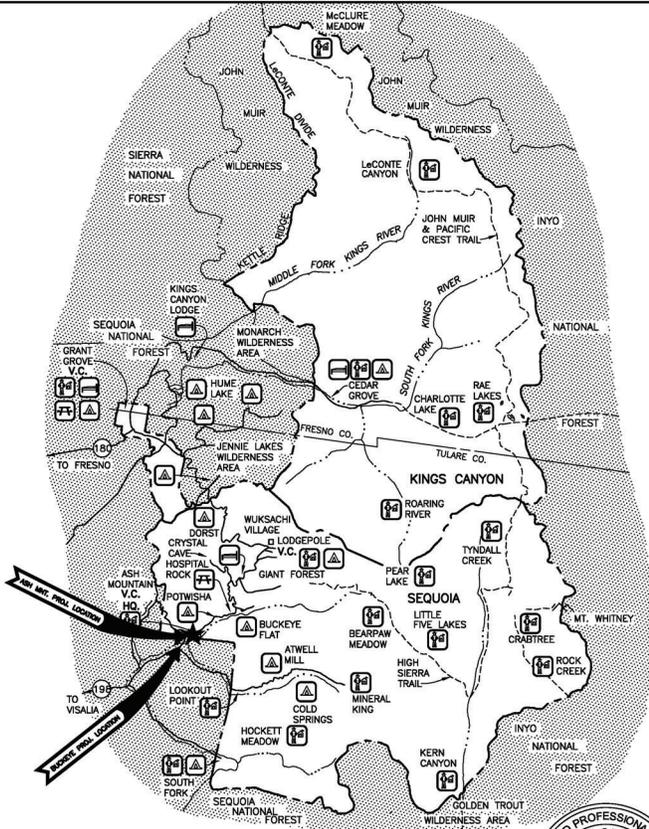


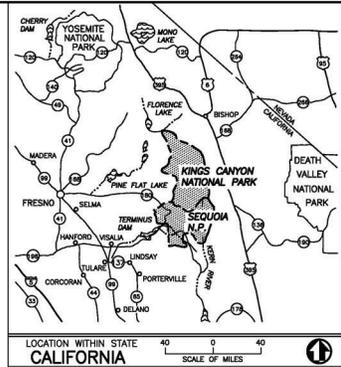
17/10/2021 12:42 BRT BRODIE C:\CLIENTS\PMIS\317446\DRAWINGS\ASH MOUNTAIN, BUCKEYE HOUSING\1 COVER SHEET.DWG

BASIC DATA: BASICDATA



**SEQUOIA-KINGS CANYON
NATIONAL MONUMENT OR PARK**

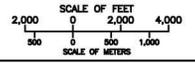
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- PARK BOUNDARY
 - COUNTY LINE
 - PAVED ROAD
 - - - UNPAVED ROAD
 - - - TRAIL
 - RIVER OR CREEK
 - V.C. VISITOR CENTER
 - HQ. PARK HEADQUARTERS
 - (R) RANGER STATION
 - (I) INFORMATION CENTER
 - (P) PICNIC AREA
 - (A) CAMPGROUND



LOCATION WITHIN STATE
CALIFORNIA
SCALE OF MILES



Philo Carter *David Barton Brodick*



PMIS #317446



CONSTRUCTION DOCUMENTS
UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
DENVER SERVICE CENTER

TITLE OF PROJECT
REHABILITATE WASTEWATER SYSTEMS
LOCATION WITHIN PARK
ASH MOUNTAIN, BUCKEYE HOUSING
NAME OF PARK
SEQUOIA & KINGS NATIONAL PARKS
REGION
PACIFIC WEST
COUNTY
TULARE
STATE
CALIFORNIA

DRAWING NO.
102
177,507
SHEET
1
OF
142

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3-31-2023
David Barton Brodke

DESIGNED: D. BROOKE	SUB SHEET NO. G1.0	TITLE OF SHEET SHEET INDEX	DRAWING NO. 102
BY: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PKG NO. 317446
TITLE REVIEWER: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 2 of 142
DATE: 03/31/2023			

3/10/2023 14:35 BRODKE, D. CIVIL ENGINEER, STATE OF CALIFORNIA, NO. 70417, 3/31/2023, 102, SHEET INDEX, ASH MOUNTAIN WWTP, 2

27/NOV/2023 15:09 BRT BROOKE C. GLENN@NPS,ASH,317446,DRAININGS,ASH, MOUNTAIN DINGS, LASH, MOUNTAIN WTR, V - CIVIL GENERAL NOTES.DWG

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH NPS STANDARDS AND STATE AND LOCAL STANDARDS.
- SURVEY/ ELEVATIONS SHOWN ON THE PLANS ARE TO BE USED BY THE CONTRACTOR TO DETERMINE APPROXIMATE FIELD CONDITIONS. ACTUAL ELEVATIONS SHALL BE FIELD VERIFIED DURING CONSTRUCTION.
- IN GENERAL, EXISTING STRUCTURES, EQUIPMENT, AND FACILITIES ARE SHOWN AS SCREENED BACKGROUND. NEW STRUCTURES, EQUIPMENT, AND FACILITIES ARE SHOWN IN HEAVY LINE WEIGHTS. OTHER DISCIPLINES MAY SCREEN NEW STRUCTURES TO SHOW THEIR INFORMATION.
- ALL WORK SHALL BE PERFORMED PER THE APPROVED PLANS, PROJECT SPECIFICATIONS AND GENERAL CONDITIONS OF THE CONTRACT. ANY CHANGES TO THE DESIGN AS SHOWN IN THESE CONSTRUCTION DOCUMENTS MUST BE REVIEWED AND APPROVED BY THE CONTRACTING OFFICER BEFORE CHANGES ARE MADE.
- BY ACCEPTING AND USING THESE DRAWINGS, CONTRACTOR AGREES THAT HE/SHE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. IN ADDITION, THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE NPS AND THE OWNER'S REPRESENTATIVE HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING THE LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE NPS OR THE OWNER'S REPRESENTATIVE.
- ANY KNOWN SEWERS, WATER MAINS, TELEPHONE CONDUITS, ELECTRIC CABLES, AND OTHER UNDERGROUND/OVERHEAD ITEMS ARE SHOWN ON THE DRAWINGS ONLY TO THE EXTENT SUCH INFORMATION HAS BEEN MADE AVAILABLE OR DISCOVERED BY THE ENGINEER. IT IS EXPECTED THAT THERE MAY BE DISCREPANCIES AND OMISSIONS IN THE LOCATION AND QUANTITIES OF EXISTING UTILITIES AND STRUCTURES SHOWN. THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR BUT IS NOT GUARANTEED TO BE EITHER CORRECT OR COMPLETE AND ALL RESPONSIBILITY FOR THE ACCURACY AND COMPLETENESS THEREOF IS EXPRESSLY DISCLAIMED. THE CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATING WATER, SEWER, ELECTRIC, PHONE AND ALL OTHER EXISTING UTILITIES IN THE PROJECT LIMITS VIA POT-HOLING, 3RD PARTY UTILITY LOCATOR, ETC. AS NECESSARY TO VERIFY LOCATIONS, CORRECTNESS, & COMPLETENESS.
- THE CONTRACTOR SHALL CONTACT DIG ALERT TO CREATE A CONTRACTOR TICKET FOR THE LOCATION OF EXISTING UTILITIES AT LEAST TWO WORKING DAYS PRIOR TO THE BEGINNING OF WORK. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING PRE-MARKING OF THE LOCATION LIMITS AS REQUIRED BY DIG ALERT. CONTRACTOR MAY NOT BEGIN EXCAVATION UNTIL ALL UTILITY MEMBERS HAVE RESPONDED TO THEIR TICKET.
- DIMENSIONS SHOWN ON THE PLANS ARE TO BE USED BY THE CONTRACTOR TO DETERMINE APPROXIMATE FIELD CONDITIONS. PRIOR TO CONSTRUCTION CONTRACTOR SHALL FIELD VERIFY EXISTING LOCATIONS, ELEVATIONS, MATERIAL TYPES, I.D. AND O.D. OF PIPES, ETC. OF ALL UTILITIES AND FEATURES WHERE PROPOSED IMPROVEMENTS CONNECT. NOTIFY CONTRACTING OFFICER OF ANY DISCREPANCIES IN WRITING IMPACTING NEW WORK SUFFICIENTLY IN ADVANCE OF NEW WORK SO AS TO NOT CAUSE CONSTRUCTION DELAYS. INCLUDE INFORMATION ON LOCATION, ELEVATION, UTILITY TYPE AND SIZE.
- EXISTING FACILITIES, INCLUDING BUT NOT LIMITED TO ROADS, WALLS, FENCES, STRUCTURES AND UTILITIES, DAMAGED BY CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO MATCH ORIGINAL PRE-CONSTRUCTION CONDITION AND TO THE SATISFACTION OF THE CONTRACTING OFFICER WITHOUT ADDITIONAL COST TO THE GOVERNMENT.
- ALL DISTURBED ASPHALT, GRASS, DRAINAGE PATTERNS, ROADSIDE DITCHES, TRAILS AND GRADE SHALL BE RESTORED TO ITS ORIGINAL CONDITION OR AS CALLED FOR ON THE CONTRACT DOCUMENTS, WHICHEVER IS MORE STRINGENT.
- CONTRACTOR SHALL FURNISH AND INSTALL EVERYTHING REQUIRED TO PROVIDE COMPLETE AND OPERABLE FACILITIES AS SHOWN HEREIN. IF THERE IS AN OMISSION ON THE CONSTRUCTION DOCUMENTS, SUCH OMISSION SHALL NOT BE CONSTRUED TO MEAN THAT THE CONTRACTOR IS NOT REQUIRED TO FURNISH OR PROVIDE EVERYTHING THAT IS NECESSARY TO PROVIDE COMPLETE AND OPERABLE FACILITIES.
- ALL CONTRACTORS WORKING WITHIN THE PROJECT BOUNDARIES ARE RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE SAFETY LAWS. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL EMPLOYEES AND/OR SUBCONTRACTORS WITH PERSONAL PROTECTIVE EQUIPMENT AND FOLLOWING ALL SAFETY PROTOCOLS, TO INCLUDE WORK IN ATTIC AND CRAWL SPACES IN THE EVENT ROBBENT DROPPINGS/NESTS ARE PRESENT.
- ALL EXISTING VALVES AND EQUIPMENT SHALL BE OPERATED BY THE NPS UTILITIES OPERATOR, OR IN THE OBSERVANCE OF THE OPERATOR WITH PRIOR APPROVAL.
- CONTRACTOR TO SUBMIT SERVICE INTERRUPTION PLAN AND NOTIFY NPS CONTRACTING OFFICER AT LEAST 72 HOURS PRIOR TO ANY UTILITY OR SERVICE INTERRUPTIONS.
- CONTRACTOR SHALL PROVIDE TRACER WIRE AND LOCATOR TAPE FOR ALL BURIED PIPING AND CONDUITS.
- ALL COSTS INCURRED IN CORRECTION OF DEFICIENT WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- UPON THE COMPLETION OF WORK, THE CONTRACTOR SHALL SUBMIT A SET OF "RED-LINED" RECORD DRAWINGS TO THE CONTRACTING OFFICER SHOWING ALL DEVIATIONS, CHANGES, ADDITIONS, AND DELETIONS MADE DURING CONSTRUCTION. ONE SET SHALL BE MAINTAINED AT THE SITE AND SHALL BE UPDATED DAILY.

- STAGING AREAS SHALL BE DEFINED BY CONTRACTING OFFICER UNLESS OTHERWISE DELINEATED IN THIS PLAN SET.
- CONSTRUCTION FENCING OR BARRIERS SHALL BE PROVIDED WHERE NECESSARY TO PREVENT THE PUBLIC OR PARK STAFF FROM ENTERING WORK AREAS.
- CONTRACTOR SHALL MAINTAIN VEHICULAR AND PEDESTRIAN TRAFFIC ON ALL EXISTING DRIVEWAYS, ROADS AND PATHS NOT UNDER CONSTRUCTION. ALL DRIVEWAYS AND STREET APPROACHES SHALL BE OPENED TO ALLOW VEHICLE ACCESS AT THE END OF THE WORK DAY. CONTRACTOR SHALL COORDINATE WITH NPS AND PREPARE A TRAFFIC AND PEDESTRIAN CONTROL PLAN FOR ALL AREAS AFFECTED BY CONSTRUCTION.
- ALL EXISTING TREES TO REMAIN UNLESS OTHERWISE SPECIFIED.
- ESTABLISHMENT OF A CONSTRUCTION CAMP WILL NOT BE PERMITTED WITHIN PARK BOUNDARIES.
- THE CONTRACTOR SHALL END PLACEMENT FOR ALL SURFACE CONCRETE WORK AT EITHER EXPANSION OR CONSTRUCTION JOINTS.
- THE NPS SHALL IMMEDIATELY BE NOTIFIED IN WRITING BY THE CONTRACTOR OF ANY IDENTIFIED CONDITIONS THAT REQUIRE DEVIATIONS FROM THESE PLANS AND/OR SPECIFICATIONS. ANY REVISIONS TO THE IMPROVEMENT PLAN WILL BE PROCESSED IN ACCORDANCE WITH THE SPECIFICATIONS AND CONTRACT DOCUMENTS.
- ALL EXCAVATIONS 5' IN DEPTH OR GREATER SHALL BE SHORED AND BRACED ACCORDING TO OSHA REGULATIONS. IF LESS THAN 5' DEEP, A COMPETENT PERSON MAY DETERMINE THAT A PROTECTIVE SYSTEM IS NOT REQUIRED.
- UNLESS OTHERWISE INDICATED, DEMOLISHED MATERIALS BECOME THE PROPERTY OF THE CONTRACTOR. COMPLY WITH EPA REGULATIONS AND DISPOSAL REGULATIONS OF AUTHORITIES HAVING JURISDICTION. CONDUCT ANY DEMOLITION DUTIES WITHOUT DISRUPTION OF OCCUPANTS.
- ALL EXISTING FACILITIES AND UTILITIES SHALL BE PROTECTED UNLESS NOTED TO BE REMOVED ON THE DRAWINGS.
- PIPE DEFLECTION SHALL BE PER MANUFACTURER'S RECOMMENDATION.
- THRUST BLOCKING SHALL BE PLACED AT ALL BENDS (HORIZONTAL OR VERTICAL), 11.25 DEGREES OR GREATER, AND AS SHOWN IN THE STANDARD DETAILS.
- PIPE SUPPORTS SHALL BE INSTALLED AS SHOWN ON THE PLANS, AS DEEMED NECESSARY IN THE FIELD, OR AS DIRECTED BY THE CONTRACTING OFFICER FOR SUPPORT OF ALL PIPING BOTH NEW AND EXISTING.
- ALL VALVE RISERS ON VALVES ABANDONED IN THE CURRENT PROJECT SHALL BE REMOVED UNLESS OTHERWISE NOTED TO RETAIN AND RETURNED TO THE NPS IF REQUESTED.
- ALL MECHANICAL JOINTS SHALL BE RESTRAINED IN ACCORDANCE WITH THE PROJECT SPECIFICATION.
- ALL LABORATORY AND FIELD MATERIALS TESTING SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS.
- CONSTRUCTION PROJECT WILL DISTURB MORE THAN ONE-ACRE, THE CONTRACTOR SHALL FILE AND SUBMIT A NOTICE OF INTENT (NOI) AND A STORM WATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR SHALL PREPARE A SWPPP MEETING THE REQUIREMENTS OF THE NATIONAL PARK SERVICE FOR CONSTRUCTION ACTIVITIES.
- SLUDGE MANAGEMENT AND DISPOSAL ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- SOILS UNDER AND AROUND ASH MOUNTAIN'S EXISTING LAGOONS SHALL BE TESTED BY THE CONTRACTOR FOR SLUDGE CONTAMINATION AND TO BE REMOVED AND DISPOSED OF BY THE CONTRACTOR PER STATE REGULATORY REQUIREMENTS.
- SEE SPECIFICATIONS FOR ADDITIONAL PROJECT REQUIREMENTS.
- PRIMARY WASTE CAN BE CONVEYED TO THE 350,000-GALLON STORAGE TANK DURING CONSTRUCTION SEQUENCING OF THE CONSTRUCTION OF THE RE-CIRCULATING TEXTILE FABRIC (RTF) SECONDARY TREATMENT SYSTEM AND PRE-ANOXIC TANK. PRIMARY WASTE CAN ALSO BE CONVEYED TO THE 350,000-GALLON STORAGE TANK DURING CONSTRUCTION SEQUENCING OF THE REHABILITATION OF THE SPRAY FIELD. UNDER ANY CONDITIONS THAT WASTE IS CONVEYED TO THE 350,000-GALLON STORAGE TANK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING AND DISINFECTING THE TANK PRIOR TO COMMISSIONING.

WORK RESTRICTIONS

- WORK SHALL BE GENERALLY PERFORMED FROM 8:00 A.M. TO 4:30 P.M. MONDAY THROUGH FRIDAY. TEN (10) HOUR WORK DAYS MAY BE ALLOWED WITH WRITTEN APPROVAL FROM THE CONTRACTING OFFICER. WEEKEND AND HOLIDAY WORK SHALL BE AVOIDED AND WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL FROM THE CONTRACTING OFFICER.
- SEE SPECIFICATIONS FOR ADDITIONAL WORK RESTRICTIONS AND REQUIREMENTS.

EROSION & SEDIMENT CONTROL NOTES

- ALL EQUIPMENT SHALL BE POWER WASHED AND INSPECTED BY A PARK REPRESENTATIVE PRIOR TO ENTERING THE PARK TO ENSURE IT IS FREE OF NON-NATIVE WEEDS AND/OR SEEDS AS WELL AS OIL LEAKS (CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE INSPECTION AT LEAST 48 HOURS IN ADVANCE). IN ADDITION, SOURCES OF IMPORTED ROCK, SAND, GRAVEL, AND SOIL SHALL BE INSPECTED BY NPS FOR INVASIVE NON-NATIVE PLANTS, WEEDS AND/OR SEEDS (NOTIFY NPS 30 CALENDAR DAYS IN ADVANCE FOR INSPECTION).
- CONTRACTOR SHALL PROVIDE, MAINTAIN, AND BE RESPONSIBLE FOR ALL EROSION AND SEDIMENT CONTROL STRUCTURES AND PRACTICES IN ACCORDANCE WITH THE PARK'S BEST MANAGEMENT PRACTICES AS WELL AS ANY LOCAL, STATE, AND FEDERAL REQUIREMENTS FOR WATER QUALITY AND EROSION AND SEDIMENT CONTROL. EXCELSOR OR COIR FIBER PRODUCTS SHALL BE USED IN EROSION CONTROL BLANKETS AND SEDIMENT LOSS. JUTE OR COTTON SHALL BE USED FOR NETTING IN EROSION CONTROL BLANKETS. NO "CERTIFIED WEED FREE" PRODUCTS ARE ALLOWED. NO PLASTIC NETTING PRODUCTS ARE ALLOWED.
- CONTRACTOR TO PRESERVE EXISTING VEGETATION AND MINIMIZE THE AREAS DISTURBED BY CONSTRUCTION ACTIVITY.
- CONTRACTOR SHALL PROVIDE INLET PROTECTION TO ALL CULVERTS, INLETS, CANALS, AND SUB-SURFACE DRAINS IN THE PROJECT VICINITY.
- SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

PROJECT GRADING OPERATIONS DURING PHASED CONSTRUCTION

- ASH MOUNTAIN AND BUCKEYE HOUSING GRADING OPERATIONS SHALL BE COORDINATED WITH ASH MOUNTAIN CONSTRUCTION PHASES TO MINIMIZE THE AMOUNT OF IMPORT FILL BROUGHT IN FROM OUTSIDE THE PARK.



David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO. G1.2	TITLE OF SHEET CIVIL GENERAL NOTES	DRAWING NO. 102
BY M. GARCIA			177,507
TRACER REVIEW: J. BLOM			PMS/PWG NO. 317446
DATE: 03/31/2023		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 4 of 142

27/03/2023 15:08 BART BROOKE C:\CLIENTS\NPS\SEA\317446\DOMINOS ASH MOUNTAIN DRES\ASH MOUNTAIN WWT\5 - SYMBOLS LEGEND.DWG

UTILITY LINE SYMBOLS

- 6" DIP W --- WATERLINE WITH TYPE OF PIPE AND DIAMETER
- 8" PVC S --- GRAVITY SEWER LINE WITH TYPE OF PIPE AND DIAMETER
- 4" PE FM --- SEWER FORCE MAIN WITH TYPE OF PIPE AND DIAMETER
- 18" RCP ST --- STORM DRAIN WITH TYPE OF PIPE AND DIAMETER
- G --- GAS LINE
- AE --- AERIAL (OVERHEAD) ELECTRICAL
- UE --- UNDERGROUND ELECTRICAL
- AT --- AERIAL (OVERHEAD) TELEPHONE
- UT --- UNDERGROUND TELEPHONE
- EP --- EDGE OF PAVEMENT
- EG --- EDGE OF GRAVEL

OTHER LINE SYMBOLS

- CONSTRUCTION LIMITS
- FENCE

NEW VERSUS EXISTING UTILITY LINES

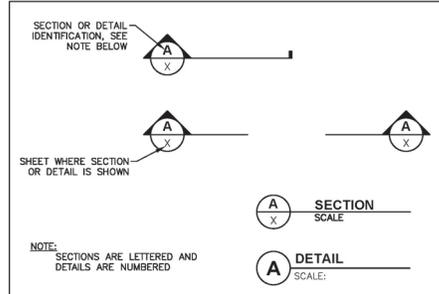
- 6" DIP W --- NEW WATER LINE WITH TYPE OF PIPE AND DIAMETER
- 6" DIP W --- WATER LINE WITH TYPE OF PIPE AND DIAMETER

ABANDONED UTILITY LINES

- /- 6" DIP W -/- EXISTING UTILITY (ABANDONED)
- /- 6" DIP W -/- EXISTING UTILITY TO BE ABANDONED
- /- 6" DIP W -/- EXISTING UTILITY TO BE REMOVED

UTILITY SYMBOLS

	NEW FIRE HYDRANT		NEW PULLBOX, 1 INDICATES PULLBOX NUMBER
	EX. FIRE HYDRANT		UTILITY POLE
	NEW YARD HYDRANT		GAS VALVE
	EX. YARD HYDRANT		NEW SIGN
	NEW GATE VALVE		SIGN
	GATE VALVE		CONTROL POINT
	NEW METER		COMBINATION AIR VAC & RELEASE VALVE
	METER		NEW THRUST BLOCK
	NEW MANHOLE		NEW PUMP, CENTRIFUGAL
	MANHOLE		NEW PUMP, AIR DIAPHRAGM
	NEW CATCH BASIN		WEIR OVERFLOW
	CATCH BASIN		FLOW METER
	NEW BUTTERFLY VALVE		SLIDE GATE
	NEW CHECK VALVE		SLUICE GATE
	NEW PLUG VALVE		CONTROL VALVE
	GAUGE		MOTORIZED VALVE
	PIPE CAP		HOSE BIB
	PIPE BREAK		EXISTING TELEPHONE/FIBER PULL BOX
	FLOW ARROW		EXISTING ELECTRICAL PANEL
	EXISTING TRANSFORMER		
	EXISTING ELECTRICAL METER		



NOTE: THIS IS A STANDARD SHEET. THEREFORE, SOME ABBREVIATIONS APPEARING ON INDIVIDUAL DRAWINGS TAKE PRECEDENCE OVER THIS SHEET.

- UNION
- REDUCER
- CLEANOUT

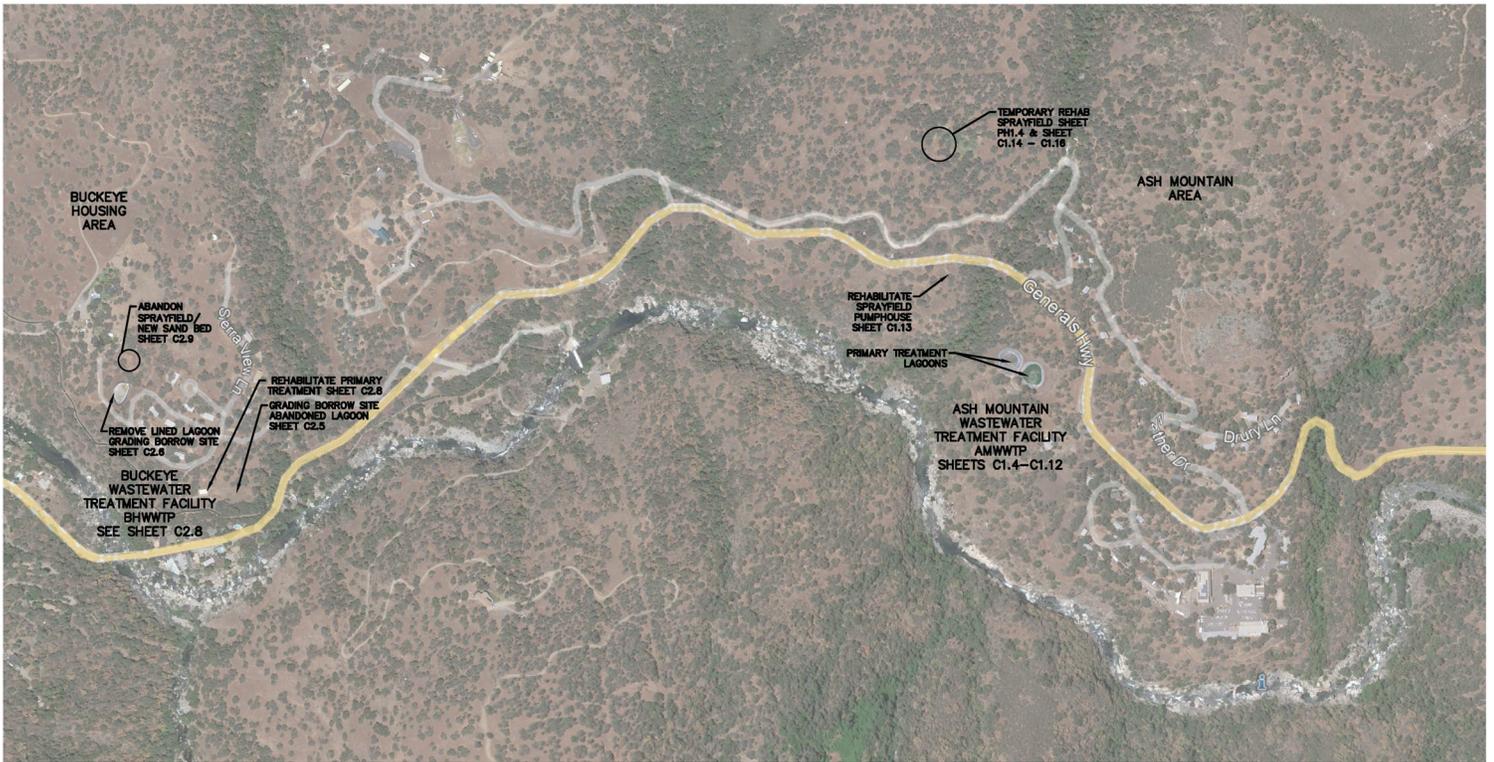
- PIPE TYPES**
- CISP CAST IRON SOIL PIPE.
 - CMP CORRUGATED METAL PIPE
 - CU COPPER PIPE
 - DI, DIP DUCTILE IRON PIPE
 - GSP GALVANIZED STEEL PIPE
 - HDPE HIGH DENSITY POLYETHYLENE
 - PT PLASTIC TUBING
 - PVC POLYVINYL CHLORIDE PIPE
 - WS WELDED STEEL PIPE



David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO. G1.3	TITLE OF SHEET SYMBOLS LEGEND	DRAWING NO. 102
CHECKED: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PWG NO. 317446
TECH. REVIEWER: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 5 of 142
DATE: 03/31/2023			

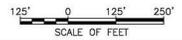
27/03/2023 15:08 BRT BROOKE C:\CLIENTS\MP\SEA\317446\DRAWINGS\ASH MOUNTAIN\DIRS\ASH MOUNTAIN WWT\7 - PROJECT SITE MAP AMWWTP & BHWTP.DWG



PROJECT SITE MAP AMWWTP & BHWTP

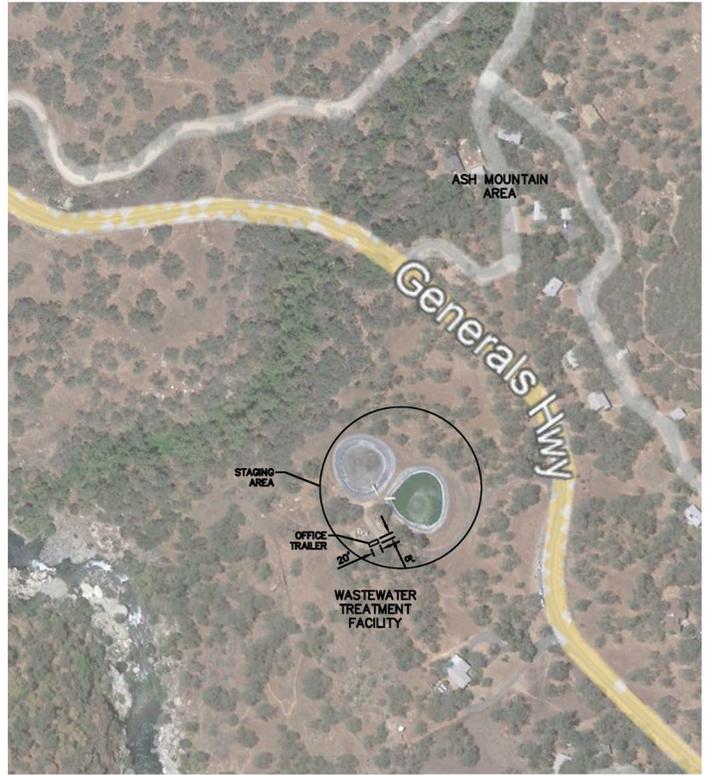
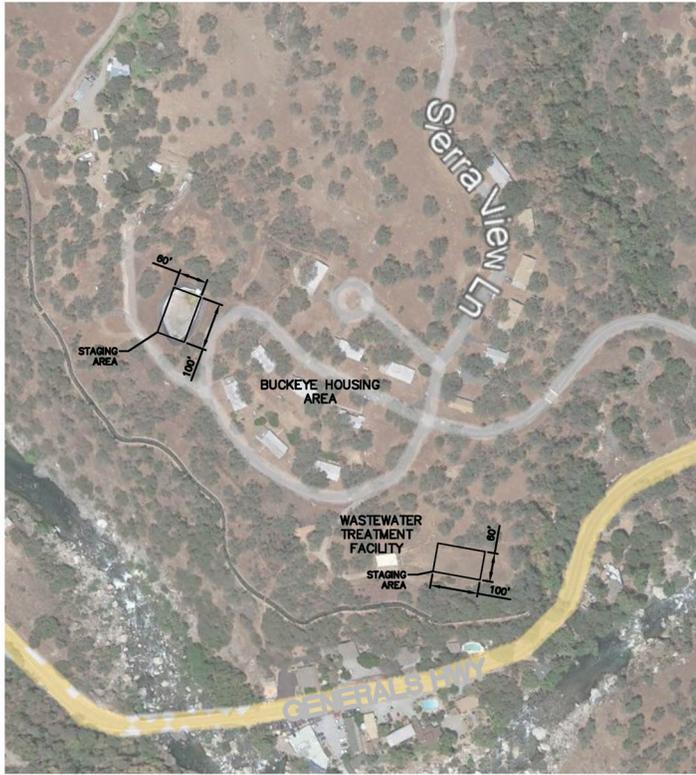


David Barton Brooke



DESIGNED: D. BROOKE	G1.5	TITLE OF SHEET PROJECT SITE MAP AMWWTP & BHWTP REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	DRAWING NO. 102
DRAWN: M. GARCIA			PMS/PWD NO. 317446
TECH. REVIEWER: J. BLOM			SHEET 7 of 142
DATE: 03/31/2023			

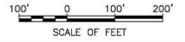
27/03/2023 15:07 BRYT BROOKE C:\CLIENTS\MP\SEA\317446\DOMINOS\ASH MOUNTAIN DRES\ASH MOUNTAIN WWT\8 - STAGING AREAS AMWTP & BHWTP.DWG



STAGING AREAS AMWTP & BHWTP

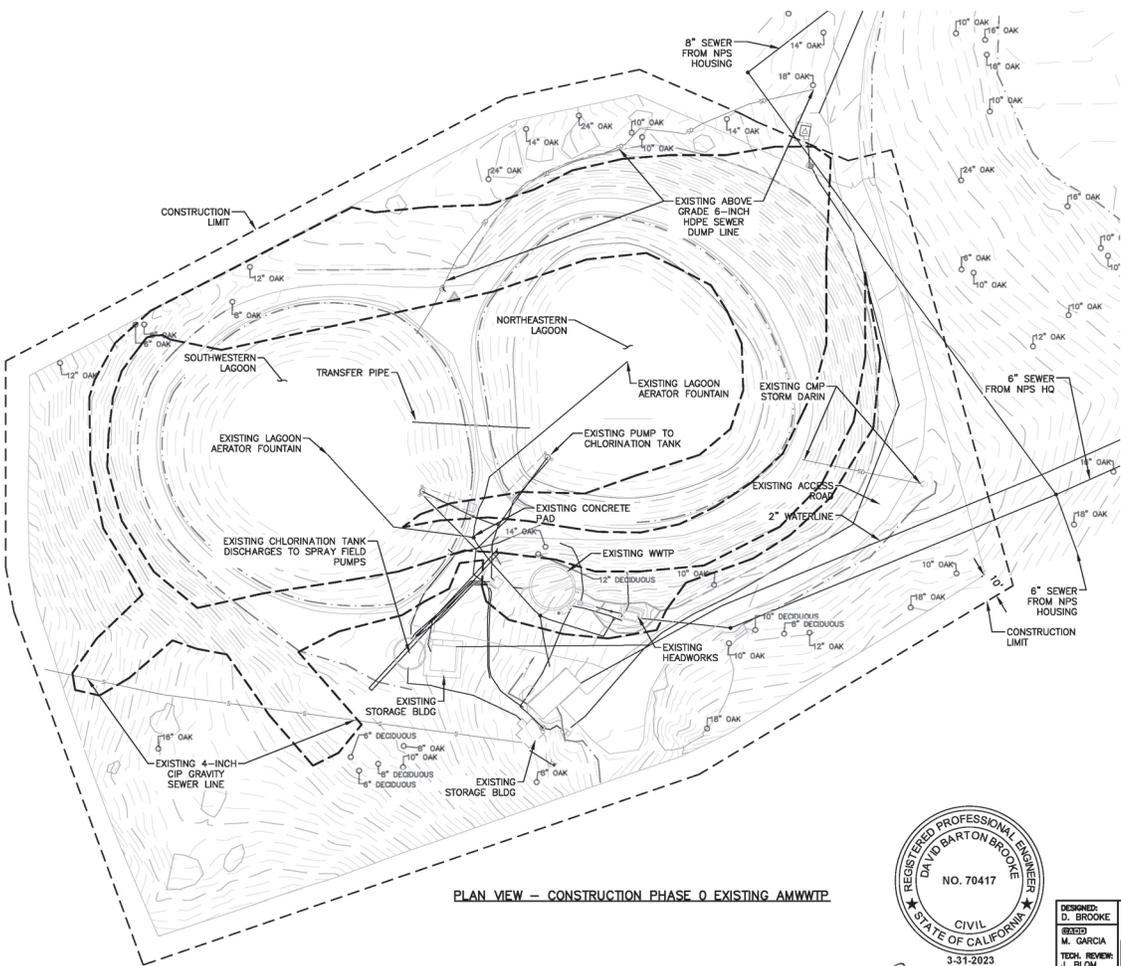


David Barton Brooke



DESIGNED: D. BROOKE	SUB SHEET NO. G1.6	TITLE OF SHEET STAGING AREAS AMWTP & BHWTP	DRAWING NO. 177,507
DRAWN: M. GARCIA			PMS/PWD NO. 317446
TECH. REVIEW: J. BLOM		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 8 of 142
DATE: 03/31/2023			

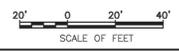
3/10/2023 12:43 BROOKE & GARCIA ENGINEERS, INC. MOUNTAIN VIEW, CA PROJECT PHASE 0 - CONSTRUCTION PHASE 0 EXISTING



PLAN VIEW - CONSTRUCTION PHASE 0 EXISTING AMWWTP

- NOTES PHASE 0:**
1. COORDINATE CONSTRUCTION ACTIVITIES WITH PHASE 1 THROUGH PHASE 4
 2. COORDINATION WITH GRADING OPERATIONS AT BUCKEYE HOUSING REQUIRED TO BRING IN IMPORT FILL DURING SUBSEQUENT CONSTRUCTION PHASES.
 3. PHASING SEQUENCES SHOWN ON THIS SHEET ARE CONCEPTUAL ONLY. SEWAGE TREATMENT AND DISPOSAL ARE REQUIRED TO BE KEPT IN OPERATION THROUGHOUT THE DURATION OF ALL CONSTRUCTION ACTIVITIES AT ASH MOUNTAIN. CONTRACTOR CAN PROVIDE ALTERNATE SEQUENCING OR DIFFERENT SEQUENCING THAN WHAT IS PROVIDED ON THIS SHEET DEPENDING ON MEANS AND METHODS AVAILABLE TO THE CONTRACTOR.
 4. SLUDGE MANAGEMENT AND DISPOSAL ARE THE RESPONSIBILITY OF THE CONTRACTOR.

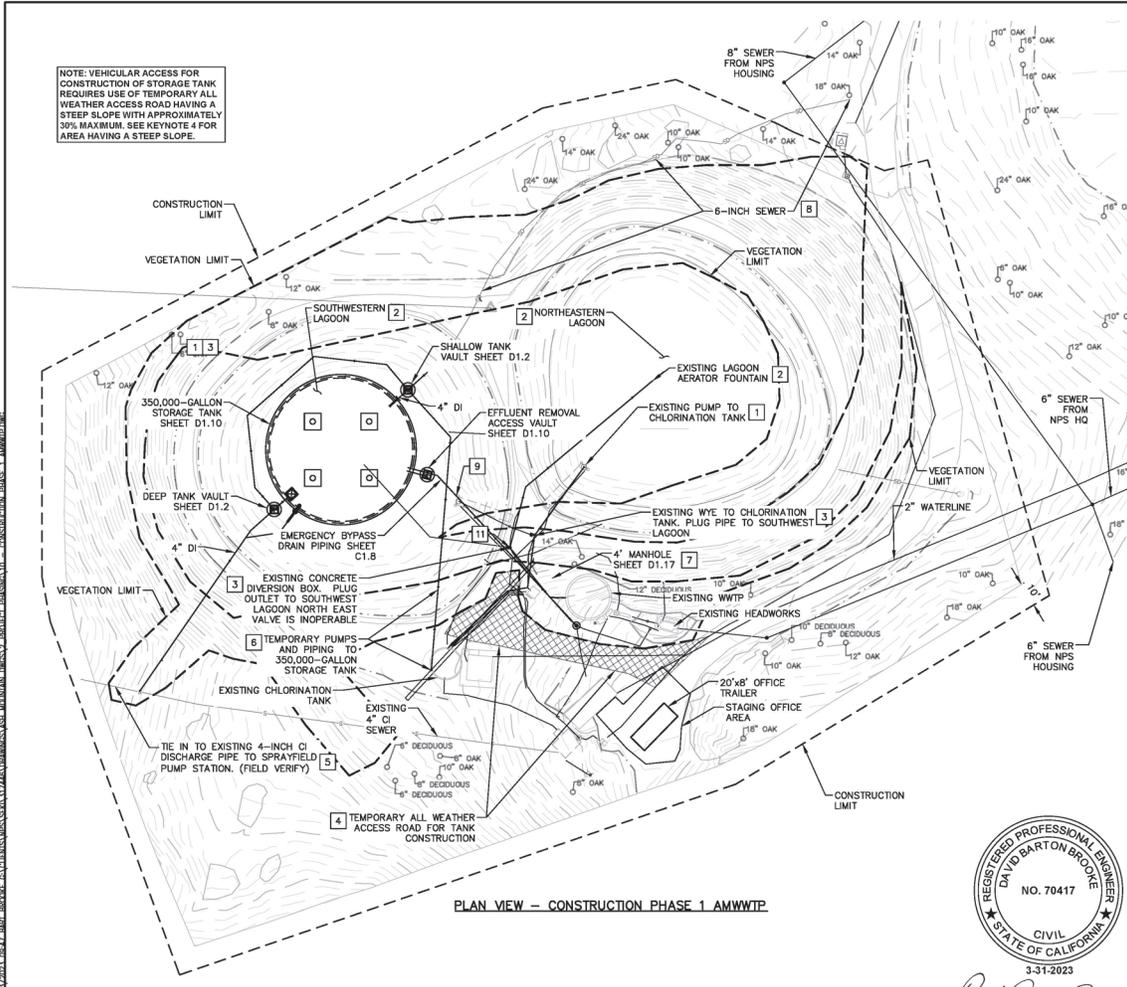
CONCEPTUAL ONLY



David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
DRAWN: M. GARCIA	PH1.0	CONSTRUCTION PHASE 0 EXISTING	102 177,507
TEAM LEADER: J. BLOM		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PWG NO. 317446
DATE: 03/31/2023		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 9 of 142

NOTE: VEHICULAR ACCESS FOR CONSTRUCTION OF STORAGE TANK REQUIRES USE OF TEMPORARY ALL WEATHER ACCESS ROAD HAVING A STEEP SLOPE WITH APPROXIMATELY 30% MAXIMUM. SEE KEYNOTE 4 FOR AREA HAVING A STEEP SLOPE.



PLAN VIEW - CONSTRUCTION PHASE 1 AMWWTP

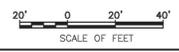
NOTES PHASE 1:

1. KEEP CURRENT WWTP SYSTEM FULLY OPERATIONAL.
2. PARK ALTERNATES OPERATION OF LAGOONS USING ONE AS STORAGE AND ONE AS DRYING BED.
3. RUN PHASE 1 CONSTRUCTED IMPROVEMENTS TO VERIFY SYSTEM IS FULLY OPERATIONAL BEFORE COMMENCING PHASE 2 WORK.
4. PHASE 4 CONSTRUCTION (SPRAY FIELD PUMPS, AND SPRAY FIELD REHABILITATION) CAN BE IMPLEMENTED DURING EITHER PHASE 1, PHASE 2, OR PHASE 3 CONSTRUCTION.
5. PHASING SEQUENCES SHOWN ON THIS SHEET ARE CONCEPTUAL ONLY. SEWAGE TREATMENT AND DISPOSAL ARE REQUIRED TO BE KEPT IN OPERATION THROUGHOUT THE DURATION OF ALL CONSTRUCTION ACTIVITIES AT ASH MOUNTAIN. CONTRACTOR CAN PROVIDE ALTERNATE SEQUENCING OR DIFFERENT SEQUENCING THAN WHAT IS PROVIDED ON THIS SHEET DEPENDING ON MEANS AND METHODS AVAILABLE TO THE CONTRACTOR.
6. SLUDGE MANAGEMENT AND DISPOSAL ARE THE RESPONSIBILITY OF THE CONTRACTOR.

KEYNOTES PHASE 1:

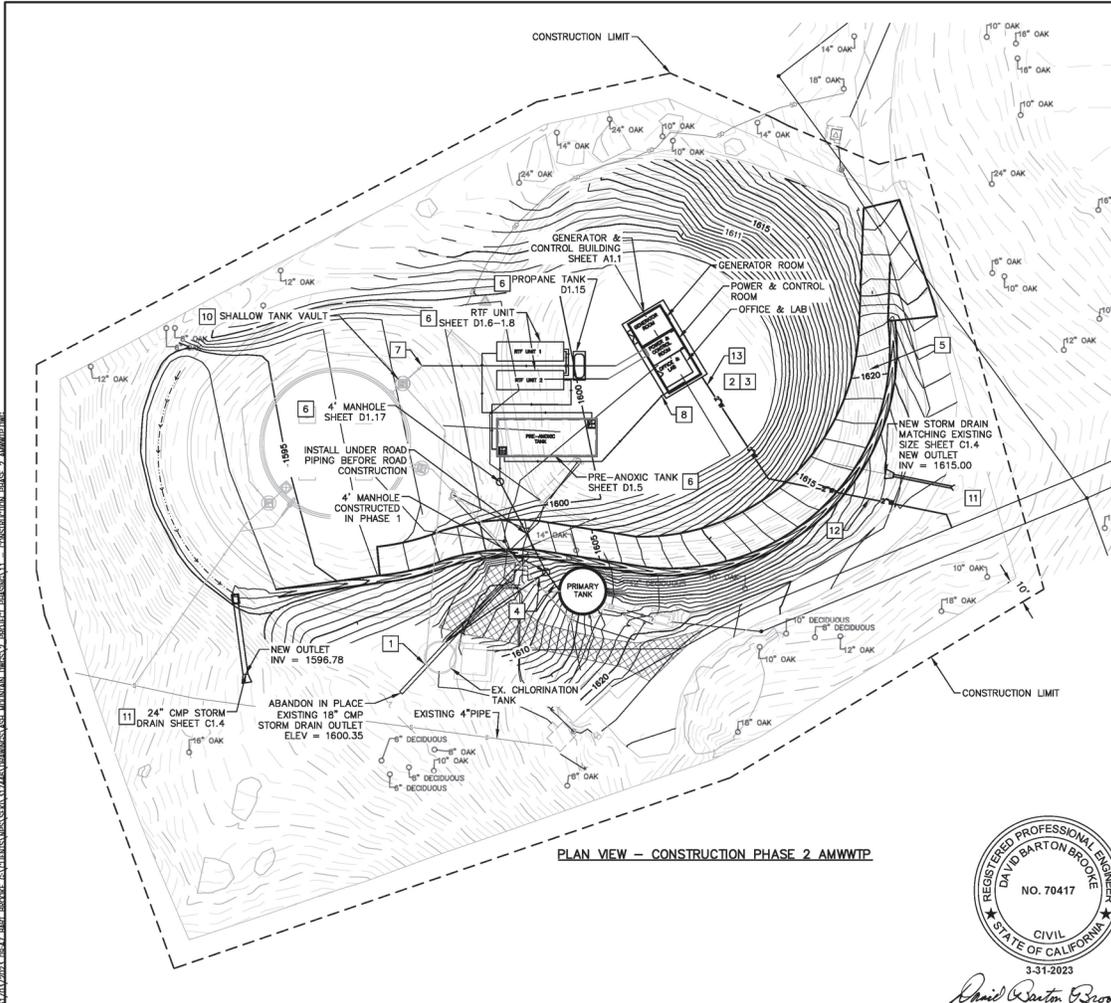
- 1 REMOVE SOUTHWESTERN LAGOON FROM FURTHER OPERATION. IF LAGOON IS CURRENTLY USED AS DRYING BED, REMOVE SLUDGE AND DISPOSE PER NPS DIRECTION. IF LAGOON IS CURRENTLY USED FOR STORAGE CLEAN OUT LAGOON USED AS DRYING BED AND PUMP SOUTHWEST LAGOON EFFLUENT INTO THE NORTHEAST LAGOON.
- 2 CONTINUE TO DISCHARGE EFFLUENT FROM THE PRIMARY TREATMENT TANK INTO THE EXISTING NORTHEASTERN LAGOON DURING CONSTRUCTION OF PHASE 1.
- 3 DEMOLISH AND REMOVE EXISTING SOUTHWESTERN LAGOON COMPONENTS AND ISOLATE PIPING CONNECTIONS FROM REST OF SYSTEM; EXCAVATE, BACKFILL, ROUGH GRADE AND PREPARE FOR FURTHER CONSTRUCTION.
- 4 CONSTRUCT TEMPORARY ALL-WEATHER ACCESS ROAD, 350,000-GALLON STORAGE TANK AND EFFLUENT REMOVAL ACCESS VAULT PER SHEET D1.10, AND ASSOCIATED TANK VAULTS PER SHEET D1.2. INSTALL VALVES AND FLOW METER PER SHEET D1.2.
- 5 INSTALL SADDLE TAP, 4" DI PIPING AND VALVE COMPONENTS TO TIE INTO EXISTING 4" DISCHARGE PIPING LINE.
- 6 AFTER 350,000-GALLON STORAGE TANK COMMISSIONING, INSTALL TEMPORARY PUMP AND PIPING TO CONNECT THE EXISTING CHLORINATION TANK DISCHARGE LINE TO SHALLOW TANK VAULT-1 PIPING INTO 350,000-GALLON STORAGE TANK.
- 7 CONSTRUCT A 4" MANHOLE FOR PHASE 2 AND 3 CONSTRUCTION PER SHEET D1.17.
- 8 REMOVE EXISTING ABOVE GRADE 6-INCH HDPE SEWER TRANSFER DUMP LINE.
- 9 INSTALL 6" EMERGENCY DRAIN OUTLET FROM EXISTING WWTP TO 350,000 GALLON STORAGE TANK THROUGH THE SHALLOW TANK VAULT, PER SHEET D1.4 AND D1.10.
- 10 PRIOR TO COMMENCEMENT OF PHASE 2 CONSTRUCTION, CLEAN OUT AND DISPOSE CONTENTS OF 350,000 GALLON TANK.
- 11 TWO VALVES CONTROL DIVERSION BETWEEN BOTH LAGOONS IN DIVERSION BOX. SOUTHWEST LAGOON VALVE IS OPERABLE. NORTH EAST LAGOON VALVE IS INOPERABLE.

