL BE DESIGNED AND PLACED IN ACCORDANCE WITH ACI BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE ACI-318, LATEST EDITION. ACI-305 "HOT WEATHER CONCRETING" AND ACI-306 "COLD WEATHER CONCRETING" SHALL BE FOLLOWED.

3. CONCRETE PARAMETERS SHALL BE AS FOLLOWS:

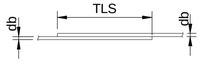
EXPOSURE CATEGORY & CLASS					f'c AT 28 DAYS	CEMENT TYPE	MAX W/C RATIO	AIR CONTENT	MAX SLUMP	OTHER PROVISIONS
TYPE	"F" FREEZING THAWING	"C" CORROSION PROTECTION	"S" SULFATE EXPOSURE	"P" PERMEABILITY						
A	F0	C2	S0	P0	4500	II	0.45	3.5% TO 6.5%	4" TO 6"	N/A

4. CEMENT SHALL CONFORM TO ASTM C150

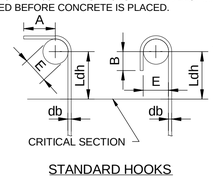
5. AGGREGATES SHALL BE CRUSHED STONE CONFORMING TO "SPECIFICATION FOR CONCRETE AGGREGATES" ASTM C33.

6. WATER USED IN MIXING CONCRETE SHALL CONFORM TO ASTM C1602.

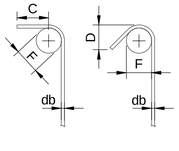
7. REINFORCING BARS SHALL BE DEFORMED, INTERMEDIATE GRADE NEW BILLET STEEL CONFORMING TO ASTM A615 INCLUDING SUPPLEMENTARY REQUIREMENTS SI, GRADE 60. FIELD SPLICES AND DEVELOPMENT LENGTH SHALL COMPLY WITH THE FOLLOWING SCHEDULE, UNO. REINFORCEMENT SHALL BE INSPECTED BEFORE CONCRETE IS PLACED.



STANDARD SPLICE



STANDARD HOOKS



STIRRUP AND TIE HOOKS

BAR BEND

BAR SIZE	LAP CLASS	TLS (in.) CONC. COVER = 1-1/2" TOP	TLS (in.) CONC. COVER = 1-1/2" OTHER	TLS (in.) CONC. COVER = 2" TOP	TLS (in.) CONC. COVER = 2" OTHER	HOOK, TIE AND BEND DIMENSIONS (in.) Ldh	A	B	C	D	E	F
#3	B	16	16	16	16	8	4.5	2.5	2.25	2.25	2.25	1.5
#4	B	20	16	20	16	10	6	2.5	3	3	3	2
#5	B	25	19	25	19	12	7.5	2.5	3.75	3.75	3.75	2.5
#6	B	29	23	29	23	19	9	3	9	4.75	4.5	4.5
#7	B	48	37	43	33	17	10.5	3.5	10.5	5.5	5.25	5.25
#8	B	61	47	49	37	19	12	4	12	6.25	6	6
#9	B	75	58	60	46	22	14	5	NA	NA	9.25	NA
#10	B	91	70	74	57	25	15.5	5.5	NA	NA	10.25	NA
#11	B	109	84	89	68	27	17	6	NA	NA	11.5	NA

WHERE:
- 'TOP' BARS ARE ALL HORIZONTAL BARS SO PLACED THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPLICE.
- ALL BARS THAT ARE NOT 'TOP' BARS ARE 'OTHER' BARS.

8. CONCRETE PROTECTION FOR REINFORCEMENT - CLEAR DISTANCE FROM FACE OF CONCRETE TO BAR SHALL BE AS FOLLOWS UNLESS NOTED;
   A. CONCRETE DEPOSITED AGAINST GROUND OR VOID FORM: 3".
   B. CONCRETE SURFACES EXPOSED TO WEATHER OR IN CONTACT WITH GROUND AFTER REMOVAL OF FORMS: 2"
   C. SURFACES NOT EXPOSED TO GROUND OR WEATHER: 3/4" FOR SLABS AND WALLS WITH #11 AND SMALLER BARS, 1-1/2" FOR BEAMS AND COLUMNS.

9. EXPANSION JOINT MATERIAL FOR EXPANSION OR ISOLATION JOINTS SHALL BE PREMOLDED, BITUMINOUS IMPREGNATED FIBERBOARD CONFORMING TO ASTM D994.

10. JOINT SEALANT FOR ALL CONCRETE CONTROL, CONSTRUCTION AND ISOLATION JOINTS SHALL BE SIKAFLEX-1c SL BY SIKA CORP., OR ENGINEER APPROVED EQUAL.

11. GROUT USED FOR VARIOUS APPLICATIONS SHALL BE AS FOLLOWS:
   A. GROUT USED FOR STRUCTURAL STEEL / COLUMN BASE PLATES SHALL BE PREPACKED, HIGH-FLUIDITY NON-SHRINK NATURAL AGGREGATE GROUT SUCH AS "FIVE STAR GROUT BY FIVE STAR PRODUCTION INC OR APPROVED EQUAL. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION. SPACE BETWEEN THE ANCHOR BOLTS AND OVERSIZED HOLES IN THE BASE PLATE SHALL BE FULLY GROUTED WITH NON-SHRINK GROUT TO ASSURE PROPER SHEAR TRANSFER. GROUTING SHALL BE PERFORMED ONE BOLT AT A TIME. WHILE OTHER BASE PLATE BOLTS ARE FULLY TIGHTENED.
   B. GROUT USED FOR GROUTING COMPRESSORS, TURBINES, LARGE PUMPS AND OTHER RECIPROCATING OR ROTATING EQUIPMENT THAT REQUIRES EPOXY GROUTING SHALL BE "FIVE-STAR HP" EPOXY GROUT BY FIVE STAR PRODUCTS, INC., OR APPROVED EQUAL. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.

12. ALL WELDING PROCEDURES, INCLUDING STUD WELDING, AND QUALIFICATIONS SHALL BE IN ACCORDANCE WITH AWS D1.1.

13. ALL SLABS SHALL BE GIVEN A FLOAT FINISH AS DESCRIBED IN ACI 301. ALL WALKS AND EXTERIOR SLABS SHALL BE BROOM FINISHED AFTER CONCRETE HAS RECEIVED A FLOAT FINISH.

14. EXPOSED CORNERS SHALL BE CHAMFERED 3/4" UNLESS NOTED.

15. COMPARE ALL ELECTRICAL, MECHANICAL AND PIPING DRAWINGS FOR EMBEDDED ITEMS (PIPE, CONDUIT, ETC.) AND BLOCKOUTS SHOWN CORRESPOND TO THOSE SHOWN ON THE STRUCTURAL DRAWINGS. NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE PLACING ANY CONCRETE.

16. IF REINFORCING OR MESH IS FIELD CUT FOR SMALL OPENINGS, CONDUIT, ELECTRICAL BOXES, ETC., CUT REINFORCING SHALL BE REPLACED WITH AN EQUIVALENT AREA OF STEEL ALL SUCH BARS SHALL EXTEND 24" MINIMUM (OR MESH LAP 2") BEYOND CORNER OR EDGE OF OPENING IF NECESSARY. REINFORCING SHALL BE BENT TO PROVIDE THIS MINIMUM EMBEDMENT. MAKE ALL BARS CONTINUOUS AROUND CORNERS.

17. THE CONTRACTOR SHALL VERIFY ALL EQUIPMENT ANCHOR BOLT DIMENSIONS AGAINST THE CERTIFIED EQUIPMENT DRAWINGS BEFORE PLACING CONCRETE. TOLERANCES FOR ANCHOR BOLT LOCATIONS AND ELEVATIONS SHALL BE AS DEFINED IN THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) CODE OF STANDARD PRACTICE.

CONTRACTOR'S MEANS AND METHODS
- THE STRUCTURAL DRAWINGS AND NOTES REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. FOR THIS REASON, DURING ERECTION OF THE STRUCTURE AND/OR THE DEMOLITION OF THE STRUCTURE OR PORTIONS OF THE STRUCTURE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY BRACING TO WITHSTAND ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED, INCLUDING LATERAL LOADS, EXCAVATIONS, SHORING, STOCKPILES OF MATERIALS AND EQUIPMENT, IN ADDITION TO ANY WORKER SAFETY REQUIREMENTS. SUCH BRACING SHALL BE LEFT IN PLACE AS LONG AS IT MAY BE REQUIRED FOR SAFETY AND UNTIL ALL STRUCTURAL FRAMING AND DIAPHRAGMS ARE IN PLACE WITH CONNECTIONS COMPLETED.

- DISCOVERY: DURING CONSTRUCTION, THE CONTRACTOR MAY ENCOUNTER EXISTING CONDITIONS OR AS BUILT DIMENSIONS WHICH ARE NOT NOW KNOWN OR ARE AT VARIANCE WITH PROJECT DOCUMENTATION (DISCOVERY). SUCH CONDITIONS MAY INTERFERE WITH CONSTRUCTION OR REQUIRE PROTECTION AND / OR SUPPORT OF EXISTING WORK DURING CONSTRUCTION, OR MAY CONSIST OF DAMAGE OR DETERIORATION TO THE STRUCTURAL MATERIALS OR COMPONENTS WHICH COULD JEOPARDIZE THE INTEGRITY OF THE STRUCTURE(S) PRIOR TO PROCEEDING WITH WORK RELATED TO SUCH DISCOVERIES.

  •• IT IS THE CONTRACTOR'S RESPONSIBILITY TO IMMEDIATELY NOTIFY THE STRUCTURAL ENGINEER OF ANY DISCOVERY HE OR SHE MAY INTERFERE WITH THE PROPER EXECUTION OF THE WORK OR JEOPARDIZE THE INTEGRITY OF THE STRUCTURE(S) PRIOR TO PROCEEDING WITH WORK RELATED TO SUCH DISCOVERIES.

CONTRACTOR'S COORDINATION
- THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS AND DETAILS BETWEEN ALL TRADES, SUBCONTRACTORS AND VENDOR SUPPLIED EQUIPMENT PRIOR TO COMMENCING ANY CONSTRUCTION. THE STRUCTURAL ENGINEER SHALL BE IMMEDIATELY NOTIFIED ANY INCONSISTENCIES RELATING TO THE STRUCTURE. FAILURE TO DO SO SHALL RELIEVE THE ENGINEER OF ALL CONSEQUENCES RELATED TO THE INCONSISTENCY.

- SEE MECHANICAL, ELECTRICAL AND OTHER DISCIPLINE'S DRAWINGS FOR ADDITIONAL INFORMATION RELATING TO THE STRUCTURE.

STRUCTURAL TESTING & INSPECTION REQUIREMENTS

	REQUIRED INSPECTION VERIFICATION, OR TEST	VERIFICATION MONITORING FREQUENCY		TYPE AND/OR FREQUENCY OF TESTING	IBC SECTION & REFERENCE CRITERIA	INSPECTOR QUALIFICATIONS
1. SOILS						
A.	SITE PREPARATION				IBC 1704.7.1	
B.	DURING FILL PLACEMENT	CONTINUOUS OR PERIODIC		VISUAL OBSERVATION: DURING PLACEMENT AND COMPACTION OF FILL, SPECIAL INSPECTOR SHALL DETERMINE THAT THE MATERIAL BEING USED AND THE MAXIMUM LIFT THICKNESS COMPLY WITH THE PROJECT REQUIREMENTS. PIT RUN MATERIALS SHALL BE VISUALLY MONITORED BY THE TESTING LAB WITH ADDITIONAL SAMPLES TESTED EACH DAY, OR MORE OFTEN IF MATERIAL APPEARS TO VARY.	IBC 1704.7.2 GEOTECHNICAL REPORT; STRUCTURAL NOTES	QUALIFICATIONS BASED ON ASTM D3740
C.	EVALUATION OF IN-PLACE DENSITY OF FILL	CONTINUOUS OR PERIODIC		PROVIDE (1) ONE DENSITY TEST FOR EACH 2000 SQ. FT. REFER TO NOTES ON BUILDING PAD FOR TESTING SPECIFICATIONS.	IBC 1704.7.3 GEOTECHNICAL REPORT; STRUCTURAL NOTES	QUALIFICATIONS BASED ON ASTM D3740
D.	CLAY CAP	CONTINUOUS OR PERIODIC		PLACEMENT OF CLAY CAP SHALL BE MONITORED BY GEOTECHNICAL ENGINEER WITH A WRITTEN REPORT SENT TO STRUCTURAL ENGINEER.	IBC 1704.7.3 GEOTECHNICAL REPORT; STRUCTURAL NOTES	QUALIFICATIONS BASED ON ASTM D3740
2. CONCRETE CONSTRUCTION						
A.	REINFORCING STEEL	PERIODIC		PROVIDE PERIODIC INSPECTION OF REINFORCING SIZES, SPACING, GRADE OF REBAR; AND PLACEMENT AT THE FOLLOWING FREQUENCY: RANDOMLY @ 20%	IBC 1704.4 ACI 318: CH. 3.5, 7.1-7.7; STRUCTURAL NOTES.	QUALIFICATIONS BASED ON ASTM E329
B.	REINFORCING STEEL WELDING.			NO FIELD WELDING PERMITTED.	AWS D1.4 ACI 318: 3.5.2	CWI
C.	ANCHORS TO BE INSTALLED IN CONCRETE PRIOR TO & DURING PLACEMENT OF CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED.	CONTINUOUS			IBC1704.4	TRAINED FIELD TECHNICIAN WITH ONE YEAR MIN. EXPERIENCE
D.	VERIFY USE OF CONCRETE MIX DESIGN	PERIODIC		EACH CONCRETE POUR	ACI 318 - CH. 4, 5.2 - 5.4	QUALIFICATIONS BASED ON ASTM C1077
E.	SAMPLING OF FRESH CONCRETE.	CONTINUOUS EACH CONCRETE POUR	1. 2. 3.	ALL CONCRETE TESTING IS TO BE MADE AFTER WATER, IF ANY, IS ADDED ATSITE. PROVIDE A SET OF (4) FOUR CYLINDERS TO BE TAKEN FOR EVERY 75 CUBIC YARDS OF CONCRETE, OR FRACTION THEREOF, BY TESTING LAB. MONITOR SLUMP AND AIR CONTENT OF CONCRETE AND NOTIFY DELIVERY DRIVER IF SLUMP DEVIATES MORE THAN PERMITTED BY STRUCTURAL NOTES. CONTACT SUPPLIER FOR FURTHER DIRECTIONS.	ASTM C172 ASTM C31 ACI 318 - CH. 5.6, 5.8	QUALIFICATIONS BASED ON ASTM C1077
F.	PLACEMENT OF CONCRETE	CONTINUOUS			ACI 318 - CH. 5.9, 5.10	QUALIFICATIONS BASED ON ASTM C1077
G.	MAINTENANCE OF SPECIFIED CURING TEMPERATURE TECHNIQUES.	PERIODIC		EACH CONCRETE POUR	ACI 318 - CH. 5.11, 5.13.	QUALIFICATIONS BASED ON ASTM C1077
H.	REMOVAL OF SHORES AND FORMS FROM STRUCTURAL SLABS.	PERIODIC		VERIFY IN-SITU CONCRETE STRENGTH PRIOR TO REMOVAL.	ACI 318: CH. 6.1.1; STRUCTURAL NOTES.	QUALIFICATIONS BASED ON ASTM E329
3. STEEL CONSTRUCTION						
A.	MATERIAL VERIFICATION OF STRUCTURAL STEEL	PERIODIC	1.	IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	IBC 1708.4; STRUCTURAL NOTES	FIELD TECHNICIAN WITH ONE YEAR MINIMUM EXPERIENCE
		PERIODIC	2.	MANUFACTURERS' CERTIFIED MILL TEST REPORTS.	ASTM A6 OR ASTM A568	
B.	MATERIAL VERIFICATION OF WELD FILLER MATERIALS	PERIODIC	1.	IDENTIFICATION MARKINGS TO CONFORM TO SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.	STRUCTURAL NOTES	CWI
C.	WELDING OF STRUCTURAL STEEL	PERIODIC	1.	SINGLE PASS FILLET WELDS 5/16	AWS D1.1	CWI
		PERIODIC	2.	ROOF DECK WELDS	AWS D1.3	CWI

NOT FOR CONSTRUCTION

TETRA TECH
www.tetratech.com
1489 West Warms Springs Road, Suite 110
Henderson, NV 89014
Tel:702.946.6700 Fax: 702.997.7140

MARK	DATE	DESCRIPTION	BY
A	11/28/16	ISSUED FOR 60% SUBMITTAL	SAB
B	01/27/17	ISSUED FOR DRAFT 90% SUBMITTAL	RWB
C	02/15/17	ISSUED FOR 75% SUBMITTAL TO BOR	RWB

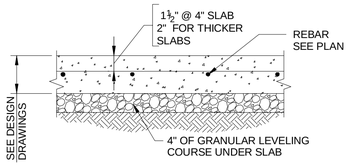
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

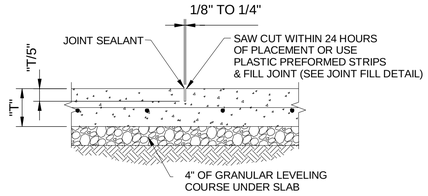
STRUCTURAL CONCRETE NOTES

Project No.:	200-01299-16015
Designed By:	SAB
Drawn By:	RWB
Checked By:	CC

S-001



1 SLAB ON GRADE
- SCALE: NONE



2 CONTROL JOINT (SJ)
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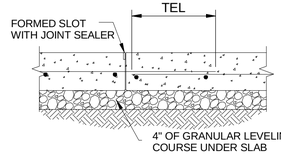

3 CONSTRUCTION JOINT (CJ)
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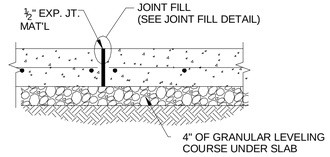
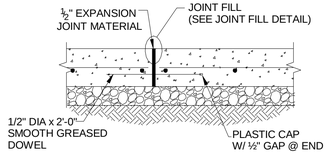


4 ISOLATION JOINT (IJ)
- SCALE: NONE



5 EXPANSION JOINT (EJ)
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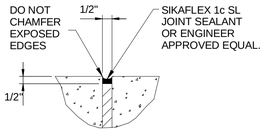

6 JOINT FILL
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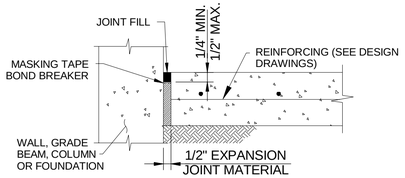

7 TYP. FLOOR JOINTS
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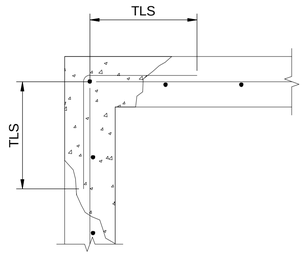
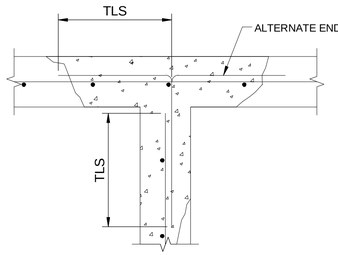


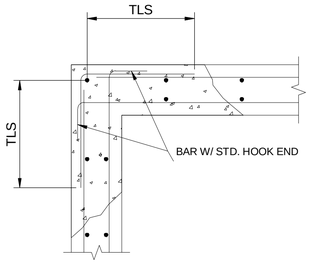
SINGLE LAYER

8 WALL CORNER REBAR
- SCALE: NONE



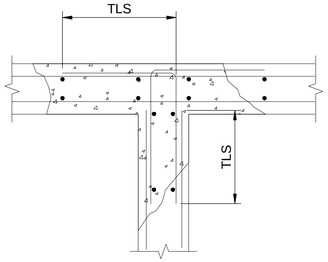
SINGLE LAYER

9 WALL 'TEE' REBAR
- SCALE: NONE



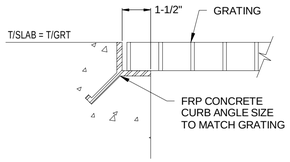
DOUBLE LAYER

10 WALL CORNER REBAR
- SCALE: NONE

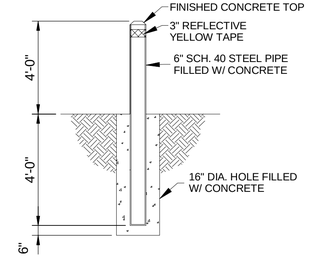


DOUBLE LAYER

11 WALL 'TEE' REBAR
- SCALE: NONE



12 FRP CURB ANGLE
- SCALE: NONE



13 PIPE BOLLARD DETAIL
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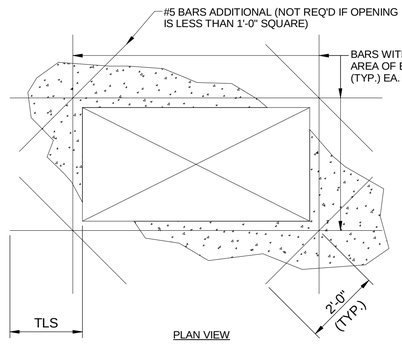
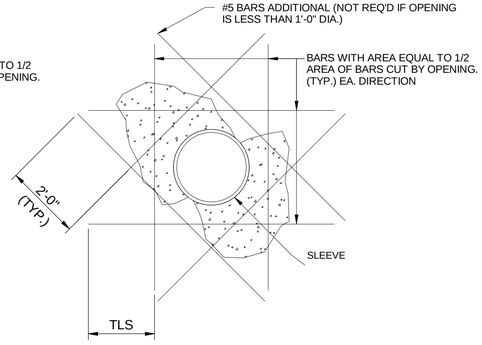
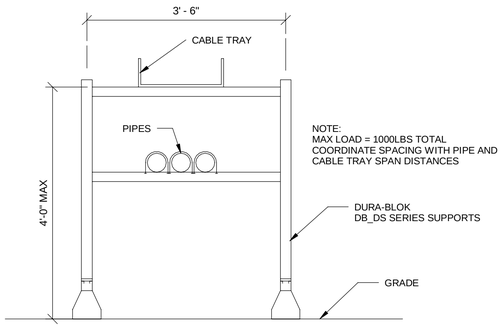


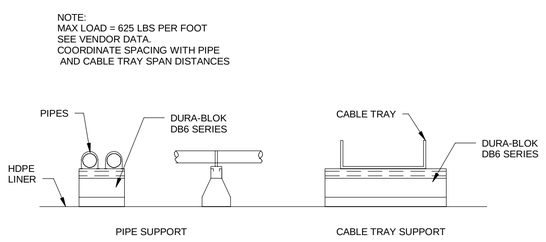
14 RECTANGULAR SLAB OR WALL OPENING
- SCALE: NONE



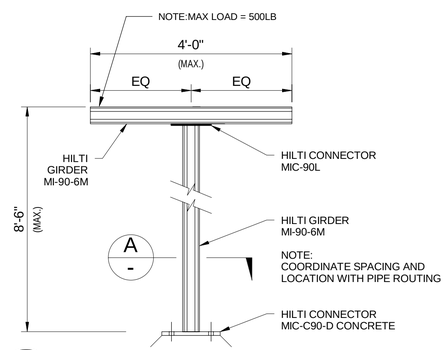
15 ROUND SLAB OR WALL OPENING
- SCALE: NONE



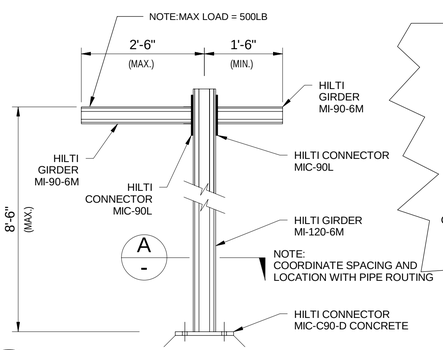
17 DURA-BLOK SUPPORT
SCALE: 3/4" = 1'-0"



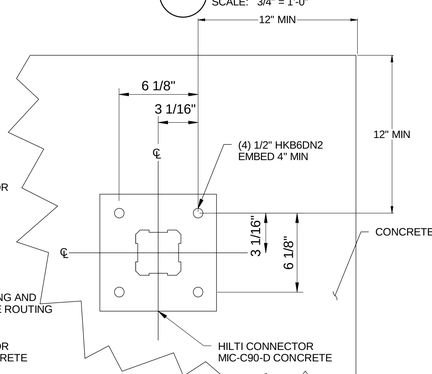
16 DURA-BLOK SLEEPER
SCALE: 3/4" = 1'-0"



18 BALANCED PIPE SUPPORT
- SCALE: NONE



19 UNBALANCED PIPE SUPPORT
- SCALE: NONE



A MIC-C90-D
- SCALE: NONE

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www.tetratech.com
1489 West Warms Springs Road, Suite 110
Henderson, NV 89014
Tel:702.946.6700 Fax: 702.997.7140

MARK	DATE	DESCRIPTION	BY
A	11/28/16	ISSUED FOR 60% SUBMITTAL	SAB
B	01/27/17	ISSUED FOR DRAFT 90% SUBMITTAL	RWB
C	02/15/17	ISSUED FOR 75% SUBMITTAL TO BOR	RWB

NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

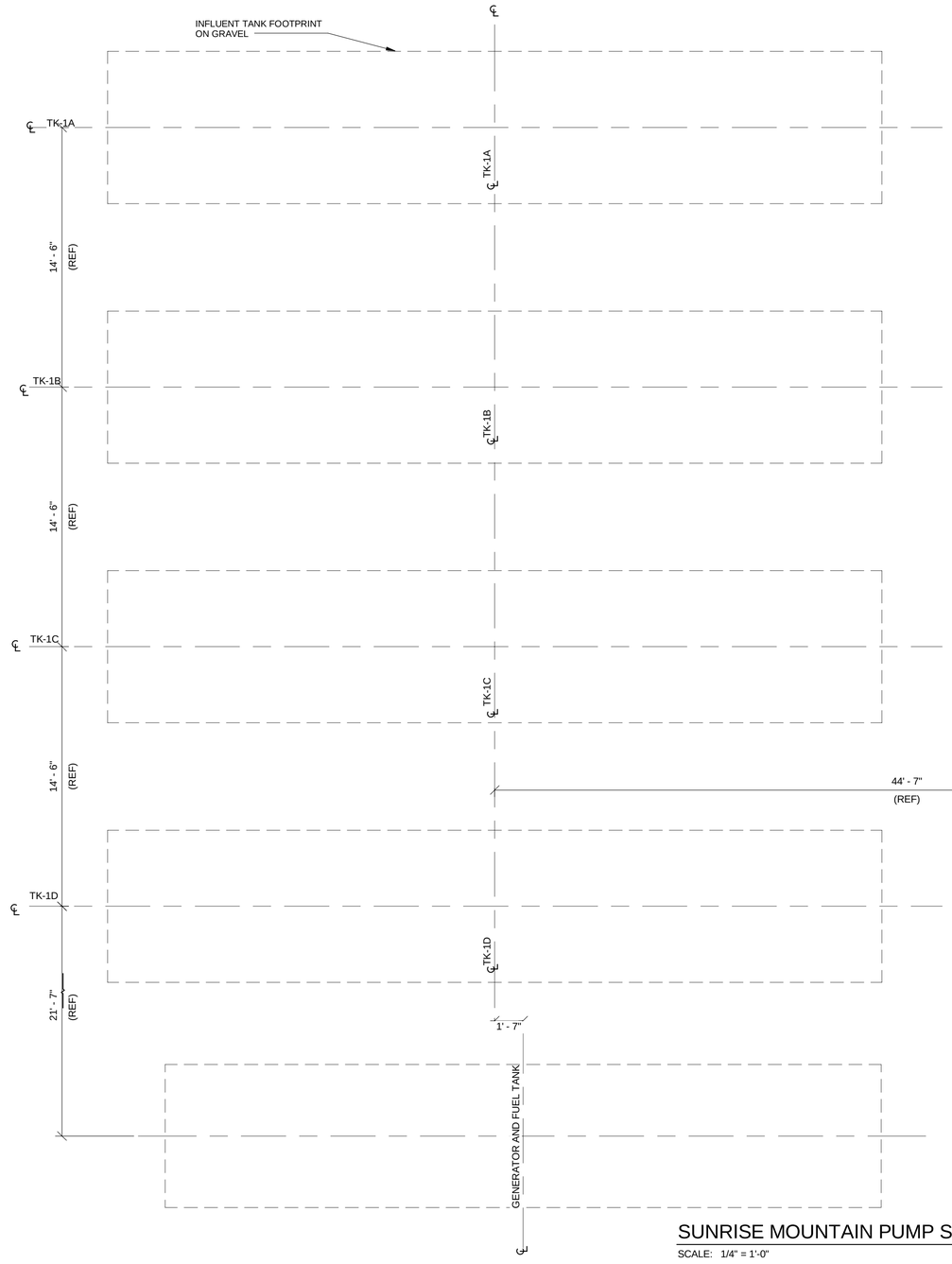
WEIR DEWATERING TREATMENT

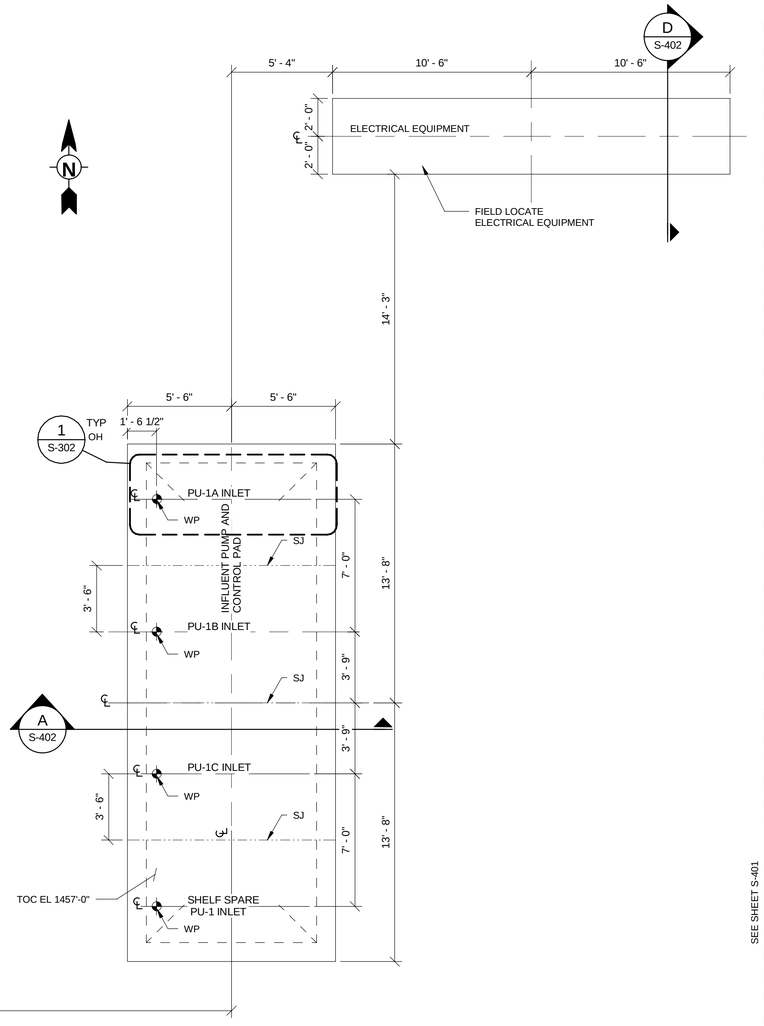
STRUCTURAL CONCRETE DETAILS

Project No.:	200-01299-16015
Designed By:	SAB
Drawn By:	RWB
Checked By:	CC

S-002

2/14/2017 11:56:08 AM C:\Users\rebecca.walthall\Documents\S-CWTP-2015-ECI_Rebecca.Benson.rvt





SEE SHEET S-401
FOR CONTINUATION

SEE CIVIL LAYOUT DRAWINGS
FOR COORDINATES.

TAG #	OPERATING WEIGHT	HEIGHT OF CENTER OF GRAVITY
PU-1A	6000 LB	29 IN
PU-1B	6000 LB	29 IN
PU-1C	6000 LB	29 IN
PU-1D (SHELF SPARE)	6000 LB	29 IN

SUNRISE MOUNTAIN PUMP STATION FOUNDATION PLAN

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

NOT FOR CONSTRUCTION

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NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

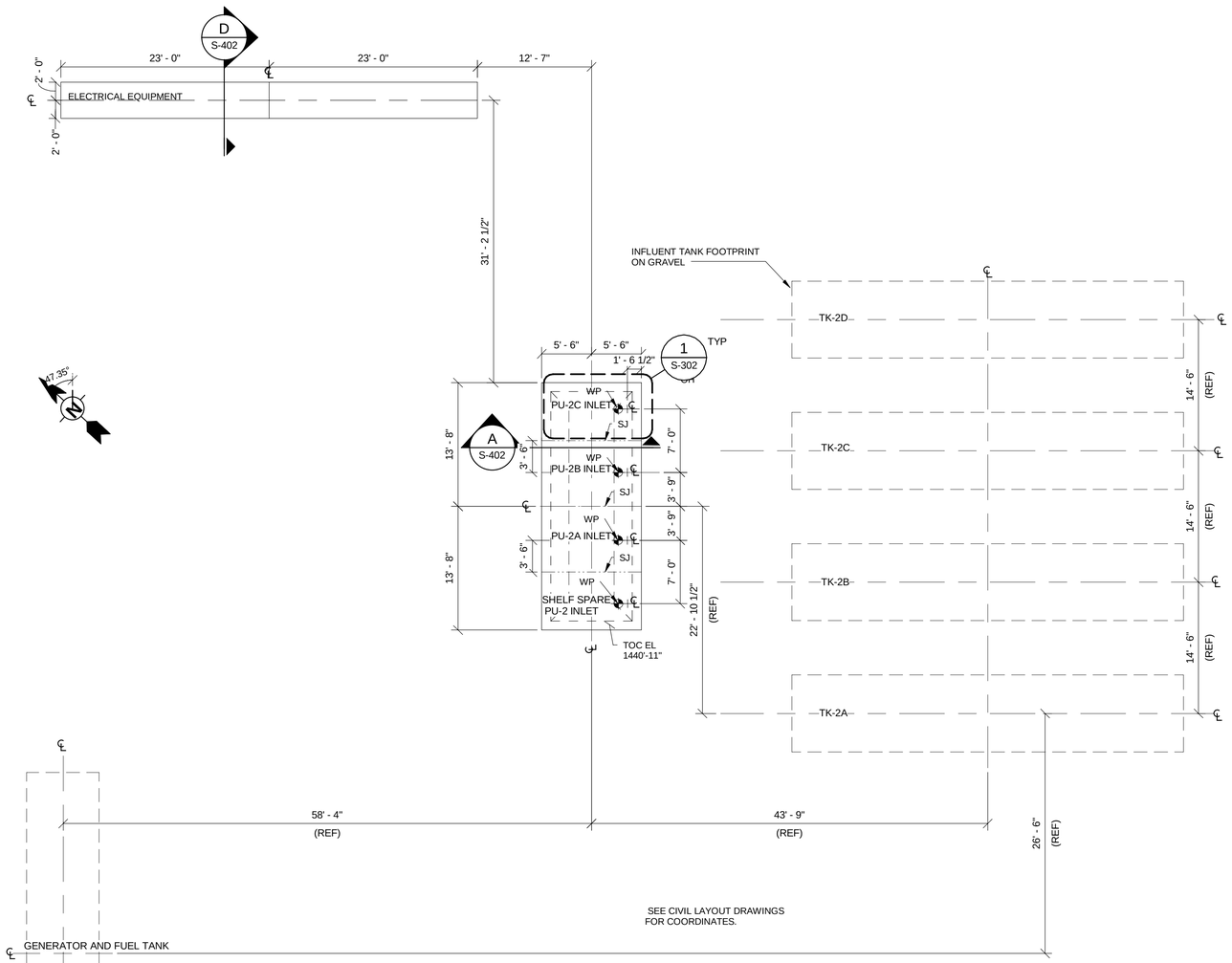
WEIR DEWATERING TREATMENT

SUNRISE MOUNTAIN PUMP
STATION FOUNDATION
PLAN

Project No.:	200-01299-16015
Designed By:	SAB
Drawn By:	RWB
Checked By:	CC

S-201

2/14/2017 11:56:08 AM C:\Users\rebecca.walthall\Documents\S-CWTP-2015-ECI_Rebecca.Benson.rvt



HISTORIC LATERAL PUMP STATION FOUNDATION PLAN

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

TAG #	OPERATING WEIGHT	HEIGHT OF CENTER OF GRAVITY
PU-2A	6000 LB	29 IN
PU-2B	6000 LB	29 IN
PU-2C	6000 LB	29 IN
PU-2D (SHELF SPARE)	6000 LB	29 IN

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Henderson, NV 89014
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B	01/27/17	ISSUED FOR DRAFT 90% SUBMITTAL	RWB
C	02/15/17	ISSUED FOR 75% SUBMITTAL TO BOR	RWB

NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

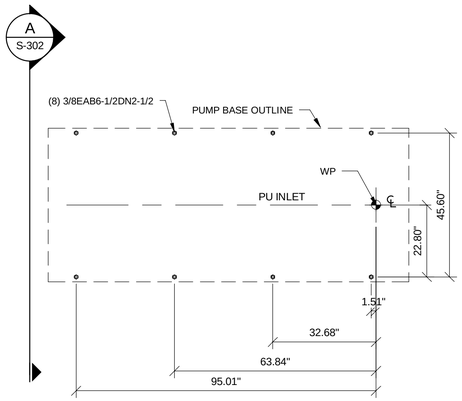
WEIR DEWATERING TREATMENT

HISTORIC LATERAL PUMP STATION FOUNDATION PLAN

Project No.: 200-01299-16015
Designed By: SAB
Drawn By: RWB
Checked By: CC

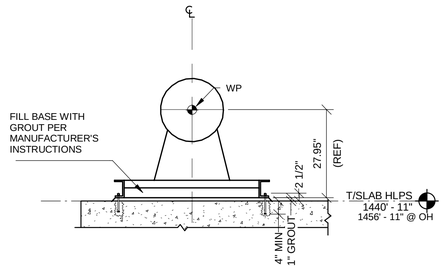
S-301

2/14/2017 11:56:09 AM C:\Users\rebecca.walthall\Documents\S-CWTP-2015-ECI_Rebecca.Benson.rvt



1 S-201 PU1 AND PU2 ANCHORAGE DETAIL

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



A S-302 PU1 AND PU2 ANCHORAGE SECTION

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

ISSUED FOR CONSTRUCTION

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1489 West Warms Springs Road, Suite 110
Henderson, NV 89014
Tel:702.946.6700 Fax: 702.997.7140

MARK	DATE	DESCRIPTION	BY
A	02/15/17	ISSUED FOR 75% SUBMITTAL TO BOR	RWB

NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

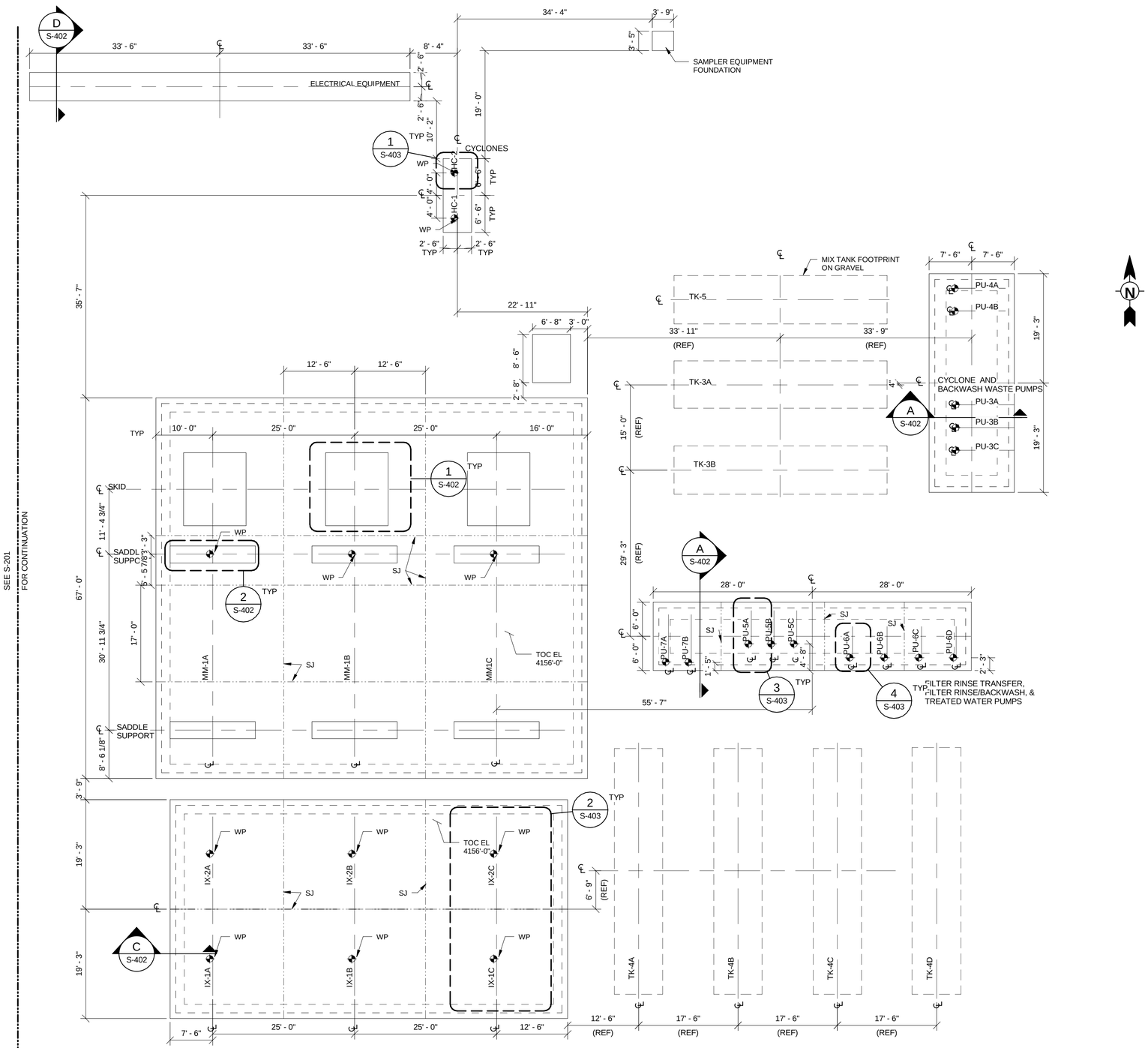
WEIR DEWATERING TREATMENT

HISTORIC LATERAL PUMP STATION FOUNDATION SECTIONS

Project No.:	200-01299-16015
Designed By:	SAB
Drawn By:	RWB
Checked By:	CC

S-302

2/14/2017 11:56:09 AM C:\Users\rebecca.walthall\Documents\S-CWTP-2015-ECI_Rebecca.Benson.rvt



CENTRAL WATER TREATMENT PLANT FOUNDATION PLAN

SCALE: 1" = 10'-0"

NOT FOR CONSTRUCTION

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1489 West Warms Springs Road, Suite 110
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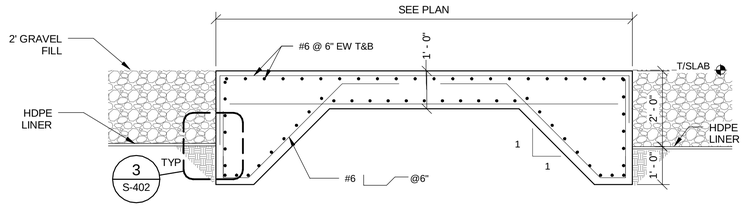
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

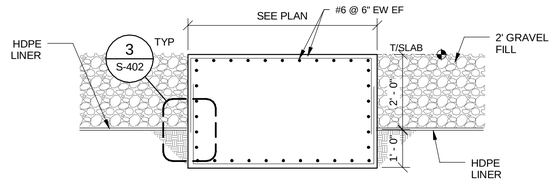
CENTRAL WATER TREATMENT PLANT FOUNDATION PLAN

Project No.:	200-01299-16015
Designed By:	SAB
Drawn By:	RWB
Checked By:	CC

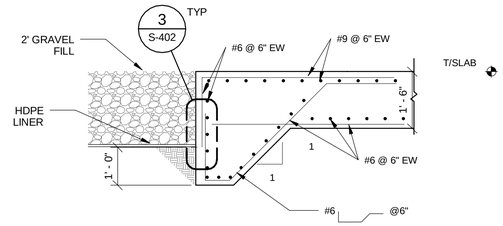
S-401



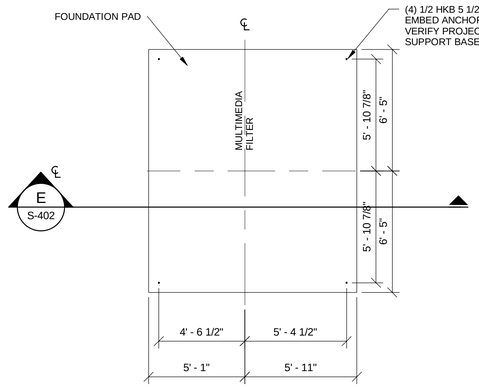
A S-201 CONCRETE REINFORCEMENT SECTION
SCALE: 1/2" = 1'-0"



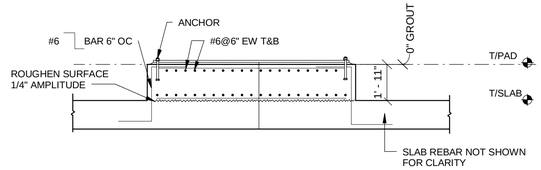
B S-402 CYCLONE FOUNDATION SECTION
SCALE: 1/2" = 1'-0"



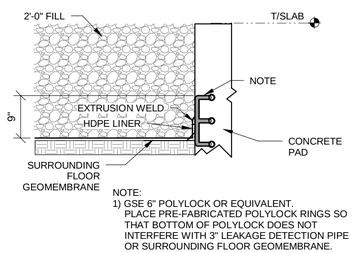
C S-401 FOUNDATION SECTION
SCALE: 1/2" = 1'-0"



1 S-401 MULTIMEDIA FILTER SKID PAD DETAIL
SCALE: 1/4" = 1'-0"

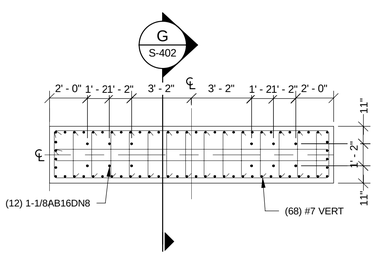


E S-402 MULTIMEDIA FILTER SKID REINFORCEMENT SECTION
SCALE: 1/4" = 1'-0"

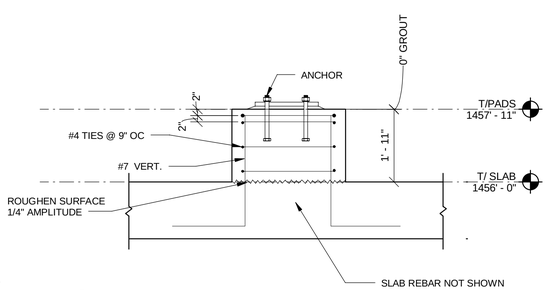


NOTE:
1) GSE 6" POLYLOCK OR EQUIVALENT. PLACE PRE-FABRICATED POLYLOCK RINGS SO THAT BOTTOM OF POLYLOCK DOES NOT INTERFERE WITH 3" LEAKAGE DETECTION PIPE OR SURROUNDING FLOOR GEOMEMBRANE.

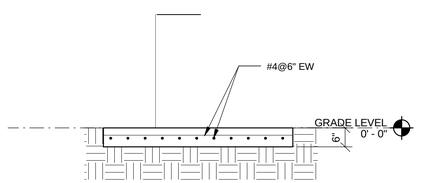
3 S-402 HDPE LINER-DETAIL
SCALE: 3/4" = 1'-0"



2 S-401 MULTIMEDIA FILTER SADDLE SUPPORT PEDESTAL DETAIL
SCALE: 1/4" = 1'-0"



G S-402 MULTIMEDIA FILTER PEDESTAL SECTION
SCALE: 1/2" = 1'-0"



D S-201 EQUIPMENT PAD SECTION
SCALE: 1/2" = 1'-0"

NOT FOR CONSTRUCTION

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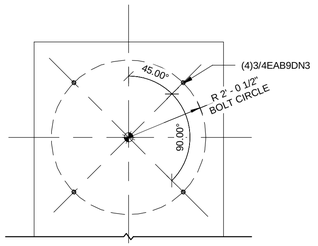
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT
CENTRAL WATER TREATMENT PLANT
FOUNDATION SECTIONS

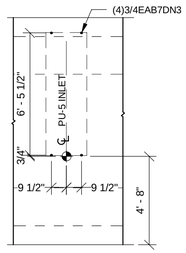
Project No.:	200-01299-16015
Designed By:	SAB
Drawn By:	RWB
Checked By:	CC

S-402

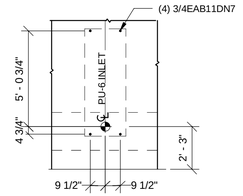
2/14/2017 11:56:10 AM C:\Users\rebecca.walhall\Documents\S-CWTP-2015-ECI_Rebecca.Benson.rvt



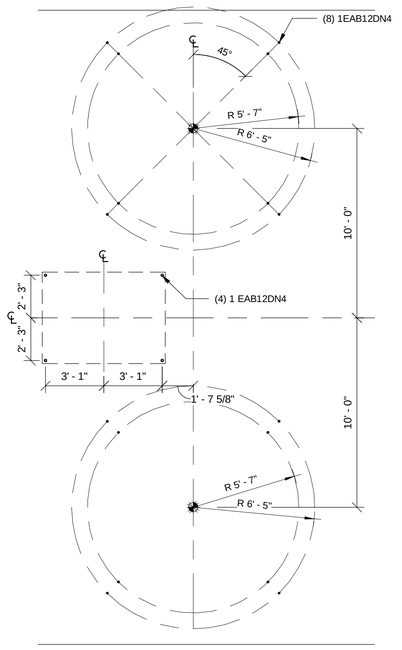
1 S-401 CYCLONE ANCHORAGE DETAIL
SCALE: 1/2" = 1'-0"



3 S-401 PU-5 ANCHORAGE DETAIL
SCALE: 1/4" = 1'-0"



4 S-401 PU-6 ANCHORAGE DETAIL
SCALE: 1/4" = 1'-0"



2 S-401 ION EXCHANGE ANCHORAGE DETAIL
SCALE: 1/4" = 1'-0"

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MARK	DATE	DESCRIPTION	BY
A	02/15/17	ISSUED FOR 75% SUBMITTAL TO BOR	RWB

NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

CENTRAL WATER TREATMENT PLANT FOUNDATION DETAILS

Project No.:	200-01299-16015
Designed By:	SAB
Drawn By:	RWB
Checked By:	CC

S-403

TK-1A/B/C/D INFLUENT TANK	TK-2A/B/C/D INFLUENT TANK	HC-1 CYCLONE	HC-2 CYCLONE	TK-3 BACKWASH WASTE TANK	MMF-1A/B/C MULTI-MEDIA FILTER	IX-1A/B/C LEAD/LAG ION EXCHANGE	IX-2A/B/C LAG/LEAD ION EXCHANGE	TK-4A/B/C TREATED WATER TANK	TK-5 CYCLONE WASTE TANK
DESIGN CAPACITY: 20,000 GAL	DESIGN CAPACITY: 20,000 GAL	DESIGN CAPACITY: 3,450 GPM	DESIGN CAPACITY: 3,450 GPM	DESIGN CAPACITY: 17,850 GAL	DESIGN CAPACITY: 1,500 GPM	DESIGN CAPACITY: 2,300 GPM	DESIGN CAPACITY: 2,300 GPM	DESIGN CAPACITY: 20,000 GAL	DESIGN CAPACITY: 17,850 GAL

FROM SUNSIRE MOUNTAIN DEWATERING SITE

TSS AIC FI FLOW METER LC INFLUENT TANKS TK-1A/B/C/D INFLUENT PUMPS PU-1A/B/C

SUNRISE MOUNTAIN PUMP STATION

FROM HISTORIC LATERAL DEWATERING SITE

TSS AIC FI FLOW METER LC INFLUENT TANKS TK-2A/B/C/D INFLUENT PUMPS PU-2A/B/C

HISTORIC LATERAL PUMP STATION

FC FLOW METER PI TSS AI

CYCLONE HC-1 NOTE 1

CYCLONE HC-2 NOTE 1

DPC

TSS AI

FLOW METER FT DPC MULTI-MEDIA FILTERS MMF-1A/B/C

TSS AI FLOW METER FT

LEAD/LAG ION EXCHANGE IX-1A/B/C DPI

DPI LAG/LEAD ION EXCHANGE IX-2A/B/C

LC RINSE WATER TRANSFER TANK TK-6 FLOW METER FT

RINSE WATER TRANSFER PUMP PU-7A/B

FT FLOW METER

MIXER MX-2A/B/C/D LC CYCLONE WASTE TANK TK-5

FI FLOW METER CYCLONE WASTE PUMP PU-4A/B

TRUCK CONNECTION

MIXER MX-1A/B/C/D/E/F/G/H LC BACKWASH WASTE TANK TK-3A/B

VFD FT FLOW METER BACKWASH WASTE PUMP PU-3A/B/C

LC TREATED WATER TANK TK-4A/B/C

FILTER RINSE/BACKWASH PUMP PU-5A/B/C

TREATED WATER PUMP PU-6A/B/C/D

FT FLOW METER TSS AI FT FLOW METER

TREATED WATER TO LAS VEGAS WASH

NOTE:
1. CYCLONE HC-1 AND HC-2 HAVE DIFFERENT INTERNAL CONFIGURATION.

