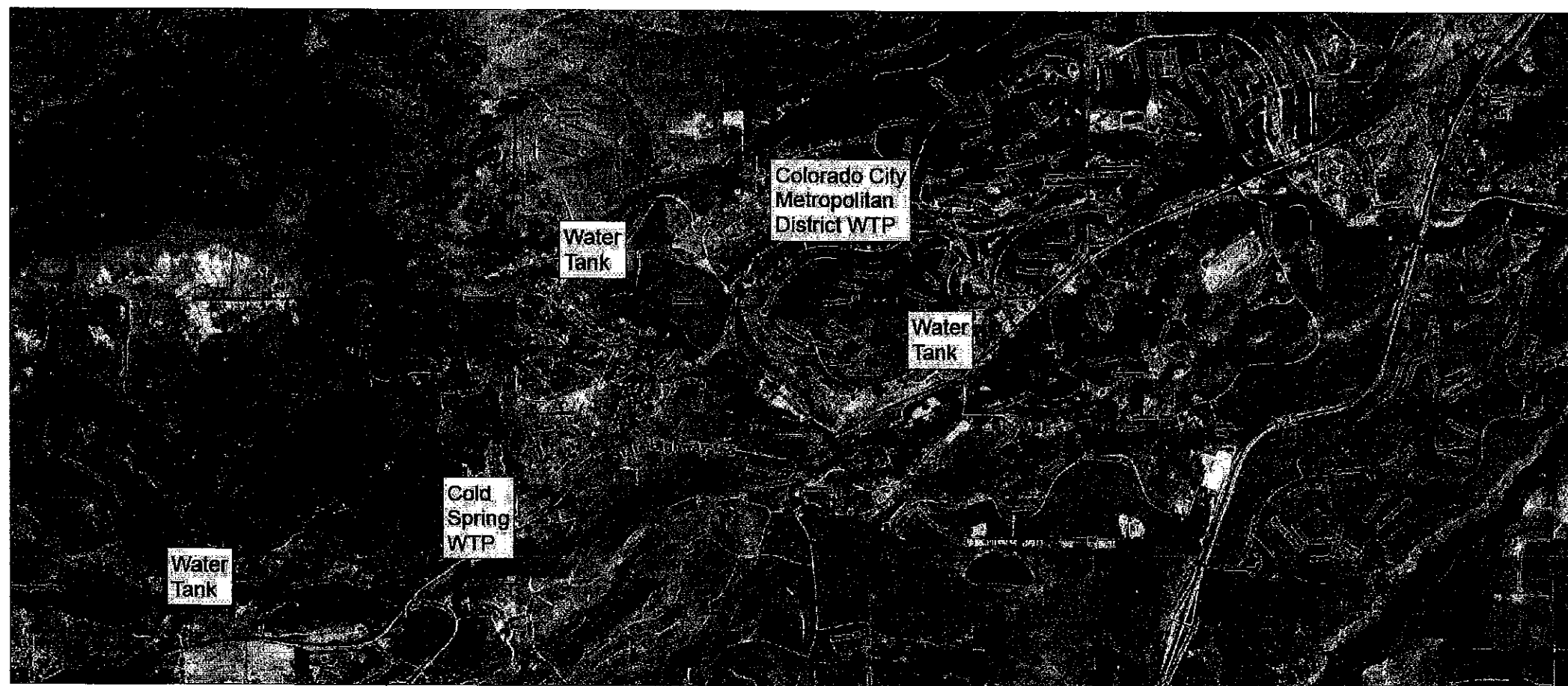


COLORADO CITY METROPOLITAN DISTRICT COLD SPRING WATER TREATMENT PLANT IMPROVEMENTS COLORADO CITY, COLORADO CONTRACT DRAWINGS-ISSUED FOR BID AUGUST 2009



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 COLORADO CITY, COLORADO 81019
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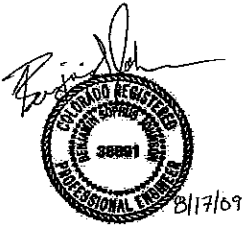
ENGINEER
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 CONTACT: BEN JOHNSON



VICINITY MAP
(N.T.S.)