CONCEPTUAL ONLY



David Barton Brodke

DESIGNED: D. BRODKE	SUB SHEET NO.	TITLE OF SHEET CONSTRUCTION PHASE 1 AMWWTP	DRAWING NO. 102 177,507
CHECKED: M. GARCIA	PH1.1	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PHG NO. 317446
TEAM REVIEWER: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 10 of 142
DATE: 03/31/2023			



PLAN VIEW - CONSTRUCTION PHASE 2 AMWWTP

NOTES PHASE 2:

1. PHASING SEQUENCES SHOWN ON THIS SHEET ARE CONCEPTUAL ONLY. SEWAGE TREATMENT AND DISPOSAL ARE REQUIRED TO BE KEPT IN OPERATION THROUGHOUT THE DURATION OF ALL CONSTRUCTION ACTIVITIES AT ASH MOUNTAIN. CONTRACTOR CAN PROVIDE ALTERNATE SEQUENCING OR DIFFERENT SEQUENCING THAN WHAT IS PROVIDED ON THIS SHEET DEPENDING ON MEANS AND METHODS AVAILABLE TO THE CONTRACTOR.
2. SLUDGE MANAGEMENT AND DISPOSAL ARE THE RESPONSIBILITY OF THE CONTRACTOR.

KEYNOTES PHASE 2:

1. TRANSFER CHLORINATED EFFLUENT USING TEMPORARY BYPASS PUMPS INTO THE NEW STORAGE TANK FOR STORAGE AND DISCHARGE TO THE SPRAYFIELD. PER SPECIFICATIONS.
2. REMOVE NORTHEASTERN LAGOON FROM OPERATION AND PUMP OUT LAGOON STORAGE INTO 350,000 GALLON STORAGE TANK FOR SPRAYFIELD DISPOSAL.
3. DEMOLISH AND REMOVE EXISTING NORTHEASTERN LAGOON COMPONENTS; EXCAVATE, BACKFILL, ROUGH GRADE AND PREPARE FOR FURTHER CONSTRUCTION. SEE C1.4 FOR DETAILS.
4. INSTALL TEMPORARY DUPLEX PUMPS AND PIPING. CONNECT AERATION TANK OUTLET TO THE 4" MANHOLE CONSTRUCTED IN PHASE 1. TRANSFER TREATED PRIMARY EFFLUENT FROM THE AERATION TANK INTO THE EXISTING CHLORINATION TANK.
5. CONSTRUCT NEW ASPHALT ACCESS ROAD PER SHEET C1.6 AND 1.7 AND SITE GRADING PER SHEET C1.5. INSTALL UNDER ROAD PIPING FIRST.
6. INSTALL NEW SECONDARY TREATMENT SYSTEM INCLUDING PRE-ANOXIC TANK, RTF SYSTEM AND PIPING. PER SHEET D1.7-D1.9. CONSTRUCT THE SECOND 4" MANHOLE PER SHEET D1.17; CONSTRUCT THE NEW CONTROL BUILDING PER SHEET A1.1-1.6; INSTALL PROANE TANK PER SHEET D1.15.
7. INSTALL NEW 4" RTF DISCHARGE LINE WITH 2" X 4" REDUCER.
8. INSTALL NEW 4" PVC SEWER LINE WITH A CLEANOUT PER SHEET D1.18.
9. STORE EFFLUENT IN 350,000 GALLON TANK DURING CONSTRUCTION IMPROVEMENTS OF SPRAYFIELD PUMP STATION AND SPRAYFIELD.
10. CONNECT RTF DISCHARGE LINE IN THE SHALLOW TANK VAULT. TEST THE SYSTEM PRIOR TO COMMENCING PHASE 3 CONSTRUCTION.
11. REMOVE & REPLACE EXISTING 18" CMP STORM DRAIN. SEE SHEET C1.4 AND D1.14. INSTALL STORM DRAIN IMPROVEMENTS PER SHEET D1.14.
12. INSTALL 2" WATERLINE.
13. INSTALL BACKFLOW PREVENTER & HOSE BIB PER SHEET D1.13.
14. PHASE 4 CONSTRUCTION CAN BE IMPLEMENTED DURING EITHER PHASE 1, PHASE 2, OR PHASE 3 CONSTRUCTION.

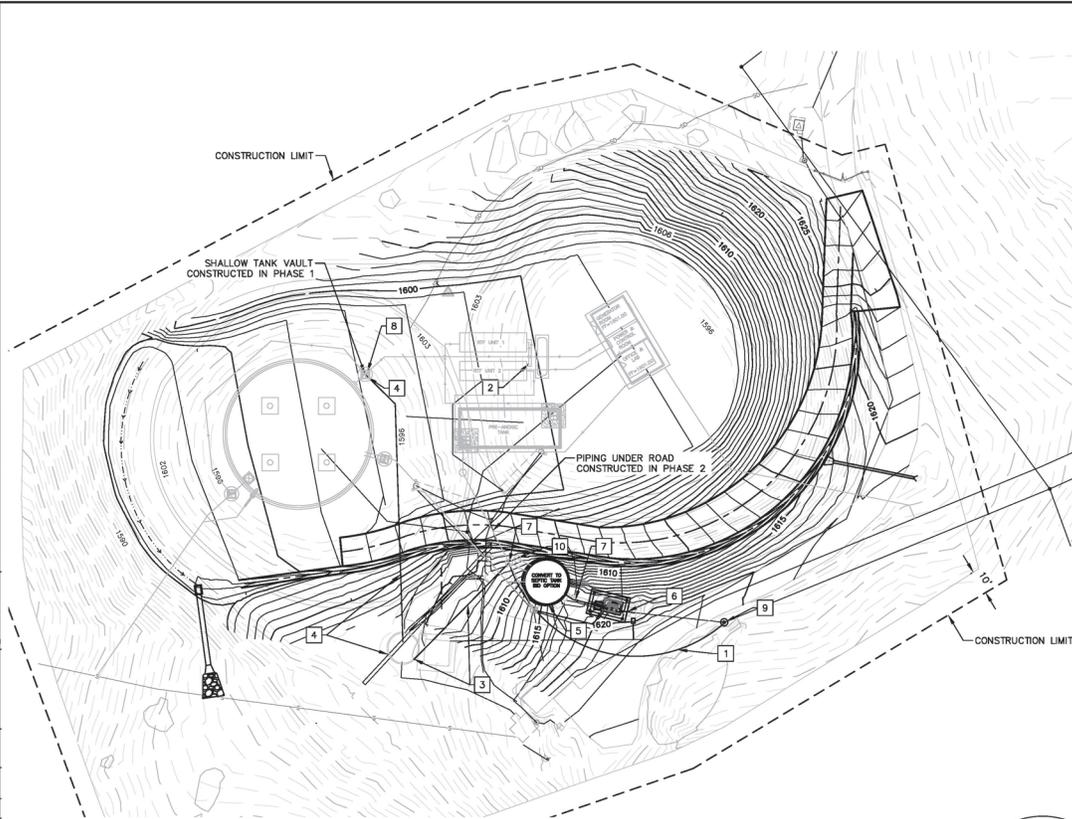
CONCEPTUAL ONLY



David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO. PH1.2	TITLE OF SHEET CONSTRUCTION PHASE 2 AMWWTP	DRAWING NO. 102 177,507
CHECKED: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PKG NO. 31746
TITLE REVIEWER: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 11 of 142
DATE: 03/31/2023			

27 JUL 2023 15:15 BRUCE BROOKE AS LICENSEE 52344 CALIFORNIA PROFESSIONAL ENGINEERS BOARD. PROJECT: 177507 - CONSTRUCTION PHASE 3 AMWWTP



PLAN VIEW - CONSTRUCTION PHASE 3 AMWWTP

NOTES PHASE 3:

1. PHASING SEQUENCES SHOWN ON THIS SHEET ARE CONCEPTUAL ONLY. SEWAGE TREATMENT AND DISPOSAL ARE REQUIRED TO BE KEPT IN OPERATION THROUGHOUT THE DURATION OF ALL CONSTRUCTION ACTIVITIES AT ASH MOUNTAIN. CONTRACTOR CAN PROVIDE ALTERNATE SEQUENCING OR DIFFERENT SEQUENCING THAN WHAT IS PROVIDED ON THIS SHEET DEPENDING ON MEANS AND METHODS AVAILABLE TO THE CONTRACTOR.
2. SLUDGE MANAGEMENT AND DISPOSAL ARE THE RESPONSIBILITY OF THE CONTRACTOR.

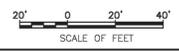
KEYNOTES PHASE 3:

1. INSTALL BYPASS PIPING FROM SEWER MAIN TO 4" MANHOLE CONSTRUCTED IN PHASE 1 AND DESIGNATED UNDER KEYNOTE 7.
2. INCREASE THE RE-CIRCULATION CYCLES OF THE SECONDARY TREATMENT SYSTEM TO MEET THE TREATED EFFLUENT DISCHARGE REQUIREMENT.
3. DEMOLISH THE CHLORINATION TANK AND PIPING. CAP THE CORRESPONDING HOLE IN MANHOLE.
4. REMOVE TEMPORARY BYPASS LINE INCLUDING PUMPS, 4" PVC AND PLUG VALVE IN THE SHALLOW TANK VAULT CONSTRUCTED IN PHASE 1. INSTALL 4" BLIND FLANGE ON CROSS AFTER REMOVING PLUG VALVE.
5. RECONFIGURE THE EXISTING AERATION TANK PER SHEET D1.4. CONNECT THE NEW SEPTIC TANK OUTLET TO 4" MANHOLE DESIGNATED UNDER KEYNOTE 7.
6. REMOVE AND REPLACE THE EXISTING HEADWORKS PER SHEET D1.3.
7. DEMOLISH THE HEADWORKS BYPASSING PIPING. CONNECT THE PIPING FROM NEW HEADWORKS TO THE NEW SEPTIC TANK, AND FROM NEW SEPTIC TANK TO THE 4" PRECAST MANHOLE.
8. REPLACE THE PLUG VALVE ON RTF EFFLUENT LINE WITH A 4" ULTRA MAG FLOW METER (UM06). SEE D1.2 FOR DETAILS.
9. REMOVE EXISTING MANHOLE AND CONSTRUCT NEW 4" MANHOLE. SEE D1.16 FOR DETAILS.
10. INSTALL SLUDGE REMOVAL MANHOLE PER DETAIL SHEET D1.19.
11. KEEP THE 350,000-GALLON STORAGE TANK ON STANDBY READY FOR WET WEATHER EVENT STORAGE.
12. COMMISSION THE NEW COMPLETE SYSTEM.
13. PHASE 4 CONSTRUCTION CAN BE IMPLEMENTED DURING EITHER PHASE 1, PHASE 2, OR PHASE 3 CONSTRUCTION.

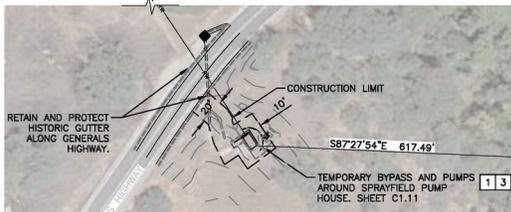
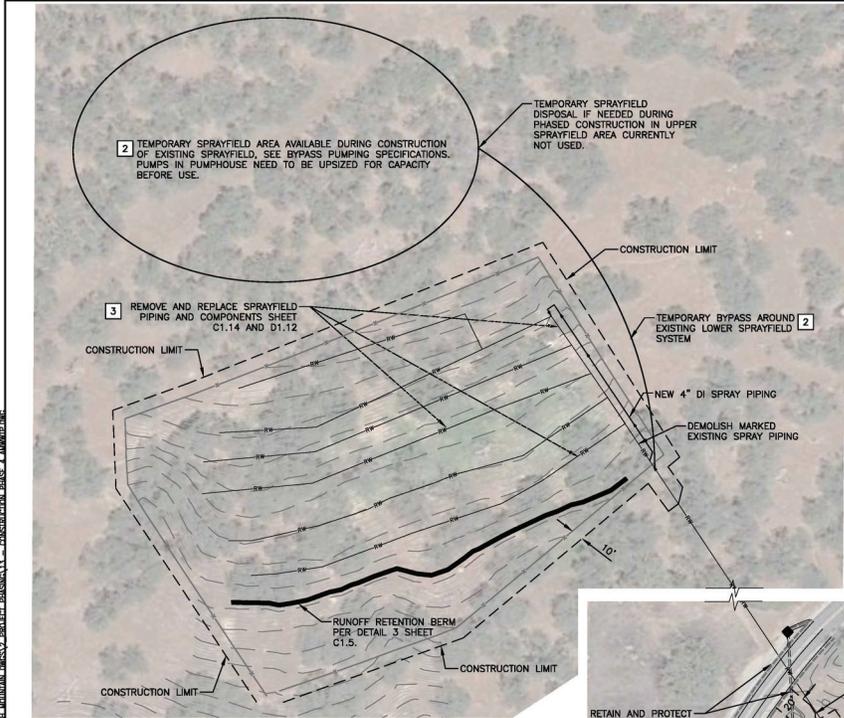
CONCEPTUAL ONLY



David Barton Brooke



DESIGNED: D. BROOKE	SUB SHEET NO. PH1.3	TITLE OF SHEET CONSTRUCTION PHASE 3 AMWWTP	DRAWING NO. 102 177,507
DRIVEN: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PWG NO. 317446
TECH. REVIEWER: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 12 of 142
DATE: 03/31/2023			



PLAN VIEW - CONSTRUCTION PHASE 4 AMWWTP

NOTES:

1. THE HISTORIC GUTTER ON GENERAL HIGHWAY ADJACENT TO THE PUMP HOUSE SHALL BE PROTECTED IN PLACE DURING CONSTRUCTION.
2. PHASING SEQUENCES SHOWN ON THIS SHEET ARE CONCEPTUAL ONLY. SEWAGE TREATMENT AND DISPOSAL ARE REQUIRED TO BE KEPT IN OPERATION THROUGHOUT THE DURATION OF ALL CONSTRUCTION ACTIVITIES AT ASH MOUNTAIN. CONTRACTOR CAN PROVIDE ALTERNATE SEQUENCING OR DIFFERENT SEQUENCING THAN WHAT IS PROVIDED ON THIS SHEET DEPENDING ON MEANS AND METHODS AVAILABLE TO THE CONTRACTOR.
3. SLUDGE MANAGEMENT AND DISPOSAL ARE THE RESPONSIBILITY OF THE CONTRACTOR.

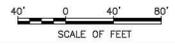
KEYNOTES PHASE 4:

- 1 BYPASS SPRAYFIELD PUMPHOUSE DURING PUMPHOUSE REHABILITATION.
- 2 BYPASS SPRAYFIELD DURING SPRAYFIELD REHABILITATION.
- 3 CONSTRUCT NEW SPRAYFIELD, AND PUMP STATION REHABILITATION.
- 4 PHASE 4 CAN BE IMPLEMENTED DURING EITHER PHASE 1, PHASE 2, OR PHASE 3 CONSTRUCTION.
- 5 REMOVE TEMPORARY BYPASS PUMPS AND SPRAYFIELD PIPING COMPONENTS AFTER COMPLETION OF WORK.
- 6 RETAIN AND PROTECT HISTORIC GUTTER ALONG GENERALS HIGHWAY.

CONCEPTUAL ONLY

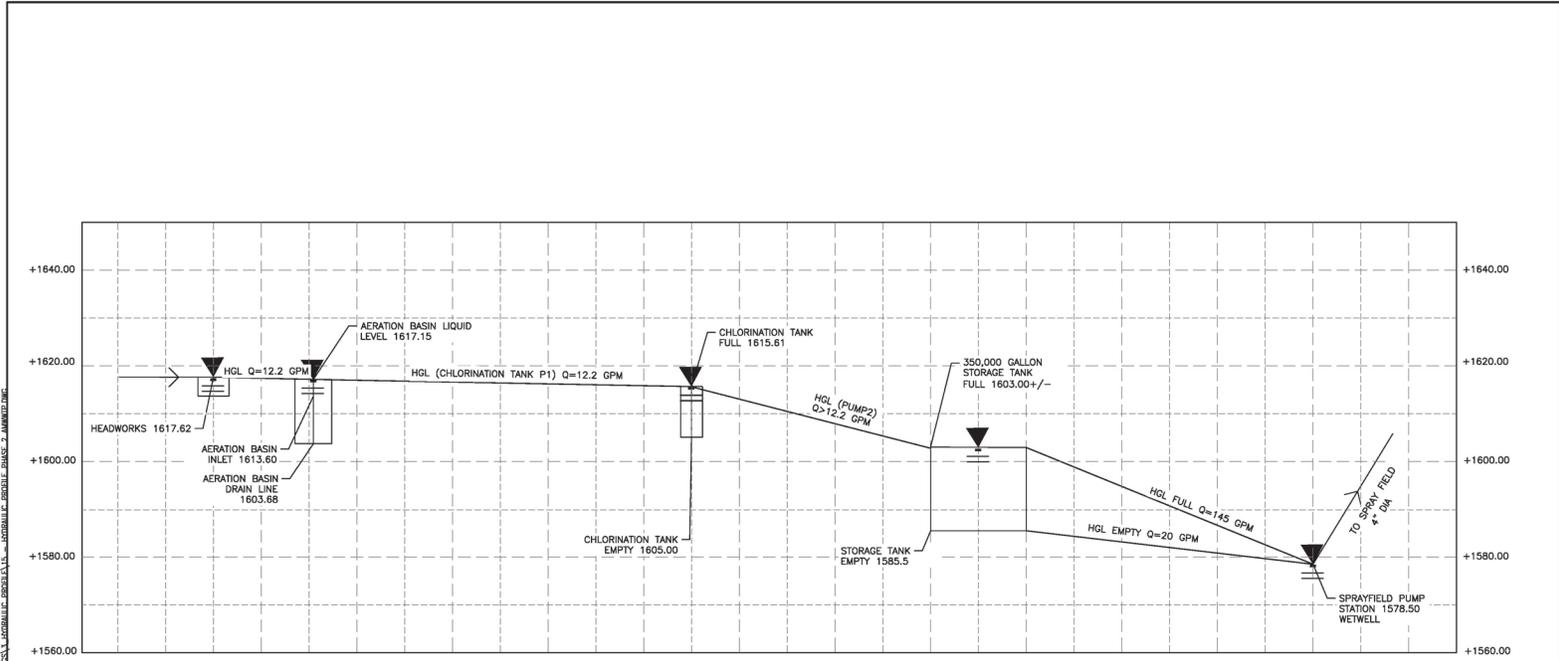


David Barton Brodke



DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
DRAWN: M. GARCIA	PH1.4	CONSTRUCTION PHASE 4 AMWWTP	102
TOTAL REVIEW: J. BLOM			177,507
DATE: 03/31/2023		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWD NO. 317446
			SHEET 13 of 142

27 JUL 2024 10:55 AM D:\PROJECTS\2023\AMWWTP\CONSTRUCTION PHASE 4\AMWWTP.DWG

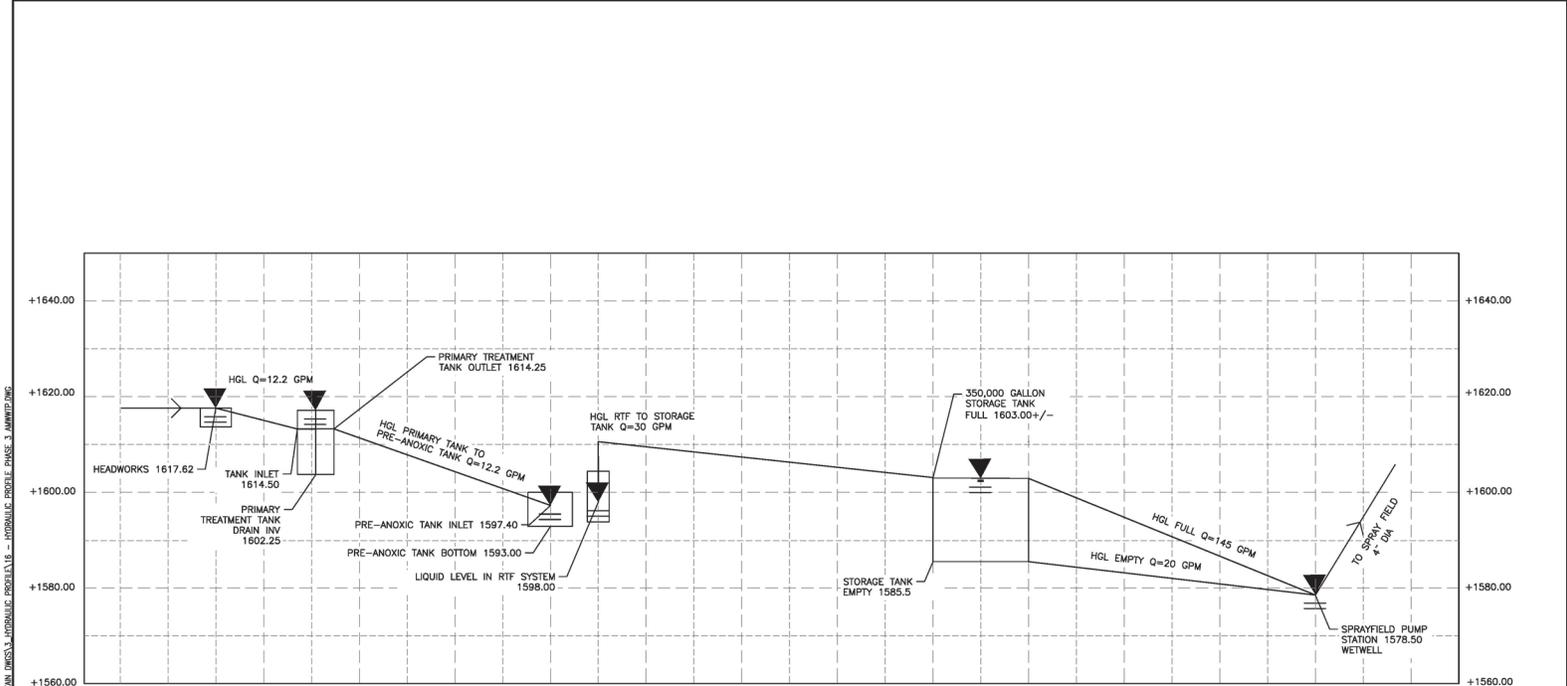


PROFILE VIEW - HYDRAULIC PROFILE PHASE 2 AMWWTP
SCALE: NTS



David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET HYDRAULIC PROFILE PHASE 2 AMWWTP	DRAWING NO. 102
CHECKED: M. GARCIA	HP1.2	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	DRAWING NO. 177,507
TECH. REVIEWER: J. BLOM		PMS/PKG NO. 317446	
DATE: 03/31/2023			SHEET 15 of 142



PROFILE VIEW - HYDRAULIC PROFILE PHASE 3 AMWWTP
SCALE: NTS

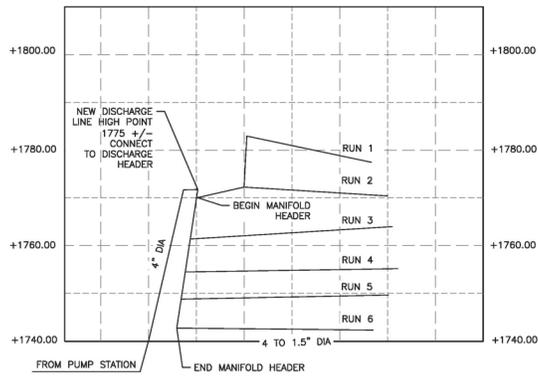


David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
DRAWN: M. GARCIA	HP1.3	HYDRAULIC PROFILE PHASE 3 AMWWTP	102
TECH. REVIEWER: J. BLOM		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	177,507
DATE: 03/31/2023			PMS/PKG NO. 317446
			SHEET 16 of 142

27/03/2023, 15:14 BRT, BROOKE, G., C:\ENVS\NPS\ASH\317446\DWG\MSS\3 - HYDRAULIC PROFILE.PLT, 3 - HYDRAULIC PROFILE PHASE 3 AMWWTP.DWG

27/03/2023 15:14 BRT BROOKE G. CLERKUS\BROOKE.G. CLERKUS\174483\DRAWINGS\ASH - HYDRAULIC PROFILE\17 - PHASE 4 HYDRAULIC PROFILE.DWG



PROFILE VIEW - PHASE 4 HYDRAULIC FLOW PROFILE
SCALE: NTS



David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
DRAWN: M. GARCIA	HP1.4	HYDRAULIC PROFILE PHASE 4 AMWWTP	102
TECH. REVIEWER: J. BLOM		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	177,507
DATE: 03/31/2023			PMS/PWG NO. 317446
			SHEET 17 of 142

27 JUL 2023 15:14 BUREAU OF CALIFORNIA WATER SERVICES, 12746A, REDWOODS, CALIFORNIA, DESIGN OF WASTEWATER TREATMENT PLANTS

AMWWTP DAILY PRIMARY TREATMENT / EQUALIZATION TANK PARAMETERS			
ASH MOUNTAIN WWTP RAW INFLUENT FLOWS (RECORDED 2014-2019)			
6-YEAR AVERAGE	MAX PEAK DAY MONTHLY AVE GPD	MIN DAY MONTHLY AVE GPD	AVE DAY MONTHLY MEAN GPD
JANUARY	18,000	2,000	8,221
FEBRUARY	25,500	4,000	8,234
MARCH	17,500	3,167	6,943
APRIL	12,667	3,333	6,356
MAY	12,667	4,000	7,376
JUNE	24,000	4,000	7,978
JULY	16,000	4,000	8,387
AUGUST	12,667	3,333	7,419
SEPTEMBER	15,333	4,667	7,355
OCTOBER	12,000	3,333	6,937
NOVEMBER	10,667	3,000	5,689
DECEMBER	11,333	2,167	5,498

AMWWTP PRIMARY TREATMENT PARAMETERS	
WASTE DISCHARGE PERMIT FLOWS VS DESIGN MAXIMUM DAY FLOW	
WASTE DISCHARGE PERMIT FLOWS	
DESCRIPTION	2014 THRU 2019 AVE VOLUME (GPD)
CURRENT WASTE DISCHARGE PERMIT DESIGN FLOW	17,500
CURRENT WASTE DISCHARGE PERMIT AVERAGE DRY WEATHER FLOW	9,000
CURRENT WASTE DISCHARGE PERMIT AVERAGE WET WEATHER FLOW	6,400
WASTE DISCHARGE PERMIT FLOWS	
AVERAGE MAXIMUM DAY MONTHLY FLOW	15,694
DESIGN MAXIMUM DAY FLOW	17,500

AMWWTP PRIMARY TREATMENT PARAMETERS	
EXTENDED AERATION BASIN CONVERSION TO A PRIMARY TREATMENT AND EQUALIZATION TANK SYSTEM - PREANOXIC TRANSITION TREATMENT	
PRIMARY TREATMENT AND EQUALIZATION TANK	19,000 GALLONS
TRANSITION TREATMENT AND EQUALIZATION TANK (PREANOXIC TANK)	17,500 GALLONS

DESIGN CRITERIA – PRIMARY/EQUALIZATION TANK & PREANOXIC/TRANSITION TREATMENT (AMWWTP)



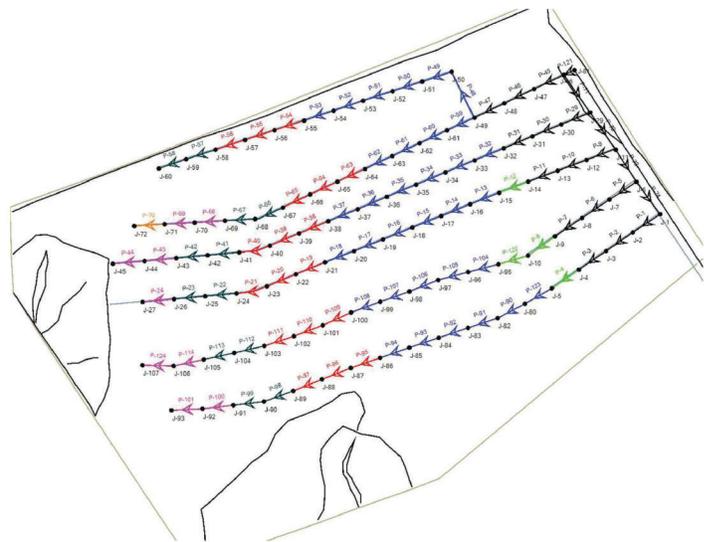
David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET DESIGN CRITERIA (AMWWTP)	DRAWING NO. 102
CHECKED: M. GARCIA	DC1.1	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWG NO. 317446
TOTAL REVIEWER: J. BLOM		SHEET 18 of 142	
DATE: 03/31/2023			

AMWWTP SPRAYFIELD DISPOSAL HYDRAULICS

Pipe Label	Length (Scaled) (ft)	Junction		Diameter (in.)	Material	Pipe Flow (gpm)	Velocity (ft/s)	Start Node	Emitter Coefficient (gpm/psi ^{1/n})	Node Demand (gpm)
		Start Node	Stop Node							
Force main to Spray Field										
P-84	665.6	J-79	J-81	4	PVC	308.24	7.87		0	0
P-121	7.5	J-81	J-46	4	PVC	308.24	7.87		0	0
Irrigation Header Pipe										
P-71	29.6	J-46	J-29	4	PVC	232.23	5.93		0	0
P-72	29	J-29	J-11	4	PVC	180.55	4.61		0	0
P-73	24.7	J-11	J-6	4	Steel	125.71	3.21		0	0
P-74	25.9	J-6	J-1	4	Steel	64.14	1.64		0	0
Lateral #1										
P-45	21.3	J-46	J-47	4	Steel	76.01	1.94		0	0
P-46	21.3	J-47	J-48	4	Steel	72.88	1.86		0.68	3.13
P-47	21.3	J-48	J-49	4	Steel	69.76	1.78		0.68	3.13
Lateral #1A										
P-48	33.1	J-49	J-50	2	Steel	30.25	3.09		0.68	3.11
P-49	20	J-50	J-51	2	Steel	27.53	2.81		0.68	2.72
P-50	20.1	J-51	J-52	2	Steel	24.82	2.53		0.68	2.71
P-51	20	J-52	J-53	2	Steel	22.1	2.26		0.68	2.72
P-52	20	J-53	J-54	2	Steel	19.39	1.98		0.68	2.71
P-53	20.1	J-54	J-55	2	Steel	16.67	1.7		0.68	2.72
P-54	20	J-55	J-56	1.5	Steel	13.96	2.53		0.68	2.72
P-55	20	J-56	J-57	1.5	Steel	11.22	2.04		0.68	2.74
P-56	20	J-57	J-58	1.5	Steel	8.46	1.54		0.68	2.76
P-57	20	J-58	J-59	1.25	Steel	5.66	1.48		0.68	2.8
P-58	18.5	J-59	J-60	1.25	Steel	2.84	0.74		0.68	2.82
		J60							0.68	2.84
Lateral #1B										
P-59	19.5	J-49	J-61	2	Steel	36.4	3.72		0.68	3.11
P-60	19.5	J-61	J-62	2	Steel	33.3	3.4		0.68	3.1
P-61	19.5	J-62	J-63	2	Steel	30.18	3.08		0.68	3.12
P-62	19.5	J-63	J-64	2	Steel	27.06	2.76		0.68	3.12
P-63	19.5	J-64	J-65	1.5	Steel	23.95	4.35		0.68	3.11
P-64	19.5	J-65	J-66	1.5	Steel	20.87	3.79		0.68	3.07
P-65	19.5	J-66	J-67	1.5	Steel	17.81	3.23		0.68	3.06
P-66	19.5	J-67	J-68	1.25	Steel	14.74	3.85		0.68	3.08
P-67	19.6	J-68	J-69	1.25	Steel	11.66	3.05		0.68	3.07
P-68	19.5	J-69	J-70	1	Steel	8.68	3.55		0.68	2.98
P-69	19.4	J-70	J-71	1	Steel	5.77	2.36		0.68	2.91
P-70	19.6	J-71	J-72	0.75	Steel	2.88	2.09		0.68	2.89
		J-72							0.68	2.88

AMWWTP SPRAYFIELD DISPOSAL HYDRAULICS



DESIGN CRITERIA – SPRAYFIELD SYSTEM HYDRAULICS (AMWWTP)



David Barton Brodke

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET DESIGN CRITERIA SPRAYFIELD (AMWWTP)	DRAWING NO. 102
CHECKED: M. GARCIA	DC1.3	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWD NO. 317446
TECH. REVIEWER: J. BLOM		SHEET 20 of 142	
DATE: 03/31/2023			

AMWWTP SPRAYFIELD DISPOSAL HYDRAULICS

Pipe Label	Length (Scaled) (ft)	Junction		Diameter (in.)	Material	Pipe Flow (gpm)	Velocity (ft/s)	Start Node Emitter Coefficient (gpm/psi^n)	Node Demand (gpm)
		Start Node	Stop Node						
Lateral #2									
P-29	20.1	J-29	J-30	4	Steel	51.68	1.32	0	0
P-30	20.2	J-30	J-31	4	Steel	48.3	1.23	0.68	3.38
P-31	20	J-31	J-32	4	Steel	44.94	1.15	0.68	3.36
P-32	20.4	J-32	J-33	2	Steel	41.58	4.25	0.68	3.36
P-33	20.4	J-33	J-34	2	Steel	38.26	3.91	0.68	3.32
P-34	20.5	J-34	J-35	2	Steel	34.97	3.57	0.68	3.29
P-35	20.4	J-35	J-36	2	Steel	31.69	3.24	0.68	3.28
P-36	20.5	J-36	J-37	2	Steel	28.42	2.9	0.68	3.27
P-37	20.5	J-37	J-38	2	Steel	25.16	2.57	0.68	3.26
P-38	20.4	J-38	J-39	1.5	Steel	21.91	3.98	0.68	3.25
P-39	20.4	J-39	J-40	1.5	Steel	18.68	3.39	0.68	3.23
P-40	20.4	J-40	J-41	1.5	Steel	15.46	2.81	0.68	3.23
P-41	20.5	J-41	J-42	1.25	Steel	12.28	3.21	0.68	3.18
P-42	20.4	J-42	J-43	1.25	Steel	9.19	2.4	0.68	3.09
P-43	20.5	J-43	J-44	1	Steel	6.13	2.5	0.68	3.06
P-44	20.5	J-44	J-45	1	Steel	3.08	1.26	0.68	3.05
		J-45						0.68	3.08
Lateral #3									
P-9	20	J-11	J-12	4	Steel	54.84	1.4	0	0
P-10	20.1	J-12	J-13	4	Steel	51.26	1.31	0.68	3.58
P-11	20.2	J-13	J-14	4	Steel	47.7	1.22	0.68	3.56
P-12	20.1	J-14	J-15	3	Steel	44.17	2	0.68	3.53
P-13	20.1	J-15	J-16	2	Steel	40.67	4.15	0.68	3.5
P-14	20.1	J-16	J-17	2	Steel	37.21	3.8	0.68	3.46
P-15	20.1	J-17	J-18	2	Steel	33.75	3.45	0.68	3.46
P-16	20.3	J-18	J-19	2	Steel	30.3	3.09	0.68	3.44
P-17	20.2	J-19	J-20	2	Steel	26.87	2.74	0.68	3.43
P-18	20.1	J-20	J-21	2	Steel	23.43	2.39	0.68	3.44
P-19	20.3	J-21	J-22	1.5	Steel	20	3.63	0.68	3.43
P-20	20.2	J-22	J-23	1.5	Steel	16.58	3.01	0.68	3.42
P-21	20.4	J-23	J-24	1.5	Steel	13.18	2.39	0.68	3.4
P-22	20.2	J-24	J-25	1.25	Steel	9.84	2.57	0.68	3.35
P-23	20.2	J-25	J-26	1.25	Steel	6.55	1.71	0.68	3.29
P-24	20.3	J-26	J-27	1	Steel	3.29	1.34	0.68	3.26
		J-27						0.68	3.29

AMWWTP SPRAYFIELD DISPOSAL HYDRAULICS

Pipe Label	Length (Scaled) (ft)	Junction		Diameter (in.)	Material	Pipe Flow (gpm)	Velocity (ft/s)	Start Node Emitter Coefficient (gpm/psi^n)	Node Demand (gpm)
		Start Node	Stop Node						
Lateral #4									
P-5	20.7	J-6	J-7	4	Steel	61.57	1.57	0	0
P-6	21.3	J-7	J-8	4	Steel	57.84	1.48	0.68	3.73
P-7	21.1	J-8	J-9	4	Steel	54.1	1.38	0.68	3.73
P-8	21.3	J-9	J-10	3	Steel	50.38	2.29	0.68	3.72
P-122	20	J-10	J-95	3	Steel	46.68	2.12	0.68	3.7
P-104	20	J-95	J-96	2	Steel	42.99	4.39	0.68	3.7
P-105	20	J-96	J-97	2	Steel	39.3	4.01	0.68	3.69
P-106	20	J-97	J-98	2	Steel	35.63	3.64	0.68	3.67
P-107	20	J-98	J-99	2	Steel	31.98	3.27	0.68	3.65
P-108	20	J-99	J-100	2	Steel	28.33	2.89	0.68	3.64
P-109	20	J-100	J-101	1.5	Steel	24.7	4.48	0.68	3.63
P-110	20	J-101	J-102	1.5	Steel	21.1	3.83	0.68	3.6
P-111	20	J-102	J-103	1.5	Steel	17.53	3.18	0.68	3.57
P-112	20	J-103	J-104	1.25	Steel	13.98	3.65	0.68	3.56
P-113	20	J-104	J-105	1.25	Steel	10.46	2.74	0.68	3.51
P-114	20	J-105	J-106	1	Steel	6.97	2.85	0.68	3.5
P-124	20	J-106	J-107	1	Steel	3.49	1.43	0.68	3.47
		J-107						0.68	3.49
Lateral #5									
P-1	21.1	J-1	J-2	4	Steel	63.78	1.63	0	0
P-2	21.1	J-2	J-3	4	Steel	60.26	1.54	0.68	3.88
P-3	21.3	J-3	J-4	4	Steel	56.39	1.44	0.68	3.88
P-4	21.2	J-4	J-5	3	Steel	52.51	2.38	0.68	3.87
P-123	20	J-5	J-80	2	Steel	48.66	4.97	0.68	3.86
P-90	20	J-80	J-82	2	Steel	44.83	4.58	0.68	3.83
P-91	20	J-82	J-83	2	Steel	40.99	4.19	0.68	3.83
P-92	20	J-83	J-84	2	Steel	37.17	3.8	0.68	3.83
P-93	20	J-84	J-85	2	Steel	33.36	3.41	0.68	3.81
P-94	20	J-85	J-86	2	Steel	29.56	3.02	0.68	3.8
P-95	20	J-86	J-87	1.5	Steel	25.77	4.68	0.68	3.79
P-96	20	J-87	J-88	1.5	Steel	22.02	4	0.68	3.75
P-97	20	J-88	J-89	1.5	Steel	18.3	3.32	0.68	3.71
P-98	20	J-89	J-90	1.25	Steel	14.62	3.82	0.68	3.68
P-99	20	J-90	J-91	1.25	Steel	10.94	2.86	0.68	3.68
P-100	20	J-91	J-92	1	Steel	7.28	2.97	0.68	3.66
P-101	20	J-92	J-93	1	Steel	3.64	1.49	0.68	3.64
		J-93						0.68	3.64

DESIGN CRITERIA - SPRAYFIELD SYSTEM HYDRAULICS (AMWWTP)



David Barton Brodke

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET DESIGN CRITERIA SPRAYFIELD (ASH MTN.)	DRAWING NO. 102
CHECKED: M. GARCIA	DC1.4	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWG NO. 317446
TITLE REVIEWER: J. BLOM		SHEET 21 of 142	
DATE: 03/31/2023			

27 JUL 2023 11:41 AM D:\PROJECTS\2023\ASH AND BUCKEYE\SPRAYFIELD\DESIGN\DC1.4.DWG

TOPOGRAPHY NOTE

TOPOGRAPHY SHOWN HEREON WAS COLLECTED BY PROVOST AND
 PREPARED CONSULTING DURING A FIELD SURVEY CONDUCTED IN MARCH
 AND NOVEMBER OF 2020.

BASIS OF BEARING

THE CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 4, AS ESTABLISHED
 LOCALLY BY STATIC GPS OBSERVATION.

SITE BENCHMARK

POINT #1 (ALUMINUM DISK MARKED AM-1)

ELEVATION: 1649.30' NAVD83 DATUM

PER STATIC GPS OBSERVATIONS PROCESSED WITH NGS OPUS

PROJECTS

CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 4 COORDINATES:

N: 2061722.59'

E: 6611866.75'

SECONDARY BENCHMARK

POINT #2 (ALUMINUM DISK MARKED AM-2)

ELEVATION: 1603.00' NAVD83 DATUM

PER STATIC GPS OBSERVATIONS PROCESSED WITH NGS OPUS

PROJECTS AND RTK GPS OBSERVATIONS

CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 4 COORDINATES:

N: 2061730.25'

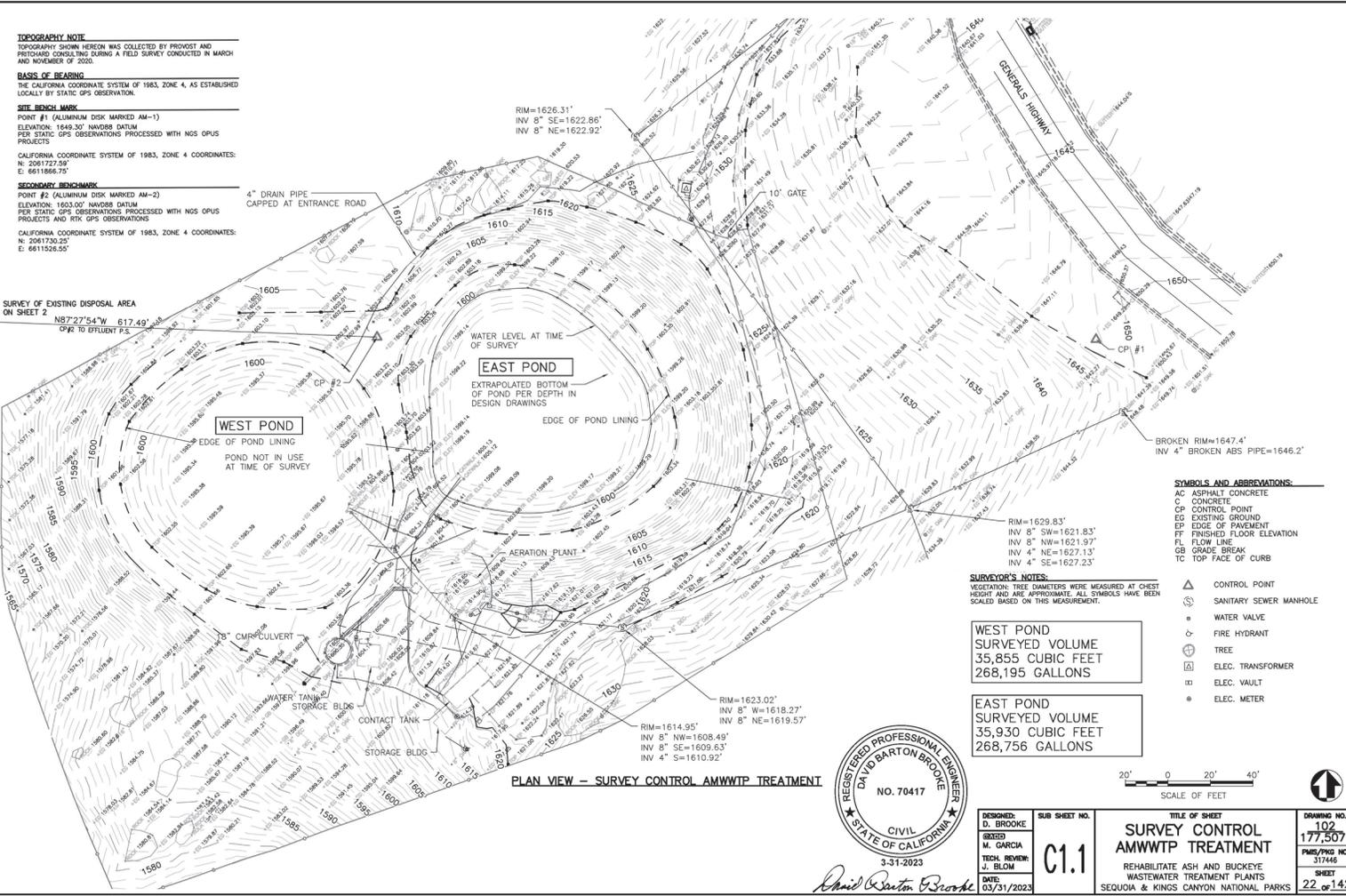
E: 6611526.65'

SURVEY OF EXISTING DISPOSAL AREA

ON SHEET 2

N87°27'54"W 617.49'

OP#2 TO EFFLUENT P.S.



EAST POND

EXTRAPOLATED BOTTOM
 OF POND PER DEPTH IN
 DESIGN DRAWINGS

WEST POND

EDGE OF POND LINING

POND NOT IN USE
 AT TIME OF SURVEY

PLAN VIEW - SURVEY CONTROL AMWWTP TREATMENT

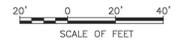
- SYMBOLS AND ABBREVIATIONS:**
- AC ASPHALT CONCRETE
 - C CONCRETE
 - CP CONTROL POINT
 - EG EXISTING GROUND
 - EP EDGE OF PAVEMENT
 - FF FINISHED FLOOR ELEVATION
 - FL FLOW LINE
 - GB GRADE BREAK
 - TC TOP FACE OF CURB

SURVEYOR'S NOTES:
 VEGETATION TREE DIMETERS WERE MEASURED AT CHEST
 HEIGHT AND ARE APPROXIMATE. ALL SYMBOLS HAVE BEEN
 SCALED BASED ON THIS MEASUREMENT.