CENTRAL WATER TREATMENT PLANT

PU-1A/B/C INFLUENT PUMP	PU-2A/B/C INFLUENT PUMP	PU-4A/B CYCLONE WASTE PUMP	MX-1A/B/C/D TANK MIXER	MX-2A/B/C/D TANK MIXER	PU-3A/B/C BACKWASH WASTE PUMP	PU-5A/B/C FILTER RINSE/BACKWASH PUMP	PU-6A/B/C/D TREATED WATER PUMP	PU-7A/B RINSE WATER TRANSFER PUMP
DESIGN CAPACITY: 2,300 GPM @ 156 PSI	DESIGN CAPACITY: 2,300 GPM @ 200 PSI	DESIGN CAPACITY: 30 GPM @ 20 PSI	DESIGN CAPACITY: 4,462 GAL	DESIGN CAPACITY: 4,462 GAL	DESIGN CAPACITY: 150 GPM @ 20 PSI	DESIGN CAPACITY: 1,500 GPM @ 50 PSI	DESIGN CAPACITY: 2,300 GPM @ 10 PSI	DESIGN CAPACITY: 200 GPM @ 70 PSI

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C	02/15/17	75% SUBMITTAL TO BOR	LBW

NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

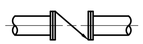
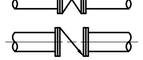
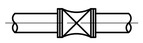
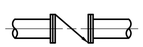
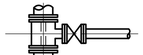
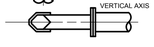
PROCESS FLOW DIAGRAM

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	J. GUO

D-101

2/15/2017 1:28:41 PM - \\TTS\71FS1.TT.LOCAL\ER\PRO ECTS\ER\012899200-01299-16015\CAD\SHEETFILES\D-101.DWG - WOLFORD, LINDY

VALVE DESIGNATIONS

SYMBOLS: PIPEWORK DRAWINGS	SYMBOLS: FLOW DIAGRAMS	MARK	TYPE
		B	BALL VALVE
		A	GATE VALVE
		BV	BUTTERFLY VALVE
		C	STANDARD CHECK VALVE
		CC	CUSHION CHECK VALVE
		DC	DOUBLE VANE CHECK VALVE
		IB	INDUSTRIAL BUTTERFLY VALVE
		PV	PLUG VALVE
SEE STRUCTURAL		PRW	PRESSURE RELIEF VALVE (WALL TYPE)
SEE STRUCTURAL		PRS	PRESSURE RELIEF VALVE (SLAB TYPE)
		RA	RESILIENT SEATED GATE VALVE
		RC	RADIAL CHECK VALVE
		RP	PINCH VALVE
		SC	SILENT CHECK VALVE
		SV	SURGE OR PRESSURE RELIEF VALVE
		TPSV	TAPPING SLEEVE AND VALVE
		TSV	TELESCOPIC VALVE

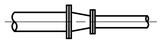
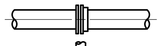
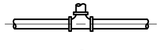
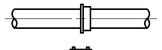
VERTICAL AXIS

OPERATORS

(SCHEMATICS ONLY)

SYMBOL	TYPE	SYMBOL	TYPE
THROTTLING SERVICE		OPEN - SHUT SERVICE	
	PNEUMATIC		PNEUMATIC
	ELECTRIC		ELECTRIC
	HYDRAULIC		HYDRAULIC

JOINT DESIGNATIONS

SYMBOL	MARK	TYPE
	F□	FLANGED □OINT
	M□	MECHANICAL □OINT
	S□	SCREWED □OINT
	PO□	PUSH ON □OINT
	BFC	BOLTED FLEXIBLE COUPLING
	GC	GROOVED COUPLING
	W□	SHOP WELDED □OINT (STEEL PIPE)
	FW□	FIELD WELDED □OINT (STEEL PIPE)
	ST□	SOCKET TYPE □OINT (FRP OR PVC PIPE)
	E□	EXPANSION □OINT
	BF	BLIND FLANGE
	AFC	ADAPTER FLANGE COUPLING

SLEEVE AND WALL PIPE DESIGNATIONS

SYMBOL

- CORED HOLE IN EXISTING WALL
- WALL SLEEVE W/WATER COLLAR (STANDARD)
- FLANGE X PLAIN END WALL PIPE
- FLANGE X PLAIN END WALL PIPE
- FLANGE X FLANGE WALL PIPE
- MECHANICAL □OINT X MECHANICAL □OINT WALL PIPE
- MECHANICAL □OINT X PLAIN END WALL PIPE
- PUSH ON BELL □OINT X PLAIN END WALL PIPE

PIPING AND EQUIPMENT SYMBOLS

- VTR — VENT TO ROOF
- PI — CHEMICAL SEAL W/PRESS GAUGE
- 0-100 PSI — RANGE
- PI — PRESSURE GAUGE
- PI — PULSATION DAMPENER W/PRESS GAUGE
- P — SUCTION ACCUMULATOR W/PRESS GAUGE
- ELBOW UP
- ELBOW DOWN
- TEE UP
- TEE DOWN
- REDUCER-CONCENTRIC
- REDUCER-ECCENTRIC
- WYE STRAINER
- UNION
- M — METER (TOTALIZING)
- PIPING (BELOW SLAB)
- F.D. — FLOOR DRAIN
- E.D. — EQUIPMENT DRAIN
- C.O. — CLEANOUT-FLOOR
- C.O. — CLEANOUT-HORIZONTAL
- D — PIPE TO DRAIN
- ELECTRIC
- BFP — BACKFLOW PREVENTER
- D
- PRV — PRESSURE RELIEF VALVE SET POINT
- XX PSI
- BPV — BACK PRESSURE VALVE SET POINT
- XX PSI
- PUMP
- GLOBE VALVE
- PET COCK
- PLUG VALVE - GAS
- PRESSURE RELIEF VALVE
- TEMPERING VALVE
- H.B. — HOSE BIBB (3/4")
- S.C. — SILL COCK (3/4")
- F.H.B. — FLUSHING HOSE BIBB (1-1/2")
- W.H. — WALL HYDRANT (1-1/2")

PROCESS FLOW ABBREVIATIONS

CA	COMPRESSED AIR
BP	BYPASS
C	COAGULANT
D	DRAIN
DCT	DECANT
EI	EQUALIZATION TANK INFLUENT
F	FILTRATE
FS	FINAL TANK SLUDGE
NAOH	SODIUM HYDROXIDE/CAUSTIC
P	PERLITE
PEW	PLANT EFFLUENT WATER
PH	pH
POLY	POLYMER
PW	POTABLE WATER
PWW	PROCESS WASTEWATER
NPW	NONPOTABLE WATER
RWW	RECYCLED WASTEWATER
SLD	SLUDGE
SN	SUPERNATANT
SPD	SUMP PUMP DISCHARGE
TDH	TOTAL DYNAMIC HEAD
THS	THICKENED SLUDGE
TS	TRANSFER SLUDGE
TUR	TURBIDIMETER
WS	WASTE SLUDGE

PLUMBING ABBREVIATIONS

D	DRAIN
HW	HOT WATER
NG	NATURAL GAS
PW	POTABLE WATER
SAN	SANITARY DRAIN
SPD	SUMP PUMP DISCHARGE
SW	SERVICE WATER
V	VENT
VTR	VENT TO ROOF

FEED AND MONITORING SYMBOLS

- DP — DIFFERENTIAL PRESSURE MEASUREMENT / SWITCH
- FS — FLOW SWITCH
- PIT — PRESSURE ELEMENT / TRANSMITTER
- TUR — TURBIDIMETER
- pH — pH ANALYZER
- FLOW METER

TETRA TECH
www.tetratech.com
1489 West Warm Springs Road, Suite 110
Henderson, NV 89014
Phone: 702.946.6700 Fax: 702.997.7140

MARK	DATE	DESCRIPTION	BY
A	11/28/16	ISSUED FOR 60% SUBMITTAL	SKU
B	02/15/17	75% SUBMITTAL TO BOR	CG

NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

PROCESS LEGEND, ABBREVIATIONS, AND GENERAL NOTES

Project No.:	200-01299-16015
Designed By:	C. FLORES
Drawn By:	S. ULREY
Checked By:	N. FOGEL

D-001

BFV-201	I-201	Raw Water	Butterfly Valve	18		N/A	Flanged	Carbon Steel		15053	
BFV-202	I-201	Raw Water	Butterfly Valve	18		N/A	Flanged	Carbon Steel		15053	
BFV-203	I-201	Raw Water	Butterfly Valve	18		N/A	Flanged	Carbon Steel		15053	
LV-2010	I-201	Raw Water	Flow control valve	18	Motor-operated		Flanged	Carbon Steel		15053	
BV-200	I-201	Raw Water	Ball Valve	18		N/A	Flanged	Carbon Steel		15053	
BFV-205	I-202	Raw Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-206	I-202	Raw Water	Butterfly Valve	8		N/A	Flanged	Carbon Steel		15053	
BFV-207	I-202	Raw Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-208	I-202	Raw Water	Butterfly Valve	8		N/A	Flanged	Carbon Steel		15053	
BFV-209	I-202	Raw Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-210	I-202	Raw Water	Butterfly Valve	8		N/A	Flanged	Carbon Steel		15053	
BFV-211	I-202	Raw Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-212	I-202	Raw Water	Butterfly Valve	8		N/A	Flanged	Carbon Steel		15053	
BFV-213	I-202	Raw Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-214	I-202	Raw Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-215	I-202	Raw Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-216	I-202	Raw Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-217	I-202	Raw Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-218	I-202	Raw Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-219	I-202	Raw Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-XXX	I-202	Raw Water	Butterfly Valve	18		N/A	Flanged	Carbon Steel		15053	
CV-201	I-202	Raw Water	Check Valve	12		N/A	Flanged	Carbon Steel		15053	
CV-202	I-202	Raw Water	Check Valve	12		N/A	Flanged	Carbon Steel		15053	
CV-203	I-202	Raw Water	Check Valve	12		N/A	Flanged	Carbon Steel		15053	
PSV-201	I-202	Raw Water	Pressure Relief Valve			N/A	Flanged	Carbon Steel		15053	
BFV-301	I-301	Raw Water	Butterfly Valve	18		N/A	Flanged	Carbon Steel		15053	
BFV-302	I-301	Raw Water	Butterfly Valve	18		N/A	Flanged	Carbon Steel		15053	
BFV-303	I-301	Raw Water	Butterfly Valve	18		N/A	Flanged	Carbon Steel		15053	
FCV-3010	I-301	Raw Water	Flow control valve	18	Motor-operated		Flanged	Carbon Steel		15053	
BV-301	I-301	Raw Water	Ball Valve	18		N/A	Flanged	Carbon Steel		15053	
BFV-305	I-302	Raw Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-306	I-302	Raw Water	Butterfly Valve	8		N/A	Flanged	Carbon Steel		15053	
BFV-307	I-302	Raw Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-308	I-302	Raw Water	Butterfly Valve	8		N/A	Flanged	Carbon Steel		15053	
BFV-309	I-302	Raw Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-310	I-302	Raw Water	Butterfly Valve	8		N/A	Flanged	Carbon Steel		15053	
BFV-311	I-302	Raw Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-312	I-302	Raw Water	Butterfly Valve	8		N/A	Flanged	Carbon Steel		15053	
BFV-313	I-302	Raw Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-314	I-302	Raw Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-315	I-302	Raw Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-316	I-302	Raw Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-317	I-302	Raw Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-318	I-302	Raw Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-319	I-302	Raw Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-XXX	I-302	Raw Water	Butterfly Valve	18		N/A	Flanged	Carbon Steel		15053	
CV-301	I-302	Raw Water	Check Valve	12		N/A	Flanged	Carbon Steel		15053	
CV-302	I-302	Raw Water	Check Valve	12		N/A	Flanged	Carbon Steel		15053	
CV-303	I-302	Raw Water	Check Valve	12		N/A	Flanged	Carbon Steel		15053	
PSV-301	I-302	Raw Water	Pressure Relief Valve			N/A	Flanged	Carbon Steel		15053	
BFV-401	I-401	Raw Water	Butterfly Valve	18		N/A	Flanged	Carbon Steel		15053	
BFV-402	I-401	Raw Water	Butterfly Valve	18		N/A	Flanged	Carbon Steel		15053	
BFV-403	I-401	Raw Water	Butterfly Valve	18		N/A	Flanged	Carbon Steel		15053	
FCV-4010	I-401	Raw Water	Flow control valve	18	Motor-operated		Flanged	Carbon Steel		15053	
BV-400	I-401	Raw Water	Ball Valve	18		N/A	Flanged	Carbon Steel		15053	
GV-501	I-501	Raw Water	Gate Valve	6		N/A	Flanged	Carbon Steel		15053	
V-502	I-501	Raw Water	Gate Valve	6	Motor-operated		Flanged	Carbon Steel		15053	
GV-503	I-501	Raw Water	Gate Valve	6		N/A	Flanged	Carbon Steel		15053	
GV-504	I-501	Raw Water	Gate Valve	8		N/A	Flanged	Carbon Steel		15053	
V-505	I-501	Raw Water	Gate Valve	8	Motor-operated		Flanged	Carbon Steel		15053	
GV-506	I-501	Raw Water	Gate Valve	8		N/A	Flanged	Carbon Steel		15053	
GV-507	I-501	Raw Water	Gate Valve	10		N/A	Flanged	Carbon Steel		15053	
V-508	I-501	Raw Water	Gate Valve	10	Motor-operated		Flanged	Carbon Steel		15053	
GV-509	I-501	Raw Water	Gate Valve	10		N/A	Flanged	Carbon Steel		15053	
GV-510	I-501	Cyclone Effluent	Gate Valve	6		N/A	Flanged	Carbon Steel		15053	
V-511	I-501	Cyclone Effluent	Gate Valve	6	Motor-operated		Flanged	Carbon Steel		15053	
GV-512	I-501	Cyclone Effluent	Gate Valve	6		N/A	Flanged	Carbon Steel		15053	
GV-513	I-501	Cyclone Effluent	Gate Valve	8		N/A	Flanged	Carbon Steel		15053	
V-514	I-501	Cyclone Effluent	Gate Valve	8	Motor-operated		Flanged	Carbon Steel		15053	
GV-515	I-501	Cyclone Effluent	Gate Valve	8		N/A	Flanged	Carbon Steel		15053	
GV-516	I-501	Cyclone Effluent	Gate Valve	10		N/A	Flanged	Carbon Steel		15053	
V-517	I-501	Cyclone Effluent	Gate Valve	10	Motor-operated		Flanged	Carbon Steel		15053	
GV-518	I-501	Cyclone Effluent	Gate Valve	10		N/A	Flanged	Carbon Steel		15053	
KGV-501	I-501	Cyclone Waste	Knife Gate Valve	3		N/A	Flanged	Carbon Steel		15053	
PSV-501	I-501	Cyclone Effluent	Pressure Relief Valve			N/A	Flanged	Carbon Steel		15053	Set Point: 200 psi
BFV-501	I-501	Cyclone Effluent	Butterfly Valve	18		N/A	Flanged	Carbon Steel		15053	
BFV-502	I-501	Cyclone Effluent	Butterfly Valve	18		N/A	Flanged	Carbon Steel		15053	
GV-519 - 520 Not Used											
GV-521	I-502	Raw Water	Gate Valve	6		N/A	Flanged	Carbon Steel		15053	
V-522	I-502	Raw Water	Gate Valve	6	Motor-operated		Flanged	Carbon Steel		15053	
GV-523	I-502	Raw Water	Gate Valve	6		N/A	Flanged	Carbon Steel		15053	
GV-524	I-502	Raw Water	Gate Valve	8		N/A	Flanged	Carbon Steel		15053	
V-525	I-502	Raw Water	Gate Valve	8	Motor-operated		Flanged	Carbon Steel		15053	
GV-526	I-502	Raw Water	Gate Valve	8		N/A	Flanged	Carbon Steel		15053	
GV-527	I-502	Raw Water	Gate Valve	10		N/A	Flanged	Carbon Steel		15053	
V-528	I-502	Raw Water	Gate Valve	10	Motor-operated		Flanged	Carbon Steel		15053	
GV-529	I-502	Raw Water	Gate Valve	10		N/A	Flanged	Carbon Steel		15053	
GV-530	I-502	Cyclone Effluent	Gate Valve	6		N/A	Flanged	Carbon Steel		15053	
V-531	I-502	Cyclone Effluent	Gate Valve	6	Motor-operated		Flanged	Carbon Steel		15053	
GV-532	I-502	Cyclone Effluent	Gate Valve	6		N/A	Flanged	Carbon Steel		15053	
GV-533	I-502	Cyclone Effluent	Gate Valve	8		N/A	Flanged	Carbon Steel		15053	
V-534	I-502	Cyclone Effluent	Gate Valve	8	Motor-operated		Flanged	Carbon Steel		15053	
GV-535	I-502	Cyclone Effluent	Gate Valve	8		N/A	Flanged	Carbon Steel		15053	
GV-536	I-502	Cyclone Effluent	Gate Valve	10		N/A	Flanged	Carbon Steel		15053	
V-537	I-502	Cyclone Effluent	Gate Valve	10	Motor-operated		Flanged	Carbon Steel		15053	
GV-538	I-502	Cyclone Effluent	Gate Valve	10		N/A	Flanged	Carbon Steel		15053	
KGV-502 - 520 Not Used											
KGV-521	I-502	Cyclone Waste	Knife Gate Valve	3		N/A	Flanged	Carbon Steel		15053	
PSV-502 - 520 Not Used											
PSV-521	I-502	Cyclone Effluent	Pressure Relief Valve			N/A	Flanged	Carbon Steel		15053	Set Point: 200 psi
BFV-601	I-601	Cyclone Effluent	Butterfly Valve	20	Motor-operated		Flanged	Carbon Steel		15053	
BFV-602	I-601	Filter Effluent	Butterfly Valve	10	Motor-operated		Flanged	Carbon Steel		15053	
BFV-603	I-601	Rinse Inlet	Butterfly Valve	8	Motor-operated		Flanged	Carbon Steel		15053	
BFV-604	I-601	Rinse Discharge	Butterfly Valve	10	Motor-operated		Flanged	Carbon Steel		15053	
BFV-605	I-601	Backwash Inlet	Butterfly Valve	16	Motor-operated		Flanged	Carbon Steel		15053	
BFV-606	I-601	Backwash Waste	Butterfly Valve	16	Motor-operated		Flanged	Carbon Steel		15053	
BFV-607	I-601	Air Scour Valve	Butterfly Valve	6	Motor-operated		Flanged	Carbon Steel		15053	
BFV-608	I-601	Air Scour Drain Valve	Butterfly Valve	8	Motor-operated		Flanged	Carbon Steel		15053	
BFV-609 - 610 Not Used											
BFV-611	I-601	Cyclone Effluent	Butterfly Valve	20	Motor-operated		Flanged	Carbon Steel		15053	
BFV-612	I-601	Filter Effluent	Butterfly Valve	10	Motor-operated		Flanged	Carbon Steel		15053	
BFV-613	I-601	Rinse Inlet	Butterfly Valve	8	Motor-operated		Flanged	Carbon Steel		15053	
BFV-614	I-601	Rinse Discharge	Butterfly Valve	10	Motor-operated		Flanged	Carbon Steel		15053	
BFV-615	I-601	Backwash Inlet	Butterfly Valve	16	Motor-operated		Flanged	Carbon Steel		15053	
BFV-616	I-601	Backwash Waste	Butterfly Valve	16	Motor-operated		Flanged	Carbon Steel		15053	
BFV-617	I-601	Air Scour Valve	Butterfly Valve	6	Motor-operated		Flanged	Carbon Steel		15053	
BFV-618	I-601	Air Scour Drain Valve	Butterfly Valve	8	Motor-operated		Flanged	Carbon Steel		15053	
BFV-XXX	I-601	Backwash Inlet	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BV-601	I-601	Cyclone Effluent	Ball Valve	20		N/A	Flanged	Carbon Steel		15053	
BV-602	I-601	Cyclone Effluent	Ball Valve	20		N/A	Flanged	Carbon Steel		15053	
BV-603	I-601	Cyclone Effluent	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
BV-604	I-601	Cyclone Effluent	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
BV-605	I-601	Filter Effluent	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
BV-606	I-601	Filter Effluent	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
BV-607	I-601	Cyclone Effluent	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
BV-608	I-601	Cyclone Effluent	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
BV-609	I-601	Filter Effluent	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
BV-610	I-601	Filter Effluent	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
GV-XXX	I-601	Sample port	Globe Valve	3		N/A	Flanged	Carbon Steel		15053	
GV-XXX	I-601	Sample port	Globe Valve	3		N/A	Flanged	Carbon Steel		15053	
PSV-601	I-601	Filtered Water	Pressure Relief Valve			N/A	Flanged	Carbon Steel		15053	Set Point: 100 psi
PSV-602	I-601	Filtered Water	Pressure Relief Valve			N/A	Flanged	Carbon Steel		15053	Set Point: 100 psi
PRV-601	I-601	Cyclone Effluent	Pressure Reducing Valve	20		N/A	Flanged	Carbon Steel		15053	
FCV-6010	I-601	Cyclone Effluent	Flow control valve	12		N/A	Flanged	Carbon Steel		15053	
BFV 619-620 NOT USED											
BFV-621	I-602	Cyclone Effluent	Butterfly Valve	20	Motor-operated		Flanged	Carbon Steel		15053	
BFV-622	I-602	Filter Effluent	Butterfly Valve	10	Motor-operated		Flanged	Carbon Steel		15053	
BFV-623	I-602	Rinse Inlet	Butterfly Valve	8	Motor-operated		Flanged	Carbon Steel		15053	
BFV-624	I-602	Rinse Discharge	Butterfly Valve	10	Motor-operated		Flanged	Carbon Steel		15053	
BFV-625	I-602	Backwash Inlet	Butterfly Valve	16	Motor-operated		Flanged	Carbon Steel		15053	
BFV-626	I-602	Backwash Waste	Butterfly Valve	16	Motor-operated		Flanged	Carbon Steel		15053	
BFV-627	I-602	Air Scour Valve	Butterfly Valve	6	Motor-operated		Flanged	Carbon Steel		15053	
BFV-628	I-602	Air Scour Drain Valve	Butterfly Valve	8	Motor-operated		Flanged	Carbon Steel		15053	
BFV-629 - BFV-630 Not Used											
BFV-631	I-602	Cyclone Effluent	Butterfly Valve	20	Motor-operated		Flanged	Carbon Steel		15053	
BFV-632	I-602	Filter Effluent	Butterfly Valve	10	Motor-operated		Flanged	Carbon Steel		15053	
BFV-633	I-602	Rinse Inlet	Butterfly Valve	8	Motor-operated		Flanged	Carbon Steel		15053	
BFV-634	I-602	Rinse Discharge	Butterfly Valve	10	Motor-operated		Flanged	Carbon Steel		15053	
BFV-635	I-602	Backwash Inlet	Butterfly Valve	16	Motor-operated		Flanged	Carbon Steel		15053	
BFV-636	I-602	Backwash Waste	Butterfly Valve	16	Motor-operated		Flanged	Carbon Steel		15053	
BFV-637	I-602	Air Scour Valve	Butterfly Valve	6	Motor-operated		Flanged	Carbon Steel		15053	
BFV-638	I-602	Air Scour Drain Valve	Butterfly Valve	8	Motor-operated		Flanged	Carbon Steel		15053	
BFV-XXX	I-602	Backwash Inlet	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BV-611 - BV 623 Not Used											
BV-624	I-602	Cyclone Effluent	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
BV-625	I-602	Filter Effluent	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
BV-626	I-602	Filter Effluent	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
BV-627	I-602	Cyclone Effluent	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
BV-628	I-602	Cyclone Effluent	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
BV-629	I-602	Filter Effluent	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
BV-630	I-602	Filter Effluent	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
GV-XXX	I-602	Sample port	Globe Valve	3		N/A	Flanged	Carbon Steel		15053	
GV-XXX	I-602	Sample port	Globe Valve	3		N/A	Flanged	Carbon Steel		15053	
PSV-621	I-602	Filtered Water	Pressure Relief Valve			N/A	Flanged	Carbon Steel		15053	Set Point: 100 psi
PSV-622	I-602	Filtered Water	Pressure Relief Valve			N/A	Flanged	Carbon Steel		15053	Set Point: 100 psi
FCV-6020	I-602	Cyclone Effluent	Flow control valve	12		N/A	Flanged	Carbon Steel		15053	
BFV 639-640 NOT USED											
BFV-641	I-603	Cyclone Effluent	Butterfly Valve	20	Motor-operated		Flanged	Carbon Steel		15053	
BFV-642	I-603	Filter Effluent	Butterfly Valve	10	Motor-operated		Flanged	Carbon Steel		15053	
BFV-643	I-603	Rinse Inlet	Butterfly Valve	8	Motor-operated		Flanged	Carbon Steel		15053	
BFV-644	I-603	Rinse Discharge	Butterfly Valve	10	Motor-operated		Flanged	Carbon Steel		15053	
BFV-645	I-603	Backwash Inlet	Butterfly Valve	16	Motor-operated		Flanged	Carbon Steel		15053	
BFV-646	I-603	Backwash Waste	Butterfly Valve	16	Motor-operated		Flanged	Carbon Steel		15053	
BFV-647	I-603	Air Scour Valve	Butterfly Valve	6	Motor-operated		Flanged	Carbon Steel		15053	
BFV-648	I-603	Air Scour Drain Valve	Butterfly Valve	8	Motor-operated		Flanged	Carbon Steel		15053	
BFV-649 - BFV-650 Not Used											
BFV-651	I-603	Cyclone Effluent	Butterfly Valve	20	Motor-operated		Flanged	Carbon Steel		15053	
BFV-652	I-603	Filter Effluent	Butterfly Valve	10	Motor-operated		Flanged	Carbon Steel		15053	
BFV-653	I-603	Rinse Inlet	Butterfly Valve	8	Motor-operated		Flanged	Carbon Steel		15053	
BFV-654	I-603	Rinse Discharge	Butterfly Valve	10	Motor-operated		Flanged	Carbon Steel		15053	
BFV-655	I-603	Backwash Inlet	Butterfly Valve	16	Motor-operated		Flanged	Carbon Steel		15053	
BFV-656	I-603	Backwash Waste	Butterfly Valve	16	Motor-operated		Flanged	Carbon Steel		15053	
BFV-657	I-603	Air Scour Valve	Butterfly Valve	6	Motor-operated		Flanged	Carbon Steel		15053	
BFV-658	I-603	Air Scour Drain Valve	Butterfly Valve	8	Motor-operated		Flanged	Carbon Steel		15053	
BFV-XXX	I-603	Backwash Inlet	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BV-631 - BV 643 Not Used											
BV-644	I-603	Cyclone Effluent	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
BV-645	I-603	Filter Effluent	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
BV-646	I-603	Filter Effluent	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
BV-647	I-603	Cyclone Effluent	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
BV-648	I-603	Cyclone Effluent	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
BV-649	I-603	Filter Effluent	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
BV-650	I-603	Filter Effluent	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
GV-XXX	I-603	Sample port	Globe Valve	3		N/A	Flanged	Carbon Steel		15053	
GV-XXX	I-603	Sample port	Globe Valve	3		N/A	Flanged	Carbon Steel		15053	
PSV-641	I-603	Filtered Water	Pressure Relief Valve			N/A	Flanged	Carbon Steel		15053	Set Point: 100 psi
PSV-642	I-603	Filtered Water	Pressure Relief Valve			N/A	Flanged	Carbon Steel		15053	Set Point: 100 psi
FCV-6030	I-603	Cyclone Effluent	Flow control valve	12		N/A	Flanged	Carbon Steel		15053	
CV-701	I-701	Filtered Water	Check Valve	12		N/A	Flanged	Carbon Steel		15053	
FCV-7010	I-701	Filtered Water	Flow Control Valve	12	Motor-operated		Flanged	Carbon Steel		15053	
BFV-701	I-701	Filtered Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-702	I-701	Filtered Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-703	I-701	Filtered Water	Butterfly Valve	4		N/A	Flanged	Carbon Steel		15053	
BFV-704	I-701	Treated Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-705	I-701	Filtered Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-706	I-701	Filtered Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-707	I-701	Filtered Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-708	I-701	Treated Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-709	I-701	Filtered Water	Butterfly Valve			N/A	Flanged	Carbon Steel		15053	
BFV-828	I-701	Backwash water	Butterfly Valve	4		N/A	Flanged	Carbon Steel		15053	
BV-701	NOT USED										
BV-702	I-701	Filtered Water	Ball Valve			N/A	Flanged	Carbon Steel		15053	
BV-703	I-701	Media Fill	Ball Valve	4		N/A	Flanged	Carbon Steel		15053	
BV-704	I-701	Media Discharge	Ball Valve	4		N/A	Flanged	Carbon Steel		15053	
BV-705	I-701	Filtered Water	Ball Valve			N/A	Flanged	Carbon Steel		15053	
BV-706	I-701	Filtered Water	Ball Valve			N/A	Flanged	Carbon Steel		15053	
BV-707	NOT USED										
BV-708	I-701	Filtered Water	Ball Valve			N/A	Flanged	Carbon Steel		15053	
BV-709	I-701	Media Fill	Ball Valve	4		N/A	Flanged	Carbon Steel		15053	
BV-710	I-701	Media Discharge	Ball Valve	4		N/A	Flanged	Carbon Steel		15053	
BV-711	I-701	Filtered Water	Ball Valve			N/A	Flanged	Carbon Steel		15053	
BV-712	I-701	Filtered Water	Ball Valve			N/A	Flanged	Carbon Steel		15053	
CV-721	I-702	Filtered Water	Check Valve	12		N/A	Flanged	Carbon Steel		15053	
FCV-7020	I-702	Filtered Water	Flow Control Valve	12	Motor-operated		Flanged	Carbon Steel		15053	
BFV-721	I-702	Filtered Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-722	I-702	Filtered Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-723	I-702	Filtered Water	Butterfly Valve	4		N/A	Flanged	Carbon Steel		15053	
BFV-724	I-702	Treated Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-725	I-702	Filtered Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	

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A	11/28/16	ISSUED FOR 60% SUBMITTAL	HCR
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NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

PROCESS VALVE SCHEDULE

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	J. GUO

D-102

BFV-726	I-702	Filtered Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-727	I-702	Filtered Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-728	I-702	Treated Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-729	I-702	Filtered Water	Butterfly Valve			N/A	Flanged	Carbon Steel		15053	
BV-721						NOT USED					
BV-722	I-702	Filtered Water	Ball Valve			N/A	Flanged	Carbon Steel		15053	
BV-723	I-702	Media Fill	Ball Valve	4		N/A	Flanged	Carbon Steel		15053	
BV-724	I-702	Media Discharge	Ball Valve	4		N/A	Flanged	Carbon Steel		15053	
BV-725	I-702	Filtered Water	Ball Valve			N/A	Flanged	Carbon Steel		15053	
BV-726	I-702	Filtered Water	Ball Valve			N/A	Flanged	Carbon Steel		15053	
BV-727						NOT USED					
BV-728	I-702	Filtered Water	Ball Valve			N/A	Flanged	Carbon Steel		15053	
BV-729	I-702	Media Fill	Ball Valve	4		N/A	Flanged	Carbon Steel		15053	
BV-730	I-702	Media Discharge	Ball Valve	4		N/A	Flanged	Carbon Steel		15053	
BV-731	I-702	Filtered Water	Ball Valve			N/A	Flanged	Carbon Steel		15053	
BV-732	I-702	Filtered Water	Ball Valve			N/A	Flanged	Carbon Steel		15053	
Cv-741	I-703	Filtered Water	Check Valve	12		N/A	Flanged	Carbon Steel		15053	
FCV-7040	I-703	Filtered Water	Flow Control Valve	12	Motor-operated		Flanged	Carbon Steel		15053	
BFV-741	I-703	Filtered Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-742	I-703	Filtered Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-743	I-703	Filtered Water	Butterfly Valve	4		N/A	Flanged	Carbon Steel		15053	
BFV-744	I-703	Treated Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-745	I-703	Filtered Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-746	I-703	Filtered Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-747	I-703	Filtered Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-748	I-703	Treated Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-749	I-703	Filtered Water	Butterfly Valve			N/A	Flanged	Carbon Steel		15053	
BFV-V49	I-703	Rinse water	Butterfly Valve	4		N/A	Flanged	Carbon Steel		15053	
BV-791						NOT USED					
BV-742	I-703	Filtered Water	Ball Valve			N/A	Flanged	Carbon Steel		15053	
BV-793	I-703	Media Fill	Ball Valve	4		N/A	Flanged	Carbon Steel		15053	
BV-794	I-703	Media Discharge	Ball Valve	4		N/A	Flanged	Carbon Steel		15053	
BV-795	I-703	Filtered Water	Ball Valve			N/A	Flanged	Carbon Steel		15053	
BV-746	I-703	Filtered Water	Ball Valve			N/A	Flanged	Carbon Steel		15053	
BV-747						NOT USED					
BV-748	I-703	Filtered Water	Ball Valve			N/A	Flanged	Carbon Steel		15053	
BV-780	I-703	Media Fill	Ball Valve	4		N/A	Flanged	Carbon Steel		15053	
BV-750	I-703	Media Discharge	Ball Valve	4		N/A	Flanged	Carbon Steel		15053	
BV-751	I-703	Filtered Water	Ball Valve			N/A	Flanged	Carbon Steel		15053	
BV-752	I-703	Filtered Water	Ball Valve			N/A	Flanged	Carbon Steel		15053	
BFV-801	I-801	Treated Water	Butterfly Valve	24		N/A	Flanged	Carbon Steel		15053	
BFV-801	I-801	Treated Water	Butterfly Valve	24		N/A	Flanged	Carbon Steel		15053	
BFV-802	I-801	Filtered Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-803	I-801	Filtered Water	Butterfly Valve	8		N/A	Flanged	Carbon Steel		15053	
BFV-804	I-801	Treated Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-805	I-801	Treated Water	Butterfly Valve	8		N/A	Flanged	Carbon Steel		15053	
BFV-806	I-801	Treated Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-807	I-801	Treated Water	Butterfly Valve	8		N/A	Flanged	Carbon Steel		15053	
BFV-808	I-801	Treated Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-809	I-801	Treated Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-810	I-801	Treated Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-811	I-801	Treated Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-812	I-801	Treated Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-813	I-801	Treated Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-814	I-801	Treated Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-815	I-801	Treated Water	Butterfly Valve	8		N/A	Flanged	Carbon Steel		15053	
BFV-816	I-801	Treated Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-817	I-801	Treated Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-X08	I-801	Treated Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-X09	I-801	Treated Water	Butterfly Valve	8		N/A	Flanged	Carbon Steel		15053	
CV-801	I-801	Treated Water	Check Valve	24		N/A	Flanged	Carbon Steel		15053	
CV-802	I-801	Treated Water	Check Valve	12		N/A	Flanged	Carbon Steel		15053	
CV-803	I-801	Treated Water	Check Valve	12		N/A	Flanged	Carbon Steel		15053	
CV-804	I-801	Treated Water	Check Valve	12		N/A	Flanged	Carbon Steel		15053	
CV-805	I-801	Treated Water	Check Valve	12		N/A	Flanged	Carbon Steel		15053	
BV-801	I-801	Treated Water	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
KDV-801	I-802	Cyclone Underflow	Knife Gate Valve	2		N/A	Flanged	Carbon Steel		15053	
KDV-802	I-802	Cyclone Underflow	Knife Gate Valve	2		N/A	Flanged	Carbon Steel		15053	
KDV-803	I-802	Cyclone Underflow	Knife Gate Valve	2		N/A	Flanged	Carbon Steel		15053	
KDV-804	I-802	Cyclone Underflow	Knife Gate Valve	0.5		N/A	Flanged	Carbon Steel		15053	
KDV-805	I-802	Cyclone Underflow	Knife Gate Valve	3		N/A	Flanged	Carbon Steel		15053	
KDV-806	I-802	Cyclone Underflow	Knife Gate Valve	3		N/A	Flanged	Carbon Steel		15053	
KDV-807	I-802	Cyclone Underflow	Knife Gate Valve	3		N/A	Flanged	Carbon Steel		15053	
BFV-800	I-803	Backwash waste	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
PV-804	I-803	Backwash waste	Plug Valve	4		N/A	Flanged	Carbon Steel		15053	
PV-813	I-803	Backwash waste	Plug Valve	4		N/A	Flanged	Carbon Steel		15053	
PV-850	I-803	Backwash waste	Plug Valve	4		N/A	Flanged	Carbon Steel		15053	
PV-817	I-803	Backwash waste	Plug Valve	0.5		N/A	Flanged	Carbon Steel		15053	
KDV-817	I-804	Cyclone Waste	Knife Gate Valve	3		N/A	Flanged	Carbon Steel		15053	
KDV-818	I-804	Cyclone Waste	Knife Gate Valve	3		N/A	Flanged	Carbon Steel		15053	
KDV-819	I-804	Cyclone Waste	Knife Gate Valve	3		N/A	Flanged	Carbon Steel		15053	
KDV-820	I-804	Cyclone Waste	Knife Gate Valve	3		N/A	Flanged	Carbon Steel		15053	
KDV-821	I-804	Cyclone Waste	Knife Gate Valve	3		N/A	Flanged	Carbon Steel		15053	
KDV-831	I-804	Cyclone Waste	Knife Gate Valve	0.5		N/A	Flanged	Carbon Steel		15053	
KDV-832	I-804	Cyclone Waste	Knife Gate Valve	3		N/A	Flanged	Carbon Steel		15053	
KDV-833	I-804	Cyclone Waste	Knife Gate Valve	0.5		N/A	Flanged	Carbon Steel		15053	
KDV-834	I-804	Cyclone Waste	Knife Gate Valve	3		N/A	Flanged	Carbon Steel		15053	
KDV-835	I-804	Cyclone Waste	Knife Gate Valve	3		N/A	Flanged	Carbon Steel		15053	
KDV-836	I-804	Cyclone Waste	Knife Gate Valve	0.5		N/A	Flanged	Carbon Steel		15053	
KDV-837	I-804	Cyclone Waste	Knife Gate Valve	3		N/A	Flanged	Carbon Steel		15053	
KDV-838	I-804	Cyclone Waste	Knife Gate Valve	0.5		N/A	Flanged	Carbon Steel		15053	
KDV-839	I-804	Cyclone Waste	Knife Gate Valve	0.5		N/A	Flanged	Carbon Steel		15053	
CV-806	I-804	Backwash waste	Check Valve	4		N/A	Flanged	Carbon Steel		15053	
CV-807	I-804	Cyclone Waste	Check Valve	3		N/A	Flanged	Carbon Steel		15053	
CV-808	I-804	Cyclone Waste	Check Valve	3		N/A	Flanged	Carbon Steel		15053	
CV-809	I-804	Backwash waste	Check Valve	6		N/A	Flanged	Carbon Steel		15053	
CV-810	I-804	Backwash waste	Check Valve	6		N/A	Flanged	Carbon Steel		15053	
CV-811	I-804	Backwash waste	Check Valve	6		N/A	Flanged	Carbon Steel		15053	
PV-800	I-804	Backwash waste	Plug Valve	6		N/A	Flanged	Carbon Steel		15053	
PV-801	I-804	Backwash waste	Plug Valve	6		N/A	Flanged	Carbon Steel		15053	
PV-802	I-804	Backwash waste	Plug Valve	6		N/A	Flanged	Carbon Steel		15053	
PV-803	I-804	Backwash waste	Plug Valve	6		N/A	Flanged	Carbon Steel		15053	
PV-809	I-804	Backwash waste	Plug Valve	6		N/A	Flanged	Carbon Steel		15053	
PV-810	I-804	Backwash waste	Plug Valve	6		N/A	Flanged	Carbon Steel		15053	
PV-811	I-804	Backwash waste	Plug Valve	6		N/A	Flanged	Carbon Steel		15053	
PV-812	I-804	Backwash waste	Plug Valve	6		N/A	Flanged	Carbon Steel		15053	
PV-813	I-804	Backwash waste	Plug Valve	6		N/A	Flanged	Carbon Steel		15053	
PV-814	I-804	Backwash waste	Plug Valve	6		N/A	Flanged	Carbon Steel		15053	
PV-815	I-804	Cyclone Waste	Plug Valve	0.5		N/A	Flanged	Carbon Steel		15053	
PV-832	I-804	Cyclone Waste	Plug Valve	0.5		N/A	Flanged	Carbon Steel		15053	
PV-833	I-804	Backwash waste	Plug Valve	0.5		N/A	Flanged	Carbon Steel		15053	
PV-834	I-804	Backwash waste	Plug Valve	0.5		N/A	Flanged	Carbon Steel		15053	
PV-835	I-804	Backwash waste	Plug Valve	0.5		N/A	Flanged	Carbon Steel		15053	
PV-836	I-804	Backwash waste	Plug Valve	0.5		N/A	Flanged	Carbon Steel		15053	
PV-837	I-804	Backwash waste	Plug Valve	0.5		N/A	Flanged	Carbon Steel		15053	

PV-838	I-804	Backwash waste	Plug Valve	0.5		N/A	Flanged	Carbon Steel		15053	
PV-835	I-804	Backwash waste	Plug Valve	0.5		N/A	Flanged	Carbon Steel		15053	
PV-840	I-804	Backwash waste	Plug Valve	0.5		N/A	Flanged	Carbon Steel		15053	
PSV-801	I-804	Cyclone Waste	Pressure Relief Valve			N/A	Flanged	Carbon Steel		15053	
PSV-802	I-804	Cyclone Waste	Pressure Relief Valve			N/A	Flanged	Carbon Steel		15053	
BFV-821	I-805	Treated Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-822	I-805	Backwash water	Butterfly Valve	10		N/A	Flanged	Carbon Steel		15053	
BFV-823	I-805	Treated Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-824	I-805	Backwash water	Butterfly Valve	10		N/A	Flanged	Carbon Steel		15053	
BFV-825	I-805	Backwash water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-826	I-805	Backwash water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-827	I-805	Backwash water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-828						NOT USED					
BFV-829	I-805	Treated Water	Butterfly Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-830	I-805	Backwash water	Butterfly Valve	10		N/A	Flanged	Carbon Steel		15053	
CV-821	I-805	Backwash water	Check Valve	10		N/A	Flanged	Carbon Steel		15053	
CV-822	I-805	Backwash water	Check Valve	10		N/A	Flanged	Carbon Steel		15053	
CV-823	I-805	Backwash water	Check Valve	10		N/A	Flanged	Carbon Steel		15053	
BV-820	I-805	Backwash water	Ball Valve	12		N/A	Flanged	Carbon Steel		15053	
BFV-831	I-806	Rinsed Water	Butterfly Valve	6		N/A	Flanged	Carbon Steel		15053	
BFV-832	I-806	Rinsed Water	Butterfly Valve	6		N/A	Flanged	Carbon Steel		15053	
BFV-833	I-806	Rinsed Water	Butterfly Valve	6		N/A	Flanged	Carbon Steel		15053	
BFV-834	I-806	Rinsed Water	Butterfly Valve	6		N/A	Flanged	Carbon Steel		15053	
BFV-835	I-806	Rinsed Water	Butterfly Valve	6		N/A	Flanged	Carbon Steel		15053	
BFV-836	I-806	Rinsed Water	Butterfly Valve	6		N/A	Flanged	Carbon Steel		15053	
BFV-837	I-806	Rinsed Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-838	I-806	Rinsed Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-839	I-806	Rinsed Water	Butterfly Valve	16		N/A	Flanged	Carbon Steel		15053	
BFV-840	I-806	Rinsed Water	Butterfly Valve	6		N/A	Flanged	Carbon Steel		15053	
BV-831	I-806	Treated Water	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
BV-832	I-806	Treated Water	Ball Valve	0.5		N/A	Flanged	Carbon Steel		15053	
CV-831	I-806	Rinsed Water	Check Valve	6		N/A	Flanged	Carbon Steel		15053	
CV-832	I-806	Rinsed Water	Check Valve	6		N/A	Flanged	Carbon Steel		15053	

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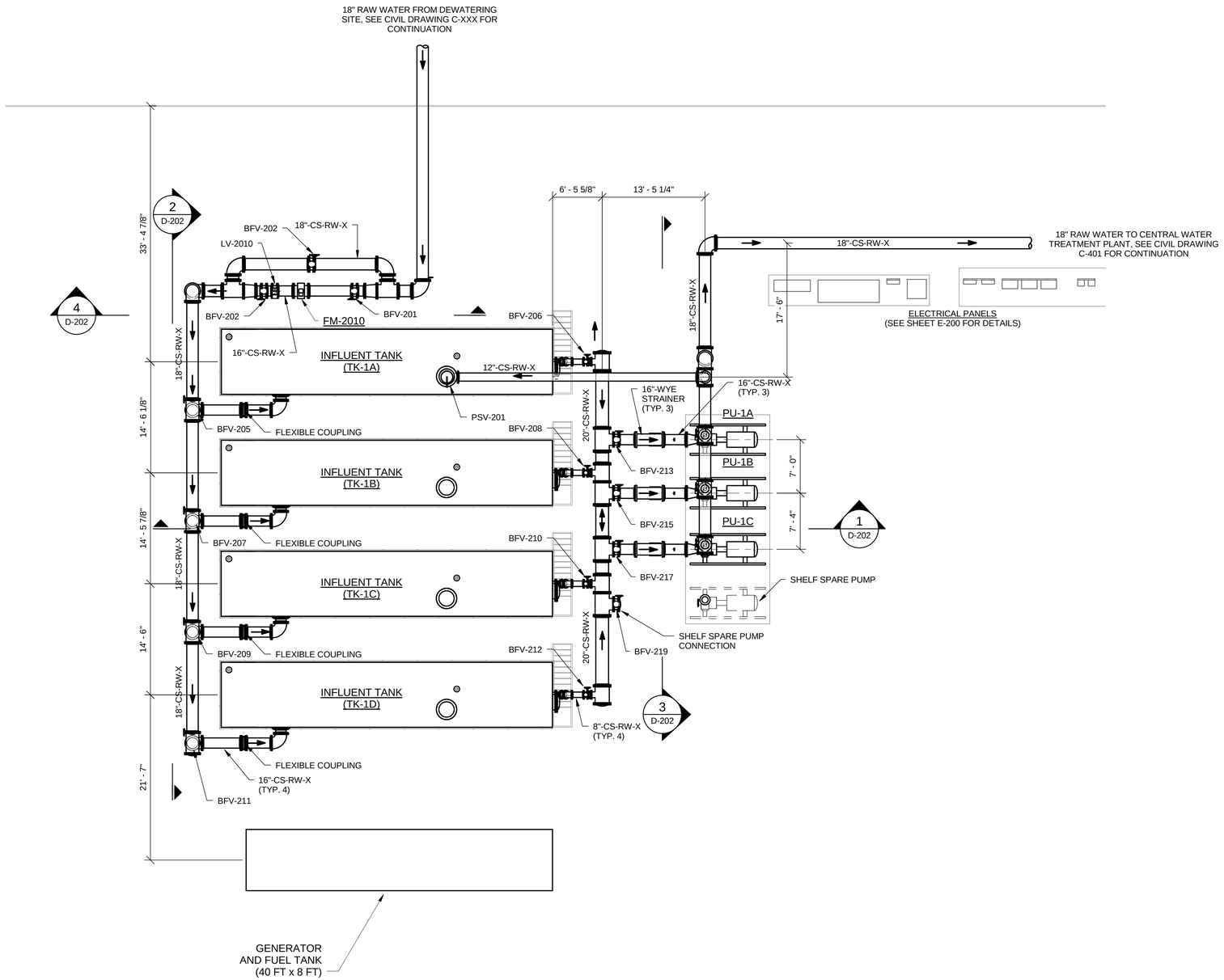
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

PROCESS VALVE SCHEDULE

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	J. GUO

D-103



1 D-201 SUNRISE MOUNTAIN PUMP STATION PIPING LAYOUT

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

N

0 4' 8' 16'

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

TETRA TECH
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1489 West Warm Springs Road. Suite 110
Henderson, NV 89014
Tel:702.946.6700 Fax: 702.997.7140

MARK	DATE	DESCRIPTION	BY
A	11/28/16	ISSUED FOR 60% SUBMITTAL	SKU
B	02/15/17	75% SUBMITTAL TO BOR	LBW

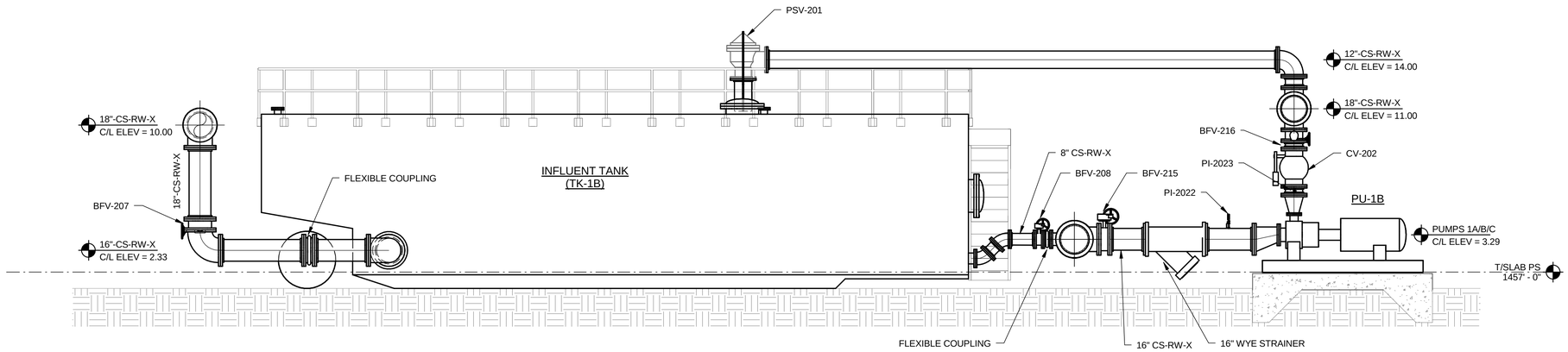
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

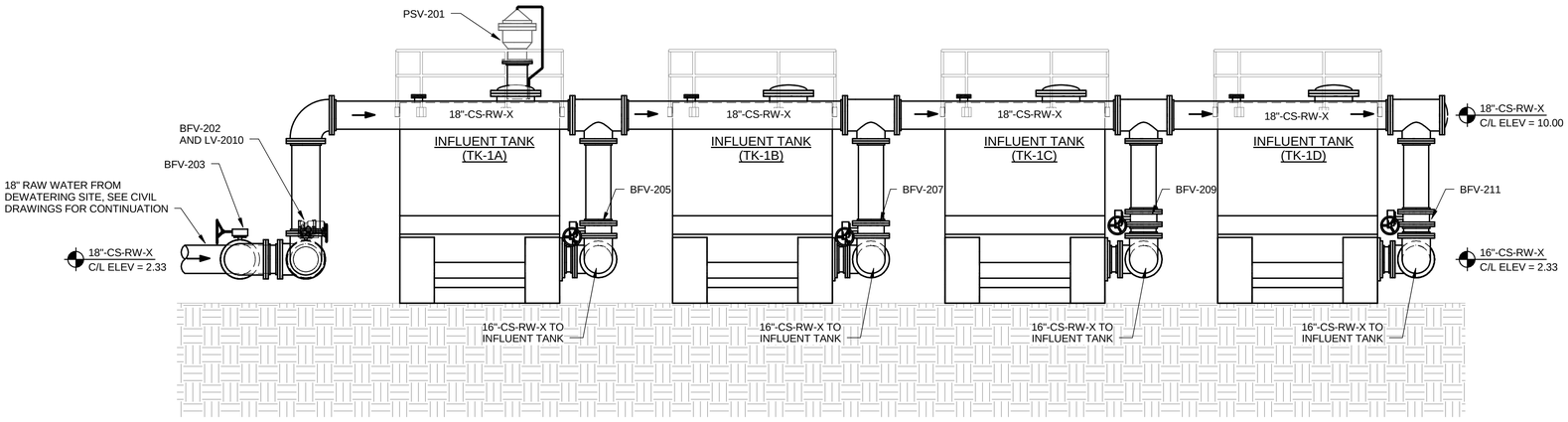
SUNRISE MOUNTAIN PUMP STATION EQUIPMENT & PIPING PLAN

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

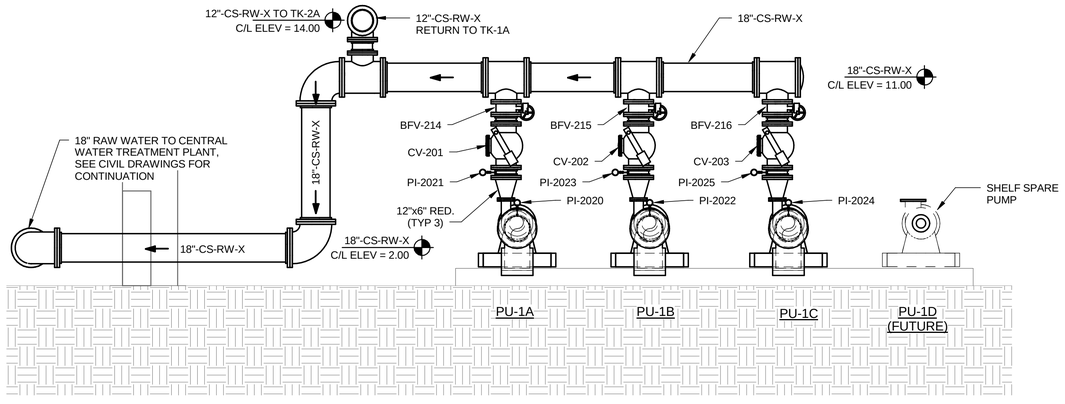
D-201



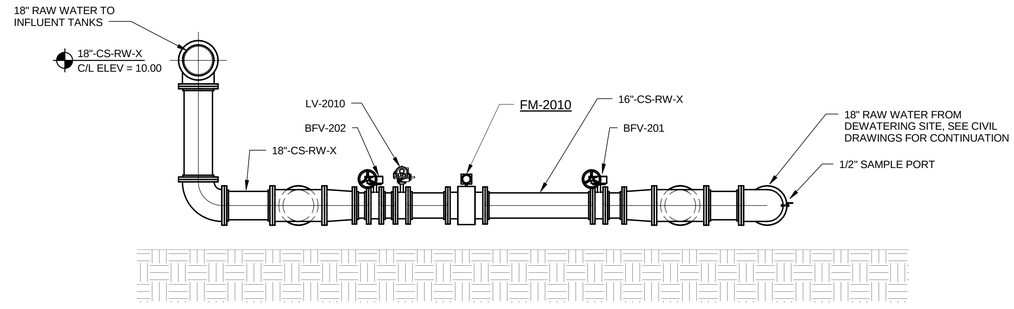
1 Section
D-202 SCALE: 1/4" = 1'-0"



2 SECTION
D-202 SCALE: 1/4" = 1'-0"



3 SECTION
D-202 SCALE: 1/4" = 1'-0"



4 Section
D-202 SCALE: 1/4" = 1'-0"

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

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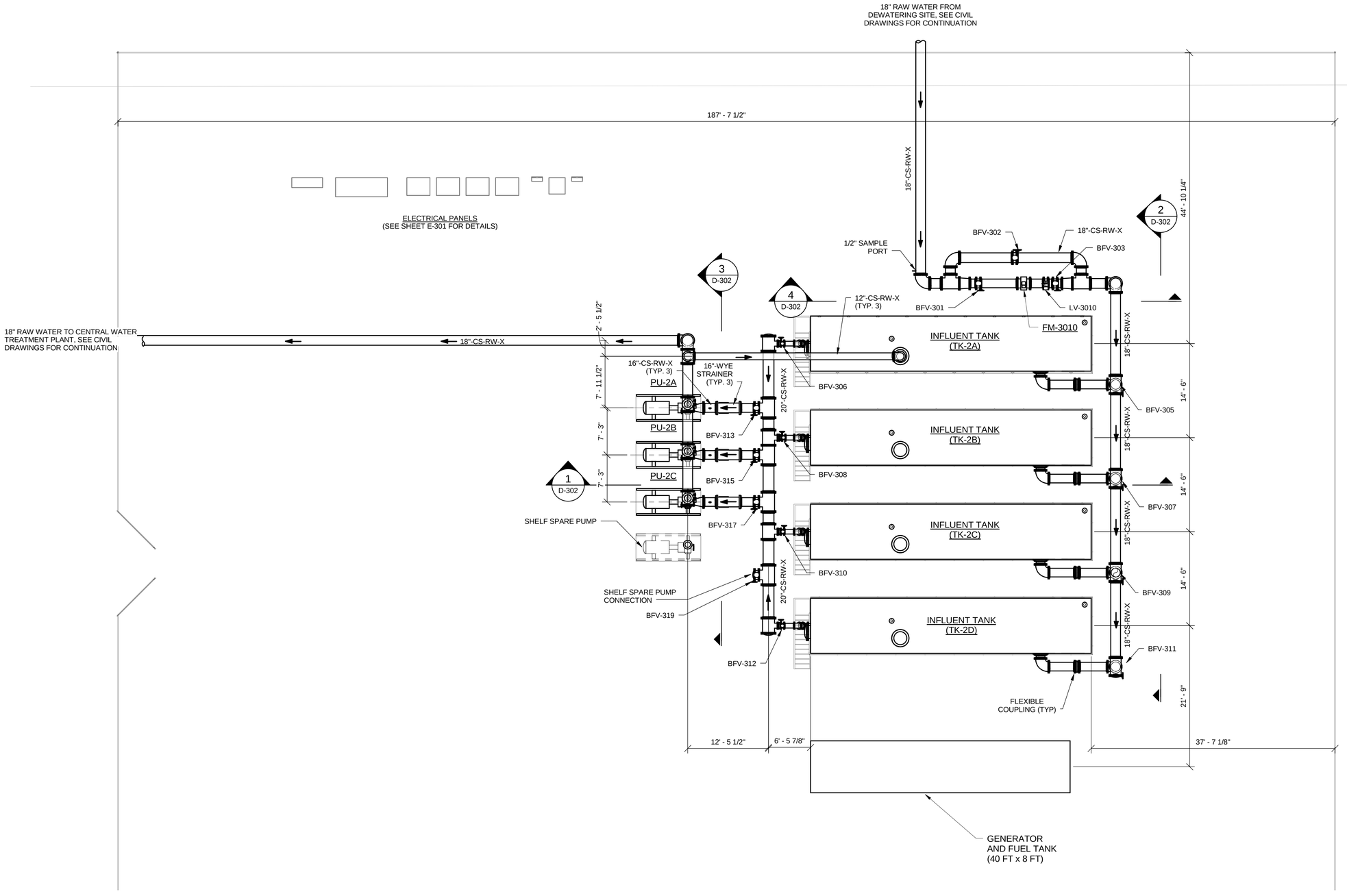
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

SUNRISE MOUNTAIN PUMP STATION EQUIPMENT & PIPING SECTIONS

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

D-202



1 D-301 HISTORIC LATERAL PUMP STATION PIPING LAYOUT
SCALE: 1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

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HENDERSON, NEVADA

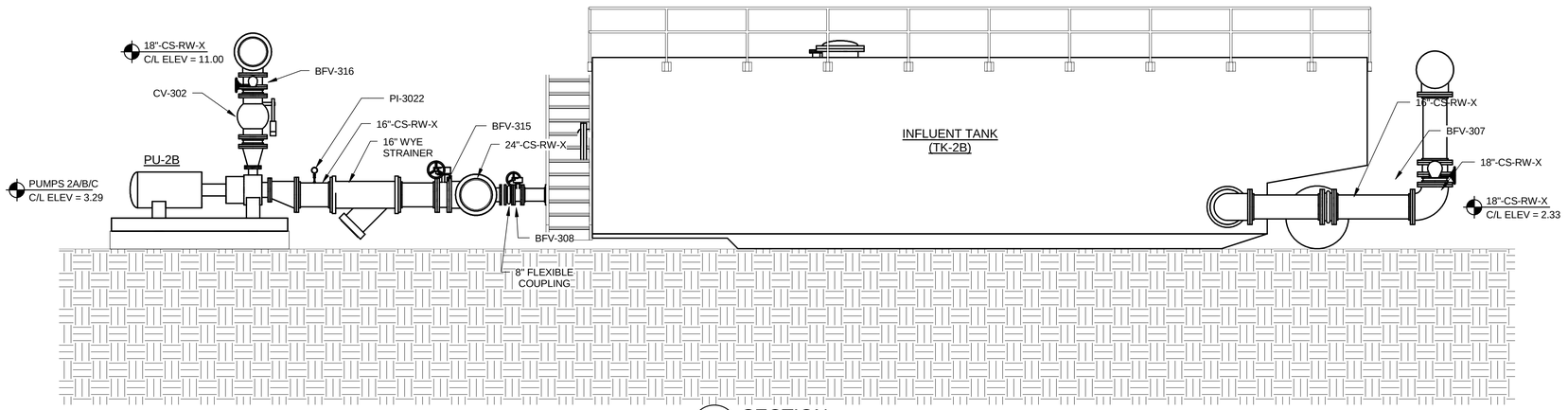
WEIR DEWATERING TREATMENT

HISTORIC LATERAL PUMP STATION EQUIPMENT & PIPING PLAN

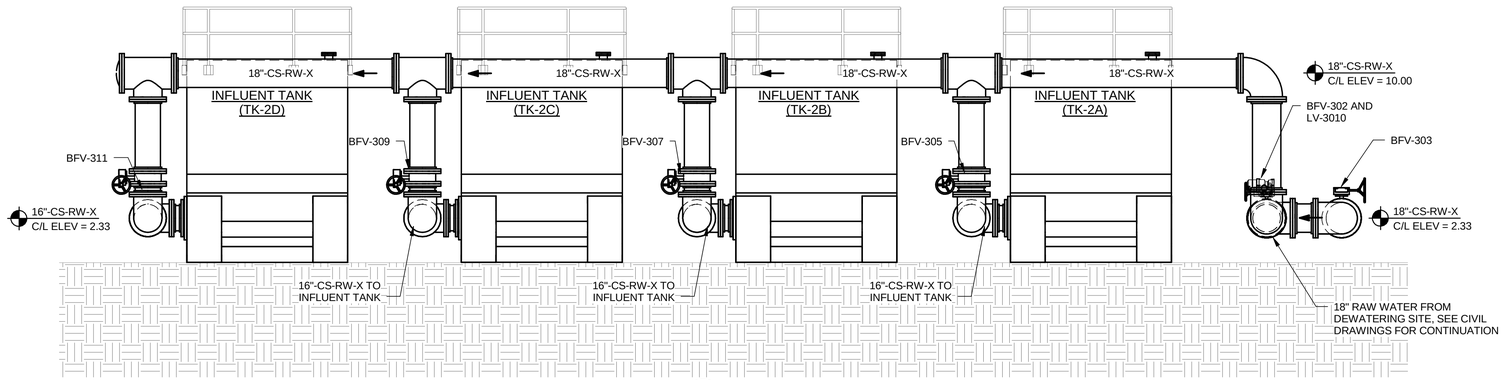
Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