MALCOLM PIRNIE



User: Roy_Saco; PIRNIE STANDARD; Plot: Y:\eod\proj\6450002\GEN\64500001.DWG; Scale: 1:1; Date: 08/13/2009; Time: 10:16; Layout: Layout1
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GENERAL NOTES

1. THE ELEVATION OF EXISTING TOPOGRAPHY SHOWN MAY VARY. GRADE TOLERANCE IS ± ONE (1) FOOT.
2. THE CONTRACTOR SHALL CONTACT UTILITY NOTIFICATION CENTER IF THE UTILITY IS OFF SITE AND CONTACT PLANT OPERATIONS IF THE UTILITY IS ON-SITE PRIOR TO PROCEEDING WITH WORK WHICH INVOLVES OR AFFECTS EXISTING FEATURES OR AFFECTS EXISTING UTILITIES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING AND INSTALLING ANY EXISTING SURVEY MONUMENTS REMOVED OR DAMAGED DURING CONSTRUCTION.
4. ALL UTILITIES SHALL BE PROTECTED FROM DAMAGE AS A RESULT OF THE WORK. THE CONTRACTOR SHALL RELOCATE, REPAIR OR REPLACE ANY UTILITIES TO THE SATISFACTION OF THE UTILITIES OR THE OWNER.
5. PROVIDE TEMPORARY THRUST RESTRAINT FOR EXISTING PIPING WHENEVER THE WORK REQUIRES. CONTRACTOR TO REPLACE OR RESTORE THE EXISTING RESTRAINT SYSTEM TO LIKE NEW CONDITION.
6. THE COLD SPRING WATER TREATMENT PLANT WILL CONTINUE TO OPERATE DURING CONSTRUCTION. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SPECIFICATION SECTION 01143, COORDINATION WITH OWNERS OPERATION.
7. SUBSURFACE EXPLORATION WAS PERFORMED BY KUMAR ASSOCIATES IN APRIL 2009. SEE GEOTECHNICAL ENGINEERING REPORTS FOR LOCATION AND SUBSURFACE INFORMATION. REPORT PROVIDED FOR INFORMATION ONLY. CONTRACTOR RESPONSIBLE FOR OBTAINING ADDITIONAL GEOTECHNICAL INFORMATION AS NECESSARY.
8. (*) INDICATES DIMENSIONS TO BE DETERMINED BASED UPON EQUIPMENT MANUFACTURER SELECTED.
9. (**) INDICATES DIMENSIONS TO BE FIELD VERIFIED.
10. EXISTING EQUIPMENT TO BE REMOVED AND SALVAGED WILL BE MARKED BY OWNER PRIOR TO WORK UNLESS OTHERWISE NOTED ON DRAWINGS OR SPECIFICATIONS. CONTRACTOR TO DELIVER SALVAGED EQUIPMENT AS DIRECTED BY OWNER.
11. CONTRACTOR TO MAINTAIN PLANT ROADWAY ACCESS TO ALL FACILITIES FOR MAINTAINING PLANT OPERATIONS DURING CONSTRUCTION. IF THE WORK REQUIRES INTERRUPTION OF EXISTING ACCESS TO OPERATING PLANT FACILITIES THE CONTRACTOR SHALL PROVIDE TEMPORARY ACCESS (APPROVED BY THE ENGINEER) TO THESE FACILITIES.
12. DEMOLITION WORK WILL REQUIRE STAGED DEMOLITION TO MAINTAIN PLANT OPERATION. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SPECIFICATION SECTIONS 02200, DEMOLITIONS, AND 01143, COORDINATION WITH OWNERS OPERATION.
13. ALL KNOWN EXISTING BURIED PIPING, ELECTRICAL DUCT BANKS AND OTHER BURIED UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION AND ARE FOR INFORMATIONAL PURPOSES TO INDICATE THE EXISTENCE OF SUCH UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND EXPOSING BURIED PIPE, ELECTRICAL DUCT BANK AND OTHER ON SITE UTILITIES PRIOR TO COMMENCING WORK.