WEST POND
 SURVEYED VOLUME
 35,855 CUBIC FEET
 268,195 GALLONS

EAST POND
 SURVEYED VOLUME
 35,930 CUBIC FEET
 268,756 GALLONS

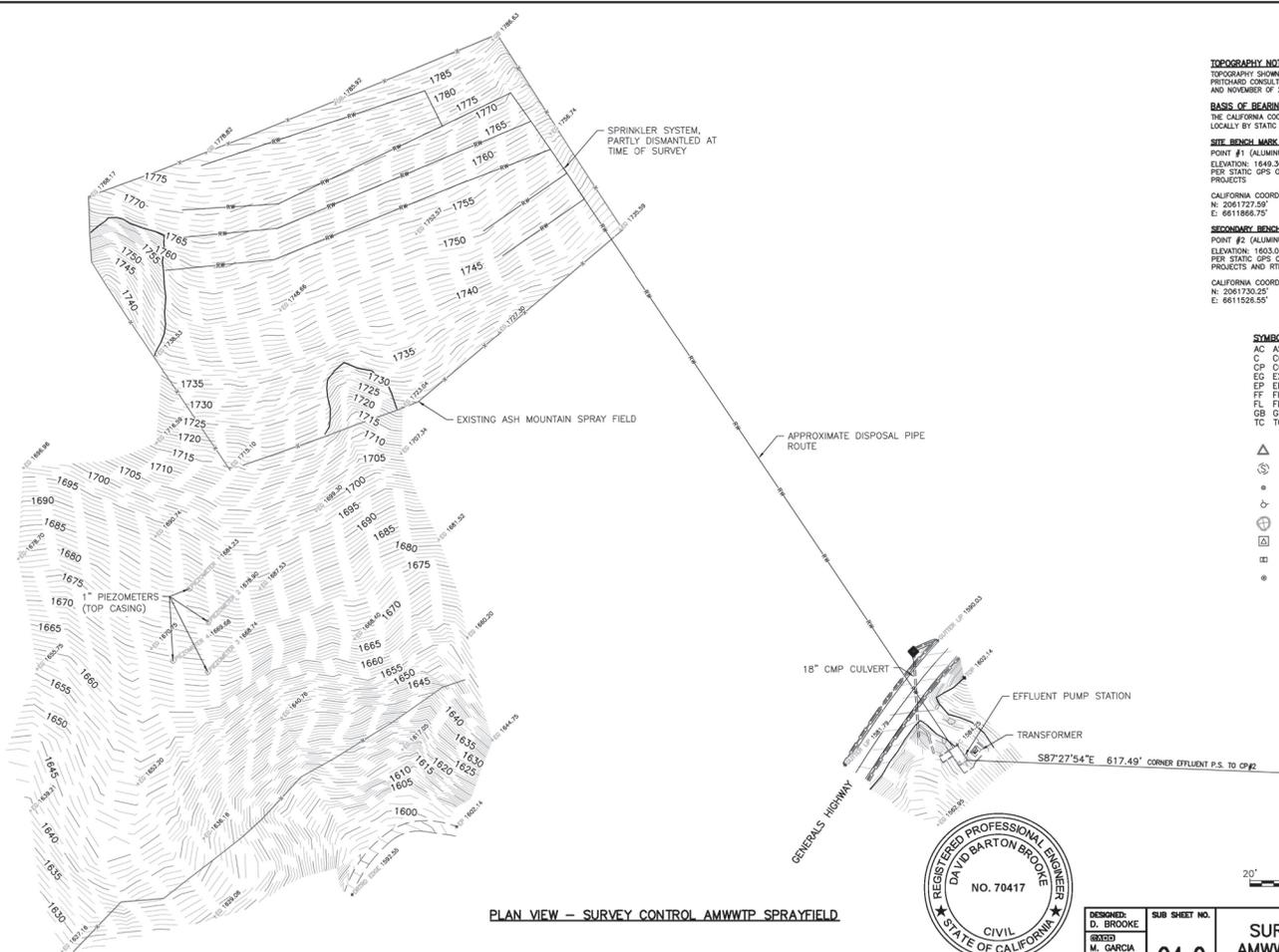
- △ CONTROL POINT
- ⊙ SANITARY SEWER MANHOLE
- ⊙ WATER VALVE
- ⊙ FIRE HYDRANT
- ⊙ TREE
- ⊙ ELEC. TRANSFORMER
- ⊙ ELEC. VAULT
- ⊙ ELEC. METER



DESIGNED: D. BROOKE	SUB SHEET NO. C1.1	TITLE OF SHEET SURVEY CONTROL AMWWTP TREATMENT	DRAWING NO. 102
CHECKED: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWG NO. 317446
DATE: 03/31/2023			SHEET 22 of 142

David Barton Brooke

27 JULY 2023 15:19 BUREAU OF CALIFORNIA SURVEYING AND MAPPING DIVISION SURVEY CONTROL AMWWTP SPRAYFIELD



PLAN VIEW - SURVEY CONTROL AMWWTP SPRAYFIELD

TOPOGRAPHY NOTE
 TOPOGRAPHY SHOWN HEREON WAS COLLECTED BY PROQUEST AND PROCHARE CONSULTING DURING A FIELD SURVEY CONDUCTED IN MARCH AND NOVEMBER OF 2020.

BASE OF BEARING
 THE CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 4, AS ESTABLISHED LOCALLY BY STATIC GPS OBSERVATION.

SIDE BENCHMARK
 POINT #1 (ALUMINUM DISK MARKED AM-1)
 ELEVATION: 1649.30' NAVD83 DATUM
 PER STATIC GPS OBSERVATIONS PROCESSED WITH NGS OPUS PRODUCTS

CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 4 COORDINATES:
 N: 2061727.29'
 E: 6611866.75'

SECONDARY BENCHMARK
 POINT #2 (ALUMINUM DISK MARKED AM-2)
 ELEVATION: 1603.00' NAVD83 DATUM
 PER STATIC GPS OBSERVATIONS PROCESSED WITH NGS OPUS PRODUCTS AND RTK GPS OBSERVATIONS

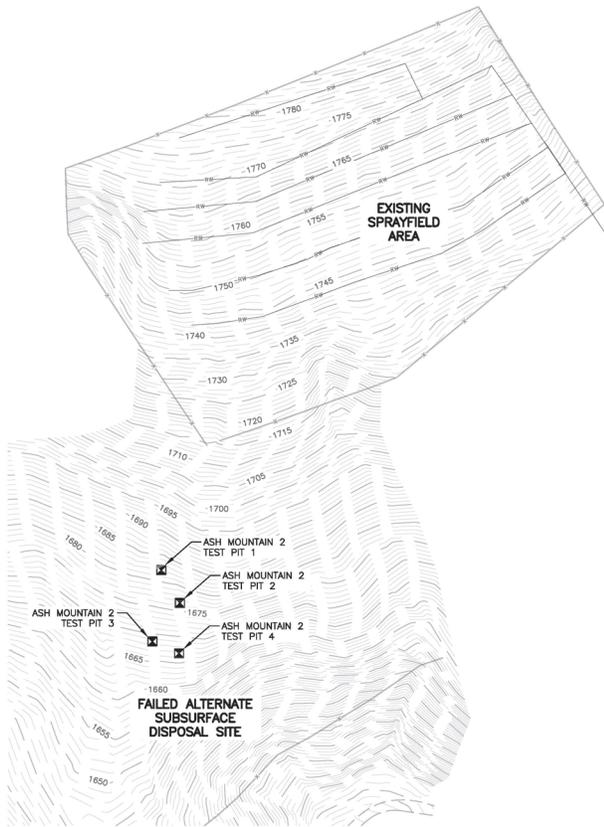
CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 4 COORDINATES:
 N: 2061730.25'
 E: 6611526.55'

- SYMBOLS AND ABBREVIATIONS:**
- AC ASPHALT CONCRETE
 - C CONCRETE
 - CP CONTROL POINT
 - EG EXISTING GROUND
 - EP EDGE OF PAVEMENT
 - FF FINISHED FLOOR ELEVATION
 - FL FLOW LINE
 - GB GRADE BREAK
 - TC TOP FACE OF CURB
- ⊕ CONTROL POINT
 - ⊕ SANITARY SEWER MANHOLE
 - WATER VALVE
 - ⊕ FIRE HYDRANT
 - ⊕ TREE
 - ⊕ ELEC. TRANSFORMER
 - ⊕ ELEC. VAULT
 - ELEC. METER



David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO. C1.2	TITLE OF SHEET SURVEY CONTROL AMWWTP SPRAYFIELD	DRAWING NO. 177,507
CHECKED: M. GARCIA		PROJECT NO. REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 23 OF 142
TECH. REVIEWER: J. BLOM	DATE: 03/31/2023	SCALE OF FEET 0 20' 40'	

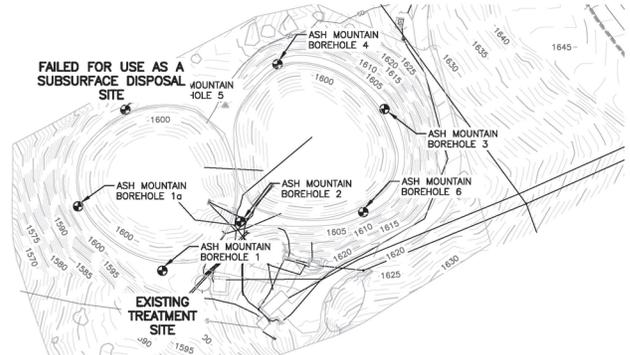


PLAN VIEW - GEOTECH BOREHOLES & TEST PITS AMWWTP & SPRAYFIELD

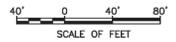
SUMMARY OF ASH MOUNTAIN BOREHOLE TESTING		
TEST BORING DEPTH - FEET	USCS CLASSIFICATION ^{1,2,3}	LOCATION
AM-B-1 (0 to 15.4)	SC (CLAYEY SAND)	WEST LAGOON
AM-B-1a (0 to 25.1)	SC (CLAYEY SAND)	WEST LAGOON
AM-B-2 (0 to 7) (7 to 15.9)	SC (CLAYEY SAND) SM (SILTY SAND)	BETWEEN EAST & WEST LAGOON
AM-B-3 (0 to 7.9)	SC (CLAYEY SAND)	EAST LAGOON
AM-B-4 (0 to 12.6)	SC (CLAYEY SAND)	EAST LAGOON
AM-B-5 (0 to 2.0) (2.0 to 7.0) (7.0 to 10.3)	SC (CLAYEY SAND) CL (LEAN CLAY) SC (CLAYEY SAND)	WEST LAGOON
AM-B-6 (0 to 7.8)	SC (CLAYEY SAND)	EAST LAGOON

NOTES:
 1. SC (CLAYEY SAND) SANDS WITH 50% OR MORE OF COARSE FRACTION PASS NO.4 SIEVE; HAVING SANDS WITH FINES MORE THAN 12% FINES, AND FINES CLASSIFY AS CL OR CH WHERE CL = LEAN CLAY AND CH = FAT CLAY.
 2. SM (SILTY SAND) SANDS WITH 50% OR MORE OF COARSE FRACTION PASS NO.4 SIEVE; HAVING SANDS WITH FINES MORE THAN 12% FINES, AND FINES CLASSIFY AS ML OR MH WHERE ML = SILT AND MH = ELASTIC SILT
 3. CL (LEAN CLAY) ARE CLAYS OF INORGANIC CLAYS OF LOW PLASTICITY, LEAN CLAYS.

SUMMARY OF ASH MOUNTAIN PERCOLATION TESTING		
TEST PIT	MEASURED PERCOLATION RATE (MIN/INCH)	LOCATION
AM2-TP-1	150	SSW OF EXISTING SPRAY FIELD
AM2-TP-2	250	SSW OF EXISTING SPRAY FIELD
AM2-TP-3	250	SSW OF EXISTING SPRAY FIELD
AM2-TP-4	250	SSW OF EXISTING SPRAY FIELD

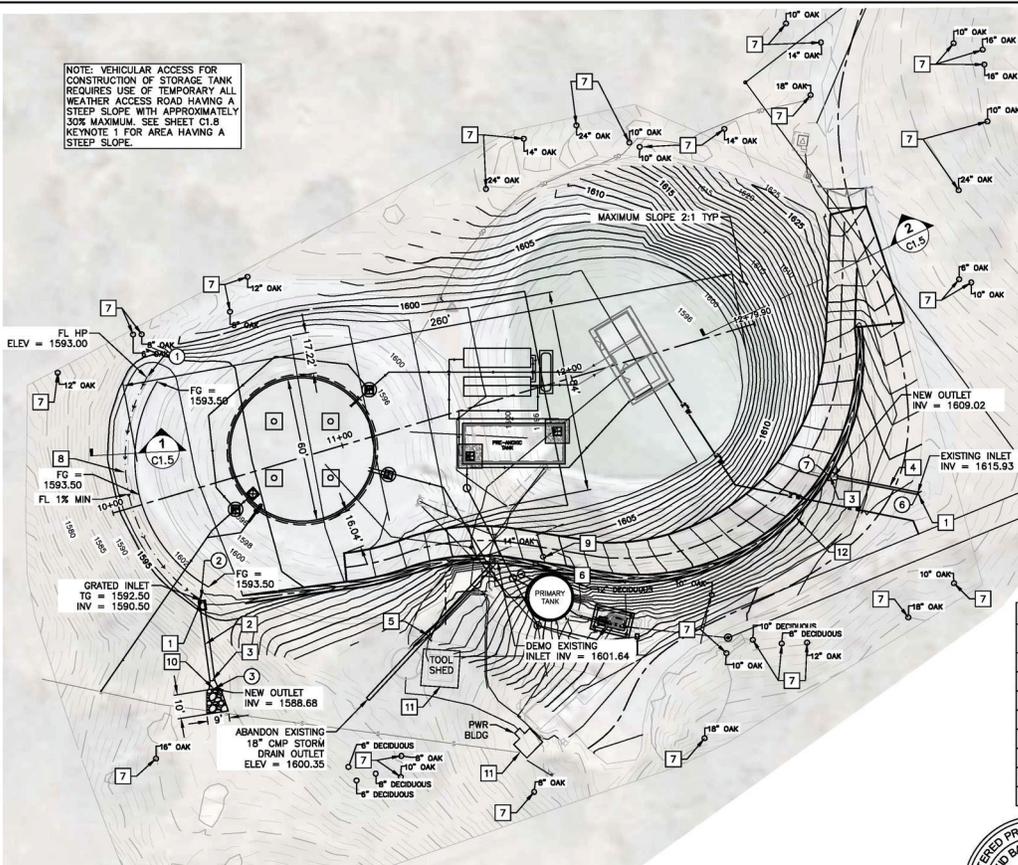


David Barton Brooke



DESIGNED: D. BROOKE	SUB SHEET NO. C1.3	TITLE OF SHEET GEOTECH BOREHOLES & TEST PITS AMWWTP	DRAWING NO. 102
CHECKED: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PHG NO. 317446
TECH. REVIEWER: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 24 of 142
DATE: 03/31/2023			

NOTE: VEHICULAR ACCESS FOR CONSTRUCTION OF STORAGE TANK REQUIRES USE OF TEMPORARY ALL WEATHER ACCESS ROAD HAVING A STEEP SLOPE WITH APPROXIMATELY 30% MAXIMUM. SEE SHEET C1.8 KEYNOTE 1 FOR AREA HAVING A STEEP SLOPE.



PLAN VIEW - TREATMENT SITE GRADING AMWWTP

NOTES:

- COORDINATE GRADING SEQUENCE AND CONSTRUCTION OF NEW ACCESS ROAD WITH PHASING DRAWINGS PH1, PH2, AND PH3.
- COORDINATE WITH BHWTP GRADING PLAN BORROW SITES TO BRING IN FILL MATERIAL. SOME ADDITIONAL IMPORT FILL MATERIAL FROM OUTSIDE THE PARK MAY BE EXPECTED.
- MAXIMUM CUT OR FILL SLOPES 2:1
- GRADE PAD TO SLOPE 4% TO DRAIN.
- SOUTHWEST CORNER OF PAD HAS A LOW POINT TO COLLECT RUNOFF.
- RE-VEGETATION WILL BE DONE BY PARK STUFF.

KEYNOTES:

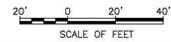
- CONSTRUCT STORM DRAIN INLET PER SHEET D1.14.
- INSTALL 24" CMP STORM DRAIN PER SPECIFICATIONS.
- INSTALL STORM DRAIN OUTLET STRUCTURE PER SHEET D1.14. FINAL LOCATION OF OUTLET TO BE DETERMINED IN THE FIELD.
- REMOVE AND REPLACE EXISTING CMP STORM DRAIN PER SPECIFICATIONS. MATCH EXISTING DIAMETER.
- ABANDON IN PLACE EXISTING 18" CMP STORM DRAIN PIPE.
- REMOVE DECIDUOUS TREE.
- PROTECT AND RETAIN OAK OR DECIDUOUS TREE PER SHEET D1.13.
- CONSTRUCT DRAINAGE SWALE PER DETAIL 1 / A-2 SHEET C1.5.
- REMOVE OAK TREE.
- CONSTRUCT RIP RAP PAD 18 INCH D50 ROCK 30 INCHES THICK.
- RETAIN AND PROTECT.
- CONSTRUCT CONCRETE SWALE PER DETAIL 3 SHEET D1.19.

ESTIMATED EARTH QUANTITIES CUBIC YARD (FILL FACTOR 1.3)

SOURCE	CUT	FILL	IMPORT	EXPORT
AMWWTP	3312	5920	2608	-0-
BHWTP E LAGOON	1005	417	-0-	588
BHWTP W LAGOON	2482	711	-0-	1771
TOTAL	6788	7048	2608	2359
OFFSITE IMPORT	(7048 - 6799) = 249		(2608 - 2359) = 249	

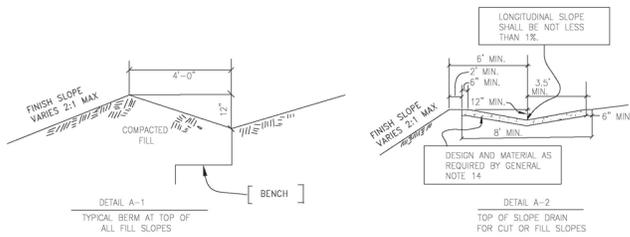
COORDINATE TABLE

POINT	NORTHING	EASTING	FG ELEV.	NOTE
GRADING - STORM DRAIN				
1	2081705.54	8611401.34	1599.00	FL HIGH POINT, APPROXIMATELY
2	2081607.87	8611421.88	1597.92	CENTER OF GRATED INLET
3	2081592.38	8611488.87	1588.88	CENTER OF OUTLET
4	2081566.56	8611491.30	1600.35	CENTER OF OUTLET
5	2081624.82	8611545.87	1601.79	CENTER OF GRATED INLET
6	2081652.75	8611721.32	1617.06	CENTER OF GRATED INLET
7	2081660.19	8611884.33	1609.01	CENTER OF OUTLET

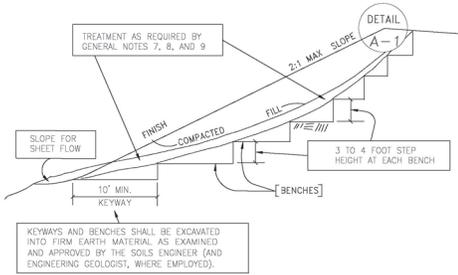


DESIGNED: D. BROOKE	SUB SHEET NO. C1.4	TITLE OF SHEET TREATMENT SITE GRADING AMWWTP	DRAWING NO. 102
DRAWN: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	SHEET NO. 177,507
TEAM REVIEWER: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET NO. 25 of 142
DATE: 03/31/2023			

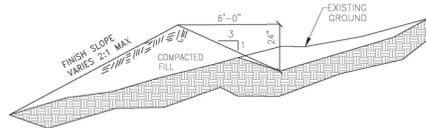
David Barton Brooke



1. FILL PLACEMENT AND DRAINAGE DETAIL
C1.5/NTS



2. KEYWAYS AND BENCHES DETAIL
C1.5/NTS



3. SPRAYFIELD RETENTION BERM
C1.5/NTS

GENERAL NOTES

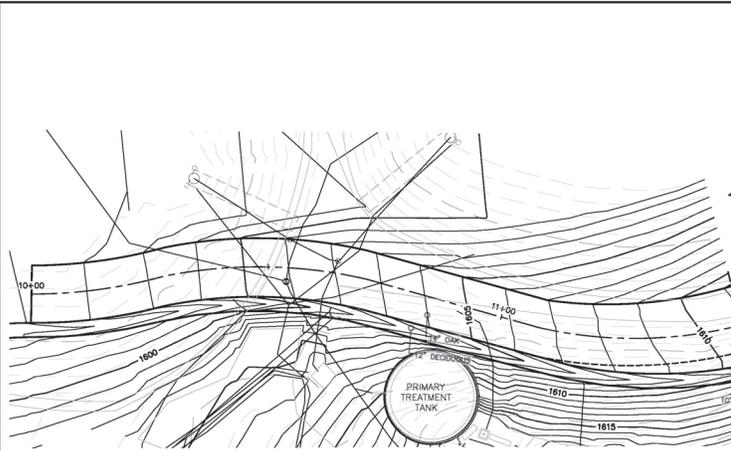
1. GRADING SHALL BE IN ACCORDANCE WITH THE 2021 INTERNATIONAL BUILDING CODE (IBC).
2. A PRE-CONSTRUCTION CONFERENCE OF ALL INTERESTED PARTIES SHALL BE HELD PRIOR TO ANY CONSTRUCTION OR GRADING TO ANSWER ANY QUESTIONS OR TO CLARIFY ANY PORTION OF THESE GRADING PLANS.
3. ALL RECOMMENDATIONS MADE BY THE SOILS REPORTS REFERENCED IN THE SPECIFICATIONS SHALL BE A PART OF THIS GRADING PLAN.
4. THE GRADING PLAN SHALL BE DESIGNED UTILIZING BEST MANAGEMENT PRACTICES (BMP'S) FOR THE DISCHARGE OF STORM WATER RUNOFF FROM THE PROJECT IN COMPLIANCE WITH THE REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT.
5. ALL GRADED SURFACES SUBJECT TO EROSION SHALL BE PROTECTED AND EROSION CONTROL PLANTING SHALL BE ESTABLISHED AS APPROVED BY THE PARK.
6. STABILIZATION OF SLOPES SHALL BE IN ACCORDANCE WITH PARK METHODS WITH PLANTING OF SUITABLE GRASSES AND GROUND COVER.
7. ALL DELETERIOUS MATERIAL, SUCH AS LUMBER, LOGS, BRUSH, OR ANY OTHER ORGANIC MATERIALS OR RUBBISH, SHALL BE REMOVED FROM ALL AREAS TO RECEIVE COMPACTED FILL.
8. UNSUITABLE MATERIAL, SUCH AS TOP SOIL, WEATHERED BED ROCK, ETC., SHALL BE REMOVED AS REQUIRED BY THE SPECIFICATIONS FROM ALL AREAS TO RECEIVE COMPACTED FILL OR DRAINAGE STRUCTURES.
9. ALL AREAS TO RECEIVE COMPACTED FILL SHALL BE INSPECTED AND APPROVED BY THE CONTRACTOR'S SOILS ENGINEER AFTER REMOVAL OF UNSUITABLE MATERIAL AND EXCAVATION OF KEYWAYS AND BENCHES, AND PRIOR TO PLACEMENT OF SUBSURFACE DRAINAGE SYSTEMS OR ANY FILL.
10. ALL SOIL OR ROCK MATERIALS DEEMED UNSUITABLE FOR PLACEMENT IN COMPACTED FILL SHALL BE REMOVED FROM THE SITE. ANY MATERIAL SUCH AS CONCRETE OR IMPORTED MATERIALS SHALL BE APPROVED BY THE CONTRACTING OFFICER AND MEET SPECIFICATIONS PRIOR TO USE IN COMPACTED FILL. WHERE EXCAVATED MATERIAL IS BLOCKY, IT WILL BE BROKEN INTO SUITABLE PARTICLE SIZES, NONE LARGER THAN 12 INCHES IN LARGEST DIMENSION, BEFORE BEING USED AS FILL IN CONFORMANCE WITH 2021 IBC.
11. THE CONTRACTING OFFICER SHALL DIRECT THE REMOVAL OR TREATMENT OF ANY EXISTING UNDERGROUND STRUCTURES ENCOUNTERED SUCH AS ABANDONED UTILITY LINES, ETC.
12. ALL EXCAVATED BACK SLOPES AND KEYS FOR BUTTRESS FILLS MUST BE EXAMINED BY THE CONTRACTOR'S SOILS ENGINEER AND ENGINEERING GEOLOGIST TO INSURE THAT ALL POTENTIAL PLANES OF FAILURE HAVE BEEN EXPOSED IN THE EXCAVATION AND WILL BE ADEQUATELY SUPPORTED BY THE PROPOSED BUTTRESS. FIELD CERTIFICATION TO BE SUBMITTED BY THE CONSULTANTS.
13. THE SOILS ENGINEER SHALL SUBMIT RECOMMENDATIONS FOR CORRECTIVE WORK TO INSURE SLOPE STABILITY WHERE UNSTABLE MATERIAL IS EXPOSED AT THE TOP OF CUTS.
14. INTERCEPTOR DRAINS SHALL ALL BE CONSTRUCTED OF 3" MIN. P.C.C. (OR GUNITE) REINFORCED WITH 6" x 6" x 10 x 10 W.W.M. AND SHALL BE OF EITHER SEMI-CIRCULAR OR TRIANGULAR CROSS SECTION, AND SHALL BE INSTALLED PRIOR TO THE WET SEASON.
15. FINAL COMPACTION AND SOILS ENGINEERING (AND, IF APPLICABLE, ENGINEERING GEOLOGY) REPORTS, SUMMARIZING ALL WORK PERFORMED AND CONCLUDING THAT FILLS HAVE BEEN PLACED ACCORDING TO THE APPROVED PLANS AND STATING THAT ALL GEOLOGIC FEATURES ARE GROSSLY STABLE AS GRADED SHALL BE SUBMITTED TO THE CONTRACTING OFFICER PRIOR TO SUBSTANTIAL COMPLETION OF THE PROJECT.



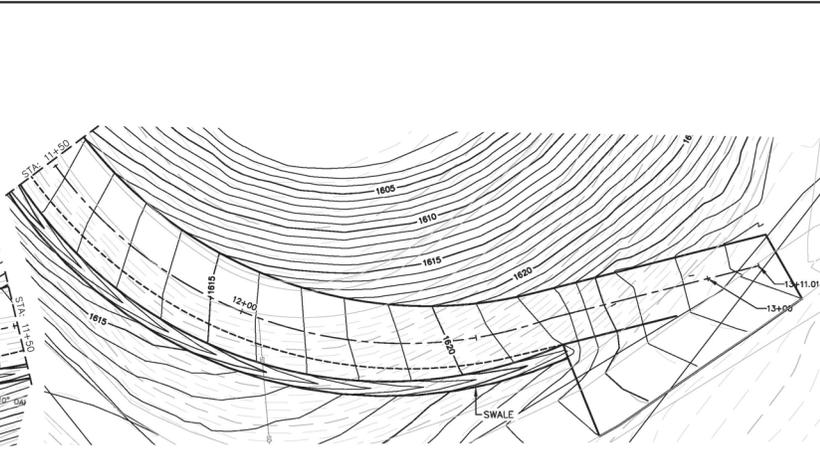
David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO. C1.5	TITLE OF SHEET GRADING DETAILS	DRAWING NO. 102
REVISION M. GARCIA			177,507
TECH. REVIEW J. BLOM		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PMC NO. 317446
DATE: 03/31/2023		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 26 of 142

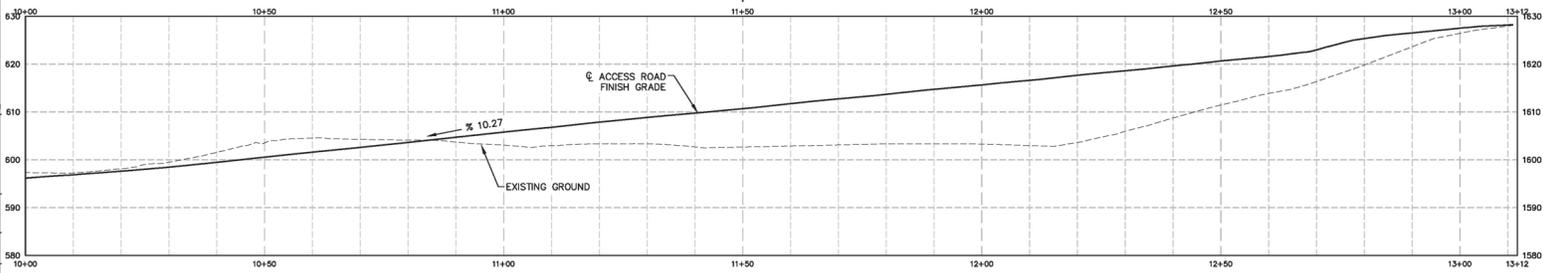
27 JUL 2024 15:48:34 BUREAU OF ENGINEERING AND SURVEYING - CIVIL ENGINEERING DIVISION - 1000 N. GARDEN AVENUE, SUITE 100, ANAHEIM, CA 92815
 PROJECT: REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS
 SHEET: 27 OF 142



PLAN VIEW - ACCESS ROAD AMWWTP STA: 10+00-11+50



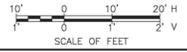
PLAN VIEW - ACCESS ROAD AMWWTP STA: 11+50-13+11.03



PROFILE VIEW - ACCESS ROAD AMWWTP STA: 10+00-13+11.03



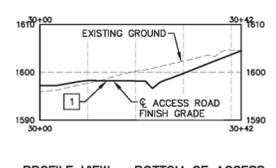
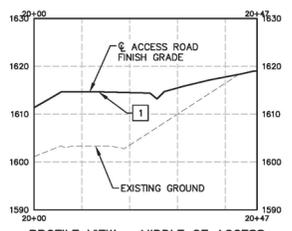
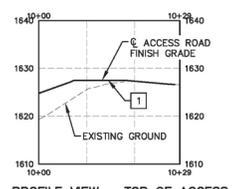
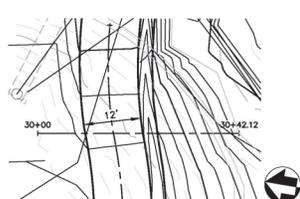
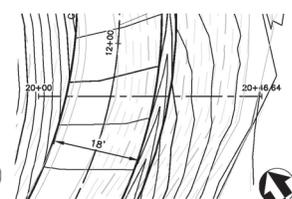
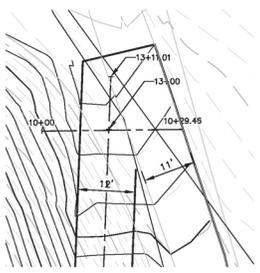
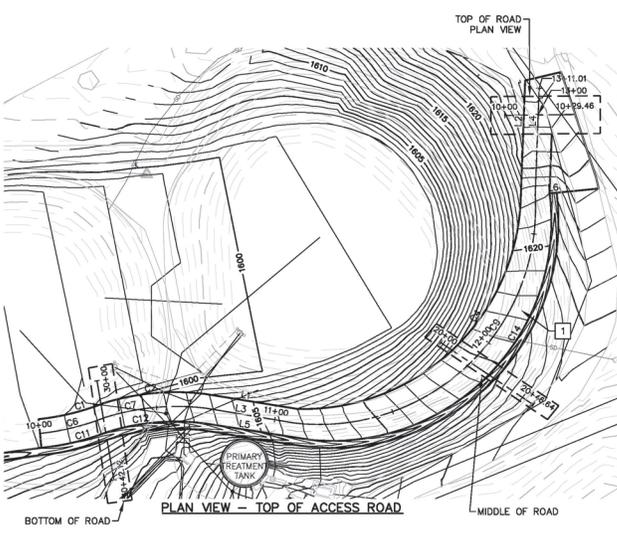
David Barton Brooke



DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET PLAN & PROFILE ACCESS ROAD AMWWTP	DRAWING NO. 102
CHECKED: M. GARCIA	C1.6	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PWD NO. 317446
TECH. REVIEWER: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 27 of 142
DATE: 03/31/2023			

27 JUL 2023 15:18: BROOKE CAD/ENGINEER/SENIOR/374460/REVISIONS/CSH/MICHIGAN/INVEST/PLAN_A/BROOKE - ACCESS ROAD - ROAD CROSS SECTIONS AMWWTP

SHEET NOTES:
 1 SEE SHEET D1.19 DETAIL 3 FOR STRUCTURAL PAVEMENT SECTION CRITERIA



Curve Table					
CURVE	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH
C1	28.25'	103.74'	015.60	N78°06'50"E	28.17'
C2	42.32'	100.49'	024.13	N84°43'55"E	42.01'
C4	143.05'	90.94'	090.12	N46°33'48"E	128.75'
C6	28.25'	104.18'	015.54	N78°06'50"E	28.17'
C7	42.32'	100.49'	024.13	N84°43'55"E	42.01'
C9	157.85'	90.49'	099.94	N46°33'30"E	138.58'
C11	28.08'	101.93'	015.77	N78°40'47"E	27.87'
C12	42.40'	94.55'	025.69	N85°01'08"E	42.04'
C14	165.01'	91.77'	103.02	N44°05'51"E	143.86'

Line Table		
SEGMENT	LENGTH	BEARING
L1	39.46'	S80°45'58"E
L2	48.86'	N02°09'02"E
L3	37.80'	S80°27'59"E
L4	44.78'	N02°08'54"E
L5	43.99'	S81°07'44"E
L6	3.01'	N86°24'46"E



David Barton Brooke

DESIGNED: D. BROOKE
 DRAWN: M. GARCIA
 TECH. REVIEW: J. BLOM
 DATE: 03/31/2023

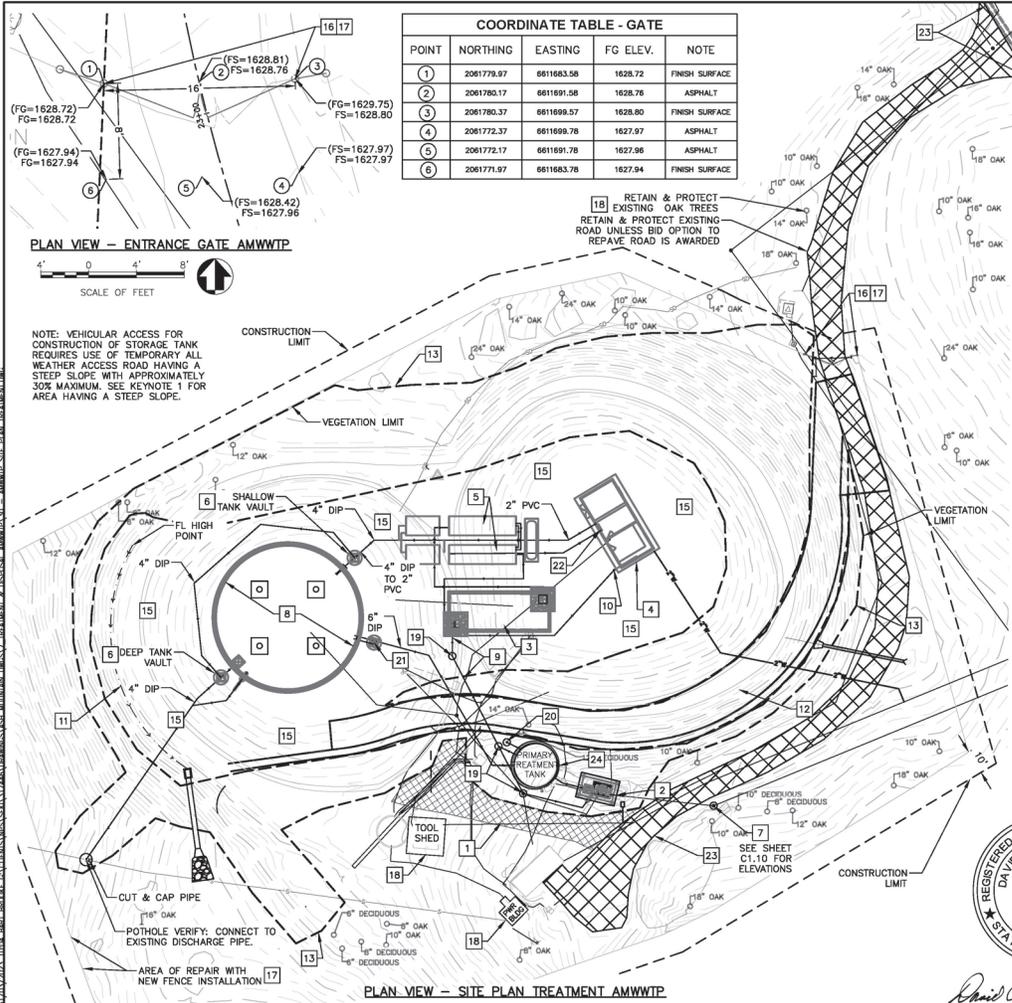
SUB SHEET NO. **C1.7**

TITLE OF SHEET
**CROSS SECTIONS
 ACCESS ROAD AMWWTP**

REHABILITATE ASH AND BUCKEYE
 WASTEWATER TREATMENT PLANTS
 SEQUOIA & KINGS CANYON NATIONAL PARKS

SCALE OF SHEET
 1" = 20' H
 1" = 2' V

DRAWING NO. **177,507**
 PMS/PG# NO. 31746
 SHEET **28** of **142**



POINT	NORTHING	EASTING	FG ELEV.	NOTE
1	2061778.97	6611663.56	1628.72	FINISH SURFACE
2	2061780.17	6611691.56	1628.76	ASPHALT
3	2061780.37	6611699.57	1628.80	FINISH SURFACE
4	2061772.37	6611698.76	1627.97	ASPHALT
5	2061772.17	6611691.78	1627.96	ASPHALT
6	2061771.97	6611663.78	1627.94	FINISH SURFACE

KEYNOTES (BASE BID):

- CONSTRUCT ALL WEATHER ACCESS ROAD SIMILAR PER SHEET D1.19 DETAIL 3 NO AC.
- CONSTRUCT COVERED NEW HEADWORKS PER SHEET D1.3
- CONSTRUCT 17,500 GALLON CONCRETE PRE-ANOXIC TANK PER SHEET D1.6
- CONSTRUCT NEW GENERATOR & CONTROL BUILDING PER SHEET D1.15, A1.1-1.6
- CONSTRUCT SECONDARY TREATMENT UNITS PER SHEET D1.7-D1.9
- INSTALL 6" PRECAST SHALLOW AND DEEP TANK VAULTS PER SHEET D1.2
- REMOVE EXISTING MANHOLE AND CONSTRUCT 4" PRECAST MANHOLE PER SHEET D1.16
- CONSTRUCT 350,000 GALLON CONCRETE STORAGE TANK PER SHEET D1.10
- INSTALL 6" DIP SEWER LINE PER SPECIFICATIONS
- INSTALL 4" SEWER & CLEANOUT PER SHEET C1.11.
- CONSTRUCT DRAINAGE SWALE PER SHEET C1.5 DETAIL 1 / A-2.
- CONSTRUCT ASPHALT ACCESS ROAD PER DETAIL 3
- PREPARE FOR VEGETATION RESTORATION PER SPECIFICATIONS
- NOT USED.
- CONSTRUCT ALL WEATHER DRIVE AREA PER SPECIFICATIONS
- REMOVE EXISTING CHAIN LINK GATE AND CONSTRUCT 16 FOOT DOUBLE LEAF CHAIN LINK GATE PER SHEET D1.20. (INSTALL SECURITY BARBED WIRE ALONG TOP OF NEW GATE TO MATCH EXISTING SECURITY BARBED WIRE.)
- REMOVE EXISTING FENCING AND CONSTRUCT NEW FENCING PER SHEET D1.20. (INSTALL SECURITY BARBED WIRE ALONG TOP OF NEW FENCING TO MATCH EXISTING SECURITY BARBED WIRE.) APPROXIMATE TOTAL LENGTH OF NEW PERIMETER FENCING REPLACEMENT IS 50 FEET EXCLUDING GATE. CONTRACTING OFFICER TO IDENTIFY LOCATIONS IN FIELD.
- RETAIN AND PROTECT UNLESS NOTED OTHERWISE
- INSTALL MANHOLE WITH PRESSURE PIPING PER SHEET D1.17
- INSTALL SLUDGE REMOVAL CAM LOCK IN A 4" MANHOLE AND CONNECT 4" DI TO THE PRIMARY TREATMENT TANK
- INSTALL A 6" EFFLUENT REMOVAL ACCESS VAULT FOR EMERGENCY DRAIN FROM PRIMARY TREATMENT TANK, PER DETAIL SHEET D1.10.
- SEE SHEET C1.11 FOR UV DISINFECTION AND DETAIL 4 SHEET D1.13.

KEYNOTES (BID OPTION):

- GRIND & PULVERIZE APPROXIMATELY 700 SQUARE YARDS OF 4 INCH EXISTING ASPHALT. USE PULVERIZED ASPHALT AS STRUCTURAL ROAD BASE AND RE-PAVE WITH 4 INCHES OF ASPHALT. LIMITS OF RE-PAVING ENDS AT TIE-IN TO GENERALS HIGHWAY
- RECONFIGURE PRIMARY TREATMENT TANK PER DETAIL SHEET D1.5

SURFACE RESTORATION				
ITEM	BEGIN STA.	END STA.	AREA SF	KEYNOTE
NEW ACCESS ROAD	N/A	N/A	4402	ASPHALT 12
ALL WEATHER ACCESS	N/A	N/A	1356	GRAVEL 1
VEGETATION	N/A	N/A	25471	VEGETATION 13
ALL WEATHER DRIVE AREA	N/A	N/A	19546	GRAVEL 15
BID OPTION EXISTING ACCESS ROAD	N/A	N/A	6300	ASPHALT 20



David Barton Brodke

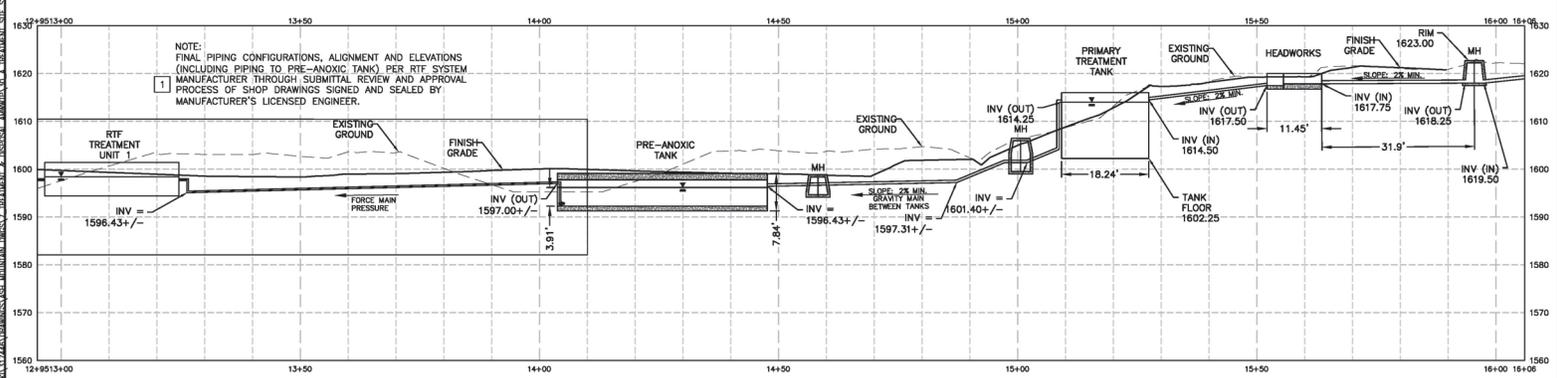
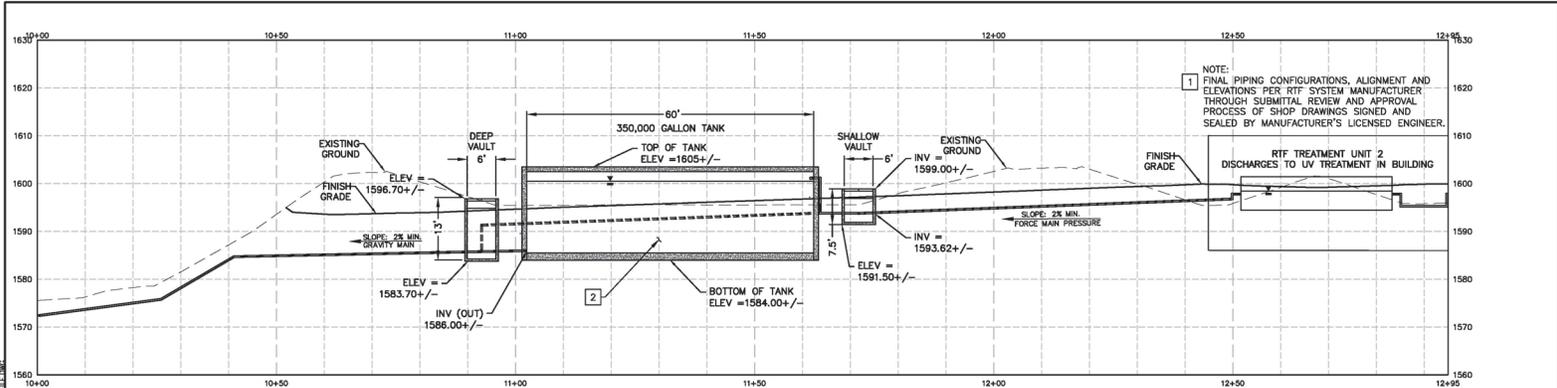
DESIGNED: D. BROOKE
 CHECKED: M. GARCIA
 TITLE: REVIEWER: J. BLOOM
 DATE: 03/31/2023

SUB SHEET NO. **C1.8**

TITLE OF SHEET
SITE PLAN AMWWTP TREATMENT

REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS
 SEQUOIA & KINGS CANYON NATIONAL PARKS

DRAWING NO. **102**
 177,507
 PMS/PWG NO. 317446
 SHEET **29** OF 142



- NOTES:**
- COORDINATE CONSTRUCTION OF TREATMENT SITE SYSTEM WITH PHASING DRAWINGS PHI.1, PHI.2, AND PHI.3
 - RESTORE SURFACE VEGETATION AFTER CONSTRUCTION. RE-VEGETATION WILL BE DONE BY PARK STUFF.

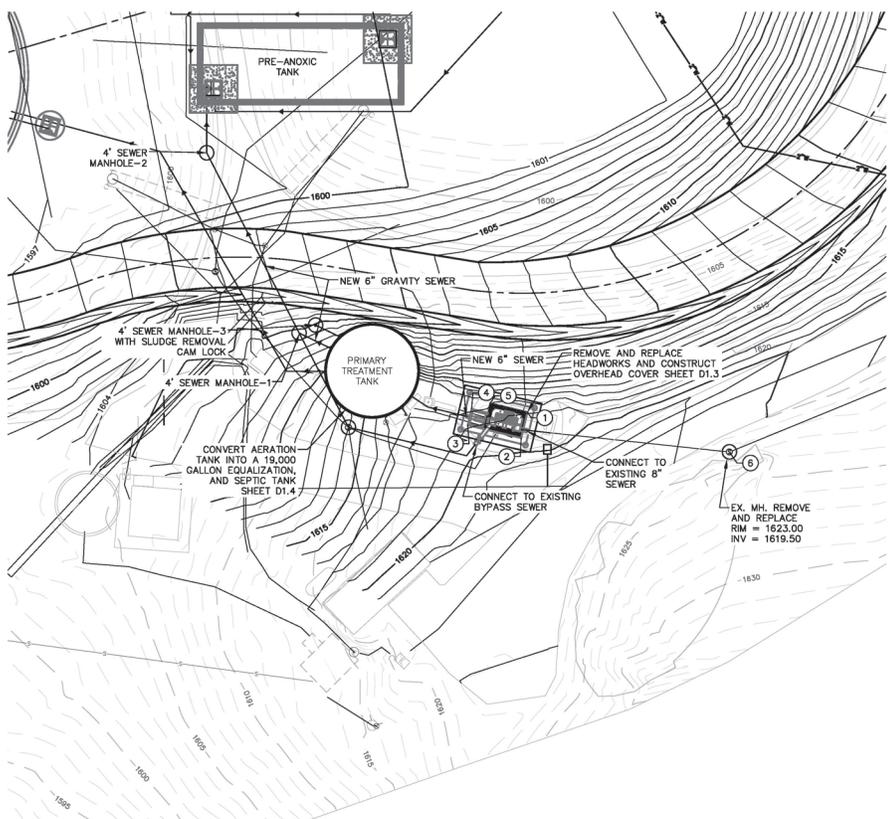
- KEYNOTES:**
- FINAL RTF PIPING ALIGNMENT LAYOUTS AND ELEVATIONS PER MANUFACTURER'S RECOMMENDATIONS THROUGH SUBMITTAL REVIEW AND APPROVAL PROCESS.
 - FINAL 350,000 GALLON TANK DESIGN, PIPING ALIGNMENTS AND ELEVATIONS PER MANUFACTURER'S RECOMMENDATIONS THROUGH SUBMITTAL REVIEW AND APPROVAL PROCESS.



David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO. C1.9	TITLE OF SHEET TREATMENT SITE SYSTEM PROFILE AMWWTP	DRAWING NO. 177,507
CHECKED: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PWD NO. 317446
TECH. REVIEWER: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 30 OF 142
DATE: 03/31/2023		SCALE OF FEET 1" = 20'	

1. JULY 2023, PLAN, BUREAU OF CALIFORNIA SURVEYING, STATE OF CALIFORNIA, PROFESSIONAL ENGINEER, DAVID BARTON BROOKE, NO. 70417, CIVIL, 3-31-2023



PLAN VIEW -- HEADWORKS & PRIMARY TREATMENT AMWWTP

NOTES:

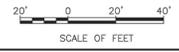
1. COORDINATE DEMOLITION SEQUENCE, AND CONSTRUCTION OF NEW TREATMENT TANK AND HEADWORKS WITH PHASING DRAWINGS PH1.1, PH1.2, AND PH1.3.
2. CONSTRUCT A NEW HEADWORKS, FLUME VAULT AND OVERHEAD SHED TO COVER THEM. SEE DETAIL SHEET D1.3.
3. INSTALL SEWER GRINDER, MANUAL BAR SCREEN AND OPEN CHANNEL FLUME IN THE NEW HEADWORKS.
4. CONVERT AERATION TANK INTO A 19,000-GALLON EQUALIZATION AND SEPTIC TANK, SEE SHEET D1.4.
5. CONSTRUCT TWO 4' PRECAST SEWER MANHOLES AND PIPING ACCORDING TO CONSTRUCTION PHASING PLAN. SEE D1.17 FOR DETAILS.