D-301

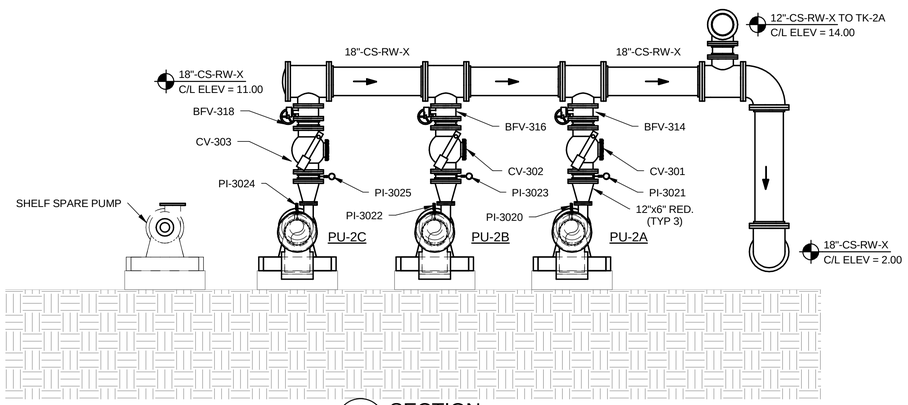
2/15/2017 11:12:25 AM C:\Users\lindy.wolford\Desktop\Active Projects\Revit\Revit 2015\D-CWTP-2015_lindy.wolford.rvt



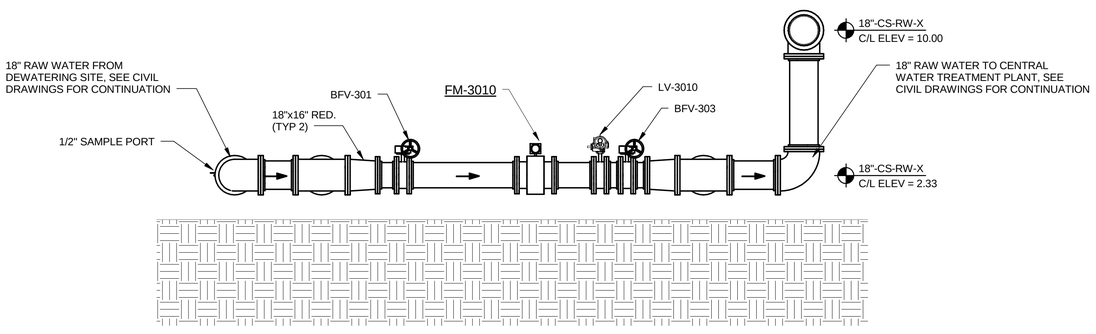
1 SECTION
D-302 SCALE: 1/4" = 1'-0"



2 SECTION
D-302 SCALE: 1/4" = 1'-0"



3 SECTION
D-302 SCALE: 1/4" = 1'-0"



4 SECTION
D-302 SCALE: 1/4" = 1'-0"

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NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

HISTORIC LATERAL PUMP STATION EQUIPMENT & PIPING SECTIONS

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

D-302

COMPOSITE SAMPLER

OPERATION CENTER

ELECTRICAL PANELS
(SEE SHEET E-200 FOR DETAILS)

HYDRO-CYCLONES
(HC-1 & HC-2)

7' - 11 7/8"

31' - 5"

22' - 9 7/8"

6' - 3 3/8"

AIR SCOUR BLOWERS

2' - 11"

10' - 1" | 25' - 0" | 25' - 0" | 15' - 11"

26' - 1 1/8"

67' - 0"

PRESSURE FILTER (TK-1A)

PRESSURE FILTER (TK-1B)

PRESSURE FILTER (TK-1C)

7' - 0 1/8"

3' - 9"

9' - 3"

20' - 0"

9' - 3"

ION EXCHANGE (IX-1A/2A)

ION EXCHANGE (IX-1B/2B)

ION EXCHANGE (IX-1C/2C)

12' - 5"

7' - 7" | 25' - 0" | 25' - 0" | 25' - 0"

7' - 3 3/4" | 15' - 0"

5' - 1 1/8"

CYCLONE WASTE TANK (TK-5)

BACKWASH WASTE TANK (TK-3B)

BACKWASH WASTE TANK (TK-3A)

15' - 0"

15' - 0"

23' - 1 1/8"

CYCLONE WASTE PUMPS (PU-4A/B)

BACKWASH WASTE PUMPS (PU-3A/B/C)

4' - 0" | 8 7/8"

16' - 6"

4' - 0"

4' - 0"

7' - 3 1/8"

19' - 4"

RINSE WATER TRANSFER PUMPS (PU-7A/B)

FILTER RINSE/BACKWASH PUMPS (PU-5A/B/C)

TREATED WATER PUMPS (PU-6A/B/C/D)

2' - 9 1/8" | 4' - 0" | 13' - 0 3/4" | 4' - 0" | 8' - 3 7/8" | 6' - 1" | 6' - 1" | 6' - 1" | 5' - 7"

13' - 10 7/8"

RINSE WATER TANK (TK-6)

TREATED WATER TANK (TK-4A)

TREATED WATER TANK (TK-4B)

TREATED WATER TANK (TK-4C)

TREATED WATER TANK (TK-4D)

16' - 0" | 16' - 0" | 17' - 6" | 16' - 0"

1 D-401 CENTRAL WATER TREATMENT PLANT GENERAL ARRANGEMENT

SCALE: 3/32" = 1'-0"

N

0 4' 8' 16'

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

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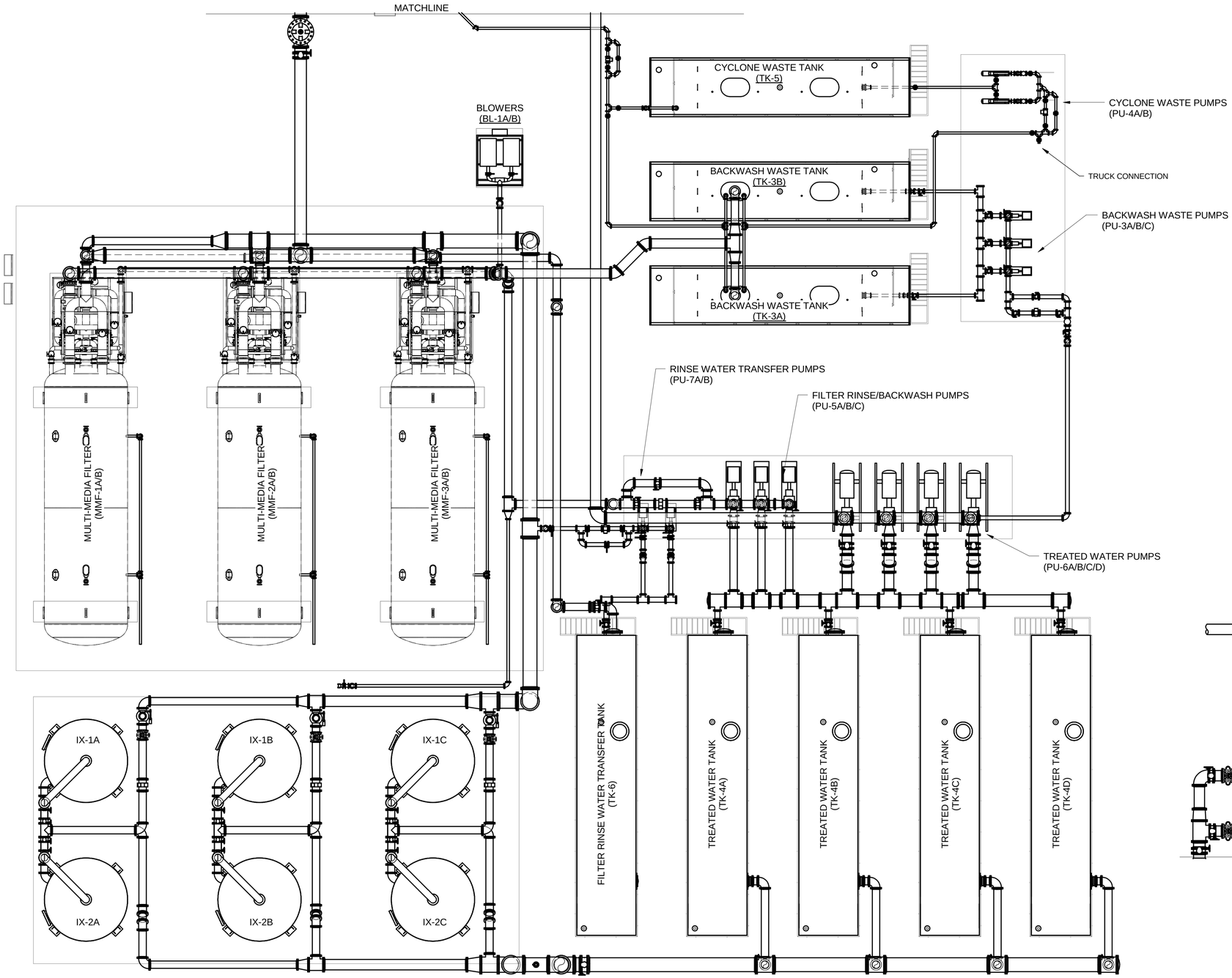
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

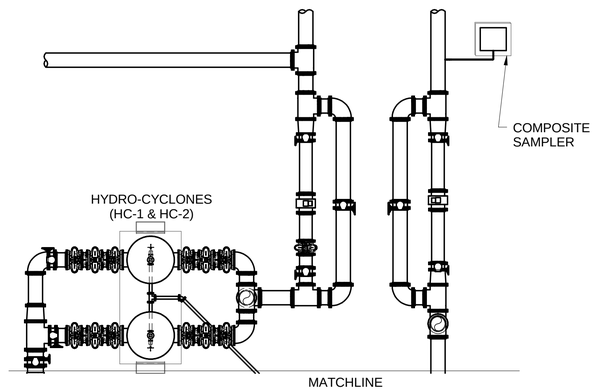
WEIR DEWATERING TREATMENT

CENTRAL WATER TREATMENT PLANT EQUIPMENT PLAN

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

D-401





1 D-402 CENTRAL WATER TREATMENT PLANT PIPING LAYOUT
SCALE: 1/8" = 1'-0"

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

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HENDERSON, NEVADA

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CENTRAL WATER TREATMENT PLANT PIPING LAYOUT

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Drawn By:	S. ULREY
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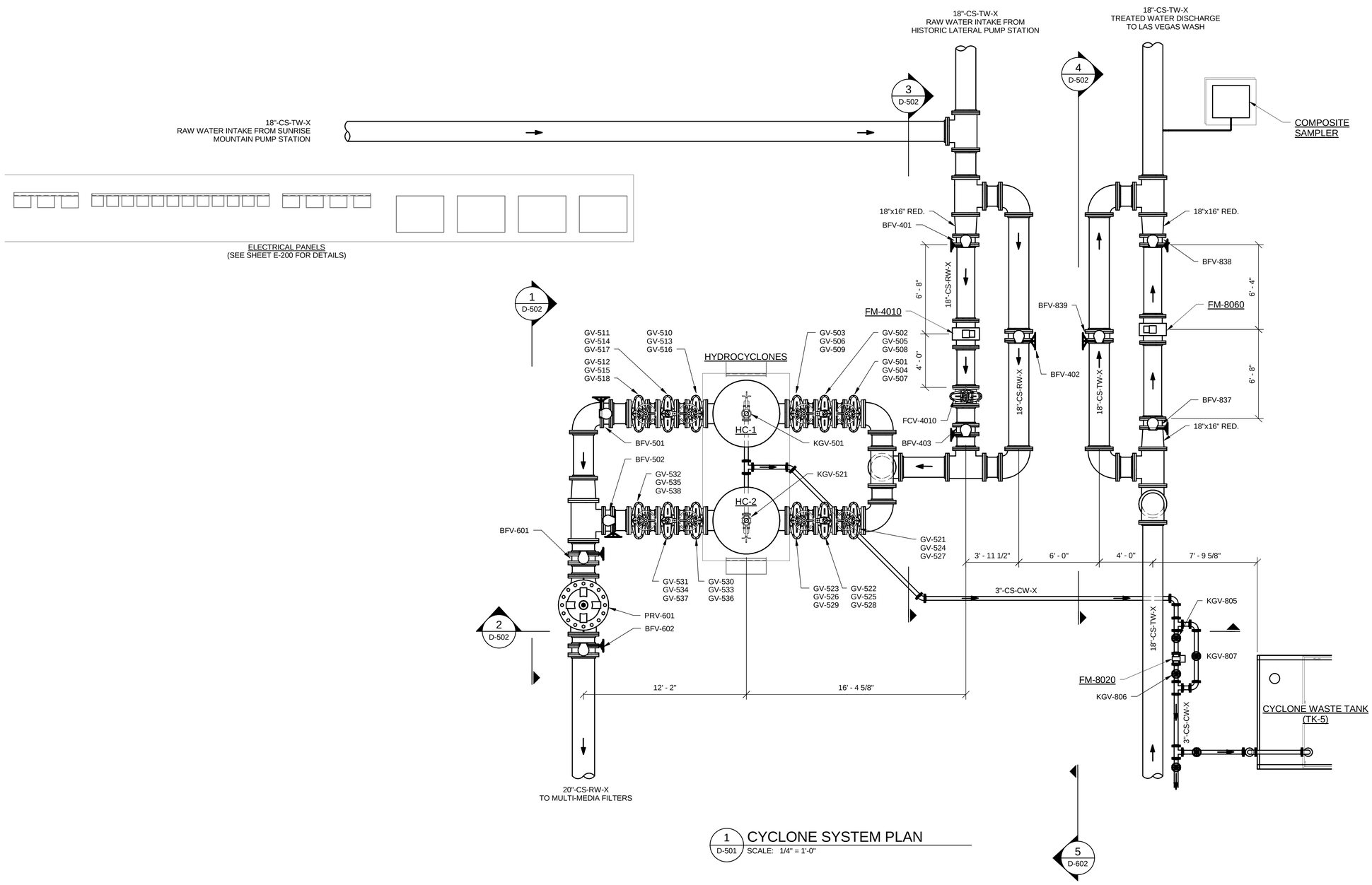
D-402



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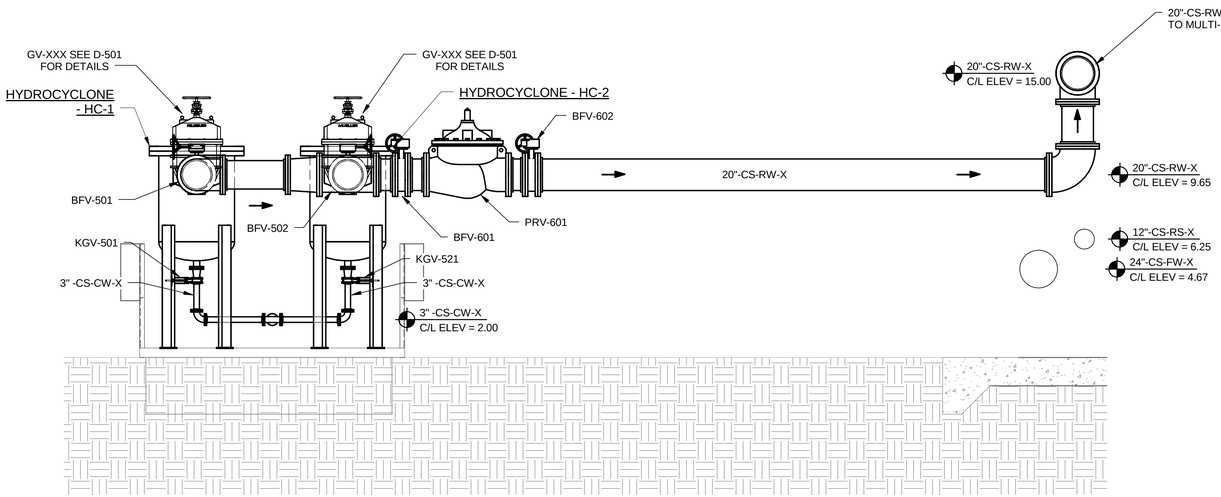
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

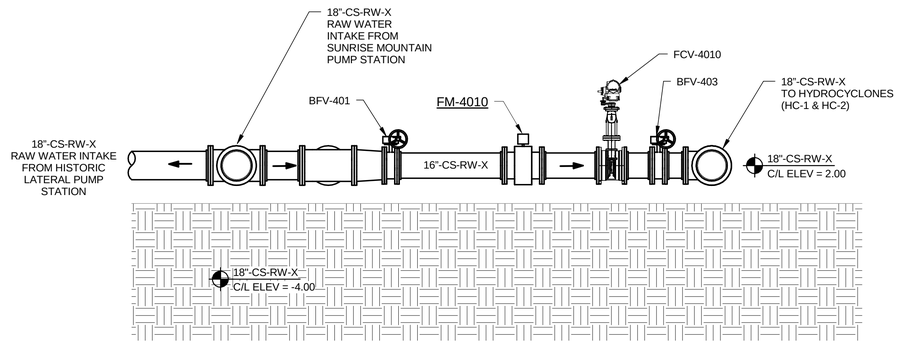
CYCLONE SYSTEM EQUIPMENT & PIPING PLAN

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

D-501



1 D-502 HYDROCYCLONE SECTION
SCALE: 1/4" = 1'-0"



3 D-502 HYDROCYCLONE SECTION
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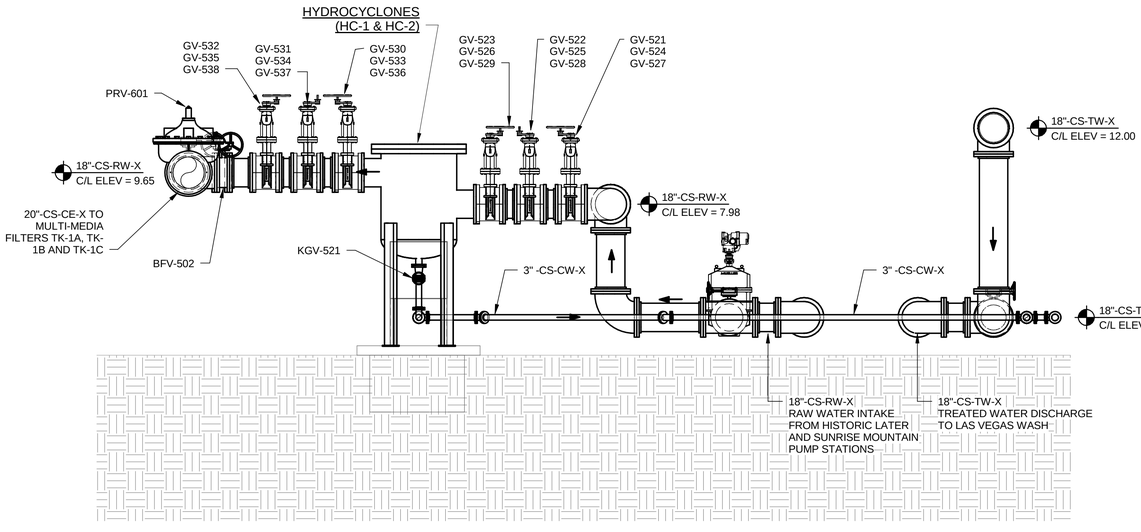
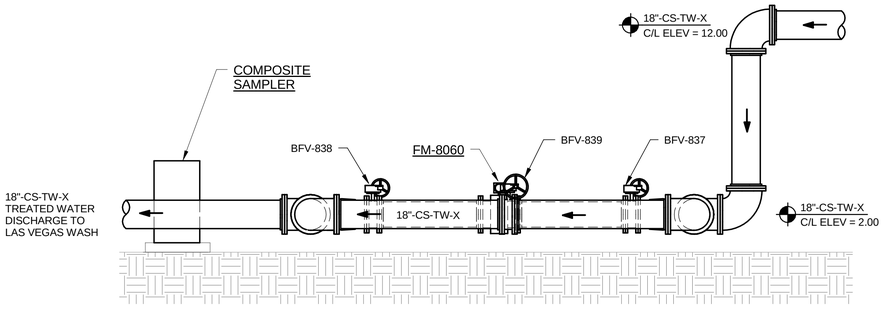


2 D-502 HYDROCYCLONE SECTION
SCALE: 1/4" = 1'-0"



4 D-502 HYDROCYCLONE SECTION
SCALE: 1/4" = 1'-0"

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

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CYCLONE SYSTEM EQUIPMENT & PIPING SECTIONS

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Designed By:	J. GUO
Drawn By:	S. ULREY
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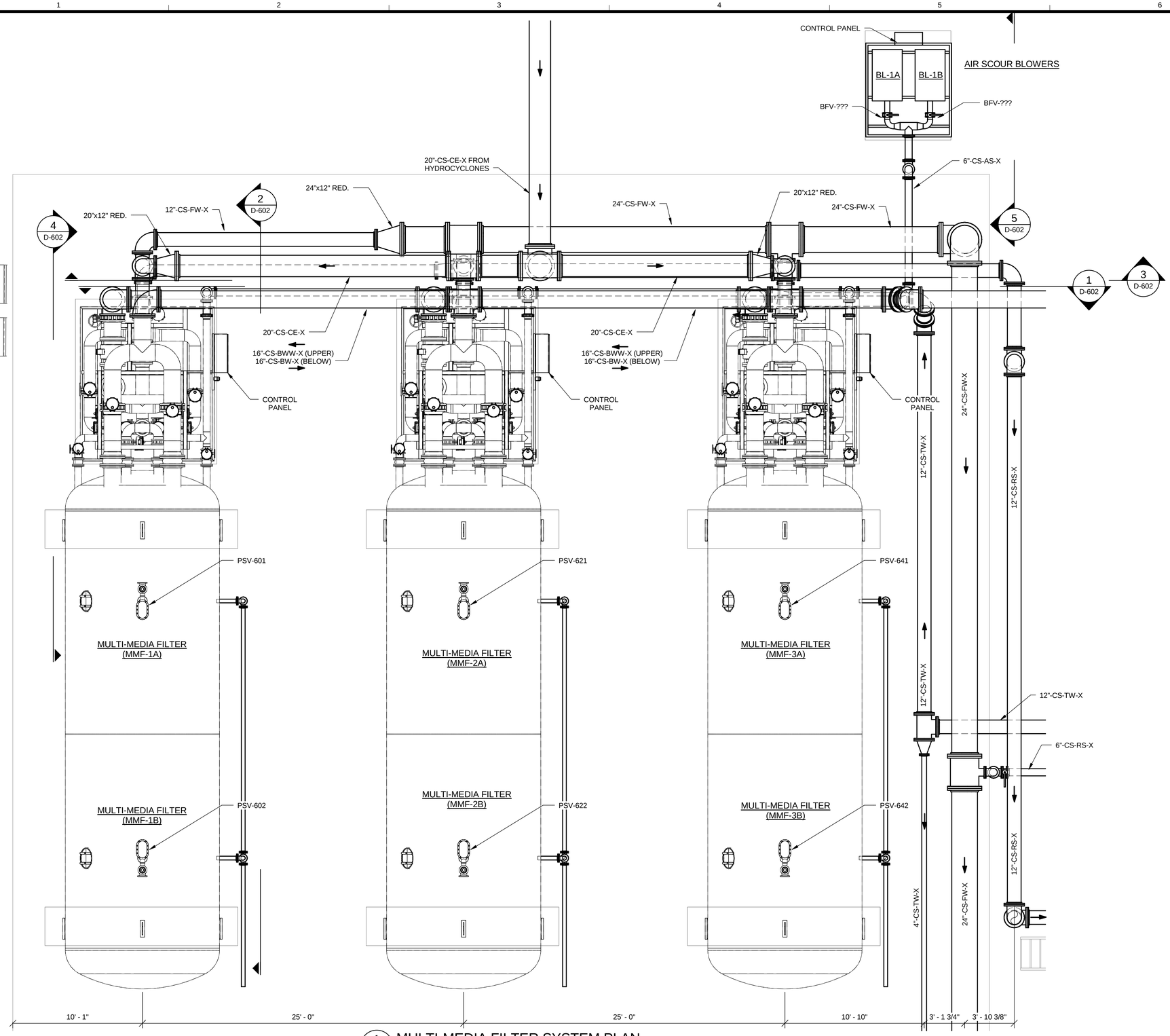
D-502



1 D-601 MULTI-MEDIA FILTER SYSTEM PLAN
SCALE: 1/4" = 1'-0"

N

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

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MULTI-MEDIA FILTER SYSTEM EQUIPMENT & PIPING PLAN

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

D-601

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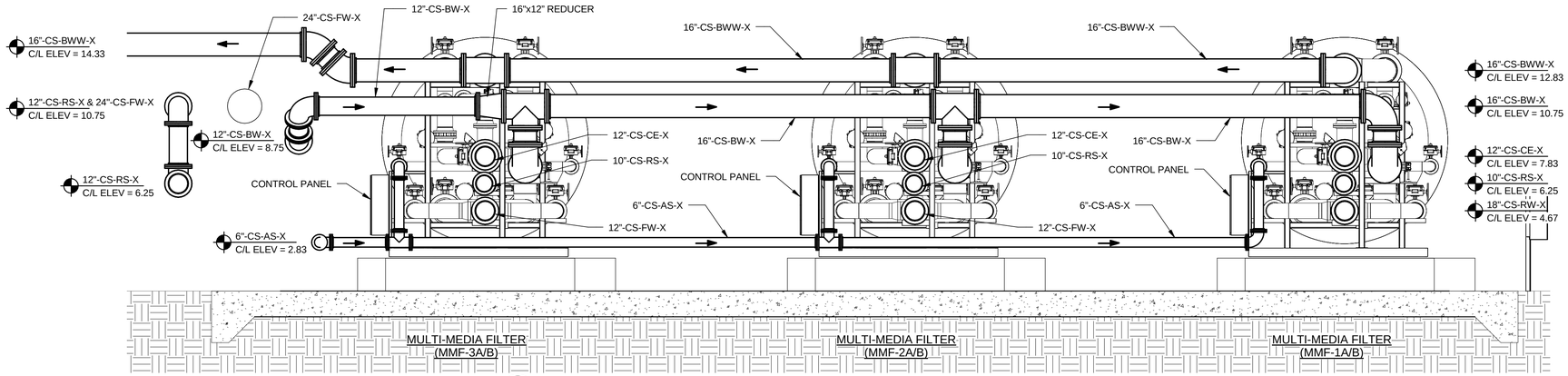
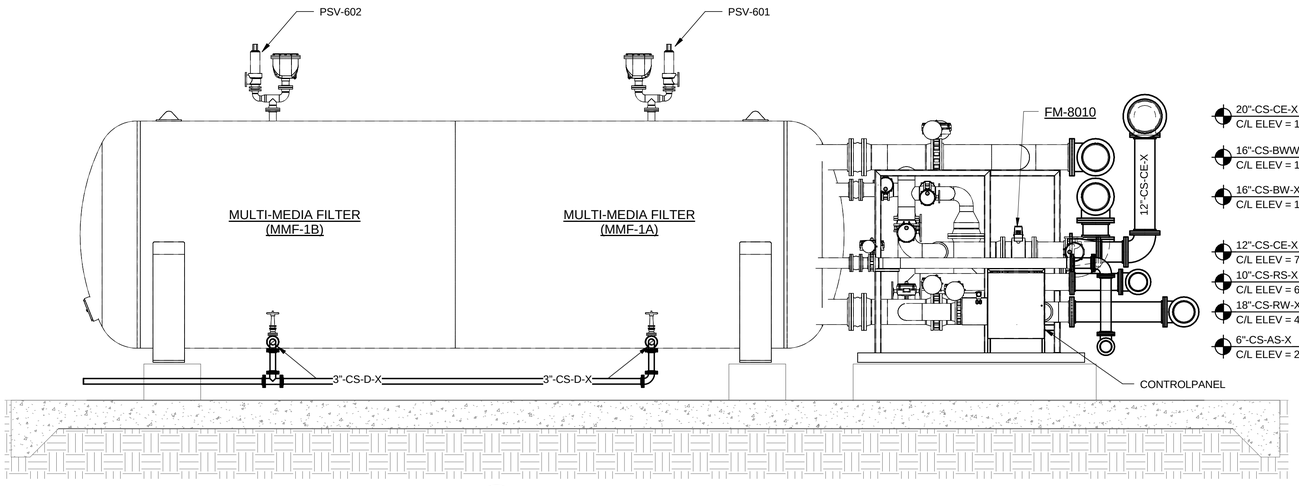
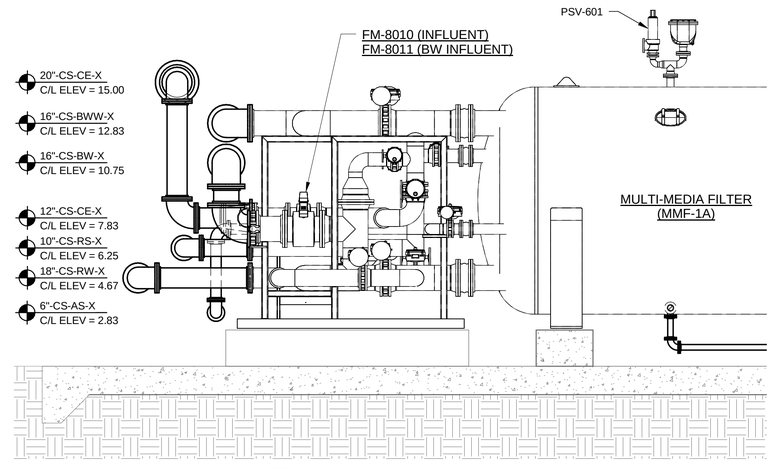


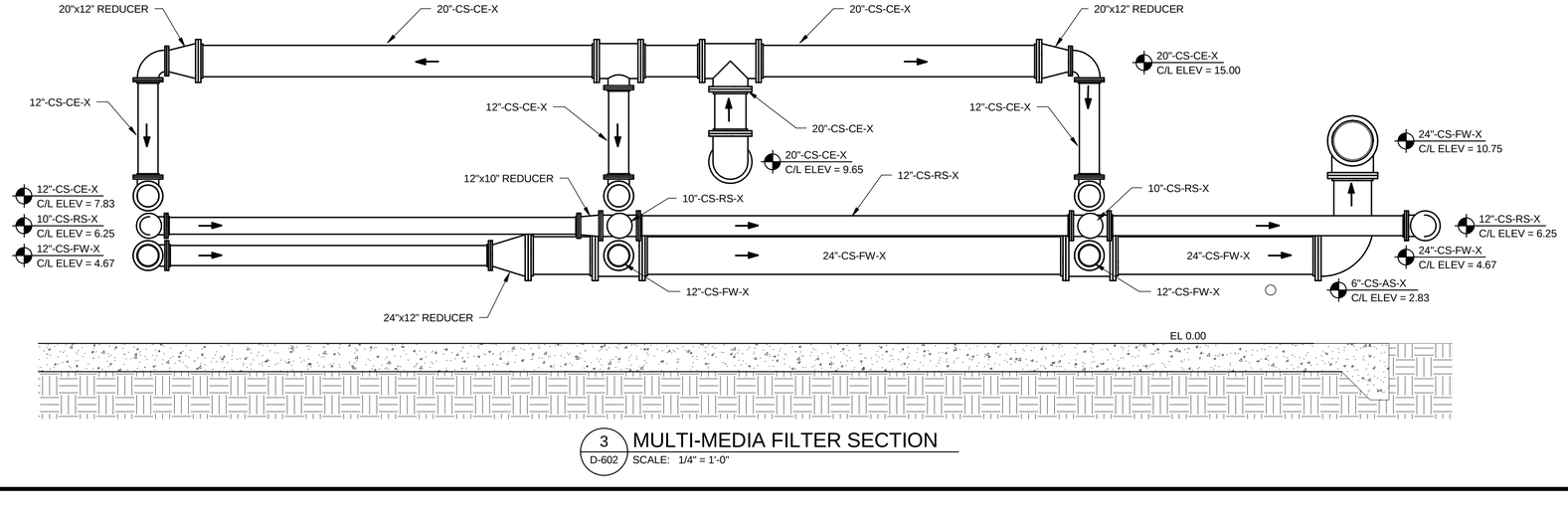
1 D-602 **MULTI-MEDIA FILTER SECTION**
SCALE: 1/4" = 1'-0"



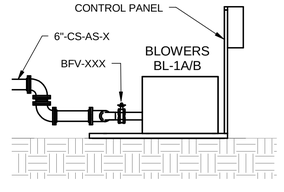
2 D-602 **MULTI-MEDIA FILTER SECTION**
SCALE: 1/4" = 1'-0"



4 D-602 **MULTI-MEDIA FILTER SECTION**
SCALE: 1/4" = 1'-0"



3 D-602 **MULTI-MEDIA FILTER SECTION**
SCALE: 1/4" = 1'-0"



5 D-602 **BLOWER SECTION**
SCALE: 1/4" = 1'-0"

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

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HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

MULTI-MEDIA FILTER SYSTEM EQUIPMENT & PIPING SECTIONS

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Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

D-602

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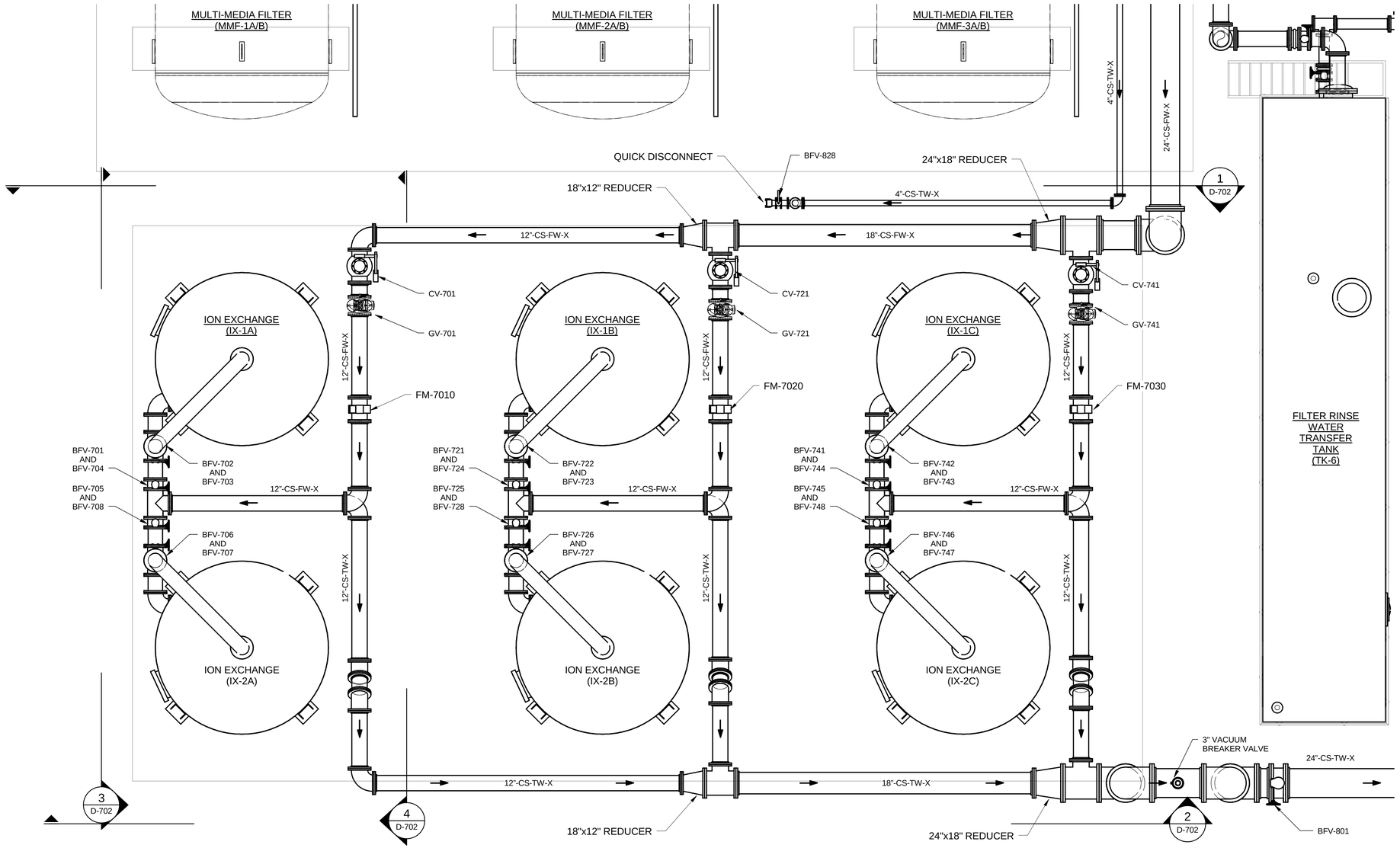

1 D-701 ION EXCHANGER SYSTEM PLAN

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

N

0 2' 4' 8'

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

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HENDERSON, NEVADA

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ION EXCHANGE SYSTEM EQUIPMENT & PIPING PLAN

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

D-701

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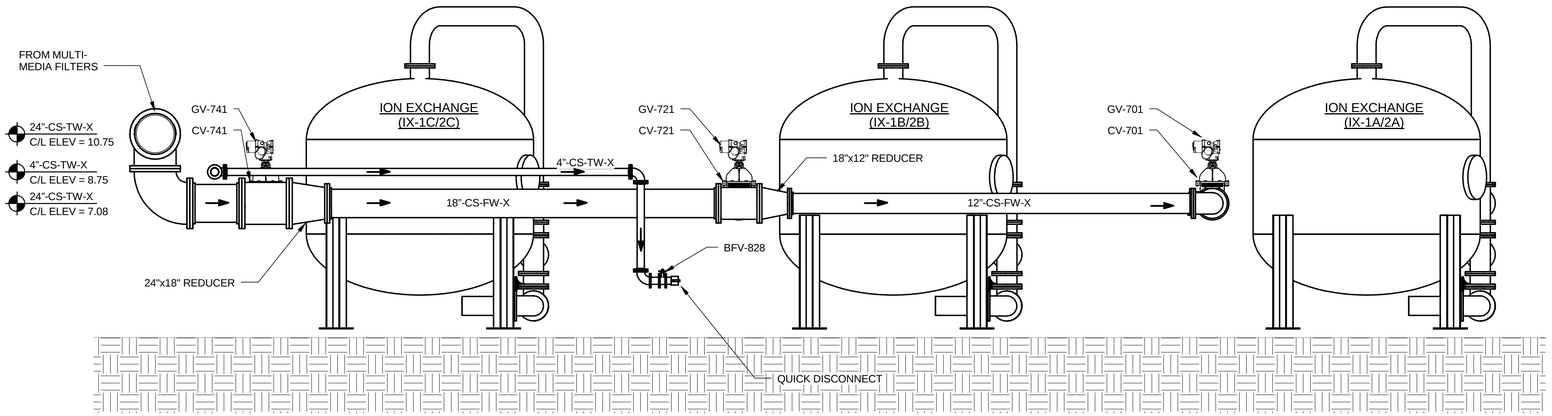
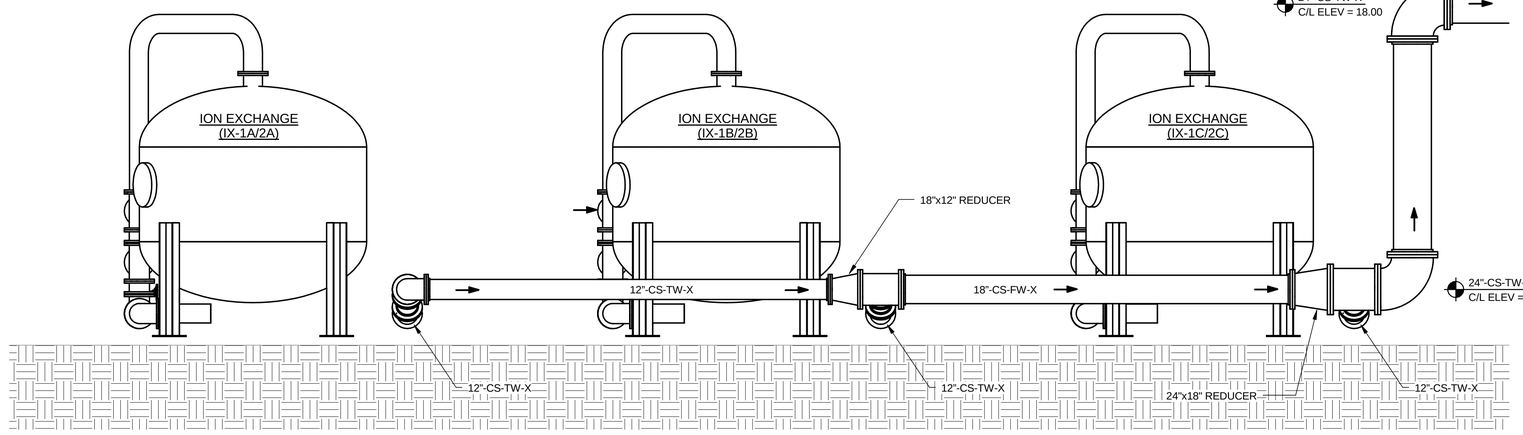
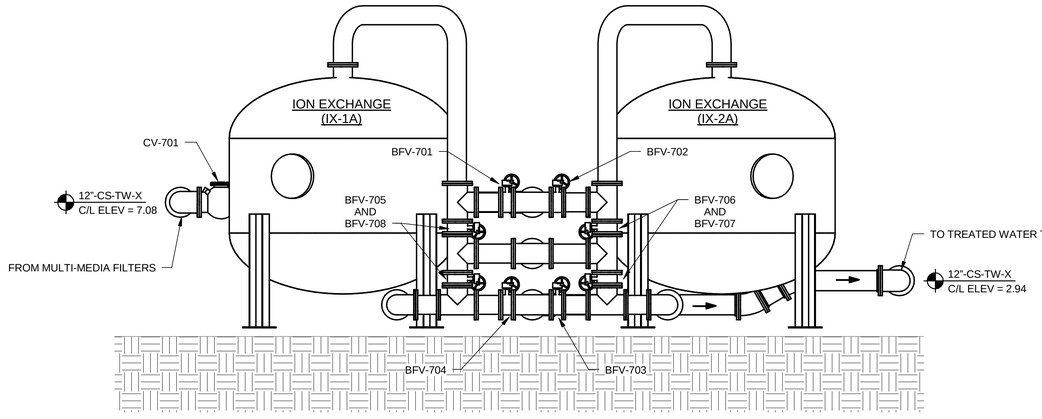


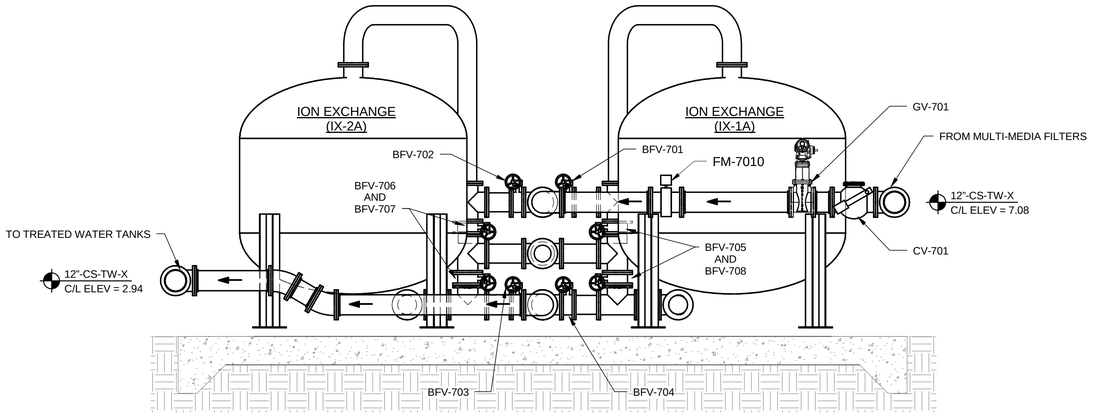
1 D-702 ION EXCHANGE SYSTEM SECTION
SCALE: 1/4" = 1'-0"



2 D-702 ION EXCHANGE SYSTEM SECTION
SCALE: 1/4" = 1'-0"



3 D-702 ION EXCHANGE SYSTEM SECTION
SCALE: 1/4" = 1'-0"



4 D-702 ION EXCHANGE SYSTEM SECTION
SCALE: 1/4" = 1'-0"

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

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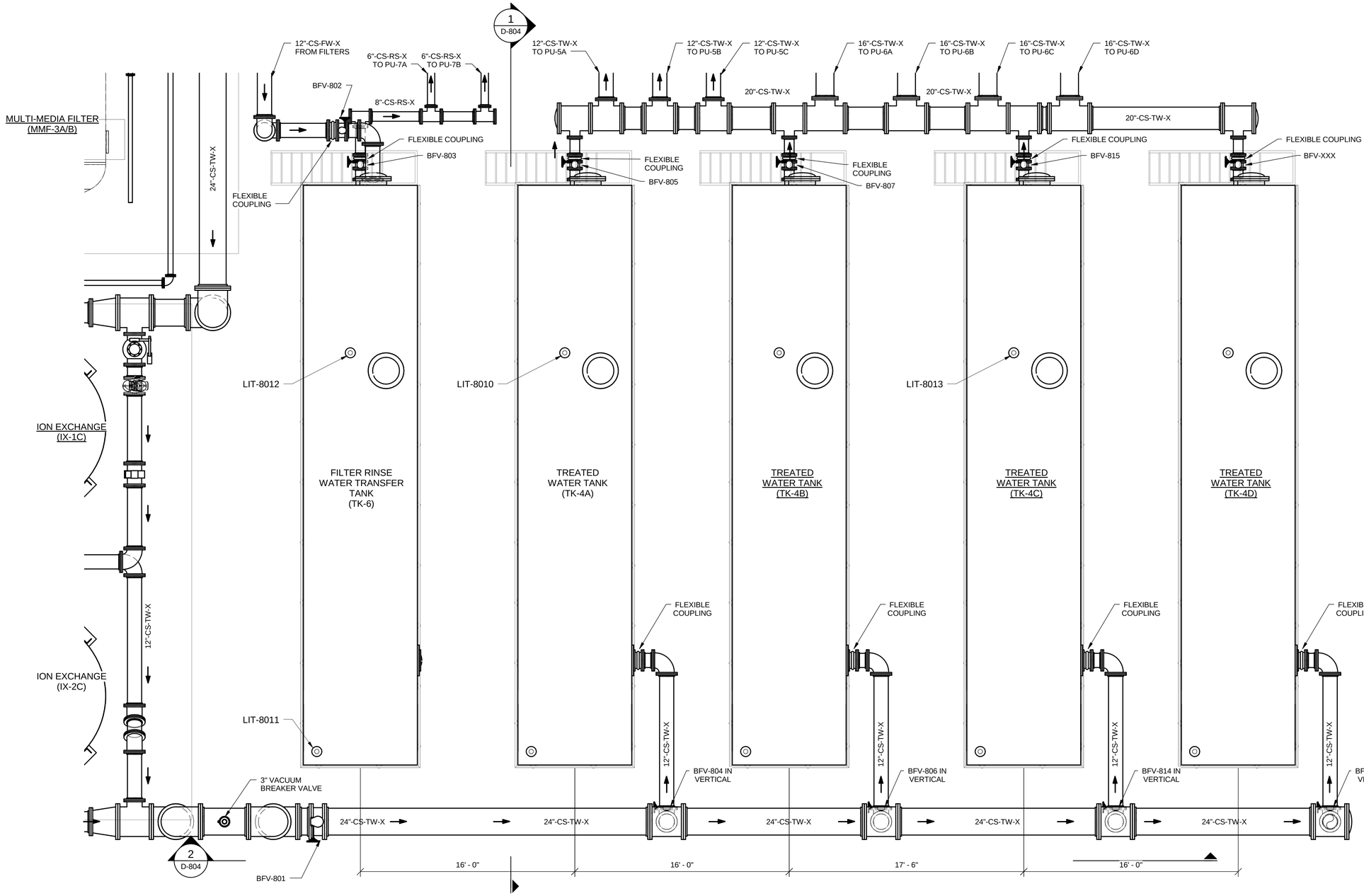
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

ION EXCHANGE SYSTEM EQUIPMENT AND PIPING SECTIONS

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

D-702



1 D-801 TREATED WATER SYSTEM PLAN

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

N

0 2' 4' 8'

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

TETRA TECH
www.tetratech.com
1489 West Warm Springs Road, Suite 110
Henderson, NV 89014
Tel:702.946.6700 Fax: 702.997.7140

MARK	DATE	DESCRIPTION	BY
A	11/29/16	ISSUED FOR 60% SUBMITTAL	SKU
B	02/15/17	75% SUBMITTAL TO BOR	LBW

NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

WASTE, BACKWASH & TREATED WATER SYSTEM EQUIPMENT & PIPING PLAN

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

D-801

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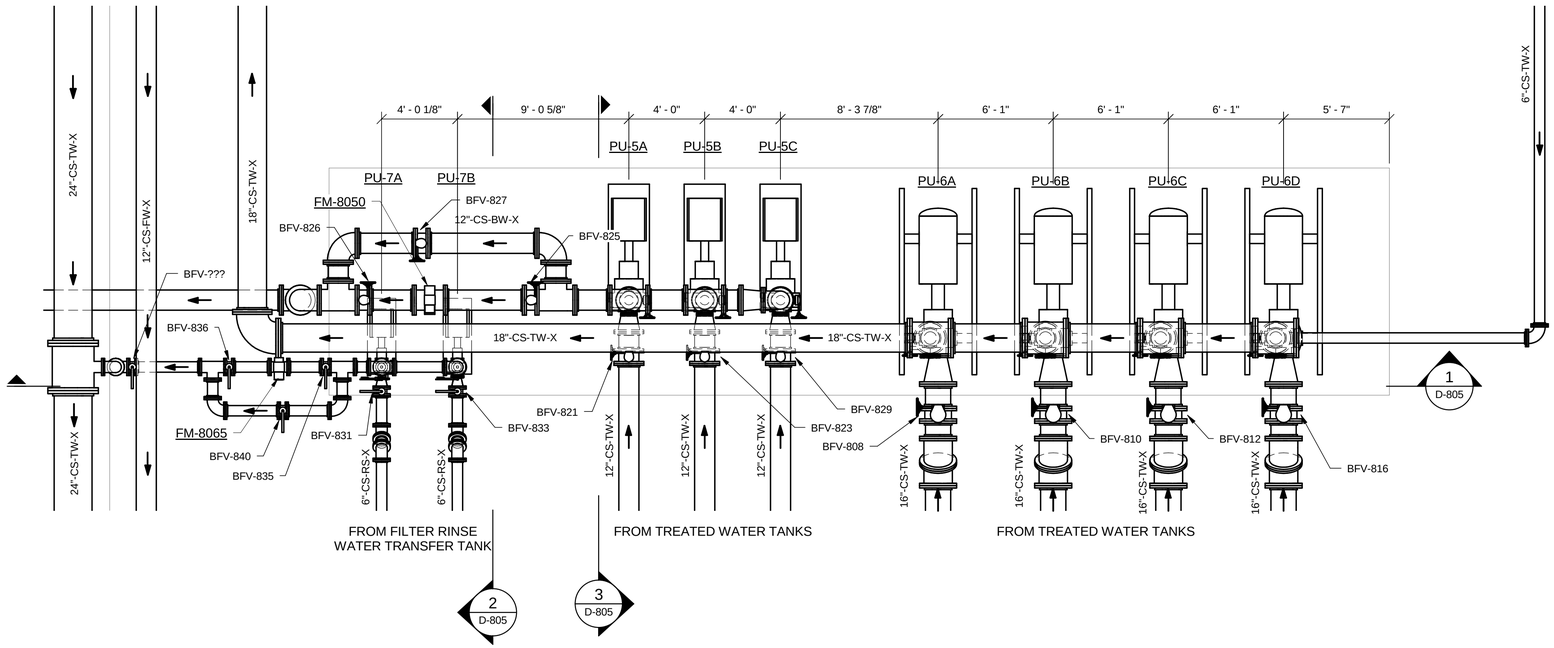

1 TREATED WATER PUMPING SYSTEMS PLAN
D-802 SCALE: 1/4" = 1'-0"

N

0 2' 4' 8'

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

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BY SKU LBW

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HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

TREATED WATER PUMPING SYSTEMS PLAN

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

D-802

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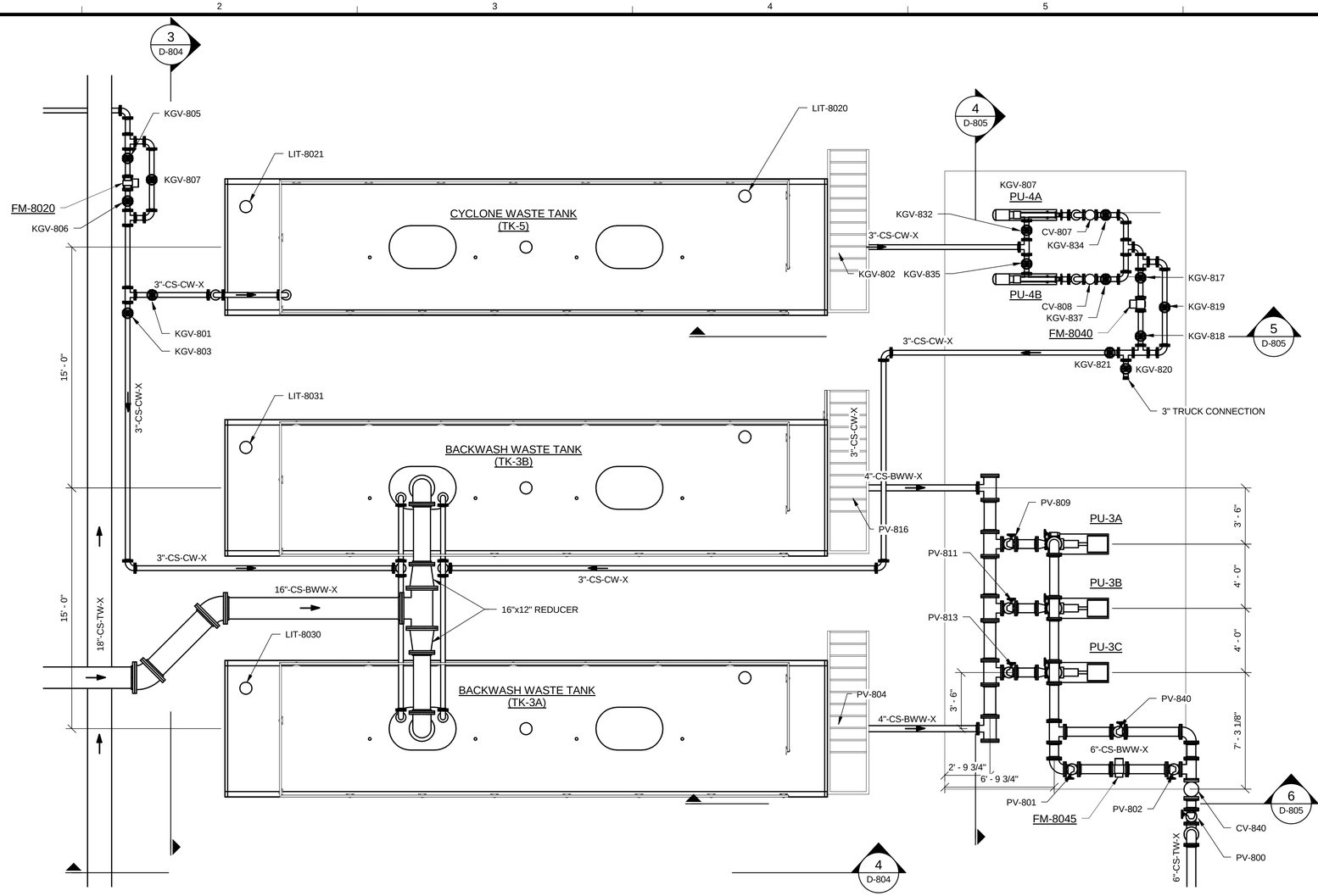