14. THE CONTRACTOR SHALL RELOCATE "ALL" EXISTING VALVES BOXES WITHIN WORK LIMITS SHOWN ON THE DRAWINGS AND ADJUST TO MATCH THE PROPOSED FINAL GRADE.
15. THE CONTRACTOR SHALL RELOCATE "ALL" EXISTING MANHOLES WITHIN WORK LIMITS SHOWN ON THE DRAWINGS AND ADJUST TO MATCH THE PROPOSED FINAL GRADE.
16. THE CONTRACTOR SHALL RELOCATE "ALL" EXISTING CLEANOUTS WITHIN WORK LIMITS SHOWN ON THE DRAWINGS AND ADJUST TO MATCH THE PROPOSED FINAL GRADE.
17. REFER TO PROCESS/ MECHANICAL (P/M) DRAWINGS FOR CONTINUATION OF PIPING AT STRUCTURES FROM CIVIL DRAWINGS.
18. CONTOURS INDICATE PROPOSED FINAL GRADES INCLUDING EXISTING SITE GRADING.
19. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE STARTING WORK AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
20. WHERE CONSTRUCTION DETAILS ARE SHOWN OR NOTED FOR ANY PART OF THE WORK, DETAILS SHALL BE THE SAME AS FOR OTHER SIMILAR WORK.
21. UNLESS DETAILED, SPECIFIED OR INDICATED OTHERWISE, CONSTRUCTION SHALL BE AS INDICATED IN THE APPLICABLE TYPICAL DETAILS AND GENERAL NOTES. TYPICAL DETAILS ARE MEANT TO APPLY EVEN THOUGH NOT REFERENCED AT SPECIFIC LOCATIONS OR IN SPECIFIC DRAWINGS.
22. MINIMUM COVER OVER ALL BURIED PIPING SHALL BE 4'-6" UNLESS OTHERWISE SHOWN OR APPROVED BY ENGINEER. LESS THAN 4'-6" COVER SHALL BE CONCRETE ENCASED.
23. CONTRACTOR SHALL MAINTAIN THE MINIMUM CLEARANCE BETWEEN ALL POTABLE WATER (PW) YARD PIPING AND ALL OTHER BURIED PIPE PER COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT DESIGN CRITERIA. FOR ALL CASES REQUIRING CONCRETE ENCASEMENT, MODIFY CONCRETE ENCASEMENT DETAIL AS FOLLOWS: ENCASEMENT SHALL INCLUDE AT LEAST ONE COMPLETE PIPE SEGMENT ON EACH SIDE OF PIPE CROSSING, INCLUDING JOINTS. A FLEXIBLE CONNECTION SHALL BE INCLUDED OUTSIDE THE ENCASEMENT WITHIN ONE FOOT OF THE END OF ENCASEMENT, ON BOTH ENDS OF ENCASEMENT. FLEXIBLE CONNECTION MAY BE MJ-TYPE JOINT OR OTHER SPECIFIED FLEXIBLE CONNECTION.
24. ALL EXISTING PIPING AND UNDERGROUND UTILITIES MAY NOT BE SHOWN. PIPING AND UNDERGROUND UTILITIES THAT ARE SHOWN MAY NOT BE SHOWN IN AS-BUILT LOCATION. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING PIPING, UNDERGROUND UTILITIES, AND EQUIPMENT LOCATIONS AND ELEVATIONS PRIOR TO COMMENCING WORK ON YARD PIPING.
25. TREES ARE TO BE REMOVED AND TRANSPLANTED BY THE CONTRACTOR AS SHOWN ON THE DRAWINGS. IF THEY ARE IN THE PIPE ALIGNMENT, OR OTHERWISE CONFLICT WITH PROPOSED CONSTRUCTION AS SHOWN ON THE DRAWINGS. CONTACT THE ENGINEER PRIOR TO REMOVAL.
26. CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF WORK AGAINST FLOODING OR DAMAGE DURING CONSTRUCTION.
27. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS REQUIRED FOR STORM DRAINAGE AND DEWATERING DURING CONSTRUCTION.
28. CONTRACTOR SHALL CONTACT THE UTILITY 48 HOURS PRIOR TO PROCEEDING WITH WORK WHICH INVOLVES OR AFFECTS EXISTING FEATURES OR AFFECTS EXISTING UTILITIES.