COORDINATE TABLE

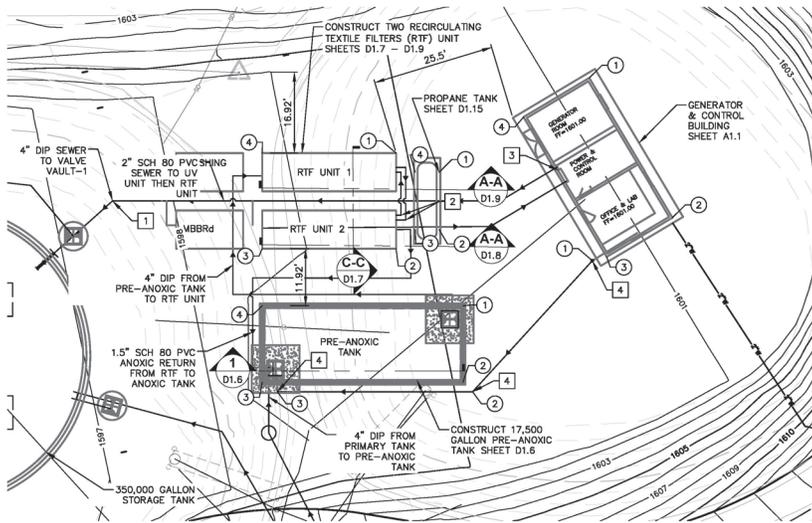
POINT	NORTHING	EASTING	FG ELEV.	NOTE
INCLUDING HEADWORKS, FLUME VAULT AND SHED				
1	2061800.66	6611599.82	1618.89	HEADWORKS CONCRETE EDGE
2	2061598.24	6611598.52	1619.54	HEADWORKS CONCRETE EDGE
3	2061587.93	6611587.35	1618.88	FLUME VAULT CONCRETE EDGE
4	2061601.33	6611588.16	1618.67	FLUME VAULT CONCRETE EDGE
5	2061602.53	6611592.05	1618.90	HEADWORKS CONCRETE EDGE
4' SEWER MANHOLE-1	2061617.11	6611552.14	1608.46	STANDARD MANHOLE CENTER
4' SEWER MANHOLE-2	2061654.90	6611532.76	1603.38	STANDARD MANHOLE CENTER
4' SEWER MANHOLE-3	2061618.87	6611555.54	1608.07	FOR SLUDGE REMOVAL CAM LOCK
4' SEWER MANHOLE-3				
POINT	NORTHING	EASTING	ELEVATION	NOTE
6	2061952.30	6611842.30	1623.00	SM
			1619.50	INVERT OUT



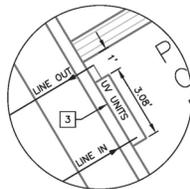
David Barton Brooke



DESIGNED: D. BROOKE	C1.10	TITLE OF SHEET		DRAWING NO. 102
CHECKED: M. GARCIA		PLAN HEADWORKS & PRIMARY TREATMENT		DRAWING NO. 177,507
TITLE REVIEWER: J. BLOM		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS		PMS/PHG NO. 317446
DATE: 03/31/2023		SEQUOIA & KINGS CANYON NATIONAL PARKS		SHEET 31 of 142



PLAN VIEW - SECONDARY TREATMENT TANKS AMWWTP



PLAN VIEW - UV UNIT IN POWER & CONTROL ROOM

NOTES:

1. COORDINATE CONSTRUCTION OF NEW PRE-ANOXIC (ANOXIC RETURN) TANK AND WITH PHASING DRAWINGS PH1.1, PH1.2, AND PH1.3.
2. CONSTRUCT 17,500 GALLON CONCRETE PRE-ANOXIC TANK, SECONDARY TREATMENT UNITS AND GENERATOR & CONTROL BUILDING. CONNECT ALL PIPING.
3. NOT ALL PIPING FOR THE ORENCO RTF UNITS MAY BE SHOWN ON THIS SHEET. FOR COMPLETE PIPING LAYOUT REFER TO SHEETS D1.7 THROUGH D1.9.
4. ANTI BUOYANCY FLANGES AND CONCRETE BALLAST REQUIRED ON ALL RTF UNITS.

KEYNOTES:

1. INSTALL 2"x2" DIP ELBOW AND 4"x2" DIP REDUCER. TRANSITION FROM DIP PIPING TO SCHEDULE 80 PVC PIPING AT 4"x2" DIP REDUCER.
2. EXCEPT AS NOTED ON THIS SHEET, MATERIAL OF PIPING SHOWN ON SHEETS D1.7 THROUGH D1.9 PER ORENCO RTF RECOMMENDATIONS.
3. INSTALL UV DISINFECTION PER SPECIFICATIONS AND DETAIL 4 SHEET D1.13.
4. INSTALL 4-INCH SCHEDULE 80 PVC SEWER SERVICE AND CLEANOUT PER SPECIFICATIONS AND DETAIL 3 SHEET D1.18. SLOPE 2%. SEE SHEET D1.6 FOR INVERT ELEVATION AT TANK.

COORDINATE TABLE

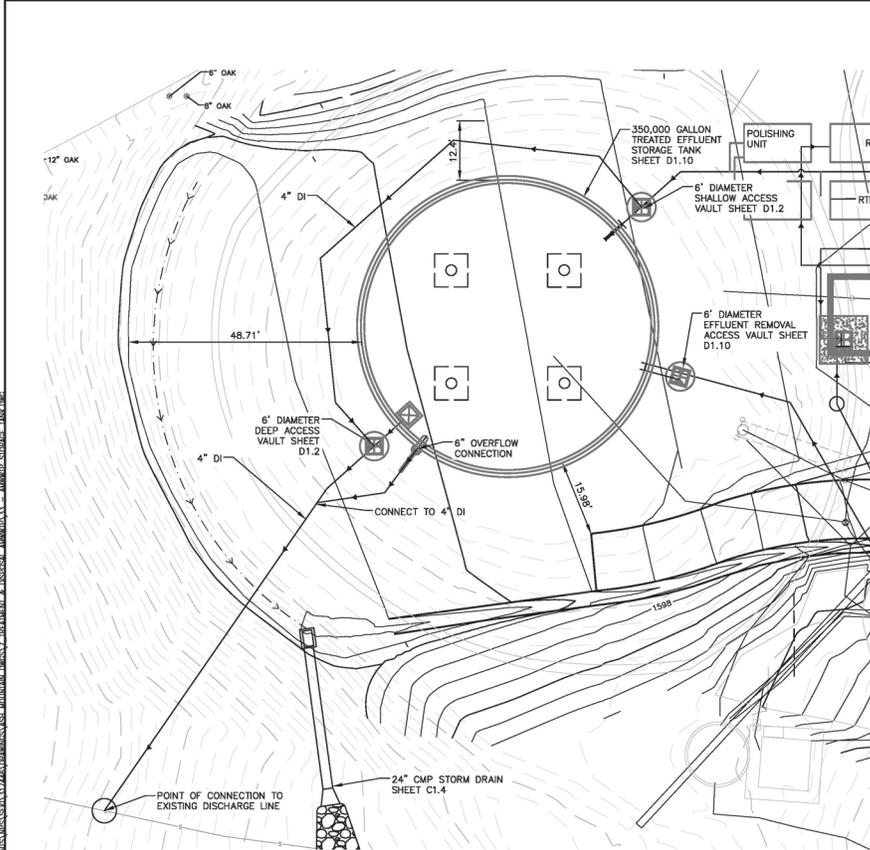
POINT	NORTHING	EASTING	FG ELEV.	NOTE
17,500 GALLON PRE-ANOXIC TANK				
(1)	2061661.51	6611573.39	1595.30	CONCRETE EDGE
(2)	2061665.51	6611573.39	1595.30	CONCRETE EDGE
(3)	2061661.51	6611531.39	1603.62	CONCRETE EDGE
(4)	2061665.51	6611531.39	1603.62	CONCRETE EDGE
RTF UNIT				
(1)	2061713.43	6611559.39	1598.73	UNIT EDGE
(2)	2061693.43	6611559.39	1598.60	UNIT EDGE
(3)	2061693.43	6611531.39	1603.47	UNIT EDGE
(4)	2061713.43	6611531.39	1603.18	UNIT EDGE
PROPANE TANK				
(1)	2061709.43	6611568.39	1595.30	FOUNDATION EDGE
(2)	2061697.43	6611568.39	1595.30	FOUNDATION EDGE
(3)	2061697.43	6611563.39	1595.30	FOUNDATION EDGE
(4)	2061709.43	6611563.39	1595.33	FOUNDATION EDGE
GENERATOR / CONTROL BUILDING				
(1)	2061729.14	6611599.78	1601.10	FINISH GRADE
(2)	2061699.92	6611617.17	1601.08	FINISH GRADE
(3)	2061691.74	6611603.42	1600.85	FINISH GRADE
(4)	2061720.98	6611586.03	1600.80	FINISH GRADE
OFFICE / LAB 4-INCH SEWER LATERAL				
(1) CLEANOUT	2061690.92	6611600.41	1601.34	CENTER, FOR CONTROL BUILDING SEWER
(1) INVERT	2061690.92	6611600.41	1599.00	2% SLOPE MINIMUM
(2) INVERT	2061663.50	6611578.40	1598.26	2% SLOPE MINIMUM
(3) INVERT	2061663.50	6611534.60	1597.46	2% SLOPE MINIMUM



David Barton Brooke



DESIGNED: D. BROOKE	SUB SHEET NO. C1.11	TITLE OF SHEET SECONDARY TREATMENT TANKS AMWWTP	DRAWING NO. 102
CHECKED: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	DRAWING NO. 177,507
TECH. REVIEWER: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWG NO. 317446
DATE: 03/31/2023			SHEET 32 of 142



PLAN VIEW - 350,000 GALLON STORAGE TANK AMWWTP

NOTES:

1. COORDINATE CONSTRUCTION OF NEW 350,000 GALLON STORAGE TANK WITH PHASING DRAWINGS PH1.1, PH1.2, AND PH1.3.
2. CONSTRUCT THE 350,000 GALLON STORAGE TANK. SEE DETAILS ON D1.10.
3. CONSTRUCT THREE 6' DIAMETER PRECAST TANK VAULTS. SEE DETAILS ON D1.2 AND D1.10.
4. PRIMARY WASTE CAN BE CONVEYED TO THE 350,000-GALLON STORAGE TANK DURING CONSTRUCTION SEQUENCING AND CONSTRUCTION OF THE RE-CIRCULATING TEXTILE FABRIC (RTF) SECONDARY TREATMENT SYSTEM AND PRE-AOXID TANK. PRIMARY TREATED WASTE CAN ALSO BE CONVEYED TO THE 350,000-GALLON STORAGE TANK DURING CONSTRUCTION SEQUENCING AND REHABILITATION OF THE SPRAY FIELD. UNDER ANY CONDITION THAT PRIMARY TREATED WASTE OR RAW EFFLUENT IS CONVEYED TO THE 350,000-GALLON STORAGE TANK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAID EFFLUENT REMOVAL AND CLEANING THE TANK TO INCLUDE DISINFECTION PRIOR TO COMMISSIONING AND DISCHARGING FINAL TREATED EFFLUENT TO THE SPRAYFIELD.

COORDINATE TABLE

POINT	NORTHING	EASTING	FG ELEV.	NOTE
6' DIAMETER PRECAST CONCRETE DEEP ACCESS VAULT	2061696.00	6611491.90	1595.67	CENTER, FG ELEVATION IS SURROUNDING GRAVEL.
6' DIAMETER PRECAST CONCRETE SHALLOW ACCESS VAULT	2061646.00	6611436.00	1597.14	CENTER, FG ELEVATION IS SURROUNDING GRAVEL.
6' DIAMETER PRECAST EFFLUENT REMOVAL ACCESS VAULT	2061660.60	6611500.00	1597.15	CENTER, FG ELEVATION IS SURROUNDING GRAVEL.
350,000 GALLON TREATED EFFLUENT STORAGE TANK	2061671.04	6611463.94	1595.68	CENTER, FG MARKS AROUND STORAGE TANK.
POINT OF CONNECTION TO EXISTING TREATED EFFLUENT DISCHARGE LINE	2061569.79	6611379.58	1575.65	POTHOLE, FIELD VERIFY PRIOR TO TRENCHING.

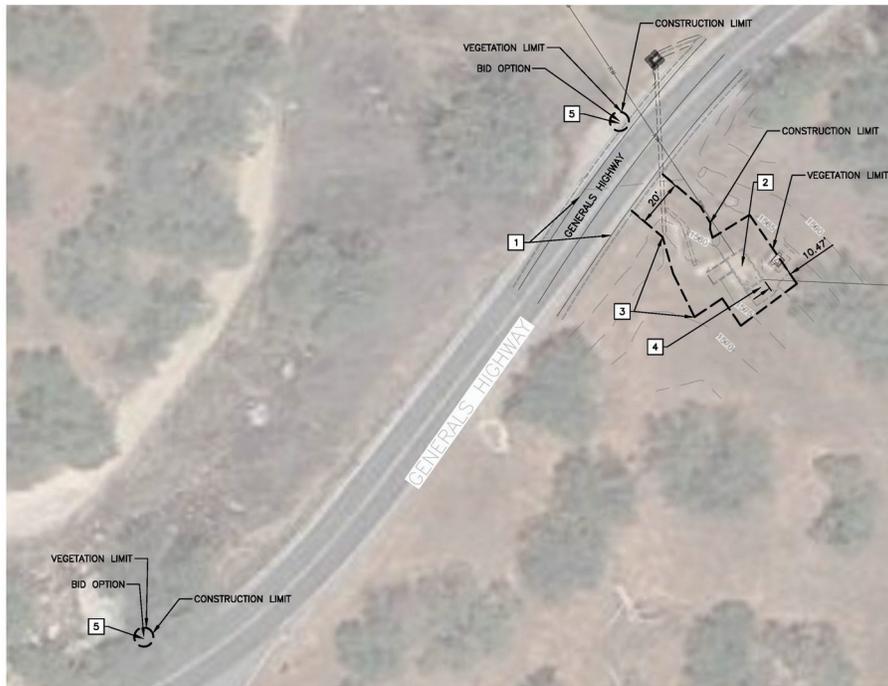


David Barton Brooke



DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
DRAWN: M. GARCIA	C1.12	350,000 GALLON STORAGE TANK AMWWTP	102
TECH. REVIEWER: J. BLOM			177,507
DATE: 03/31/2023		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWG NO. 317446
			SHEET 33 of 142

31/01/2023 10:03 BRT BROOKE C CLIENTS\NPS\SEA\317446\DOMINOS\ASH - MONITOR DMS V TREATMENT & DISPOSAL AMWWTP.dwg - AMWWTP SPRAYFIELD PUMPHOUSE.DWG



PLAN VIEW - SPRAYFIELD PUMPHOUSE AND MONITORING WELL LOCATIONS AMWWTP

SURFACE RESTORATION					
ITEM	BEGIN STA.	END STA.	AREA SF	TYPE	KEYNOTE
VEGETATION	N/A	N/A	2189	VEGETATION	3 & 5

NOTES:

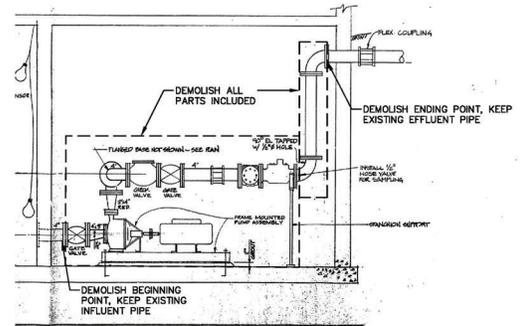
- COORDINATE CONSTRUCTION OF PUMP HOUSE REHABILITATION WITH PHASING DRAWINGS PH1.1, PH1.2, AND PH1.3.
- PREPARE DISTURBED SURFACE FOR RE-VEGETATION AFTER CONSTRUCTION. RE-VEGETATION WILL BE DONE BY PARK STAFF.

KEYNOTES (BASE BID):

- RETAIN AND PROTECT HISTORIC GUTTER ALONG GENERALS HIGHWAY.
- SPRAYFIELD PUMP HOUSE REHABILITATION SEE DETAIL D1.11.
- PREPARE DISTURBED SURFACE FOR RE-VEGETATION PER SPECIFICATIONS AND LIMITS PER PLAN.
- INSTALL 6-INCH BALL VALVE (ELECTRIC ACTUATED SEE SHEET E4.0).

KEYNOTES (BID OPTION):

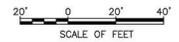
- INSTALL MONITORING WELL DOWN GRADIENT OF SPRAY FIELD PER SHEET D1.13. FINAL LOCATION TO BE DETERMINED BY THE C.O. IN THE FIELD.



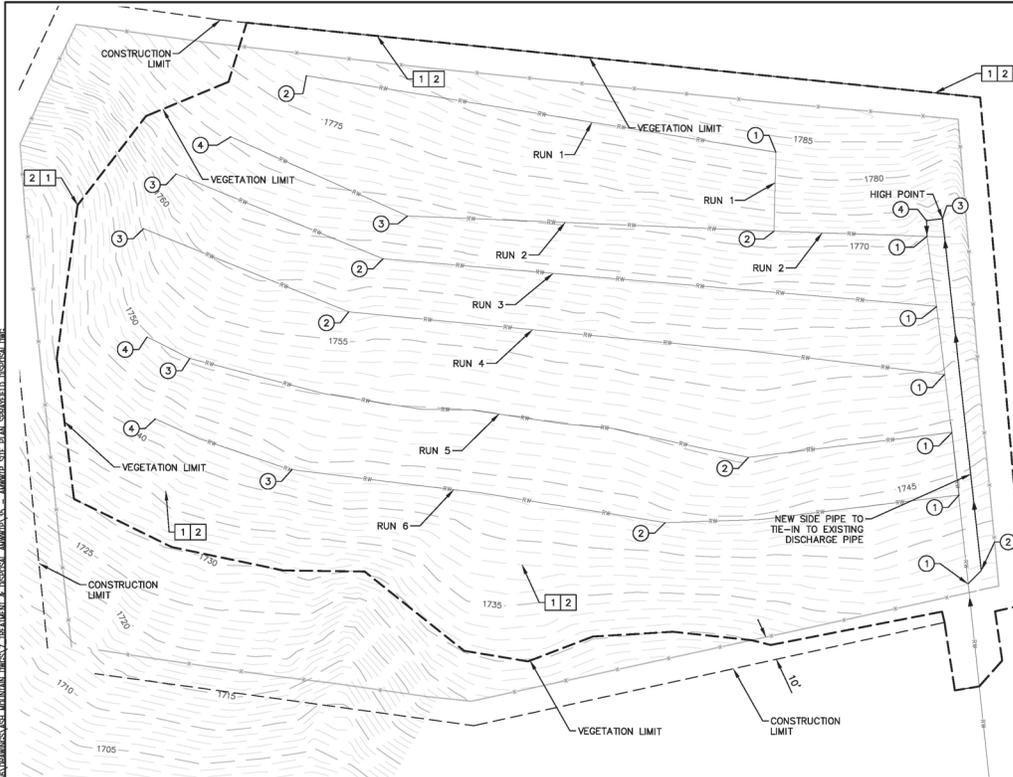
SECTION VIEW - PUMP HOUSE DEMO PLAN
NTS



David Barton Brodke



DESIGNED: D. BROOKE	SUB SHEET NO. C1.13	TITLE OF SHEET SPRAYFIELD PUMP & BID OPT WELL AMWWTP	DRAWING NO. 102 177,507
REVIEWED: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PHG NO. 317446
TEAM REVIEWER: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 34 of 142
DATE: 03/31/2023			



PLAN VIEW - SITE PLAN SPRAYFIELD DISPOSAL AMWWTP

KEYNOTES:

- 1 PREPARE DISTURBED SURFACE FOR RE-VEGETATION PER SPECIFICATIONS AND LIMITS PER PLAN THIS SHEET. RE-VEGETATION WILL BE DONE BY PARK STAFF.
- 2 REHABILITATE SPRAYFIELD PER SHEET C1.16.

COORDINATE TABLE

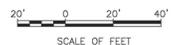
POINT	NORTHING	EASTING	FG ELEV.	NOTE
RUN 1				
2	2082294.98	6610468.55	1772.28	GROUND ELEVATION
1	2082324.62	6610454.02	1782.90	GROUND ELEVATION
2	2082262.36	6610265.05	1777.46	GROUND ELEVATION
RUN 2				
1	2082322.52	6610526.28	1770.05	GROUND ELEVATION
2	2082294.98	6610468.55	1772.28	GROUND ELEVATION
3	2082229.86	6610329.85	1768.13	GROUND ELEVATION
4	2082225.08	6610248.78	1770.42	GROUND ELEVATION
RUN 3				
1	2082298.33	6610543.46	1761.40	GROUND ELEVATION
2	2082209.23	6610328.83	1763.15	GROUND ELEVATION
3	2082200.78	6610235.43	1764.02	GROUND ELEVATION
RUN 4				
1	2082274.46	6610559.84	1764.52	GROUND ELEVATION
2	2082182.91	6610326.37	1757.89	GROUND ELEVATION
3	2082174.18	6610234.19	1755.20	GROUND ELEVATION
RUN 5				
1	2082254.58	6610573.51	1748.84	GROUND ELEVATION
2	2082206.18	6610502.81	1750.43	GROUND ELEVATION
3	2082134.95	6610276.39	1750.44	GROUND ELEVATION
4	2082134.69	6610256.41	1746.68	GROUND ELEVATION
RUN 6				
1	2082232.88	6610568.21	1742.81	GROUND ELEVATION
2	2082165.83	6610484.49	1743.48	GROUND ELEVATION
3	2082112.96	6610334.59	1743.30	GROUND ELEVATION
4	2082105.85	6610275.27	1742.37	GROUND ELEVATION
NEW EXTENDED 4" MAIN DISCHARGE PIPE				
TIE-IN TO DISCHARGE LINE				
1	2082201.77	6610606.66	1736.02	45 DEGREE ELBOW
2	2082209.10	6610610.86	1736.64	45 DEGREE ELBOW
3	2082332.15	6610526.66	1772.85	HIGH POINT, 90 DEGREE ELBOW
4	2082328.39	6610523.06	1771.81	90 DEGREE ELBOW

SURFACE RESTORATION					
ITEM	BEGIN STA.	END STA.	AREA SF	TYPE	KEYNOTE
SPRAYFIELD	NA	NA	87672	VEGETATION	1

- NOTES:**
1. RETAIN & PROTECT OAK TREES IN PLACE.
 2. REMOVE HAZARD TREES.
 3. PREPARE DISTURBED SURFACE FOR RE-VEGETATION PER SPECIFICATIONS.



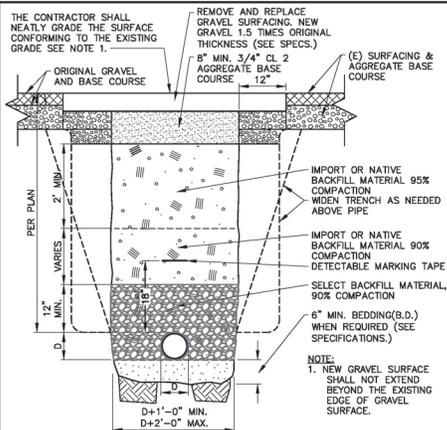
David Barton Brodke



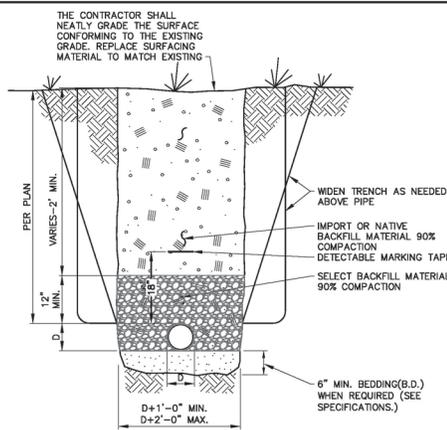
SCALE OF FEET

DESIGNED: D. BROOKE	SUB SHEET NO. C1.14	TITLE OF SHEET CONTROL PLAN SPRAYFIELD AMWWTP	DRAWING NO. 102 177,507
CHECKED: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PHG NO. 317446
TECH. REVIEWER: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 35 of 142
DATE: 03/31/2023			

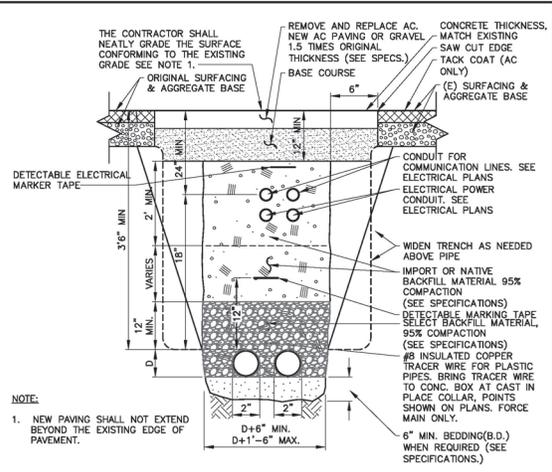
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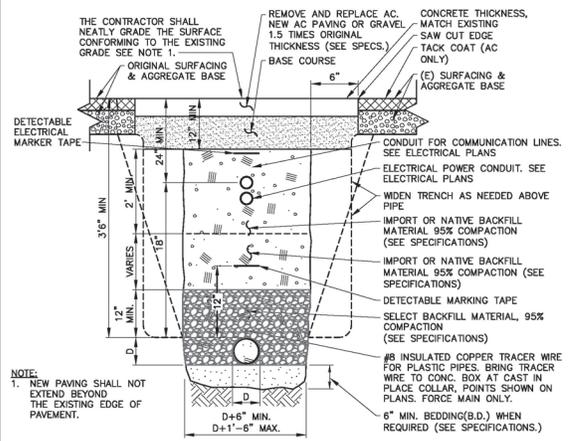
1 TYPICAL TRENCH DETAIL - GRAVEL AREA
D1.1 SCALE: NTS



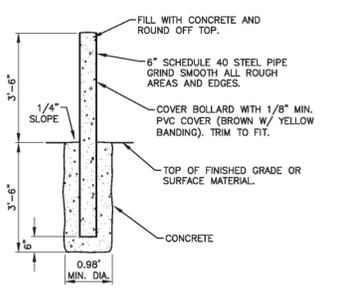
3 TYPICAL TRENCH DETAIL - OTHER AREAS
D1.1 SCALE: NTS



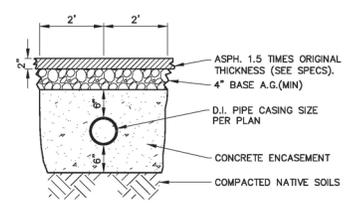
5 TYPICAL COMBINE TRENCH DETAIL - PAVED AREAS
D1.1 SCALE: NTS



2 TYPICAL TRENCH DETAIL - PAVED AREAS
D1.1 SCALE: NTS



4 TYPICAL PIPE BOLLARD DETAIL
D1.1 SCALE: NTS

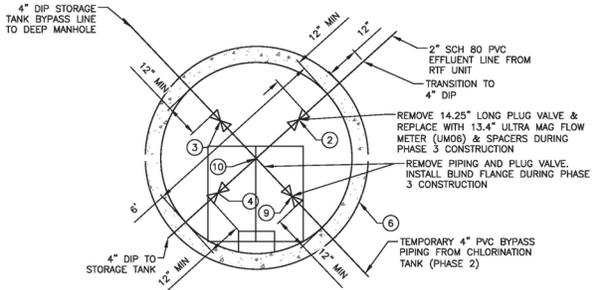


6 EFFLUENT LINE ENCASEMENT SECTION
D1.1 SCALE: NTS

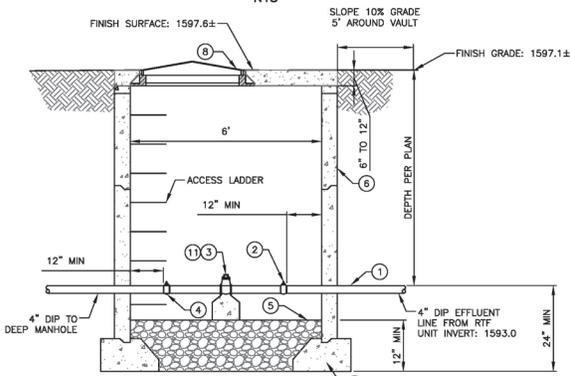


David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO. D1.1	TITLE OF SHEET GENERAL DETAILS AMWWTP	DRAWING NO. 102
CHECKED: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWG NO. 317446
TITLE REVIEWER: J. BLOM			SHEET 39 of 142
DATE: 03/31/2023			

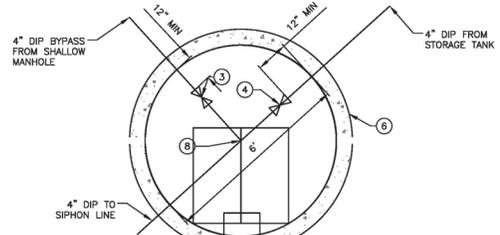


PLAN VIEW - SHALLOW TANK VAULT
NTS

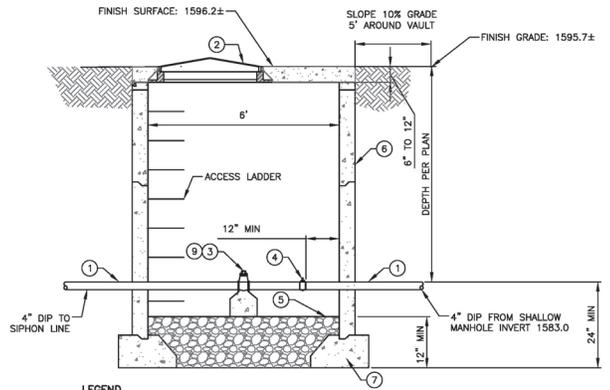


- LEGEND**
- ① 4" DIP INFLUENT LINE FROM RTF UNIT.
 - ② 4" PLUG VALVE ON INFLUENT LINE (REPLACE WITH THE FLOW METER AT CONSTRUCTION PHASE 3).
 - ③ 4" PLUG VALVE ON STORAGE TANK INLET LINE.
 - ④ 4" PLUG VALVE ON STORAGE TANK BYPASS LINE.
 - ⑤ 3/4" - 1/2" WASHED GRAVEL.
 - ⑥ 72"Ø FLAT TOP MANHOLE. PRECAST SECTIONS TO CONFORM TO THE REQUIREMENTS OF ASTM C-478. LOAD CRITERIA HS20.
 - ⑦ ANNULAR SHAPED CONCRETE BASE. CAST IN PLACE.
 - ⑧ HS20 LOAD DOUBLE LEAF 3' x 3' ACCESS HATCH.
 - ⑨ 4" PLUG VALVE ON BYPASS LINE FROM CHLORINATION TANK.
 - ⑩ 4" DIP CROSSES.
 - ⑪ INSTALL PLUG VALVES WITH SQUARE NUT AND PROVIDE PORTABLE VALVE EXTENSION HANDLE PER SPECIFICATIONS.

SECTION VIEW - SHALLOW TANK VAULT
NTS



PLAN VIEW - DEEP TANK VAULT
NTS



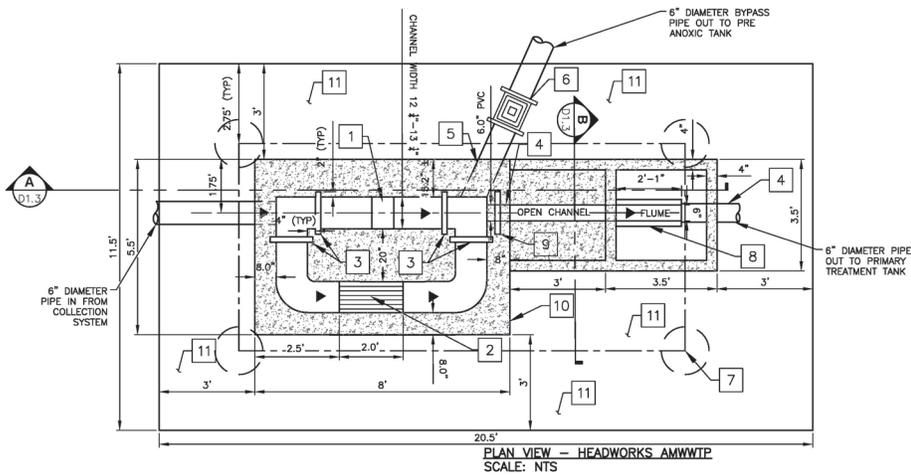
- LEGEND**
- ① 4" DIP EFFLUENT LINE.
 - ② HS20 LOAD DOUBLE LEAF 3' x 3' ACCESS HATCH.
 - ③ 4" PLUG VALVE ON STORAGE TANK OUTLET LINE.
 - ④ 4" PLUG VALVE ON STORAGE TANK BYPASS LINE.
 - ⑤ 3/4" - 1/2" WASHED GRAVEL.
 - ⑥ 72"Ø FLAT TOP MANHOLE. PRECAST SECTIONS TO CONFORM TO THE REQUIREMENTS OF ASTM C-478. LOAD CRITERIA HS20.
 - ⑦ ANNULAR SHAPED CONCRETE BASE. CAST IN PLACE.
 - ⑧ 4" DIP TEE.
 - ⑨ INSTALL PLUG VALVES WITH SQUARE NUT AND PROVIDE PORTABLE VALVE EXTENSION HANDLE PER SPECIFICATIONS.

SECTION VIEW - DEEP TANK VAULT
NTS



DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET GENERAL DETAILS AMWWTP	DRAWING NO. 102 177,507
CHECKED: M. GARCIA	D1.2	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWG NO. 317446
TECH. REVIEWER: J. BLOM		SHEET 40 of 142	
DATE: 03/31/2023			

27/03/2023 15:33 BKT BROOKE C:\CLIENTS\NPS\ASH\317446\ADMIN\NPS\ASH MOUNTAIN DMS\B.JETAL SHEETS AMMWTP\4.1 - DETAILS HEADWORKS.DWG

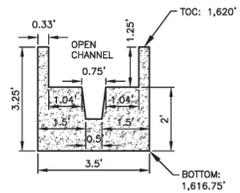
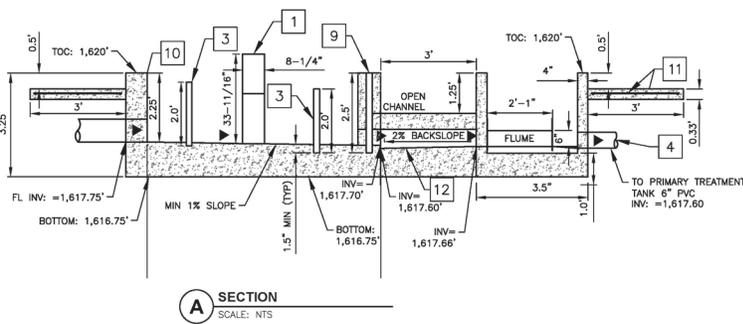


NOTES:

1. INSTALL ALL PARTS DESIGNATED UNDER KEYNOTES.
2. CONSTRUCT A 16.5' X 10' X 8' COVER OVER THE HEADWORKS AND FLUME VAULT.

KEY NOTES

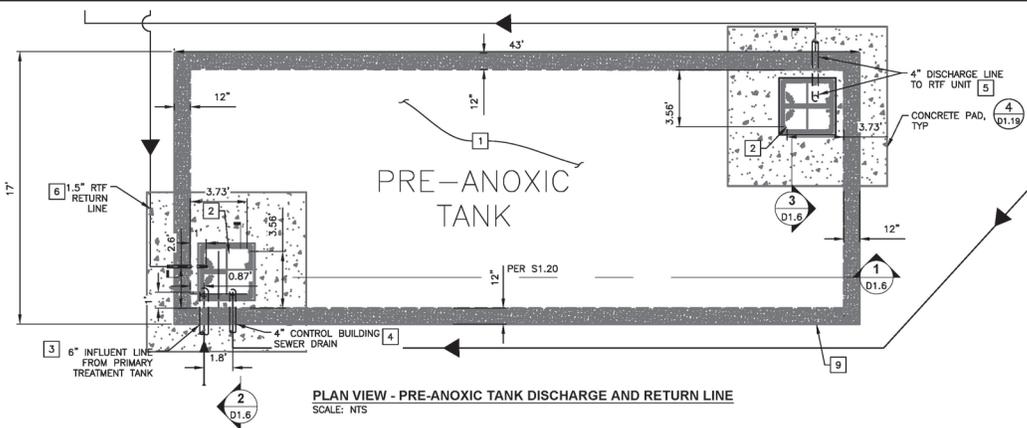
- 1 INSTALL INLINE SEWER GRINDER: 2 HP MUFFIN MONSTER 10002-0008-DI OR EQUAL.
- 2 MANUAL BAR SCREEN.
- 3 1' X 2' SLIDE & STOP GATES.
- 4 6" PVC.
- 5 8" PVC PLANT BYPASS.
- 6 8" PLUG VALVE IN THE VALVE BOX.
- 7 OVERHEAD SHED PER DETAIL SHEET S1.12 THROUGH S1.15.
- 8 8" PALMER-BOWLUS OPEN CHANNEL FLUME AND A ULTRASONIC FLOW METER.
- 9 1' X 2.5' SLIDE & STOP GATES.
- 10 CONSTRUCT CAST IN PLACE CONCRETE HEADWORKS.
- 11 CONSTRUCT 3" WIDE 4" THICK SIDEWALK AROUND ALL SIDES OF HEADWORKS. INSTALL #3 REBAR CENTER TO CENTER EACH WAY 12" APART. SLOPE 2% AWAY FROM STRUCTURE TO DRAIN.
- 12 CONSTRUCT 2% REVERSE SLOPE BACKWATER CHANNEL FLOW TRANSITION INTO PALMER BOWLUS FLUME.



David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO. D1.3	TITLE OF SHEET HEADWORKS AMWWTP	DRAWING NO. 102
BY: M. GARCIA			177,507
TECH. REVIEWER: J. BLOM		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWG NO. 317446
DATE: 03/31/2023			SHEET 41 of 142

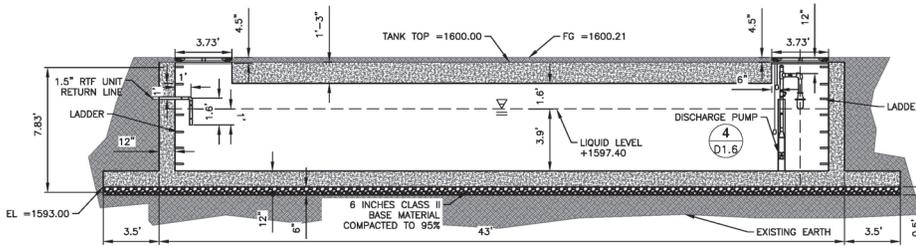
3/7/2023 10:28 BMT BROOKE G:\CLIENTS\NPS\ASH\17446\DOMINOS\ASH MOUNTAIN\INSTRUMENTAL SHEETS\AMWTP\4 - DETAILS\PRE-ANOXIC RETURN TANKING



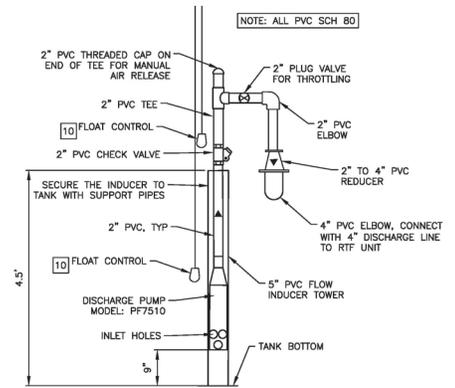
PLAN VIEW - PRE-ANOXIC TANK DISCHARGE AND RETURN LINE
SCALE: NTS

KEY NOTES:

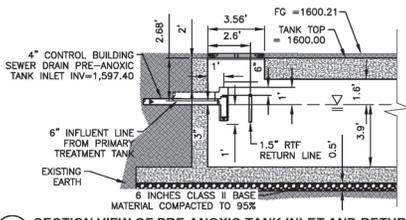
- 1 COORDINATE CONSTRUCTION OF NEW PRE-ANOXIC RETURN TANK WITH PHASING DRAWINGS PH1.1, PH1.2, AND PH1.3.
- 2 INSTALL TWO 3' X 3' H2O LOAD RATED ACCESS HATCHES WITH CLEARANCE TO LADDER AND CONCRETE PADS.
- 3 INSTALL 6" DIP INLET FROM PRIMARY TREATMENT TANK. SET INLET PIPING INVERT 3" ABOVE LIQUID LEVEL. INV. ELEV. = 1,597.65.
- 4 INSTALL 4" PVC SCH 80 INLET FROM CONTROL BUILDING SEWER DRAIN.
- 5 INSTALL 4" PVC SCH 80 DISCHARGE LINE TO RTF UNIT. THE OUTLET PIPING INVERT SHOULD BE SAME AS LIQUID LEVEL.
- 6 INSTALL 1.5" PVC SCH 80 RETURN LINE FROM RTF UNIT.
- 7 INSTALL 1 HP DISCHARGE PUMP (MODEL PF7510) AND PIPING TO CONNECT WITH 4" PVC DISCHARGE LINE UNDER THE ACCESS HATCH.
- 8 BACKFILL SOIL TO FINISH GRADE LEVEL.
- 9 SEE SHT. S1.20 FOR STRUCTURAL DETAILS.
- 10 CONTROL LEVEL SENSOR/FLOAT. SEE SHEET E1.2 FOR FLOAT ELEVATIONS.



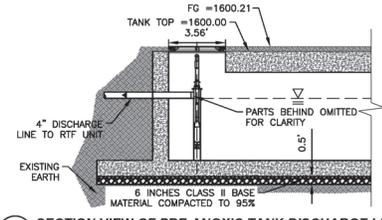
SECTION VIEW - PRE-ANOXIC TANK DISCHARGE AND RETURN LINE
SCALE: NTS



SECTION VIEW OF DISCHARGE PUMP
SCALE: NTS



SECTION VIEW OF PRE-ANOXIC TANK INLET AND RETURN LINE
SCALE: NTS



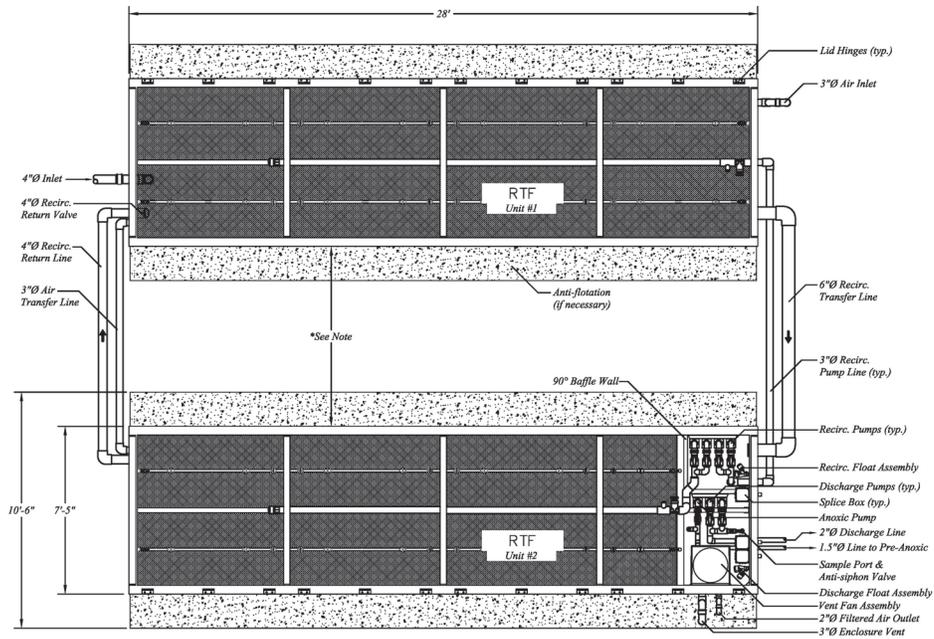
SECTION VIEW OF PRE-ANOXIC TANK DISCHARGE LINE
SCALE: NTS



DESIGNED: D. BROOKE	SUB SHEET NO. D1.6	TITLE OF SHEET PRE-ANOXIC RETURN TANK AMWTP	DRAWING NO. 102
CHECKED: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	177,507
TITLE REVISION: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWG NO. 317446
DATE: 03/31/2023			SHEET 44 of 42

David Barton Brooke

Note: Spacing between AX-Max units is dependent on desired bury depth. Consult Orenco Engineering for details.