1 D-803 WASTE-BACKWASH-TREATED WATER SYSTEM PLAN

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

N

0 2' 4' 8'

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

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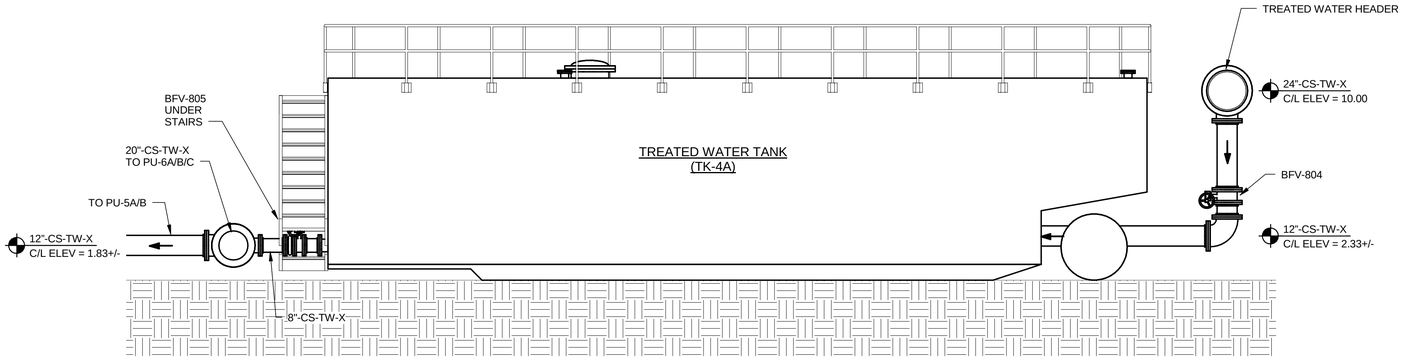
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

WASTE, BACKWASH & TREATED WATER SYSTEM EQUIP. & PIPING PLAN

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	L. WOLFORD
Checked By:	S. DARIAN

D-803



1 D-804 TREATED WATER TANK SECTION
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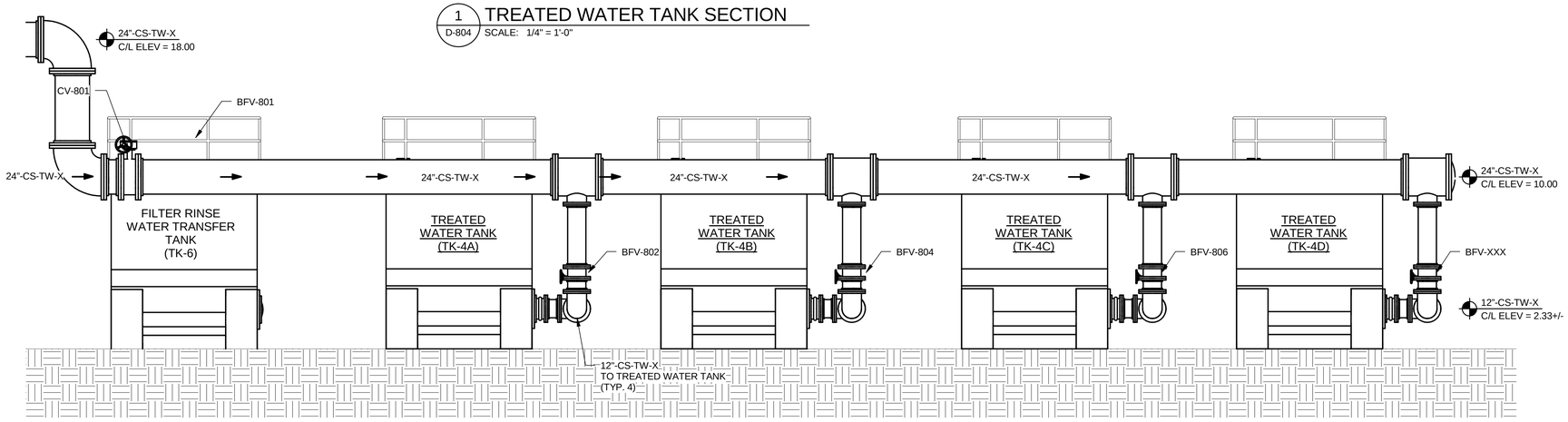

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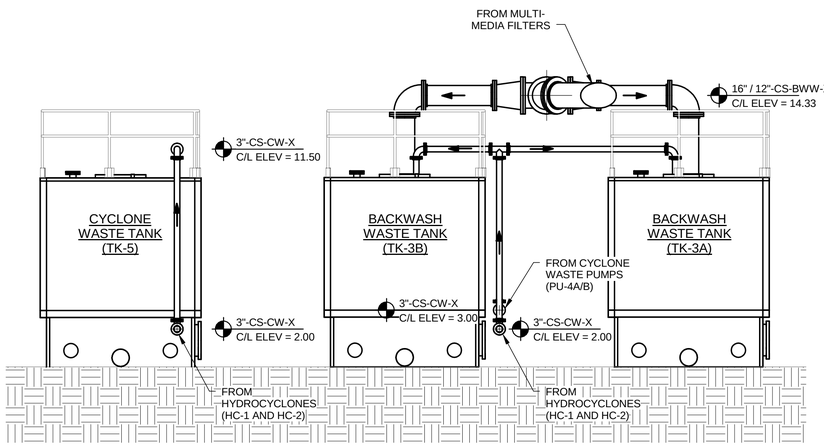
SCALE: 1/4" = 1'-0"



3 D-804 CYCLONE/BACKWASH TANK SECTION
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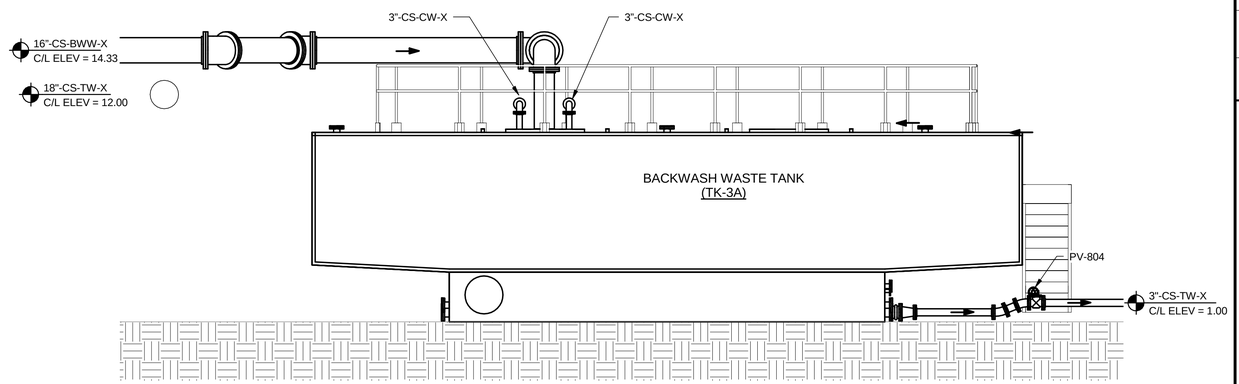

4 D-804 CYCLONE/BACKWASH TANK SECTION
SCALE: 1/4" = 1'-0"

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

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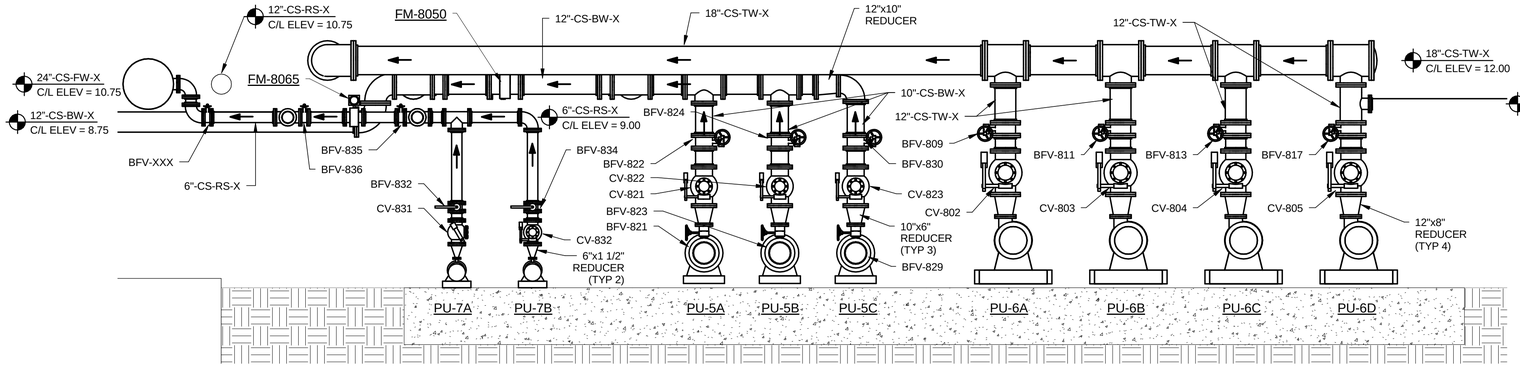
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

WASTE, BACKWASH & TREATED WATER SYSTEM SECTIONS

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

D-804



1 D-805 TREATED WATER/RINSE WATER PUMP SECTION
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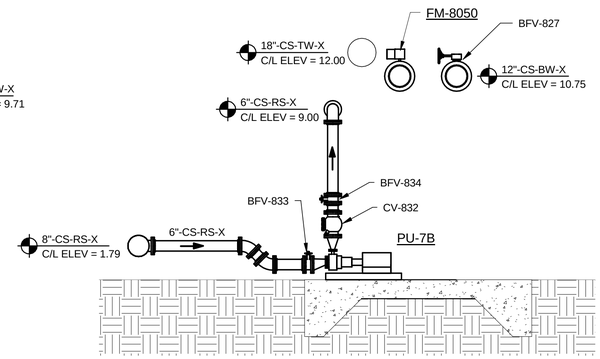
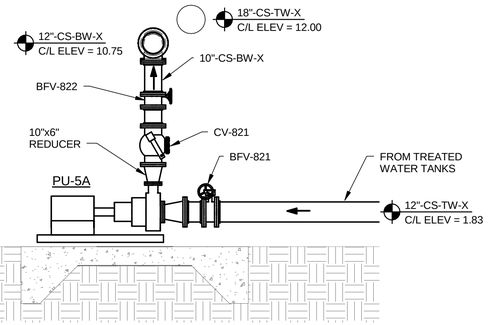
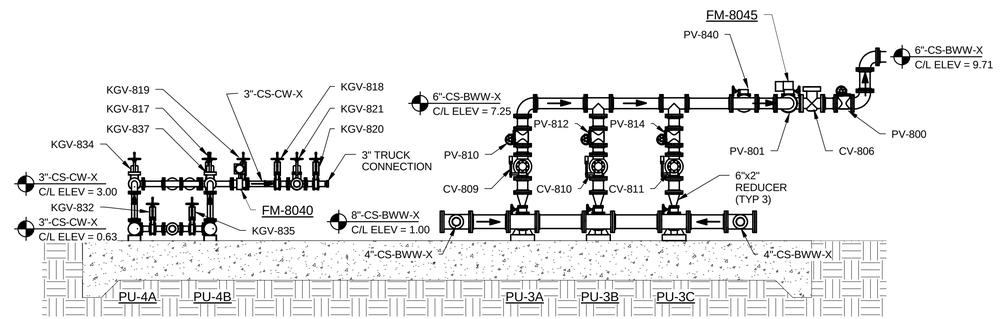


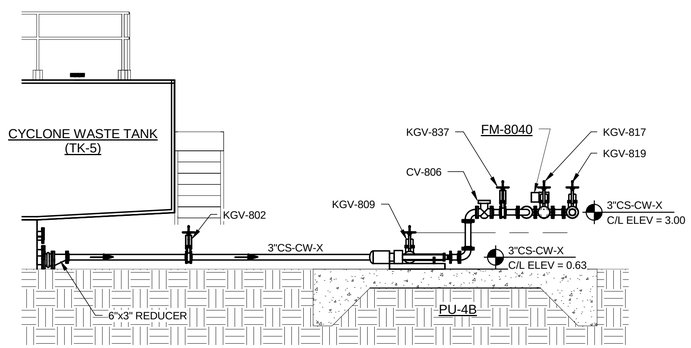
2 D-805 RINSE WATER PUMP SECTION
SCALE: 1/4" = 1'-0"



3 D-805 TREATED WATER PUMP SECTION
SCALE: 1/4" = 1'-0"



4 D-805 CYCLONE/BACKWASH PUMP SECTION
SCALE: 1/4" = 1'-0"



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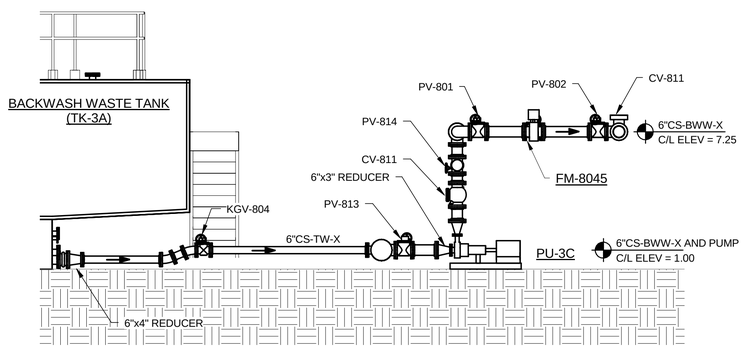
SCALE: 1/4" = 1'-0"



6 D-805 BACKWASH WASTE PUMP SECTION
SCALE: 1/4" = 1'-0"

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

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WEIR DEWATERING TREATMENT

WASTE, BACKWASH & TREATED WATER SYSTEM SECTIONS

Project No.:	200-01299-16015
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D-805

BACKGROUND PLAN AND ONE LINE SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	CONTROL SWITCH (SEL. OR P.B.) SEE CIRCUITS FOR SPECIFIC TYPE		LOW VOLTAGE DISCONNECT SWITCH
F FL	SEE CIRCUITS FOR SPECIFIC TYPE FLOAT SWITCH - FLOW SWITCH		LOW VOLTAGE FUSE (BELOW 600V)
MD	MOTORIZED DAMPER	1 RV 2 FVR 3 2S,2W	ALL STARTERS SHALL BE FULL VOLTAGE NON-REVERSING UNLESS OTHERWISE INDICATED (FVR) FULL VOLTAGE REVERSING (RV) REDUCED VOLTAGE (2S,2W) TWO SPEED, TWO WINDING
L P V	LIMIT - PRESSURE - VACUUM SWITCH		
ALT	ELECTRICAL OR MECHANICAL ALTERNATOR (SEE WIRING)		
OS	OVERLOAD SWITCH OR DEVICE		600V, 3 POLE MOLDED CASE CIRCUIT BREAKER, FRAME & RATING AS SHOWN
TB	TERMINAL BOX	1/8 A-3	SINGLE PHASE, FRACTIONAL HP MOTOR TO LOCATION INDICATED (SEE GEN. NOTE 4)
	SOLENOID VALVE	A 1	THREE PHASE LOAD WITH IDENTIFICATION
PC	PHOTOCELL LINE VOLTAGE		HIGH VOLTAGE FUSE (ABOVE 600 V)
IM	ITEM NO. INTERCOM EQUIPMENT	H1 1/8	TAG NO. (BALLOON) FOR DEVICE INDICATED
A WS LB	INTERCOMMUNICATION SYSTEM AMPLIFIER - WALL STATION - LINE BALANCE	A-3 H1 1/0 MCP OR CP-1	FOR POWER (SEE GEN. NOTE 4) 3/4"C(2/C#18 SHLD.)CONDUIT AND WIRE RUN FROM DEVICE INDICATED TO LOCATION INDICATED
DS	DOOR INTRUSION SWITCH		CAPACITOR, 3 PHASE, SIZE AS INDICATED
	INTERCOM. SPEAKER (SURFACE MTD.)	F C	DISCONNECT SWITCH (F) = FUSED (C) = CIRCUIT BREAKER
	INTERCOM. SPEAKER (CEILING LAY-IN)		MAGNETIC STARTER (BACKGROUND DRAWINGS ONLY)
	TELEPHONE OUTLET OR JUNCTION BOX	SIZE 2	COMBINATION MAGNETIC STARTER FUSED UNLESS NOTED (CIRCUIT BREAKER)
	WELDING RECEPTACLE - NEMA L9-50R 600V, 2P, 3W, SIMPLEX	LC	COMBINATION LIGHTING CONTACTOR WITH HAND-OFF-AUTO SWITCH
HS	INTERCOM HANDSET - SURFACE MOUNTED WITH REMOTE SPEAKER AMPLIFIER	F R	MANUAL STARTER (R) = REVERSING
VC	INTERCOM VOLUME CONTROL	CP	CONTROL PANEL
	INTERCOM SPEAKER - SURFACE MOUNTED	TCP	TEMPERATURE CONTROL PANEL
HS	INTERCOM HANDSET - FLUSH MOUNTED WITH REMOTE SPEAKER AMPLIFIER	1/8 UH-19	UNIT HEATER, 1/8 HORSEPOWER
	AS NOTED (LIGHTING PANEL, CONTROL PANEL, DISTRIBUTION PANEL ETC.) WALL MOUNTED	BUS DUCT	600 VOLT FEEDER BUS DUCT (AMPERAGE AS INDICATED)
JB	JUNCTION BOX		LIGHTNING ARRESTOR
	HEATER	A-3	LOW VOLTAGE HOME RUNS 120/208 V 120/240 V (SEE GEN. NOTE 4)
	TRANSFORMER	NEMA 4	WATERTIGHT
	CONDUIT WITH CONDUIT SEAL FITTING	NEMA 4X	WATERTIGHT AND CORROSION PROOF
	CONDUIT EXPOSED	NEMA 7	EXPLOSION PROOF - CLASS I, DIVISION I, GROUP D
	CONDUIT CONCEALED OR DIRECT BURIED	NEMA 9	EXPLOSION PROOF - CLASS II, DIVISION 1
E	DIRECT BURIED CONDUIT	K	KEYLOCK
UG	DIRECT BURIED CABLE	SD	SMOKE DETECTOR
OH	OVERHEAD LINE	E	EXIT LIGHT
DB	UNDERGROUND CONCRETE ENCASED DUCT BANK		FLUORESCENT LUMINAIRE
1 2 3 4 5 6	CONCRETE ENCASED DUCT BANK, WITH CABLE LOCATIONS AND SPARE DUCTS AS INDICATED ON DRAWINGS		INCANDESCENT LUMINAIRE
	CABLE REEL		POLE MOUNTED LIGHT FIXTURE
T	THERMOSTAT	EM	EMERGENCY BATTERY PACK
	BOND TO WIRE MESH		AIR TERMINAL
	GROUND ROD	P D	POLE MOUNTED SITE LIGHT FIXTURE

CONTROL CIRCUIT & PILOT DEVICE LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	PRESS. ACTUATED SWITCH	H O A	SELECTOR SWITCH OPERATOR WITH FUNCTION SHOWN
	FLOAT ACTUATED SWITCH		
	FLOW ACTUATED SWITCH		MOMENTARY PUSHBUTTON OPERATOR-NORMALLY OPEN
	TEMP. ACTUATED SWITCH		MOMENTARY PUSHBUTTON OPERATOR-NORMALLY CLOSED
	LIMIT SWITCH- NORMALLY OPEN		PUSHBUTTON OPERATOR WITH MUSHROOM HEAD
	LIMIT SWITCH- NORMALLY CLOSED	(F)	FIELD LOCATED STOP BUTTON
	LIMIT SWITCH-NORMALLY CLOSED-HELD OPEN		MAINTAINED PUSH-PULL OPERATOR
	LIMIT SWITCH-NORMALLY OPEN-HELD CLOSED		MAINTAINED STOP-START PUSHBUTTON OPERATOR
	LATCHING CABLE SWITCH		
	TIME-DELAY FUSE		SOLENOID OR CLUTCH
CR	CONTROL RELAY COIL	R	PUSH-TO-TEST INDICATING LIGHT
	CONTROL RELAY CONTACT-NORMALLY OPEN		MAINTAINED STOP-MOMENTARY START PUSHBUTTON (JOG)
	CONTROL RELAY CONTACT-NORMALLY CLOSED		
CR L CR U	TWO COIL LATCHING RELAY		ZERO SPEED OR ANTI-PLUGGING SWITCH
			LOCAL TERMINALS WITH EXTERNAL WIRING
T	TIMING RELAY COIL	ETI	ELAPSED TIME INDICATOR
	TIMED CLOSED CONTACT ON ENERGIZATION	INST.	TIMING RELAY INSTANTANEOUS CONTACTS
	TIMED OPEN CONTACT ON ENERGIZATION	INST.	
	TIMED OPEN CONTACT ON DE-ENERGIZATION		
	TIMED CLOSED CONTACT ON DE-ENERGIZATION		
X1 X2	120 VAC TRANSFORMER		

WIRING DEVICE SCHEDULE

SYMBOL	DESCRIPTION	NEMA TYPE
	125V, 2P, SIMPLEX, CLOCK HANGER	1-15 R
	125V, 2P, SIMPLEX, 3W	5-20 R
	125V, 2P, DUPLEX, 3W	5-20 R
	125/250V, 3P, SIMPLEX, 3W, RANGE TYPE	10-50 R
S	20A, 120/277 V SWITCH	SPST
S 2P	20A, 120/277 V SWITCH	2PDT
S 3	20A, 120/277 V SWITCH	3 WAY
S 4	20A, 120/277 V SWITCH	4 WAY
S D	20A, 120/277 V DIMMER SWITCH	
	250V, 2P, SIMPLEX, 3W, 50A	6-50R
	125V, 2P, MULTI-RECEPTACLE	5-15R
	250V, 2P, SIMPLEX, 3W, 20A	6-20R
	600V, 2P, 3W, SIMPLEX WELDING	L9-50R
	208V, 3P, SIMPLEX, 4W, LOCKING	L14-20R
	277V, 2P, DUPLEX, 3W	7-15R

GENERAL NOTES

NUMBER	NOTE
1.	ELECTRICAL MATERIALS AND EQUIPMENT ITEMS SHOWN IN LIGHT LINE WEIGHTS ON THE DRAWINGS ARE EXISTING ITEMS TO REMAIN. ELECTRICAL MATERIALS AND EQUIPMENT ITEMS SHOWN IN HEAVY LINE WEIGHTS ARE NEW THIS CONTRACT.
2.	ITEMS SHOWN CROSSHATCHED ON THE DRAWINGS ARE EXISTING ITEMS TO BE REMOVED.
3.	FOR ITEMS INDICATED AS "FIELD LOCATE" CHECK DRAWINGS OF OTHER TRADES (IN PARTICULAR PIPING AND STRUCTURAL) FOR INTERFERENCE AND FOR LOCATIONS OF MOUNTING FLANGES, CONNECTION POINTS, ETC.
4.	INSTALL A SINGLE CONDUCTOR INSULATED (RHW, THHN, OR XHHW) COPPER GROUND WIRE IN EACH CONDUIT, SIZE AS SHOWN ON DRAWINGS OR AS A MINIMUM PER THE NATIONAL ELECTRICAL CODE. THIS GROUND WIRE SHALL BE CONNECTED AT EACH END TO THE EQUIPMENT GROUND. CONDUIT SHALL BE 3/4" MIN.
5.	THE FOLLOWING COMPONENT IDENTIFICATION SHALL BE USED AS APPROPRIATE: (F) FIELD MOUNTED, NOT AT STARTER OR OTHER CONTROL PANELS. (S) STARTER PANEL MOUNTED. (MCP) AT MAIN CONTROL PANEL. (1) AT CONTROL PANEL NO. 1 (2) AT CONTROL PANEL NO. 2 (TCP) AT TEMPERATURE CONTROL PANEL.

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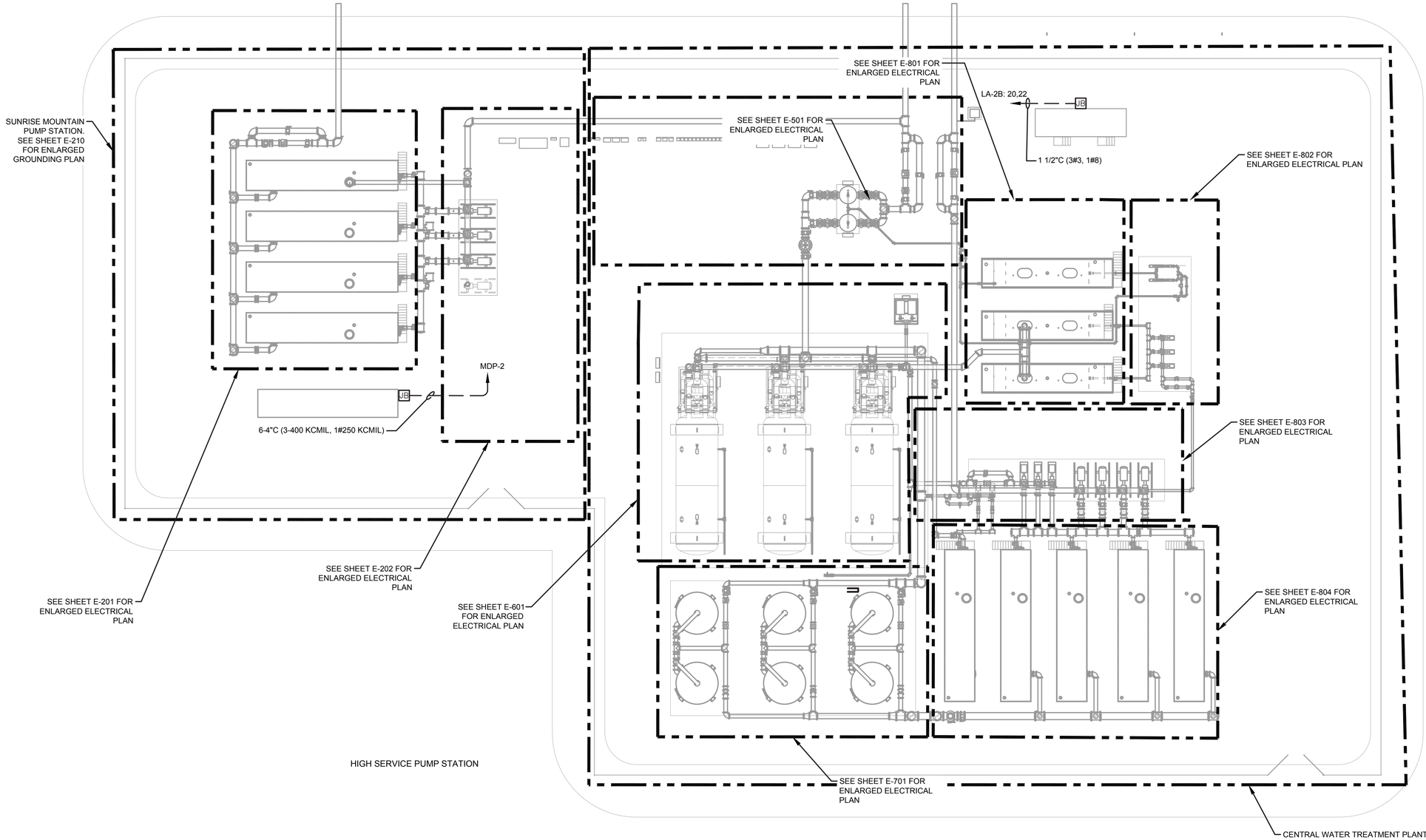
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

ELECTRICAL LEGEND

Project No.:	200-01299-16015
Designed By:	J. SEIGNORET
Drawn By:	J. SEIGNORET
Checked By:	S. DARIAN

E-001



SUNRISE MOUNTAIN PUMP STATION AND CENTRAL WATER TREATMENT PLANT ELECTRICAL SITE PLAN

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

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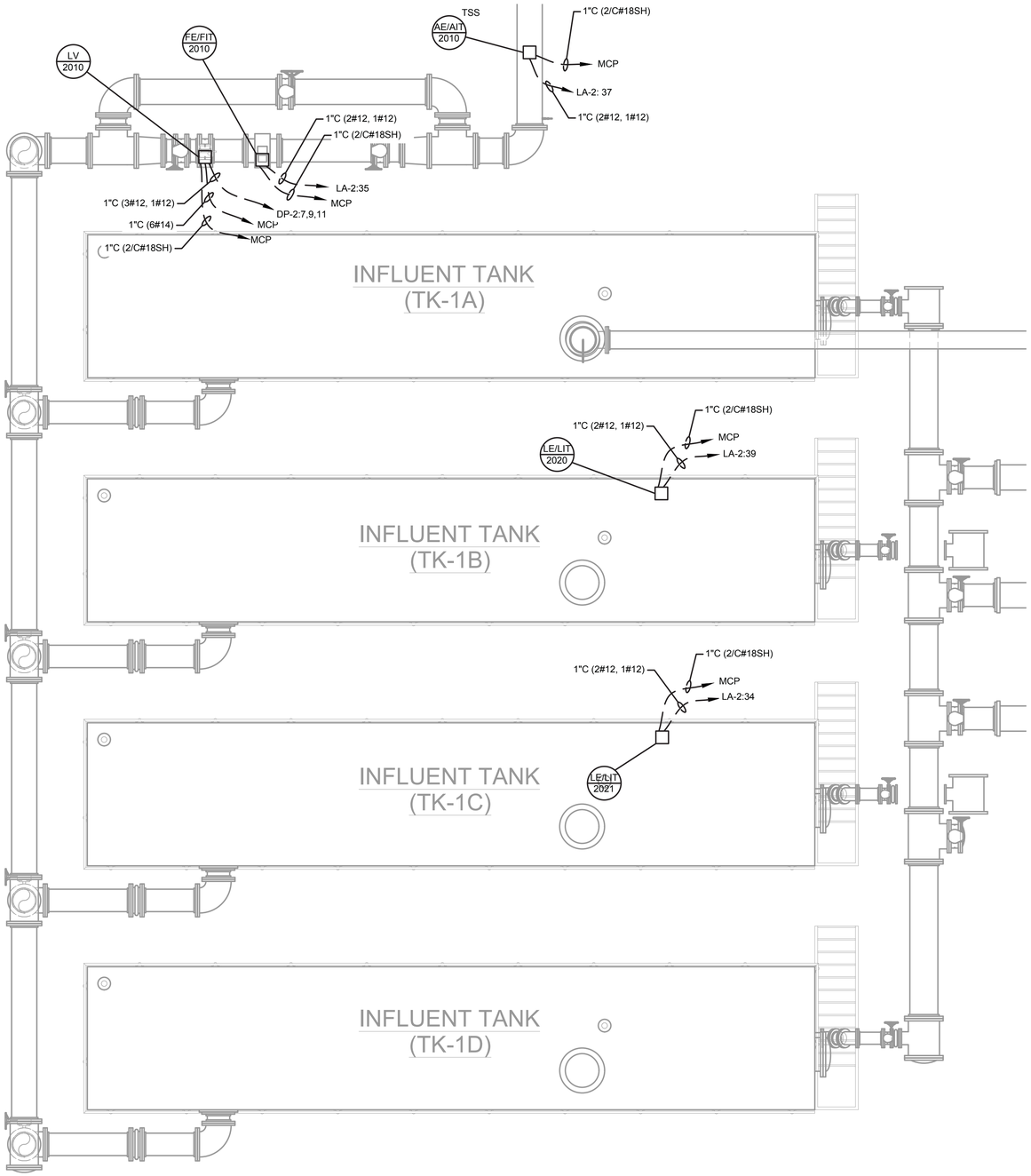
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

SUNRISE MOUNTAIN PS AND CENTRAL WTP SITE PLAN

Project No.:	200-01299-16015
Designed By:	J. SEIGNORET
Drawn By:	J. SEIGNORET
Checked By:	S. DARIAN

E-200



SUNRISE MOUNTAIN INFLUENT TANKS
ENLARGED ELECTRICAL SITE PLAN

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

N

0 2' 4' 8'

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

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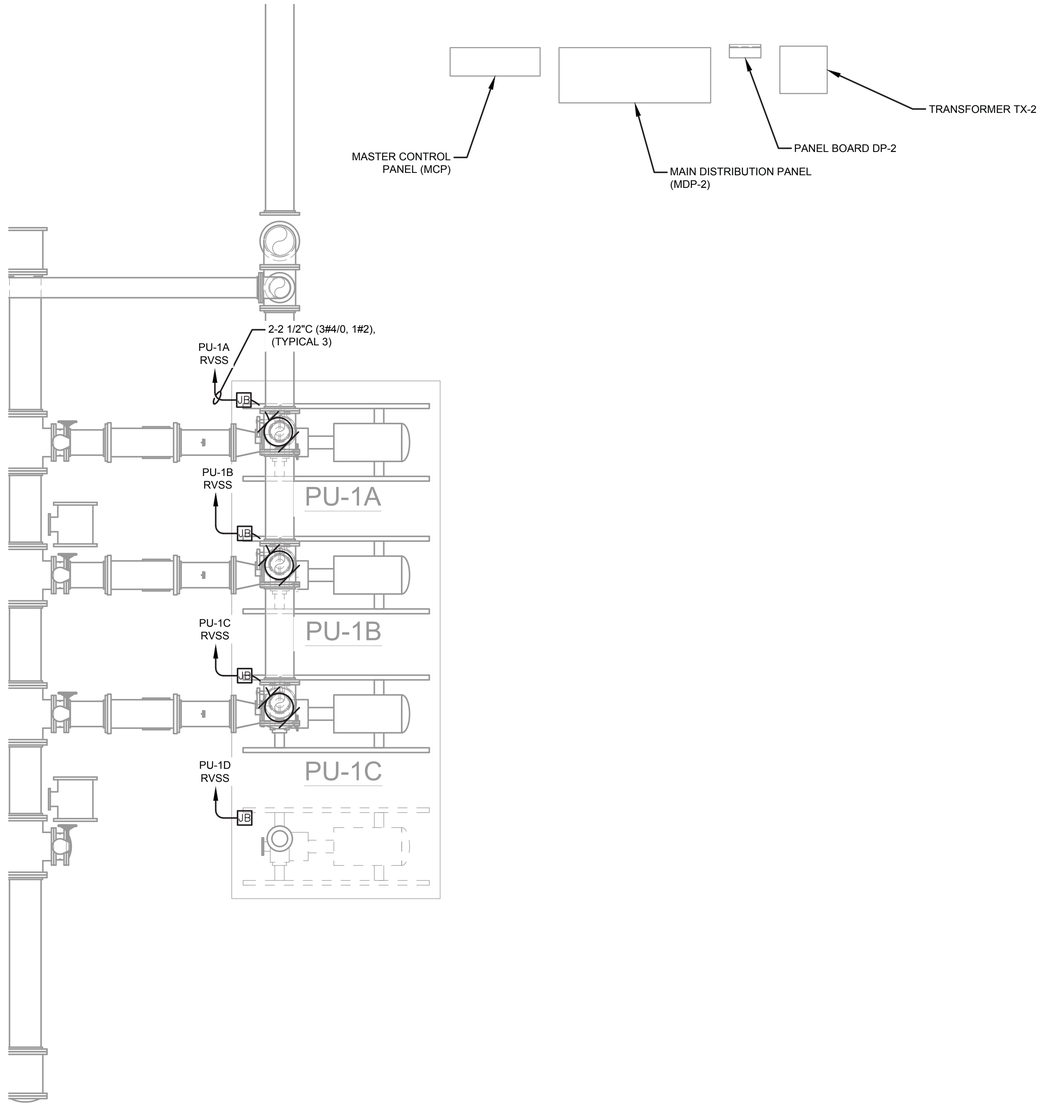
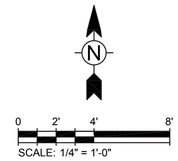
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT
SUNRISE MOUNTAIN
PUMP STATION TANKS
ELECTRICAL PLAN

Project No.:	200-01299-16015
Designed By:	J. SEIGNORET
Drawn By:	J. SEIGNORET
Checked By:	S. DARIAN

E-201





SUNRISE MOUNTAIN PUMPS
ENLARGED ELECTRICAL SITE PLAN

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

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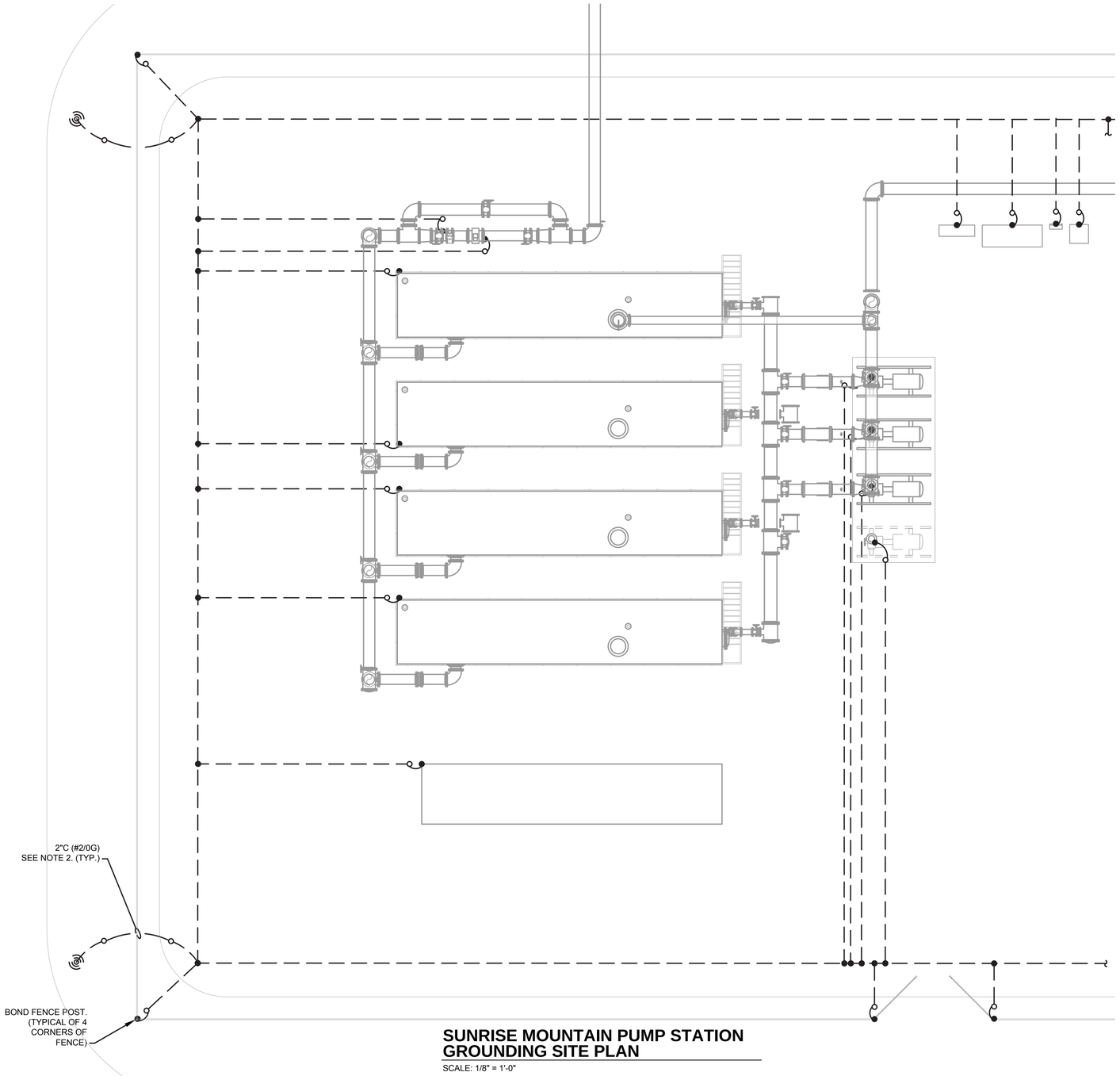
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

SUNRISE MOUNTAIN PUMP STATION PUMPS ELECTRICAL PLAN

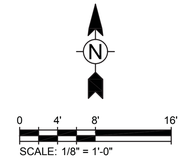
Project No.:	200-01299-16015
Designed By:	J. SEIGNORET
Drawn By:	J. SEIGNORET
Checked By:	S. DARIAN

E-202



SUNRISE MOUNTAIN PUMP STATION GROUNDING SITE PLAN

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



GENERAL NOTES:

1. CONTRACTOR SHALL ENSURE THAT GROUND RODS AND TEST WELLS ARE NOT INSTALLED ABOVE LINER.
2. GROUND COUNTERPOISE SHALL BE ROUTED OVER LINER BERM WITHIN 2" PVC CONDUIT.

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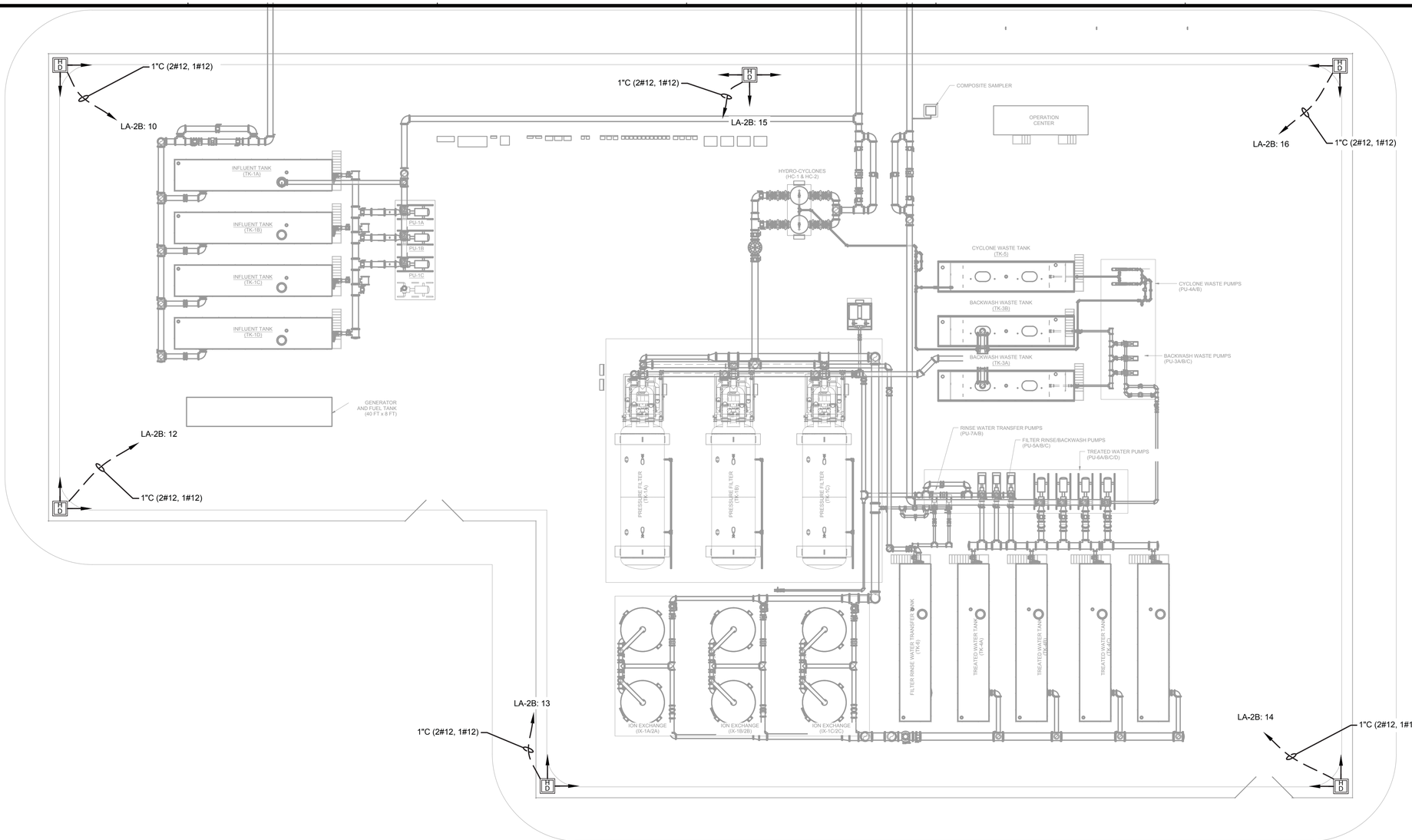
SUNRISE MOUNTAIN PUMP STATION GROUNDING PLAN

Project No.:	200-01299-16015
Designed By:	J. SEIGNORET
Drawn By:	J. SEIGNORET
Checked By:	S. DARIAN

E-210

2/15/2017 9:56:52 AM - O:\PROJECTS\ATLANTA\ER\01299\200-01299-16015\CAD\SHEETFILES\E-210 SUNRISE MOUNTAIN PUMP STATION GROUNDING PLAN.DWG - SEIGNORET, JASON



SITE LIGHTING ELECTRICAL PLAN

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

TETRA TECH
www.tetratech.com
1489 West Warm Springs Road, Suite 110
Henderson, NV 89014
Phone: 702.946.6700 Fax: 702.997.7140

MARK	DATE	DESCRIPTION	BY
A	11/28/16	ISSUED FOR 60% SUBMITTAL	HCR
B	01/27/17	ISSUED FOR DRAFT 90% SUBMITTAL	HCR
C	02/15/17	75% SUBMITTAL TO BOR	JAS

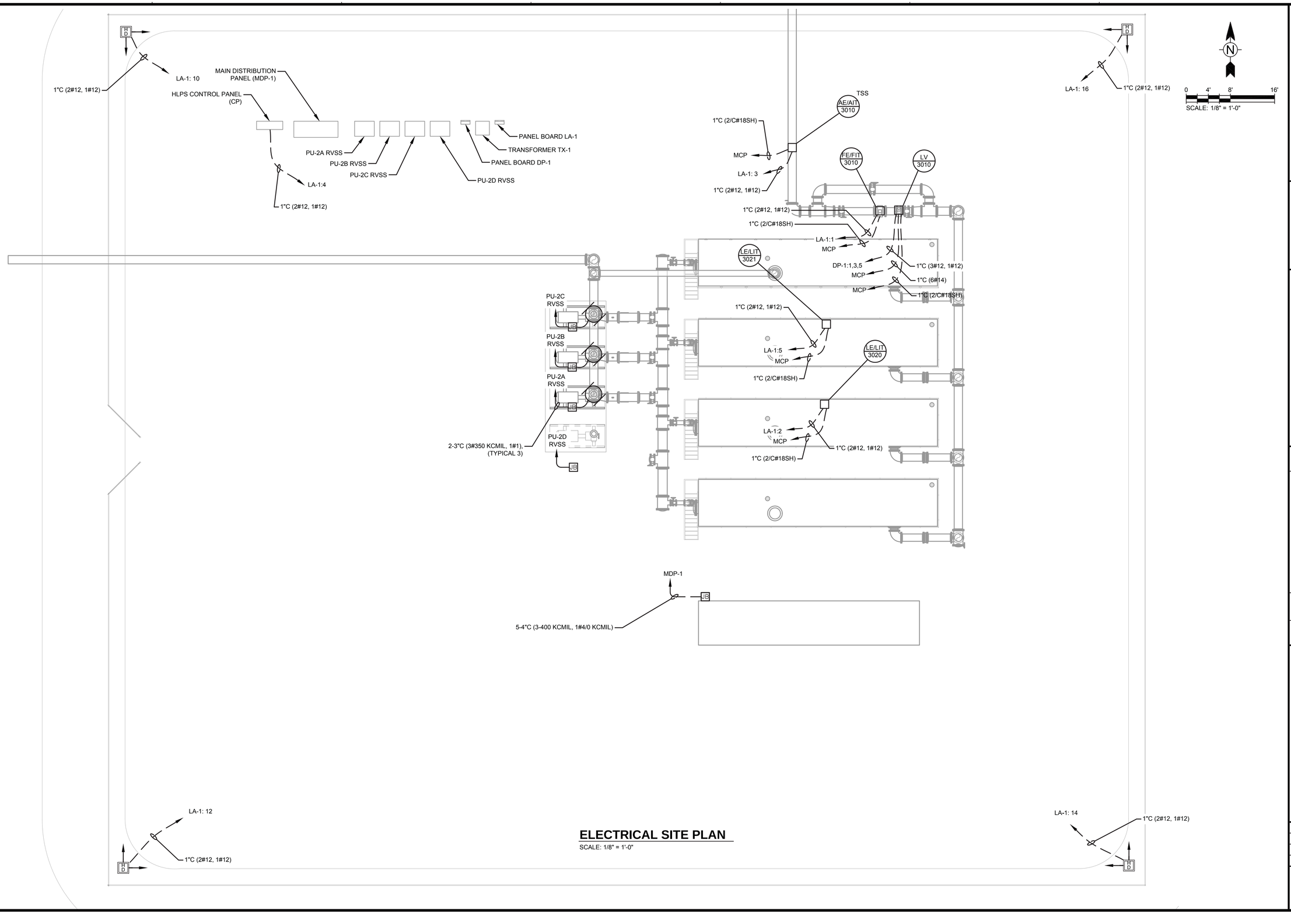
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

CENTRAL WATER TREATMENT PLANT
SITE LIGHTING PLAN

Project No.:	200-01299-16015
Designed By:	J. SEIGNORET
Drawn By:	J. SEIGNORET
Checked By:	S. DARIAN

E-220



ELECTRICAL SITE PLAN

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

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NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

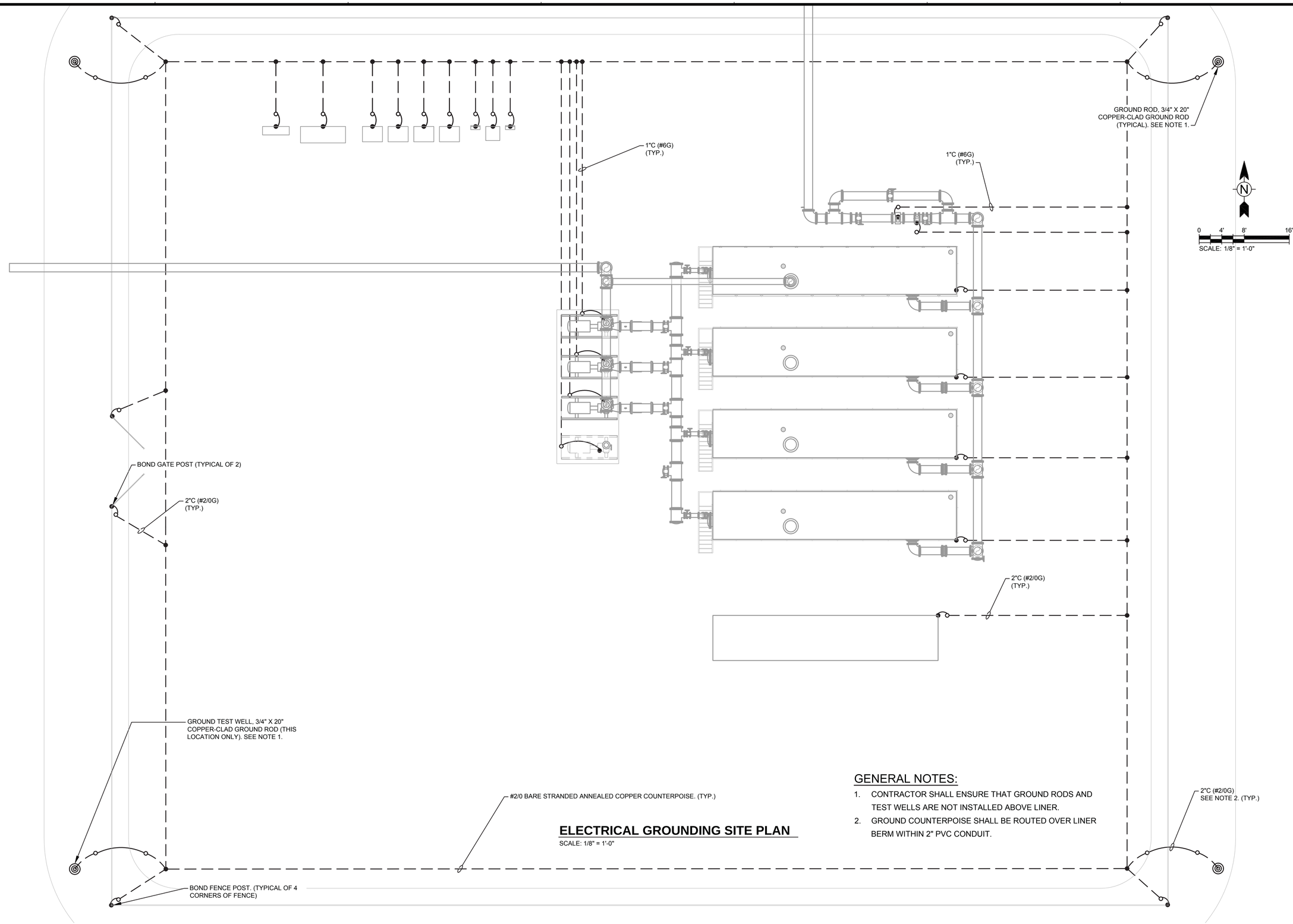
WEIR DEWATERING TREATMENT

HISTORIC LATERAL PUMP STATION ELECTRICAL SITE PLAN

Project No.:	200-01299-16015
Designed By:	J. SEIGNORET
Drawn By:	J. SEIGNORET
Checked By:	S. DARIAN

E-301

2/15/2017 9:57:40 AM - O:\PROJECTS\ATLANTAVIER\01299\200-01299-16015\CAD\SHEETFILES\E-301 HISTORIC LATERAL PUMP STATION ELECTRICAL SITE PLAN.DWG - SEIGNORET, JASON



ELECTRICAL GROUNDING SITE PLAN

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

GENERAL NOTES:

1. CONTRACTOR SHALL ENSURE THAT GROUND RODS AND TEST WELLS ARE NOT INSTALLED ABOVE LINER.
2. GROUND COUNTERPOISE SHALL BE ROUTED OVER LINER BERM WITHIN 2" PVC CONDUIT.

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NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

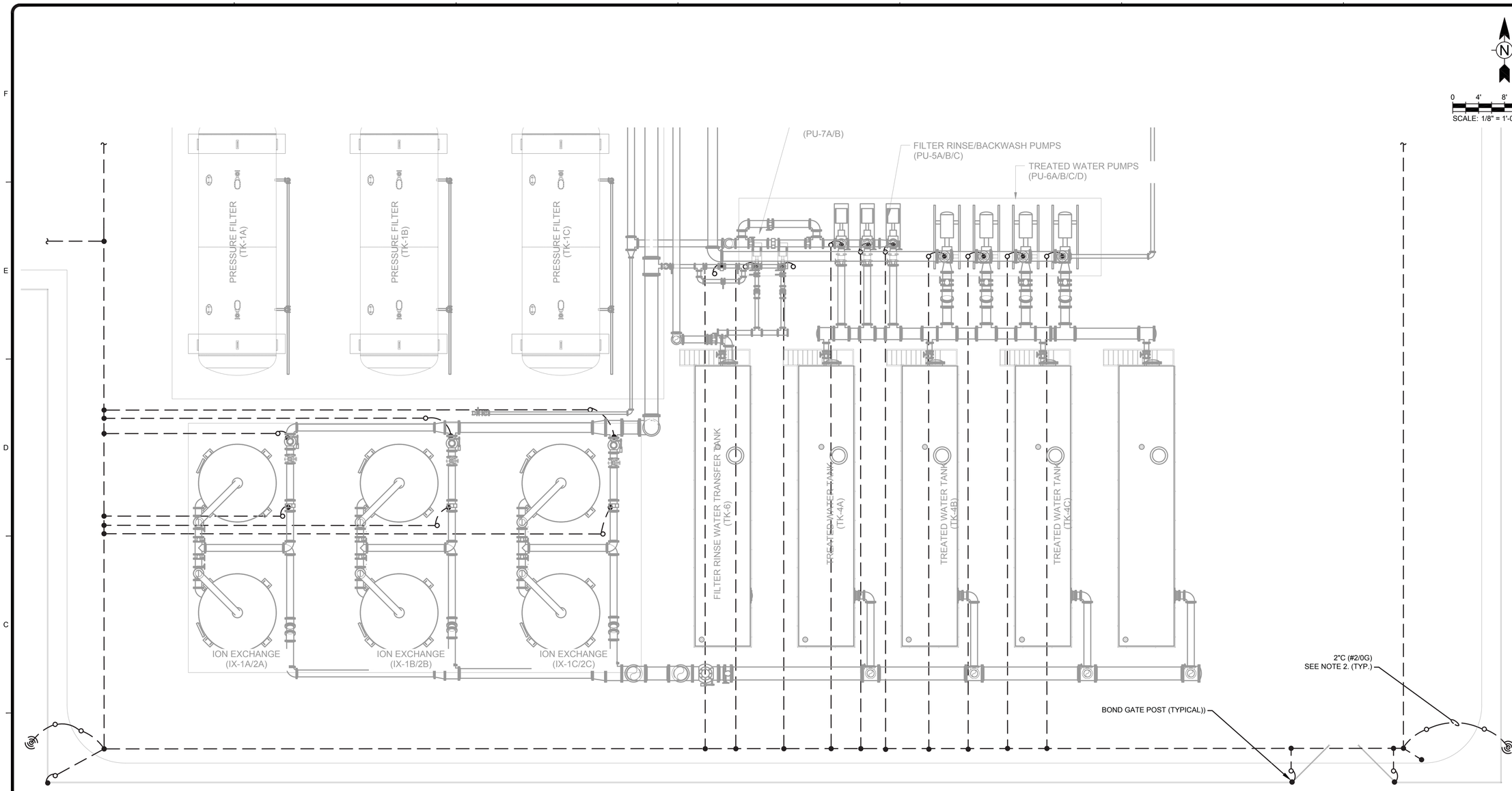
WEIR DEWATERING TREATMENT

HISTORIC LATERAL PUMP STATION GROUNDING PLAN

Project No.:	200-01299-16015
Designed By:	J. SEIGNORET
Drawn By:	J. SEIGNORET
Checked By:	S. DARIAN

E-310

2/15/2017 9:57:58 AM - O:\PROJECTS\ATLANTA\ER\01299\200-01299-16015\CAD\SHEETFILES\E-310 HISTORIC LATERAL PUMP STATION GROUNDING PLAN.DWG - SEIGNORET, JASON



CENTRAL WATER TREATMENT GROUNDING SITE PLAN

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

GENERAL NOTES:

1. CONTRACTOR SHALL ENSURE THAT GROUND RODS AND TEST WELLS ARE NOT INSTALLED ABOVE LINER.
2. GROUND COUNTERPOISE SHALL BE ROUTED OVER LINER BERM WITHIN 2" PVC CONDUIT.