MALCOLM PIRNIE



REVISIONS			
NO.	BY	DATE	REMARKS

DES NF
DWN JR
CVD BSS



COLORADO CITY METROPOLITAN DISTRICT
COLORADO CITY, COLORADO
**COLD SPRING WTP
IMPROVEMENTS**

GENERAL
**DRAWING INDEX
AND GENERAL NOTES**
NTS

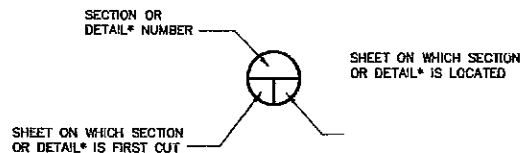
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CIVIL LEGEND

	EXISTING STRUCTURES		EXISTING SAFETY POST (BOLLARD)
	SITE PLAN - STRUCTURES		SAFETY POST (BOLLARD)
	STRUCTURES/EQUIPMENT TO BE REMOVED OR DEMOLISHED		EXISTING CLEANOUT
	FUTURE BUILDING		CLEANOUT
	PROPOSED ASPHALT PAVING		EXISTING CATCH BASIN (CURB INLET TYPE)
	PROPOSED DIRT ROAD		CATCH BASIN (CURB INLET TYPE)
	EXISTING DIRT ROAD		EXISTING POST HYDRANT (PH) OR HOSE STATION (HS)
	EXISTING CONTOUR		POST HYDRANT (PH) OR HOSE STATION (HS)
	EDGE OF EXISTING DIRT ROAD		QUICK DISCONNECT AT STORM DRAINAGE STANDPIPE
	EXISTING CHAIN LINK FENCE		MANHOLE (DMH,MH)
	SPOT ELEVATION		MANHOLE (DMH,MH)
	POST		EXISTING FIRE HYDRANT (FH)
	LIGHT		FIRE HYDRANT (FH)
	MANHOLE		LIMITS OF WORK UNDER THIS CONTRACT
	POWER POLE		BORING LOCATION AND BORING NUMBER DESIGNATION
	PROPOSED GRADING MAJOR CONTOUR		DRAINAGE FLOW LINE
	PROPOSED GRADING MINOR CONTOUR		BUIRED GATE VALVE WITH VALVE BOX & COVER PER
	EDGE OF FUTURE ROAD		EXISTING ELECTRICAL MANHOLE W/DESIGNATION NO.
	EDGE OF WATER		ELECTRICAL MANHOLE W/DESIGNATION NO.
	EXISTING YARDING PIPING		PLANT COORDINATES (FOR STRUCTURES COORDINATE REPRESENTS EDGE OF STRUCTURE OR EXPOSED CONCRETE SLAB)
	PROPOSED YARD PIPING		EXISTING TREE
	LIMIT OF WORK		VALVE
	PROPERTY LINE		CONTROL POINT
	BURIED ELECTRICAL LINE		
	FENCE		
	BURIED GAS LINE		
	100 YEAR FLOOD PLAIN BOUNDARY		
	OVERHEAD ELECTRICAL LINE		

NOTE:

SOIL BORING LOCATIONS BASED ON GEOTECHNICAL REPORT FOR COLD SPRINGS WTP IMPROVEMENTS PREPARED BY KUMAR ASSOCIATES, DATED APRIL 10, 2009. SEE SHEET C-1 FOR APPROXIMATE BORING LOCATIONS.