NOTE: RTF UNIT #1 BASIS OF DESIGN IS THE ORENCO AX-MAX 200-28
RTF UNIT #2 BASIS OF DESIGN IS THE ORENCO AX-MAX 175-28

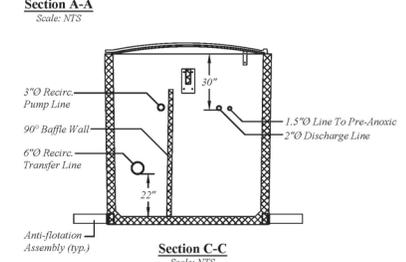
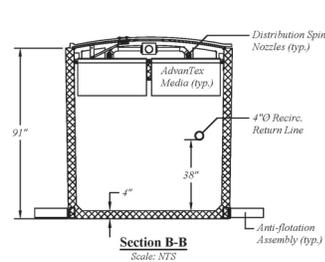
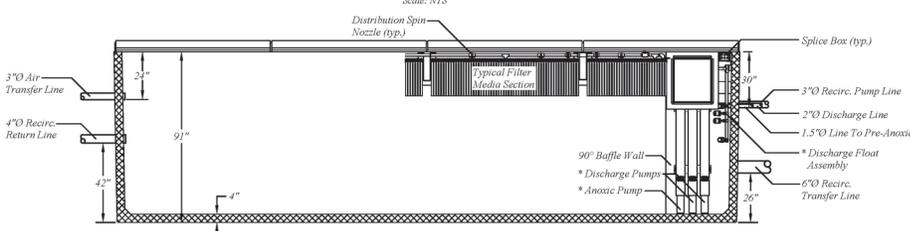
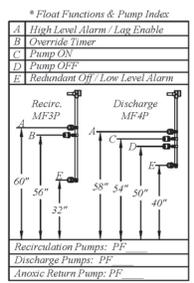
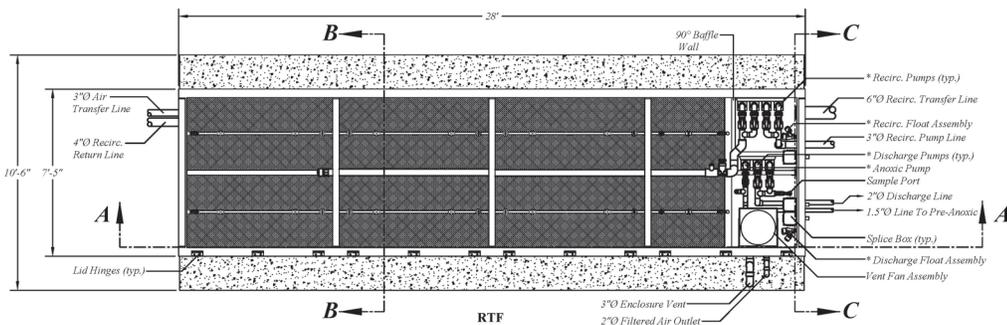
PLAN VIEW - RTF TREATMENT SYSTEM
SCALE: NTS



David Barton Brodke

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
DRAWN: M. GARCIA	D1.7	RTF TREATMENT SYSTEM	102
TECH. REVIEWER: J. BLOM		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWG NO. 317446
DATE: 03/31/2023			SHEET 45 of 142

27/03/2023 15:37 BROOKE C:\CLIENTS\USPS\ASH\317449\DESIGN\SS\ASH - DETAILS-SRR TREATMENT (MAX DETAIL 1:7).DWG



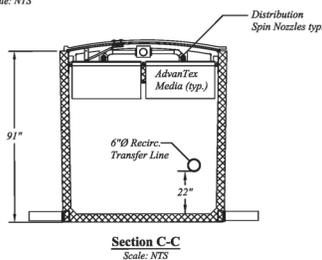
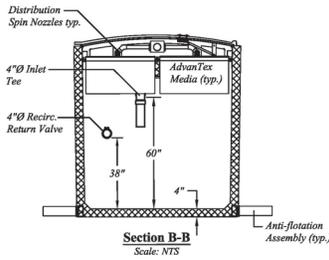
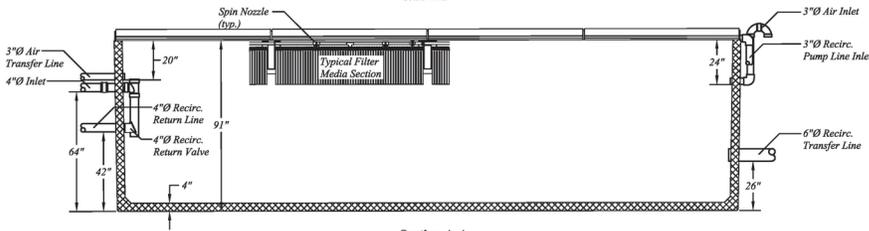
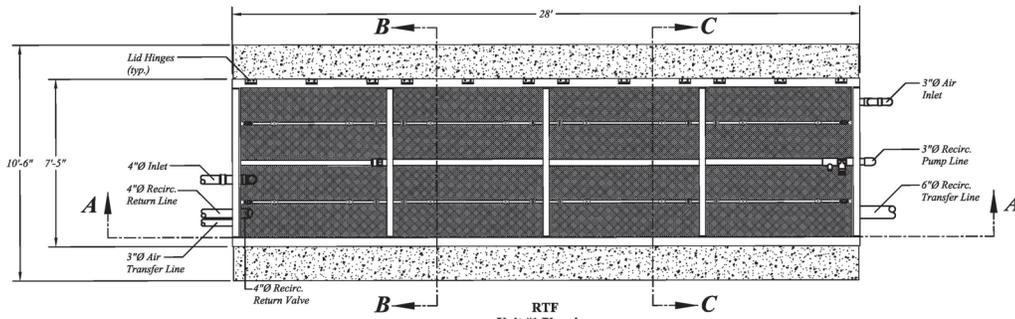
PLAN & SECTION VIEW — RTF TREATMENT SYSTEM
SCALE: NTS



David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO. D1.8	TITLE OF SHEET RTF TREATMENT SYSTEM	DRAWING NO. 177,507
DESIGNED BY: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWG NO. 317446
TECH. REVIEWER: J. BLOM			SHEET 46 of 142
DATE: 03/31/2023			

27/03/2023, 15:31: BDT, BROOKE, C:\CLIENTS\USPS\ASH\3174483\DESIGN\SS\ASH - RTF\SSR TREATMENT (MAX DETAIL).1.B, 100%



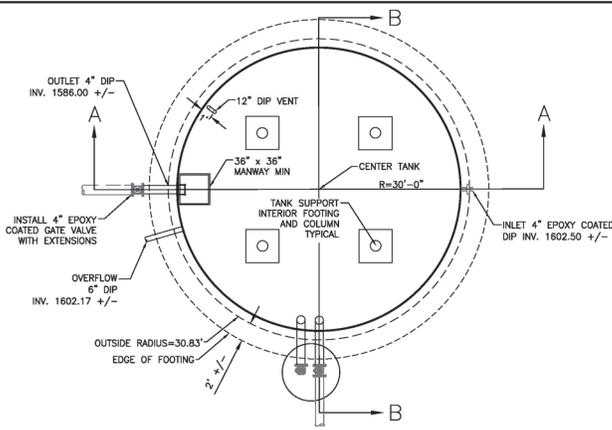
PLAN & SECTION VIEW - RTF TREATMENT SYSTEM
NTS



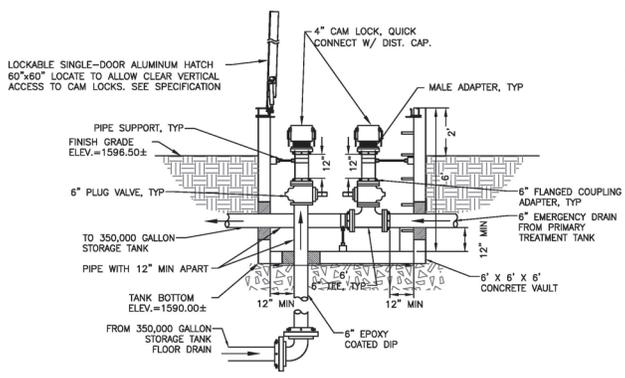
David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO. D1.9	TITLE OF SHEET RTF TREATMENT SYSTEM	DRAWING NO. 177,507
REVIEWED: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PWG NO. 317448
TECHN. REVIEWER: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 47 of 142
DATE: 03/31/2023			

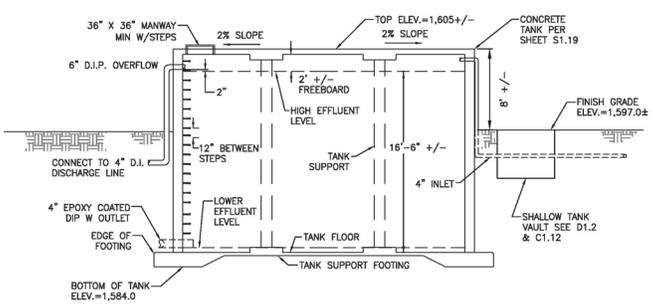
3/10/2023, 12:15 BPT, BROOKE & GARCIA ENGINEERS, 317440, SEQUOIA NATIONAL PARKS, DETAIL SHEETS, AMWWTP-48 - DETAILS STORAGE TANK Dwg



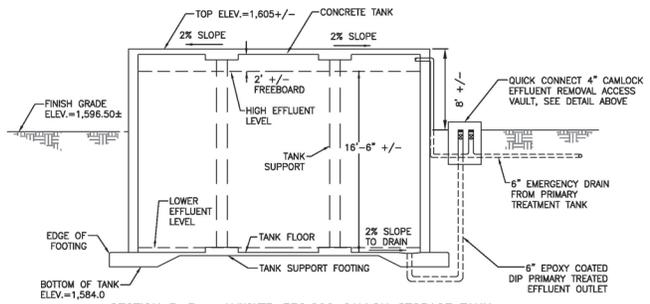
PLAN VIEW - AMWWTP 350,000 GALLON STORAGE TANK NTS



SECTION VIEW - EFFLUENT REMOVAL ACCESS VAULT NTS



SECTION A-A - AMWWTP 350,000 GALLON STORAGE TANK NTS



SECTION B-B - AMWWTP 350,000 GALLON STORAGE TANK NTS

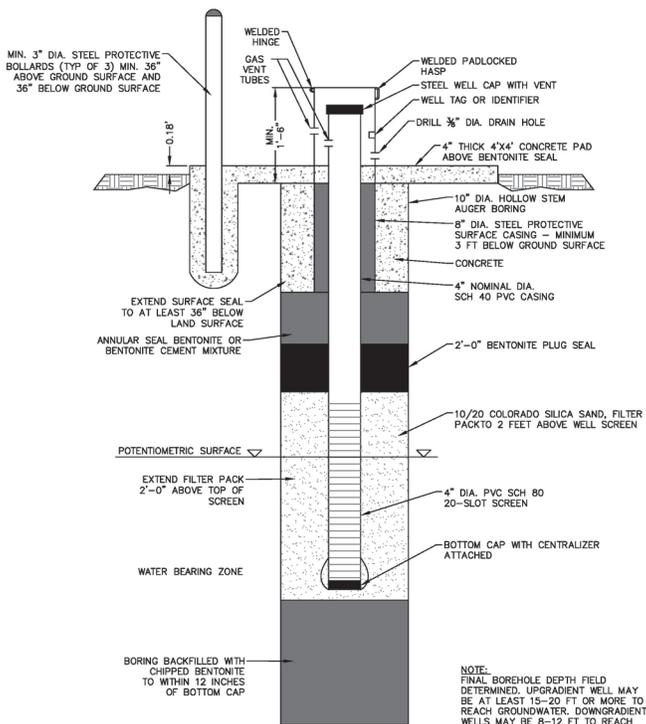
- SHEET NOTES:**
1. CONCRETE TANK DESIGN BY TANK MANUFACTURER SHALL SUPERSEDE TANK FOUNDATION PLAN AND DETAILS SHOWN, UPON ACCEPTANCE PER SUBMITTAL PROCEDURE. HOWEVER, CONCRETE TANK DESIGN BY TANK MANUFACTURER SHALL PROVIDE SLOPE TO DRAIN TO EFFLUENT REMOVAL OUTLET SHOWN IN SECTION B-B.
 2. PRIMARY WASTE CAN BE CONVEYED TO THE 350,000-GALLON STORAGE TANK DURING CONSTRUCTION SEQUENCING OF THE CONSTRUCTION OF THE RE-CIRCULATING TEXTILE FABRIC (RTF) SECONDARY TREATMENT SYSTEM AND PREANOXIC TANK. PRIMARY WASTE CAN ALSO BE CONVEYED TO THE 350,000-GALLON STORAGE TANK DURING CONSTRUCTION SEQUENCING OF THE REHABILITATION OF THE SPRAY FIELD. UNDER ANY CONDITIONS THAT WASTE IS CONVEYED TO THE 350,000-GALLON STORAGE TANK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING AND DISINFECTING THE TANK PRIOR TO COMMISSIONING.



David Barton Brooke

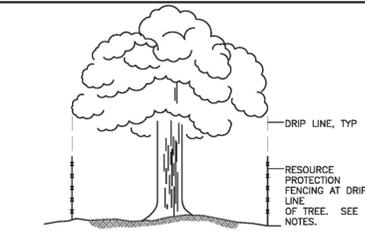
DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET AMWWTP 350 000 GALLON STORAGE TANK	DRAWING NO. 177,507
CHECKED: M. GARCIA	D1.10	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PWG NO. 317446
TITLE REVIEWER: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 48 of 142
DATE: 03/31/2023			

7/20/2023 15:30 BRT BROOKE C. GILBERT/MS/CS/ASH/317446/SH/DETAILS AMWWTP/ASH - DETAIL MONITOR WELLING



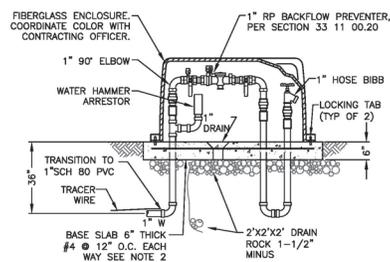
NOTE: DEPTH OF EACH WELL WILL VARY DEPENDING ON WHERE THE GROUND WATER SURFACE IS ENCOUNTERED SEE SPECIFICATIONS FOR GUIDANCE.

1 BID OPTION - WELL SECTION AND DETAILS
01.13 NIS



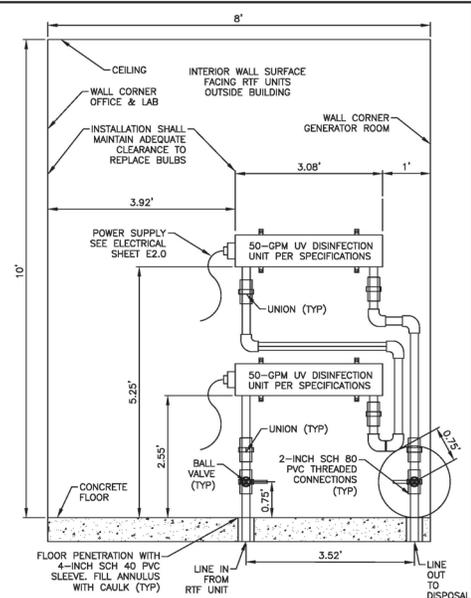
- NOTES:**
1. PROVIDE RESOURCE PROTECTION FENCING IN THE INDICATED AREAS FOR THE DURATION OF THE CONTRACT. FENCE SHALL BE FOUR FOOT HIGH ORANGE POLYETHYLENE SAFETY FENCE WITH ULTRAVIOLET STABILIZER SUPPORTED ON STEEL T-POSTS AT TEN FOOT MAXIMUM SPACING. FENCE SHALL BE TENAX CORPORATION GUARDIAN SAFETY FENCE OR EQUAL.
 2. PROVIDE RESOURCE PROTECTION FENCE AROUND THE DRIP LINE OF TREES. WHERE DRIP LINE EXTENDS OVER PAVED AREAS, RUN THE FENCE ALONG THE EDGE OF THE PAVEMENT.

2 TREE PROTECTION FENCING DETAIL
01.13 NIS

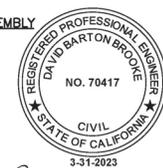


- NOTE:**
1. PROVIDE ADDITIONAL ENCLOSURE ON THE SAME CONCRETE SLAB AND 50' LENGTH OF 1 1/2\"/>
 2. SLAB FOOTPRINT, DIMENSION 7'-4\"/>
 3. PIPE COMPONENTS TO BE GALVANIZED STEEL.
 4. BACKFLOW PREVENTER ASSEMBLY ENCLOSURE TO BE PROVIDED WITH 110 VOLT PLUG RECEPTACLE AND INTERNAL PIPING TO BE WRAPPED WITH HEAT TAPE.

3 BACKFLOW & HOSE BIB ASSEMBLY
01.13 NIS

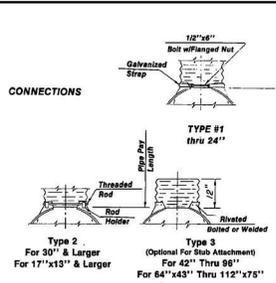
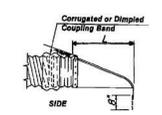
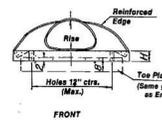
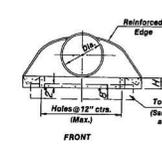
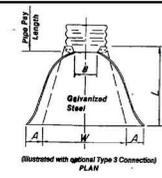
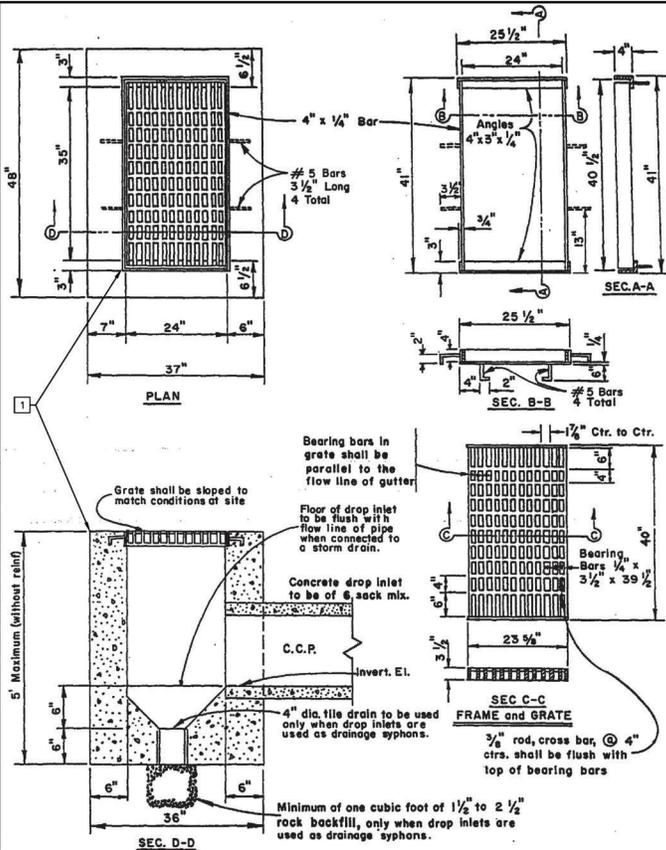


4 UV DISINFECTION ASSEMBLY
01.13 NIS



David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CHECKED: M. GARCIA		MISC DETAILS AMWWTP	102
TECH. REVIEWER: J. BLOW	D1.13	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	177,507
DATE: 03/31/2023		SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWG NO. 317446
			SHEET 51 of 142



NOTES:

- *DIMENSIONS IN INCHES PLUS OR MINUS STANDARD SHOP TOLERANCE.
- TOE PLATE EXTENSIONS WHERE SPECIFIED, TO BE PUNCHED TO MATCH HOLES IN APRON LIP. 1/2" BOLTS TO BE FURNISHED. THE LENGTH OF TOE PLATE TO BE AS FOLLOWS: W + 10" FOR 12" TO 30" DIAMETER INCLUSIVE.
- MULTIPLE PANEL END SECTIONS SHALL HAVE LAP SEAMS WHICH ARE TO BE TIGHTLY JOINTED BY RIVETS OR BOLTS, CORNER PLATE, AND TOE PLATE TO BE SAME GAUGE AS END SECTION.

KEYNOTES

1 STORM DRAIN INFRASTRUCTURE CONSTRUCTION SHOWN ON SHEET C1.4.

NOTE: 12" thru 24" Round and Arched End Sections are palletized.
 Normal quantities per pallet are:
 12" 50
 15" or 17"x13" 50
 18" or 21"x15" 50
 21" or 24"x18" 50
 24" or 28"x20" 50

End Sections grooved for 1/2" corrugations.

END SECTIONS FOR ROUND PIPE

DIA.	GAUGE	WEIGHT	* A	* B	* H	* L	* W	SLOPE	OVERALL WIDTH
18"	16	42	8	10	6	31	36	2 1/2	52"
21"	16	49	9	12	6	36	42	2 1/2	60"
24"	16	65	10	13	6	41	48	2 1/2	68"

2 TYPICAL "A" DROP INLET PLATE NO. A-27 C.
 01.14/NTS

END SECTIONS FOR ARCHED PIPE

SPAN & RISE	ROUND EQUIVALENT	GAUGE	WEIGHT	* A	* B	* H	* L	* W	SLOPE	OVERALL WIDTH
21 X 15	18"	16	32	7	10	6	23	36	2 1/2	50"
24 X 18	21"	16	42	8	12	6	28	42	2 1/2	58"
28 X 20	24"	16	52	9	14	6	32	48	2 1/2	66"



DESIGNED: D. BROOKE
 DRAWN: M. GARCIA
 TECH. REVIEW: J. BLOM
 DATE: 03/31/2023

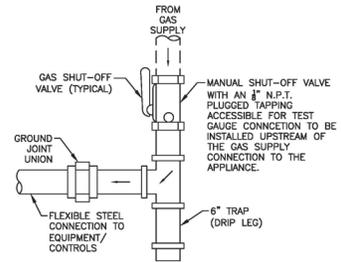
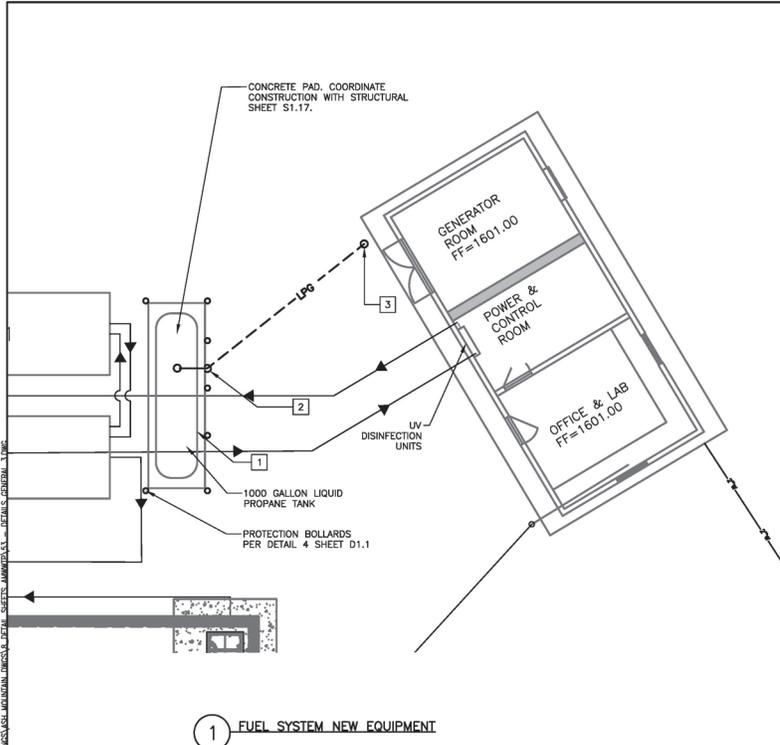
SUB SHEET NO. **D1.14**

TITLE OF SHEET
**SITE DRAINAGE DETAILS
 AMWWTP**

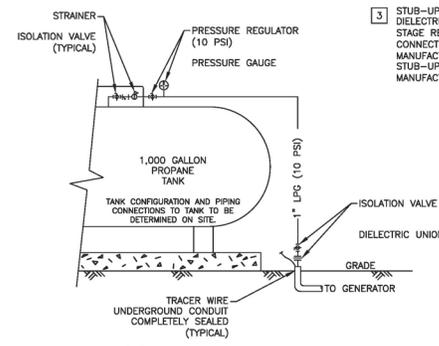
REHABILITATE ASH AND BUCKEYE
 WASTEWATER TREATMENT PLANTS
 SEQUOIA & KINGS CANYON NATIONAL PARKS

DRAWING NO. **102**
177,507
 PMS/PWD NO. 317445
 SHEET **52** of **142**

David Barton Brooke



2 GAS CONNECTION DETAIL



3 LPG PIPING DETAIL

GENERAL NOTES:

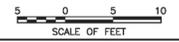
- FURNISH AND INSTALL ALL MATERIALS AND EQUIPMENT AND PROVIDE ALL LABOR REQUIRED AND NECESSARY TO COMPLETE THE WORK SHOWN ON THE DRAWINGS AND/OR SPECIFIED IN ALL PERTINENT SECTIONS OF DIVISION 23 AND ALL OTHER WORK AND MISCELLANEOUS ITEMS, NOT SPECIFICALLY MENTIONED, BUT REASONABLY INFERRED FOR A COMPLETE INSTALLATION, INCLUDING ALL ACCESSORIES REQUIRED FOR TESTING THE SYSTEM. IT IS THE INTENT OF THE DRAWINGS AND SPECIFICATIONS THAT ALL SYSTEMS BE COMPLETE AND READY FOR OPERATION.
- ALL LIQUID PETROLEUM GAS (LPG) PIPING MATERIALS, PIPE ACCESSORIES AND INSTALLATION REQUIREMENTS SHALL COMPLY WITH NFPA 58, PROJECT SPECIFICATIONS AND THE REQUIREMENTS OF THE AHJ.
- COORDINATE WITH DIVISION 03 - CONCRETE SPECIFICATIONS FOR CONCRETE PAD REQUIREMENTS AND STRUCTURAL SHEETS S1.4 AND S1.17.

KEY NOTES:

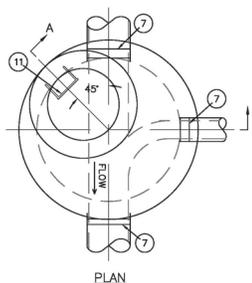
- CONNECT TO PROPANE TANK ISOLATION VALVE WITH STRAINER, FIRST STAGE REGULATOR (10 PSI) AND PRESSURE GAGE.
- ROUTE 1-INCH LPG (10 PSI) PIPING TO BELOW GRADE WITH GAS ISOLATION VALVE AND DIELECTRIC FITTING. ROUTE IN PVC SLEEVE BELOW GRADE PER NFPA 58 WITH TRACER WIRE. SEAL ENDS OF CONDUIT WEATHER-TIGHT. CONTRACTOR TO VERIFY EXACT STUB-UP LOCATION.
- STUB-UP 1-INCH LPG (10 PSI) PIPING ABOVE GRADE. INSTALL DIELECTRIC FITTING, GAS ISOLATION VALVE, STRAINER AND SECOND STAGE REGULATOR (10 PSI TO 11" W.C.) AND PRESSURE GAGE. CONNECT 1-INCH LPG (11" W.C.) TO GENERATOR PER MANUFACTURER'S REQUIREMENTS. CONTRACTOR TO VERIFY EXACT STUB-UP LOCATION AND LPG PIPE SIZE PER GENERATOR MANUFACTURER'S RECOMMENDATIONS.



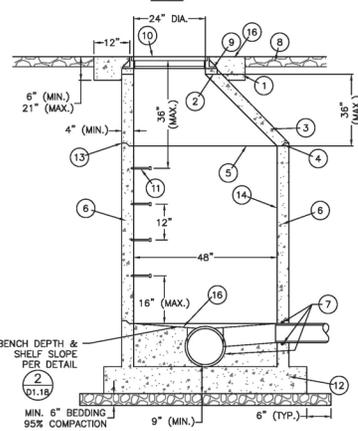
David Barton Brodke



DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET PROPANE PIPING DETAILS AMWWTP	DRAWING NO. 102 177,507
BY: M. GARCIA	D1.15	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PKG NO. 317446
TECH. REVIEWER: J. BLOM	DATE: 03/31/2023		SHEET 53 of 142

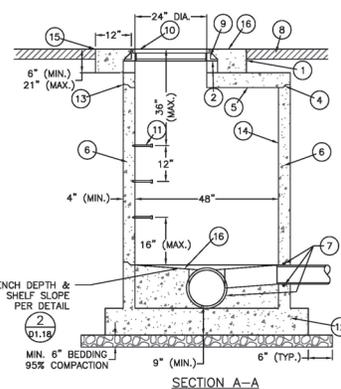


PLAN



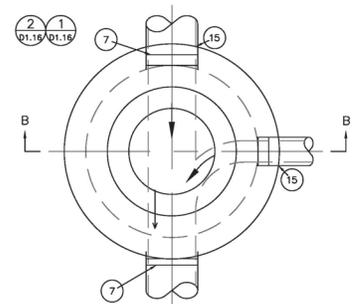
SECTION A-A

1 DEEP MANHOLE - GREATER THAN 7' DEEP
 01.16 NIS

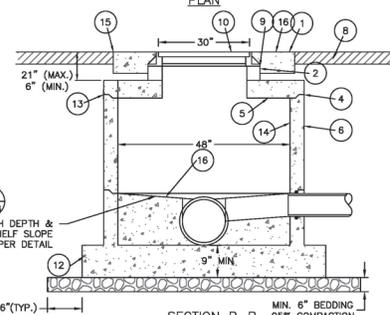


SECTION A-A

2 MEDIUM DEPTH MANHOLE - 4.1' TO 7'
 01.16 NIS



PLAN



SECTION B-B

3 SHALLOW MANHOLE - 2.5' TO 4' DEEP
 01.16 NIS

LEGEND:

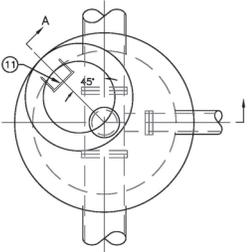
- 1 CONCRETE COLLAR IN PAVED STREET SECTIONS PER DETAIL 01.16
- 2 GRADE RINGS GROUTED WATERTIGHT IN PLACE, NOT TO EXCEED 21" FROM FINISHED SURFACE TO TOP OF CONE
- 3 PRECAST MONOLITHIC ECCENTRIC CONE SECTION. (REBAR NOT SHOWN)
- 4 RAMNEX RN 103 OR APPROVED EQUAL GASKETS ALL JOINTS
- 5 PROPERLY ALIGN ALL INTERIOR JOINTS
- 6 PRECAST CONCRETE MANHOLE-BARREL SECTION (REBAR NOT SHOWN)
- 7 PRECAST GASKETED HUB RING OR RUBBER GASKETED COLLAR-FLEXIBLE AND WATER TIGHT.
- 8 REPLACEMENT SURFACING TO MATCH FLUSH WITH EXISTING SURFACING (GRAVEL SHOWN)
- 9 FRAME TO BE GROUTED TO GRADE RINGS
- 10 FRAME AND BOLT DOWN COVER WITH O-RING GASKET ON ALL MANHOLES.
- 11 MANHOLE STEPS FOR MANHOLES DEEPER THAN 4FT.
- 12 PRECAST CONCRETE MANHOLE BASE
- 13 SEAL ALL EXTERNAL JOINTS WITH 12" EZ-WRAP OR APPROVED EQUAL.
- 14 PRECAST MANHOLE CONE, BARREL RINGS, AND BASE INTERIOR TO BE COATED PER SPECIFICATIONS.
- 15 CORE-DRILL THROUGH PRECAST SECTION
- 16 QUICKCRETE FAST SET NON SHRINK GROUT (NO. 1585-09) OR APPROVED EQUAL.

KEY NOTES:

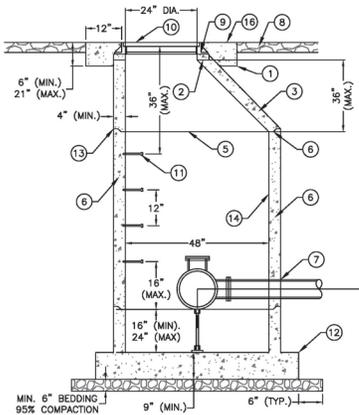
- A PLACE VERTICAL WALL STEPS AND ACCESS ON UPSTREAM SIDE OF MANHOLE, ROTATED 45 DEGREES. MANHOLES DEEPER THAN 4FT ONLY.
- B MANHOLE FRAME AND COVER:
 A. REFER TO MANHOLE COLLAR DETAIL
 B. FRAME AND COVER SHALL BE FLUSH WITH SLOPE OF PAVEMENT
 C. TRAFFIC RATED, H=20 WHEEL LOADING
- C WHERE PVC PIPE IS UTILIZED, INSTALL A RUBBER RING OR GASKET COLLAR WHERE THE PIPE IS IN CONTACT WITH MANHOLE BASE AND/OR MANHOLE CHANNEL, IN ORDER TO INSURE A WATERTIGHT SEAL.
- D PROVIDE MANHOLE CONCRETE REINFORCING TO ACCOMMODATE H20 TRAFFIC LOADINGS.
- E BEDDING SHALL BE CLASS II AGGREGATE BASE CONFORMING TO CALTRANS SPECIFICATIONS.
- F IN PAVED AREAS SET MANHOLE RIM 1/4" BELOW PAVEMENT SURFACE.
- G IN UNPAVED AREAS USE COLLAR DETAIL: 01.16
- H RING AND COVER SHALL BE SET FLUSH WITH GRAVEL GRADE IN VEHICULAR TRAVEL WAYS.
- J PRECAST MANHOLE SECTIONS SHALL MEET REQUIREMENTS OF ASTM C478 AND AASHTO M199.

REGISTERED PROFESSIONAL ENGINEER
 DAVID BARTON BRODKE
 NO. 70417
 CIVIL
 3-31-2023

DESIGNED: D. BRODKE	SUB SHEET NO.	TITLE OF SHEET MANHOLE DETAILS	DRAWING NO. 177,507
CHECKED: M. GARCIA	D1.16	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PHG NO. 317446
TECH. REVIEWER: J. BLOM		DATE: 03/31/2023	SHEET 54 of 142

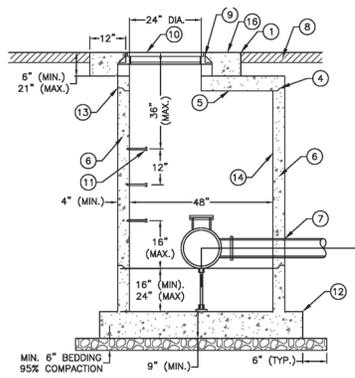


PLAN



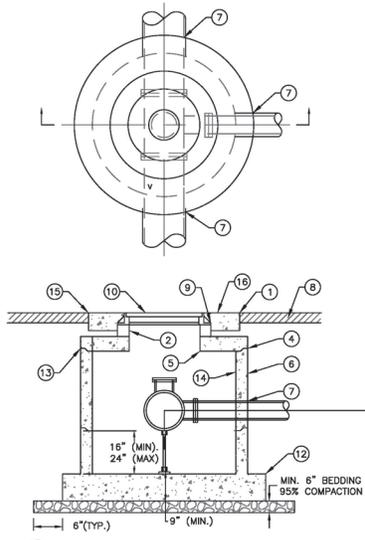
SECTION A-A

1 DEEP MANHOLE - GREATER THAN 7' DEEP
01.17 NTS



SECTION A-A

2 MEDIUM DEPTH MANHOLE - 4.1' TO 7'
01.17 NTS



3 SHALLOW MANHOLE - 2.5' TO 4' DEEP
01.17 NTS

LEGEND:

- 1 CONCRETE COLLAR IN PAVED STREET SECTIONS PER DETAIL (01.18)
- 2 GRADE RINGS GROUTED WATERTIGHT IN PLACE, NOT TO EXCEED 21" FROM FINISHED SURFACE TO TOP OF CONE
- 3 PRECAST MONOLITHIC ECCENTRIC CONE SECTION. (REBAR NOT SHOWN)
- 4 RAMMEK RN 103 OR APPROVED EQUAL GASKETS ALL JOINTS
- 5 PROPERLY ALIGN ALL INTERIOR JOINTS
- 6 PRECAST CONCRETE MANHOLE-BARREL SECTION (REBAR NOT SHOWN)
- 7 WATER TIGHT NON SHRINK GROUT.
- 8 REPLACEMENT SURFACING TO MATCH FLUSH WITH EXISTING SURFACING (GRAVEL SHOWN)
- 9 FRAME TO BE GROUTED TO GRADE RINGS
- 10 FRAME AND BOLT DOWN COVER WITH O-RING GASKET ON ALL MANHOLES.
- 11 MANHOLE STEPS FOR MANHOLES DEEPER THAN 4FT.
- 12 PRECAST CONCRETE MANHOLE BASE
- 13 SEAL ALL EXTERNAL JOINTS WITH 12" EZ-WRAP OR APPROVED EQUAL
- 14 PRECAST MANHOLE CONE, BARREL RINGS, AND BASE INTERIOR TO BE COATED PER SPECIFICATIONS.
- 15 CORE-DRILL THROUGH PRECAST CONCRETE
- 16 QUICKCRETE FAST SET NON SHRINK GROUT (NO. 1585-09) OR APPROVED EQUAL
- 17 PIPE SUPPORT (01.17)

KEY NOTES:

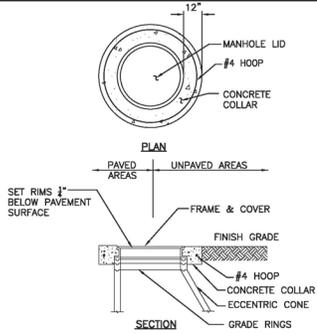
- A PLACE VERTICAL WALL STEPS AND ACCESS ON UPSTREAM SIDE OF MANHOLE, ROTATED 45 DEGREES. MANHOLES DEEPER THAN 4FT ONLY.
- B MANHOLE FRAME AND COVER:
 - A. REFER TO MANHOLE COLLAR DETAIL
 - B. FRAME AND COVER SHALL BE FLUSH WITH SLOPE OF PAVEMENT
 - C. TRAFFIC RATED, H-20 WHEEL LOADING
- C GROUT PENETRATIONS, IN ORDER TO INSURE A WATERTIGHT SEAL.
- D PROVIDE MANHOLE CONCRETE REINFORCING TO ACCOMMODATE H2O TRAFFIC LOADINGS.
- E BEDDING SHALL BE CLASS II AGGREGATE BASE CONFORMING TO CALTRANS SPECIFICATIONS.
- F IN PAVED AREAS SET MANHOLE RIM 1/2" BELOW PAVEMENT SURFACE.
- G IN UNPAVED AREAS USE COLLAR DETAIL: (01.18)
- H RING AND COVER SHALL BE SET FLUSH WITH GRAVEL GRADE IN VEHICULAR TRAVEL WAYS.
- J PRECAST MANHOLE SECTIONS SHALL MEET REQUIREMENTS OF ASTM C478 AND AASHTO M199.



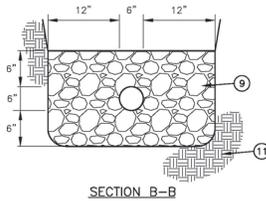
David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CHECKED: M. GARCIA		MANHOLE DETAILS	102
TECH. REVIEWER: J. BLOW	D1.17	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	177,507
DATE: 03/31/2023		SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PHG NO. 317446
			SHEET 55 of 142

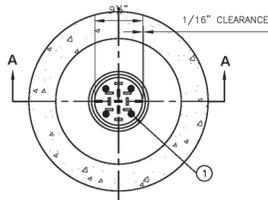
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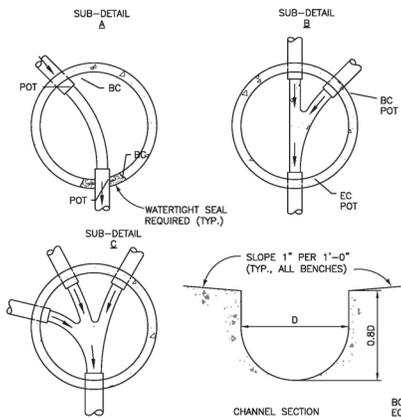
1 MANHOLE CONCRETE COLLAR DETAIL
01.18/NTS



SECTION B-B

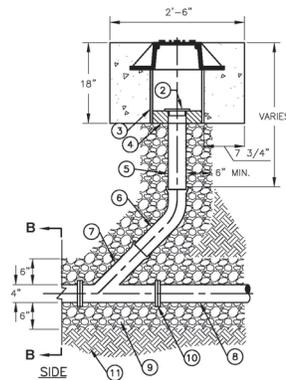


3 TYPICAL CLEANOUT DETAIL
01.18/NTS



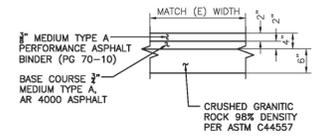
2 TYPICAL FLOW CHANNELS THROUGH MANHOLE
01.18/NTS

BC - BEGIN CURVE
EC - END CURVE
POT - POINT OF TANGENT



4 REPLACEMENT ASPHALT SECTION
01.18/NTS

- KEY NOTES:**
- 1 4 - 1" DIA. HOLES ON 3 1/2" RADIUS.
 - 2 MECHANICAL PLUG.
 - 3 12" DIA. x 12" PVC, DIP OR CP.
 - 4 FIBER JOINT MATERIAL.
 - 5 PIPE MATERIAL TO MATCH SERVICE LATERAL.
 - 6 45° LONG SWEEP BENDS.
 - 7 * FITTINGS.
 - 8 EXISTING OR NEW PIPE, BEDDING MATERIAL.
 - 9 MISSION COUPLER OR APPROVED SUBSTITUTION.
 - 10 SCH 80 PVC OR DIP (PER PLAN).
 - 11 UNDISTURBED MATERIAL.



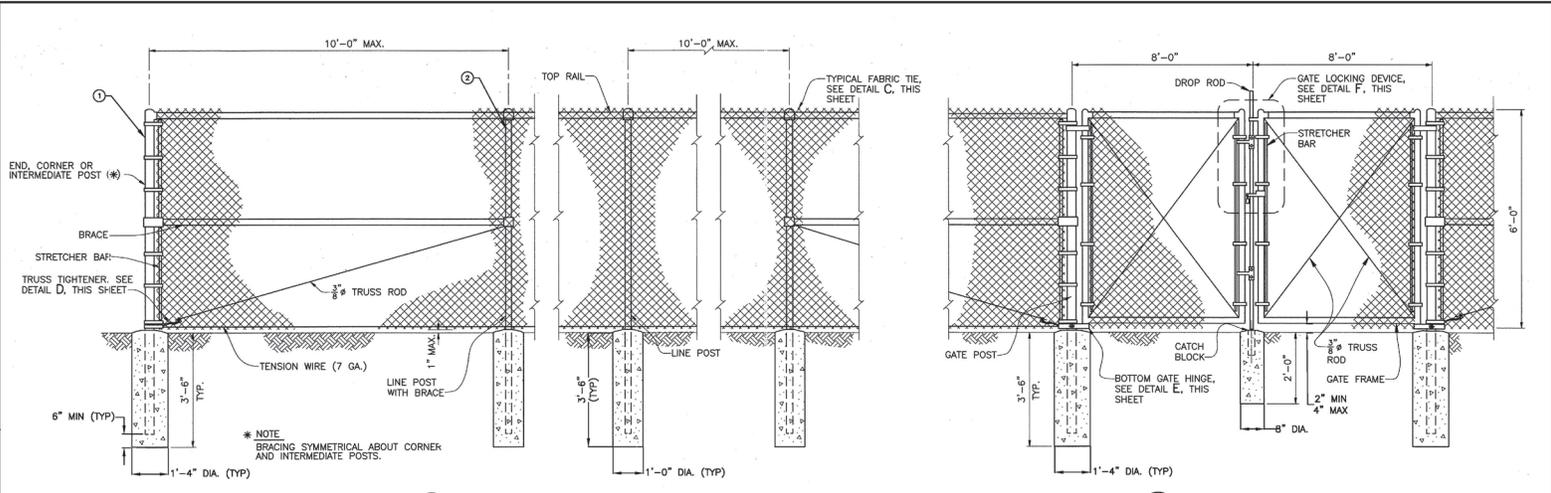
- NOTES:**
1. SUBMIT HVEEM MIX DESIGN PRIOR TO CONSTRUCTION.
 2. BASE AGGREGATES ARE REQUIRED TO BE FRACTURED SIERRA GRANITE, WHICH MEETS THE CALTRANS CLASS II BASE AGGREGATE SPEC.



David Barton Brooker

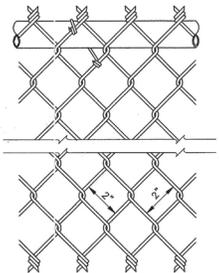
DESIGNED: D. BROOKE	SUB SHEET NO. D1.18	TITLE OF SHEET MANHOLE DETAILS	DRAWING NO. 177,507
CHECKED: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PWD NO. 317446
TECH. REVIEWER: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 56 of 142
DATE: 03/31/2023			

27 JUL 2023 15:09:58 DTG: BROOKE-CALIFORNIA-SESTA-127440-PROJESS-001-MULTI-MEDIA-DRAWING-SHEETS-AMENDED-01-DETAILS-CHAIN-LINK-FENCE-NEW-SHEETING

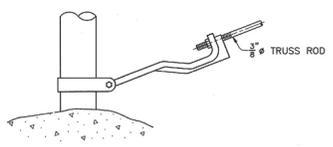


A 6' CHAIN LINK FENCE
SCALE: NTS

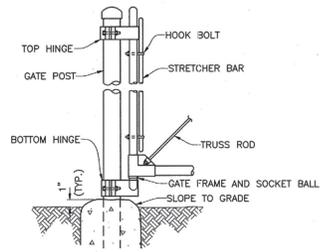
B 16' CHAIN LINK GATE
SCALE: NTS



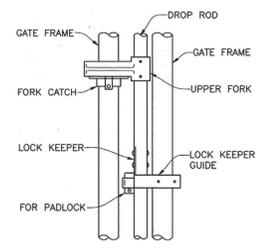
C TYPICAL FABRIC TIE
SCALE: NTS



D TRUSS TIGHTENER DETAIL
SCALE: NTS



E BOTTOM GATE HINGE DETAIL
SCALE: NTS



F GATE LOCKING DEVICE
SCALE: NTS

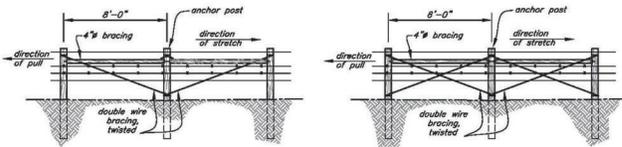
KEY NOTES

- ① O.D. & WALL THICKNESS OF END, CORNER OR INTERMEDIATE POST: 2-3/8" DIA. 0.11" PER F.B.C. 2020 SECTION 2224.
- ② O.D. & WALL THICKNESS OF LINE POST: 2-3/8" DIA. 0.095" PER F.B.C. 2020 SECTION 2224.

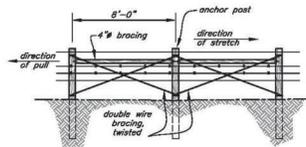


David Barton Brooke

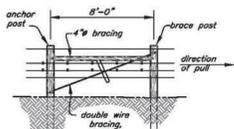
DESIGNED: D. BROOKE	SUB SHEET NO. D1.20	TITLE OF SHEET CHAIN LINK FENCE	DRAWING NO. 177,507
CHECKED: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWG NO. 317446
TECH. REVIEWER: J. BLOM	DATE: 03/31/2023		SHEET 58 of 142



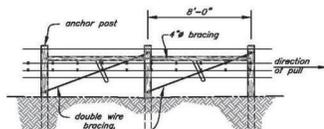
LINE BRACE



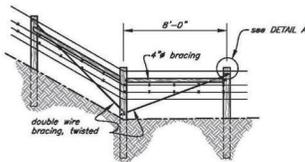
LINE BRACE



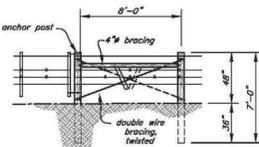
1-SPAN END



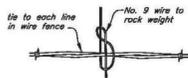
2-SPAN END



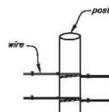
CORNER BRACE



GATE BRACE



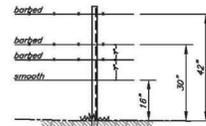
TIEDOWN DETAIL



DETAIL A

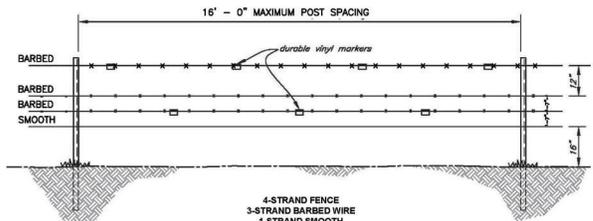
1. Double wrap all bracing.
2. All brace posts to be 7' long, 3" embedment.
3. Dap braces into posts.
4. Spike braces to posts.