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C	02/15/17	75% SUBMITTAL TO BOR	JAS

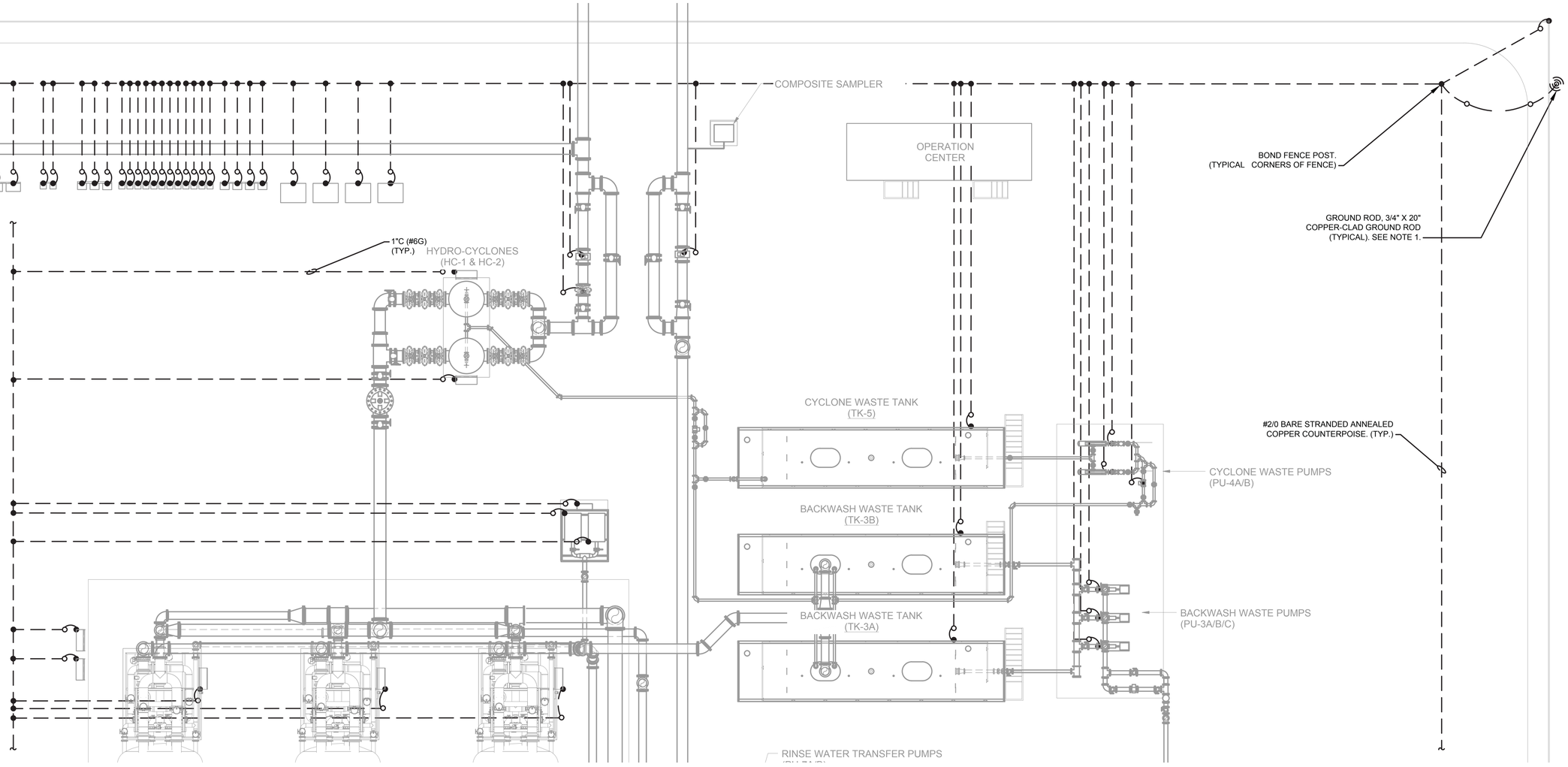
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

CENTRAL WATER TREATMENT PLANT GROUNDING PLAN

Project No.:	200-01299-16015
Designed By:	J. SEIGNORET
Drawn By:	J. SEIGNORET
Checked By:	S. DARIAN

E-410



CENTRAL WATER TREATMENT GROUNDING SITE PLAN

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

GENERAL NOTES:

1. CONTRACTOR SHALL ENSURE THAT GROUND RODS AND TEST WELLS ARE NOT INSTALLED ABOVE LINER.
2. GROUND COUNTERPOISE SHALL BE ROUTED OVER LINER BERM WITHIN 2" PVC CONDUIT.

N

0 4' 8' 16'

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

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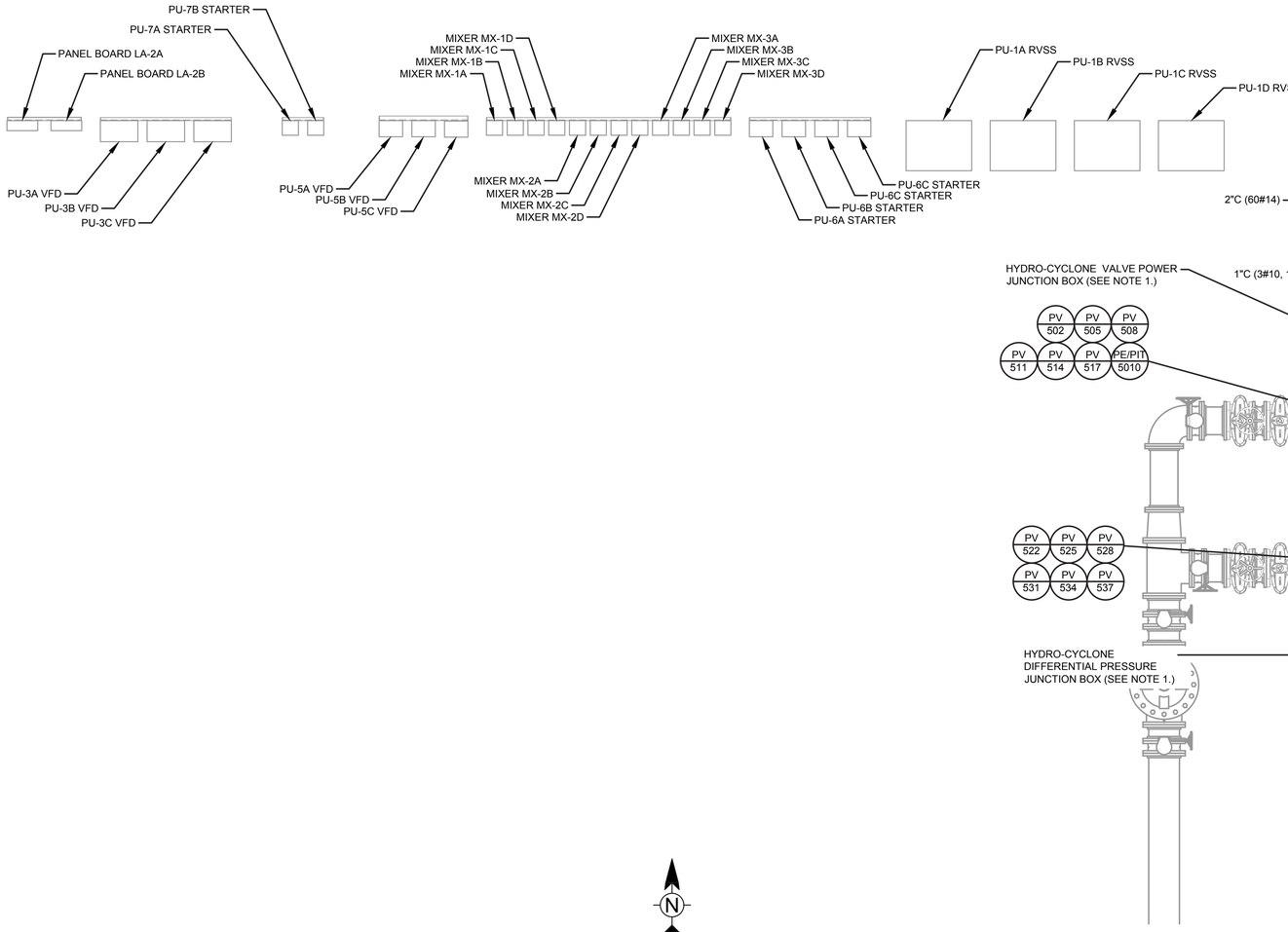
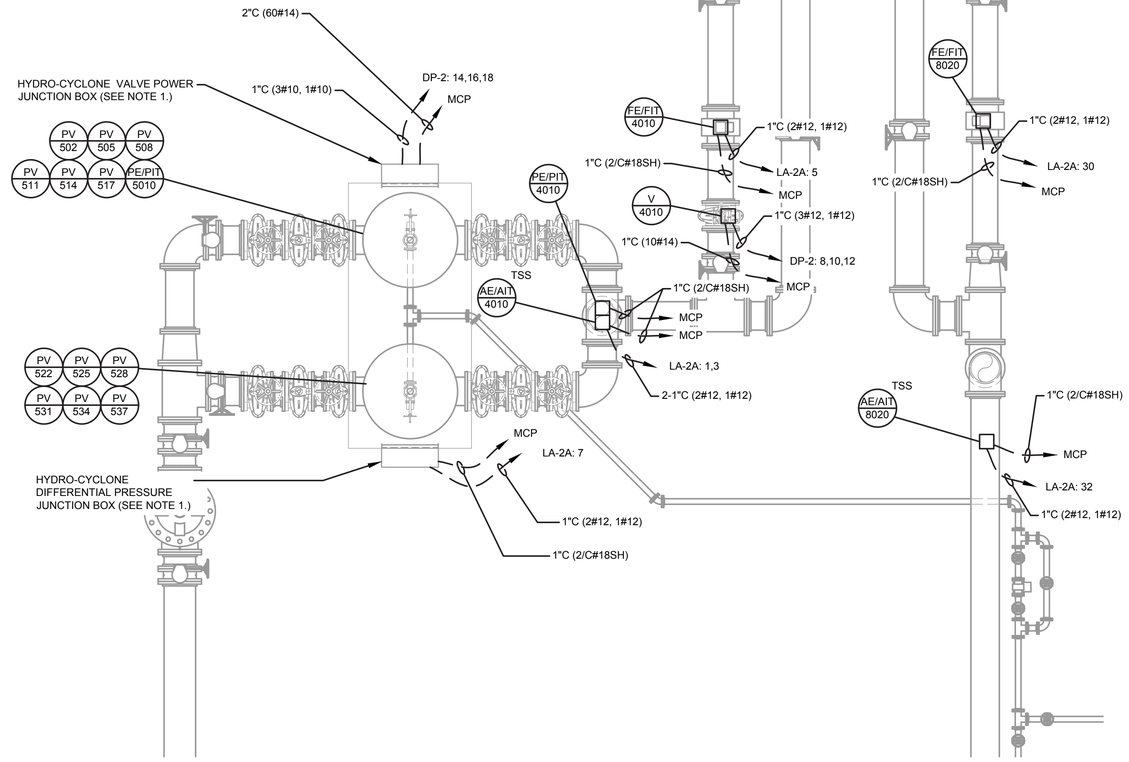
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

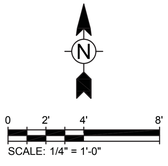
WEIR DEWATERING TREATMENT
CENTRAL WATER TREATMENT PLANT GROUNDING PLAN

Project No.:	200-01299-16015
Designed By:	J. SEIGNORET
Drawn By:	J. SEIGNORET
Checked By:	S. DARIAN

E-411







HYDRO-CYCLONES ENLARGED ELECTRICAL SITE PLAN

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

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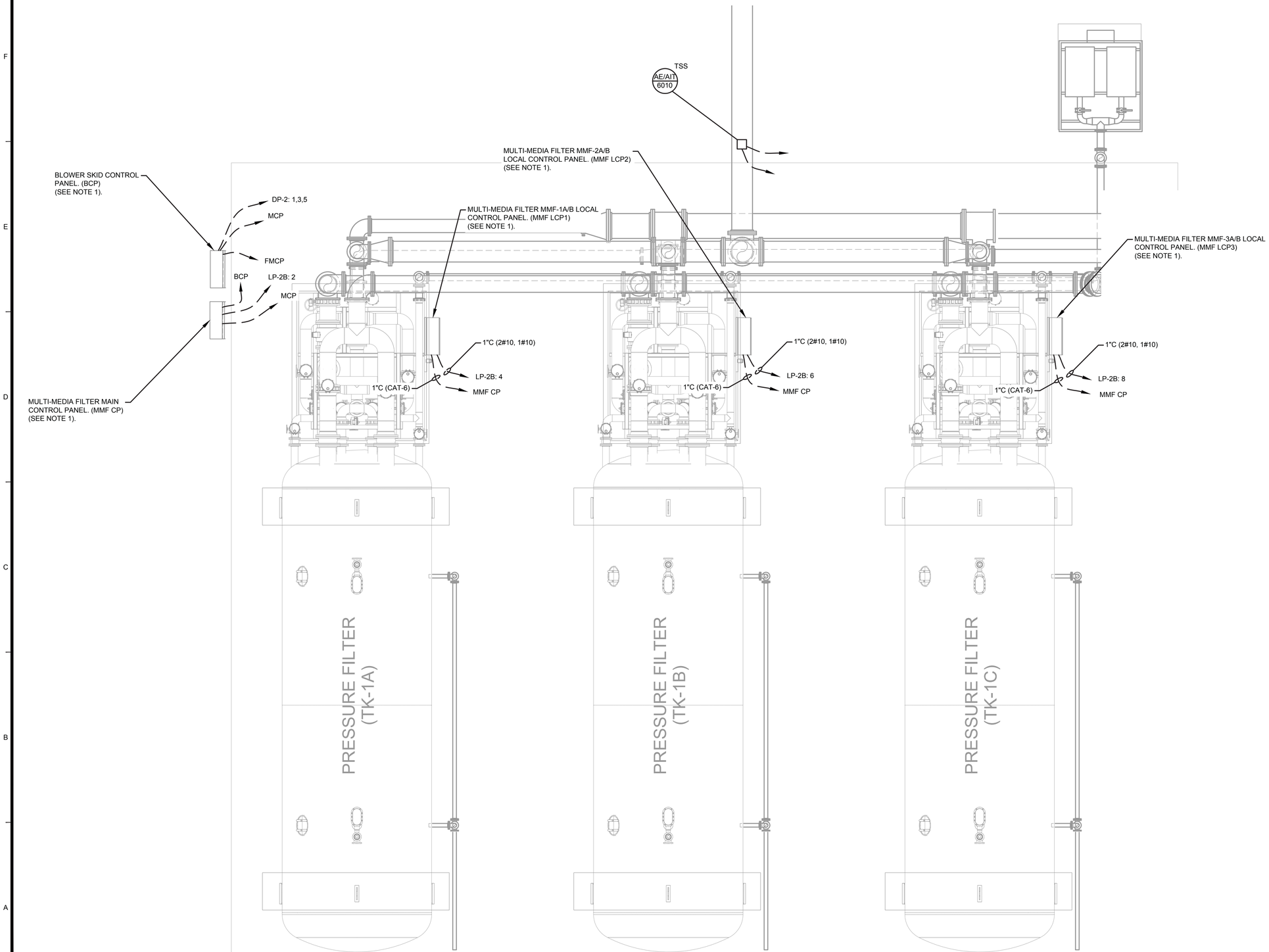
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

HYDRO-CYCLONES ELECTRICAL PLAN

Project No.:	200-01299-16015
Designed By:	J. SEIGNORET
Drawn By:	J. SEIGNORET
Checked By:	S. DARIAN

E-501



MULTI-MEDIA FILTERS ENLARGED ELECTRICAL SITE PLAN

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

N

0 2' 4' 8'

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

GENERAL NOTES:

1. CONTROL PANEL PROVIDED BY MULTI-MEDIA FILTER MANUFACTURER. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ELECTRICAL CONNECTIONS SHOWN ON PLAN.

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C	02/15/17	75% SUBMITTAL TO BOR	JAS

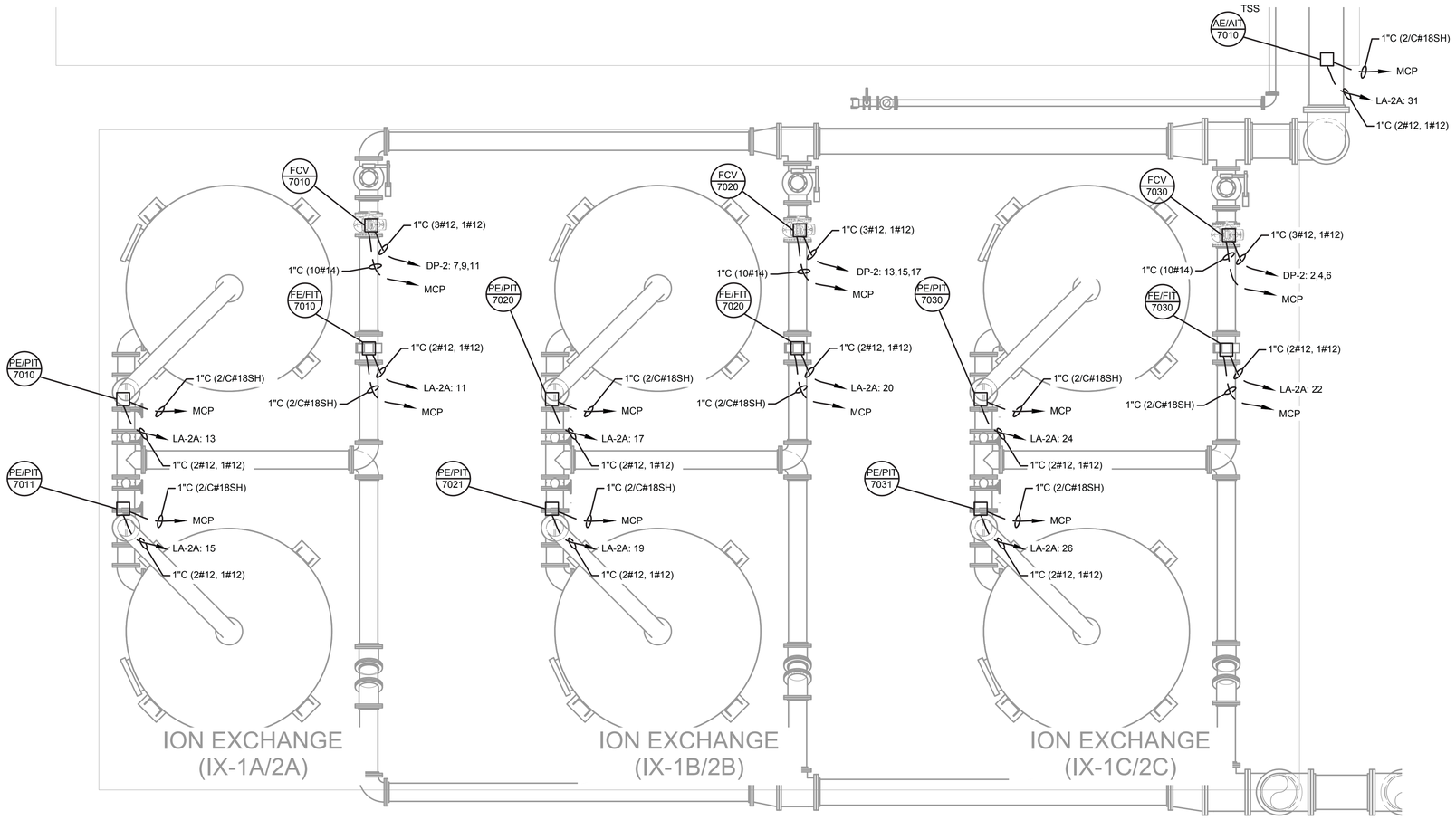
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

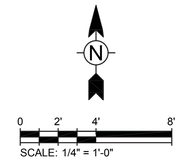
WEIR DEWATERING TREATMENT

MULTI-MEDIA FILTERS ELECTRICAL PLAN

Project No.:	200-01299-16015
Designed By:	J. SEIGNORET
Drawn By:	J. SEIGNORET
Checked By:	S. DARIAN

E-601





ION EXCHANGE ENLARGED ELECTRICAL SITE PLAN

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

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C	02/15/17	75% SUBMITTAL TO BOR	JAS

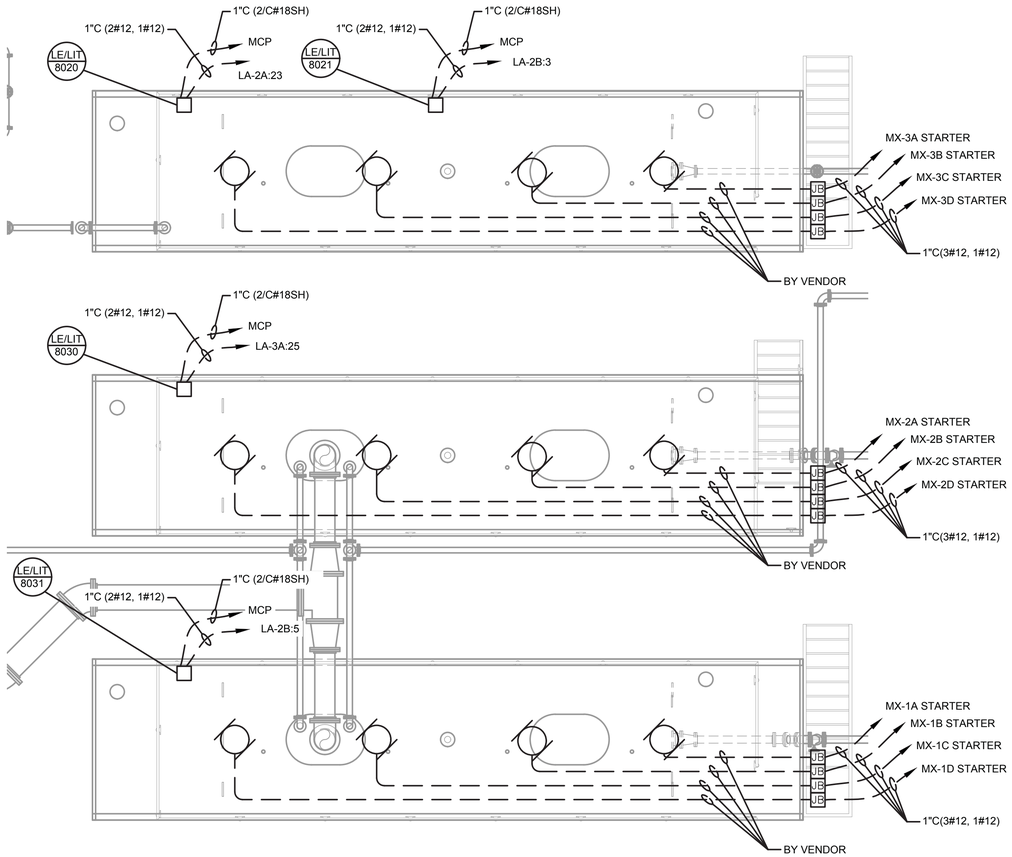
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

ION EXCHANGE ELECTRICAL PLAN

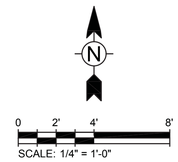
Project No.:	200-01299-16015
Designed By:	J. SEIGNORET
Drawn By:	J. SEIGNORET
Checked By:	S. DARIAN

E-701



WASTE TANKS ENLARGED ELECTRICAL SITE PLAN

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



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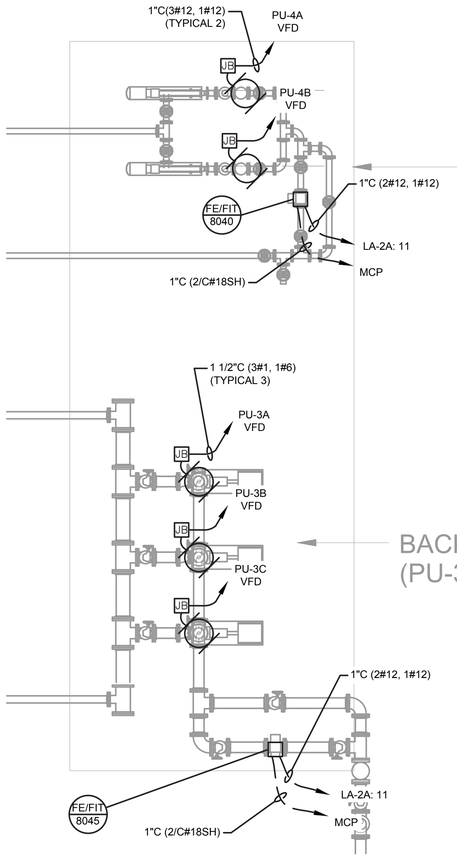
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

WASTE WATER TANKS ELECTRICAL PLAN

Project No.:	200-01299-16015
Designed By:	J. SEIGNORET
Drawn By:	J. SEIGNORET
Checked By:	S. DARIAN

E-801

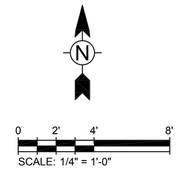


CYCLONE WASTE PUMPS
(PU-4A/B)

BACKWASH WASTE PUMPS
(PU-3A/B/C)

WASTE PUMPS ENLARGED ELECTRICAL SITE PLAN

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



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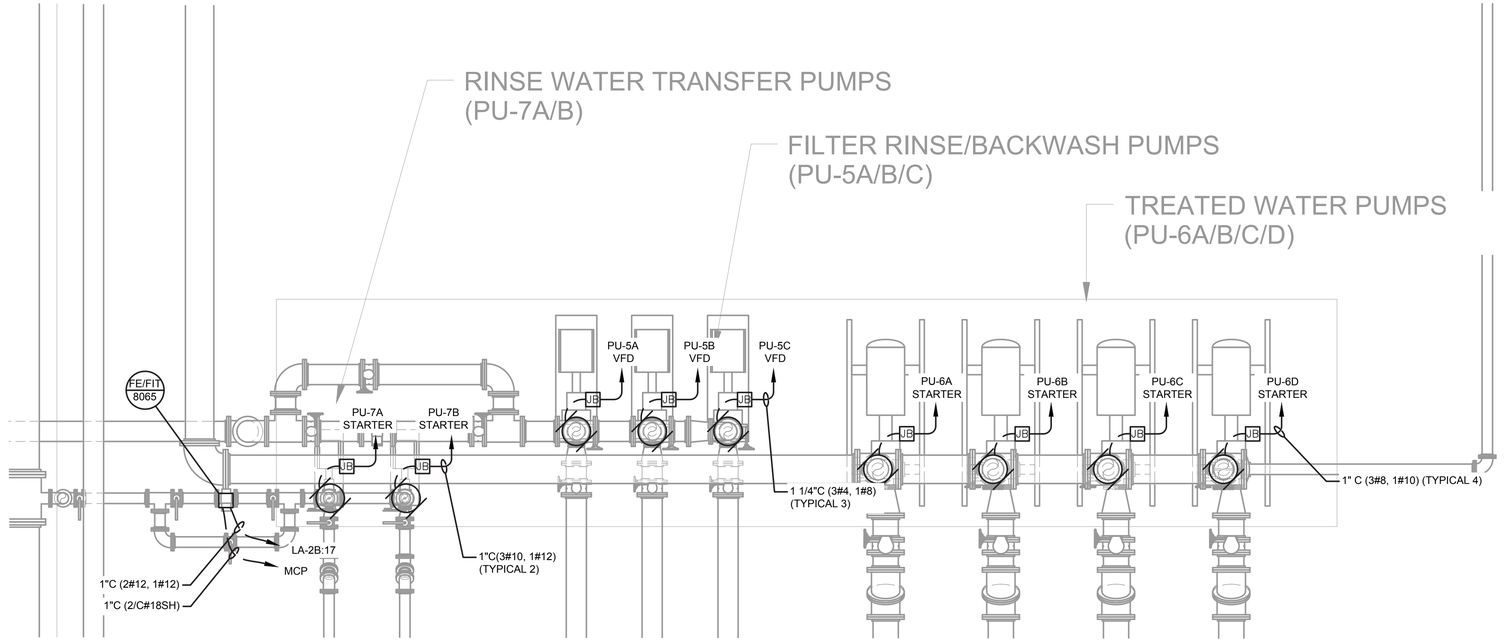
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

BACKWASH AND WASTE PUMPS ELECTRICAL PLAN

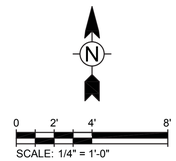
Project No.:	200-01299-16015
Designed By:	J. SEIGNORET
Drawn By:	J. SEIGNORET
Checked By:	S. DARIAN

E-802



TRANSFER PUMPS ENLARGED ELECTRICAL SITE PLAN

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



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NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

CENTRAL WATER TREATMENT PLANT PUMPS ELECTRICAL PLAN

Project No.:	200-01299-16015
Designed By:	J. SEIGNORET
Drawn By:	J. SEIGNORET
Checked By:	S. DARIAN

E-803

TANKS ENLARGED ELECTRICAL SITE PLAN

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

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Phone: 702.946.6700 Fax: 702.997.7140

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NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

TREATED WATER TANKS ELECTRICAL PLAN

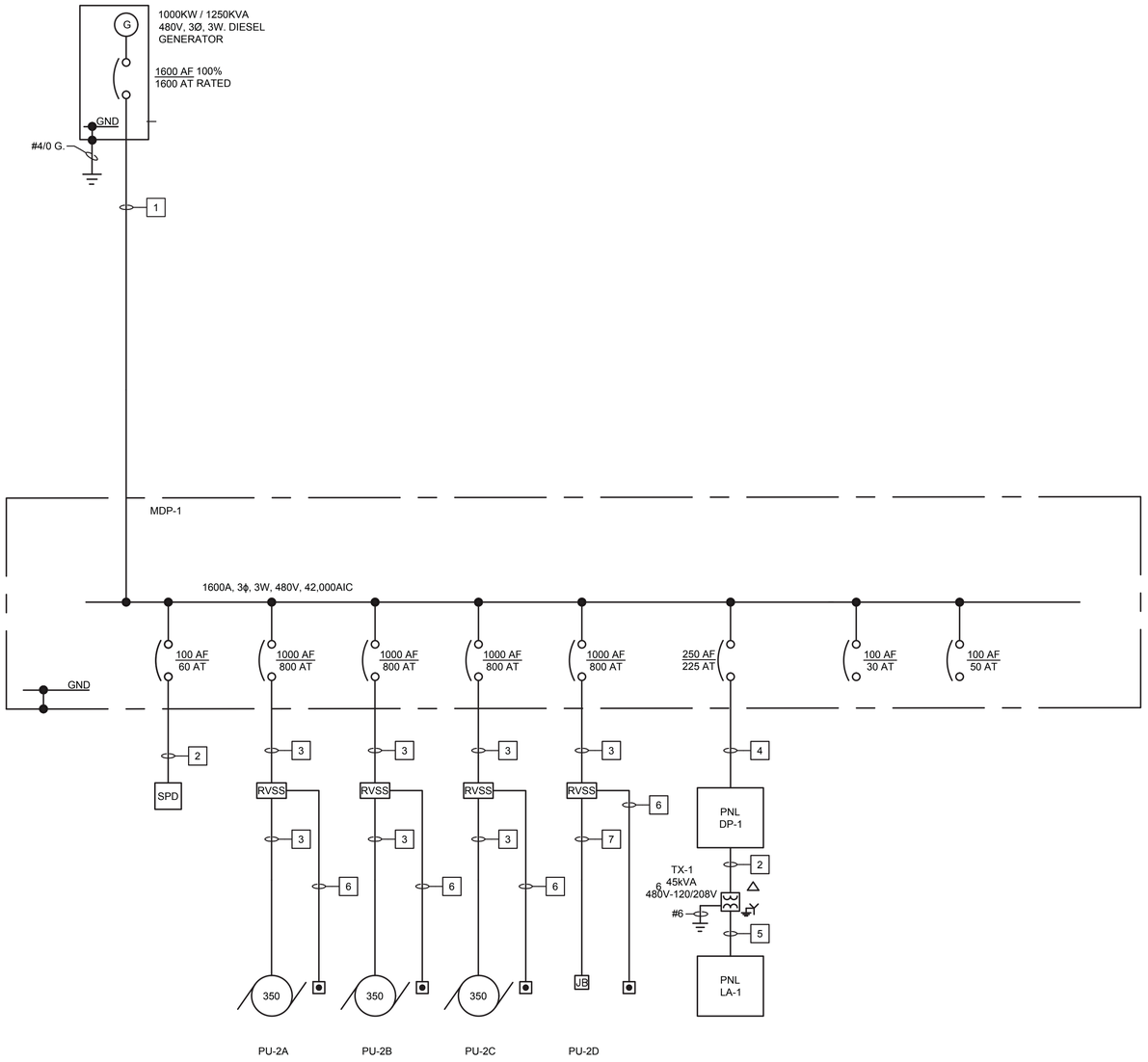
Project No.:	200-01299-16015
Designed By:	J. SEIGNORET
Drawn By:	J. SEIGNORET
Checked By:	S. DARIAN

E-804

2/15/2017 9:58:52 AM - O:\PROJECTS\ATLANTA\IER\01299\200-01299-16015\CAD\SHEETFILES\E-210 SUNRISE MOUNTAIN PUMP STATION GROUNDING PLAN.DWG - SEIGNORET, JASON

NOTES:

1. 5-4"C (3-400 KCMIL, 1#4/0 KCMIL)
2. 1 1/4"C(3#6, 1#10)
3. 2 RUNS 3"C(3#350 KCMIL, 1#1)
4. 2 1/2"C (3#4/0, 1#4)
5. 1 1/2"C (3#1, 1#6)
6. 1"C (2#12)



DP-1 SWITCHGEAR LOAD CALCULATION		
LOADNAME	DEMAND LOAD	CONNECTED LOAD
PU-2A/2B/2C PUMPS	1050HP; 967KVA	1050HP; 967KVA
PANEL DP-2	40KVA	40KVA
TOTAL	1007KVA 1211A	1007KVA 1211A

HISTORIC LATERAL PUMP STATION SINGLE-LINE DIAGRAM

NO SCALE

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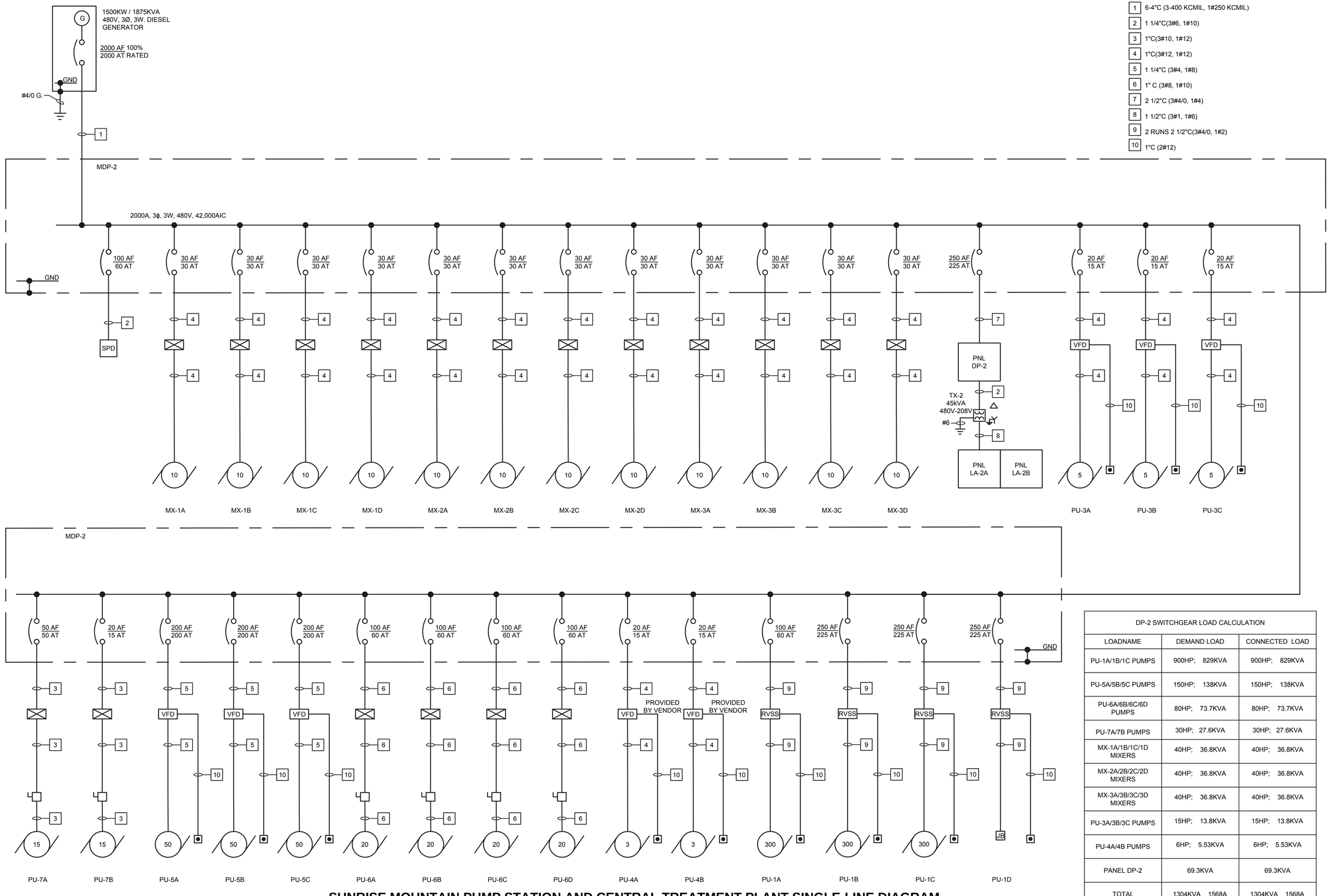
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT
HISTORIC LATERAL
SINGLE LINE DIAGRAM

Project No.:	200-01299-16015
Designed By:	J. SEIGNORET
Drawn By:	J. SEIGNORET
Checked By:	S. DARIAN

E-1401



NOTES:

1. 6-4"C (3-400 KCMIL, 1#250 KCMIL)
2. 1 1/4"C(3#6, 1#10)
3. 1"C(3#10, 1#12)
4. 1"C(3#12, 1#12)
5. 1 1/4"C (3#4, 1#8)
6. 1" C (3#8, 1#10)
7. 2 1/2"C (3#4/0, 1#4)
8. 1 1/2"C (3#1, 1#6)
9. 2 RUNS 2 1/2"C(3#4/0, 1#2)
10. 1"C (2#12)

SUNRISE MOUNTAIN PUMP STATION AND CENTRAL TREATMENT PLANT SINGLE-LINE DIAGRAM

NO SCALE

DP-2 SWITCHGEAR LOAD CALCULATION

LOADNAME	DEMAND LOAD	CONNECTED LOAD
PU-1A/1B/1C PUMPS	900HP; 829KVA	900HP; 829KVA
PU-5A/5B/5C PUMPS	150HP; 138KVA	150HP; 138KVA
PU-6A/6B/6C/6D PUMPS	80HP; 73.7KVA	80HP; 73.7KVA
PU-7A/7B PUMPS	30HP; 27.6KVA	30HP; 27.6KVA
MX-1A/1B/1C/1D MIXERS	40HP; 36.8KVA	40HP; 36.8KVA
MX-2A/2B/2C/2D MIXERS	40HP; 36.8KVA	40HP; 36.8KVA
MX-3A/3B/3C/3D MIXERS	40HP; 36.8KVA	40HP; 36.8KVA
PU-3A/3B/3C PUMPS	15HP; 13.8KVA	15HP; 13.8KVA
PU-4A/4B PUMPS	6HP; 5.53KVA	6HP; 5.53KVA
PANEL DP-2	69.3KVA	69.3KVA
TOTAL	1304KVA 1568A	1304KVA 1568A

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NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT
CENTRAL WATER TREATMENT PLANT
SINGLE LINE DIAGRAM

Project No.:	200-01299-16015
Designed By:	J. SEIGNORET
Drawn By:	J. SEIGNORET
Checked By:	S. DARIAN

E-1402

PANELBOARD: DP-1

SERVICE: 480/277V, 3 PH, 3 W + GND

BUS SIZE: 225A | **MAIN DEVICE: 225A** | **65,000 AIC** | **MOUNTING: SURFACE**

LOAD: **CONN. 7.2 kVA** | **DEM. 7.2 kVA** | **DEM. 8.7 Amps**

NOTES: NEMA 3R

LOCATION: HISTORIC LATERAL PUMP STATION

CKT #	TRIP/ POLE	NOTES	CIRCUIT DESCRIPTION	CONNECTED LOAD (VA) PHASE A	PHASE B	PHASE C	CIRCUIT DESCRIPTION	NOTES	TRIP/ POLE	CKT #
1	20A/3		FCV-3010	2,400			PANEL LA-1		100A/3	2
3	-		-		2,400		-		-	4
5	-		-			2,400	-		-	6
7										8
9										10
11										12
13										14
15										16
17										18
19										20
21										22
23										24
25										26
27										28
29										30
31										32
33										34
35										36
37							SURGE		30A/3	38
39							PROTECTION		-	40
41							DEVICE		-	42
TOTAL CONNECTED LOADS:				2,400 0	2,400 0	2,400 0				

PANELBOARD: DP-2

SERVICE: 480/277V, 3 PH, 3 W + GND

BUS SIZE: 225A | **MAIN DEVICE: 225A** | **65,000 AIC** | **MOUNTING: SURFACE**

LOAD: **CONN. 69.3 kVA** | **DEM. 69.3 kVA** | **DEM. 83.4 Amps**

NOTES: NEMA 3R

LOCATION: CENTRAL WATER PLANT

CKT #	TRIP/ POLE	NOTES	CIRCUIT DESCRIPTION	CONNECTED LOAD (VA) PHASE A	PHASE B	PHASE C	CIRCUIT DESCRIPTION	NOTES	TRIP/ POLE	CKT #
1	90A/3		MULTI-MEDIA FILTER BLOWER SKID	11,000 800			FCV-7030		20A/3	2
3	-		-		11,000 800		-		-	4
5	-		-			11,000 800	-		-	6
7	20A/3		FCV-7010	800 800			FCV-4010		20A/3	8
9	-		-		800 800		-		-	10
11	-		-			800 800	-		-	12
13	20A/3		FCV-7020	800 2,500			Hydro Cyclone Panel		30A/3	14
15	-		-		800 2,500		-		-	16
17	-		-			800 2,500	-		-	18
19	60A/3		XFMR T-3 (PANEL LA-3)	5,600 800			FCV-2010		20A/3	20
21	-				5,600 800		-		-	22
23	-					5,600 800	-		-	24
25										26
27										28
29										30
31										32
33										34
35										36
37							SURGE		30A/3	38
39							PROTECTION		-	40
41							DEVICE		-	42
TOTAL CONNECTED LOADS:				18,200 4,900	18,200 4,900	18,200 4,900				

PANELBOARD: LA-1

SERVICE: 208/120V, 3 PH, 4 W + GND

BUS SIZE: 100A | **MAIN DEVICE: 100A** | **SFC RATING: 10,000AIC** | **MOUNTING: SURFACE**

LOAD: **CONN. 5.1 kVA** | **DEM. 5.1 kVA** | **DEM. 14.2 Amps**

NOTES: NEMA 3R

LOCATION: HISTORIC LATERAL PUMP STATION

CKT #	TRIP/ POLE	NOTES	CIRCUIT DESCRIPTION	CONNECTED LOAD (VA) PHASE A	PHASE B	PHASE C	CIRCUIT DESCRIPTION	NOTES	TRIP/ POLE	CKT #
1	20A/1		FE/FIT-3010	180 180			LE/LIT-3021		20A/1	2
3	20A/1		AE/AIT-3010		180 1,200		HLPS CONTROL PANEL		20A/1	4
5	20A/1		LE/LIT-3020			180				6
7	20A/1		SITE LIGHTING	800						8
9	20A/1		SITE LIGHTING		800					10
11	20A/1		SITE LIGHTING			800				12
13	20A/1		SITE LIGHTING	800						14
15										16
17										18
19										20
21										22
23										24
25										26
27										28
29										30
31										32
33										34
35										36
37							SURGE		30A/3	38
39							PROTECTION		-	40
41							DEVICE		-	42
TOTAL CONNECTED LOADS:				1,780 180	980 1,200	980 0				

PANELBOARD: LA-2A

SERVICE: 208/120V, 3 PH, 4 W + GND

BUS SIZE: 200A | **MAIN DEVICE: 200A** | **SFC RATING: 10,000AIC** | **MOUNTING: SURFACE**

LOAD: **CONN. 6.7 kVA** | **DEM. 6.7 kVA** | **DEM. 18.5 Amps**

NOTES: NEMA 3R

LOCATION: CENTRAL WATER PLANT

CKT #	TRIP/ POLE	NOTES	CIRCUIT DESCRIPTION	CONNECTED LOAD (VA) PHASE A	PHASE B	PHASE C	CIRCUIT DESCRIPTION	NOTES	TRIP/ POLE	CKT #
1	20A/1		PE/PIT-4010	180 180			FE/FIT-6010		20A/1	2
3	20A/1		AE/AIT-4010		180 180		AE/AIT-6010		20A/1	4
5	20A/1		FE/FIT-4010			180 180	FE/FIT-6011		20A/1	6
7	20A/1		PE/PIT-5010	180 180			FE/FIT-6020		20A/1	8
9	20A/1		PE/PIT-6010		180 180		PE/PIT-6020		20A/1	10
11	20A/1		FE/FIT-7010			180 180	FE/FIT-6021		20A/1	12
13	20A/1		PE/PIT-7010	180 180			FE/FIT-6030		20A/1	14
15	20A/1		PE/PIT-7011		180 180		PE/PIT-6010		20A/1	16
17	20A/1		PE/PIT-7020			180 180	FE/FIT-6031		20A/1	18
19	20A/1		PE/PIT-7021	180 180			FE/FIT-7020		20A/1	20
21	20A/1		LE/LIT-8010		180 180		FE/FIT-7030		20A/1	22
23	20A/1		LE/LIT-8020			180 180	PE/PIT-7030		20A/1	24
25	20A/1		LE/LIT-8030	180 180			PE/PIT-7031		20A/1	26
27	20A/1		FE/FIT-8040		180 180		FE/FIT-8045		20A/1	28
29	20A/1		FE/FIT-8050			180 180	FE/FIT-8020		20A/1	30
31	20A/1		AE/AIT-7010	180 180			AE/AIT-8020		20A/1	32
33	20A/1		AE/AIT-6010		180 180		LE/LIT-2021		20A/1	34
35	20A/1		FE/FIT-2010			180				36
37	20A/1		AE/AIT-2010	180			SURGE		30A/3	38
39	20A/1		LE/LIT-2020		180		PROTECTION		-	40
41							DEVICE		-	42
TOTAL CONNECTED LOADS:				1,260 1,080	1,260 1,080	1,080 900				

PANELBOARD: LA-2B

SERVICE: 208/120V, 3 PH, 4 W + GND

BUS SIZE: 100A | **MAIN DEVICE: 100A** | **SFC RATING: 10,000AIC** | **MOUNTING: SURFACE**

LOAD: **CONN. 16.8 kVA** | **DEM. 13.4 kVA** | **DEM. 37.3 Amps**

NOTES: NEMA 3R

LOCATION: SUNRISE MOUNTAIN

CKT #	TRIP/ POLE	NOTES	CIRCUIT DESCRIPTION	CONNECTED LOAD (VA) PHASE A	PHASE B	PHASE C	CIRCUIT DESCRIPTION	NOTES	TRIP/ POLE	CKT #
1	20A/1		MASTER CONTROL PANEL (MCP)	1,200 1,200			MULTIMEDIA FILTER MAIN CONTROL PANEL		20A/1	2
3	20A/1		LE/LIT-8021		180 2,640		MULTIMEDIA FILTER LOCAL CONTROL PANEL		30A/1	4
5	20A/1		LE/LIT-8031			180 2,640	MULTIMEDIA FILTER LOCAL CONTROL PANEL		30A/1	6
7	20A/1		LE/LIT-8011	180 2,640			MULTIMEDIA FILTER LOCAL CONTROL PANEL		30A/1	8
9	20A/1		LE/LIT-8012		180 800		SITE LIGHTING		20A/1	10
11	20A/1		LE/LIT-8013			180 800	SITE LIGHTING		20A/1	12
13	20A/1		SITE LIGHTING	1,200 800			SITE LIGHTING		20A/1	14
15	20A/1		SITE LIGHTING		1,200 800		SITE LIGHTING		20A/1	16
17							MASTER CONTROL PANEL		20A/1	18
19							OPERATOR TRAILER		100A/2	20
21							XXXXX			22
23										24
25										26
27										28
29										30
31										32
33										34
35										36
37							SURGE		30A/3	38
39							PROTECTION		-	40
41							DEVICE		-	42
TOTAL CONNECTED LOADS:				2,580 4,640	1,560 4,240	360 3,440				

TETRA TECH
www.tetratech.com
1489 West Warm Springs Road, Suite 110
Henderson, NV 89014
Phone: 702.946.6700 Fax: 702.997.7140

MARK	DATE	DESCRIPTION	BY
A	11/28/16	ISSUED FOR 60% SUBMITTAL	HCR
B	01/27/17	ISSUED FOR DRAFT 90% SUBMITTAL	HCR
C	02/15/17	75% SUBMITTAL TO BOR	JAS

NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

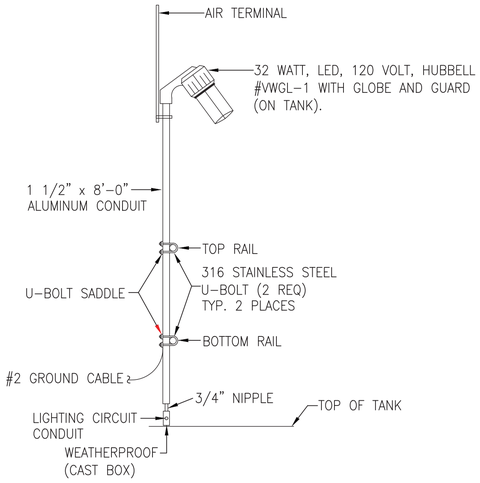
WEIR DEWATERING TREATMENT

PANEL BOARD SCHEDULES

Project No.: 200-01299-16015
Designed By: J. SEIGNORET
Drawn By: J. SEIGNORET
Checked By: S. DARIAN

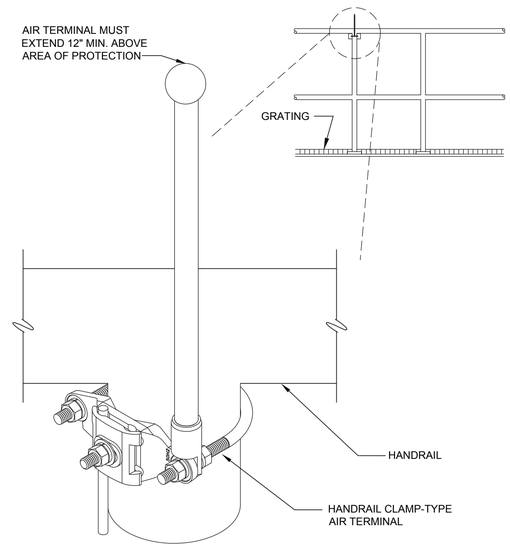
E-1403

GROUND STORAGE TANK LIGHT FIXTURE DETAIL



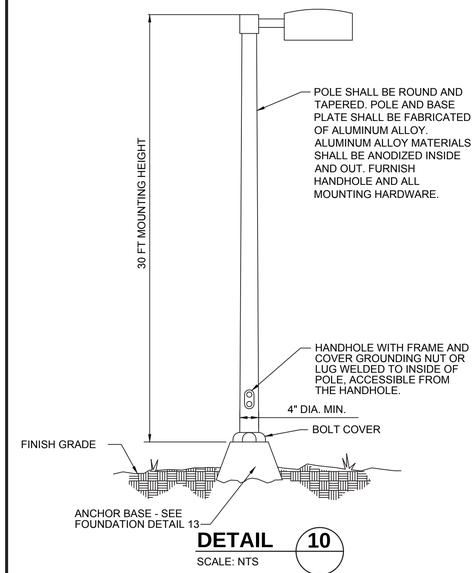
DETAIL 8
SCALE: NTS

AIR TERMINAL HANDRAILING MOUNT



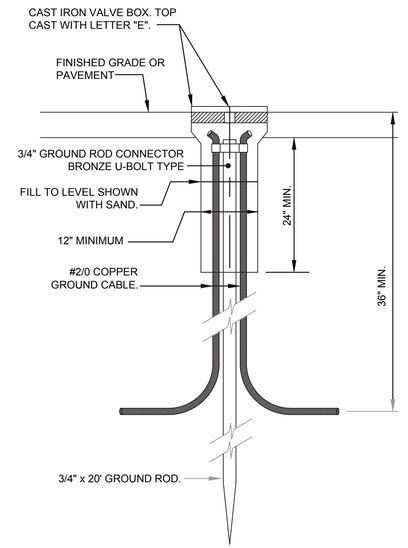
DETAIL 9
SCALE: NTS

TYPICAL YARD LIGHTING FIXTURE



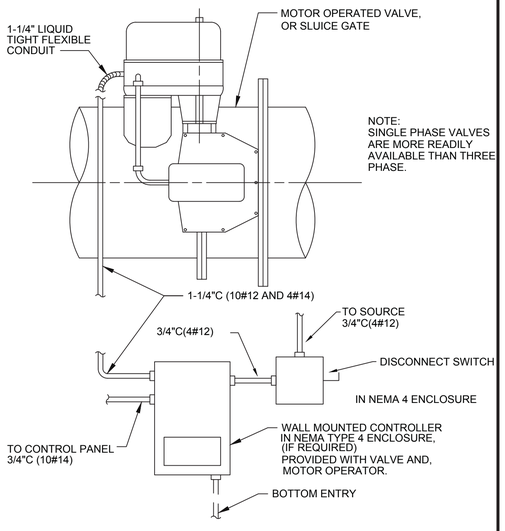
DETAIL 10
SCALE: NTS

GROUND ROD INSPECTION TEST WELL INSTALLATION



DETAIL 11
SCALE: NTS

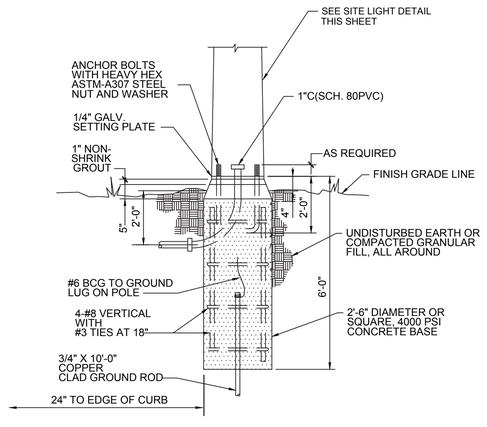
MOTOR OPERATED VALVE



SEE "DEVICE BOX CONDUIT DETAIL" FOR INSTALLATION

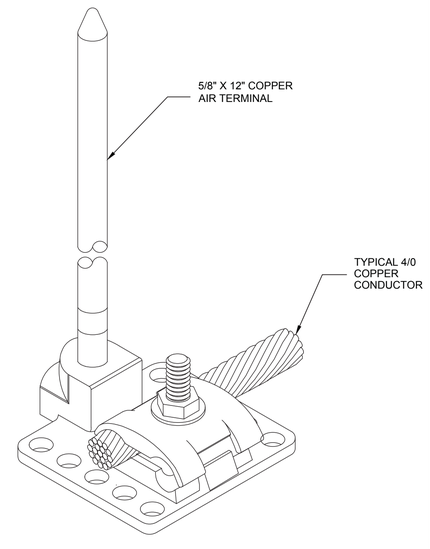
DETAIL 17
SCALE: NTS

LIGHT POLE STANDARD FOUNDATION



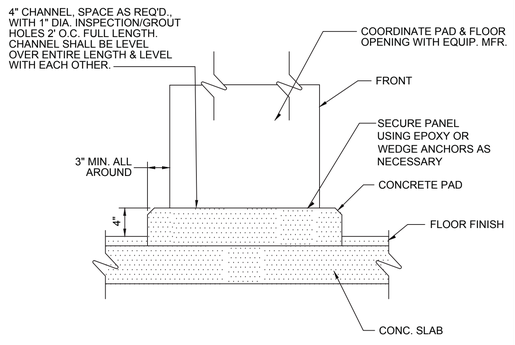
DETAIL 13
SCALE: NTS

AIR TERMINAL AND BASE



DETAIL 14
SCALE: NTS

CONTROL PANEL MOUNTING



NOTE: FOR PANELS FORMING PART OF A WALL, SEE STRUCTURAL DETAILS FOR PAD LOCATION

DETAIL 16
SCALE: NTS

TETRA TECH
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1489 West Warm Springs Road, Suite 110
Henderson, NV 89014
Phone: 702.946.6700 Fax: 702.997.7140

MARK	DATE	DESCRIPTION	BY
A	11/28/16	ISSUED FOR 60% SUBMITTAL	HCR
B	01/27/17	ISSUED FOR DRAFT 90% SUBMITTAL	HCR
C	02/15/17	75% SUBMITTAL TO BOR	JAS

NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

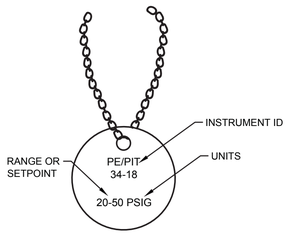
WEIR DEWATERING TREATMENT

ELECTRICAL DETAILS

Project No.:	200-01299-16015
Designed By:	J. SEIGNORET
Drawn By:	J. SEIGNORET
Checked By:	S. DARIAN

E-1501

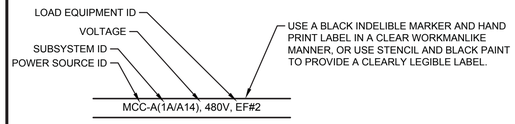
INSTRUMENT TAG



NOTE:
1. STAINLESS STEEL TAG
2. STAINLESS STEEL CHAIN
3. BLACK LETTERING
4. INSTALL TAG ON ELEMENTS AND INSTRUMENTS.