* WHEN PERTAINING TO DETAILS, CIRCLE IS REPLACED WITH A SQUARE

SECTION AND DETAIL KEY

VALVE SYMBOLS

	BALL CHECK VALVE (BCV)		CHECK VALVE (CKV)
	FLEXIBLE CONNECTOR		PINCH VALVE
	GLOBE VALVE (GLV)		EXPANSION COUPLING
	LATERAL OR WYE		RELIEF VALVE (RV) (PRESSURE/VACUUM)
	STRAINER		PRESSURE REGULATING VALVE (PRV) (SELF CONTAINED)
	REDUCER (RED)		PRESSURE REGULATING VALVE (PRV) (EXTERNAL TAP REGULATED)
	ECCENTRIC REDUCER		BACKPRESSURE REGULATING VALVE (BPRV) (SELF CONTAINED)
	QUICK CONNECT x THREADED MALE WITH BALL VALVE		BACKPRESSURE REGULATING VALVE (BPRV) (EXTERNAL TAP REGULATED)
	NEEDLE VALVE (NV)		VALVE W/MOTOR OPERATOR
	HOSE/COUPLING CONNECTION		VALVE WITH SOLENOID OPERATOR
	UNION		VALVE WITH PNEUMATIC OPERATOR
	SLUICE GATE		FLAP VALVE
	SLIDE GATE		MAGNETIC FLOW ELEMENT
	GATE VALVE (GAV)		ROTAMETER
	KNIFE GATE VALVE		PRESSURE GAUGE WITH DIAPHRAGM SEAL AND ISOLATION VALVE
	DIAPHRAGM VALVE (DV)		
	BALL VALVE (BAV)		
	PLUG VALVE (PLV)		
	FOUL AIR DUCT DAMPER		
	BUTTERFLY VALVE (BFV)		
	HOSE VALVE (HB)		
	YARD HYDRANT (YH)		

FITTING SYMBOLS

	FLEXIBLE COUPLING		FITTING WITH FLANGED JOINT ENDS
	FLEXIBLE COUPLING ADAPTER		FITTING WITH MECHANICAL JOINT ENDS OR PUSH-ON JOINT ENDS
	FLANGED COUPLING ADAPTER		FITTING WITH WELDED JOINT ENDS OR REINFORCED CONCRETE PIPE
	HARNESSED FLANGED OR FLEXIBLE COUPLING ADAPTER		PVC SOCKET WELD
	HARNESSED RUBBER EXPANSION JOINT		MECHANICAL COUPLING
	BLIND FLANGE (BF)		TO DRAIN
	PLUG		
	REDUCER		
	HOSE/COUPLING CONNECTION		
	UNION		