A 3.5' (42") BARBED WIRE FENCE
SCALE: NTS



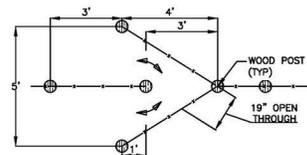
4-STRAND FENCE
3-STRAND BARBED WIRE
1-STRAND SMOOTH (BOTTOM)

B WIRE SPACING
SCALE: NTS



4-STRAND FENCE
3-STRAND BARBED WIRE
1-STRAND SMOOTH (BOTTOM)

C FENCE SPACING
SCALE: NTS



D WALK THROUGH V-GATE PLAN DETAIL
SCALE: NTS



David Barton Brodke

DESIGNED: D. BRODKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
DRAWN: M. GARCIA	D1.21	BARBED WIRE FENCE	102
TECH. REVIEWER: J. BLOM			PMS/PHG NO. 317446
DATE: 03/31/2023		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 59 of 142

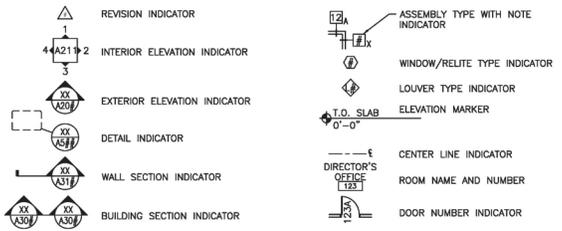
1. JULY 2023, 11:55 AM, DAVE BRODKE, 63 CALIFORNIA STREET, SUITE 100, SAN FRANCISCO, CA 94102, TEL: 415.774.1111, FAX: 415.774.1112, WWW.DAVEBRODKE.COM, PMS/PHG NO. 317446, SHEET 59 OF 142

28/01/2023 08:12 BRYE BROOKE C:\CLIENTS\NPS\SEA\317448\DRAWINGS\ASH - ARCHITECTURAL SHEETS\AMNTP\60 - ARCHITECTURAL NOTES.rvt

ABBREVIATIONS

ACT	ACOUSTICAL CEILING TILE or SUSPENDED ACOUSTICAL CEILING	HM	HOLLOW METAL	SUPT	SUPERINTENDENT
AFB	ABOVE FINISH FLOOR	INSUL	INSULATION	SV	SHEET VINYL
AFS	ABOVE FINISH SLAB (1ST FLOOR UNO)	INT	INTERIOR	TBB	TILE BACKER BOARD
ALT	ALTERNATE	IRGWB	IMPACT RESISTANT GYPSUM WALL BOARD	TC	TOP OF CURB
ALUM	ALUMINUM			TCNA	TILE COUNCIL OF NORTH AMERICA
APPROX	APPROXIMATE(LY)	JNT	JOINT	TH	TILE HOOK
ARCH	ARCHITECTURAL	LF	LINEAR FEET	TPD	TOILET PAPER DISPENSER
ASSY	ASSEMBLY	MAX	MAXIMUM	TO	TOP OF
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	MATL	MATERIAL	TOS	TOP OF SLAB or TOP OF STEEL
		MECH	MECHANICAL	TOM	TOP OF MASONRY
		MFR	MANUFACTURER	TRANS	TRANSITION
BLDG	BUILDING	MIN	MINIMUM	TYP	TYPICAL
BOD	BOTTOM OF DECK	MTL	METAL	UNO	UNLESS NOTED OTHERWISE
CG	CORNER GUARD	NIC	NOT IN CONTRACT	VCT	VINYL COMPOSITION TILE
CJ	CONTROL JOINT	NO	NUMBER	VG	VALLEY GUTTER
CL	CENTER LINE	NOM	NOMINAL	VS	VINYL SCRIM
CLG	CEILING	NTS	NOT TO SCALE	W	WASHER
CLR	CLEAR	OC	ON CENTER	WC	WATER CLOSET
CMU	CONCRETE MASONRY UNIT	OCC	OCCUPANT (OCCUPANCY)	WD	WOOD
CONC	CONCRETE	OPP	OPPOSITE HAND	WIN	WINDOW(S)
CONT	CONTINUOUS	OH	OPPOSITE	WOM	WALK OFF MAT
COORD	COORDINATE	PL	PLATE	WRB	WEATHER RESISTIVE BARRIER
DIA	DIAMETER	PW	PLYWOOD	WRWB	WATER RESISTANT GYPSUM WALL BOARD
DR	DOOR	PLAM	PLASTIC LAMINATE		
DWG(S)	DRAWING(S)	PNL	PANEL		
EF	EXHAUST FAN	PPT	PRESERVATIVE PRESSURE TREATED		
ELEC	ELECTRIC				
ELEV	ELEVATION	PSI	POUNDS PER SQUARE INCH		
EP	ELECTRICAL PANEL	PT	PAINT		
EPT	EPOXY PAINT	PTD	PAPER TOWEL DISPENSER		
EQ	EQUAL	RCB	RUBBER COVE BASE		
EXIST	EXISTING	RCP	REFLECTED CEILING PLAN		
EXP	EXPOSED TO STRUCTURE	REQ'D	REQUIRED		
EXT	EXTERIOR	RM	ROOM		
FD	FLOOR DRAIN OR FOUNDATION DRAIN	RO	ROUGH OPENING		
FEB	FIRE EXTINGUISHER BRACKET	SCD	SEAT COVER DISPENSER		
FEC	FIRE EXTINGUISHER CABINET	SD	SOAP DISPENSER		
FF	FACTORY FINISH or FINISH FLOOR	SF	SQUARE FEET		
FIN	FINISH	SHEATH	SHEATHING		
FLR	FLOOR	SH	SIMILAR		
FLASH	FLASHING	SLR	SEALER		
FOC	FACE OF CONCRETE	SND	SANITARY NAPKIN DISPENSER		
FOS	FACE OF STUD or FACE OF STRUCTURE	SNR	SANITARY NAPKIN RECEPTACLE		
FRP	FIBERGLASS REINFORCED PLASTIC PANELS	SOG	SLAB ON GRADE		
FT	FOOT	SPECS	SPECIFICATIONS		
FTG	FOOTING	SS	STAINLESS STEEL		
GA	GAUGE	STRUCT	STRUCTURAL		
GALV	GALVANIZED				
GL	GLAZING				
GB	GYPSUM BOARD				
GB	GRAB BAR				
GWB	GYPSUM WALL BOARD				
GYP	GYPSUM				

LEGEND



GENERAL NOTES

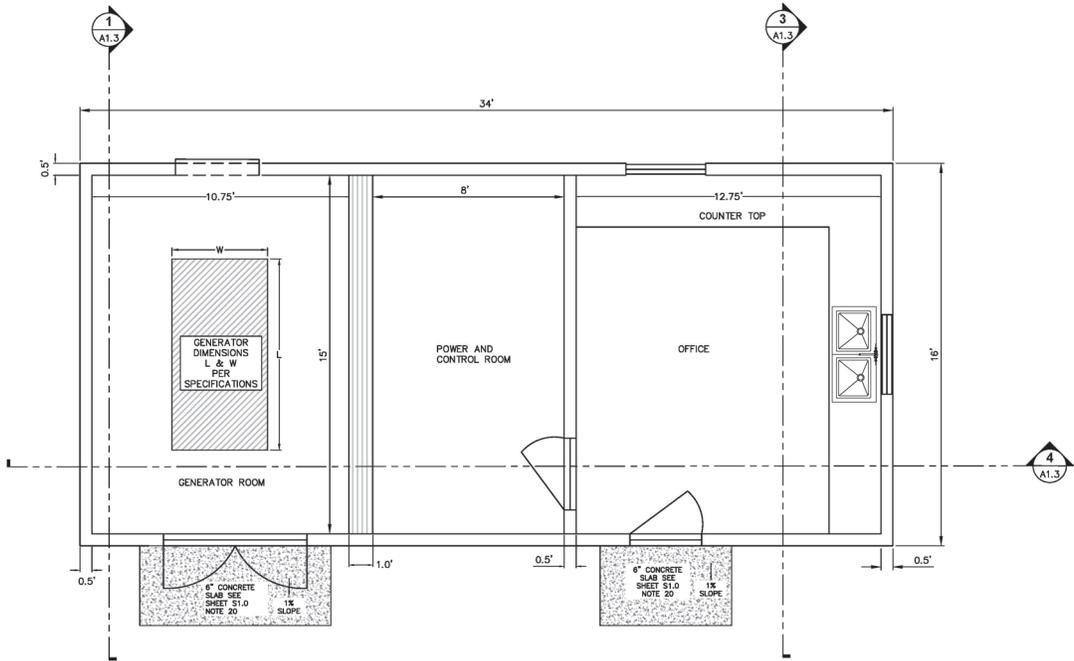
- 1: ALL DIMENSIONS ARE TO FACE OF STUDS UNLESS OTHERWISE NOTED.
- 2: REFER TO SHEET A 1.6 FOR ASSEMBLY TYPES AND DOOR DETAILS.
- 3: REFER TO SHEET A 1.6 FOR FINISH SCHEDULES.
- 4: FINISH FLOOR ELEVATION TO BE SET BY CONTRACTOR TO ACHIEVE GRADES DELINEATED ON SHEET C1.11. FF=1601.00+/- GRADE OF SITE ADJACENT TO EXTERIOR OF STRUCTURE TO BE SET AT OR BELOW FINISHED FLOOR. (FF=1601.00+/-) TO DRAIN AWAY FROM STRUCTURE.
- 5: FINISH FLOOR ELEVATION THROUGHOUT BUILDING TO BE CONSTANT
- 6: INTERIOR PIPING SHALL BE 3/4" MEETING MOST CURRENT PLUMBING CODE REQUIREMENTS.



David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET ARCHITECTURAL ABBREV. & LEGEND	DRAWING NO. 102
CHECKED: M. GARCIA	A1.0	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PWG NO. 317448
TOTAL REVIEWER: J. BLOM	DATE: 03/31/2023	SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 60 of 142

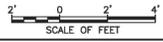
28/03/2023 06:12 BRT BROOKE C. CLENNIN\NPS\SEA\317446\DOMINOS\ASH - CONTROL BUILDING FLOOR PLAN.rvt



CONTROL BUILDING FLOOR PLAN



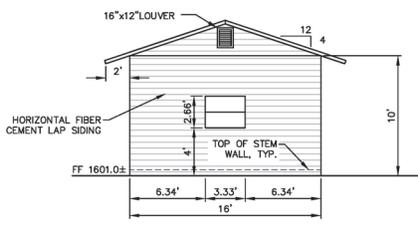
David Barton Brooke



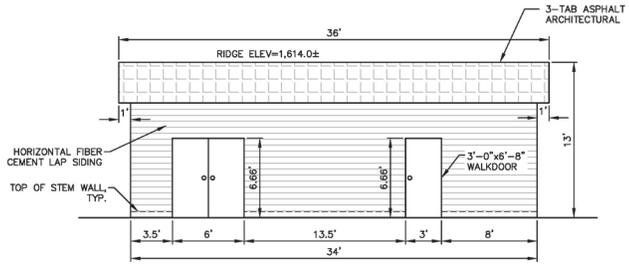
DESIGNED: D. BROOKE	SUB SHEET NO. A1.1	TITLE OF SHEET CONTROL BUILDING FLOOR PLAN	DRAWING NO. 102
DRAWN: M. GARCIA			PMS/PMG NO. 317446
TECH. REVIEWER: J. BLOM			SHEET 61 of 142
DATE: 03/31/2023			REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS

28/01/2023 08:11 BRYE BROOKE C. CLIENTS\INPS\SEA\317446\DOMINOS ASH - MOUNTAIN DRINKS_V_ARCHITECTURAL SHEETS - ADMIN\PT_02 - CONTROL BUILDING EXTERIOR ELEVATIONS.DWG

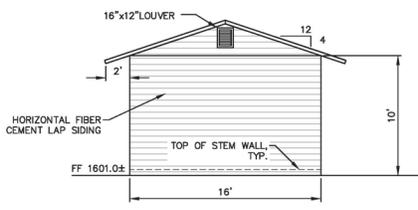
SHEET NOTES:
 1. FINISHES AND COLORS ARE TO BE APPROVED BY THE PARK



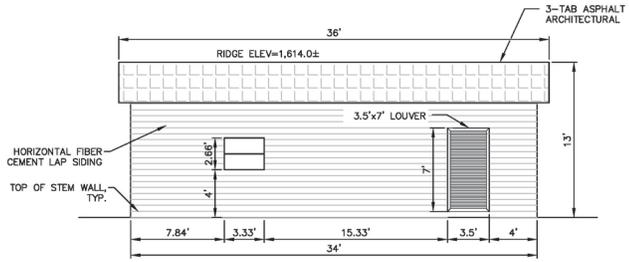
1 ELEVATION 1
A1.2 NTS



2 ELEVATION 2
A1.2 NTS



3 ELEVATION 3
A1.2 NTS



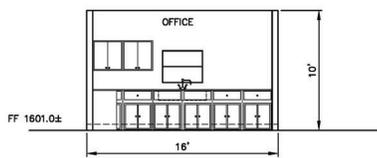
4 ELEVATION 4
A1.2 NTS



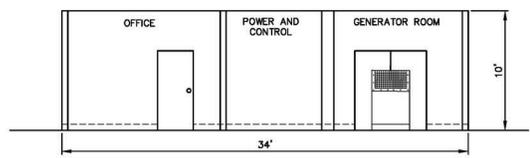
David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO. A1.2	TITLE OF SHEET CONTROL BUILDING EXTERIOR ELEVATIONS	DRAWING NO. 102
DRAWN: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	177,507
TECH. REVIEWER: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PKG NO. 317446
DATE: 03/31/2023			SHEET 62 of 142

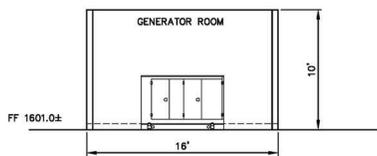
28/01/2023 08:11 BRYT BROOKE & CLERKENWELL ARCHITECTURAL SHEETS ADMIN/PKS - CONTROL BUILDING INTERIOR ELEVATIONS.DWG



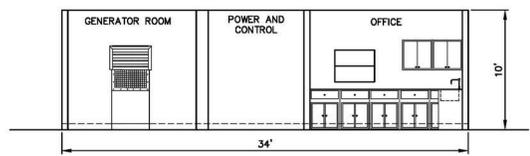
1 ELEVATION 1
A1.3/NTS



2 ELEVATION 2
A1.3/NTS



3 ELEVATION 3
A1.3/NTS



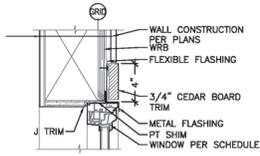
4 ELEVATION 4
A1.3/NTS



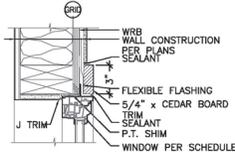
David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO. A1.3	TITLE OF SHEET CONTROL BUILDING INTERIOR ELEVATIONS	DRAWING NO. 102
DRAWN: M. GARCIA			PMS/PWD NO. 317446
TEAM REVIEWER: J. BLOM		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 63 of 142
DATE: 03/31/2023			

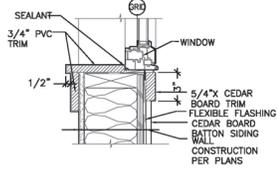
28/03/2023, 08:11 BRT BROOKE C. GLENIS\NPS\SEA\317446\DOMINOS\ASH - MOUNTAIN DRES V. ARCHITECTURAL SHEETS AMWWT64 - ARCH DETAIL.DWG



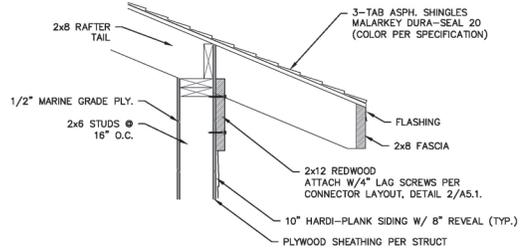
1 TYPICAL EXTERIOR WINDOW HEAD
SCALE: 3" = 1'-0"



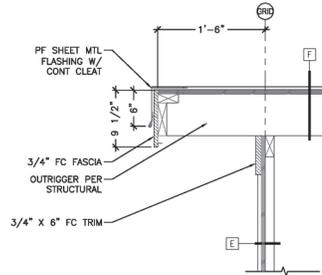
2 EXTERIOR WINDOW JAMB
SCALE: 3" = 1'-0"



3 EXTERIOR WINDOW SILL
SCALE: 3" = 1'-0"



4 TYPICAL TRIM & SOFFIT DETAIL
SCALE: NTS

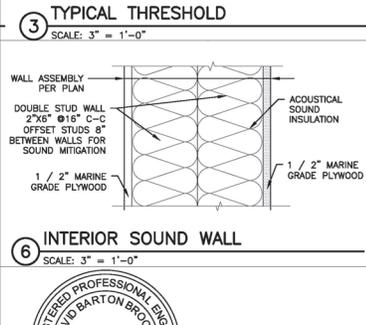
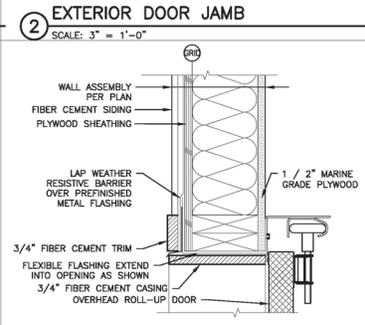
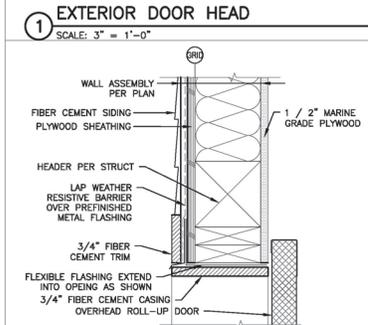
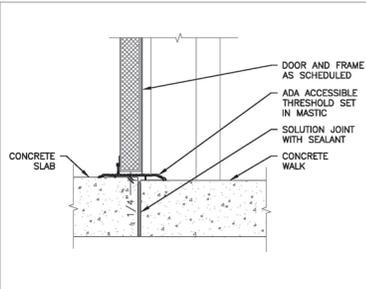
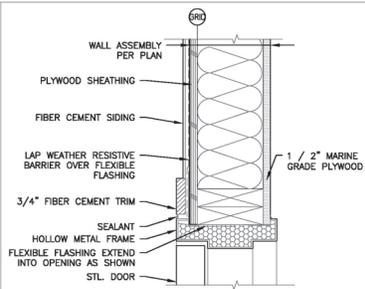
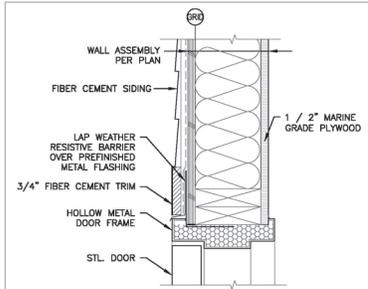
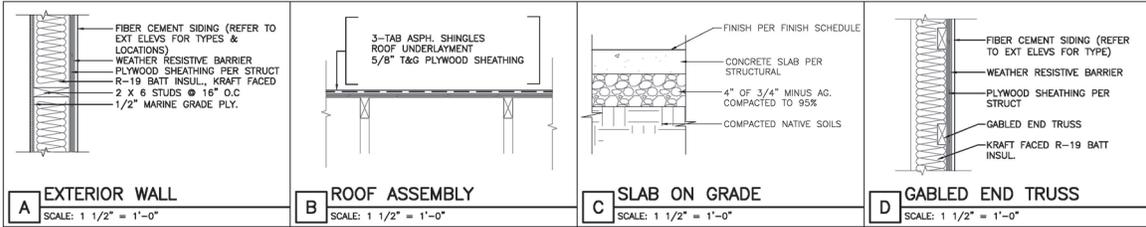


5 RAKE DETAIL
SCALE: NTS



David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
DRAWN: M. GARCIA	A1.4	ARCH DETAILS AMWWT6	102
TECH. REVIEWER: J. BLOM		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWG NO. 317446
DATE: 03/31/2023			SHEET 64 of 142

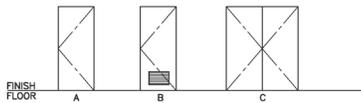


David Barton Brodke

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
DRAWN: M. GARCIA	A1.5	ARCH DETAILS AMWWTf	177,507
TECH. REVIEWER: J. BLOM			PMS/PWG NO. 317446
DATE: 03/31/2023		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 65 of 142

28/03/2023 08:10 BRT BROOKE & GLENN INC/S&P/317446/DRAWINGS/ASH - MOUNTAIN DRIVES ARCHITECTURAL SHEETS AMWWTf/05 - ARCH DETAILS.DWG

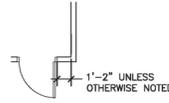
28/03/2023 08:10 BRT BROOKE C. CLENNIN@PWS.COM 317446 (DOMAINS)ASH - AMWWTF.66 - ARCH SCHEDULES.MXD



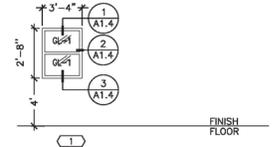
DOOR TYPES
SCALE: NTS



FRAME TYPES
SCALE: NTS



TYPICAL DOOR LOCATION
SCALE: NTS

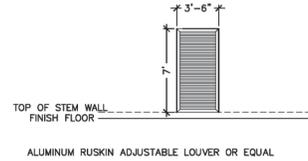


WINDOW TYPES
SCALE: NTS

DOOR AND FRAME SCHEDULE															
DOOR NUMBER	SIZE	DOOR				FRAME						REMARKS	DOOR NUMBER		
		TYPE	MATERIAL	FINISH	GLAZING	DETAILS			TYPE	MATERIAL	FINISH				
						HEAD	JAMB	THRESH							
EXTERIOR DOORS															
S001	3'-6" X 7'-0"	A	STL	FP	-	1/A6.0	2/A6.0	3/A6.0	1	HM	FP	0	H06	②	S001
S002	7'-0" X 7'-0"	C	STL	FP	-	4/A6.0	5/A6.0	N/A	N/A	N/A	N/A	0	H06	②	S002
INTERIOR DOORS															
S003	3'-6" X 7'-0"	C	STL	FP	-	4/A6.0	5/A6.0	N/A	N/A	N/A	N/A	0	H06	②	S003

DOOR & FRAME SCHEDULE ABBREVIATIONS	
FF	FACTORY FINISH
HM	HOLLOW METAL
PT	PAINT
SIM	SIMILAR
STL	STEEL
FP	FIELD PAINT

- ① ROLL-UP OVERHEAD DOOR
- ② DOOR HARDWARE SPECIFICATION 087100
- A. REFER TO SPECIFICATIONS FOR GLAZING TYPES



LOUVER TYPES
SCALE: NTS

INTERIOR FINISH SCHEDULE																	
ROOM NUMBER	ROOM NAME	BASE		FLOOR		NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		CEILING		REMARKS	ROOM NUMBER
		MAT'L	FINISH	MAT'L	FINISH	MAT'L	FINISH	MAT'L	FINISH	MAT'L	FINISH	MAT'L	FINISH	MAT'L	FINISH		
FIRST FLOOR																	
100	GENERATOR	N/A	N/A	CONC	LB	FRPW	FP	FRPW	FP	FRPW	FP	FRPW	FP	FRPW	FP		100
101	POWER & CONTROL	N/A	N/A	CONC	LB	PW	FP	PW	FP	PW	FP	PW	FP	PW	FP		101
102	OFFICE	N/A	N/A	CONC	LB	PW	FP	PW	FP	PW	FP	PW	FP	GWB	FP		102

FINISH SCHEDULE ABBREVIATIONS

BC	BURNISHED CONCRETE	GWB	GYPSUM WALL BOARD
CONC	CONCRETE	L	LINOLEUM
COVE	COVED BASE	LB	LIGHT BRUSH & SEALED PAINT
CT	CERAMIC TILE	PT	PAINT
EXP	EXPOSED	PW	PLYWOOD
FF	FACTORY FINISH	FRPW	FIRE RATED PLYWOOD
FRP	FIBERGLASS REINFORCED PANEL	RB	RUBBER COVE BASE
FP	FIELD PAINT	WRGWB	WATER RESISTANT GYPSUM WALL BOARD
		UF	UNFINISHED / UNPAINTED
		POL	CLASS A (CREAM) LEVEL 2 (HONED)



David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET ARCH SCHEDULES AMWWTF	DRAWING NO. 102
CHECKED: M. GARCIA	A1.6	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PWS/PWG NO. 317446
TITLE: J. BLOM	DATE: 03/31/2023	SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 66 of 142

1000 GENERAL

1001 GENERAL REQUIREMENTS

- 1. ALL MATERIALS, WORKMANSHIP, DESIGN AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE 2021 INTERNATIONAL BUILDING CODE AND CALIFORNIA BUILDING CODE 2019. IF CONFLICT EXIST THE MORE STRINGENT REQUIREMENT GOVERNS.
2. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS FOR BIDDING AND CONSTRUCTION. CONTRACTOR SHALL VERIFY DIMENSIONS AND CONDITIONS FOR COMPATIBILITY AND SHALL NOTIFY THE GOVERNMENT OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
3. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR THE STRUCTURE AND STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE CONTRACTOR'S WORK.
5. CONTRACTOR-INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE GOVERNMENT FOR APPROVAL PRIOR TO FABRICATION OR CONSTRUCTION. CHANGES SHOWN ON SHOP DRAWINGS ONLY WILL NOT SATISFY THIS REQUIREMENT.
6. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW AND APPROVAL BY THE GOVERNMENT.
7. ALL STRUCTURAL SYSTEMS WHICH ARE TO BE COMPOSED OF COMPONENTS TO BE FIELD ERRECTED SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVER, HANDLING, STORAGE AND ERECTION IN ACCORDANCE WITH INSTRUCTIONS PREPARED BY THE SUPPLIER.
8. THE PROJECT MANUAL FORMS A PART OF THESE GENERAL NOTES. CODES, STANDARDS, AND SPECIFICATIONS, INCLUDING ADDENDA AND SUPPLEMENTS REFERENCE IN THE PROJECT SPECIFICATIONS, IMMEDIATELY NOTIFY THE GOVERNMENT FOR RESOLUTION. DIMENSIONS TAKE PRECEDENCE OVER SCALED DRAWINGS.
9. NOTES AND DETAILS ON DRAWINGS TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. IF CONFLICTS OCCUR BETWEEN THE CONTRACT DRAWINGS AND THE PROJECT SPECIFICATIONS, IMMEDIATELY NOTIFY THE GOVERNMENT FOR RESOLUTION. DIMENSIONS TAKE PRECEDENCE OVER SCALED DRAWINGS.
10. CONTRACT DOCUMENTS INDICATE INFORMATION SUFFICIENT TO CONVEY DESIGN INTENT. REVIEW CONTRACT DOCUMENTS AND VERIFY FIELD AND EXISTING CONDITIONS. PROMPTLY NOTIFY A/E, PRIOR TO PROCEEDING WITH WORK, IF FURTHER CLARIFICATION OF DESIGN INTENT IS NEEDED.
11. VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY THE GOVERNMENT OF ANY DISCREPANCIES.
12. PERFORM STRUCTURAL RELATED WORK AND DEVELOP SHOP DRAWINGS CONSIDERING CONTRACT DOCUMENTS IN THEIR ENTIRETY. CONDITIONS NOT SPECIFICALLY DETAILED SHALL BE CONSTRUCTED AS DETAILED FOR SIMILAR WORK.
13. CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE MEANS AND METHODS OF CONSTRUCTION. PROVIDE ALL NECESSARY MEASURES TO PROTECT THE STRUCTURE DURING CONSTRUCTION. COMPLY WITH THE STATE OF CALIFORNIA REGULATIONS, CONSTRUCTION MATERIALS, IF PLACED ON FRAMED FLOORS AND ROOFS, SHALL BE SPREAD OUT SUCH THAT THE DESIGN LIVE LOAD PER SQUARE FOOT IS NOT EXCEEDED. PROVIDE ADEQUATE SHORING IF OVERLOAD IS ANTICIPATED OR WHERE STRUCTURAL ELEMENTS HAVE NOT ATTAINED DESIGN STRENGTH.
14. SUBMIT SHOP DRAWINGS FOR REVIEW BEFORE FABRICATION. CONTRACTOR SHALL REVIEW FOR COMPLETENESS AND COMPLIANCE WITH CONTRACT DOCUMENTS PRIOR TO SUBMISSION TO THE GOVERNMENT. THE GOVERNMENT REVIEW IS FOR GENERAL CONFORMANCE WITH DESIGN INTENT AND DOES NOT CONSTITUTE AN AUTHORIZATION TO DEVIATE FROM TERMS AND CONDITIONS OF CONTRACT WHEN INDICATED. THE SUBMITTAL SHALL BE SIGNED AND SEALED BY A PROFESSIONAL CIVIL OR STRUCTURAL ENGINEER LICENSED IN THE STATE OF CALIFORNIA. MAINTAIN AT SITE A COPY OF REVIEWED AND ACCEPTED SUBMITTALS.
15. MODIFICATIONS AND SUBSTITUTIONS MUST BE ACCEPTED IN WRITING BY ENGINEER. NO MODIFICATION OR SUBSTITUTION WILL BE

ACCEPTED VIA SHOP DRAWING REVIEW. MANUFACTURED MATERIALS SHALL BE APPROVED BY THE GOVERNING CODE AUTHORITY PRIOR TO THEIR USE. ADHERE TO ALL CONDITIONS OF THOSE APPROVALS.

- 16. EQUIPMENT MANUFACTURER SHALL PROVIDE EQUIPMENT ANCHORAGE TO THE STRUCTURE MEETING THE REQUIREMENTS OF ASCE/SEI 7, CHAPTER 13.6. USE ISOLATORS, FASTENERS AND BRACING HAVING CURRENT ICC-ES REPORTS. EQUIPMENT ANCHORAGE SHALL BE CAPABLE OF TRANSMITTING CODE REQUIRED LATERAL LOADS BUT IN NO EVENT LESS THAN A LATERAL LOAD EQUIVALENT TO 30 PERCENT OF THE OPERATING WEIGHT OF EQUIPMENT. SECURE SUSPENDED EQUIPMENT WITH LATERAL OR SWAY BRACING HAVING CURRENT ICC-ES REPORTS.
17. PIPING AND DUCTWORK BRACING SHALL BE IN ACCORDANCE WITH THE SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMANVA) 'SEISMIC RESTRAINT MANUAL - GUIDELINES FOR MECHANICAL SYSTEMS', INCLUDING ADDENDA.
18. 'TYPICAL DETAILS' ARE APPLICABLE THROUGHOUT CONSTRUCTION DOCUMENTS AND MAY NOT BE SPECIFICALLY REFERENCED THEREIN. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING THESE TYPICAL DETAILS AND UNDERSTANDING EXTENT OF THEIR APPLICATION PRIOR TO PERFORMING WORK.
19. UNLESS SPECIFICALLY SHOWN ON THE PLANS NO STRUCTURAL MEMBER SHALL BE CUT, DRILLED OR NOTCHED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER.
20. SEE ARCHITECTURAL DRAWINGS FOR:
20.1. DIMENSIONS NOT SHOWN ON STRUCTURAL DRAWINGS.
20.2. OPENINGS AND ARCHITECTURAL TREATMENTS.
21. SEE MECHANICAL, ELECTRICAL, PLUMBING DRAWINGS FOR:
A. SIZE AND LOCATION OF EQUIPMENT PADS, EQUIPMENT ANCHORAGE TO STRUCTURE AND EQUIPMENT WEIGHTS.
B. ANCHORAGE OF DUCTWORK, PIPING, ELECTRICAL CONDUITS TO STRUCTURE.
C. ELECTRICAL CONDUIT RUNS, OUTLETS AND BOXES IN CONCRETE SLABS AND WALLS.
D. PIPE SLEEVES, TRENCHES, AND OPENINGS THROUGH WALLS AND SLABS FOR DUCTWORK, PIPE RUNS, ELECTRICAL CONDUIT RUNS.
22. NON-STRUCTURAL ITEMS, INCLUDING BUT NOT LIMITED TO, ARCHITECTURAL CLADDING, ETC., WHEN NOT DETAILED ON THE STRUCTURAL OR ARCHITECTURAL DRAWINGS, SHALL BE THE DESIGN RESPONSIBILITY OF THE CONTRACTOR. THESE NON-STRUCTURAL ITEMS CAN BE SUPPORTED BY THE PRIMARY STRUCTURE BUT SHALL NOT IMPOSE TORSIONAL LOADS ONTO THE PRIMARY SUPPORT MEMBERS. PROVIDE BRACES, KICKERS, STIFFENERS, ETC. AS NECESSARY TO ELIMINATE TORSIONAL LOADS AT NO ADDITIONAL COSTS TO THE OWNER.

1002 CODE REQUIREMENTS

ALL DESIGN AND CONSTRUCTION SHALL CONFORM TO THE 2021 INTERNATIONAL BUILDING CODE AND CALIFORNIA BUILDING CODE 2019. IF CONFLICT EXIST THE MORE STRINGENT REQUIREMENT GOVERNS.

1003 DESIGN LOADING CRITERIA

Table with 2 columns: Item and Value. Includes: CONTROL BUILDING ROOF (20 PSF), HEADWIND SHED ROOF (20 PSF), PRE-ANOXIC TANK (HS20), PRIMARY TREATMENT TANK (60 PSF), SEPTIC TANK (100 PSF), DEAD: ROOF (PER STRUCTURE), SNOW: GROUND SNOW LOAD, Pg (5 PSF), WIND: BASIC WIND SPEED (106 MPH), SEISMIC DESIGN DATA: OCCUPANCY CATEGORY (IV), IMPORTANCE FACTOR (1.5), MAPPED SPECTRAL RESPONSE, Ss (0.519 G), ACCELERATIONS, S1 (0.204 G), SITE CLASS (D (DEFAULT)), SPECTRAL RESPONSE COEFFICIENT, Sp1 (0.479), Sp2 (0.299), SEISMIC DESIGN CATEGORY (D)

1004 GEOTECHNICAL INVESTIGATION/INFORMATION

1. DESIGN OF FOUNDATION SYSTEM BASED ON PRESUMPTIVE LOAD BEARING VALUES. CONTRACTOR SHALL NOTIFY GOVERNMENT OF EXPANSIVE SOIL, ORGANIC SOILS, OR OTHER CHARACTERISTICS THAT AFFECT THE SOILS BEARING CAPACITY.

Table with 2 columns: Parameter and Value. Includes: ALLOWABLE BEARING CAPACITY (2,000 PSF), ALLOWABLE PASSIVE EARTH PRESSURE (100 PCF), COHESION (130 PSF), COEFFICIENT OF FRICTION (N/A), SOIL PROFILE (SITE CLASS D)

1005 REQUIRED SUBMITTAL PROCEDURES

THE CONTRACTOR SHALL PROVIDE THE FOLLOWING SUBMITTALS TO THE ENGINEER OF RECORD FOR APPROVAL FOUR WEEKS PRIOR TO POUR OF CONCRETE OR FABRICATION.

- 1. PRE ENGINEERED STRUCTURAL COMPONENTS CALCULATIONS BEARING THE SEAL AND SIGNATURE OF A LICENSED CALIFORNIA STATE STRUCTURAL ENGINEER SHALL BE SUBMITTED FOR PREFABRICATED PLATED WOOD TRUSSES.
2. SHOP DRAWINGS
2.1. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER OF RECORD FOR APPROVAL PRIOR TO FABRICATION. IF SHOP DRAWINGS DIFFER FROM THE APPROVED DESIGN DRAWINGS, NEW DESIGN DRAWINGS BEARING THE SEAL AND SIGNATURE OF A LICENSED CALIFORNIA STATE STRUCTURAL ENGINEER SHALL BE SUBMITTED ALONG WITH THE SHOP DRAWINGS TO THE APPROPRIATE JURISDICTION FOR APPROVAL PRIOR TO FABRICATION.
2.2. SHOP DRAWINGS ARE REQUIRED FOR: CONCRETE REINFORCEMENT, AND PREFABRICATED WOOD TRUSSES.
3. CONCRETE MIX DESIGN
RE: SECTION 3001
4. SUBSTITUTION REQUEST
5. DEFERRED SUBMITTAL

1006 CODE REQUIRED SPECIAL INSPECTIONS

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL INSPECTIONS REQUIRED BY THE LOCAL BUILDING DEPARTMENT. IN ADDITION TO INSPECTIONS REQUIRED BY THE LOCAL BUILDING DEPARTMENT, THE CONTRACTOR SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTIONS FOR ITEMS NOTED IN IBC SECTION 1704 WHICH ARE SUMMARIZED IN THE SPECIAL INSPECTION SCHEDULE ON SHEET S1.3.
2. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON EMPLOYED BY AN APPROVED AGENCY. THE SPECIAL INSPECTOR SHALL KEEP RECORDS OF INSPECTIONS AND FURNISH THEM TO THE BUILDING OFFICIAL AND THE ENGINEER OF RECORD ON A REGULAR BASIS. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND THE CORRECTION OF ANY DISCREPANCIES SHALL BE PROVIDED PRIOR TO COMPLETION OF BUILDING FINISHES. WHERE FABRICATION OF STRUCTURAL COMPONENTS AND ASSEMBLIES IS BEING PERFORMED ON THE PREMISES OF A FABRICATOR'S SHOP, SPECIAL INSPECTION OF THE FABRICATED ITEMS SHALL BE REQUIRED EXCEPT WHERE THE FABRICATOR IS REGISTERED AND APPROVED TO DO SUCH WORK WITHOUT SPECIAL INSPECTION IN ACCORDANCE WITH IBC SECTION 1704.2.5. PERIODIC INSPECTION ALLOWS INSPECTION AT INTERVALS NECESSARY TO CONFIRM THAT WORK REQUIRING SPECIAL INSPECTION IS IN COMPLIANCE WITH REQUIREMENTS. CONTINUOUS SPECIAL INSPECTION REQUIRES THAT THE INSPECTOR BE ON SITE AT ALL TIMES THAT WORK REQUIRING SPECIAL INSPECTION IS PERFORMED.

1007 STRUCTURAL OBSERVATION SERVICES

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL STRUCTURAL OBSERVATION. STRUCTURAL OBSERVATION SHALL BE THE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM BY A REGISTERED DESIGN PROFESSIONAL FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL SYSTEM. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR REQUIRED SPECIAL INSPECTION AS NOTED IN SECTION 1006 OR FOR INSPECTIONS REQUIRED BY THE LOCAL JURISDICTION. THE CONTRACTOR SHALL RETAIN A REGISTERED DESIGN PROFESSIONAL TO PERFORM STRUCTURAL OBSERVATIONS FOR ITEMS LISTED WITHIN THE STRUCTURAL OBSERVATION SCHEDULE. RE: S1.3.

2. THE REGISTERED DESIGN PROFESSIONAL SHALL KEEP RECORDS OF STRUCTURAL OBSERVATIONS AND FURNISH THEM TO THE BUILDING OFFICIAL AND THE OWNER ON A REGULAR BASIS. A FINAL DOCUMENT NOTING REQUIRED STRUCTURAL OBSERVATIONS SHALL BE COMPLETED AND THE CORRECTION OF ANY DISCREPANCIES SHALL BE PROVIDED TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY.

1008 QUALITY ASSURANCE

1. CONTRACTOR SHALL SUBMIT MATERIAL CERTIFICATION OR LABORATORY TEST REPORTS CERTIFYING MATERIALS ARE OF IDENTIFIABLE TEST STOCK, COMPLYING WITH PROJECT SPECIFICATIONS, GOVERNMENT AND, UPON REQUEST, TO GOVERNING CODE AUTHORITY. IF LABORATORY TEST REPORTS CANNOT BE MADE AVAILABLE, APPROVED AGENCY WILL PERFORM TESTS AS DIRECTED BY THE A/E. CONTRACTOR SHALL PAY FOR COSTS RELATED TO TESTS AND INSPECTIONS OF UNIDENTIFIABLE MATERIALS, MATERIALS FURNISHED WITHOUT LABORATORY TEST REPORTS, MATERIALS FOUND DEFICIENT AFTER INITIAL TESTS AND INSPECTIONS, AND/OR MATERIALS REPLACING DEFICIENT MATERIALS.

2000 FOUNDATION

- 1. DESIGN OF FOUNDATION SYSTEM BASED ON GEOTECHNICAL INVESTIGATION/INFORMATION SEE SECTION 1004.
2. DESIGN OF FOUNDATION SYSTEM BASED ON PRESUMPTIVE LOAD BEARING VALUES. CONTRACTOR SHALL NOTIFY GOVERNMENT OF EXPANSIVE SOIL, ORGANIC SOILS, OR OTHER CHARACTERISTICS THAT AFFECT THE SOILS BEARING CAPACITY.
3. CONTINUOUS SPREAD FOOTING DESIGN BASED ON AN ALLOWABLE NET BEARING PRESSURE OF 1500 PSF. BOTTOM OF FOOTINGS SHALL BE A MINIMUM OF 24 INCHES BELOW LOWEST ADJACENT FLOOR OR GRADE AND SUPPORTED ON A MINIMUM OF 6 INCHES OF PROPERLY COMPACTED FILL. FOOTING DIMENSIONS SHALL NOT BE LESS THAN 30 INCHES CONTINUOUS SPREAD FOOTINGS.
4. RESISTANCE TO LATERAL LOADS PROVIDED BY PASSIVE EARTH PRESSURES AND COHESION OF CLAY. ALLOWABLE COHESION IS 130 PSF AND ALLOWABLE PASSIVE PRESSURE FOR SIDES CAST AGAINST UNDISTURBED OR RECOMPACTED SOIL IS EQUIVALENT TO A FLUID DENSITY OF 100 PCF.
5. FOUNDATIONS MAY BE CAST DIRECTLY AGAINST EXCAVATIONS PROVIDED EXCAVATION IS CAPABLE OF MAINTAINING A VERTICAL CUT WITHOUT SLOUGHING. FOUNDATION DIMENSION SHALL BE ENLARGED BY AN ADDITIONAL ONE INCH IN THE DIRECTION OF THE SIDE CAST AGAINST EARTH.
6. CONCRETE SHALL NOT BE PLACED ON FROZEN GRADE. IF FOOTING IS SUBJECT TO FREEZING TEMPERATURES AFTER FOUNDATION CONSTRUCTION, THEN FOOTING SHALL BE ADEQUATELY PROTECTED FROM FREEZING.
7. EXCAVATION, BACKFILL, AND COMPACTION SHALL BE DONE IN STRICT ACCORDANCE WITH INTERNATIONAL BUILDING CODE.



David Barton Brooke

Table with 4 columns: Designer (D. BROOKE), Sub Sheet No. (S1.0), Title of Sheet (STRUCTURAL NOTES 1), Drawing No. (102), and other details like Date (03/31/2023) and Sheet (67 of 142).

8. DO NOT PERMIT ANY PERSON TO DESCEND INTO TRENCHES OR EXCAVATIONS GREATER THAN FOUR FEET IN DEPTH UNLESS NECESSARY PERMIT FROM STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY IS OBTAINED PRIOR TO ISSUANCE OF BUILDING OR GRADING PERMIT. CONTRACTOR TO PROVIDE FOR DESIGN, PERMIT, AND INSTALLATION OF ALL SHORING AND SHEATHING NECESSARY TO SAFELY RETAIN EARTH BANKS.
9. CONTRACTOR TO PROVIDE FOR DEWATERING OF EXCAVATIONS FROM SURFACE WATER, GROUNDWATER OR SEEPAGE. DEWATERING SHALL EFFECTIVELY ELIMINATE ANY HYDROSTATIC PRESSURE ON SHORING. ENSURE THAT CONTAMINATED WATER IS NOT DISPOSED OF IN PUBLIC SEWER OR STORM DRAIN SYSTEM AND ENSURE THAT DIRTY WATER IS NOT DISPOSED OF INTO PUBLIC RIGHT-OF-WAY.
10. FOR PIT WALLS AND BUILDING WALLS BELOW GRADE, BRACING AND SHORING SHALL REMAIN IN PLACE UNTIL ATTACHED FLOORS ARE PLACED AND CURED FOR AT LEAST 7 DAYS.

3000 CONCRETE

3001 CAST-IN-PLACE CONCRETE

1. ALL CONCRETE WORK SHALL CONFORM TO THE STANDARDS OF THE AMERICAN CONCRETE INSTITUTE, ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE" AND ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", WITH MODIFICATIONS AS NOTED IN THE CONTRACT DOCUMENTS.
2. CONCRETE SHALL ATTAIN THE FOLLOWING MINIMUM COMPRESSIVE STRENGTH AT 28-DAY (F_c) UNLESS NOTED OTHERWISE:
 - 2.1. CONTINUOUS FOOTINGS: 4500 PSI, NORMAL WEIGHT.
 - 2.2. SLABS-ON-GRADE: 4500 PSI, NORMAL WEIGHT.
3. UNLESS NOTED OTHERWISE HEREIN, CONCRETE IS ASSIGNED TO EXPOSURE CLASSES F2, S0, W0, AND CO, AS DEFINED IN ACI 318.
4. PORTLAND CEMENT SHALL CONFORM TO ASTM C150, TYPE II.
5. CONCRETE MIX DESIGNS SHALL NOT EXCEED PASTE VOLUME OF 25%.
6. CONCRETE MIX DESIGNS SHALL CONTAIN MINIMUM 15% FLYASH CONTENT
7. AGGREGATES FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C33. NORMAL WEIGHT CONCRETE SHALL HAVE A DRY UNIT WEIGHT OF 150 +/- PCF.
8. MAXIMUM AGGREGATE SIZE SHALL BE 1.5 INCHES, BUT NO LARGER THAN (A) 1/5 THE NARROWEST DIMENSION BETWEEN SIDES OF FORMS, (B) 1/3 THE DEPTH OF SLABS, OR (C) 3/4 THE MINIMUM CLEAR SPACING BETWEEN INDIVIDUAL REINFORCING BARS OR WIRES, BUNDLES OF BARS, OR DUCTS.
9. MAXIMUM SLUMP SHALL BE 4 INCHES TYPICALLY UNLESS A HIGH-RANGE WATER REDUCING ADMIXTURE (SUPERPLASTICIZER) IS USED IN THE CONCRETE MIX PROPORTIONS THEN A MAXIMUM SLUMP OF 6 INCHES TYPICALLY.
10. CONCRETE SHRINKAGE SHALL BE LIMITED TO 0.005 PERCENT AS DETERMINED BY ASTM C157.
11. WATER CEMENT RATIO SHALL NOT EXCEED 0.45.
12. CONCRETE MIX PROPORTIONING SHALL BE BASED ON FIELD EXPERIENCE AND/OR TRIAL MIXTURES. SUBMIT CONCRETE MIX PROPORTIONING DATA, INCLUDING HISTORICAL STRENGTH RECORDS AND/OR RESULTS OF TRIAL MIXTURES, FOR EACH TYPE AND COMPRESSIVE STRENGTH OF CONCRETE. CONCRETE MIX PROPORTIONING SHALL BE SIGNED AND SEALED BY A PROFESSIONAL CIVIL OR STRUCTURAL ENGINEER LICENSED IN THE STATE OF CALIFORNIA AND SHALL BE SUBMITTED TO THE GOVERNMENT FOR REVIEW AND APPROVAL.
13. CONCRETE MIXING SHALL CONFORM TO ASTM C94.
14. SUBMIT SHOP DRAWINGS INDICATING LOCATIONS OF CONCRETE CONSTRUCTION JOINTS TO THE A/E FOR REVIEW AND APPROVAL PRIOR TO PLACING CONCRETE. LOCATE CONSTRUCTION JOINTS TO MINIMIZE EFFECTS OF SHRINKAGE AND AT THE POINTS OF LOW STRESS.
15. THE OUTSIDE DIAMETER OF CONDUITS AND PIPES EMBEDDED IN

WALLS SHALL NOT EXCEED 1/3 THE OVERALL THICKNESS OF SLAB OR WALL IN WHICH THEY ARE EMBEDDED. LOCATE CONDUITS AND PIPES WITHIN THE MIDDLE THIRD OF WALLS AND NO CLOSER THAN 3 DIAMETERS ON CENTER WITH A CLEAR SPACING NOT LESS THAN 4 INCHES. CROSSING OF ELECTRICAL CONDUIT IS NOT PERMITTED WITHOUT THE PRIOR WRITTEN CONSENT OF THE ENGINEER.

16. PROVIDE SLEEVES FOR ELECTRICAL AND PLUMBING OPENINGS. IF CONFLICT OCCURS BETWEEN REINFORCING AND SLEEVES, REPOSITION REINFORCING OR SLEEVES OR BOTH. DO NOT CUT ANY REINFORCING. CORING IS NOT PERMITTED.
17. PRIOR TO PLACING CONCRETE, REINFORCING BARS, EMBEDDED PLATES, ANCHOR BOLTS, AND OTHER CONCRETE EMBEDMENTS SHALL BE WELL SECURED IN POSITION.
18. CONCRETE PLACEMENT SHALL CONFORM TO ACI 304.
19. CONCRETE SHALL BE MAINTAINED ABOVE 50 FAHRENHEIT AND IN A MOIST CONDITION FOR A MINIMUM OF 7 DAYS AFTER PLACEMENT UNLESS OTHERWISE ACCEPTED BY ENGINEER.
20. HOT WEATHER PLACEMENT SHALL BE IN ACCORDANCE WITH ACI 305R.
21. COLD WEATHER PLACEMENT SHALL BE IN ACCORDANCE WITH ACI 306R.

22. SLAB-ON-GRADE DESIGN IN ACCORDANCE WITH ACI 360R-10
23. UNLESS SHOWN OTHERWISE CONCRETE PADS AND SLAB ON GRADE SHALL BE 6 INCHES THICK AND REINFORCED WITH #4 BAR @ 18 INCHES ON CENTER IN BOTH DIRECTIONS AT MID DEPTH OF THE SLAB.
24. MINIMUM SLAB-ON-GRADE THICKNESS 6 INCHES AT THINNEST POINT (TYPICALLY AT FLOOR DRAINS)
25. PROVIDE CONTROL JOINTS AND/OR ADEQUATE REINFORCING STEEL AT RE-ENTRANT CORNERS IN SLABS-ON-GRADE, RE:1/S1.0
26. USE OF STAGGERED OR OFFSET CONTROL JOINTS IN SLABS-ON-GRADE IS NOT PERMITTED.
27. THE EXISTING TANKS AND LIFT STATION THAT ARE TO REMAIN WILL BE VISUALLY INSPECTED BY CONTRACTOR FOR ANY SIGNS OF DISTRESS OR DETERIORATION. THEY WILL ALSO BE TESTED BY TACTILE (SOUNDING) METHODS BY AN INDIVIDUAL EXPERIENCED IN TESTING CONCRETE FOR SPALLING AND DELAMINATION. CONTRACTOR TO INFORM THE GOVERNMENT OF ANY SIGNS OF DAMAGE IMMEDIATELY.
28. THE EXISTING TANKS, LIFT STATION, AND PIPES WILL BE FILLED WITH WATER AND CHECKED FOR ANY LEAKS BY CONTRACTOR. CONTRACTOR TO INFORM THE GOVERNMENT OF ANY SIGNS OF DAMAGE IMMEDIATELY.

29. CONCRETE PLACEMENT SHALL CONFORM TO ACI 304.
30. HOT WEATHER PLACEMENT SHALL BE IN ACCORDANCE WITH ACI 305R.
31. COLD WEATHER PLACEMENT SHALL BE IN ACCORDANCE WITH ACI 306R.
32. SLAB-ON-GRADE DESIGN IN ACCORDANCE WITH ACI 360R-10
33. UNLESS SHOWN OTHERWISE CONCRETE PADS AND SLAB ON GRADE SHALL BE 6 INCHES THICK AND REINFORCED WITH #4 BAR @ 18 INCHES ON CENTER IN BOTH DIRECTIONS AT MID DEPTH OF THE SLAB.
34. MINIMUM SLAB-ON-GRADE THICKNESS 6 INCHES AT THINNEST POINT (TYPICALLY AT FLOOR DRAINS)
35. PROVIDE CONTROL JOINTS AND/OR ADEQUATE REINFORCING STEEL AT RE-ENTRANT CORNERS IN SLABS-ON-GRADE, RE:1/S1.0
36. USE OF STAGGERED OR OFFSET CONTROL JOINTS IN SLABS-ON-GRADE IS NOT PERMITTED.
37. THE EXISTING TANKS AND LIFT STATION THAT ARE TO REMAIN WILL BE VISUALLY INSPECTED BY CONTRACTOR FOR ANY SIGNS OF DISTRESS OR DETERIORATION. THEY WILL ALSO BE TESTED BY TACTILE (SOUNDING) METHODS BY AN INDIVIDUAL EXPERIENCED IN TESTING CONCRETE FOR SPALLING AND DELAMINATION. CONTRACTOR TO INFORM THE GOVERNMENT OF ANY SIGNS OF DAMAGE IMMEDIATELY.
38. THE EXISTING TANKS, LIFT STATION, AND PIPES WILL BE FILLED WITH WATER AND CHECKED FOR ANY LEAKS BY CONTRACTOR. CONTRACTOR TO INFORM THE GOVERNMENT OF ANY SIGNS OF DAMAGE IMMEDIATELY.