DETAIL 35
SCALE: NTS

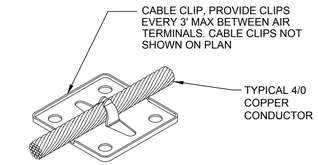
FEEDER BRANCH CIRCUIT RACEWAY LABELS



NOTE:
1. NO LABELING REQUIRED FOR RACEWAYS WITH READILY IDENTIFIABLE TERMINATIONS WITHIN THE SAME ROOM
2. IN ACCESSIBLE CEILING SPACES AND EXPOSED IN UNFINISHED AREAS, LABEL CONDUIT WITH PANEL AND CIRCUIT NUMBERS OF CONDUCTORS ROUTED THROUGH THE CONDUIT. LABEL CONDUIT AT WALL PENETRATIONS AND CONNECTIONS TO ALL PANELS, JUNCTION BOXES, AND EQUIPMENT SERVED.

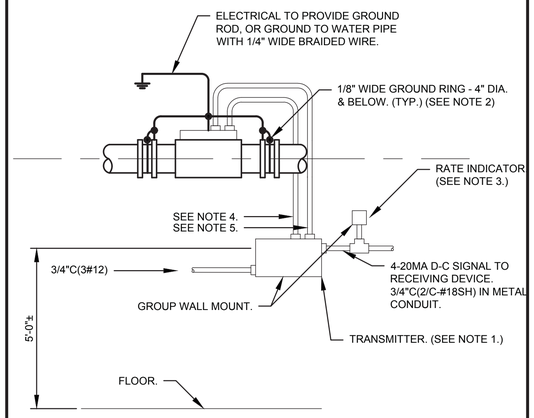
DETAIL 36
SCALE: NTS

ADHESIVE CABLE HOLDER



DETAIL 3
SCALE: NTS

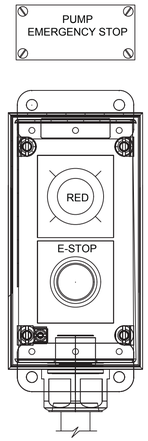
MAGNETIC FLOW METER



NOTES:
1. LOCATION FOR TRANSMITTERS NOT INTEGRALLY MOUNTED ON THE FLOW METER.
2. GROUND MAGMETER AS INSTRUCTED BY THE VENDOR.
3. INSTALL SEPARATELY MOUNTED INDICATOR. NOT REQUIRED ON INDICATING WALL MOUNTED TRANSMITTERS.
4. POWER WIRING. 1"C POWER AS SUPPLIED BY MANUFACTURER.
5. SIGNAL WIRING. 1"C SIGNAL AS SUPPLIED BY MANUFACTURER.

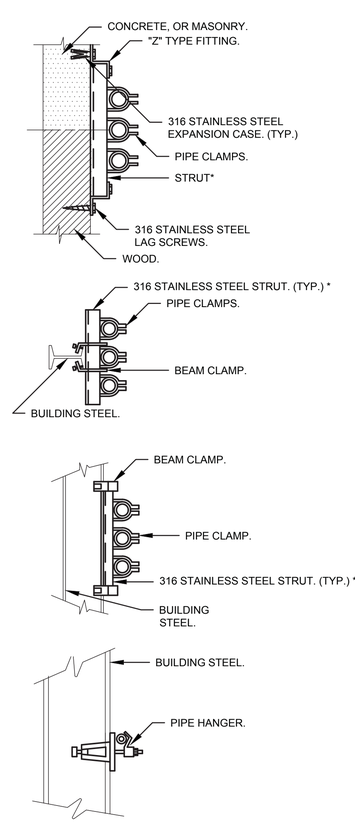
DETAIL 27
SCALE: NTS

EMERGENCY PUSH STOP BUTTON



DETAIL 21
SCALE: NTS

VERTICAL AND HORIZONTAL CONDUIT RACKS AND HANGERS



DETAIL 6
SCALE: NTS

TETRA TECH
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NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

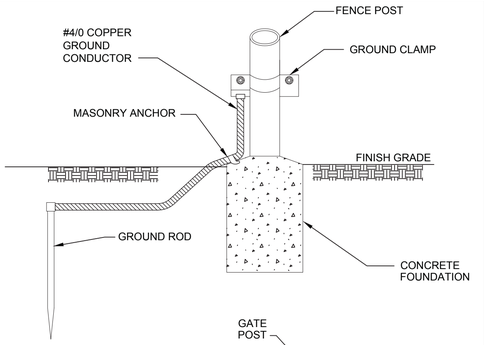
WEIR DEWATERING TREATMENT

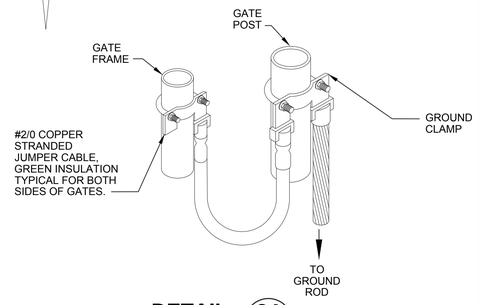
ELECTRICAL DETAILS

Project No.:	200-01299-16015
Designed By:	J. SEIGNORET
Drawn By:	J. SEIGNORET
Checked By:	S. DARIAN

E-1502

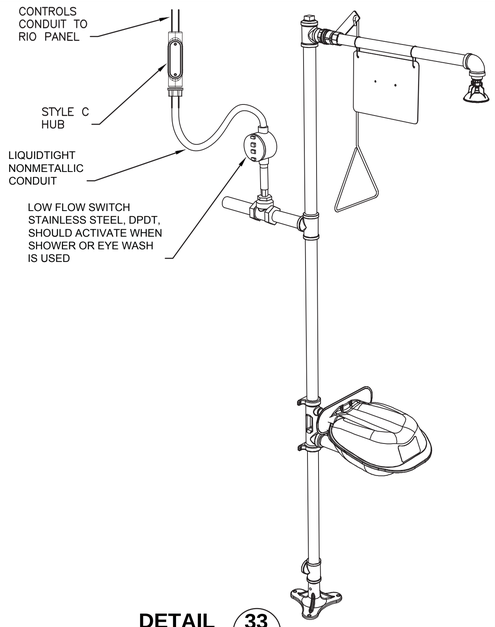
FENCE POST/GATE BONDING DETAIL





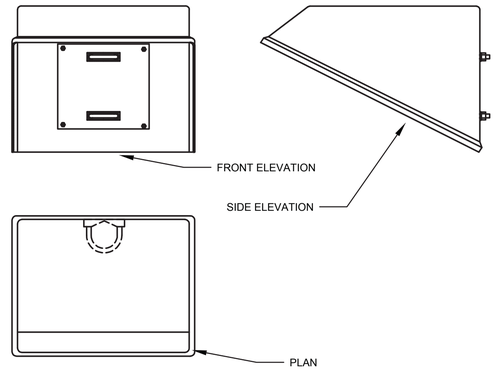
DETAIL 24
SCALE: NTS

FLOW SWITCH EYE/SHOWER WASH STATION DETAIL



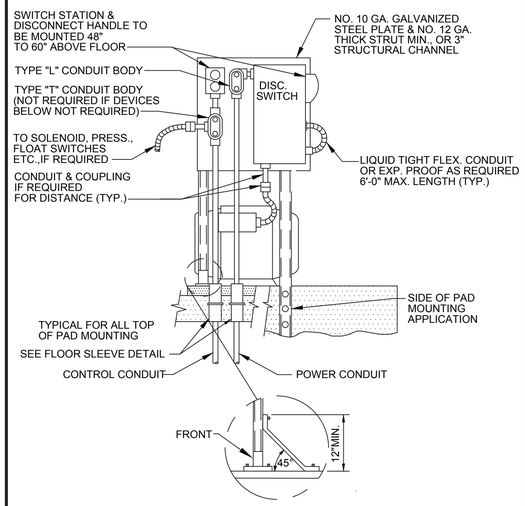
DETAIL 33
SCALE: NTS

INSTRUMENT SUNSHADE DETAIL



DETAIL 34
SCALE: NTS

MOTOR CONDUIT DETAIL



DETAIL 29
SCALE: NTS

TETRA TECH
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NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

ELECTRICAL DETAILS

Project No.:	200-01299-16015
Designed By:	J. SEIGNORET
Drawn By:	J. SEIGNORET
Checked By:	S. DARIAN

E-1503

GRAPHIC SYMBOL FOR INSTRUMENTATION ITEMS

	LOGIC IN PLC DISPLAYED ON OIP & SCADA (INCLUDING INPUTS & OUTPUTS)		TEMPERATURE SWITCH-NC
	LOGIC IN PLC		CONTROL RELAY CONTACT-NORMALLY OPEN
	FIELD OR LOCALLY MOUNTED DEVICE		CONTROL RELAY CONTACT-NORMALLY CLOSED
	MASTER CONTROL PANEL FUNCTION (DASHED LINE - NOT ACCESSIBLE, SOLID LINE - OPERATOR ACCESIBLE)		LIGHTNING ARRESTOR
	LOCAL CONTROL PANEL FUNCTION (DASHED LINE - NOT ACCESSIBLE, SOLID LINE - OPERATOR ACCESIBLE)	ETI	ELAPSED TIME INDICATOR
	PANEL MOUNTED INDICATOR		PUSH-TO-TEST INDICATING LIGHT
I	INTERLOCKING		BATTERY
XOR	EXCLUSIVE OR		SECONDARY TRANSFORMER
A	ALTERNATOR		VARIABLE RESISTOR
OR	OR		RESISTOR
AND	AND		MOLDED CASE CIRCUIT BREAKER
S	MOTOR STARTER		SPEED SWITCH
VFD	VARIABLE FREQUENCY DRIVE		MOMENTARY PUSHBUTTON OPERATOR- NORMALLY CLOSED
DI	DIGITAL INPUT TO PROGRAMMABLE CONTROLLER		MOMENTARY PUSHBUTTON OPERATOR- NORMALLY OPEN
DO	DIGITAL OUTPUT TO PROGRAMMABLE CONTROLLER		SELECTOR SWITCH-NORMALLY OPEN
AI	ANALOG INPUT TO PROGRAMMABLE CONTROLLER		PUSHBUTTON OPERATOR WITH MUSHROOM HEAD
AO	ANALOG OUTPUT TO PROGRAMMABLE CONTROLLER		SOLENOID OR CLUTCH
	FLOAT SWITCH		THERMAL OVERLOAD
	PARSHALL FLUME		A-C SURGE PROTECTOR
	MIXER		HORN
	SEAL	(F)	FIELD LOCATED
	OFF PAGE CONNECTOR		TERMINAL POINT
	PROCESS MACHINERY MOTOR		TERMINAL POINT ARROW
	VENTURI OR INSERT FLOW TUBE		LOW VOLTAGE FUSE
	IN-LINE FLOW ELEMENT (PROPELLER TYPE)		CIRCUIT BREAKER WITH STAB CONNECTION
M	IN-LINE FLOW ELEMENT (MAGNETIC TYPE)	CR L / CR U	TWO COIL LATCHING RELAY
	IN-LINE FLOW ELEMENT (ULTRA SONIC)		
	FLOW ORIFICE		RECEPTACLE
	TURBIDIMETER		SELECTOR SWITCH OPERATOR WITH FUNCTION SHOWN
	ROTAMETER		
	CENTRIFUGAL PUMP		MAINTAINED PUSH-PULL OPERATOR
	PROGRESSIVE CAVITY PUMP		
	ULTRASONIC LEVEL SENSOR		MAINTAINED STOP-START PUSHBUTTON OPERATOR
	GENERAL USE DISCONNECTING SWITCH		
	TIMED CLOSED CONTACT ON ENERGIZATION		CONTROL POWER TRANSFORMER
	TIMED OPEN CONTACT ON ENERGIZATION		DIODE RECTIFIER OR D-C SURGE PROTECTOR
	TIMED OPEN CONTACT ON DE-ENERGIZATION		LIMIT SWITCH - NORMALLY OPEN
	TIMED CLOSED CONTACT ON DE-ENERGIZATION		LIMIT SWITCH - NORMALLY OPEN - HELD CLOSED
	FLOAT ACTUATED SWITCH-NO		LIMIT SWITCH - NORMALLY CLOSED - HELD OPEN
	FLOAT ACTUATED SWITCH-NC		LIMIT SWITCH - NORMALLY CLOSED
	PRESSURE ACTUATED SWITCH-NC	I / P	CURRENT / PNEUMATIC CONVERTER
	PRESSURE ACTUATED SWITCH-NO		
	FLOW ACTUATED SWITCH-NO		
	FLOW ACTUATED SWITCH-NC		
	TEMPERATURE SWITCH-NO		

GRAPHIC SYMBOLS FOR VALVES

SYMBOL	DESCRIPTION
	STROKE OR POSITION ACTUATOR CYLINDER (OPEN-SHUT)
	STROKE OR POSITION ACTUATOR CYLINDER (THROTTLING)
	PNEUMATIC OPERATED (OPEN-SHUT)
	PNEUMATIC OPERATED (THROTTLING)
M	MOTOR OPERATED (THROTTLING)
M	MOTOR OPERATED (OPEN-SHUT)
K	KNIFE GATE VALVE
	SLUICE GATE
	AIR SET ASSEMBLY
	BALL VALVE
	GLOBE VALVE
	GATE VALVE OR KNIFE GATE
	CHECK VALVE
	PLUG VALVE
	BUTTERFLY VALVE, DAMPER OR LOUVER
	PRESSURE REDUCING VALVE
S	TWO-WAY SOLENOID VALVE OPERATOR
M	ELECTRONICALLY CONTROLLED CHECK VALVE
S D	TWO-WAY SOLENOID VALVE OPERATOR-DETENTED
S	THREE-WAY SOLENOID VALVE OPERATOR
S	FOUR-WAY SOLENOID VALVE OPERATOR
	PRESSURE RELIEF VALVE
	PIPE REDUCER (CONCENTRIC)
	PIPE REDUCER (ECCENTRIC)
	STATIC MIXER
	FLEXIBLE CONNECTOR

INSTRUMENTATION LINE SYMBOLS

SYMBOL	DESCRIPTION
	ELECTRICAL SIGNAL
	AIR LINE
	HYDRAULIC SIGNAL
	ELECTROMAGNETIC OR SONIC SIGNAL
0	SOFTWARE SIGNAL
	CONNECTION TO PROCESS, OR MECHANICAL LINK
	ETHERNET CABLE (CAT 5E)
FO	FIBER OPTIC CABLE

PIPING ABBREVIATIONS

INSULATION - CC		TRACING - DD	
IH	HOT INSULATION	ET	ELECTRIC TRACING
IC	COLD INSULATION	ST	STEAM TRACING
PP	PERSONNEL PROTECTION	WT	WATER TRACING
FP	FREEZE PROTECTION	XJ	JACKETED, DENOTE TYPE
X	NO INSULATION		

PIPE MATERIAL LEGEND - AAAA	
CPVC	CHLORINATED POLYVINYL CHLORIDE
CS	CARBON STEEL
CU	COPPER
CUT	COPPER TUBING
HDPE	HIGH-DENSITY POLYETHYLENE
HOSE	RUBBER HOSE
HTH	HIGH TEMPERATURE HOSE
GS	GALVANIZED STEEL
PRID	PVC COATED RIGID CONDUIT
PT	PLASTIC TUBING (NYLON / TYGON TUBING)
PVC	POLYVINYL CHLORIDE
RID	RIGID CONDUIT
SS04	STAINLESS STEEL, 304
SS16	STAINLESS STEEL, 316

PIPE FLUID LEGEND - BBBBBBB	
RW	RAW WATER
CE	CYCLONE EFFLUENT
FW	FILTERED WATER
TW	TREATED WATER
BW	BACKWASH WATER
RS	RISING WATER
BWW	BACKWASK WASTE
CW	CYCLONE WASTE
AS	AIR SOURING

I.S.A. STANDARD LETTER FUNCTIONS

SYMBOL	FIRST LETTER	SUCEEDING LETTERS
A	ANALYSIS , ANALOG	ALARM
B	BURNER , FLAME	BATCH, BUTTON
C	CONDUCTIVITY , COMMAND	CONTROL (FEEDBACK TYPE)
D	DENSITY , SPECIFIC GRAVITY	
E	VOLTAGE	PRIMARY ELEMENT
F	FLOW RATE	RATIO
G	GAGING	GLASS
H	HAND , MANUAL	HIGH
I	CURRENT	INDICATE
J	POWER	SCAN
K	TIME , TIME SCHEDULE	CONTROL (NO FEEDBACK)
L	LEVEL , LIGHT	LOW
M	MOISTURE , HUMIDITY	MIDDLE , MODULATE
N		
O	OVERLOAD	ORIFICE
P	PRESSURE , VACUUM, PUSH	POINT
Q	QUANTITY	TOTALIZE , INTEGRATE
R	RADIOACTIVITY	RECORD , PRINT , RECEIVE
S	SPEED , FREQUENCY , SOLENOID	SWITCH
T	TEMPERATURE , TURBIDITY	TRANSMIT , TRANSFORM
U	MULTIVARIABLE	MULTIFUNCTION
V	VIBRATION , VISCOSITY	VALVE , DAMPER , LOUVER
W	WEIGHT , FORCE	
X		
Y	EVENT, STATE, PRESENCE	RELAY , COMPUTE
Z	POSITION	DRIVE , ACTUATE

INSTRUMENT DESIGNATIONS

(XXX) (XXX) (XXX)

AHC - AUTO / HOLD / CLOSE
AM - AUTO / MANUAL
DEV - DEVIATION
HOA - HAND / OFF / AUTO
HOR - HAND / OFF / REMOTE
LOR - LOCAL / OFF / REMOTE
LOS - LOCKOUT STOP
LR - LOCAL / REMOTE
MOA - MANUAL / OFF / AUTO
OO - ON / OFF
OCA - OPEN / CLOSE / AUTO

OSC - OPEN / STOP / CLOSE
POT - POTENTIOMETER
RL - RAISE / LOWER
RSL - RAISE / STOP / LOWER
RST - RESET
SD - SHUTDOWN
SEL - SELECT
SP - SETPOINT
SS - START / STOP
STR - START
STP - STOP

SAMPLE

LOCAL / OFF / REMOTE
LOR
HS
210A
HAND SWITCH
INSTRUMENT TAG

ANALYTICAL

AE XXX | AIT XXX | AI XXX

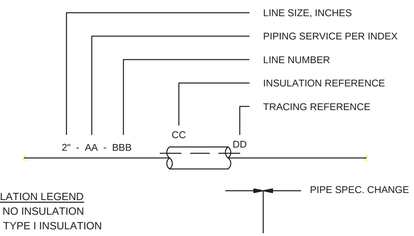
ALK - ALKALINITY
CL2 - CHLORINE CONCENTRATION
COM - COMBUSTIBLE GAS
CON - CONDUCTIVITY
DO - DISSOLVED OXYGEN
H2S - HYDROGEN SULFIDE
LEL - LOWER EXPLOSIVE LIMIT
O2 - OXYGEN CONCENTRATION
O3 - OZONE

ORP - OXYGEN / REDUCTION POTENTIAL
PH - HYDROGEN ION CONCENTRATION
SO2 - SULFUR DIOXIDE
TH - TOTAL HARDNESS
TURB - TURBIDITY
UV - ULTRAVIOLET

SAMPLE

PH
AI
204A

PIPING IDENTIFICATION



PIPE INSULATION LEGEND
X NO INSULATION
1 TYPE I INSULATION
2 TYPE II INSULATION
3 TYPE III INSULATION

TETRA TECH
www.tetratech.com
1489 West Warm Springs Road, Suite 110
Henderson, NV 89014
Phone: 702.946.6700 Fax: 702.997.7140

MARK	DATE	DESCRIPTION	BY
A	11/28/16	ISSUED FOR 60% SUBMITTAL	JS
B	01/27/17	ISSUED FOR DRAFT 90% SUBMITTAL	JMS
C	02/15/17	75% SUBMITTAL TO BOR	JMS

NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

AP-5 POND PHASE II
PROJECT IMPLEMENTATION

INSTRUMENTATION LEGEND

Project No.:	200-01299-16002
Designed By:	J. COWARD
Drawn By:	J. SEIGNORET
Checked By:	D. BURGER

I-001

NERT Weir L09 Process Interlock Matrix

Interlock ID	Input Device	Description	Output	Condition	Value	EngUnits
1	AI2010	SMPS Influent TSS	Alarm	>=	135	PPM
2	FI2010	SMPS Influent Tank Flow	Alarm	>=	6900	gpm
3	LI2020/LI2021	Influent Tank Level	Alarm	LOW LOW	1	N/A
4	LI2020/LI2021	Influent Tank Level	Alarm	HIGH HIGH	1	N/A
5	AI3010	HLPS Influent TSS	Alarm	>=	135	PPM
6	FI3010	HLPS Influent Tank Flow	Alarm	>=	6900	gpm
7	LI3020/LI3021	Influent Tank Level	Alarm	LOW LOW	1	N/A
8	LI3020/LI3021	Influent Tank Level	Alarm	HIGH HIGH	1	N/A
9	AI4010	CWTP Combined Influent TSS	Alarm	>=	135	PPM
10	LI8010/LI8011	Treated Water Tank Level	Alarm	LOW LOW	1	N/A
11	LI8020/LI8021	Cyclone Waste Tank Level	Alarm	LOW LOW	1	N/A
12	LI8030/LI8031	Backwash Waste Tank Level	Alarm	LOW LOW	1	N/A
13	LI8060/LI8061	Filter Rinse Water Tank Level	Alarm	LOW LOW	1	N/A
14	AI8060	Treated Water Discharge TSS	Alarm	>=	135	PPM

Action	Tag	Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
CLOSE	ZC2010	SMPS Influent Tank Feed FCV	X	X		X															
STOP	YC2021	SMPS Discharge Pump 1 PU-1A			X						X										
STOP	YC2022	SMPS Discharge Pump 2 PU-1B			X						X										
STOP	YC2023	SMPS Discharge Pump 3 PU-1C			X						X										
CLOSE	ZC3010	HLPS Influent Tank Feed FCV				X	X			X											
STOP	YC3021	HLPS Discharge Pump 1 PU-2A					X				X										
STOP	YC3022	HLPS Discharge Pump 2 PU-2B					X				X										
STOP	YC3023	HLPS Discharge Pump 3 PU-2C					X				X										
CLOSE	ZC4010	CWTP Combined Influent FCV						X	X	X	X										
STOP	YC8011	Treated Water Pump PU-6A										X									
STOP	YC8012	Treated Water Pump PU-6B										X									
STOP	YC8013	Treated Water Pump PU-6C										X									
STOP	YC8014	Treated Water Pump PU-6D										X									
STOP	YC8041	Cyclone Waste Pump PU-4A											X								
STOP	YC8042	Cyclone Waste Pump PU-4B											X								
STOP	YC8043	Backwash Waste Pump PU-3A												X							
STOP	YC8044	Backwash Waste Pump PU-3B												X							
STOP	YC8045	Backwash Waste Pump PU-3C												X							
STOP	YC8061	Filter Rinse Water Transfer Pump PU-7A													X						
STOP	YC8062	Filter Rinse Water Transfer Pump PU-7B													X						
STOP	YC8051	Filter Backwash Pump PU-5A										X				X					
STOP	YC8052	Filter Backwash Pump PU-5B										X				X					
STOP	YC8053	Filter Backwash Pump PU-5C										X				X					

"X*" indicates interlocks which vary depending on station with the greater measured process variable (station with highest flow or TSS).

NOTE: INTERLOCK MATRIX DOES NOT PROVIDE ALL PROCESS PARAMETERS. FOR DETAILED CONTROL LIMITS REFER TO THE PROCESS CONTROL NARRATIVE.

TETRA TECH
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C	02/15/17	75% SUBMITTAL TO BOR	JMS

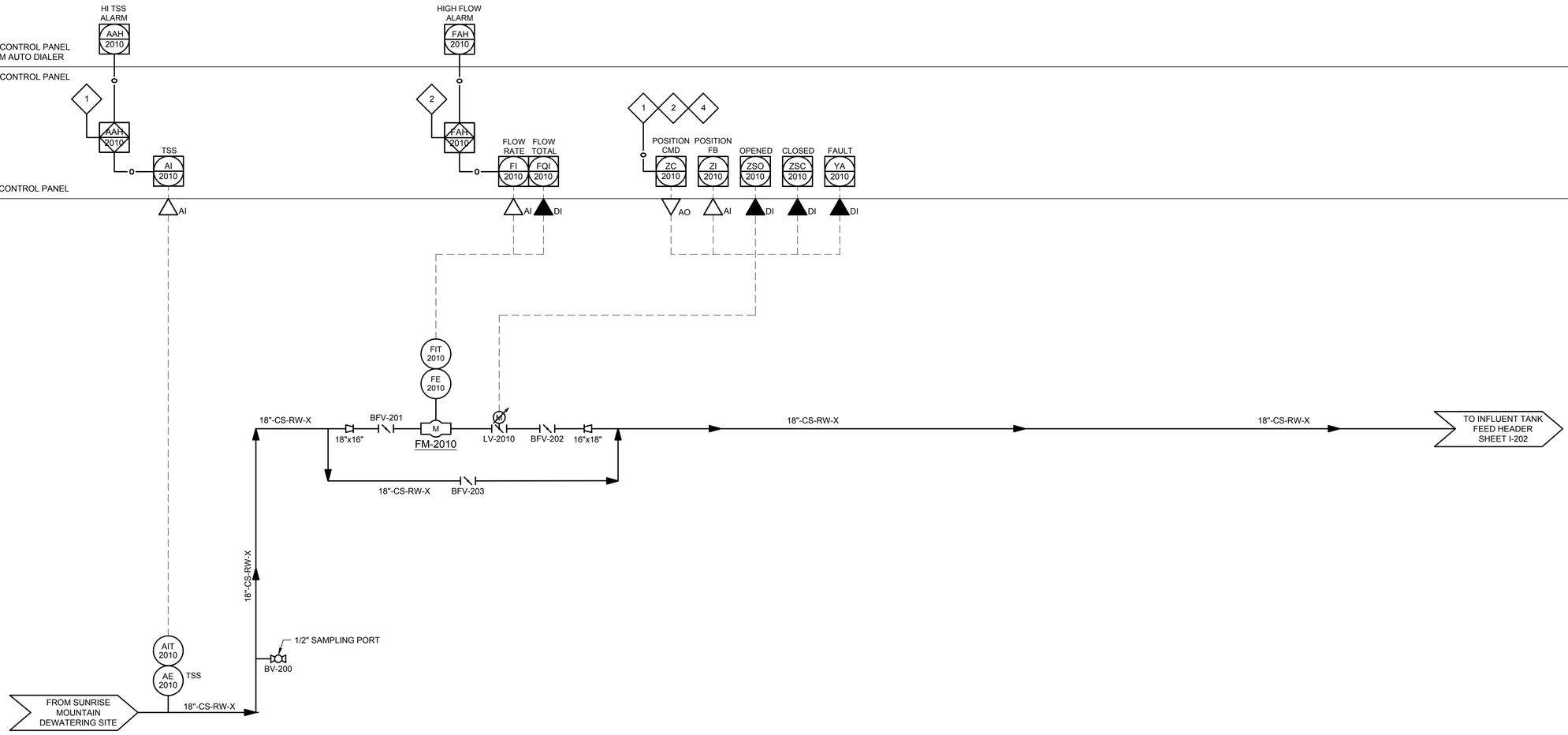
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

AP-5 POND PHASE II
PROJECT IMPLEMENTATION

PROCESS
INTERLOCK MATRIX

Project No.:	200-01299-16002
Designed By:	J. COWARD
Drawn By:	J. SEIGNORET
Checked By:	D. BURGER

I-002



EQUIPMENT ID	AE-2010	AIT-2010	FIT-2010	LV-2010	FM-2010	FM-2010	-	-	-	-
DESCRIPTION	FEED TSS	FEED TSS	FEED FLOW	FEED FLOW CONTROL	FLOW-METER	FEED FLOW	-	-	-	-
TYPE	CUS51D	-	-	BUTTERFLY	-	-	-	-	-	-
MANUFACTURER	INSITE IG	INSITE IG	SIEMENS	DEZURIK	ROSEMOUMT	SIEMENS	-	-	-	-
SIZE	-	-	16"	16"	16"	-	-	-	-	-
FLOW RANGE	-	-	-	0-8000 GPM	-		-	-	-	-
LEVEL RANGE	-	-	-	-	-	-	-	-	-	-
POWER REQUIRMENTS	120 VAC	-	120 VAC	480 VAC	-	-	-	-	-	-
ANALYZER RANGE	-	0-4000 PPM	-	-	-	-	-	-	-	-
WETTED MATERIAL	-	-	-	-	-	-	-	-	-	-
ELEVATION	-	-	-	-	-	-	-	-	-	-
LOCAL CONTROLS / INDICATION	REMOTE DISPLAY	-	REMOTE DISPLAY	-	-	-	-	-	-	-
MOUNTING	-	-		-	-	-	-	-	-	-
CONTROL TYPE	4-20 MA	-	-	4-20 MA	-	-	-	-	-	-
NOTES	PROVIDE SUN SHIELD	-	-	-	-	-	-	-	-	-

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MARK	DATE	DESCRIPTION	BY
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C	02/15/17	75% SUBMITTAL TO BOR	LBW

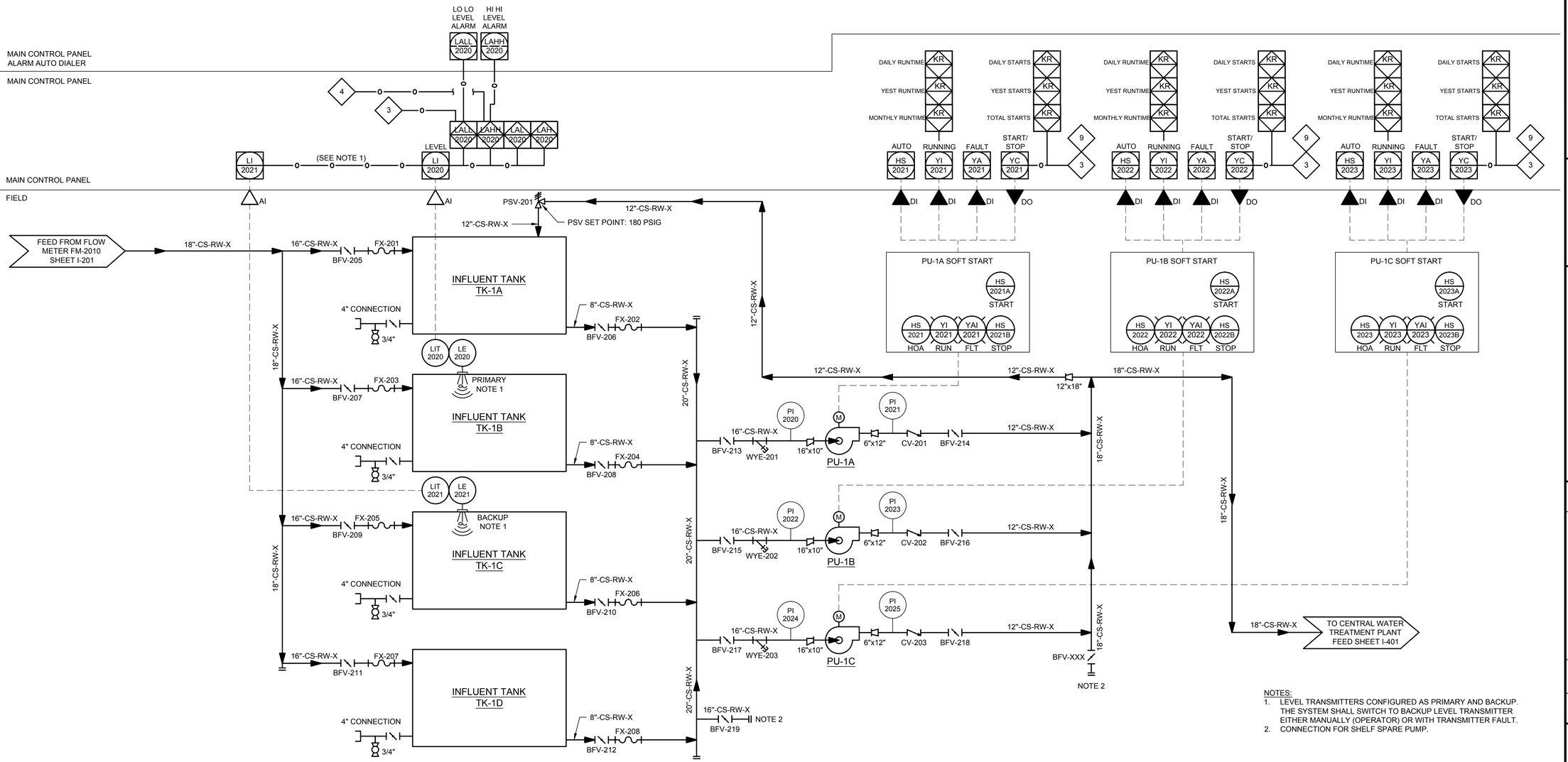
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

SUNRISE MOUNTAIN PUMP STATION FEED P&ID

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

I-201



NOTES:
1. LEVEL TRANSMITTERS CONFIGURED AS PRIMARY AND BACKUP. THE SYSTEM SHALL SWITCH TO BACKUP LEVEL TRANSMITTER EITHER MANUALLY (OPERATOR) OR WITH TRANSMITTER FAULT.
2. CONNECTION FOR SHELF SPARE PUMP.

EQUIPMENT ID	LIT-2020	TK-1A / 1B / 1C / 1D	LIT-2021	PU-1A / 1B / 1C	-	-	-	-	-	-
DESCRIPTION	TANK LEVEL (PRIMARY)	INFLUENT TANKS	TANK LEVEL (BACKUP)	INFLUENT PUMP	-	-	-	-	-	-
TYPE	ULTRASONIC	-	ULTRASONIC	CENTRIFUGAL	-	-	-	-	-	-
MANUFACTURER	SIEMENS	-	SIEMENS	FLOWSERVE	-	-	-	-	-	-
SIZE	-	20,000 GAL	-	-	-	-	-	-	-	-
FLOW RANGE	0 - 10 FT	-	0 - 10 FT	2,300 GPM	-	-	-	-	-	-
LEVEL RANGE	-	-	-	-	-	-	-	-	-	-
POWER REQUIRMENTS	LOOP POWERED	-	LOOP POWERED	300 HP	-	-	-	-	-	-
ANALYZER RANGE	-	-	-	-	-	-	-	-	-	-
WETTED MATERIAL	PVDF	-	PVDF	-	-	-	-	-	-	-
ELEVATION	-	-	-	-	-	-	-	-	-	-
LOCAL CONTROLS / INDICATION	YES	-	YES	-	-	-	-	-	-	-
MOUNTING	FLANGE, 4" STILLING WELL	-	FLANGE, 4" STILLING WELL	-	-	-	-	-	-	-
CONTROL TYPE	4-20 MA	-	4-20 MA	-	-	-	-	-	-	-
NOTES	PROSONIC	-	PROSONIC	-	-	-	-	-	-	-

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A	11/28/16	ISSUED FOR 60% SUBMITTAL	HCR
B	01/27/17	ISSUED FOR DRAFT 90% SUBMITTAL	HCR
C	02/15/17	75% SUBMITTAL TO BOR	LBW

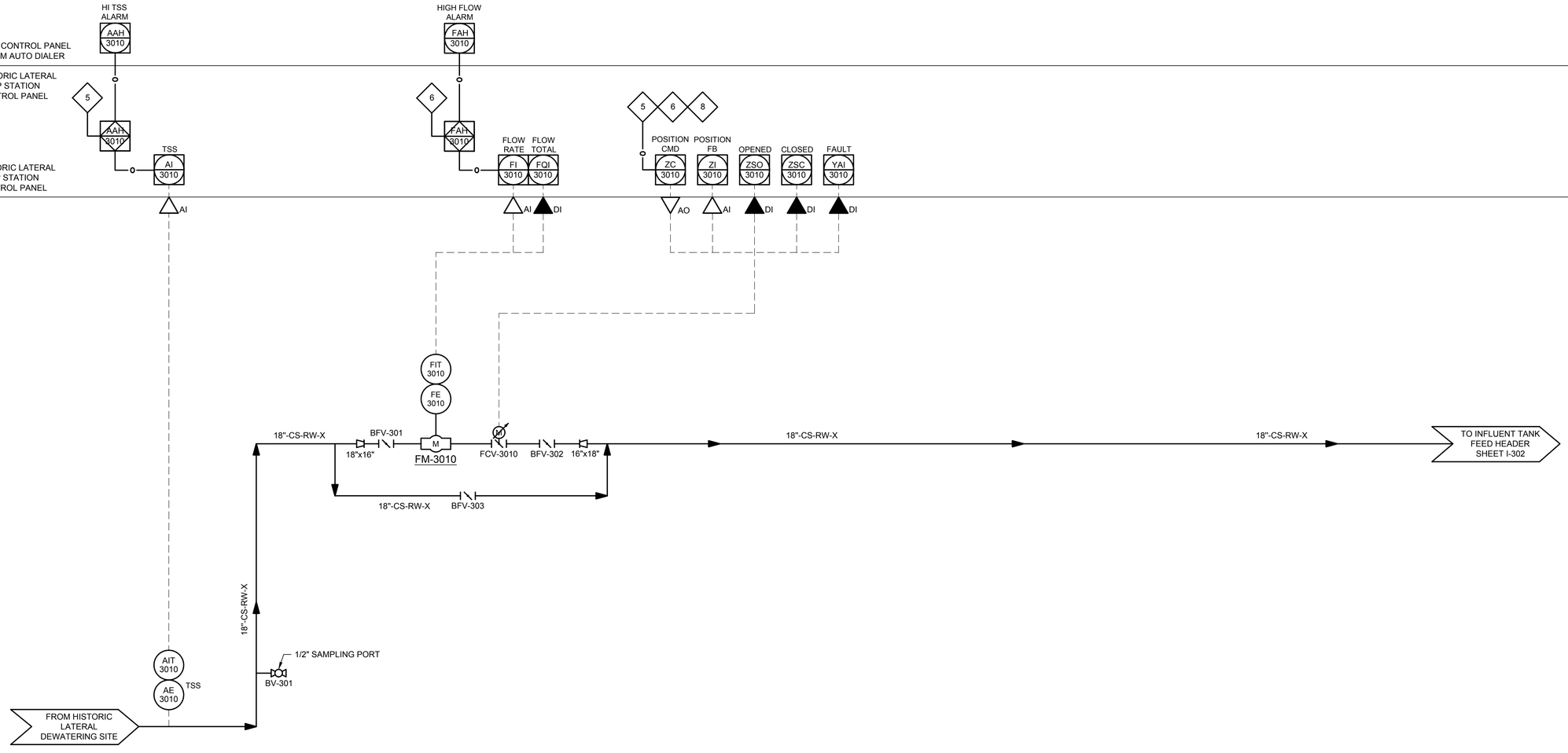
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

SUNRISE MOUNTAIN PUMP STATION INFLUENT TANKS AND PUMPS P&ID

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

I-202



EQUIPMENT ID	AE-3010	AIT-3010	FIT-3010	LV-3010	FM-3010	-	-	-	-	-
DESCRIPTION	FEED TSS	FEED TSS	FEED FLOW	FEED FLOW CONTROL	-	-	-	-	-	-
TYPE	-	-	-	BUTTERFLY	-	-	-	-	-	-
MANUFACTURER	INSITE IG	INSITE IG	SIEMENS	DEZURIK	SIEMENS	-	-	-	-	-
SIZE	-	-	16"	16"	-	-	-	-	-	-
FLOW RANGE	-	-	-	0-8000 GPM	-	-	-	-	-	-
LEVEL RANGE	-	-	-	-	-	-	-	-	-	-
POWER REQUIRMENTS	120 VAC	-	120 VAC	480 VAC	-	-	-	-	-	-
ANALYZER RANGE	-	0-4000 PPM	-	-	-	-	-	-	-	-
WETTED MATERIAL	-	-	-	-	-	-	-	-	-	-
ELEVATION	-	-	-	-	-	-	-	-	-	-
LOCAL CONTROLS / INDICATION	REMOTE DISPLAY	-	REMOTE DISPLAY	-	-	-	-	-	-	-
MOUNTING	-	-		-	-	-	-	-	-	-
CONTROL TYPE	4-20 MA	-	-	4-20 MA	-	-	-	-	-	-
NOTES	PROVIDE SUN SHIELD	-	-	-	-	-	-	-	-	-

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C	02/15/17	75% SUBMITTAL TO BOR	LBW

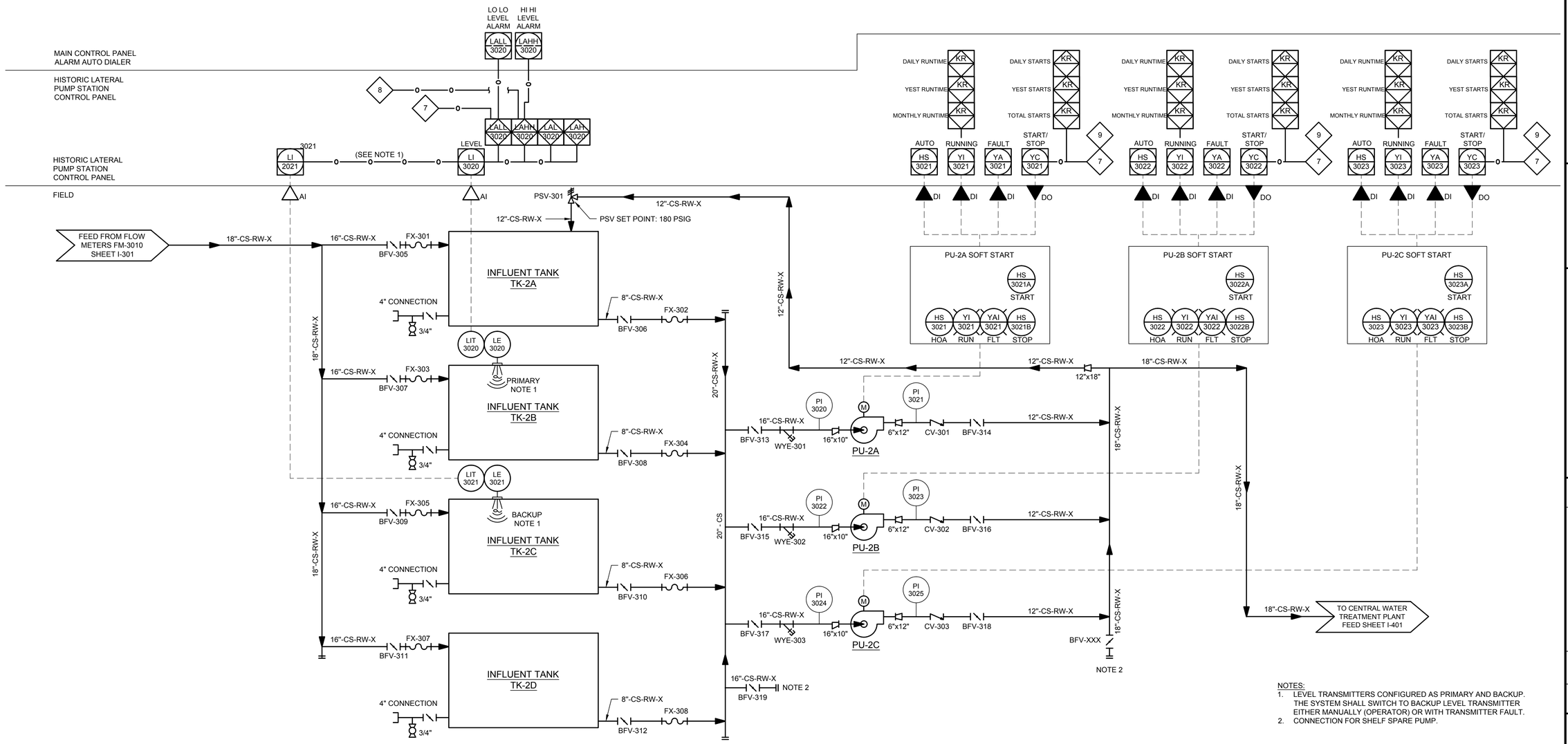
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

HISTORIC LATERAL PUMP STATION FEED P&ID

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

I-301



NOTES:
1. LEVEL TRANSMITTERS CONFIGURED AS PRIMARY AND BACKUP. THE SYSTEM SHALL SWITCH TO BACKUP LEVEL TRANSMITTER EITHER MANUALLY (OPERATOR) OR WITH TRANSMITTER FAULT.
2. CONNECTION FOR SHELF SPARE PUMP.

EQUIPMENT ID	LIT-3020	TK-2A / 2B / 2C / 2D	LIT-3021	PU-2A / 2B / 2C	-	-	-	-	-	-
DESCRIPTION	TANK LEVEL (PRIMARY)	INFLUENT TANKS	TANK LEVEL (BACKUP)	INFLUENT PUMP	-	-	-	-	-	-
TYPE	ULTRASONIC	-	ULTRASONIC	CENTRIFUGAL	-	-	-	-	-	-
MANUFACTURER	SIEMENS	-	SIEMENS	FLOWSERVE	-	-	-	-	-	-
SIZE	-	20,000 GAL	-		-	-	-	-	-	-
FLOW RANGE	0 - 10 FT	-	0 - 10 FT	2,300 GPM	-	-	-	-	-	-
LEVEL RANGE	-	-	-		-	-	-	-	-	-
POWER REQUIRMENTS	LOOP POWERED	-	LOOP POWERED	300 HP	-	-	-	-	-	-
ANALYZER RANGE	-	-	-		-	-	-	-	-	-
WETTED MATERIAL	PVDF	-	PVDF		-	-	-	-	-	-
ELEVATION	-	-	-		-	-	-	-	-	-
LOCAL CONTROLS / INDICATION	YES	-	YES		-	-	-	-	-	-
MOUNTING	FLANGE, 4" STILLING WELL	-	FLANGE, 4" STILLING WELL		-	-	-	-	-	-
CONTROL TYPE	4-20 MA	-	4-20 MA		-	-	-	-	-	-
NOTES	PROSONIC	-	PROSONIC		-	-	-	-	-	-

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C	02/15/17	75% SUBMITTAL TO BOR	LBW

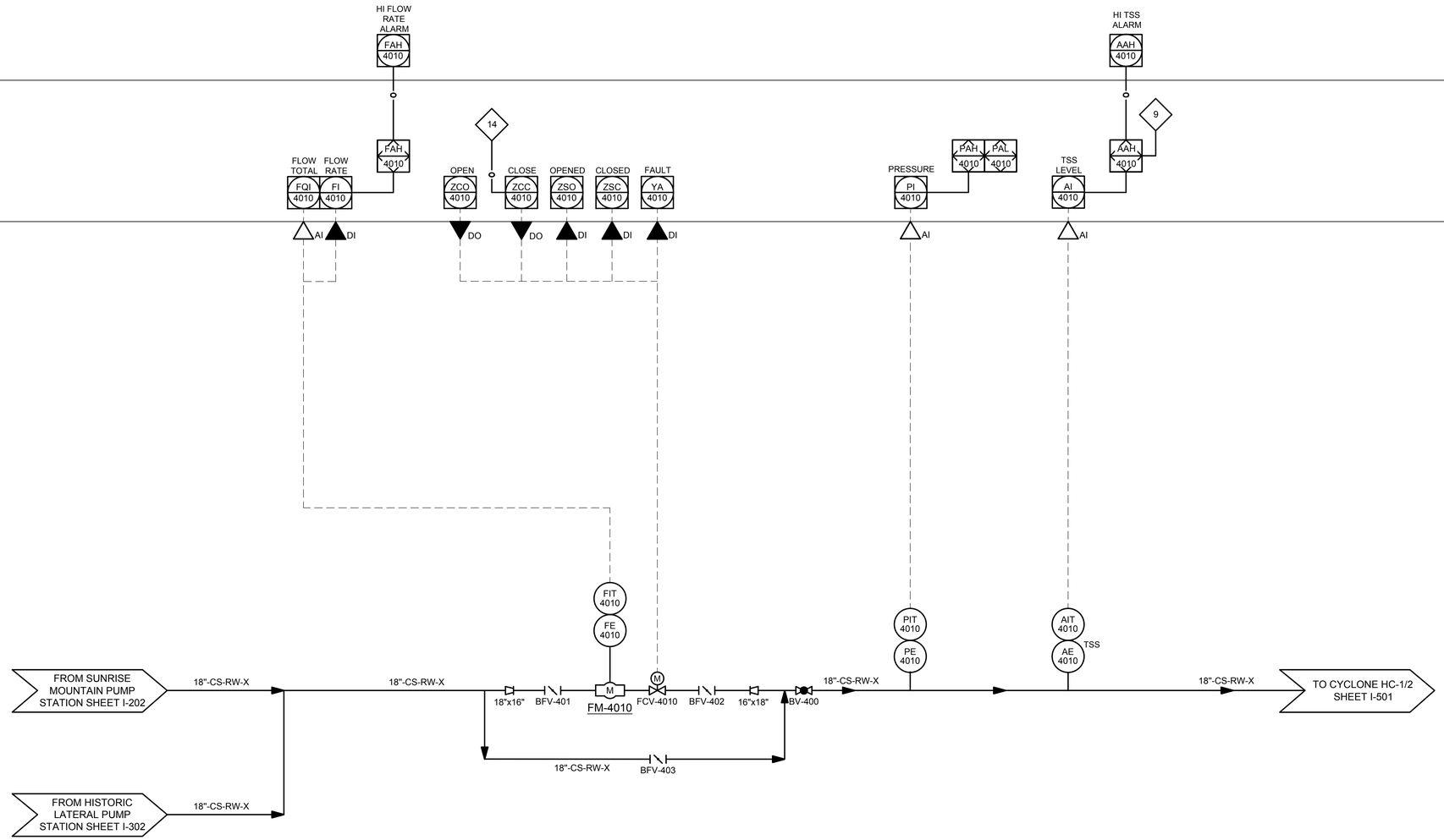
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

HISTORIC LATERAL PUMP STATION INFLUENT TANKS AND PUMPS P&ID

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

I-302



EQUIPMENT ID	AE-4010	AIT-4010	FIT-4010	V-4010	FM-4010	PE-4010	PIT-4010	-	-	-
DESCRIPTION	FEED TSS	FEED TSS	FEED FLOW	FEED CONTROL	FLOW MEASUREMENT	FEED PRESSURE	FEED PRESSURE	-	-	-
TYPE	CUS51D	LIQUILINE 442	-	BUTTERFLY	-	-	-	-	-	-
MANUFACTURER	INSITE IG	INSITE IG	SIEMENS	DEZURIK	SIEMENS	SIEMENS	SIEMENS	-	-	-
SIZE	-	-	16"	16"	-	-	-	-	-	-
FLOW RANGE	-	-	-	0-8000 GPM	-	-	-	-	-	-
LEVEL RANGE	-	-	-	-	-	-	-	-	-	-
POWER REQUIRMENTS	120 VAC	-	120 VAC	480 VAC	-	-	-	-	-	-
ANALYZER RANGE	-	0-4000 PPM	-	-	-	-	-	-	-	-
WETTED MATERIAL	-	-	-	-	-	-	-	-	-	-
ELEVATION	-	-	-	-	-	-	-	-	-	-
LOCAL CONTROLS / INDICATION	REMOTE DISPLAY	-	REMOTE DISPLAY	-	-	-	-	-	-	-
MOUNTING	-	-		-	-	-	-	-	-	-
CONTROL TYPE	4-20 MA	-	-	4-20 MA	-	-	-	-	-	-
NOTES	PROVIDE SUN SHIELD	-	-	-	-	-	-	-	-	-

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NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

CENTRAL WATER TREATMENT PLANT FEED P&ID

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

I-401

MAIN CONTROL PANEL
ALARM AUTO DIALER

MAIN CONTROL PANEL

MAIN CONTROL PANEL

FIELD

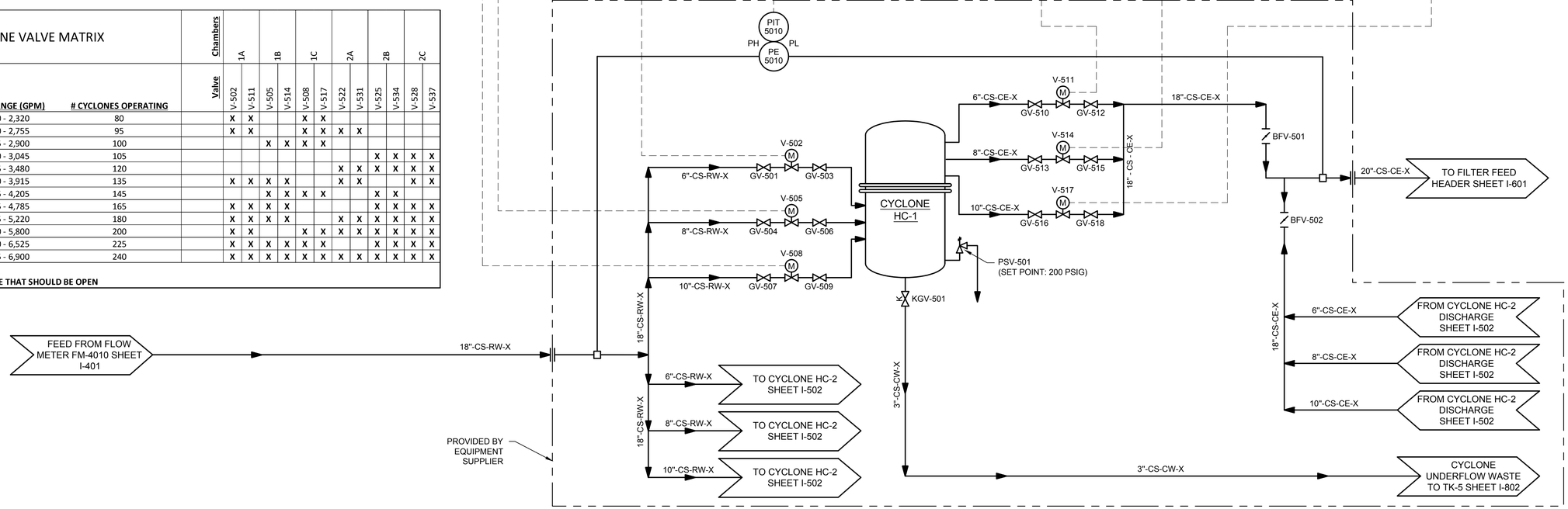
OPEN	CLOSE	OPENED	CLOSED	FAULT	OPEN	CLOSE	OPENED	CLOSED	FAULT	OPEN	CLOSE	OPENED	CLOSED	FAULT	DIFFERENTIAL PRESSURE
ZCO 5010C	ZCC 5010C	ZSO 5010C	ZSC 5010C	YA 5010C	ZCO 5010B	ZCC 5010B	ZSO 5010B	ZSC 5010B	YA 5010B	ZCO 5010A	ZCC 5010A	ZSO 5010A	ZSC 5010A	YA 5010A	PI 5010
DO	DO	DI	DI	DI	DO	DO	DI	DI	DI	DO	DO	DI	DI	DI	AI

OPEN	CLOSE	OPENED	CLOSED	FAULT	OPEN	CLOSE	OPENED	CLOSED	FAULT	OPEN	CLOSE	OPENED	CLOSED	FAULT
ZCO 5011A	ZCC 5011A	ZSO 5011A	ZSC 5011A	YA 5011A	ZCO 5011B	ZCC 5011B	ZSO 5011B	ZSC 5011B	YA 5011B	ZCO 5011C	ZCC 5011C	ZSO 5011C	ZSC 5011C	YA 5011C
DO	DO	DI	DI	DI	DO	DO	DI	DI	DI	DO	DO	DI	DI	DI