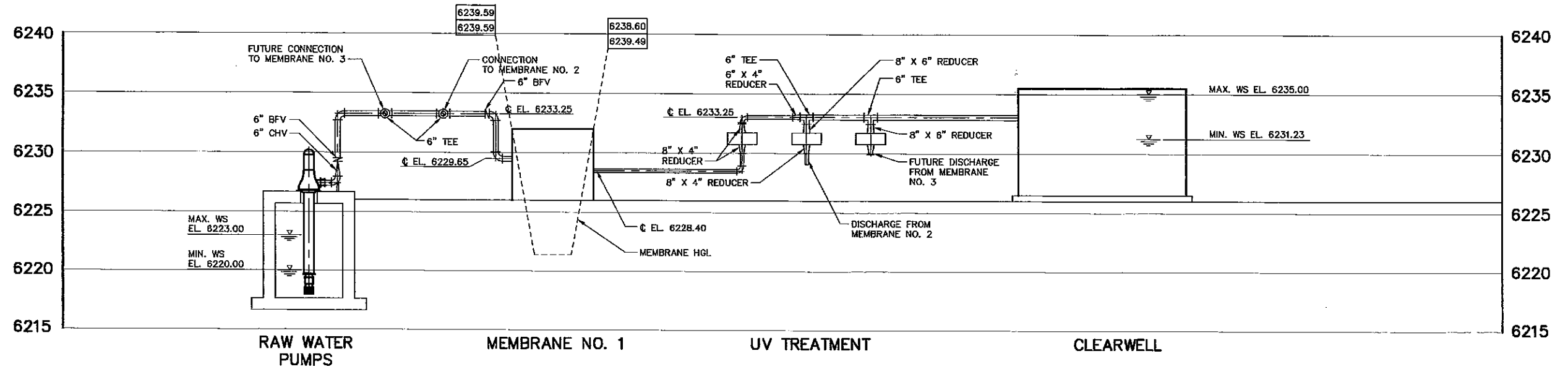
NOTE: SINGLE LINE PIPE SHOWN DOES NOT DEPICT FITTING TYPES. SEE SPECIFICATIONS FOR MATERIALS AND FITTINGS TO BE USED.



REVISIONS			
NO.	BY	DATE	REMARKS

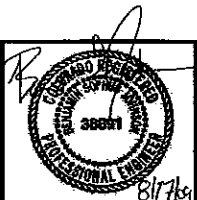
DES NF
DWN JR
CND BSA





FLOW DESCRIPTION	PLANT FLOW (GPM)	XXX.XX DESIGN
DESIGN	200	XXX.XX FUTURE
FUTURE	350	

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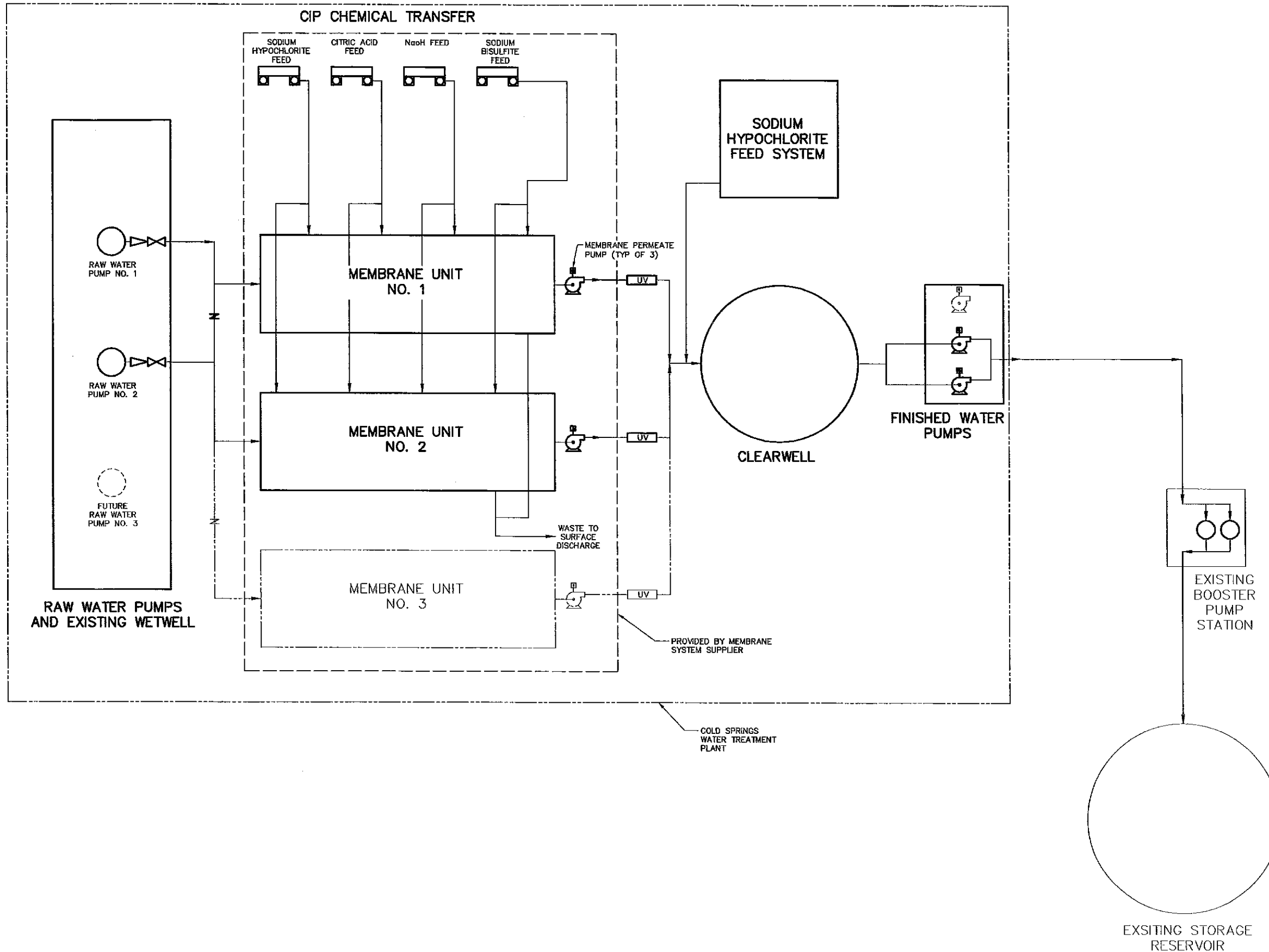
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DWN: JR
CRD: BSI