3002 REINFORCING STEEL

1. REINFORCING STEEL SHALL BE PLACED IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" AND CONCRETE REINFORCING STEEL INSTITUTE (CRSI) "MANUAL OF STANDARD PRACTICE".
2. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, UNLESS NOTED OTHERWISE. BARS TO BE WELDED SHALL CONFORM TO LOW ALLOW ASTM A706.
3. ANCHORS SHALL CONFORM TO ASTM F1554 WITH A YIELD STRENGTH OF 55 KSI.
4. PREPARE REINFORCING STEEL SHOP DRAWINGS IN ACCORDANCE TO ACI 318, PART B. SHOP DRAWINGS MAY BE PREPARED MANUALLY OR BY COMPUTER. SHOW REINFORCING PLACEMENT, SPlice LOCATIONS, REINFORCING LENGTHS, DETAILS, ELEVATIONS, BEND DETAILS, ETC. SUBMIT TO A/E FOR REVIEW PRIOR TO FABRICATION. PROMPTLY NOTIFY A/E PRIOR TO DEVELOPING REINFORCING STEEL SHOP DRAWINGS IF INSUFFICIENT CLEAR DISTANCES BETWEEN REINFORCING STEEL OR OTHER CONGESTION IS ENCOUNTERED. DEVIATIONS FROM THE CONTRACT DOCUMENTS SHALL BE CLEARLY IDENTIFIED ON THE SHOP DRAWINGS. IF SUBMITTAL IS PARTIAL, CLEARLY INDICATE ITEMS EXCLUDED FROM SUBMITTAL. SHOP DRAWING WILL BE REJECTED IF NOT PREPARED TO THE STANDARDS STATED ABOVE.

5. LOCATE SPLICES IN AREAS OF MINIMUM STRESS. LAP SPlice LENGTHS ARE AS INDICATED ON THE DRAWINGS. FOR LAP SPlicing REQUIREMENTS REFER TO SHEET S1.4.
6. MINIMUM CLEARANCES BETWEEN PARALLEL REINFORCING STEEL, INCLUDING SPliced BARS SHALL BE ONE INCH, ONE BAR DIAMETER, OR 4/3 TIMES THE MAXIMUM SIZE AGGREGATE, WHICH IS GREATER.
7. REINFORCING STEEL BENDS SHALL BE MADE COLD. RE-BENDING OF PREVIOUSLY BENT REINFORCING IS NOT PERMITTED.
8. ALL REINFORCING STEEL SHALL BE SECURELY HELD IN PLACE WHILE PLACING CONCRETE. IF REQUIRED, ADDITIONAL BARS OR STIRRUPS SHALL BE PROVIDED BY THE CONTRACTOR TO FURNISH SUPPORT FOR ALL REINFORCING.
9. ALL REINFORCING STEEL SHALL BE MARKED SO THEIR IDENTIFICATION CAN BE MADE WHEN FINAL INSPECTION IS CONDUCTED.

5000 STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF ANS/AISC 360 SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS AND THE LATEST EDITION OF ANS/AISC 341 SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS.
2. SEISMIC LOAD RESISTING SYSTEM (SLRS) IS DEFINED AS THE ASSEMBLY OF STRUCTURAL ELEMENTS IN THE BUILDING THAT RESISTS SEISMIC LOADS, INCLUDING COLUMNS, BEAMS, GIRDERS, STRUTS, COLLECTORS, CHORDS AND BRACES, AND THE CONNECTIONS BETWEEN THESE ELEMENTS, SPECIFICALLY DESIGNED TO RESIST SEISMIC FORCES, AS DESIGNATED ON THE
3. SUBMIT SHOP DRAWINGS TO CONTRACTING OFFICER FOR REVIEW. INDICATE AN ERECTION SEQUENCE OF WELDING TO MINIMIZE LOCKED-UP STRESSES OR DISTORTION FOR MOMENT-RESISTING FRAME.
4. ALL STEEL NOT ENCASED IN CONCRETE, MASONRY, OR FIREPROOFING SHALL BE SHOP PRIMED AND PAINTED PER SPECIFICATIONS. ANY ABRASIONS OR UNPAINTED AREAS SHALL BE TOUCHED UP AFTER ERECTION.
5. ALL STRUCTURAL STEEL AND MISCELLANEOUS METALS EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION UNLESS NOTED OTHERWISE ON ARCHITECTURAL DRAWINGS.
6. WELDING SHALL CONFORM TO LATEST EDITION OF ANS/AISC D1.1
 - 6.1. WELDING SHALL UTILIZE E70 ELECTRODES IAW D1.1.
 - 6.2. WELDERS SHALL BE CERTIFIED TO CONFORM WITH AWS STANDARDS AND APPROVED BY THE GOVERNING CODE AUTHORITY.
 - 6.3. MINIMUM FILLET WELD SIZE SHALL CONFORM TO ASIC SPECIFICATION TABLE J2.4. WELD LENGTHS NOTED ON DRAWINGS ARE THE NET EFFECTIVE LENGTHS REQUIRED.
 - 6.4. FIELD WELD SYMBOLS NOTED ON THE DRAWINGS SHOW ENGINEERING INTENT, BUT NO ATTEMPT HAS BEEN MADE TO CLASSIFY ALL WELDS. AT FABRICATOR'S OPTION, ANY WELD INDICATED AS A FIELD WELD MAY BE SHOP WELDED AND ANY WELD INDICATES AS SHOP WELD MAY BE FIELD WELDED.
7. WELDS SHALL BE PREQUALIFIED PER AWS D1.1. NON-PREQUALIFIED WELDED JOINTS SHALL BE QUALIFIED BY TEST PER AWS D1.1.

8. SUBMIT TO CONTRACTING OFFICER FOR REVIEW A WRITTEN WELDING PROCEDURE SPECIFICATION (WPS) FOR ALL WELDS USED ON PROJECT PRIOR TO FABRICATION. FOR WELDS NOT PREQUALIFIED, THE SUPPORTING PROCEDURE QUALIFICATION RECORD (PQR) SHALL ALSO BE SUBMITTED WITH THE WPS. WPS SHALL BE IN ACCORDANCE TO AWS D1.1, SECTION 4.6 AND SHALL INCLUDE THE FOLLOWING INFORMATION FOR EACH WELD TYPE AND POSITION.
 - 8.1. SKETCH OF JOINT DESCRIBING GEOMETRY AND APPLICABLE DIMENSIONS, WELD TYPE AND SIZE, SEQUENCE OF WELD DEPOSITION, AND MAXIMUM LAYER THICKNESS AND BEAD WIDTHS. LAYER THICKNESS SHALL NOT EXCEED 3/8 INCH AND BEAD WIDTH SHALL NOT EXCEED 5/8 INCH.
 - 8.2. BASE METAL TYPES AND THICKNESS.
 - 8.3. APPLICABLE WELD PROCESS
 - 8.4. FILLER METAL PER AWS STANDARD AND ELECTRODE SPECIFICATION AND CALSIFICATION, AS WELL AS DETAILS OF SHIELD MATERIAL
 - 8.5. ELECTRICAL CHARACTERISTICS FOR WELD PROCESS USED SUCH AS TYPE OF CURRENT AND ACCEPTABLE RANGE OF CURRENT MEASURED IN AMPERAGE, VOLTAGE RANGE, AND ELECTRODE DIAMETER. FOR WELD FEED PROCESS, INDICATE MANUFACTURER RECOMMENDED WIRE SPEED, CONTACT DISTANCE, MELT OFF RATE AND DEPOSITION RATE.
 - 8.6. A COPY OF ELECTRODE MANUFACTURER'S TECHNICAL INFORMATION AND CERTIFICATE OF CONFORMANCE.

9. TESTING LABORATORY WILL VERIFY COMPLIANCE WITH ACCEPTED WPS AND WILL PROMPTLY NOTIFY CONTRACTING OFFICER IF DEVIATIONS ARE FOUND.
10. ELECTRODE DIAMETER SHALL NOT EXCEED PREQUALIFIED LIMITS SHOWN IN AWS D1.1 TABLE 3.7, AS APPLICABLE. FOR FCAW PROCESS, MAXIMUM ELECTRODE SIZE SHALL NOT EXCEED 1/8 INCH.
11. HYDROGEN LEVEL FOR ELECTRODES USED IN SLRS WELDED JOINTS SHALL MEET THE REQUIREMENTS FOR H16 AS SPECIFIED IN ANS/AISC 341, APPENDIX 2, SECTION W6.2. ELECTRODES FOR ALL OTHER WELDS SHALL BE LOW HYDROGEN TYPE.
12. DETAILS, MATERIALS, WORKMANSHIP, AND TESTING AND INSPECTION REQUIREMENTS OF WELDED JOINTS COMPRISING THE SLRS SHALL CONFORM TO THE FOLLOWING APPLICABLE STANDARDS.
 - 12.1. AWS D1.1 "STRUCTURAL WELDING CODE-STEEL"
 - 12.2. AWS D1.8 "STRUCTURAL WELDING CODE-SEISMIC SUPPLEMENT"
 - 12.3. ANS/AISC 41 "SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS - APPENDIX Q (QUALITY ASSURANCE PLAN) AND APPENDIX W (WELDING PROVISIONS)"
 - 12.4. ANS/AISC 358 "PREQUALIFIED CONNECTIONS FOR SPECIAL AND INTERMEDIATE STEEL MOMENT RESISTING FRAMES FOR SEISMIC APPLICATIONS."
13. WELD MATERIALS USED IN SLRS WELDED CONNECTIONS SHALL CONFORM TO THE FOLLOWING TOUGHNESS REQUIREMENTS:
 - 13.1. WELDED CONNECTIONS SHALL BE MADE WITH A FILLER METAL THAT CAN PRODUCE WELDS THAT HAVE A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FT-LB AT 0°F AS DETERMINED BY THE APPROPRIATE AWS CLASSIFICATION TEST METHOD.
 - 13.2. WELDED CONNECTIONS DESIGNATED AS "DEMAND CRITICAL", SHALL BE MADE WITH A FILLER METAL CAPABLE OF PROVIDING A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FT-LB AT -20°F AS DETERMINED BY THE APPROPRIATE AWS CLASSIFICATION TEST METHOD, AND 40 FT-LB AT 70°F AS DETERMINED BY APPENDIX X OF ANS/AISC 341.
14. WELDING OF SHEET METAL AND METAL STUDS SHALL BE IN ACCORDANCE WITH AWS D1.3.



David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
DRAWN: M. GARCIA		STRUCTURAL NOTES 2	102
TITLE: J. BLOM			177,507
DATE: 03/31/2023			PMS/PWC NO. 317446
			SHEET 68 of 142

S1.1

REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQOIA & KINGS CANYON NATIONAL PARKS

3/30/2023, 11:14 AM, D. BROOKE, CIVIL ENGINEER, STATE OF CALIFORNIA, LICENSE NO. 70417, PROJECT NO. 177507, SHEET 68 OF 142

6000 WOOD

DOUGLAS-FIR-LARCH NO. 2 OR BETTER

6050 PRESERVATIVE TREATED WOOD PRODUCTS

- PRESERVATIVE TREATED WOOD SHALL BE REQUIRED FOR:
 - ALL WOOD THAT FORMS THE STRUCTURAL SUPPORT OF THE BUILDING, BALCONIES PORCHES, OR SIMILAR PERMANENT BUILDING APPURTENANCES THAT ARE EXPOSED TO THE WEATHER WITHOUT ADEQUATE PROTECTION FROM A ROOF, EAVE, OVERHANG, OR OTHER COVERING TO PREVENT MOISTURE OR WATER ACCUMULATION AT THE SURFACE OR AT JOINTS BETWEEN MEMBERS.
 - ALL WOOD INSTALLED ABOVE GROUND AND RESTING ON AN EXTERIOR CONCRETE FOUNDATION WALL LESS THAN 8 INCHES FROM EXPOSED EARTH.
 - POSTS OR COLUMNS SUPPORTING PERMANENT STRUCTURES AND SUPPORTED BY A CONCRETE SLAB OR FOOTING THAT IS IN DIRECT CONTACT WITH THE EARTH EXCEPT:
 - IF LOCATED IN BASEMENTS ON A CONCRETE PIER OR METAL PEDESTAL 1 INCH ABOVE THE SLAB AND SEPARATED THEREFROM BY AN IMPERVIOUS MOISTURE BARRIER.
 - IF IN AN ENCLOSED CRAWL SPACE OR AN UNEXCAVATED AREA WITHIN THE BUILDING PERIPHERY AND SUPPORTED BY A CONCRETE PIER OR PEDESTAL MORE THAN 8 INCHES FROM EXPOSED GROUND AND SEPARATED THEREFROM BY AN IMPERVIOUS MOISTURE BARRIER.
 - SLEEPERS AND SILLS ON A CONCRETE SLAB ON GRADE THAT DOES NOT HAVE AN IMPERVIOUS MOISTURE BARRIER SEPARATION WITH EXPOSED EARTH.
 - LEDGERS AND FURRING ATTACHED DIRECTLY TO THE INTERIOR OF EXTERIOR CONCRETE WALLS BELOW GRADE.
- PRESERVATIVE TREATMENT SHALL BE PER AMERICAN WOOD PRESERVERS ASSOCIATION (AWPA) SPECIFICATION C2 AND C9 OR APPLICABLE STANDARDS.
- WOOD TRUSSES SHALL UTILIZE APPROVED CONNECTOR PLATES (GANGNAIL OR EQUAL), SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS TO THE A/E FOR REVIEW. SUBMITTED DOCUMENTS SHALL BE SIGNED AND STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA. PROVIDE ALL CONNECTION DETAILS AND REQUIRED CONNECTION MATERIALS. PROVIDE FOR ALL TEMPORARY AND PERMANENT TRUSS BRACING AND BRIDGING.
- ALL FASTENERS (NAILS, BOLTS, ANCHOR BOLTS, PLATES, HANGERS, ETC) IN CONTACT WITH TREATED LUMBER SHALL BE CORROSION RESISTANT AS FOLLOWS:

ENVIRONMENT	SBX/DOT /ZINC BORATE	MCQ	ACQ-C, ACQ-D, CA-3, CBA-A	ACZA
INTERIOR PLATES	G90	G90	H0G	SS
EXTERIOR PLATES	NA	H0G	SS	SS
EXTERIOR EXPOSED LUMBER	NA	H0G	SS	SS

WHERE:

- G90= ZINC GALVANIZED FINISH CONTAINING 0.90 OZ OF ZINC PER SQ. FT. ALL SIDES.
- H0G= HOT-DIP GALVANIZED AFTER FABRICATION WITH MIN. COATING OF 2.0 OZ OF ZINC PER SQ. FT. ALL SIDES.
- SS= STAINLESS STEEL OF TYPE 303, 304, 305, OR 316.

6100 ROUGH FRAMING

- SAWN LUMBER SHALL CONFORM TO WEST COAST LUMBER INSPECTION BUREAU (WCLIB) "GRADING AND DRESSING RULES" NO. 17 LATEST EDITION. SAWN LUMBER SHALL BE S4S AND SURFACE DRIED, 19 PERCENT MAXIMUM MOISTURE CONTENT, PROTECT LUMBER FROM WEATHER AND PROVIDE FURTHER DRYING OF ASSEMBLED FRAMING TO MINIMIZE WOOD SHRINKAGE POTENTIAL. ALL LUMBER EXPOSED TO WEATHER OR IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESERVATIVE TREATED UNLESS NOTED OTHERWISE PER PLAN. LUMBER SPECIES, GRADE, AND PROPERTIES SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE PER PLAN SCHEDULE:

6101 FRAMING NOTES

- FRAMING CONNECTORS, ACCESSORIES, AND FASTENERS AS NOTED IN THE PLANS AND DETAILS SHALL BE AS MANUFACTURED BY SIMPSON STRONG-TIE. EQUIVALENT HARDWARE MAY BE USED WITH PRIOR APPROVAL BY THE ENGINEER OF RECORD. INSTALL ALL HARDWARE PER MANUFACTURER'S SPECIFICATIONS. WHERE STRAPS CONNECT TWO MEMBERS TOGETHER, PLACE HALF OF THE REQUIRED FASTENERS INTO EACH MEMBER. PROVIDE SOLID BLOCKING AT ALL BEARING POINTS. SEE SECTION 6050 FOR FASTENER REQUIREMENTS AT TREATED LUMBER. TYPICAL NAILING NOT SHOWN PER PLAN, DETAIL, OR SCHEDULE SHALL CONFORM TO FASTENING REQUIREMENTS PER IBC SECTION 2304.10. NAILS SHALL BE COMMON UNLESS NOTED OTHERWISE.
- UNLESS NOTED OTHERWISE PER SHEAR WALL SCHEDULE OR PLANS, ANCHOR BOLTS AT SILL PLATES SHALL BE 5/8 INCH DIAMETER WITH 7 INCHES MINIMUM EMBEDMENT INTO CONCRETE AND SHALL BE SPACED NOT MORE THAN 3 FEET APART. THE BOLTS SHALL BE LOCATED IN THE MIDDLE THIRD OF THE WIDTH OF THE PLATE. THERE SHALL BE A MINIMUM OF TWO BOLTS PER SILL PIECE WITH ONE BOLT LOCATED NOT MORE THAN 12 INCHES NOR LESS THAN 4 INCHES FROM EACH END OF THE PIECE. A 3"X3"X1/4" PLATE WASHER SHALL BE PROVIDED FOR ALL ANCHOR BOLTS BETWEEN THE FOUNDATION SILL PLATE AND THE NUT (COUNTERSUNK PLATE WASHERS SHALL NOT BE ALLOWED). THE HOLE IN THE PLATE WASHER IS PERMITTED TO BE DIAGONALLY SLOTTED WITH A WIDTH OF UP TO 3/16 INCH (4.76 MM) LARGER THAN THE BOLT DIAMETER AND A SLOT LENGTH NOT TO EXCEED 13/4 INCHES (44 MM), PROVIDED THAT A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND THE NUT.
- CHORD OF TWO STUDS (2X6) SHALL BE AT THE BOUNDARIES OF EACH FULL HEIGHT WALL SEGMENT.
- WALL FRAMING- CORNERS PER 2308.5.2. NO LESS THAN THREE STUDS SHALL BE INSTALLED AT EACH CORNER OF THE WALL.
- WALL FRAMING- STUD BRIDGING/BLOCKING PER 2308.5.7. USE THE SAME WALL STUD SIZE AS BLOCKING AT THE MID-HEIGHT OF THE STUDS.
- WALL FRAMING-PIPES IN-WALL PER 2308.5.8. WHERE PLUMBING, HEATING, OR OTHER PIPES ARE PLACED IN, OR PARTLY IN, A PARTITION, NECESSITATING THE CUTTING OF THE SOLES OR PLATES, A METAL TIE NOT LESS THAN 0.058 INCHES (1.47 MM) (16 GALVANIZED GAGE) AND 1 1/2 INCHES (38 MM) IN WIDTH SHALL BE FASTENED TO EACH PLATE ACROSS AND TO EACH SIDE OF THE OPENING WITH NOT LESS THAN SIX 16D NAILS.
- WALL FRAMING-CUTTING A NOTCHING PER 2308.5.9. IN EXTERIOR WALLS AND BEARING PARTITIONS, A WOOD STUD SHALL NOT BE CUT OR NOTCHED IN EXCESS OF 25 PERCENT OF ITS DEPTH. IN NONBEARING PARTITIONS THAT DO NOT SUPPORT LOADS OTHER THAN THE WEIGHT OF THE PARTITION, A STUD SHALL NOT BE CUT OR NOTCHED IN EXCESS OF 40 PERCENT OF ITS DEPTH.
- WALL FRAMING-BORED HOLES PER 2308.5.10. THE DIAMETER OF BORED HOLES IN WOOD STUDS SHALL NOT EXCEED 40 PERCENT OF THE STUD DEPTH. THE DIAMETER OF BORED HOLES IN WOOD STUDS SHALL NOT EXCEED 60 PERCENT OF THE STUD DEPTH IN NONBEARING PARTITIONS. THE DIAMETER OF BORED HOLES IN WOOD STUDS SHALL NOT EXCEED 60 PERCENT OF THE STUD DEPTH IN ANY WALL WHERE EACH STUD IS DOUBLED, PROVIDED THAT NOT MORE THAN TWO SUCH SUCCESSIVE DOUBLED STUDS ARE SO BORED. THE EDGE OF THE BORED HOLE SHALL NOT BE CLOSER THAN 5/8 INCH (15.9 MM) TO THE EDGE OF THE STUD. BORED HOLES SHALL NOT BE LOCATED AT THE SAME SECTION OF STUD AS A CUT OR NOTCH.

6103 SHRINKAGE OF WOOD FRAMING

- SHRINKAGE IN WOOD FRAMING IS DUE TO LOSS OF MOISTURE CONTENT AND TO COMPRESSION OF ASSEMBLIES OF WOOD COMPONENTS. PLUMBING, ELECTRICAL, AND MECHANICAL SYSTEMS AS WELL AS EXTERIOR FINISHES SHALL BE DESIGNED AND BUILT TO ACCOMMODATE 1/4 INCH PER FLOOR WOOD SHRINKAGE. THE USE OF KILN DRIED LUMBER AND PROVIDING A DRYING PROCESS TO THE FRAMING MEMBERS PRIOR TO APPLICATION OF FINISHES WILL HELP CONTROL BUT WILL NOT ELIMINATE SHRINKAGE.

6160 WOOD SHEATHING

- STRUCTURAL WOOD SHEATHING PANELS SHALL HAVE APA GRADE TRADEMARK OF THE AMERICAN PLYWOOD ASSOCIATION. WOOD SHEATHING PANELS SHALL BE EXPOSURE 1. PANELS SHALL HAVE THE FOLLOWING

THICKNESS, SPAN RATING, AND FASTENING UNLESS NOTED OTHERWISE PER PLAN:

ROOF: 19/32" 40/20 EXPOSURE 1
SHEARWALL: SEE SCHEDULE SHEET 55.0

EDGE NAILS	FIELD NAILS
10d @ 6"	10d @ 6"

- ALL ROOF SHEATHING PANELS SHALL BE BLOCKED AND INSTALLED WITH LONG PANEL DIRECTION PERPENDICULAR TO SUPPORTS AND IN A STAGGERED PATTERN SUCH THAT CONTINUOUS PANEL JOINTS PERPENDICULAR TO FRAMING UNLESS NOTED OTHERWISE PER PLAN. BLOCKING AT INTERMEDIATE FLOOR AND ROOF SHEATHING JOINTS SHALL BE REQUIRED UNLESS NOTED OTHERWISE PER PLAN. PROVIDE BLOCKING BETWEEN ROOF FRAMING MEMBERS AT BEARING LOCATIONS AND AT DIAPHRAGM BOUNDARIES. SHEAR WALL SHEATHING SHALL BE BLOCKED AT ALL EDGES WITH 2X OR 3X FRAMING PER SHEAR WALL SCHEDULE.

6175 SHOP FABRICATED METAL PLATE CONNECTED WOOD TRUSSES

- PREMANUFACTURED PLATED WOOD TRUSSES SHALL BE MANUFACTURER DESIGNED AND SHALL COMPLY WITH THE TRUSS PLATE INSTITUTE (ANSI/TPI 1-2014, NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION) AND IBC SECTION 2303.4. SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED. DESIGN FOR THE SPANS AND CONDITIONS SHOWN ON THE PLANS. LOADS PER SECTION 1003 AND THE FOLLOWING:

TOP CHORD LIVE LOAD	ROOF
TOP CHORD DEAD LOAD	20 PSF
BOTTOM CHORD DEAD LOAD	15 PSF
HVAC AND MECHANICAL EQUIPMENT	SEE MECHANICAL
GROUND SNOW LOAD	5 PSF
WIND SPEED	106 MPH
LIVE LOAD DEFLECTION	L/360



3-31-2023
David Barton Brooker

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CHECKED: M. GARCIA		STRUCTURAL NOTES 3	102
TITLE REVISION: J. BLOM	S1.2	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PWG NO. 317446
DATE: 03/31/2023		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 69 of 142

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STRUCTURAL TESTS AND SPECIAL INSPECTIONS

INSPECTION ITEMS	COMMENTS
SOILS AND FOUNDATIONS (IBC-21 SECTION 1705.6)	RE: STATEMENT OF STRUCTURAL TESTS AND SPECIAL INSPECTIONS DOCUMENT
CONCRETE CONSTRUCTION (IBC-21 SECTION 1705.3)	RE: STATEMENT OF STRUCTURAL TESTS AND SPECIAL INSPECTIONS DOCUMENT
STEEL CONSTRUCTION (IBC-21 SECTION 1705.2; AMERICAN INSTITUTE OF STEEL CONSTRUCTION: AISC 360-16 CHAPTER N, AISC 341-16 CHAPTER J)	RE: STATEMENT OF STRUCTURAL TESTS AND SPECIAL INSPECTIONS DOCUMENT
WOOD CONSTRUCTION (IBC-21 SECTION 1705.5)	RE: STATEMENT OF STRUCTURAL TESTS AND SPECIAL INSPECTIONS DOCUMENT
FABRICATED ITEMS (IBC-21 SECTION 1705.11)	RE: STATEMENT OF STRUCTURAL TESTS AND SPECIAL INSPECTIONS DOCUMENT
WIND RESISTANCE (IBC-21 SECTION 1705.12)	RE: STATEMENT OF STRUCTURAL TESTS AND SPECIAL INSPECTIONS DOCUMENT
SEISMIC RESISTANCE (IBC-21 SECTION 1705.13)	RE: STATEMENT OF STRUCTURAL TESTS AND SPECIAL INSPECTIONS DOCUMENT

STRUCTURAL TESTS AND SPECIAL INSPECTIONS SCHEDULE NOTES:

- ITEMS SHALL BE INSPECTED IN ACCORDANCE WITH IBC 1704 BY A CERTIFIED SPECIAL INSPECTOR FROM AN AGENCY APPROVED BY THE JURISDICTION.
- SPECIAL INSPECTION SHALL NOT BE REQUIRED FOR WORK IN AN APPROVED FABRICATOR'S PER IBC 1704.2.5. VERIFY APPROVAL WITH JURISDICTION PRIOR TO FABRICATION.
- CONTINUOUS SPECIAL INSPECTION REQUIRES THE INSPECTOR SHALL BE ONSITE AT ALL TIMES AND THAT WORK REQUIRING SPECIAL INSPECTION IS PERFORMED. PERIODIC SPECIAL INSPECTION SHALL ALLOW INSPECTION AT THE INTERVALS NECESSARY TO CONFORM THAT WORK REQUIRING SPECIAL INSPECTION IS IN COMPLIANCE WITH THE REQUIREMENTS.
- THE SPECIAL INSPECTOR SHALL PROVIDE THE BUILDING OFFICIAL, OWNER, ARCHITECT, ENGINEER OF RECORD, AND CONTRACTOR WITH COPIES OF ALL REPORTS AND TEST RESULTS.

STRUCTURAL OBSERVATION SCHEDULE

INSPECTION ITEMS	COMMENTS
STRUCTURAL OBSERVATION (IBC 1704.6)	NOTE 1
CONCRETE CONSTRUCTION	NOTE 2
STEEL CONSTRUCTION	PER STRUCTURAL TEST AND SPECIAL INSPECTIONS
WOOD CONSTRUCTION	NOTE 3

STRUCTURAL OBSERVATION SCHEDULE NOTES:

- STRUCTURAL OBSERVATION SHALL MEAN THE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF CALIFORNIA FOR THE GENERAL CONFORMANCE TO THE APPROVED PLANS AND SPECIFICATIONS AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL FRAMING SYSTEM PRIOR TO COVER. THE CONTRACTOR SHALL PROVIDE AT LEAST TWO WORKING DAYS NOTICE TO THE ENGINEER PRIOR TO REQUIREMENTS FOR BUILDING INSPECTION BY THE JURISDICTION NOR REQUIREMENTS FOR SPECIAL INSPECTIONS.
- STRUCTURAL OBSERVATION FOR CONCRETE CONSTRUCTION SHALL CONSIST OF OBSERVATION AT OR NEAR THE COMPLETION OF FORMWORK AND REBAR PRIOR TO CONCRETE PLACEMENT.
- STRUCTURAL OBSERVATION FOR WOOD CONSTRUCTION SHALL CONSIST OF OBSERVATION AT OR NEAR THE COMPLETION OF THE WOOD WALL FOR ANCHOR BOLT AND HOLDOWN INSTALLATION, SHEATHING AND STRAPPING NAILING, AND AT OR NEAR COMPLETION OF THE ROOF FRAMING PRIOR TO PLACEMENT OF THE ROOFING.

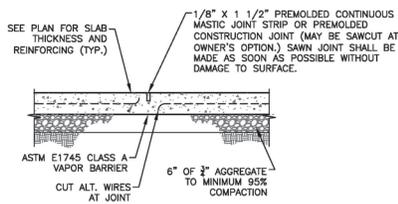


David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
BY: M. GARCIA	S1.3	STRUCTURAL NOTES 4	102
TOTAL REVIEW: J. BLOW			177,507
DATE: 03/31/2023		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWD NO. 317446
			SHEET 70 of 142

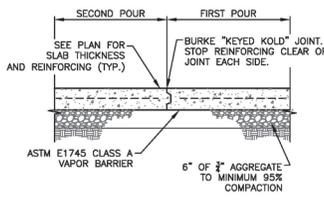
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28 JUL 2023 08:27 BRT BROOKE G. CALLENS/MSA/SJW/374463/MSW/MSA/ MOUNTAIN DIVISION, SUSTAINABLE SERVICES ADMINISTRATION - STANDARD DETAILS.DWG



NOTE: PROVIDE CONTROL OR CONSTRUCTION JOINTS IN SLABS ON GRADE TO BREAK UP SLAB INTO RECTANGULAR AREAS OF 400 SQ. FT. OR LESS. AREAS SHALL BE APPROX. SQUARE AND HAVE NO ACUTE ANGLES. JOINT LOCATIONS SHALL BE APPROVED BY THE ARCHITECT.

1 TYPICAL SHRINKAGE CONTROL JOINT (S.J.)
S1.4 NTS



NOTE: PROVIDE CONTROL OR CONSTRUCTION JOINTS IN SLABS ON GRADE TO BREAK UP SLAB INTO RECTANGULAR AREAS OF 400 SQ. FT. OR LESS. AREAS SHALL BE APPROX. SQUARE AND HAVE NO ACUTE ANGLES. JOINT LOCATIONS SHALL BE APPROVED BY THE ARCHITECT.

2 TYPICAL CONSTRUCTION JOINT (C.J.)
S1.4 NTS

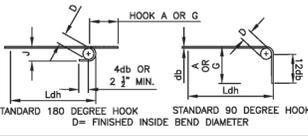
LEGEND

- db = BAR DIAMETER
- Ld = BOTTOM BAR DEVELOPMENT LENGTH
- Ldt = TOP BAR DEVELOPMENT LENGTH
- Ldc = COMPRESSION BAR DEVELOPMENT LENGTH
- LbA = BAR LAP SPlice LENGTH—CLASS A
- LbB = BAR LAP SPlice LENGTH—CLASS B
- Lbc = COMPRESSION BAR LAP SPlice LENGTH
- Ldb = HOOKED BAR DEVELOPMENT LENGTH

NOTES:

1. A TOP BAR IS A HORIZONTAL BAR WITH MORE THAN 12" OF FRESH CONCRETE CAST BELOW IT. COVER IS LESS THAN db OR CLEAR SPACING IS LESS THAN db, MULTIPLY VALUES IN TABLE BY 1.5.
2. FOR BEAMS AND COLUMNS WHERE CLEAR COVER IS LESS THAN db OR CLEAR SPACING IS LESS THAN db, MULTIPLY VALUES IN TABLE BY 1.5.
3. FOR WALLS AND SLABS WHERE CLEAR COVER IS LESS THAN db OR CLEAR SPACING IS LESS THAN 2db, MULTIPLY VALUES IN TABLE BY 1.5.
4. FOR SPLICING OF DIFFERENT REINFORCEMENT SIZES, USE VALUES FOR SMALLER REINFORCEMENT.
5. FOR #14x AND #18x BAR USE MECHANICAL COUPLERS.
6. MECHANICAL COUPLERS MAY BE USED IN LIEU OF LAP SPICES, AT CONTRACTOR'S OPTION.
7. CONTRACTOR TO ASSUME LAP SPlice LENGTH CLASS B UNLESS SHOP DRAWINGS, IN ACCORDANCE WITH SPECIFICATIONS, SHOW THAT THE REQUIREMENTS FOR CLASS A CAN BE MET.
8. AT CORNERS AND EDGES, IF THERE IS NOT ENOUGH SPACE TO DEVELOP THE BARS, THESE BARS NEED TO BE BENT/HOOKED.

BAR SIZE	CONCRETE STRENGTH f'c (PSI)						
	4500						
	Ld (INCHES)	Ldt (INCHES)	Ldc (INCHES)	LbA (INCHES)	LbB (INCHES)	Lbc (INCHES)	Ldb (INCHES)
#3x	14	18	8	18	23	12	7
#4x	18	24	9	24	31	15	9
#5x	23	30	12	30	38	19	12
#6x	27	35	14	35	46	23	14
#7x	40	51	16	51	67	27	16
#8x	45	59	18	59	76	30	18
#9x	51	66	21	66	86	34	21
#10x	56	73	23	73	95	38	23
#11x	62	80	25	80	104	41	25



BAR SIZE	D	STANDARD 180 DEGREE HOOK			STANDARD 90 DEGREE HOOK		
		D	A OR G	J	BAR SIZE	D	A OR G
#3	6db	2 1/4"	5.5"	3"	#3	2 1/2"	6"
#4	6db	3"	6.5"	4"	#4	3"	8"
#5	6db	3 1/2"	7.5"	5"	#5	3 1/2"	10"
#6	6db	4 1/2"	9"	6"	#6	4 1/2"	1'-0"

4 STANDARD HOOK DETAILS
S1.4 NTS

3 TYPICAL DEVELOPMENT LENGTH AND LAP SPlice SHEDULE
S1.4 NTS



David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CHECKED: M. GARCIA	S1.4	STANDARD DETAILS	102
TECH. REVIEWER: J. BLOM			PMS/PHD NO. 317446
DATE: 03/31/2023		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 71 of 142

28/03/2023 08:29 BRT BROOKE C:\CLIENTS\NSA\ASH\17448\DWG\NSA_17448_FOUNDATION_PLAN.rvt - CONTROL BUILDING FOUNDATION PLAN.rvt

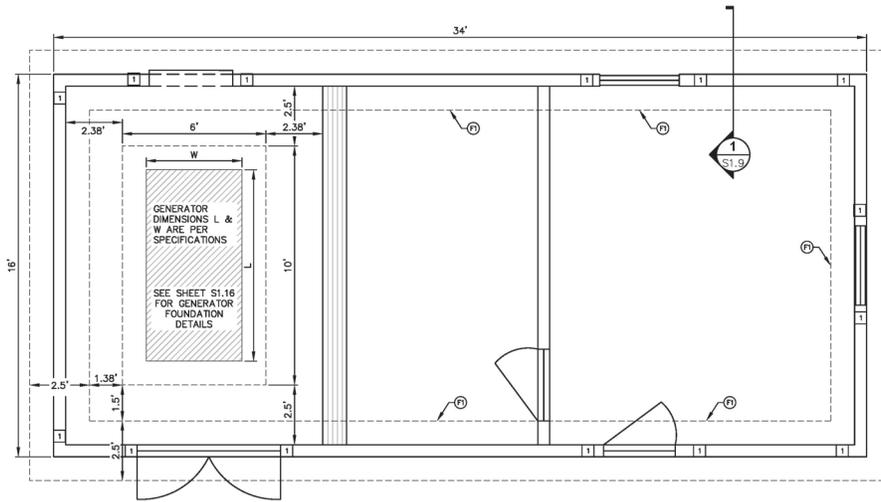
FOOTING SCHEDULE					
MARK	THICKNESS OF FOOTING	SIZE OF FOOTING	REINFORCING LONG.	REINFORCING TRANS.	DETAILS
(F)	12"	30" X CONT.	3 #5 CONT.	#5 @ 12" O.C.	1/S1.9

SHEET NOTES:

1. CENTER INTERIOR FOOTINGS ON WALLS OR COLUMNS, TYPICAL, U.N.C.
2. VERIFY DIMENSIONS PRIOR TO CONSTRUCTION.
3. SEE ARCHITECTURAL SHEETS FOR WALL AND FLOOR DRAIN LOCATIONS.

KEYNOTES:

- 1 HOLDDOWN HD08 SIMPSON STRONG TIE OR EQUIVALENT

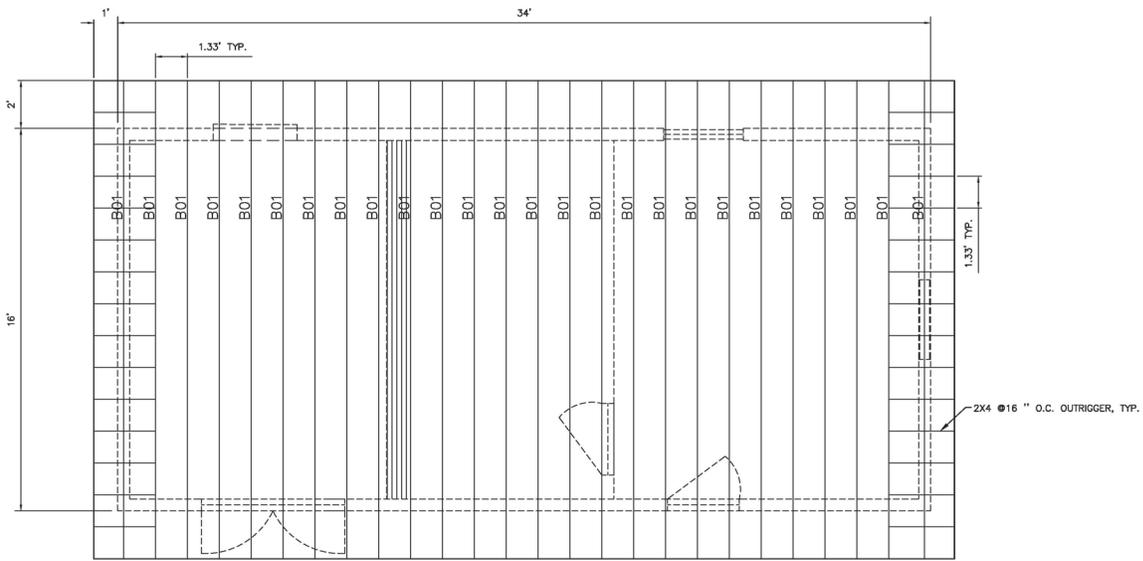


David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO. S1.6	TITLE OF SHEET CONTROL BUILDING FOUNDATION PLAN	DRAWING NO. 102
CHECKED: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	177,507
TECH. REVIEWER: J. BLOM	DATE: 03/31/2023		PMS/PWD NO. 317446
			SHEET 73 of 142

28/03/2023 08:26 BDT BROOKE G. CALIFORNIA REG. NO. 317446/03/31/2023 MOUNTAIN VIEW ID. STRUCTURAL SHEETS AMWTFV2 - CONTROL BUILDING ROOF FRAMING.DWG

SHEET NOTES:
1. SEE SHEET S1.11 FOR TRUSS B01 PROFILES.



David Barton Brodke

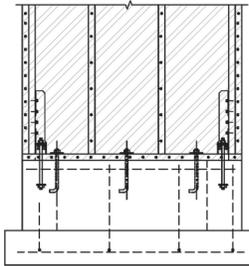
DESIGNED: D. BROOKE	SUB SHEET NO. S1.8	TITLE OF SHEET CONTROL BUILDING ROOF FRAMING	DRAWING NO. 102
CHECKED: M. GARCIA			PMS/PKG NO. 317446
TRACED/REVIEWED: J. BLOM		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 75 of 142
DATE: 03/31/2023			

HOLDOWN & FASTENER SCHEDULE (HF STUDS)											
MARK	HARDWARE TYPE	WOODMEMBER/POST		FASTENER	ROD DIAMETER	ANCHOR		EMBEDMENT		STEM (MINIMUM)	DETAILS
		2X4 WALL	2X6 WALL			STEM	THICKENED FOOTING	STEM	THICKENED SLAB		
1	HD08-SDS3	N/A	2 (2X6)	(20) SDS 1/4x3"	7/8"	HEADED HEAVY HEX BOLT	N/A	11"	N/A	8"	3/SS.1

HOLDOWN AND FASTENER SCHEDULE NOTES:

- HOLDOWNS SHALL BE AS MANUFACTURED BY THE SIMPSON STRONG-TIE COMPANY, OR EQUAL.
- SCREWS SHALL BE SDS 1/2" DIA X 3" AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY.
- ANCHOR BOLT NUT SHALL BE FINGER-TIGHT PLUS 1/2" - 1/2" TURN WITH HAND WRENCH. CARE SHALL BE TAKEN TO NOT OVER-TORQUE THE NUT. IMPACT WRENCHES SHALL NOT BE USED.
- HD08 HOLDOWNS SHALL BE INSTALLED CENTERED ALONG THE WIDTH OF THE ATTACHED POST/STUD.
- USE 3 (2X6) AT CORNERS
- MATERIAL OF THE HEADED HEAVY HEX BOLT SHALL BE ASTM-F 1554, GR55.

1 HOLDOWN & FASTENER SCHEDULE
S1.10/NIS

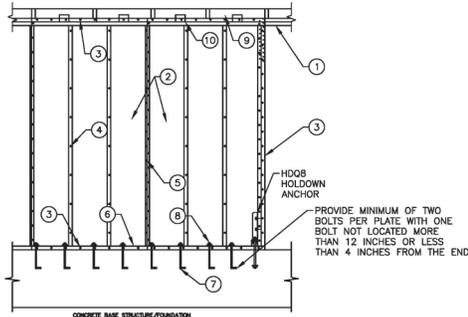


2 EXTERIOR HOLDOWN - ELEVATION
S1.10/NIS

SHEARWALL SCHEDULE - APA RATED SHEATHING							
WALL TYPE	SHEATHING	PANEL EDGE NAILING SPACING	FIELD NAILING SPACING	BLOCKING TO TOP PLATE CONNECTING (SIDE WALLS W2 & W4)	TRUSS BOT CHORD TO TOP PLATE CONNECTION (END WALLS W1 & W3)	FRAMING @ ADJOINING PANEL EDGES	ANCHOR BOLT SPACING 1" DIA. 7" EMBED
W1, W2, W3 & W4	19/32" WSP ON EXTERIOR SIDE ONLY	6" O.C.	12" O.C.	LTP4 DIRECT TO FRAMING	LTP4 OVER PLYWOOD SHEATHING	HG10KT DIRECT TO FRAMING	2X 36" O.C.

SHEARWALL SCHEDULE NOTES:

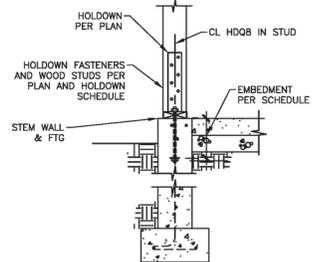
- THE SHEATHING AT W1, W2, W3 & W4 MUST BE NAILED DIRECTLY TO THE FRAMING, STUDS, & PLATES
- SHEATHING NAILS SHALL BE DRIVEN SO THAT THEIR HEAD OR CROWN IS FLUSH WITH THE SURFACE OF THE SHEATHING.
- LTP4 TO BE INSTALLED OVER WOOD STRUCTURAL PANEL SHEATHING SHALL BE NAILED WITH 0.131" X 2-1/2" NAILS (8d COMMON)



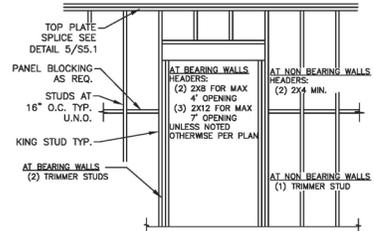
6 TYPICAL SHEARWALL NOMENCLATURE (ELEVATION)
S1.10/NIS

SHEARWALL SCHEDULE KEYNOTES:

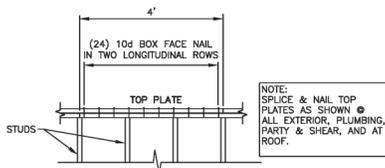
- DOUBLE TOP PLATE**
USE 10d BOX (3"x0.128") NAILS AT 6" O.C. TWO LONGITUDINAL ROWS TO CONNECT TOP PLATE MEMBERS (SPACING BETWEEN ROWS=2.5" O.C., END DISTANCE=2" AND EDGE DISTANCE=1.5"). LAP AND SPLICE SEE DETAIL 5 ON THIS SHEET.
- WALL SHEATHING AND NAILS**
SHEATHING PANELS MAY BE INSTALLED VERTICALLY OR HORIZONTALLY. ALL PANEL EDGES SHALL BE FASTENED TO STUDS OR BLOCKING. 10d COMMON NAILS SHALL BE USED TO ATTACH SHEATHING TO STUDS. MIN. NAIL PENETRATION INTO WOOD SUBSTRATE IS 1 1/2".
- PANEL EDGE NAILING**
NAILING AT ALL OUTER EDGES OF SHEATHING PANELS IN SHEARWALLS SHALL BE FASTENED PER THE SHEARWALL SCHEDULE.
- FIELD NAILING**
WITHIN THE FIELD OF THE PANEL AT FRAMING MEMBERS
- FRAMING AT ADJOINING PANEL EDGES**
WHERE TWO PIECES OF PLYWOOD JOIN FRAMING MEMBER, THE PANEL EDGE NAILING FROM EACH PANEL SHALL BE STAGGERED. WALLS REQUIRE 2" NOMINAL FRAMING MEMBER (EITHER A STUD OR BLOCKING) AT ADJOINING PANEL EDGES.
- FOUNDATION SILL PLATE**
2" FOUNDATION SILL PLATE.
- ANCHOR BOLTS**
AT PERIMETER OF BUILDING FULL DIAMETER ANCHOR BOLTS, ASTM F1554 - GRADE 55 SHALL BE SECURED IN PLACE PRIOR TO PLACING CONCRETE. MINIMUM EMBEDMENT IS 7".
- PLATE WASHERS**
PLATE WASHERS SHALL BE REQUIRED FOR FOUNDATION SILL PLATE CONNECTIONS, 3" X 3" X 0.225" MINIMUM. DO NOT RECESS BOLTS IN SILL PLATE.
- ROOF BLOCKING PANELS**
WHERE SHEARWALLS CONNECT TO THE ROOF DIAPHRAGM, BLOCKING PANELS SHALL BE PROVIDED CAPABLE OF TRANSFERRING JOOPF OF SHEAR TO SHEARWALL BELOW
- RM/BLOCKING TO TOP PLATE CONNECTIONS**
THE CONTINUOUS RM OR SOLID BLOCKING THAT IS PART OF THE SHEARWALL ASSEMBLY SHALL BE CONNECTED TO THE DOUBLE TOP PLATE OR FOUNDATION SILL PLATE WITH APPROVED CONNECTORS AND SPACED PER THE SHEARWALL SCHEDULE.