CYCLONE VALVE MATRIX

	Chambers	1A		1B		1C		2A		2B		2C	
SEQUENCE	FLOW RANGE (GPM)	# CYCLONES OPERATING	Valve	V-502	V-511	V-505	V-514	V-508	V-517	V-522	V-531	V-525	V-534	V-528	V-537
1	2,000 - 2,320	80		X	X			X	X						
2	2,320 - 2,755	95		X	X			X	X	X	X				
3	2,755 - 2,900	100				X	X	X	X						
4	2,900 - 3,045	105										X	X	X	X
5	3,045 - 3,480	120								X	X	X	X	X	X
6	3,480 - 3,915	135		X	X	X	X			X	X			X	X
7	3,915 - 4,205	145				X	X	X	X			X	X		
8	4,205 - 4,785	165		X	X	X	X					X	X	X	X
9	4,785 - 5,220	180		X	X	X	X			X	X	X	X	X	X
10	5,220 - 5,800	200		X	X			X	X	X	X	X	X	X	X
11	5,800 - 6,525	225		X	X	X	X	X	X			X	X	X	X
12	6,525 - 6,900	240		X	X	X	X	X	X	X	X	X	X	X	X

NOTE: "X" INDICATES VALVE THAT SHOULD BE OPEN



EQUIPMENT ID	HC-1	PE-5010	PIT-5010	PE-5011	PE-5011	PIT-5012	PE-5012	-	-	-
DESCRIPTION	CYCLONE	-	-	-	-	-	-	-	-	-
TYPE	-	-	-	-	-	-	-	-	-	-
MANUFACTURER	FLSMIDTH	SIEMENS	SIEMENS	SIEMENS	SIEMENS	SIEMENS	SIEMENS	-	-	-
SIZE	-	-	-	-	-	-	-	-	-	-
FLOW RANGE	-	-	-	-	-	-	-	-	-	-
LEVEL RANGE	-	-	-	-	-	-	-	-	-	-
POWER REQUIRMENTS	-	-	-	-	-	-	-	-	-	-
ANALYZER RANGE	-	-	-	-	-	-	-	-	-	-
WETTED MATERIAL	-	-	-	-	-	-	-	-	-	-
ELEVATION	-	-	-	-	-	-	-	-	-	-
LOCAL CONTROLS / INDICATION	-	-	-	-	-	-	-	-	-	-
MOUNTING	-	-	-	-	-	-	-	-	-	-
CONTROL TYPE	-	-	-	-	-	-	-	-	-	-
NOTES	-	-	-	-	-	-	-	-	-	-

TETRA TECH
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MARK	DATE	DESCRIPTION	BY
A	11/28/16	ISSUED FOR 60% SUBMITTAL	HCR
B	01/27/17	ISSUED FOR DRAFT 90% SUBMITTAL	HCR
C	02/15/17	75% SUBMITTAL TO BOR	LBW

NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT
CYCLONE
HC-1
P&ID

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

I-501

MAIN CONTROL PANEL
ALARM AUTO DIALER

MAIN CONTROL PANEL

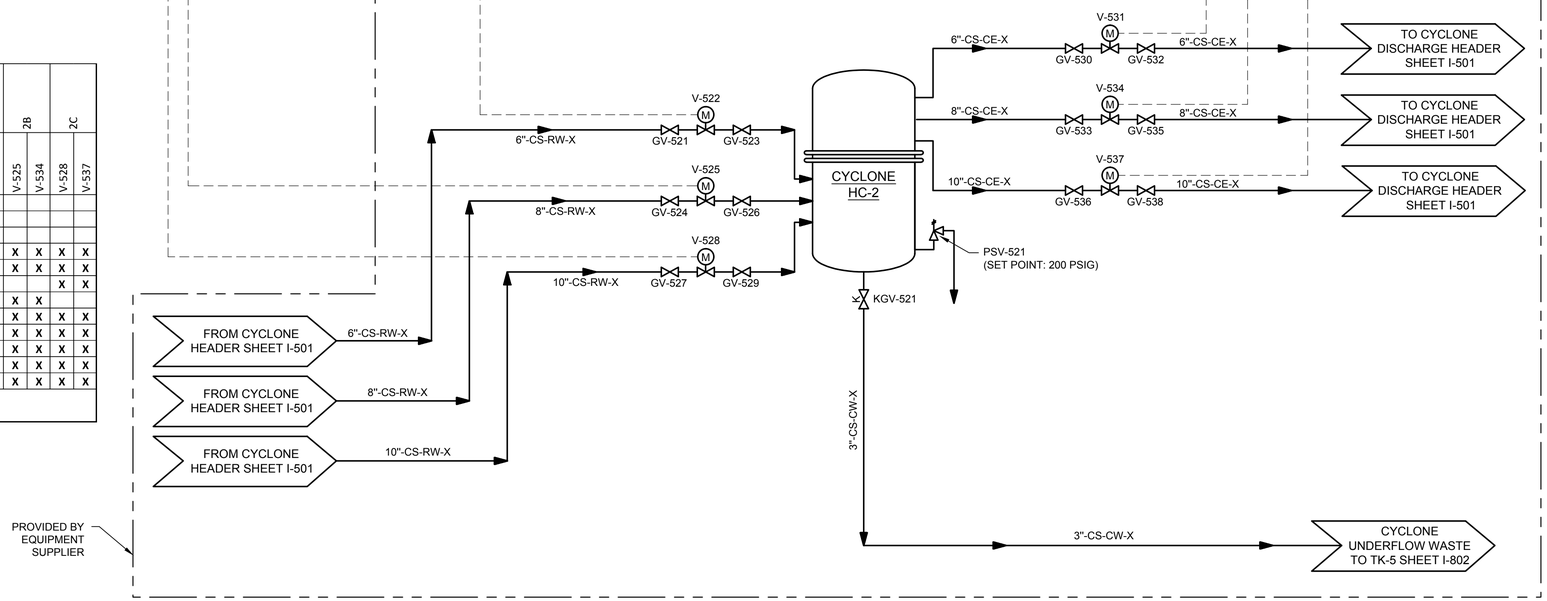
MAIN CONTROL PANEL

FIELD

CYCLONE VALVE MATRIX

			Chambers	1A		1B		1C		2A		2B		2C	
			Valve	V-502	V-511	V-505	V-514	V-508	V-517	V-522	V-531	V-525	V-534	V-528	V-537
SEQUENCE	FLOW RANGE (GPM)	# CYCLONES OPERATING													
1	2,000 - 2,320	80		X	X			X	X						
2	2,320 - 2,755	95		X	X			X	X	X	X				
3	2,755 - 2,900	100				X	X	X	X						
4	2,900 - 3,045	105										X	X	X	X
5	3,045 - 3,480	120								X	X	X	X	X	X
6	3,480 - 3,915	135		X	X	X	X			X	X			X	X
7	3,915 - 4,205	145				X	X	X	X			X	X		
8	4,205 - 4,785	165		X	X	X	X					X	X	X	X
9	4,785 - 5,220	180		X	X	X	X			X	X	X	X	X	X
10	5,220 - 5,800	200		X	X			X	X	X	X	X	X	X	X
11	5,800 - 6,525	225		X	X	X	X	X	X			X	X	X	X
12	6,525 - 6,900	240		X	X	X	X	X	X	X	X	X	X	X	X

NOTE: "X" INDICATES VALVE THAT SHOULD BE OPEN



EQUIPMENT ID	HC-2	-	-	-	-	-	-	-	-	-	-
DESCRIPTION	CYCLONE	-	-	-	-	-	-	-	-	-	-
TYPE	-	-	-	-	-	-	-	-	-	-	-
MANUFACTURER	FLSMIDTH	-	-	-	-	-	-	-	-	-	-
SIZE	-	-	-	-	-	-	-	-	-	-	-
FLOW RANGE	-	-	-	-	-	-	-	-	-	-	-
LEVEL RANGE	-	-	-	-	-	-	-	-	-	-	-
POWER REQUIRMENTS	-	-	-	-	-	-	-	-	-	-	-
ANALYZER RANGE	-	-	-	-	-	-	-	-	-	-	-
WETTED MATERIAL	-	-	-	-	-	-	-	-	-	-	-
ELEVATION	-	-	-	-	-	-	-	-	-	-	-
LOCAL CONTROLS / INDICATION	-	-	-	-	-	-	-	-	-	-	-
MOUNTING	-	-	-	-	-	-	-	-	-	-	-
CONTROL TYPE	-	-	-	-	-	-	-	-	-	-	-
NOTES	-	-	-	-	-	-	-	-	-	-	-

TETRA TECH
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Phone: 702.946.6700 Fax: 702.997.7140

MARK	DATE	DESCRIPTION	BY
A	11/28/16	ISSUED FOR 60% SUBMITTAL	HCR
B	01/27/17	ISSUED FOR DRAFT 90% SUBMITTAL	HCR
C	02/15/17	75% SUBMITTAL TO BOR	LBW

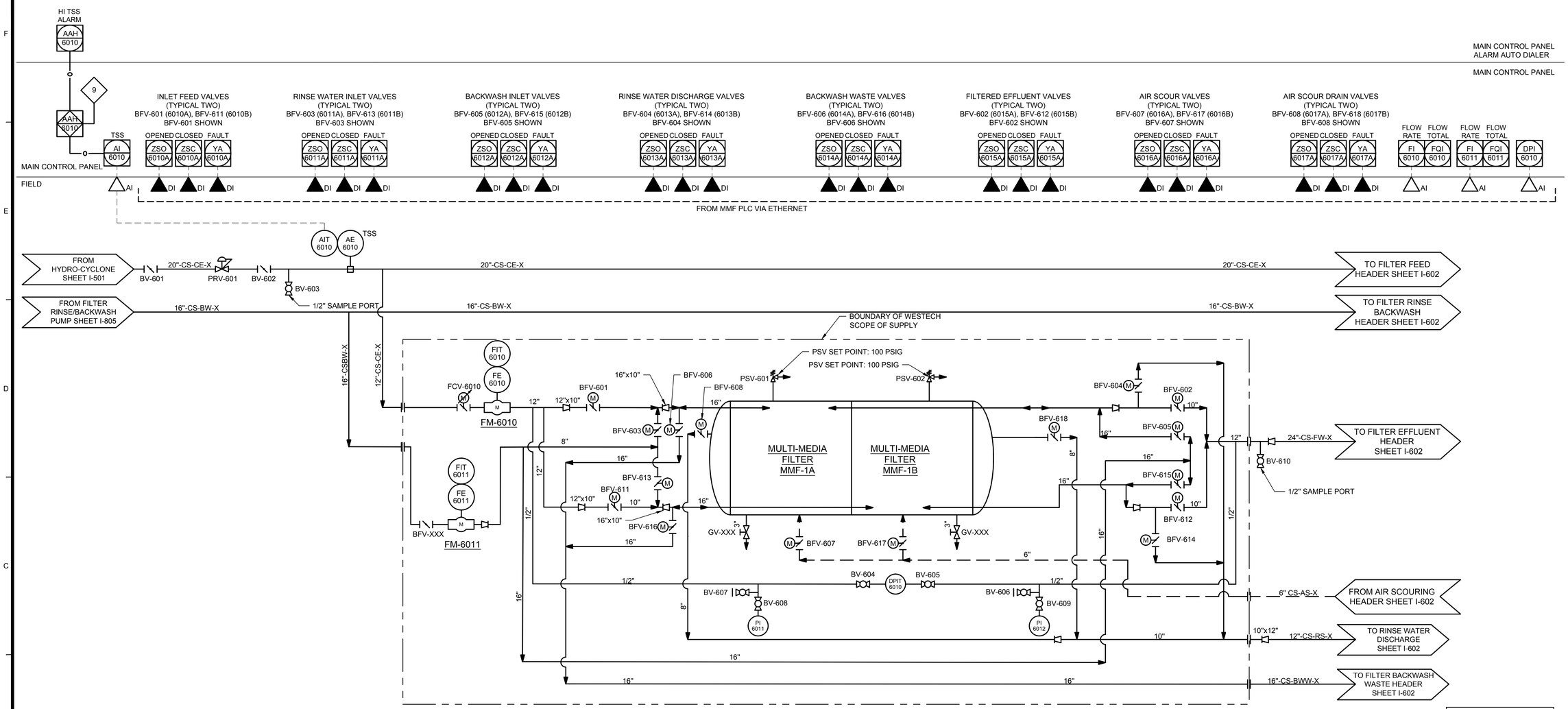
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

CYCLONE HC-2 P&ID

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

I-502



EQUIPMENT ID	MMF-1A/B	FM-6010	FIT-6010	FM-6011	FIT-601	PI-6010	PI-6011	PI-6012	FV-6010	-
DESCRIPTION	-	-	-	-	-	-	-	-	-	-
TYPE	-	-	-	-	-	-	-	-	-	-
MANUFACTURER	WESTECH	SIEMENS	SIEMENS	SIEMENS	SIEMENS	SIEMENS	SIEMENS	SIEMENS	SIEMENS	-
SIZE	-	-	-	-	-	-	-	-	-	-
FLOW RANGE	-	-	-	-	-	-	-	-	-	-
LEVEL RANGE	-	-	-	-	-	-	-	-	-	-
POWER REQUIRMENTS	-	-	-	-	-	-	-	-	-	-
ANALYZER RANGE	-	-	-	-	-	-	-	-	-	-
WETTED MATERIAL	-	-	-	-	-	-	-	-	-	-
ELEVATION	-	-	-	-	-	-	-	-	-	-
LOCAL CONTROLS / INDICATION	-	-	-	-	-	-	-	-	-	-
MOUNTING	-	-	-	-	-	-	-	-	-	-
CONTROL TYPE	-	-	-	-	-	-	-	-	-	-
NOTES	-	-	-	-	-	-	-	-	-	-

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MARK	DATE	DESCRIPTION
A	11/28/16	ISSUED FOR 60% SUBMITTAL
B	01/27/17	ISSUED FOR DRAFT 90% SUBMITTAL
C	02/15/17	75% SUBMITTAL TO BOR

BY: HCR, HCR, LBW

NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

MULTI-MEDIA FILTERS MMF-1A/1B P&ID

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

I-601

MAIN CONTROL PANEL
ALARM AUTO DAILER

MAIN CONTROL PANEL

INLET FEED VALVES (TYPICAL TWO) BFV-621 (6020A), BFV-631 (6020B) BFV-621 SHOWN — OPENED ZSO 6020A, CLOSED ZSC 6020A, FAULT YA 6020A

RINSE WATER INLET VALVES (TYPICAL TWO) BFV-623 (6021A), BFV-633 (6021B) BFV-623 SHOWN — OPENED ZSO 6021A, CLOSED ZSC 6021A, FAULT YA 6021A

BACKWASH INLET VALVES (TYPICAL TWO) BFV-625 (6022B) BFV-625 SHOWN — OPENED ZSO 6022A, CLOSED ZSC 6022A, FAULT YA 6022A

RINSE WATER DISCHARGE VALVES (TYPICAL TWO) BFV-624 (6023A), BFV-634 (6023B) BFV-624 SHOWN — OPENED ZSO 6023A, CLOSED ZSC 6023A, FAULT YA 6023A

BACKWASH WASTE VALVES (TYPICAL TWO) BFV-626 (6024A), BFV-636 (6024B) BFV-626 SHOWN — OPENED ZSO 6024A, CLOSED ZSC 6024A, FAULT YA 6024A

FILTERED EFFLUENT VALVES (TYPICAL TWO) BFV-622 (6025A), BFV-632 (6025B) BFV-622 SHOWN — OPENED ZSO 6025A, CLOSED ZSC 6025A, FAULT YA 6025A

AIR SCOUR VALVES (TYPICAL TWO) BFV-627 (6026A), BFV-637 (6026B) BFV-627 SHOWN — OPENED ZSO 6026A, CLOSED ZSC 6026A, FAULT YA 6026A

AIR SCOUR DRAIN VALVES (TYPICAL TWO) BFV-628 (6027A), BFV-638 (6027B) BFV-628 SHOWN — OPENED ZSO 6028B, CLOSED ZSC 6028B, FAULT YA 6028B

FLOW RATE FI 6020, FLOW TOTAL FQI 6020; FLOW RATE FI 6021, FLOW TOTAL FQI 6021; DPI 6020

MAIN CONTROL PANEL

FIELD — DI / AI

FROM MMF PLC VIA ETHERNET

FROM FILTER FEED HEADER SHEET I-601
FROM FILTER RINSE/BACKWASH HEADER SHEET I-601
FROM FILTER EFFLUENT HEADER SHEET I-601
TO FILTER FEED HEADER SHEET I-603
TO FILTER RINSE/BACKWASH HEADER SHEET I-603
TO FILTER EFFLUENT HEADER SHEET I-603

20"-CS-CE-X, 12"-CS-CE-X, 16"-CS-BW-X, 24"-CS-FW-X, 16"-CSBW-X, 12"-CS-CE-X

FCV-6020, FE 6020, FIT 6020, FM-6020, BFV-621, BFV-626, BFV-628, BFV-623, BFV-633, BFV-631, BFV-636, BFV-627, BFV-637, BFV-624, BFV-622, BFV-625, BFV-635, BFV-632, BFV-634, BFV-638, BV-630, 1/2" SAMPLE PORT

PSV SET POINT: 100 PSIG — PSV-621
PSV SET POINT: 100 PSIG — PSV-622

MULTI-MEDIA FILTER MMF-2A
MULTI-MEDIA FILTER MMF-2B

FIT 6021, FE 6021, FM-6021, BFV-XXX

GV-XXX, BV-624, DPIT 6020, BV-625, BV-627, BV-628, PI 6021, BV-626, BV-629, PI 6022

PROVIDED BY EQUIPMENT SUPPLIER

BOUNDARY OF WESTECH SCOPE OF SUPPLY

12"-CS-RS-X, 6" CS-AS-X

FROM AIR SCOURING HEADER SHEET I-603
TO RINSE WATER DISCHARGE HEADER SHEET I-603

TO AIR SCOURING HEADER SHEET I-601
FROM RINSE WATER DISCHARGE HEADER SHEET I-601
FROM FILTER BACKWASH WASTE HEADER SHEET I-601
TO FILTER BACKWASH WASTE HEADER SHEET I-603

6" CS-AS-X, 12"-CS-RS-X, 16"-CS-FW-X, 16"-CS-BWW-X

EQUIPMENT ID	MMF-2A/B	FM-6020	FIT-6020	FM-6021	FIT-6021	FV-6020	PI-6020	PI-6021	PI-6022	-
DESCRIPTION	-	-	-	-	-	-	-	-	-	-
TYPE	-	-	-	-	-	-	-	-	-	-
MANUFACTURER	WESTECH	SIEMENS	SIEMENS	SIEMENS	SIEMENS	-	SIEMENS	SIEMENS	SIEMENS	-
SIZE	-	-	-	-	-	-	-	-	-	-
FLOW RANGE	-	-	-	-	-	-	-	-	-	-
LEVEL RANGE	-	-	-	-	-	-	-	-	-	-
POWER REQUIRMENTS	-	-	-	-	-	-	-	-	-	-
ANALYZER RANGE	-	-	-	-	-	-	-	-	-	-
WETTED MATERIAL	-	-	-	-	-	-	-	-	-	-
ELEVATION	-	-	-	-	-	-	-	-	-	-
LOCAL CONTROLS / INDICATION	-	-	-	-	-	-	-	-	-	-
MOUNTING	-	-	-	-	-	-	-	-	-	-
CONTROL TYPE	-	-	-	-	-	-	-	-	-	-
NOTES	-	-	-	-	-	-	-	-	-	-

TETRA TECH
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MARK	DATE	DESCRIPTION	BY
A	11/28/16	ISSUED FOR 60% SUBMITTAL	HCR
B	01/27/17	ISSUED FOR DRAFT 90% SUBMITTAL	HCR
C	02/15/17	75% SUBMITTAL TO BOR	LBW

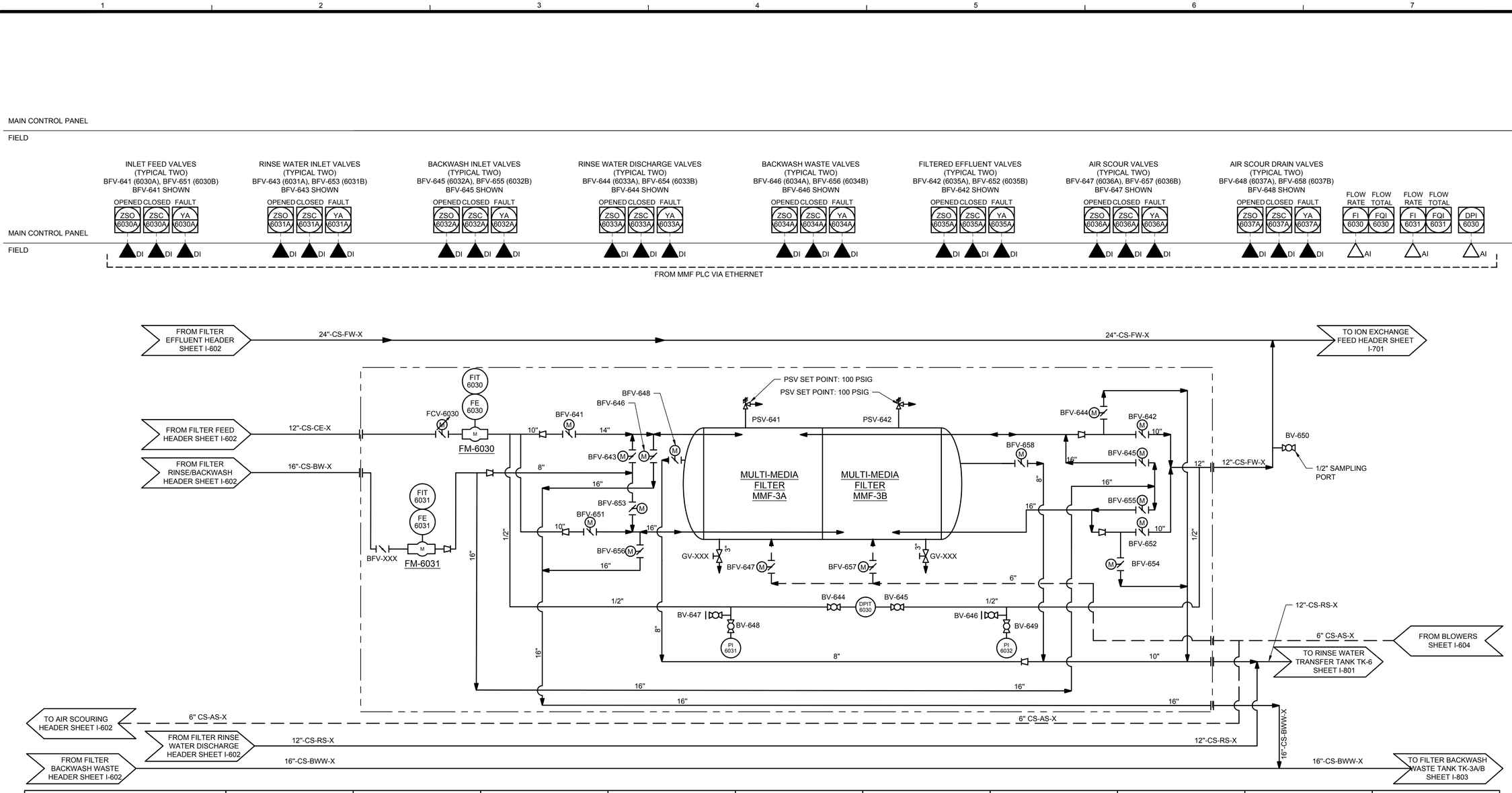
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

MULTI-MEDIA FILTERS MMF-1C/1D P&ID

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

I-602



EQUIPMENT ID	MMF-3A/B	FM-6030	FIT-6030	FM-6031	FIT-6031	FV-6030	PI-6030	PI-6031	PI-6032	-
DESCRIPTION	-	-	-	-	-	-	-	-	-	-
TYPE	-	-	-	-	-	-	-	-	-	-
MANUFACTURER	WESTECH	SIEMENS	SIEMENS	SIEMENS	SIEMENS	-	SIEMENS	SIEMENS	SIEMENS	-
SIZE	-	-	-	-	-	-	-	-	-	-
FLOW RANGE	-	-	-	-	-	-	-	-	-	-
LEVEL RANGE	-	-	-	-	-	-	-	-	-	-
POWER REQUIRMENTS	-	-	-	-	-	-	-	-	-	-
ANALYZER RANGE	-	-	-	-	-	-	-	-	-	-
WETTED MATERIAL	-	-	-	-	-	-	-	-	-	-
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LOCAL CONTROLS / INDICATION	-	-	-	-	-	-	-	-	-	-
MOUNTING	-	-	-	-	-	-	-	-	-	-
CONTROL TYPE	-	-	-	-	-	-	-	-	-	-
NOTES	-	-	-	-	-	-	-	-	-	-

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C	02/15/17	75% SUBMITTAL TO BOR	LBW

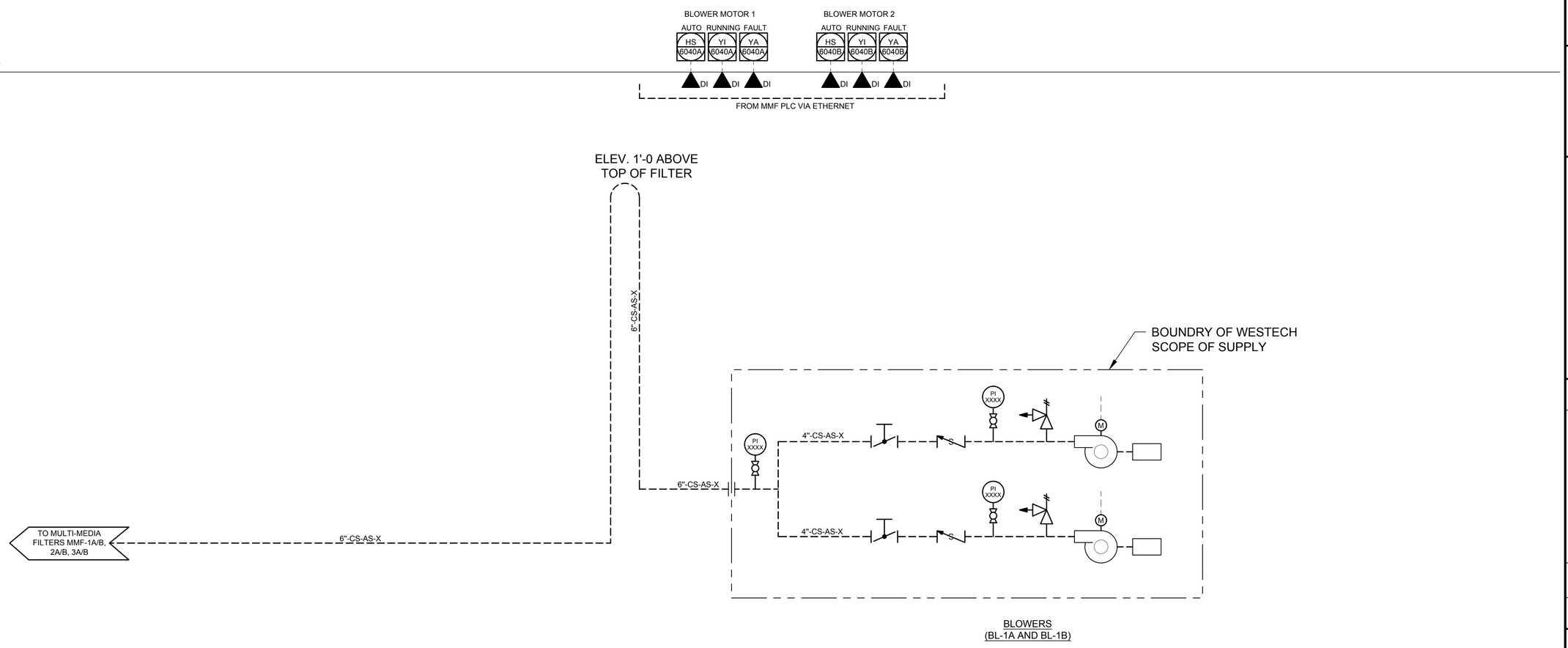
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

MULTI-MEDIA FILTERS MMF-1E/1F P&ID

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

I-603



EQUIPMENT ID	-	-	-	-	-	-	-	-	-	-
DESCRIPTION	-	-	-	-	-	-	-	-	-	-
TYPE	-	-	-	-	-	-	-	-	-	-
MANUFACTURER	-	-	-	-	-	-	-	-	-	-
SIZE	-	-	-	-	-	-	-	-	-	-
FLOW RANGE	-	-	-	-	-	-	-	-	-	-
LEVEL RANGE	-	-	-	-	-	-	-	-	-	-
POWER REQUIRMENTS	-	-	-	-	-	-	-	-	-	-
ANALYZER RANGE	-	-	-	-	-	-	-	-	-	-
WETTED MATERIAL	-	-	-	-	-	-	-	-	-	-
ELEVATION	-	-	-	-	-	-	-	-	-	-
LOCAL CONTROLS / INDICATION	-	-	-	-	-	-	-	-	-	-
MOUNTING	-	-	-	-	-	-	-	-	-	-
CONTROL TYPE	-	-	-	-	-	-	-	-	-	-
NOTES	-	-	-	-	-	-	-	-	-	-

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MARK	DATE	DESCRIPTION	BY
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C	02/15/17	75% SUBMITTAL TO BOR	LBW

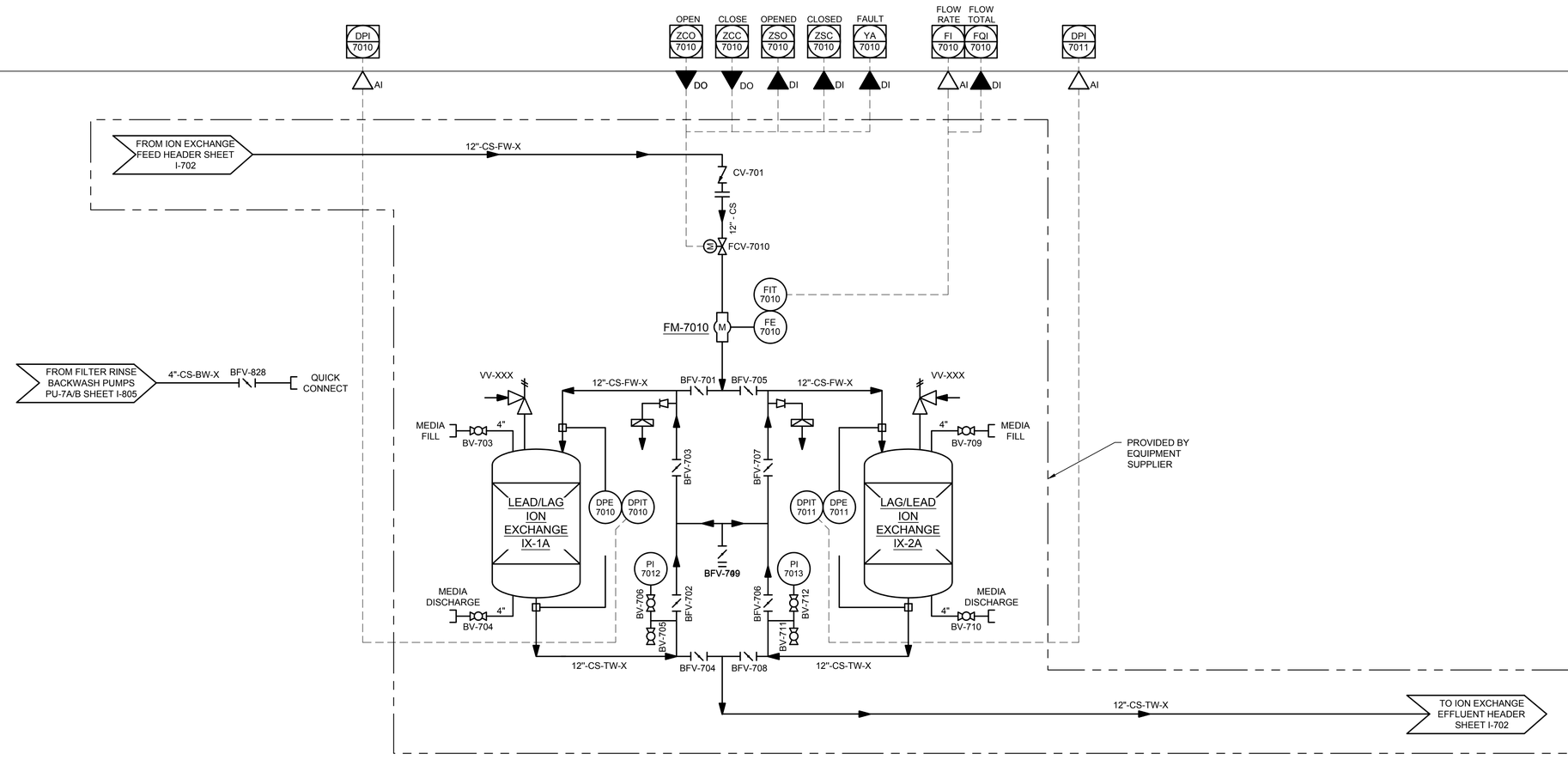
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

MULTI-MEDIA FILTERS AIR SCOUR BLOWER P&ID

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

I-604



EQUIPMENT ID	IX-1A/2A	FM-7010	FIT-7010	V-701	PE-7010/7011	PIT-7010/7011	PI-7012/7013	AE-7010	AIT-7010	-
DESCRIPTION	-	-	-	-	-	-	-	-	-	-
TYPE	-	-	-	-	-	-	-	-	-	-
MANUFACTURER	EVOQUA	SIEMENS	SIEMENS	-	SIEMENS	SIEMENS	SIEMENS	INSITE IG	INSITE IG	-
SIZE	-	-	-	-	-	-	-	-	-	-
FLOW RANGE	-	-	-	-	-	-	-	-	-	-
LEVEL RANGE	-	-	-	-	-	-	-	-	-	-
POWER REQUIRMENTS	-	-	-	-	-	-	-	-	-	-
ANALYZER RANGE	-	-	-	-	-	-	-	-	-	-
WETTED MATERIAL	-	-	-	-	-	-	-	-	-	-
ELEVATION	-	-	-	-	-	-	-	-	-	-
LOCAL CONTROLS / INDICATION	-	-	-	-	-	-	-	-	-	-
MOUNTING	-	-	-	-	-	-	-	-	-	-
CONTROL TYPE	-	-	-	-	-	-	-	-	-	-
NOTES	-	-	-	-	-	-	-	-	-	-

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MARK	DATE	DESCRIPTION	BY
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B	01/27/17	ISSUED FOR DRAFT 90% SUBMITTAL	HCR
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NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

ION EXCHANGE IX-1A/2A P&ID

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

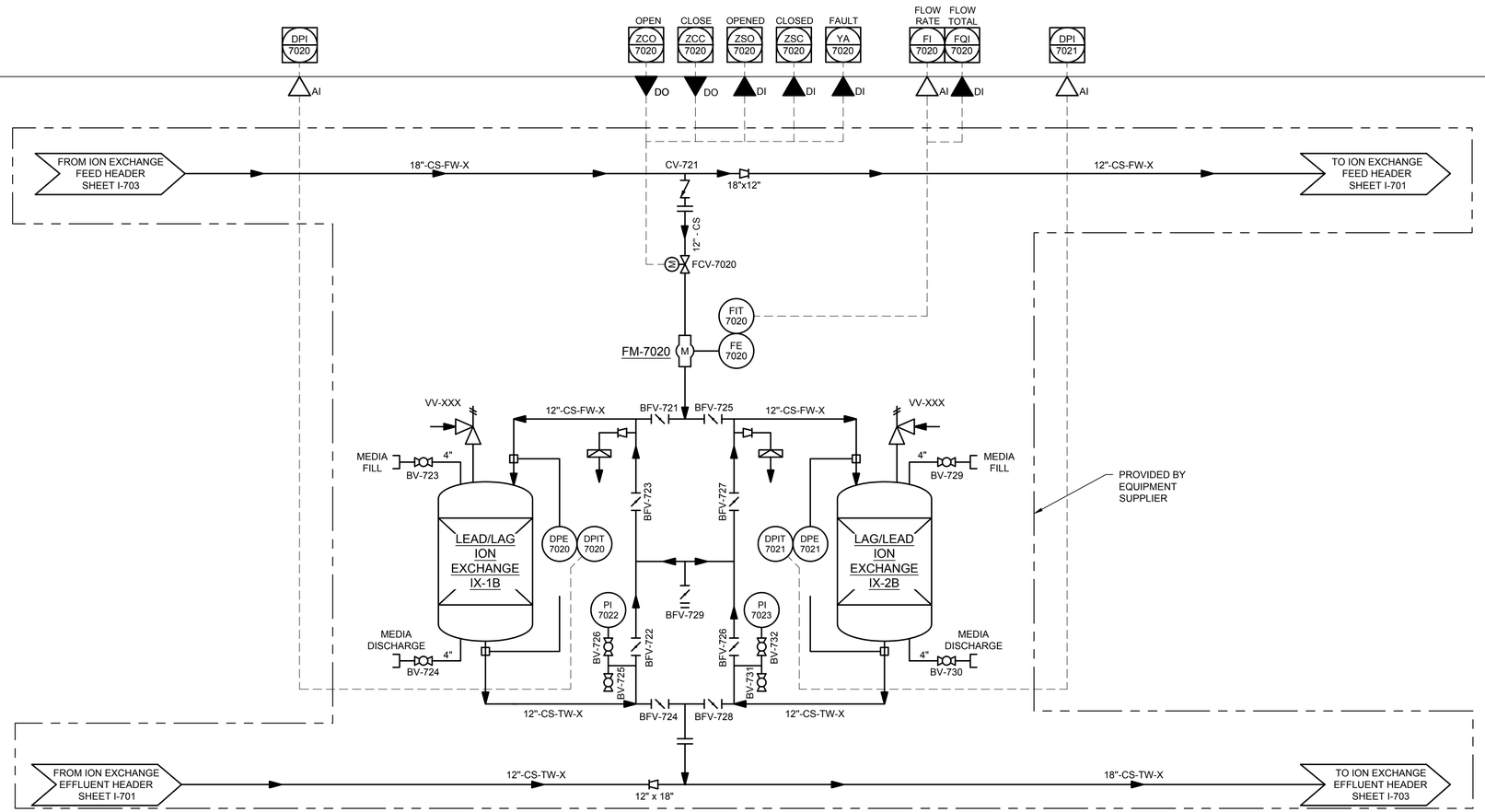
I-701

MAIN CONTROL PANEL
ALARM AUTO DIALER

MAIN CONTROL PANEL

MAIN CONTROL PANEL

FIELD



EQUIPMENT ID	IX-1B/2B	FM-7020	FIT-7020	PE-7020/7021	PIT-7020/7021	PI-7022/7023	V-721	-	-	-
DESCRIPTION	-	-	-	-	-	-	-	-	-	-
TYPE	-	-	-	-	-	-	-	-	-	-
MANUFACTURER	EVOQUA	SIEMENS	SIEMENS	SIEMENS	SIEMENS	SIEMENS	-	-	-	-
SIZE	-	-	-	-	-	-	-	-	-	-
FLOW RANGE	-	-	-	-	-	-	-	-	-	-
LEVEL RANGE	-	-	-	-	-	-	-	-	-	-
POWER REQUIRMENTS	-	-	-	-	-	-	-	-	-	-
ANALYZER RANGE	-	-	-	-	-	-	-	-	-	-
WETTED MATERIAL	-	-	-	-	-	-	-	-	-	-
ELEVATION	-	-	-	-	-	-	-	-	-	-
LOCAL CONTROLS / INDICATION	-	-	-	-	-	-	-	-	-	-
MOUNTING	-	-	-	-	-	-	-	-	-	-
CONTROL TYPE	-	-	-	-	-	-	-	-	-	-
NOTES	-	-	-	-	-	-	-	-	-	-

TETRA TECH
www.tetratech.com
1489 West Warm Springs Road, Suite 110
Henderson, NV 89014
Phone: 702.946.6700 Fax: 702.997.7140

MARK	DATE	DESCRIPTION	BY
A	11/28/16	ISSUED FOR 60% SUBMITTAL	HCR
B	01/27/17	ISSUED FOR DRAFT 90% SUBMITTAL	HCR
C	02/15/17	75% SUBMITTAL TO BOR	LBW

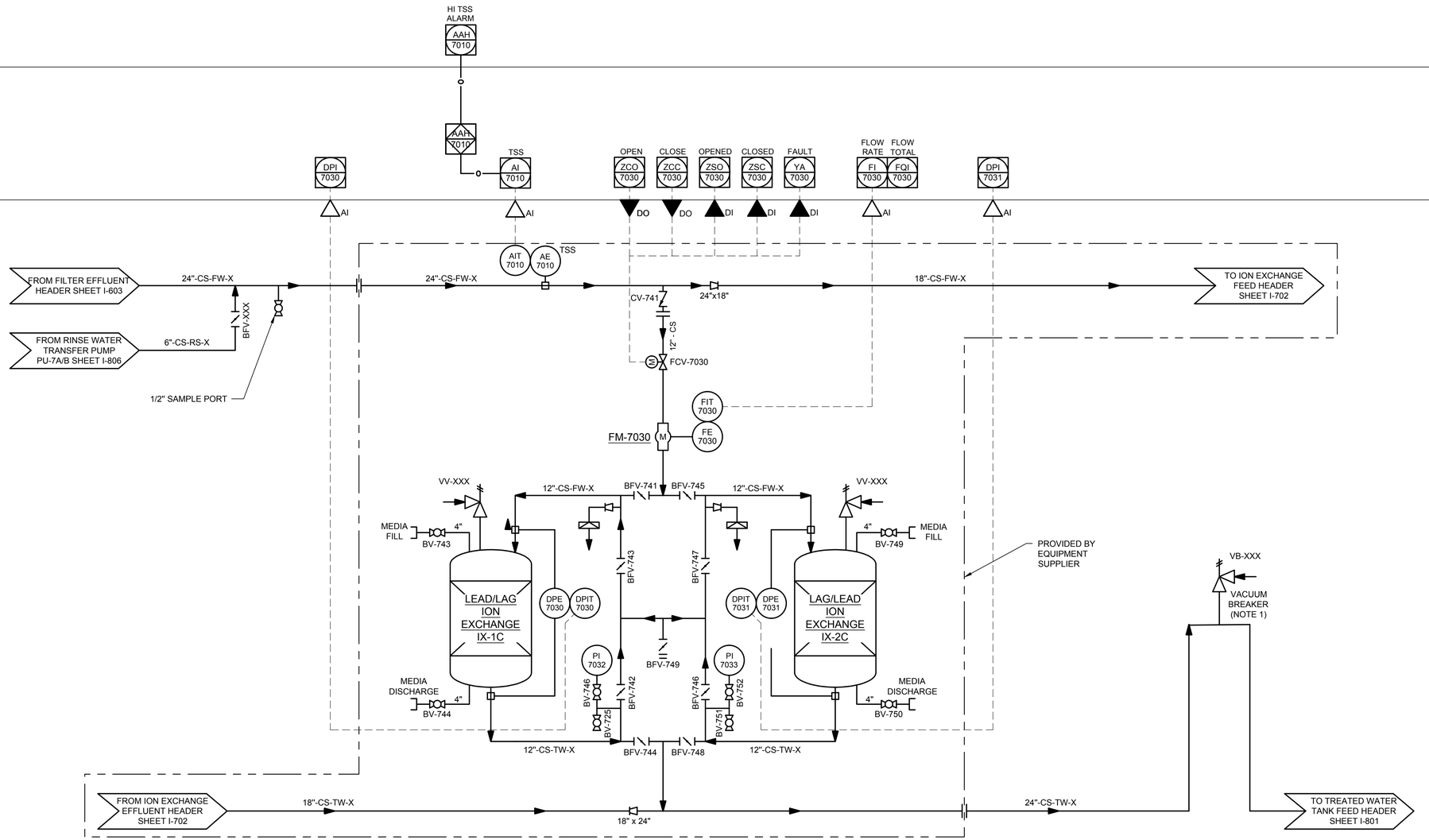
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

ION EXCHANGE IX-1B/2B P&ID

Project No.: 200-01299-16015
Designed By: J. GUO
Drawn By: S. ULREY
Checked By: S. DARIAN

I-702



NOTE:
1. VACUUM BREAKER COMES WITH INTEGRATE AIR RELEASE VALVE.

EQUIPMENT ID	IX-1C/2C	FM-7030	FIT-7030	V-741	PE-7030/7031	PIT-7030/7031	PI-7032/7033	AE-7010	AIT-7010	-
DESCRIPTION	-	-	-	-	-	-	-	-	-	-
TYPE	-	-	-	-	-	-	-	-	-	-
MANUFACTURER	EVOQUA	SIEMENS	SIEMENS	-	SIEMENS	SIEMENS	SIEMENS	INSITE IG	INSITE IG	-
SIZE	-	-	-	-	-	-	-	-	-	-
FLOW RANGE	-	-	-	-	-	-	-	-	-	-
LEVEL RANGE	-	-	-	-	-	-	-	-	-	-
POWER REQUIRMENTS	-	-	-	-	-	-	-	-	-	-
ANALYZER RANGE	-	-	-	-	-	-	-	-	-	-
WETTED MATERIAL	-	-	-	-	-	-	-	-	-	-
ELEVATION	-	-	-	-	-	-	-	-	-	-
LOCAL CONTROLS / INDICATION	-	-	-	-	-	-	-	-	-	-
MOUNTING	-	-	-	-	-	-	-	-	-	-
CONTROL TYPE	-	-	-	-	-	-	-	-	-	-
NOTES	-	-	-	-	-	-	-	-	-	-

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C	02/15/17	75% SUBMITTAL TO BOR	LBW

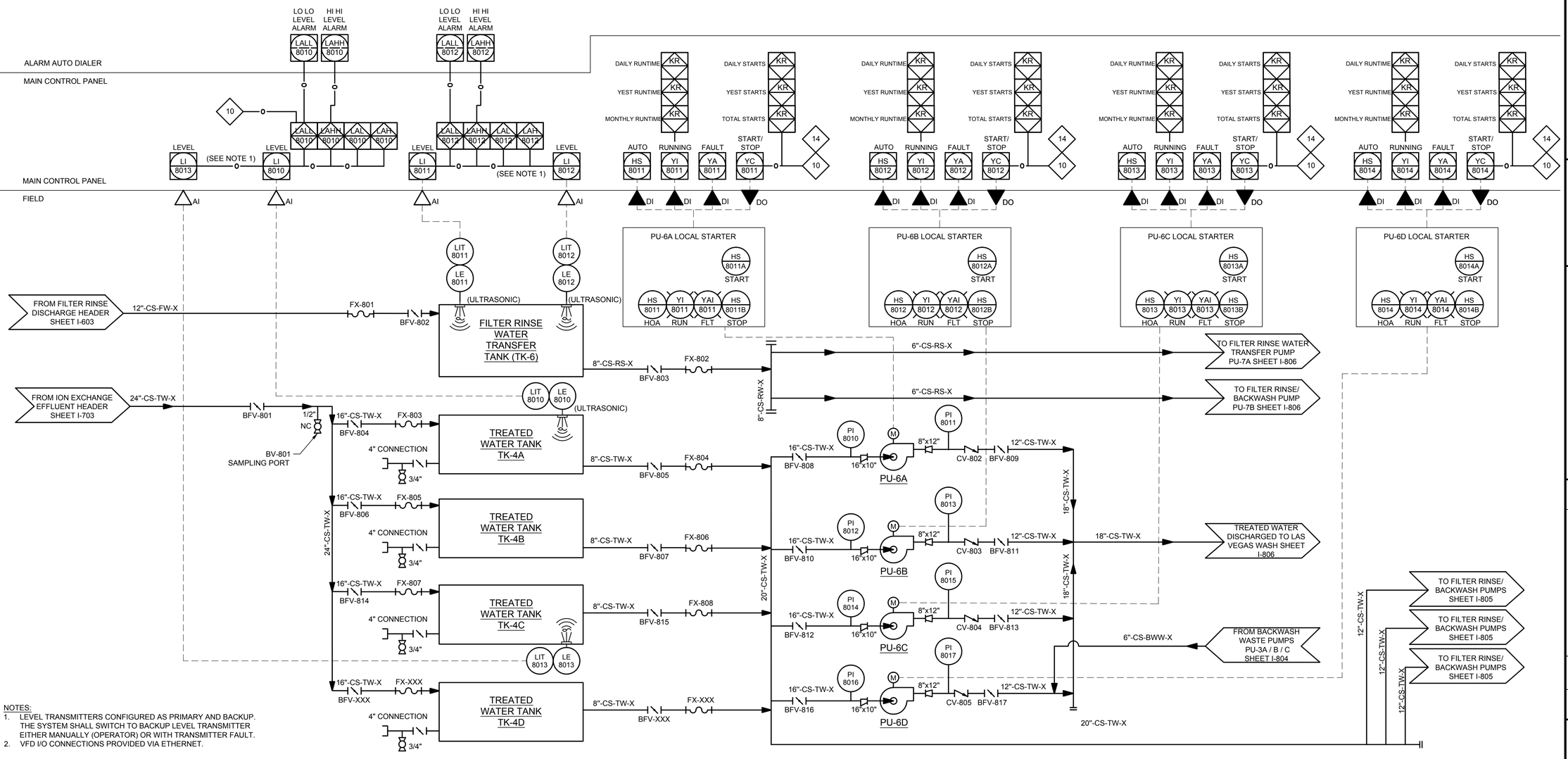
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

ION EXCHANGE IX-1C/2C P&ID

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

I-703



NOTES:
1. LEVEL TRANSMITTERS CONFIGURED AS PRIMARY AND BACKUP. THE SYSTEM SHALL SWITCH TO BACKUP LEVEL TRANSMITTER EITHER MANUALLY (OPERATOR) OR WITH TRANSMITTER FAULT.
2. VFD I/O CONNECTIONS PROVIDED VIA ETHERNET.

EQUIPMENT ID	TK-4A/B/C	TK-6	PU-6A/B/C/D	LE-8010/8011	LIT-8010/8011	LE-8012/8013	LIT-8012/8013	-	-	-
DESCRIPTION	-	-	-	-	-	-	-	-	-	-
TYPE	-	-	-	-	-	-	-	-	-	-
MANUFACTURER	-	-	FLOWSERVE	SIEMENS	SIEMENS	SIEMENS	SIEMENS	-	-	-
SIZE	-	-	-	-	-	-	-	-	-	-
FLOW RANGE	-	-	-	-	-	-	-	-	-	-
LEVEL RANGE	-	-	-	-	-	-	-	-	-	-
POWER REQUIRMENTS	-	-	-	-	-	-	-	-	-	-
ANALYZER RANGE	-	-	-	-	-	-	-	-	-	-
WETTED MATERIAL	-	-	-	-	-	-	-	-	-	-
ELEVATION	-	-	-	-	-	-	-	-	-	-
LOCAL CONTROLS / INDICATION	-	-	-	-	-	-	-	-	-	-
MOUNTING	-	-	-	-	-	-	-	-	-	-
CONTROL TYPE	-	-	-	-	-	-	-	-	-	-
NOTES	-	-	-	-	-	-	-	-	-	-

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NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

TREATED WATER TANKS AND PUMPS P&ID

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

I-801

MAIN CONTROL PANEL
ALARM AUTO DIALER

MAIN CONTROL PANEL

MAIN CONTROL PANEL

FIELD

DAILY RUNTIME KR
YEST RUNTIME KR
MONTHLY RUNTIME KR
DAILY STARTS KR
YEST STARTS KR
TOTAL STARTS KR

AUTO HS 8021 | RUNNING YI 8021 | FAULT YA 8021 | START/STOP YC 8021 — DI DI DI DO

AUTO HS 8022 | RUNNING YI 8022 | FAULT YA 8022 | START/STOP YC 8022 — DI DI DI DO

AUTO HS 8023 | RUNNING YI 8023 | FAULT YAI 8023 | START/STOP YC 8023 — DI DI DI DO

AUTO HS 8024 | RUNNING YI 8024 | FAULT YA 8024 | START/STOP YC 8024 | LEVEL LI 8021 — DI DI DI DO AI

LO LO LEVEL ALARM LALL 8020
HI HI LEVEL ALARM LAHH 8020
11
(SEE NOTE 1)
LEVEL LI 8020 — AI
LALL 8020 | LAHH 8020 | LAL 8020 | LAH 8020

MIXER MX-3A LOCAL STARTER
HS 8021A START
HS 8021 HOA | YI 8021 RUN | YAI 8021 FLT | HS 8021B STOP

MIXER MX-3B LOCAL STARTER
HS 8022A START
HS 8022 HOA | YI 8022 RUN | YAI 8022 FLT | HS 8022B STOP

MIXER MX-3C LOCAL STARTER
HS 8023A START
HS 8023 HOA | YI 8023 RUN | YAI 8023 FLT | HS 8023B STOP

MIXER MX-3D LOCAL STARTER
HS 8024A START
HS 8024 HOA | YI 8024 RUN | YAI 8024 FLT | HS 8024B STOP

FROM CYCLONE HC-1 UNDERFLOW SHEET I-501 — 3"-CS-CW-X
FROM CYCLONE HC-2 UNDERFLOW SHEET I-502 — 3"-CS-CW-X

FM-8020
K KGV-805 | M | K KGV-806
K KGV-807
K KGV-803
3"-CS-CW-X

K KGV-801
3"-CS-CW-X

LIT 8021 / LE 8021 (ULTRASONIC)
MIXER MX-2A | MIXER MX-2B | MIXER MX-2C | MIXER MX-2D
LIT 8020 / LE 8020 (ULTRASONIC)

PROVIDED BY CYCLONES EQUIPMENT SUPPLIER

3"-CS-CW-X — TO BACKWASH WASTE TANK TK-3A/B SHEET I-803

CYCLONE WASTE TANK TK-5

6"x3" K KGV-802 1/2" K — 3"-CS-CW-X — TO CYCLONE WASTE PUMP PU-4A/B SHEET I-804

KGV-804 SAMPLING PORT

NOTES:
1. LEVEL TRANSMITTERS CONFIGURED AS PRIMARY AND BACKUP. THE SYSTEM SHALL SWITCH TO BACKUP LEVEL TRANSMITTER EITHER MANUALLY (OPERATOR) OR WITH TRANSMITTER FAULT.

EQUIPMENT ID	TK-5	MX-2A/B/C/D	FM-8020	FIT-8020	LE-8020	LIT-8020	LE-8021	LIT-8021	-	-
DESCRIPTION	-	-	-	-	-	-	-	-	-	-
TYPE	-	-	-	-	-	-	-	-	-	-
MANUFACTURER	-	-	SIEMENS	SIEMENS	SIEMENS	SIEMENS	SIEMENS	SIEMENS	-	-
SIZE	-	-	-	-	-	-	-	-	-	-
FLOW RANGE	-	-	-	-	-	-	-	-	-	-
LEVEL RANGE	-	-	-	-	-	-	-	-	-	-
POWER REQUIRMENTS	-	-	-	-	-	-	-	-	-	-
ANALYZER RANGE	-	-	-	-	-	-	-	-	-	-
WETTED MATERIAL	-	-	-	-	-	-	-	-	-	-
ELEVATION	-	-	-	-	-	-	-	-	-	-
LOCAL CONTROLS / INDICATION	-	-	-	-	-	-	-	-	-	-
MOUNTING	-	-	-	-	-	-	-	-	-	-
CONTROL TYPE	-	-	-	-	-	-	-	-	-	-
NOTES	-	-	-	-	-	-	-	-	-	-

TETRA TECH
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1489 West Warm Springs Road, Suite 110
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Phone: 702.946.6700 Fax: 702.997.7140

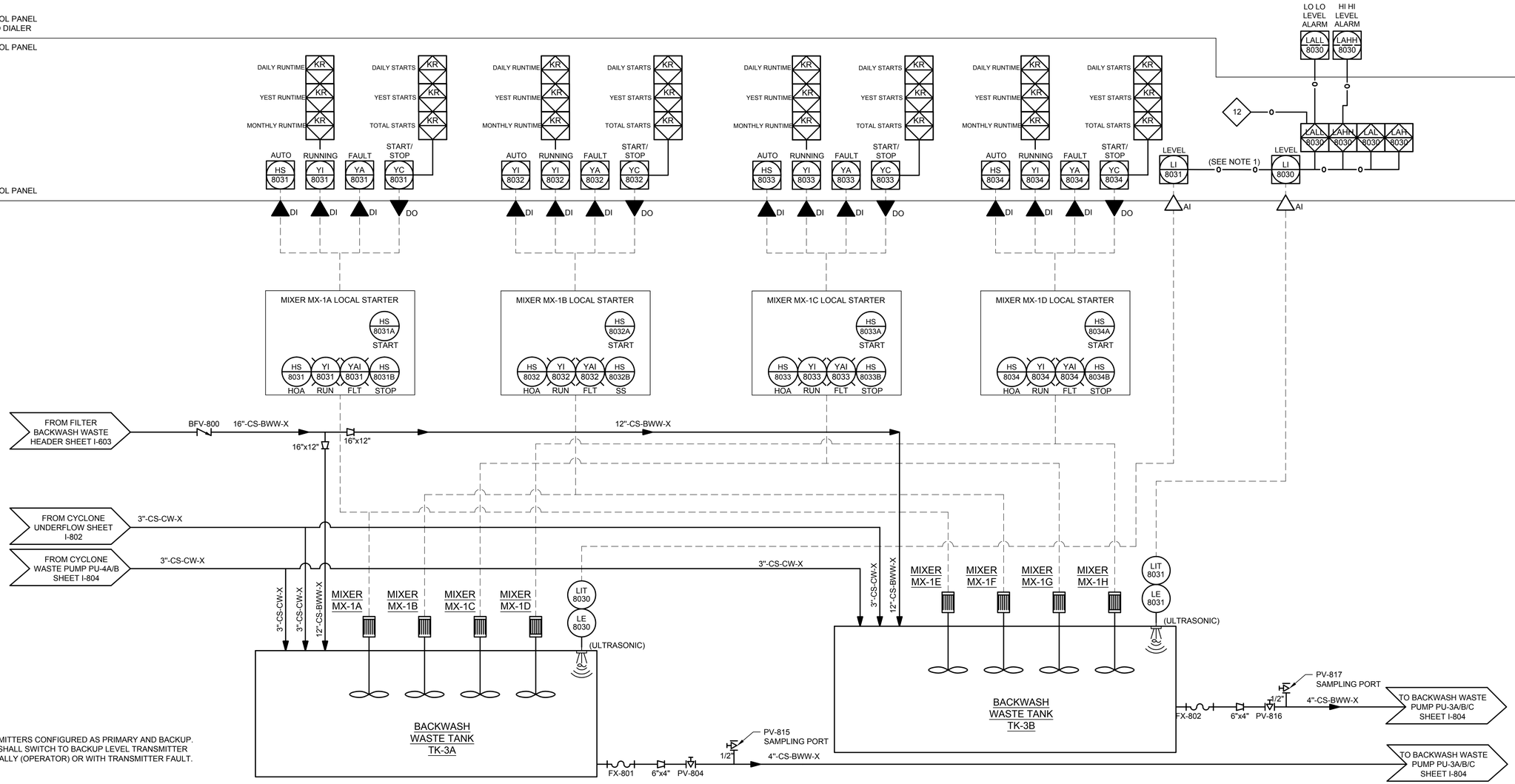
MARK	DATE	DESCRIPTION	BY
A	11/28/16	ISSUED FOR 60% SUBMITTAL	HCR
B	01/27/17	ISSUED FOR DRAFT 90% SUBMITTAL	HCR
C	02/15/17	75% SUBMITTAL TO BOR	LBW

NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT
CYCLONE WASTE TANK P&ID

Project No.: 200-01299-16015
Designed By: J. GUO
Drawn By: S. ULREY
Checked By: S. DARIAN

I-802



NOTES:
1. LEVEL TRANSMITTERS CONFIGURED AS PRIMARY AND BACKUP. THE SYSTEM SHALL SWITCH TO BACKUP LEVEL TRANSMITTER EITHER MANUALLY (OPERATOR) OR WITH TRANSMITTER FAULT.