COLORADO CITY METROPOLITAN DISTRICT
COLORADO CITY, COLORADO
**COLD SPRING WTP
IMPROVEMENTS**

**GENERAL
HYDRAULIC PROFILE**
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FLOW	CURRENT	ULTIMATE
DESIGN FLOW RATE	200 GPM	350 GPM
MEMBRANE FILTRATION SYSTEM		
NUMBER OF TREATMENT TRAINS	2	3
FLUX RATE	35.5 gfd	
CAPACITY	200 GPM	350 GPM
PREMATE/BACKPULSE PUMPS		
NUMBER	3	
TYPE	CENTRIFUGAL	
CAPACITY RANGE	40-273 GPM	
PUMPING HEAD	50 FT	
AIR COMPRESSORS		
NUMBER	2 (1 DUTY, 1 SB)	
OPERATING RANGE	37.5 CFM	
TYPE	2-STAGE, OIL LUBRICATED	
UV DISINFECTION		
NUMBER	2 (1 DUTY, 1 SB)	3
TYPE	MEDIUM PRESSURE	
DOSE	40 MJ/cm ²	
LAMPS (EACH)	6	
CHEMICAL FEED SYSTEM		
SODIUM HYPOCHLORITE		
% SOLUTION	10	
SPECIFIC GRAVITY	1.18	
USE	DISINFECTION	
NUMBER OF FEED PUMPS	2 (1 DUTY, 1 SB)	
STORAGE LOCATION	INDOORS	
NUMBER OF TOTES	1	
VOLUME	350 GAL	
CLEARWELL		
VOLUME	7,000 GAL	
CONSTRUCTION	FRP	
RAW WATER PUMPS		
NUMBER	2 (1 DUTY, 1 SB)	3
FLOW	200 GPM	
TDH	19 FT	
DRIVE	VFD	
TYPE	VERTICAL TURBINE	
FINISHED WATER PUMPS		
NUMBER	2 (1 DUTY, 1 SB)	3
FLOW	200 GPM	350 GPM
TDH	200 FT	
DRIVE	VFD	
TYPE	CENTRIFUGAL	

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