EQUIPMENT ID	TK-3A/B	MX-1A/B/C/D	MX-1E/F/G/H	LE-8030	LIT-8030	LE-8031	LIT-8031	-	-	-
DESCRIPTION	-	-	-	-	-	-	-	-	-	-
TYPE	-	-	-	-	-	-	-	-	-	-
MANUFACTURER	-	-	-	SIEMENS	SIEMENS	SIEMENS	SIEMENS	-	-	-
SIZE	-	-	-	-	-	-	-	-	-	-
FLOW RANGE	-	-	-	-	-	-	-	-	-	-
LEVEL RANGE	-	-	-	-	-	-	-	-	-	-
POWER REQUIRMENTS	-	-	-	-	-	-	-	-	-	-
ANALYZER RANGE	-	-	-	-	-	-	-	-	-	-
WETTED MATERIAL	-	-	-	-	-	-	-	-	-	-
ELEVATION	-	-	-	-	-	-	-	-	-	-
LOCAL CONTROLS / INDICATION	-	-	-	-	-	-	-	-	-	-
MOUNTING	-	-	-	-	-	-	-	-	-	-
CONTROL TYPE	-	-	-	-	-	-	-	-	-	-
NOTES	-	-	-	-	-	-	-	-	-	-

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MARK	DATE	DESCRIPTION	BY
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B	01/27/17	ISSUED FOR DRAFT 90% SUBMITTAL	HCR
C	02/15/17	75% SUBMITTAL TO BCR	LBW

NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

BACKWASH WASTE TANK P&ID

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

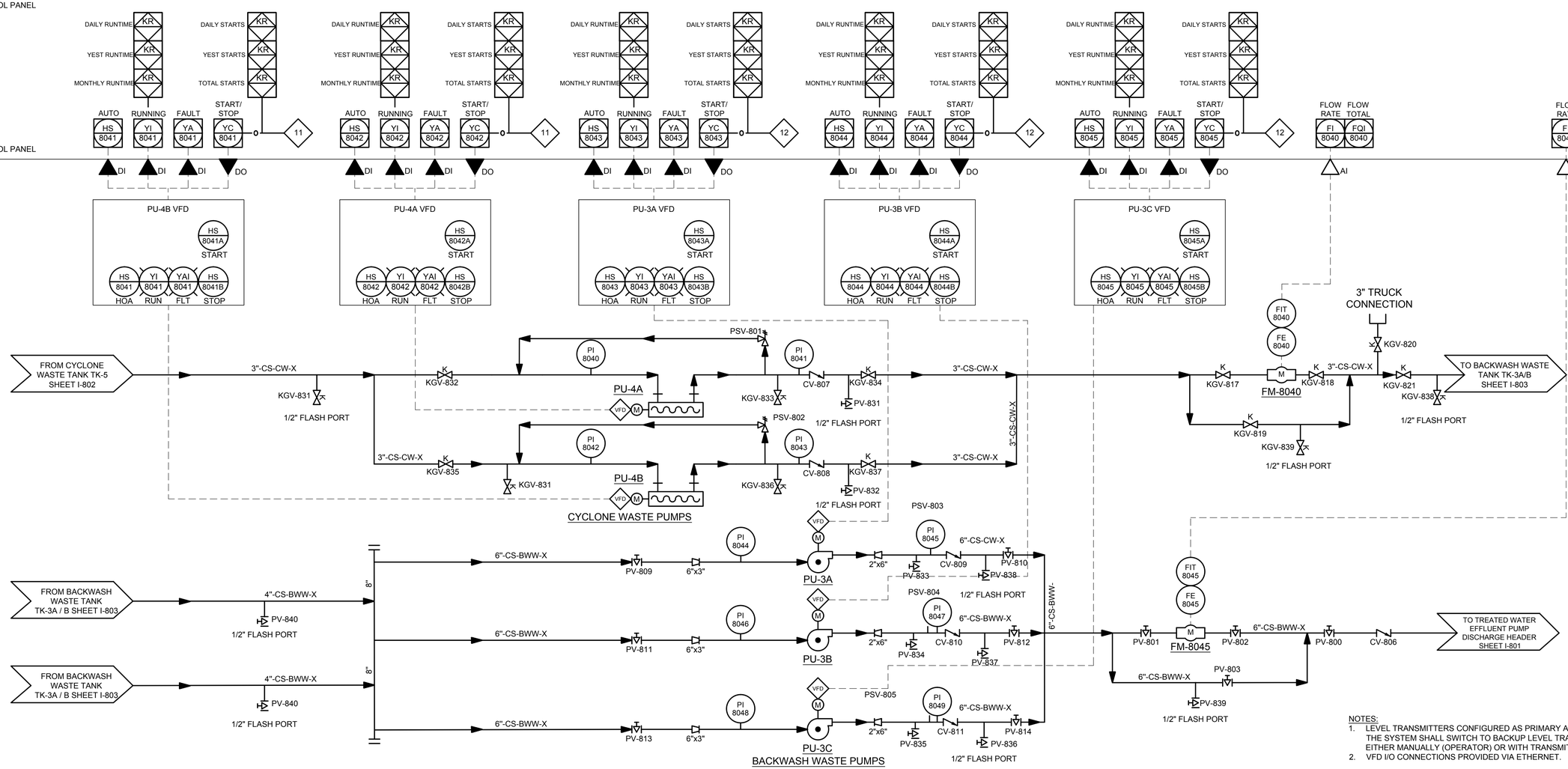
I-803

MAIN CONTROL PANEL
ALARM AUTO DIALER

MAIN CONTROL PANEL

MAIN CONTROL PANEL

FIELD



NOTES:
1. LEVEL TRANSMITTERS CONFIGURED AS PRIMARY AND BACKUP THE SYSTEM SHALL SWITCH TO BACKUP LEVEL TRANSMITTER EITHER MANUALLY (OPERATOR) OR WITH TRANSMITTER FAULT
2. VFD I/O CONNECTIONS PROVIDED VIA ETHERNET.

EQUIPMENT ID	PU-4A/B	PU-3A/B/C	FM-8040	FIT-8040	FM-8045	FIT-8045	PI	-	-	-
DESCRIPTION	-	-	-	-	-	-	-	-	-	-
TYPE	-	-	-	-	-	-	-	-	-	-
MANUFACTURER	-	-	SIEMENS	SIEMENS	SIEMENS	SIEMENS	SIEMENS	-	-	-
SIZE	-	-	-	-	-	-	-	-	-	-
FLOW RANGE	-	-	-	-	-	-	-	-	-	-
LEVEL RANGE	-	-	-	-	-	-	-	-	-	-
POWER REQUIRMENTS	-	-	-	-	-	-	-	-	-	-
ANALYZER RANGE	-	-	-	-	-	-	-	-	-	-
WETTED MATERIAL	-	-	-	-	-	-	-	-	-	-
ELEVATION	-	-	-	-	-	-	-	-	-	-
LOCAL CONTROLS / INDICATION	-	-	-	-	-	-	-	-	-	-
MOUNTING	-	-	-	-	-	-	-	-	-	-
CONTROL TYPE	-	-	-	-	-	-	-	-	-	-
NOTES	-	-	-	-	-	-	-	-	-	-

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C	02/15/17	75% SUBMITTAL TO BOR	LBW

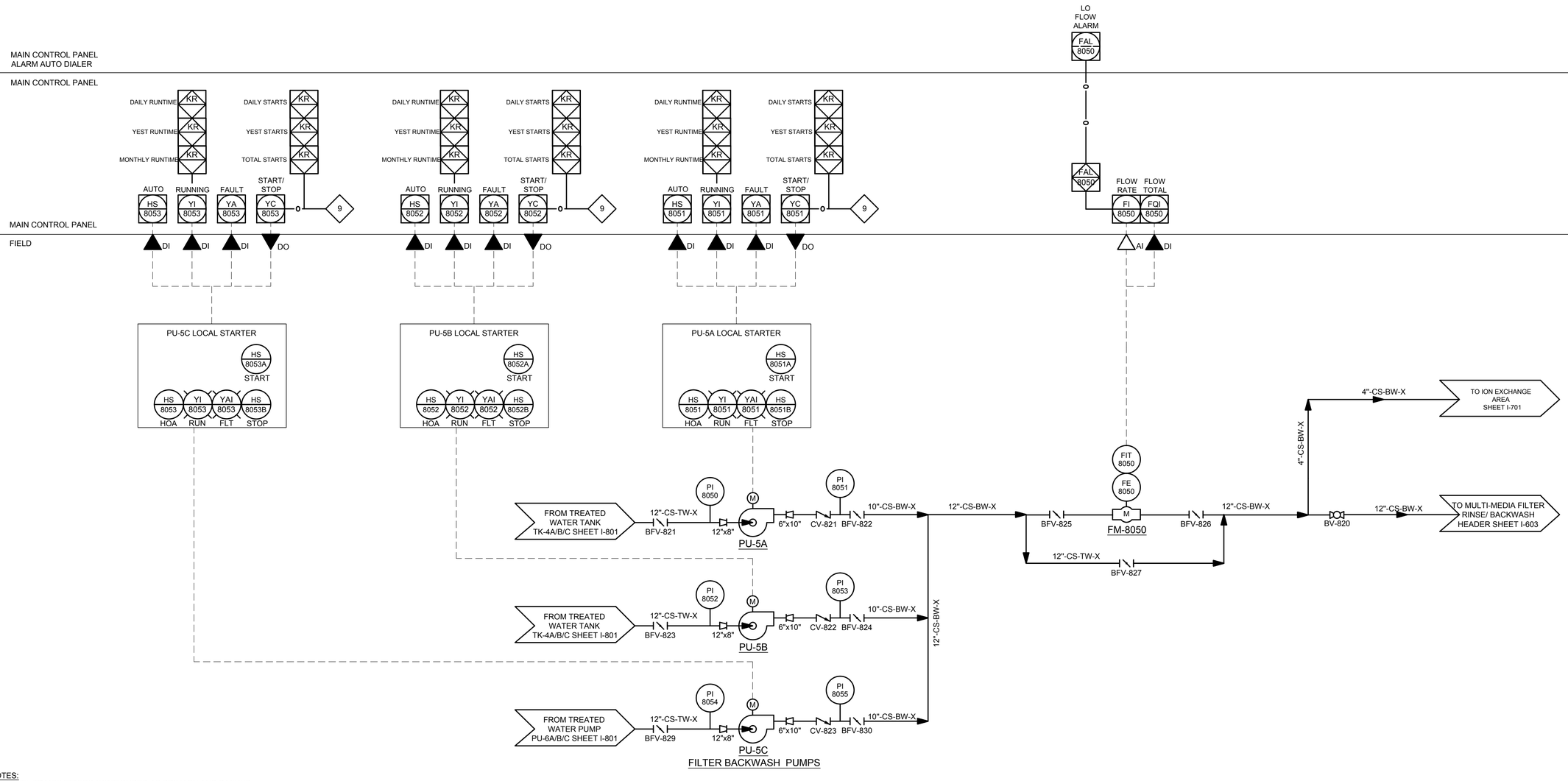
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

CYCLONE AND BACKWASH WASTE PUMPS P&ID

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

I-804



FILTER BACKWASH PUMPS

NOTES:
1. LEVEL TRANSMITTERS CONFIGURED AS PRIMARY AND BACKUP. THE SYSTEM SHALL SWITCH TO BACKUP LEVEL TRANSMITTER EITHER MANUALLY (OPERATOR) OR WITH TRANSMITTER FAULT.
2. VFD I/O CONNECTIONS PROVIDED VIA ETHERNET.

EQUIPMENT ID	PU-5A/B/C	FM-8050	FIT-8050	PI-8050-8055	-	-	-	-	-	-
DESCRIPTION	-	-	-	-	-	-	-	-	-	-
TYPE	-	-	-	-	-	-	-	-	-	-
MANUFACTURER	-	SIEMENS	SIEMENS	SIEMENS	-	-	-	-	-	-
SIZE	-	-	-	-	-	-	-	-	-	-
FLOW RANGE	-	-	-	-	-	-	-	-	-	-
LEVEL RANGE	-	-	-	-	-	-	-	-	-	-
POWER REQUIRMENTS	-	-	-	-	-	-	-	-	-	-
ANALYZER RANGE	-	-	-	-	-	-	-	-	-	-
WETTED MATERIAL	-	-	-	-	-	-	-	-	-	-
ELEVATION	-	-	-	-	-	-	-	-	-	-
LOCAL CONTROLS / INDICATION	-	-	-	-	-	-	-	-	-	-
MOUNTING	-	-	-	-	-	-	-	-	-	-
CONTROL TYPE	-	-	-	-	-	-	-	-	-	-
NOTES	-	-	-	-	-	-	-	-	-	-

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C	02/15/17	75% SUBMITTAL TO BOR	LBW

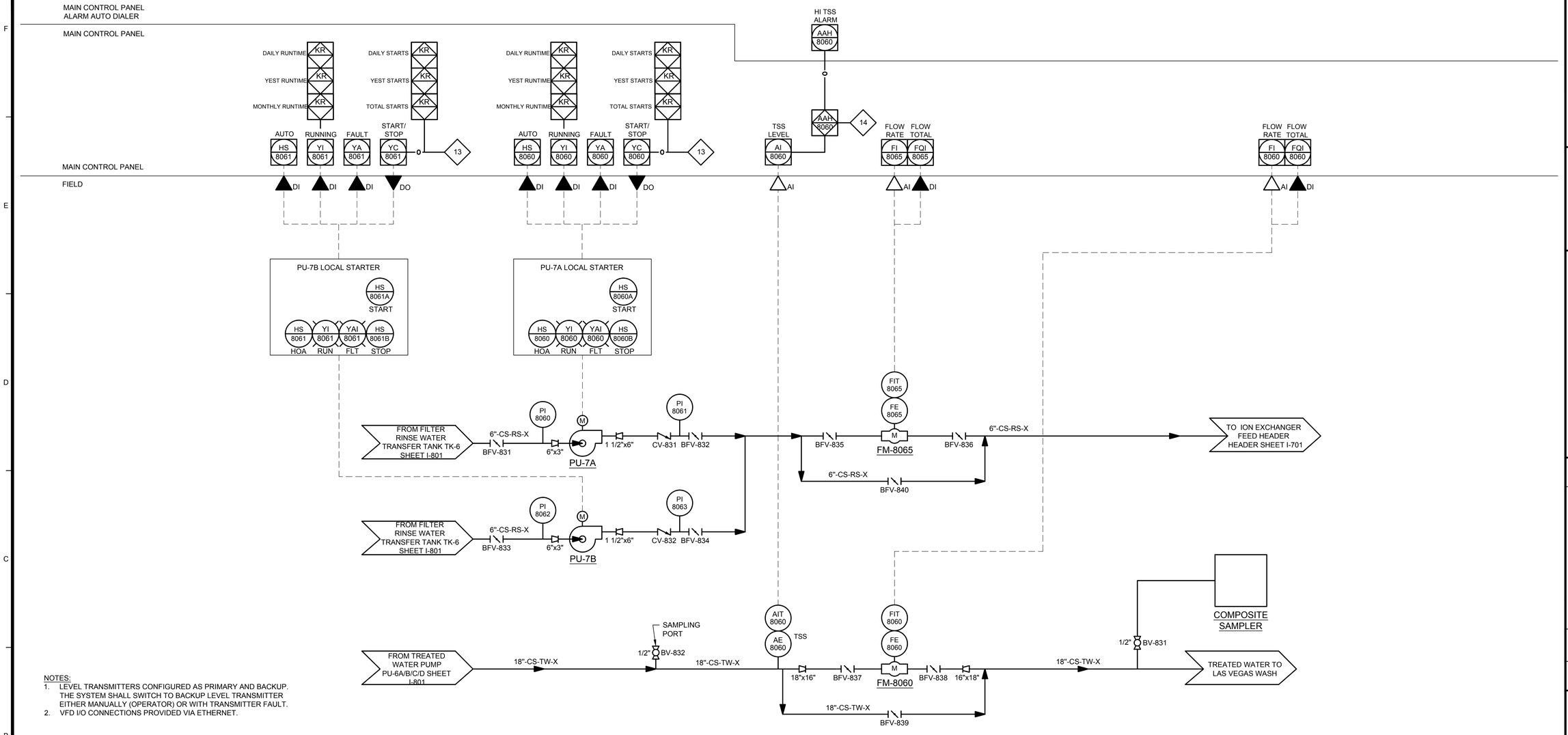
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

FILTER RINSE/ BACKWASH PUMPS P&ID

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

I-805



NOTES:
1. LEVEL TRANSMITTERS CONFIGURED AS PRIMARY AND BACKUP. THE SYSTEM SHALL SWITCH TO BACKUP LEVEL TRANSMITTER EITHER MANUALLY (OPERATOR) OR WITH TRANSMITTER FAULT.
2. VFD I/O CONNECTIONS PROVIDED VIA ETHERNET.

EQUIPMENT ID	PU-7A/B	FM-8060	FIT-8060	FM-8065	FIT-8065	PI-8060-8063	-	-	-	-
DESCRIPTION	-	-	-	-	-	-	-	-	-	-
TYPE	-	-	-	-	-	-	-	-	-	-
MANUFACTURER	-	SIEMENS	SIEMENS	SIEMENS	SIEMENS	SIEMENS	-	-	-	-
SIZE	-	-	-	-	-	-	-	-	-	-
FLOW RANGE	-	-	-	-	-	-	-	-	-	-
LEVEL RANGE	-	-	-	-	-	-	-	-	-	-
POWER REQUIRMENTS	-	-	-	-	-	-	-	-	-	-
ANALYZER RANGE	-	-	-	-	-	-	-	-	-	-
WETTED MATERIAL	-	-	-	-	-	-	-	-	-	-
ELEVATION	-	-	-	-	-	-	-	-	-	-
LOCAL CONTROLS / INDICATION	-	-	-	-	-	-	-	-	-	-
MOUNTING	-	-	-	-	-	-	-	-	-	-
CONTROL TYPE	-	-	-	-	-	-	-	-	-	-
NOTES	-	-	-	-	-	-	-	-	-	-

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C	02/15/17	75% SUBMITTAL TO BOR	LBW

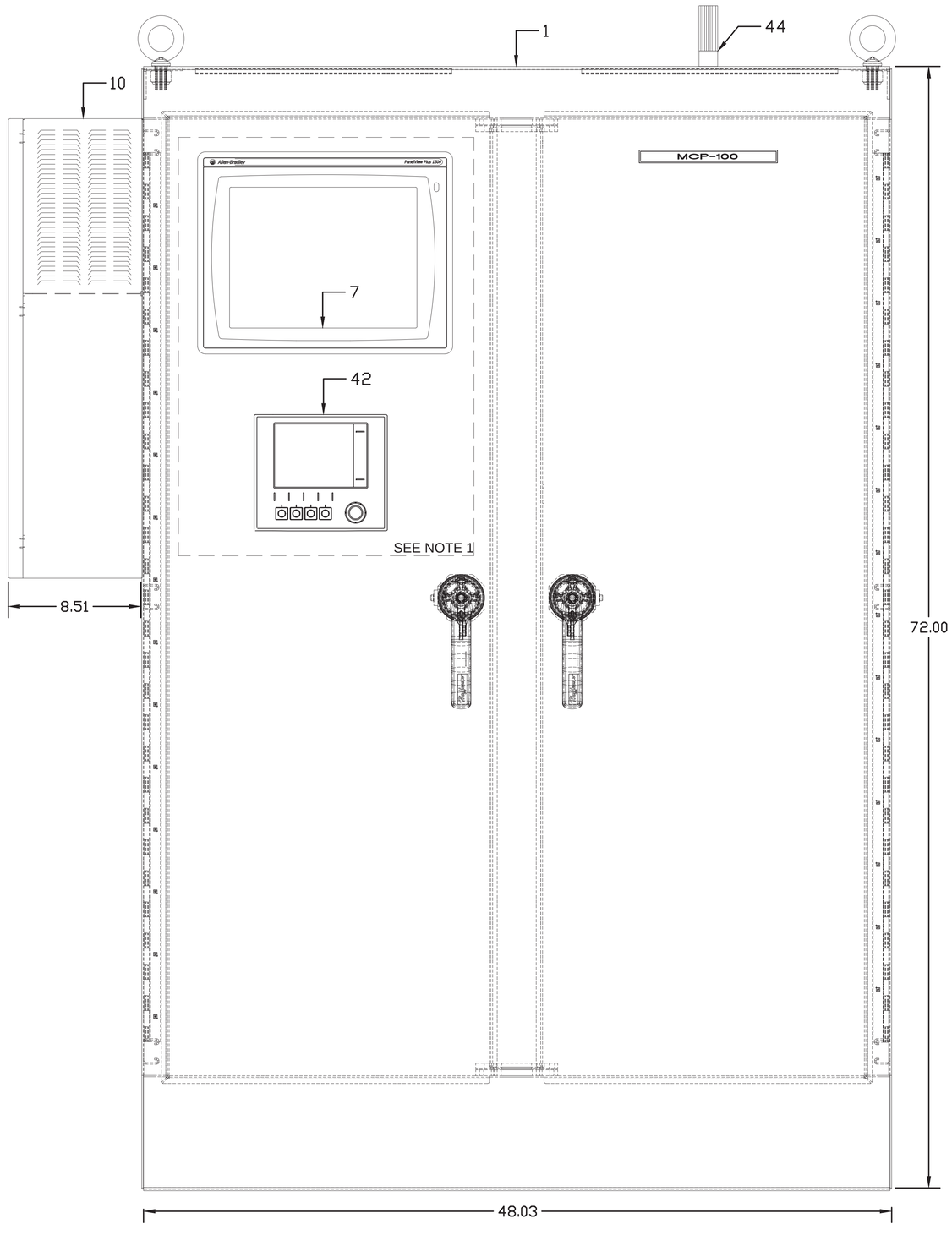
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

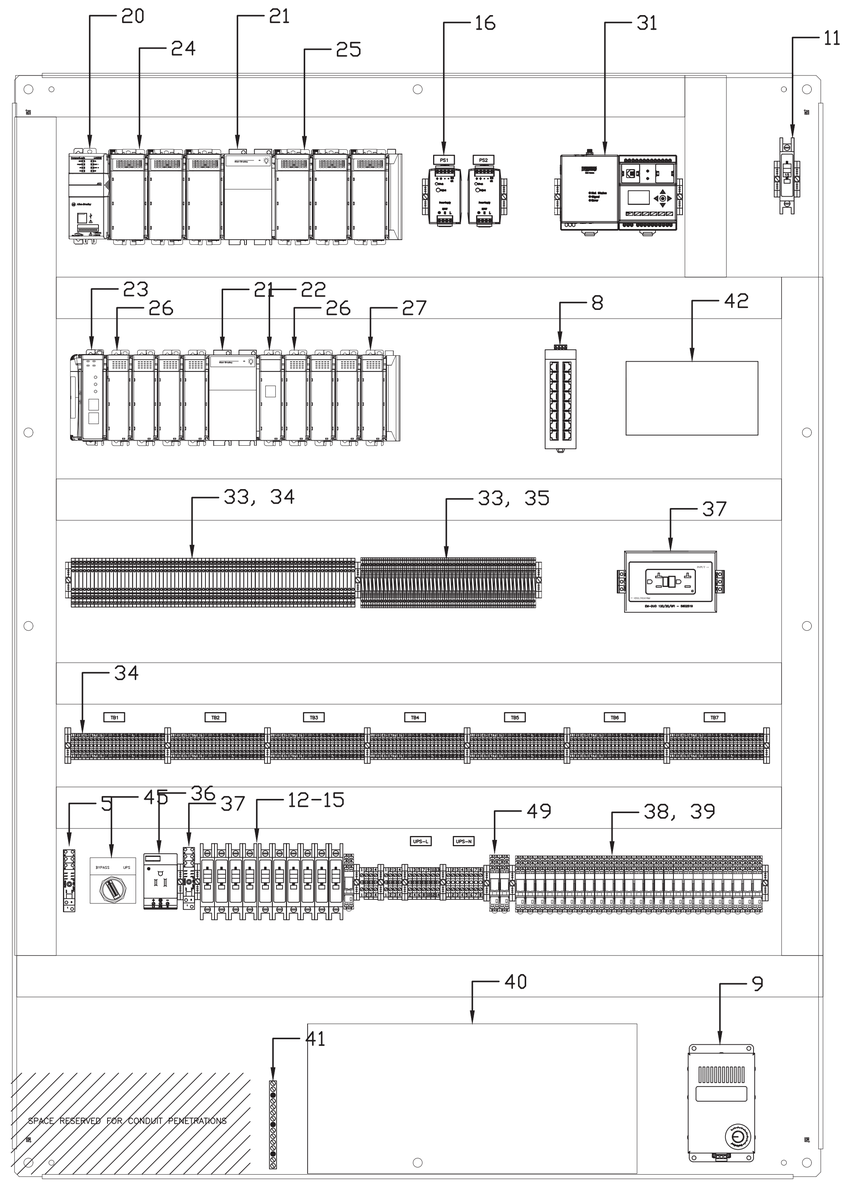
WEIR DEWATERING TREATMENT

FILTER RINSE WATER TRANSFER PUMPS P&ID

Project No.:	200-01299-16015
Designed By:	J. GUO
Drawn By:	S. ULREY
Checked By:	S. DARIAN

I-806





NOTES:

1. OPERATOR INTERFACE UNITS MOUNTED ON INNER PANEL. OBJECTS SHOWN FOR CLARITY.

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Phone: 702.946.6700 Fax: 702.997.7140

MARK	DATE	DESCRIPTION	BY
A	01/27/17	ISSUED FOR DRAFT 90% SUBMITTAL	JMS
B	02/15/17	75% SUBMITTAL TO BOR	JMS

NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

MCP-100 PANEL LAYOUT

Project No.:	200-01299-16015
Designed By:	J. COWARD
Drawn By:	J. COWARD
Checked By:	D. BURGER

I-900

QTY	ID	DESCRIPTION	MFG.	PART#
1	1	Enclosure, 72H x 60W x 18D, 304SS	Hoffman	A726018SSFSDN4
1	2	Back Panel	Hoffman	A72P60F1G
1	3	Panel Light, LED	Hoffman	LEDA1S35
1	4	Door Switch	Hoffman	900-MS01S0100
1	5	Incoming Main Surge Suppressor	Phoenix Contact	2905228
2	6	24 VDC Power Supply	Sola	SDN-5-24-100P
1	7	Operator Interface Terminal (Panel HMI)	Allen Bradley	2711P-T15C4A8
1	8	Ethernet Switch (16 Copper)	N-TRON	316TX
1	9	Panel Heater (200W)	Hoffman	DAH2001A
1	10	Air Conditioner, NEMA 4X, SS, 3000 BTU/Hr	Hoffman	CR290216G036
1	11	Circuit Breaker, 40A	Square D	720-QOU140
5	12	Circuit Breaker, 15A	Square D	720-QOU115
1	13	Circuit Breaker, 10A	Square D	GB2CB16
10	14	Circuit Breaker, 5A	Square D	GB2CB10
6	15	Circuit Breaker, 2A	Square D	GB2CB07
8	16	Circuit Breaker Base, 24VDC	Phoenix Contact	2801305
2	17	Circuit Breaker, 24VDC, 5A	Phoenix Contact	2800840
6	18	Circuit Breaker, 24VDC, 2A	Phoenix Contact	2800837
1	19	Din Rail (7.5 x 35 x 2000 mm)	Phoenix Contact	801733
1	20	CompactLogix PLC	Allen Bradley	1756-L33ER
2	21	PLC Power Supply	Allen Bradley	1769-PA4
1	22	Modbus TCP/IP Communication Module	ProSoft	MVI69-MNET
1	23	Ethernet Adapter Module	Allen Bradley	1769-AENTR
3	24	Digital Input Module, 24VDC 32 DI	Allen Bradley	1769-IQ32
3	25	Digital Output Module, 16 DO (Relay)	Allen Bradley	1769-OW16
8	26	Analog Input Module, 4 AI	Allen Bradley	1769-IF4I
2	27	Analog Output Module, 4 AO	Allen Bradley	1769-OF4
2	28	PLC End Cap Terminator	Allen Bradley	1769-ECR
1	29	Cellular Modem	Phoenix Contact	2400428
1	30	GSM Omnidirectional Antenna	Phoenix Contact	2313371
1	31	Nanoline Autodialer Base Unit	Phoenix Contact	NLC-055-024D-08I-04QRD-05A
1	32	RS-485 Communication Module	Phoenix Contact	2701182
17	33	Surge Base	Phoenix Contact	2838186
26	34	Analog Surge	Phoenix Contact	2788401
26	35	Digital Surge	Phoenix Contact	2788391
1	36	Receptacle-Single DIN mount for UPS	Phoenix Contact	2963860
1	37	Receptacle-Dual DIN Mount GFCI 15A	Phoenix Contact	5600462
4	38	Control Relay, 120VAC, 2-Pole, Push-to-Test	Phoenix Contact	2903332
50	39	Control Relay, 24VDC, 2-Pole, Push-to-Test	Phoenix Contact	2903342
1	40	UPS, 1500VA	APC	SMT1500US
1	41	Ground Bar	Square D	PK5GTA
1	42	Multivariable Analyzer & Controller	Endress + Hauser	CM442
1	43	Pilot Light, White	800H-QRTH2W	ALLEN BRADLEY
1	44	Alarm Beacon, Red	855F-SBSC20B24C1Y4	ALLEN BRADLEY
1	45	Selector Switch, 3 Posiiton	800H-HR2A	ALLEN BRADLEY
1	46	RELAY SOCKET	MAGNCRAFT	70-788EL11-1
1	47	POWER RELAY, PDPT, 30A, 120VAC COIL, UL RECOGNIZED	MAGNECRAFT	300XBXC1-120A
1	48			
1	49	Timer Relay	Phoenix Contact	2905813
1	50	Wireless Ethernet Radio	Phoenix Contact	RAD-ISM-900-EN-BD
1	51	Radio Antenna Cable Surge Protection	Phoenix Contact	CN-UB-70DC-6-BB
1	52	Radio Antenna Cable	Phoenix Contact	RAD-CON-MCX90-N-SS

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Phone: 702.946.6700 Fax: 702.997.7140

MARK	DATE	DESCRIPTION	BY
A	01/27/17	ISSUED FOR DRAFT 90% SUBMITTAL	JMS
B	02/15/17	75% SUBMITTAL TO BOR	JMS

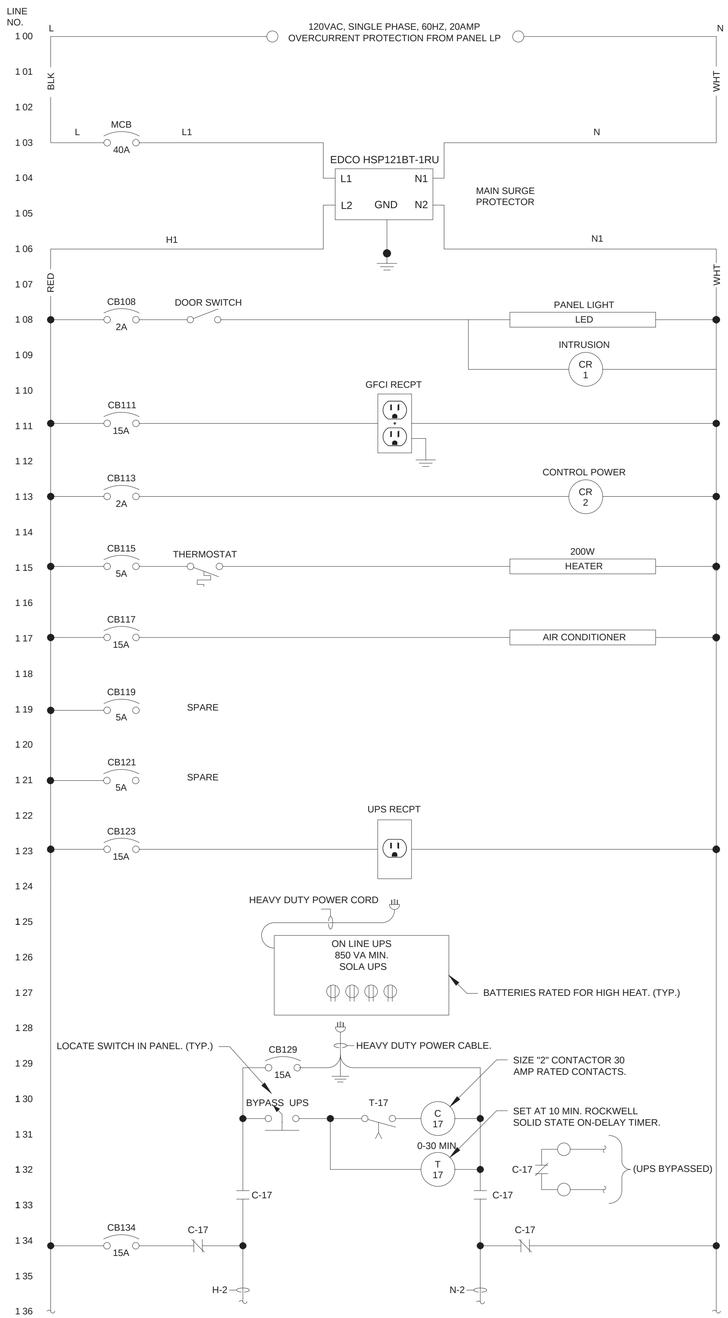
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

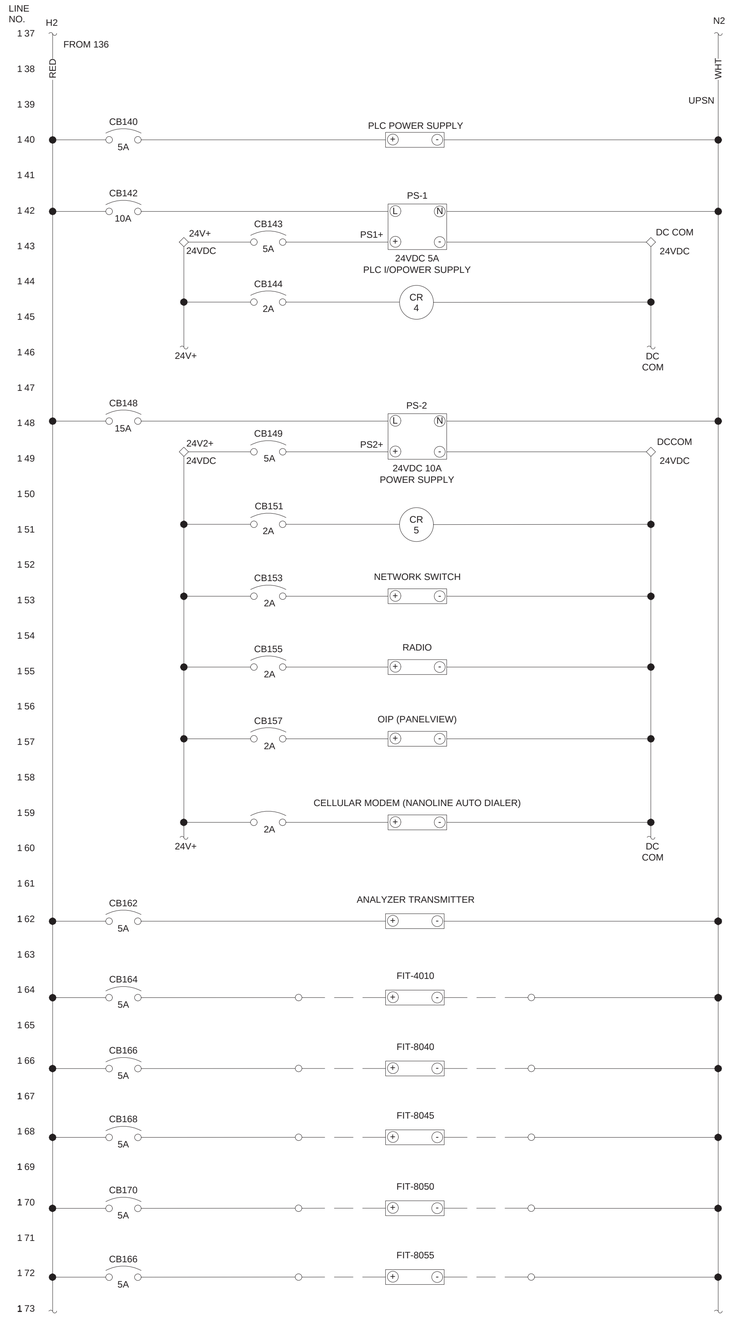
WEIR DEWATERING TREATMENT

MCP-100
BILL OF MATERIALS

Project No.:	200-01299-16015
Designed By:	J. SAITO
Drawn By:	J. SAITO
Checked By:	D. BURGER

I-901





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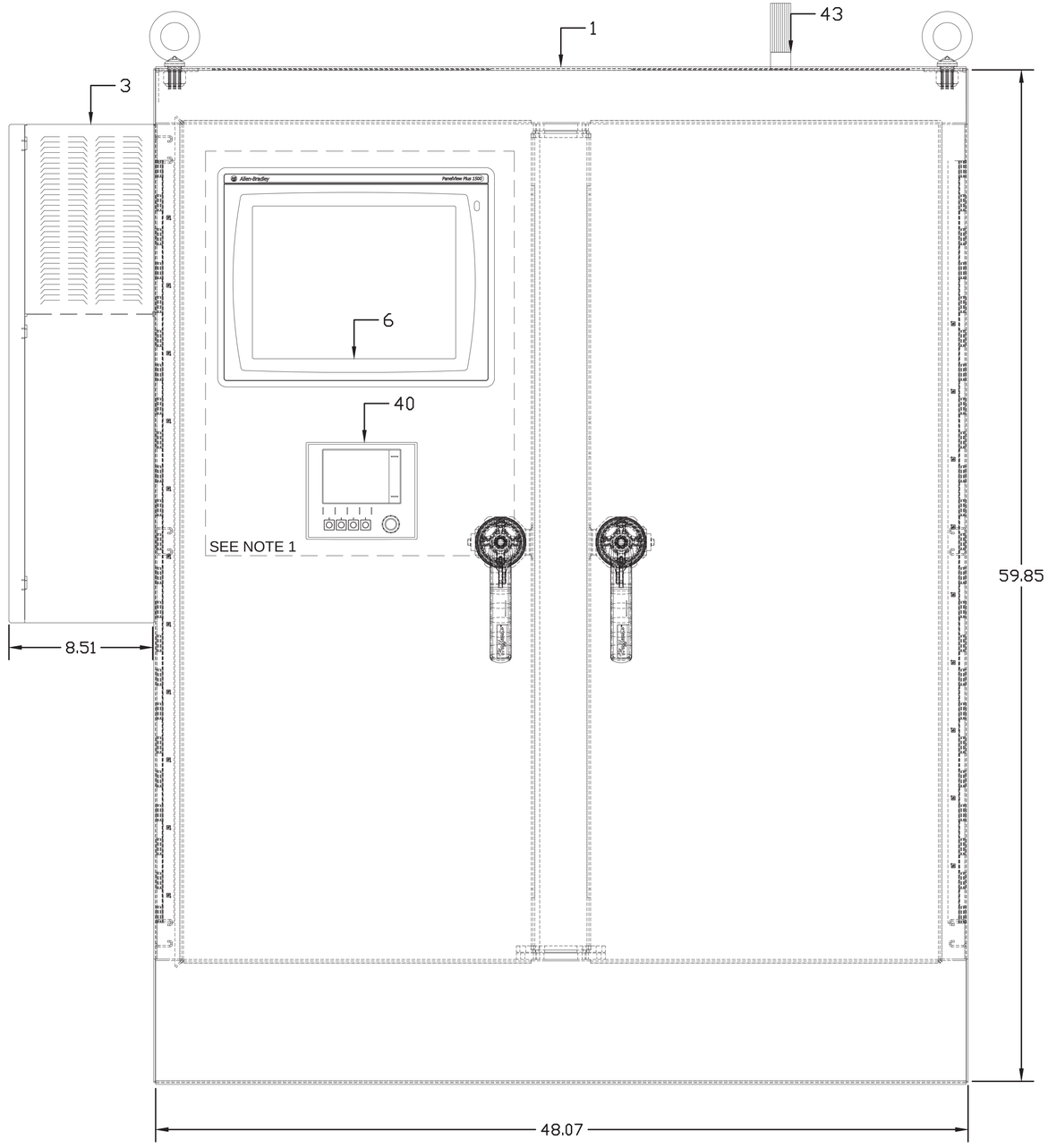
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

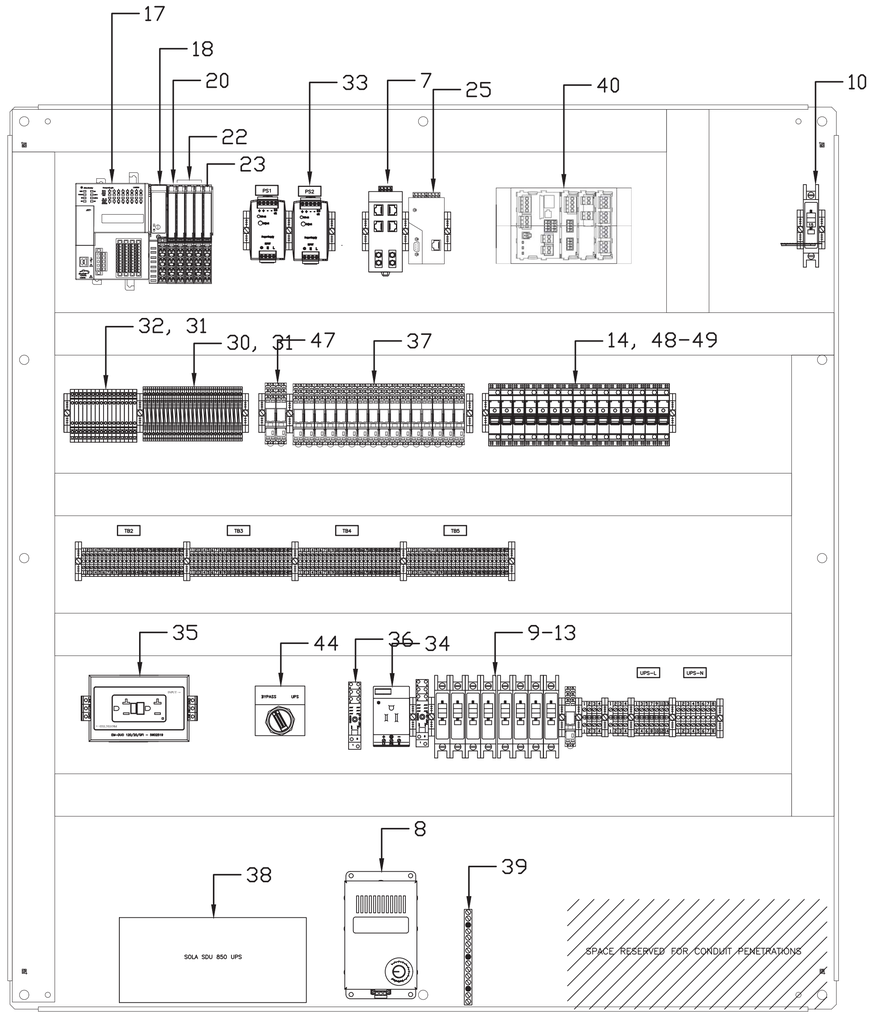
WEIR DEWATERING TREATMENT

MCP-100 PANEL WIRE DIAGRAM

Project No.:	200-01299-16015
Designed By:	J. COWARD
Drawn By:	T. CALZARETTA
Checked By:	D. BURGER

I-902





NOTES:
1. OPERATOR INTERFACES MOUNTED ON INNER PANEL. OBJECTS SHOWN FOR CLARITY

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NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

WEIR DEWATERING TREATMENT

RCP-300 PANEL LAYOUT

Project No.:	200-01299-16015
Designed By:	J. COWARD
Drawn By:	J. SAITO
Checked By:	D. BURGER

I-920

QTY	ID	DESCRIPTION	MFG.	PART#
1	1	Enclosure, 60H x 48W x 18D, 304SS	Hoffman	A604818SSFSDN4
1	2	Back Panel	Hoffman	A60P48F1G
1	3	Air Conditioner, NEMA 4X, SS, 3000 BTU/Hr	Hoffman	CR290216G036
1	4	Panel Light, LED	Hoffman	LEDA1S35
1	5	Door Switch	Hoffman	900-MS01S0100
1	6	Operator Interface Terminal (Panel HMI)	Allen Bradley	2711P-T15C4A8
1	7	Ethernet Switch 4 copper, 2 Fiber w/ ST connectors)	N-TRON	306FX2-ST
1	8	Panel Heater (200W)	Hoffman	DAH2001A
4	9	Circuit Breaker, 15A	Square D	HDL36015
1	10	Circuit Breaker, 20A	Square D	720-QOU120
2	11	Circuit Breaker, 10A	Square D	GB2CB16
5	12	Circuit Breaker, 5A	Square D	GB2CB10
3	13	Circuit Breaker, 2A	Square D	GB2CB07
8	14	Circuit Breaker Base, 24VDC	Phoenix Contact	2801305
3	15	Circuit Breaker, 24VDC, 5A	Phoenix Contact	2800840
1	16	Din Rail (7.5 x 35 x 2000 mm)	Phoenix Contact	801733
1	17	CompactLogix PLC	Allen Bradley	1769-L18ER-BB1B
1	18	PLC Field Power Distributor	Allen Bradley	1734-FPD
5	19	Terminal Block Module	Allen Bradley	17634TB
1	20	Digital Input Module, 24VDC 8 DI	Allen Bradley	1734-IB8
1	21	Digital Output Module, 4 DO (Relay)	Allen Bradley	1734-OW4
3	22	Analog Input Module, 4 AI	Allen Bradley	1734-IE4C
1	23	Analog Output Module, 4 AO	Allen Bradley	1734-OE4C
1	24	PLC End Cap Terminator	Allen Bradley	1769-ECR
1	25	Cellular Modem	Phoenix Contact	2400428
1	26	GSM Omnidirectional Antenna	Phoenix Contact	2702273
1	27	Incoming Main Surge Suppressor	Phoenix Contact	2905228
1	28	Incoming Main Surge Suppressor	Phoenix Contact	2905228
3	29	IO Expansion Module (6 DI, 4 DO 24V)	Phoenix Contact	27201072
16	30	Analog Surge	Phoenix Contact	2838186
24	31	Digital Surge Base	Phoenix Contact	2788401
24	32	Digital Surge	Phoenix Contact	2818083
2	33	24 VDC Power Supply	Sola	SDN-5-24-100P
1	34	Receptacle-Single DIN mount for UPS	Phoenix Contact	2963860
1	35	Receptacle-Dual DIN Mount GFCI 15A	Phoenix Contact	5600462
2	36	Control Relay, 120VAC, 2-Pole, Push-to-Test	Phoenix Contact	2903332
18	37	Control Relay, 24VDC, 2-Pole, Push-to-Test	Phoenix Contact	2903342
1	38	UPS, 850VA	SOLA	SDU 850
1	39	Ground Bar	Square D	PK5GTA
1	40	Multipvariable Analyzer & Controller	Endress + Hauser	CM442
1	41	Side Mount Exhaust Fan	Schneider Electric	NSYCVF165M115PF
1	42	Pilot Light, White	800H-QRTH2W	ALLEN BRADLEY
1	43	Alarm Beacon, Red	855F-SBSC20B24C1Y4	ALLEN BRADLEY
1	44	Selector Switch, 3 Posiiton	800H-HR2A	ALLEN BRADLEY
1	45	RELAY SOCKET	MAGNCRAFT	70-788EL11-1
1	46	POWER RELAY, PDPT, 30A, 120VAC COIL, UL RECOGNIZED	MAGNECRAFT	300XBXC1-120A
1	47	Timer Relay	Phoenix Contact	2905813
1	48	Circuit Breaker 6A	Square D	GB2CB12
3	49	Circuit Breaker, 24VDC, 2A	Phenix Contact	2800837
2	50	Circuit Breaker, 24VDC, 3A	Phoenix Contact	2800838
1	51	Radio Modem	Phoenix Contact	2900016
1	52	Antenna Cable Adapter	Phoenix Contact	2885207
1	53	Antenna Surge Suppressor	Phoenix Contact	2803166
1	54	Antenna Cable	Phoenix Contact	5606125

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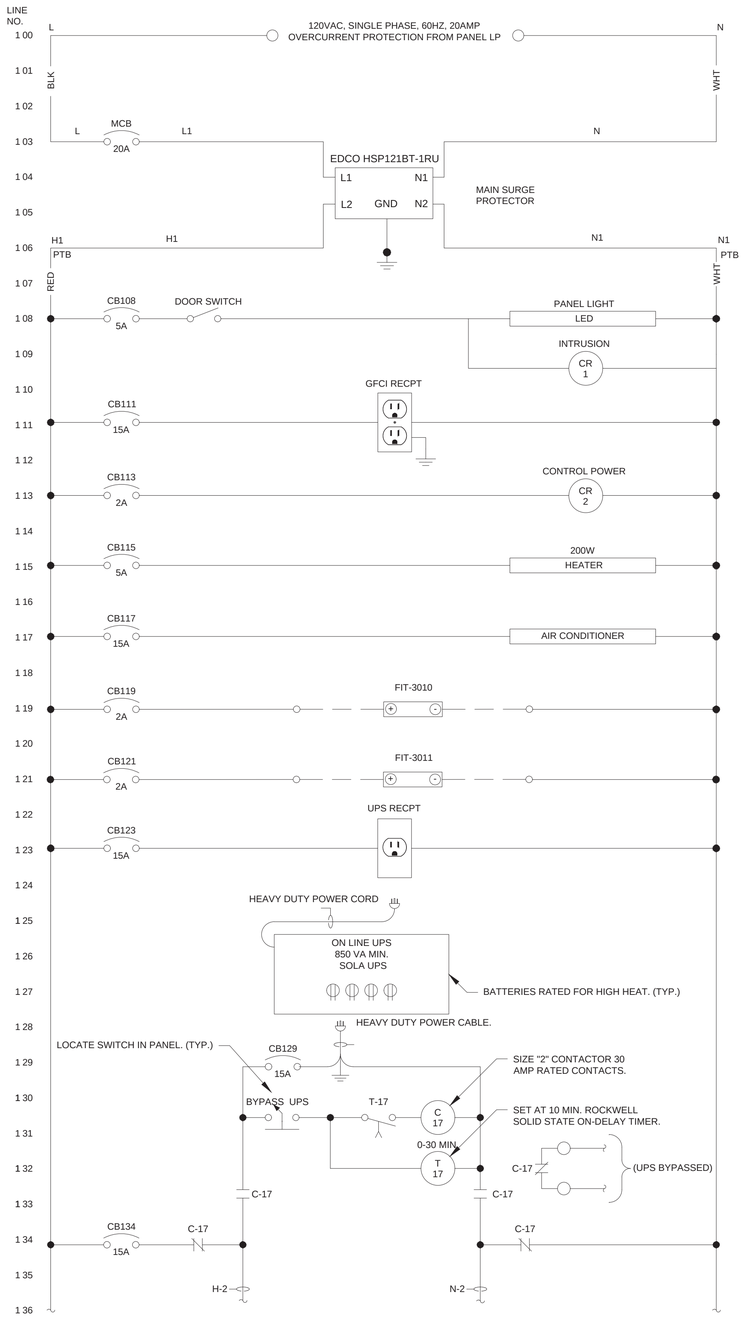
NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

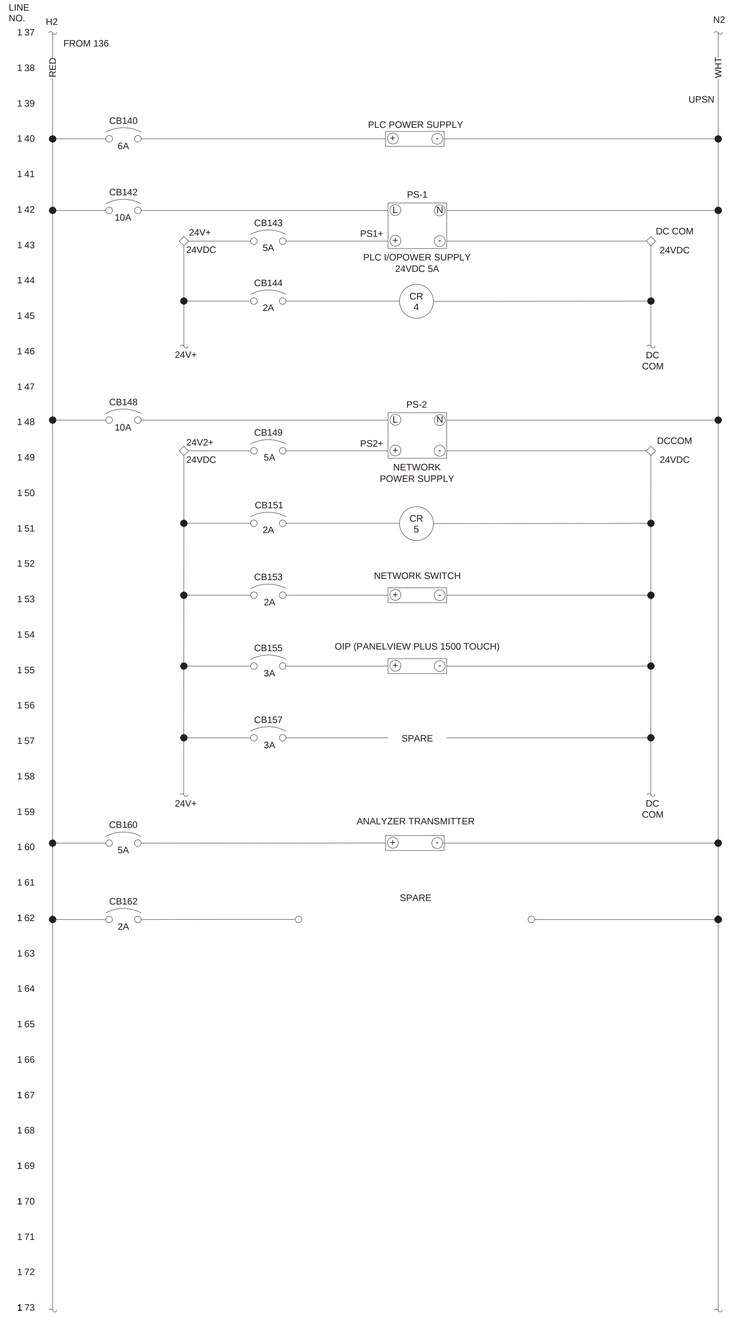
WEIR DEWATERING TREATMENT

RCP-300
BILL OF MATERIALS

Project No.:	200-01299-16015
Designed By:	J. COWARD
Drawn By:	J. SAITO
Checked By:	D. BURGER

I-921





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David A. Burger, P.E.
P.E. No. 024026, NV
EXP. 12/31/2016
1489 West Warm Springs Road.
Suite 110
Henderson, NV 89014

DATE

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NEVADA ENVIRONMENTAL RESPONSE TRUST
HENDERSON, NEVADA

AP-5 POND PHASE II
PROJECT IMPLEMENTATION

RCP-300 PANEL WIRE DIAGRAM

Project No.:	200-01299-16002
Designed By:	J. COWARD
Drawn By:	J. SAITO
Checked By:	D. BURGER

I-922