3 HD08-SDS3 HOLDOWN - SECTION
S1.10/NIS



4 TYPICAL HEADER AT STRUCTURAL WALL
S1.10/NIS



5 TYPICAL TOP PLATE SPLICE
S1.10/NIS

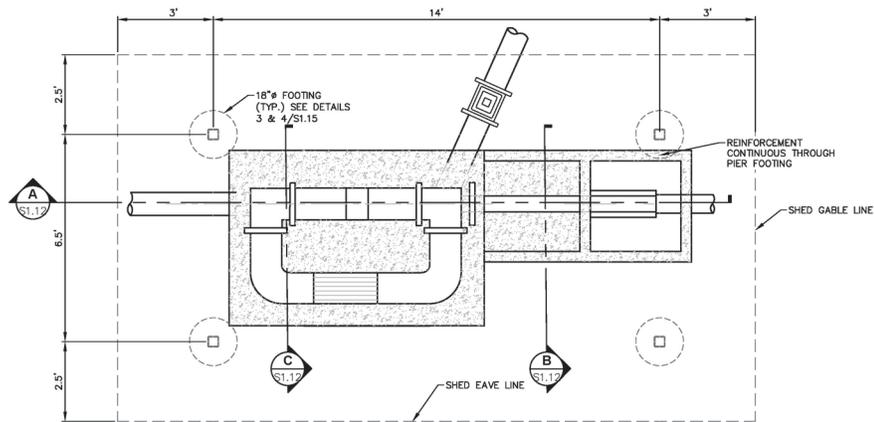


3-31-2023
David Barton Brodke

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CHECKED: M. GARCIA		CONTROL BUILDING	102
TOTAL REVIEW: J. BLOM		DETAILS - WALLS	177,507
DATE: 03/31/2023		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PWG NO. 317446
		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 77 of 142

3/10/2023, 11:24 AM, BROOKE, D. C:\PROJECTS\2023\ASH\317446\DWG\SS.101 - STRUCTURAL SHEET - MAIN.PLT, VP: 79 - CONTROL BUILDING STRUCTURAL DETAILS.DWG

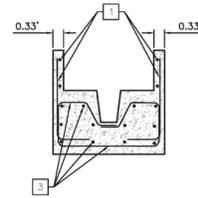
28/01/2023 06:25 BRY BROOKE C. CLIENTS\NPS\SEA\317446\DOMINOS ASH MOUNTAIN DMS 10 STRUCTURAL SHEETS AMMTP\VP - HEADWORKS FOUNDATION



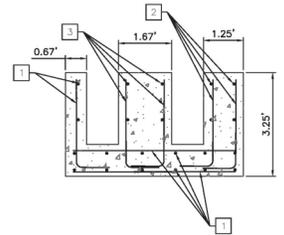
HEADWORKS SHED FOUNDATION PLAN

KEY NOTES:

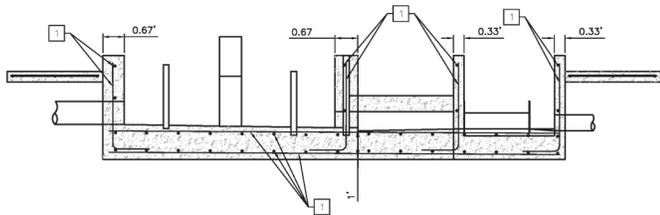
- 1 #5 @ 18" OC
- 2 #5 @ 9" OC
- 3 #5 @ 6" OC



B SECTION
S1.12 NTS



C SECTION
S1.12 NTS



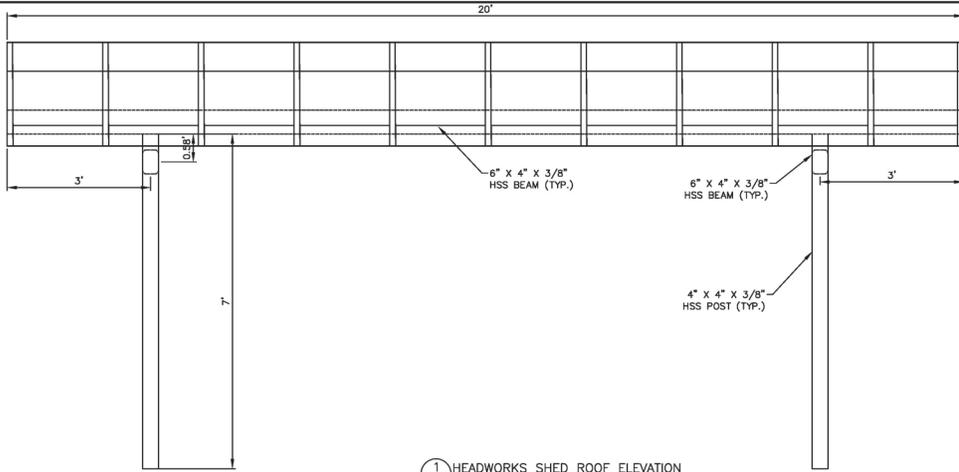
A SECTION
S1.12 NTS



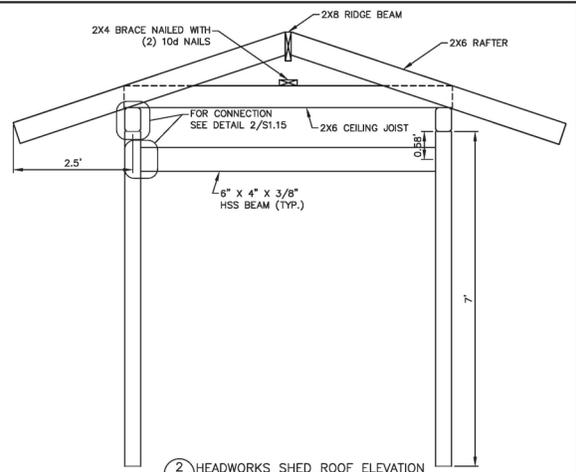
DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CHECKED: M. GARCIA	S1.12	HEADWORKS SHED FOUNDATION	102
TECH. REVIEWER: J. BLOM		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	177,507
DATE: 03/31/2023		SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWG NO. 317446
			SHEET 79 of 142

David Barton Brooke

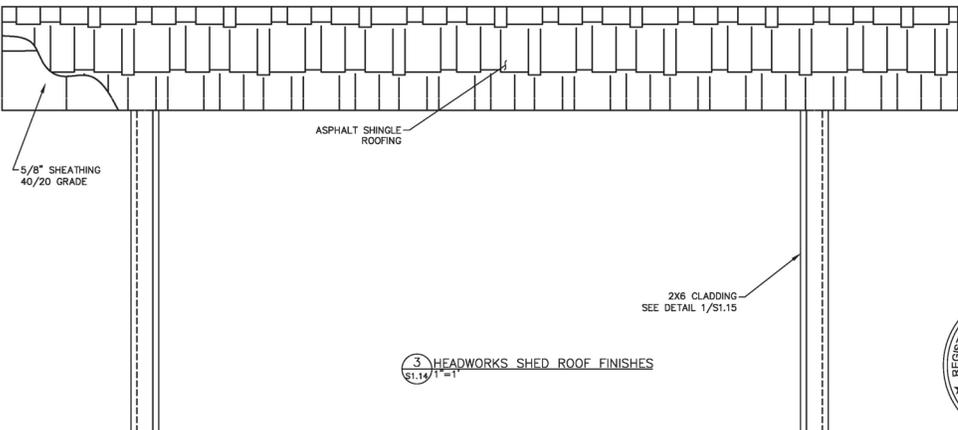
28 JUL 2023 08:24 BART BROOKE & COLLEEN BROS. S&A 3174463.DWG\SSA\174463.DWG\SSA\174463.DWG\SSA\174463.DWG - HEADWORKS SHED FRMG ELEVATIONS



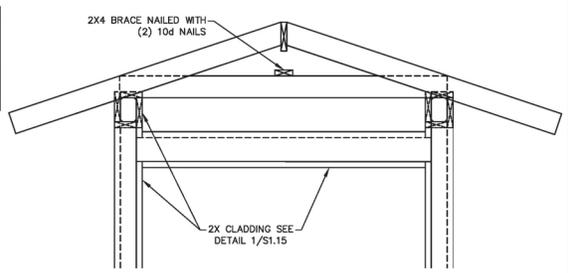
1 HEADWORKS SHED ROOF ELEVATION
S1.14 1"=1'



2 HEADWORKS SHED ROOF ELEVATION
S1.14 1"=1'



3 HEADWORKS SHED ROOF FINISHES
S1.14 1"=1'



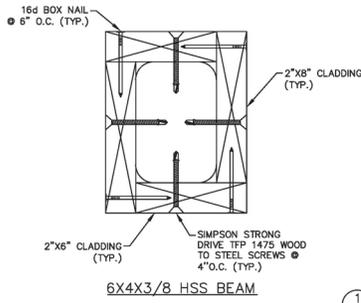
4 HEADWORKS SHED HSS FINISHES
S1.14 1"=1'



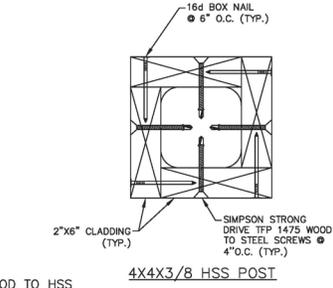
David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO. S1.14	TITLE OF SHEET HEADWORKS SHED FRMG ELEV	DRAWING NO. 177,507
CHECKED: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PWG NO. 317446
TECH. REVIEWER: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 81 of 142
DATE: 03/31/2023			

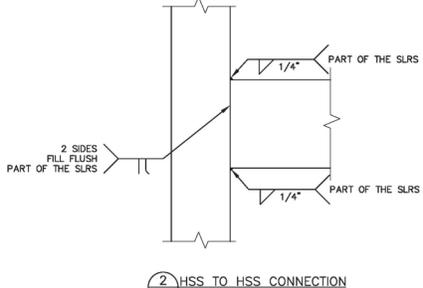
28/04/2023 08:23 DAVID BROOKE & COMPANY ENGINEERS ARCHITECTS INC. 10. STRUCTURAL SHEET - HEADWORKS SHED DETAILS.rvt



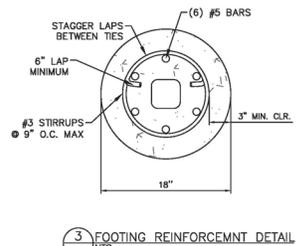
6X4X3/8 HSS BEAM



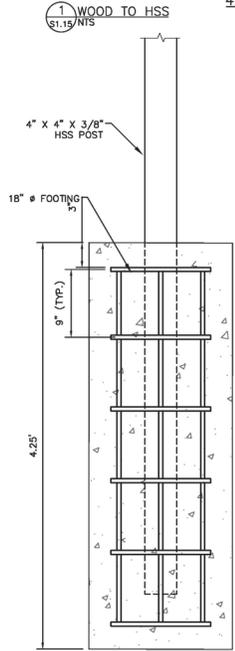
4X4X3/8 HSS POST



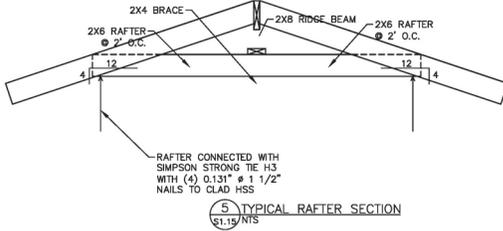
HSS TO HSS CONNECTION



FOOTING REINFORCEMENT DETAIL



POST FOOTING DETAIL



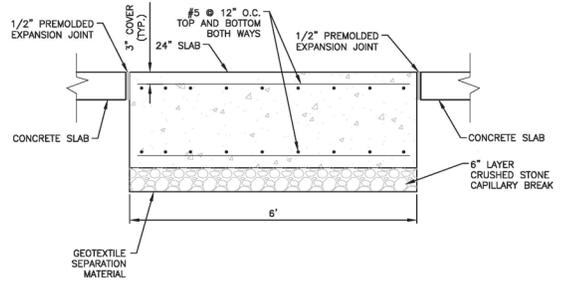
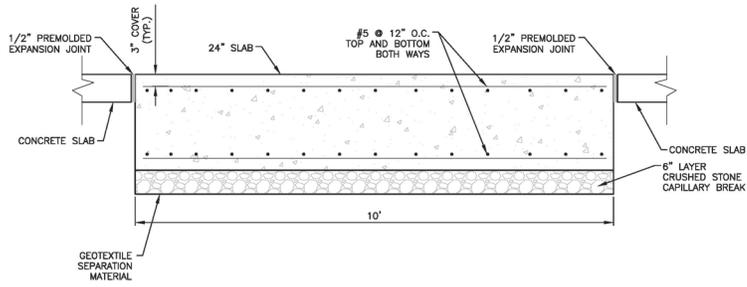
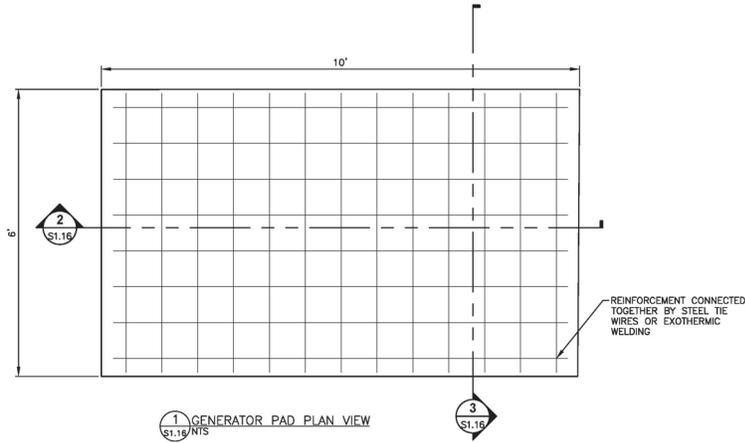
TYPICAL RAFTER SECTION



David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
DRAWN: M. GARCIA	102	HEADWORKS SHED DETAILS	177,507
TECH. REVIEWER: J. BLOW	S1.15	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PWG NO. 317446
DATE: 03/31/2023		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 82 of 142

28 JUL 2023 08:23 BRT BROOKE G. CALIFORNIA STATE BOARD OF PROFESSIONAL ENGINEERS - MOUNTAIN VIEW, CALIFORNIA - SUBMITTAL SHEET NUMBER 03 - GENERATOR PADING

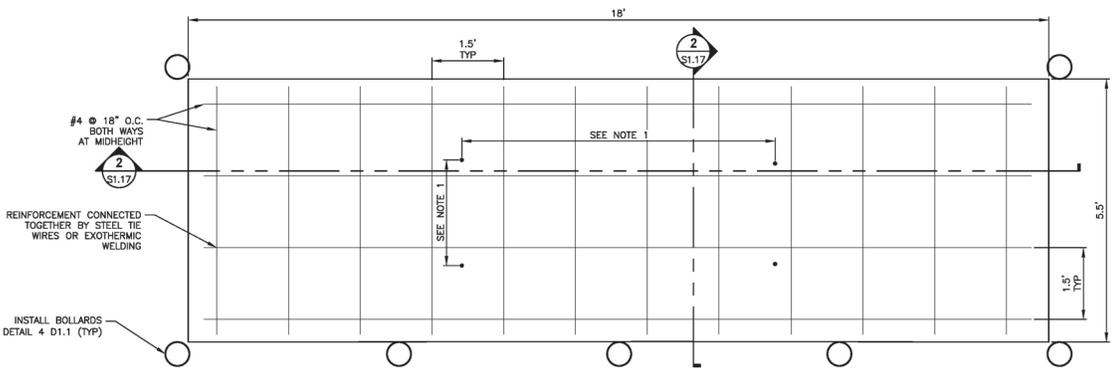


David Barton Brooke

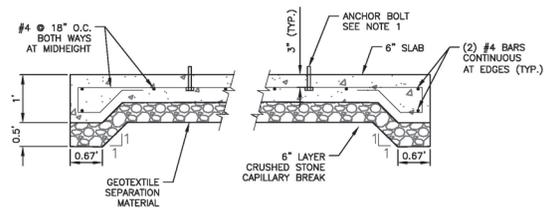
DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
DRAWN: M. GARCIA	S1.16	GENERATOR PAD	102
TECH. REVIEWER: J. BLOM			PMS/PMO NO. 317446
DATE: 03/31/2023		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET B3 of 142

28/03/2023 08:19 BRT BROOKE G. CULLEN\NCS\ASH\317446\DESIGN\SS1 - MOUNTAIN VIEW 10 - STRUCTURAL SHEETS - MOUNTAIN VIEW - PROPANE TANK PAD.DWG

NOTE:
 1. ANCHOR BOLT LOCATIONS PER MANUFACTURERS RECOMMENDATIONS. CONTRACTOR TO VERIFY SPACING PRIOR TO CASTING CONCRETE. ANCHOR TO BE PLACED SO THEY ATTACH THROUGH THE EXISTING HOLES IN THE PROPANE TANK STANDS/SKIDS. ANCHORS ARE TO BE ASTM F1554 GRADE 55 STEEL HEADED BOLTS, EMBEDDED 3" INTO SLAB. ANCHOR BOLT DIAMETER TO BE 1/8" LESS IN DIAMETER THAN EXISTING HOLES IN PROPANE TANK STANDS/SKIDS. IF NO EXISTING HOLES EXIST IN THE STANDS/SKIDS, BOLT DIAMETER TO BE A MINIMUM OF 1/2" DIA. AND CONTRACTOR TO DRILL HOLES 1/8" LARGER IN DIA. THROUGH THE STANDS/SKIDS. ANCHORS TO BE SECURED WITH WASHER AND NUT PER MANUFACTURER SPECIFICATIONS. IF NO INFO, STANDS/SKIDS TO BE SECURED TO HEADED ANCHOR BOLT WITH ASTM A563 HEAVY HEX NUTS TO SNUG TIGHT CONDITION.



1 PROPANE TANK PAD PLAN VIEW
 S1.17 NTS



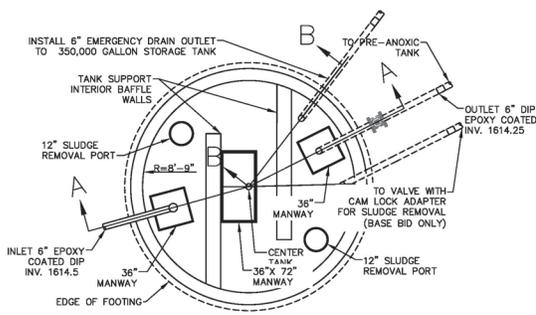
2 PROPANE TANK PAD SECTION
 S1.17 NTS



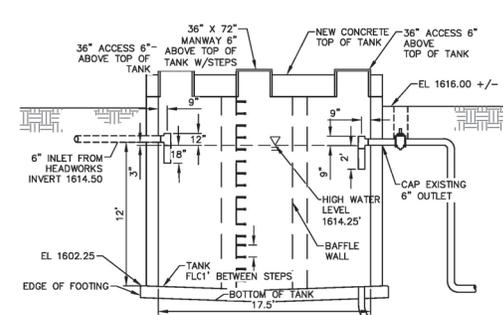
David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CHECKED: M. GARCIA		PROPANE TANK PAD	177,507
TECHNICAL REVIEWER: J. BLOM	S1.17	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWG NO. 317446
DATE: 03/31/2023			SHEET 84 of 142

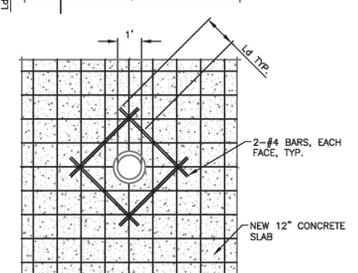
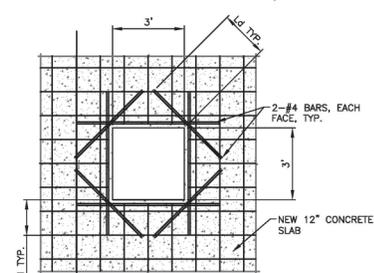
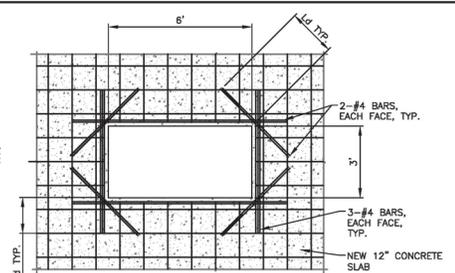
28/Oct/2023 08:18 BRYE BROOKE C:\CLIENTS\NPS\S\VA\3174463\DWG\NPS\ASH - PRIMARY TREATMENT TANK.DWG



1 PLAN VIEW-PRIMARY TREATMENT TANK AMWWTP
S1.18 SCALE: NTS

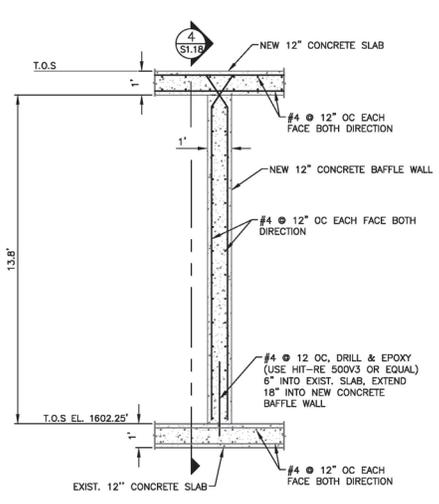


2 SECTION VIEW-PRIMARY TREATMENT TANK AMWWTP
S1.18 SCALE: NTS

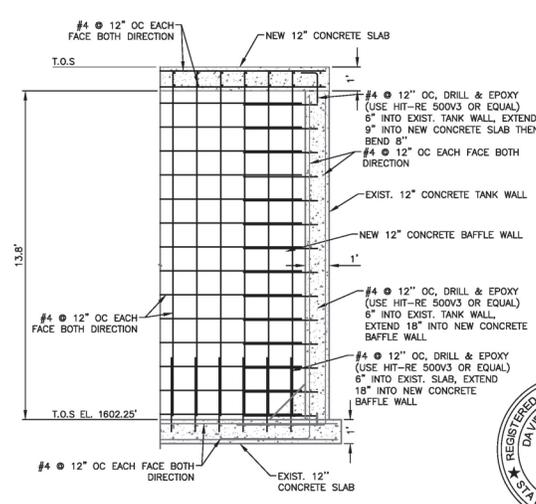


AT CORNERS AND EDGES, IF THERE IS NOT ENOUGH SPACE TO DEVELOP THE BARS, THESE BARS NEED TO BE BENT/HOOKED ACCORDING TO SPECIFICATION IN SHEET S1.4

5 SLAB OPENING DETAILS
S1.18 SCALE: NTS



3 TYPICAL BAFFLE WALL SECTION
S1.18 SCALE: NTS



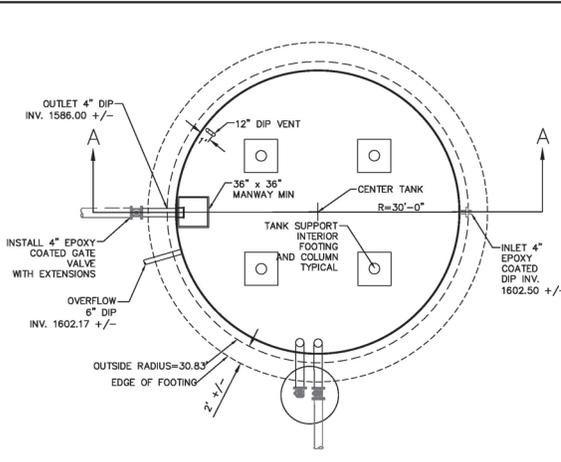
4 TYPICAL BAFFLE WALL SECTION
S1.18 SCALE: NTS



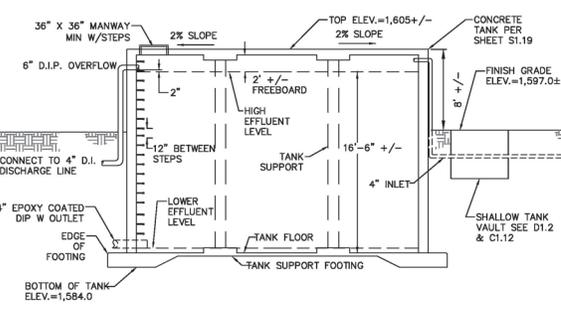
3-31-2023
David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO. S1.18	TITLE OF SHEET PRIMARY TREATMENT TANK	DRAWING NO. 177,507
CHECKED: M. GARCIA			PMS/PWG NO. 317446
TECH. REVIEWER: J. BLOW			SHEET 85 of 142
DATE: 03/31/2023		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	

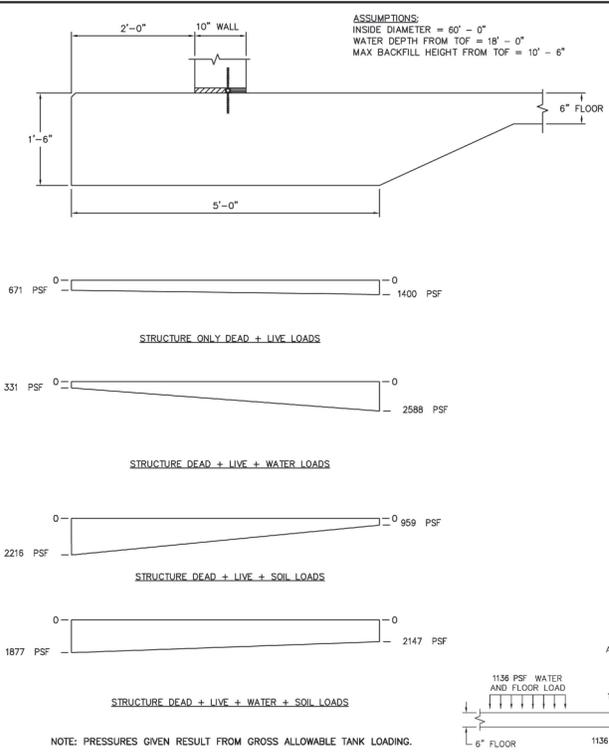
3/10/2023 12:15 BART BROOKE & ASSOCIATES, INC. 3174450 SEQUOIA NATIONAL PARKS WASTEWATER TREATMENT PLANTS - STORAGE TANKING



1 PLAN VIEW - AMWWTP 350,000 GALLON STORAGE TANK
S1.19/NTS

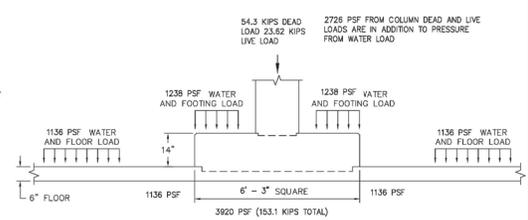


2 SECTION A-A - AMWWTP 350,000 GALLON STORAGE TANK
S1.19/NTS



NOTE: PRESSURES GIVEN RESULT FROM GROSS ALLOWABLE TANK LOADING.

3 APPROXIMATE SOIL BEARING PRESSURE UNDER WALL FOOTING
S1.19/NTS



NOTE: PRESSURES GIVEN RESULT FROM GROSS ALLOWABLE TANK LOADING.

4 APPROXIMATE COLUMN FOOTING LOADS
S1.19/NTS



David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET STORAGE TANK	DRAWING NO. 102
CHECKED: M. GARCIA	S1.19	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	177,507
TECH. REVIEWER: J. BLOM			PMS/PKG NO. 317446
DATE: 03/31/2023			SHEET 86 OF 142

3/10/2023, 14:34, BPT, BROOKE G. CALDWELL, PMS/PG NO. 317446, REVISIONS, ASH, MOUNTAIN, INVENTORY, ELECTRICAL, NOTES-DEFINITIONS, LEGEND, RING

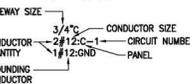
ELECTRICAL LEGEND

POWER SYSTEM DEVICE SYMBOLS

- DUPLEX OUTLET, +18" AFF UNO.
- FOURPLEX OUTLET, +18" AFF UNO.
- GFI OUTLET, +18" AFF UNO.
- GFI OUTLET, ABOVE COUNTER
- FOURPLEX GFI OUTLET, +18" AFF UNO.
- DEDICATED SIMPLEX GFCI OUTLET, +18" AFF UNO.
- EQUIPMENT CONNECTION
- 120V TWIST LOCK RECEPTACLE.
- MOTOR CONNECTION.
- TRANSFORMER.
- TELEPHONE/DATA OUTLET, FOUR-SQUARE DEEP TYPE BOX WITH SINGLE GANG MUDRING, LOCATED AT +18" AFF UNO. FURNISH AND PROVIDE (2) CAT 6 CABLES UNO.
- JUNCTION BOX.
- FLUSH MOUNTED PANEL BOARD/ENCLOSURE. SEE E.S.O. PANEL SCHEDULE FOR TYPE.
- FUSED DISCONNECT SWITCH, SIZE AS INDICATED, NEMA 1 UNO, 3 POLE UNO.
- NON-FUSED DISCONNECT SWITCH, SIZE AS INDICATED, NEMA 1 UNO, 3 POLE UNO.
- COMBINATION STARTER - SEE DRAWINGS FOR SIZE AND ENCLOSURE RATINGS.

CIRCUIT WIRING SYMBOLS

- CONDUIT STUBBED OR SLEEVE, CAPPED, AND MARKED WITH FULL CORD
- CIRCUIT CONCEALED IN CEILING OR WALL, 3/4" C-2#12, 1#12G UNO.
- CIRCUIT CONCEALED IN FLOOR OR UNDERGROUND, 3/4" C-2#10, 1#10G UNO.



ONE-LINE DIAGRAM SYMBOLS

- BRANCH PANEL.
- CIRCUIT BREAKER, SIZE AND TYPE AS SPECIFIED.
- METER AND BASE.
- AUTOMATIC TRANSFER SWITCH
- SERVICE GROUND, GROUND PER NEC ARTICLE 250

LIGHTING SYSTEM DEVICE SYMBOLS

- SINGLE FACE EXIT SIGN, WALL MOUNTED.
- SINGLE FACE COMBO EXIT SIGN/EMERGENCY LUMINAIRE, WALL MOUNTED.
- LIGHT FIXTURE.
- EMERGENCY EGRESS LIGHT.
- WALL PACK FIXTURE.
- EMERGENCY EGRESS LIGHT, WALL MOUNTED.
- INDICATES FIXTURE TYPE
- INDICATES MOUNTING: S SURFACE, W WALL
- SWITCH, TYPE AS INDICATED, +45" AFF, UNO.
- SUPERSCRIPT INDICATES LIGHTS TO BE SWITCHED TOGETHER

LOW VOLTAGE AND CONTROL SYMBOLS

- H/S = FIRE ALARM SYSTEM HORN/STROBE
- S = FIRE ALARM SYSTEM STROBE ONLY
- WALL MOUNTED, 80" AFF MINIMUM, +96" MAX
- # INDICATES MINIMUM CANDLEA LEVEL
- MAG METER, FIELD COORDINATE EXACT LOCATION.
- ULTRASONIC LEVEL SENSOR
- HEAT RISE THERMOSTAT
- SURGE PROTECTION DEVICE
- PASSIVE HARMONIC FILTER
- VACANCY SENSOR

ABBREVIATIONS & DESCRIPTIONS

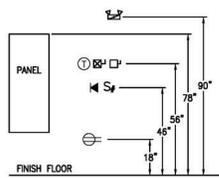
- A AMPERES
- AC ABOVE COUNTER; REFER TO ARCHITECTURAL ELEVATIONS FOR REQUIREMENT.
- AFF ABOVE FINISHED FLOOR
- AFG ABOVE FINISHED GRADE
- AMP AMPERE FRAME
- AHJ AUTHORITY HAVING JURISDICTION
- AT AMP TRIP
- AWG AMERICAN WIRE GAUGE
- C CONDUIT
- CB CIRCUIT BREAKER
- CKT CIRCUIT
- CO CONDUIT ONLY, PROVIDE FULL-LINE COPPER
- DC DIRECT CURRENT
- DA DIAMETER
- (E) EXISTING
- EF EXHAUST FAN
- EMT ELECTRICAL METALIC TUBING
- F FUSE
- FVNR FULL VOLTAGE NON-REVERSING
- GND GROUND
- GFCI GROUND FAULT CURRENT INTERRUPTION GFI
- GFI GROUND FAULT INTERRUPTION
- GFP GROUND FAULT PROTECTION
- HH HANDHOLE
- HID HIGH INTENSITY DISCHARGE
- HDA HAND OFF AUTO
- HP HORSE POWER
- IC INTERRUPTING CAPACITY
- IG ISOLATED GROUND
- J/JB JUNCTION BOX
- KAC KILO-AMP INTERRUPTING CURRENT
- KW KILO-WATT
- KVA KILO-VOLT AMPERE
- MB MAIN BREAKER
- MCC MOTOR CONTROL CENTER
- MIN MINIMUM
- MLO MAIN LUGS ONLY
- MS MOTOR STARTER
- (N) NEW
- N NEUTRAL
- NC NORMALLY CLOSED
- NCL NON CRITICAL LOAD
- NEC NATIONAL ELECTRICAL CODE
- NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
- NIC NOT IN CONTRACT
- NO NORMALLY OPEN
- NTS NOT TO SCALE
- OL OVERLOAD
- OS OCCUPANCY SENSOR
- OFCI OWNER FURNISHED CONTRACTOR INSTALLED
- P PHASE
- PC PHOTOCELL
- PVC POLYVINYL CHLORIDE
- PWTS PUBLIC WATER TREATMENT SYSTEM
- RCPT RECEPTACLE
- (R) RELOCATED
- RE REFER TO
- RGS RIGID GALVANIZED STEEL
- RPVC RIGID PVC (SCHEDULE 80)
- SER SERVICE ENTRANCE RATED
- SPST SINGLE POLE SINGLE THROW
- TC TIME CLOCK
- TD TIME DELAY RELAY
- TJB TERMINAL JUNCTION BOX
- TSP TWISTED SHIELDED PAIR
- TTB TELEPHONE TERMINAL BOARD
- TVSS TRANSIENT VOLTAGE SURGE SUPPRESSER
- TYP TYPICAL
- UH UNIT HEATER
- UNO UNLESS NOTED OTHERWISE
- V VOLT
- VA VOLT AMPERE
- VFD VARIABLE FREQUENCY DRIVE
- WG PROVIDE PROTECTIVE WIRE GUARD
- WP WEATHER PROOF/NEMA 3R
- XTMR TRANSFORMER

GENERAL NOTES

1. COLOR CODE WIRES AS FOLLOWS:

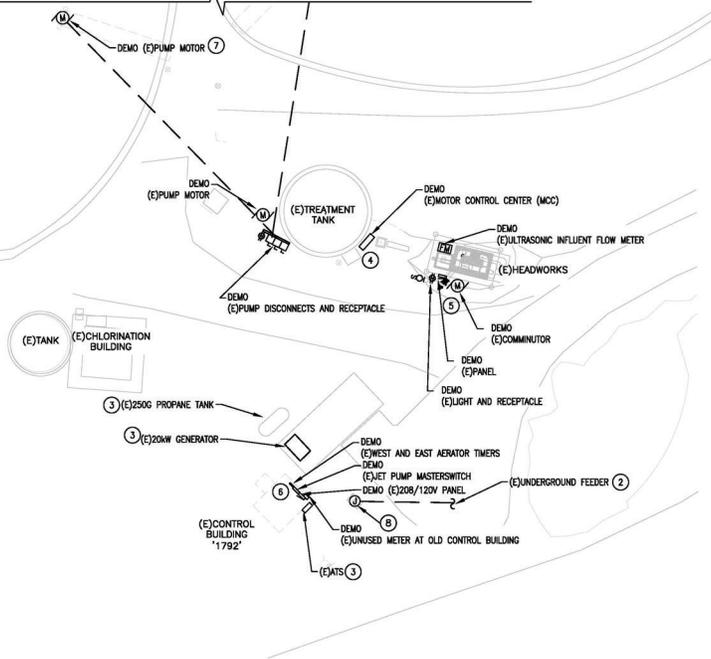
CONDUCTORS	120/208V	120/240V	480/277V
PHASE A	BLACK	BLACK	BROWN
PHASE B	RED	RED	ORANGE
PHASE C	BLUE	BLUE	YELLOW
NEUTRAL	WHITE	WHITE	GRAY
GROUND	GREEN	GREEN	GREEN
2. ELECTRICAL DEVICES AND LINWORK ARE SHOWN BOLD FOR NEW, BOLD/DASHED FOR DEMO & RELOCATED AND MEDIUM/DASHED FOR EXISTING.
3. DIMENSIONED LENGTHS SHALL TAKE PRECEDENCE OVER SCALED LENGTHS.
4. FURNISH AND INSTALL A COMPLETE ELECTRICAL SYSTEM AS DEPICTED FROM THE PLANS AND SPECIFICATIONS, COMPLETE AS NOTED OR IMPLIED, NOT LIMITED TO WHAT IS SHOWN.
5. COORDINATE ALL DEVICE/FIXTURE LOCATIONS AND SPECIFIC REQUIREMENTS WITH CIVIL / MECHANICAL TRADES PRIOR TO ROUGH-IN.

MOUNTING HEIGHTS DETAIL



DESIGNED: M. SMITH	SUB SHEET NO.	TITLE OF SHEET NOTES-DEFINITIONS LEGEND	DRAWING NO. 102
CHECKED: J. CHEEK	E0.0	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	DRAWING NO. 177,507
TEAM MEMBER: B. ANDERSON			PMS/PG NO. 317446
DATE: 03/31/2023			SHEET 88 of 142

CONTINUED FROM E1.0



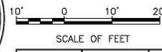
KEYED NOTES (f)

1. RETAIN AND PROTECT EXISTING METER/MAIN. FURNISH NEW FEEDER FROM THE ZOOA OUTPUT CIRCUIT BREAKER IN THE EXISTING POWER PEDESTAL. SEE SHEET E3.0 FOR ADDITIONAL DETAILS.
2. DE-ENERGIZE AND ABANDON. REMOVE ALL ABOVE GROUND CONDUCTOR AND CONDUIT AND SEAL.
3. REMOVE AND RETURN TO OWNER: PROPANE TANK, GENERATOR, AND ATS. CONTRACTOR IS RESPONSIBLE FOR THE PROPER CARE AND PROTECTION OF THESE ITEMS FROM DAMAGE.
4. DEMO EXISTING MCC.
5. CONTRACTOR TO DEMO PANEL, COMMUNICATOR, FLOWMETER, LIGHT AND RECEPTACLE AT HEADWORKS.
6. CONTRACTOR TO DEMO PANEL IN OLD CONTROL BUILDING.
7. DEMO EXISTING CONDUIT, WIRE AND CONNECTIONS OUT TO END OF EACH PIER.
8. RETAIN AND PROTECT EXISTING IN GROUND JUNCTION BOX.

PLAN VIEW - EXISTING ELECTRICAL SITE PLAN ASH MOUNTAIN WWTP



3-31-2023
Philo Carter

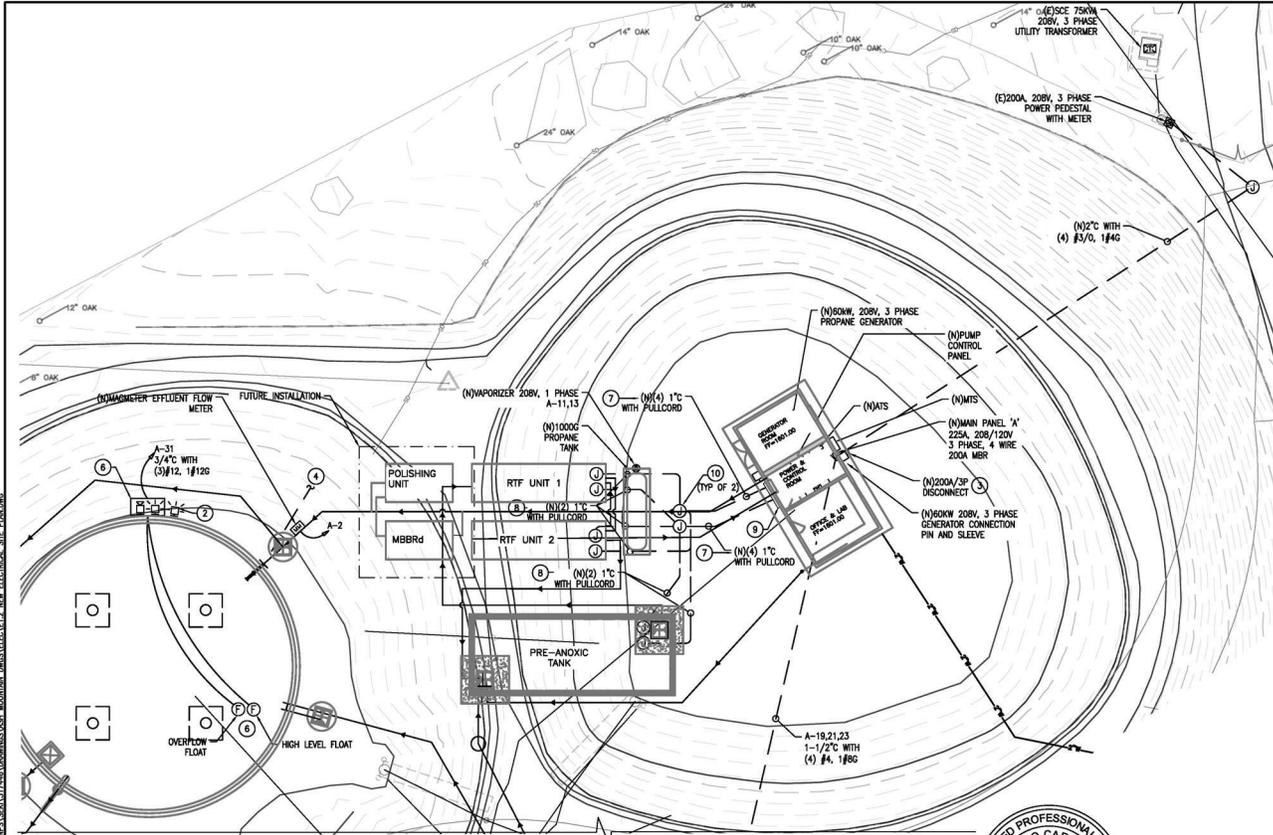


SCALE OF FEET



DESIGNED: M. SMITH	SUB SHEET NO. E1.1	TITLE OF SHEET EXISTING ELECTRICAL SITE PLAN-B	DRAWING NO. 102
CHECKED: J. CHEEK		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PWD NO. 317446
TECH. REVIEWER: B. ANDERSON		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 90 of 142
DATE: 03/31/2023			

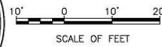
3/10/2023, 12:51 PM, BRYAN BROOKER, C:\CLIENTS\NCS\ASH\317446\DWG\MSS\ASH_MOUNTAIN_DMS\102\E1.1_B_EXISTING_ELECTRICAL_SITE_PLAN.DWG



- KEYED NOTES**
1. PROVIDE A 30A/3P NEMA 4X DISCONNECT.
 2. AMBER STROBE LIGHT FOR NOTIFICATION PURPOSE OF WHEN THE GENERATOR IS OPERABLE. PROVIDE 3/4" C, WITH 2#12 BACK TO THE ATS LOCATED IN THE CONTROL ROOM. CONNECT TO ATS FOR GENERATOR RUN INDICATOR. MOUNT AT +10' AFG SO THAT LIGHT IS VISIBLE FROM THE GENERAL'S HIGHWAY. FIELD VERIFY VISIBILITY PRIOR TO INSTALLATION.
 3. PROVIDE A NEW 200A/3P DISCONNECT, SERVICE ENTRANCE RATED NEMA 4X ENCLOSURE.
 4. PROVIDE 1" CONDUIT BACK TO READOUT IN CONTROL BUILDING. PROVIDE A 3/4" C WITH 3#12 TO PANEL 'A' FOR POWER.
 5. PROVIDE 1" CONDUIT BACK TO READOUT IN CONTROL BUILDING. PROVIDE A 3/4" C WITH 3#12 TO PANEL 'AS' FOR POWER.
 6. OUTDOOR LEVEL ALARM SYSTEM THAT MEETS THE FOLLOWING CRITERIA: PROVIDE SYSTEM WITH (2) NORMALLY CLOSED FLOAT SWITCHES. THE HIGH LEVEL FLOAT SWITCH WILL TURN ON A RED LIGHT WHEN THE TANK LEVEL EXCEEDS 280,000 GALLONS. THE SECOND FLOAT SWITCH IS THE OVERFLOW ALARM AND WILL TURN ON AN 85DB (MINIMUM) HORN WHEN THE TANK LEVEL EXCEEDS 320,000 GALLONS. FURNISH 1" PVC FROM TANK PENETRATIONS TO EACH FLOAT SWITCH AND THEN ON TO THE ALARM PANEL. ALARM PANEL WITH LIGHT AND HORN TO BE MOUNTED AT +10' AFG SO THAT THE LIGHT CAN BE SEEN FROM THE GENERAL'S HIGHWAY. FIELD VERIFY VISIBILITY PRIOR TO INSTALLATION. MOUNT FLOATS NEXT TO TANK ACCESS HATCH AND LADDER STRUCTURE; FIELD COORDINATE LOCATION.
 7. FURNISH PVC CONDUIT FOR UNDERGROUND CONDUITS AND TRANSITION TO PVC COATED STEEL FLEX ABOVE GROUND.
 8. FURNISH RMC OR IMC CONDUIT FOR UNDERGROUND CONDUIT.
 9. FURNISH (9) NEMA 4X, LOCKABLE 30A/3P DISCONNECTS MOUNTED ABOVE A (N) 6"-Ø" NEMA 4X GUTTER AT THIS LOCATION.
 10. IN-GROUND JUNCTION BOX (36"x24"x12") SET TO 1" ABOVE FINISHED GRADE. PROVIDE TRAFFIC RATED BOX AND LID. SEE DETAILS 2, 3 AND 6 ON SHEET ES.1.
 11. CLASS 1 DIV. 2 AREA 10' OUT FROM BUILDING AND 1.5' ABOVE FINISHED GRADE PER NEC ARTICLE 501.
 12. ROUTE CONDUIT PER NEC ARTICLE 501. PROVIDE ALL NECESSARY COMPONENTS.
 13. UNI-STRUT EQUIPMENT RACK. SEE DETAILS 4 AND 5 ON SHEET ES.1.
 14. POLE MOUNTED LIGHT FIXTURE AND SWITCH. SEE DETAILS 7 ON SHEET ES.1.

SEE SHEET E1.3 FOR CONTINUATION

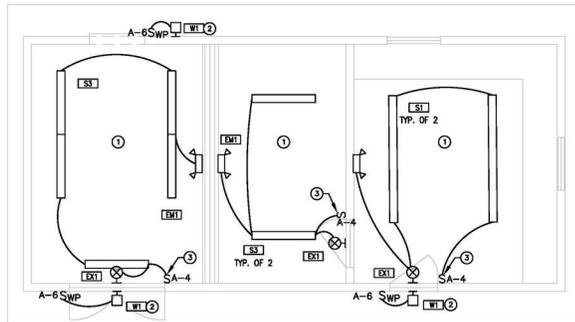
PLAN VIEW - NEW ELECTRICAL SITE PLAN ASH MOUNTAIN WWTP



DESIGNED: M. SMITH	SUB SHEET NO. E1.2	TITLE OF SHEET NEW ELECTRICAL SITE PLAN-A	DRAWING NO. 177,507
CHECKED: J. CHEEK		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PAGE/PAGE NO. 317446
TECH. REVIEWER: B. ANDERSON		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 91 of 142
DATE: 03/31/2023			

3/10/2023, 12:51 PM, BROCKE, C:\CLIENTS\WWS\ASH\317446\ADMIN\SS\177446\NEW ELECTRICAL SITE PLAN.DWG

3/10/2023, 12:50 PM, BROCKE & CLEMENTS/MSA/ASH/317445/REHAB/ASH MOUNTAIN WWT/ASH MOUNTAIN WWT/CONTROL BUILDING ELECTRICAL PLANING

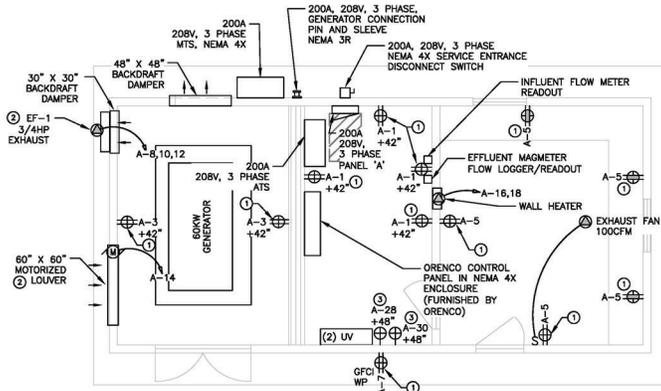


LIGHTING GENERAL NOTES

- A. ALL FINAL LOCATIONS AND ARRANGEMENTS OF LIGHTING FIXTURES SHALL BE VERIFIED AND APPROVED BEFORE INSTALLATION.
- B. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE NO MORE THAN THREE CIRCUITS. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR.
- C. MULTI-GANG BACKBOXES FOR DIFFERENT VOLTAGES AND TYPES OF EMERGENCY AND NORMAL BRANCH WIRING DEVICES SHALL HAVE DIVIDERS BETWEEN DEVICES.
- D. PROVIDE UNSWITCHED LEG OF LOCAL LIGHTING CIRCUIT TO EMERGENCY/EXIT FIXTURE FOR CONSTANT CHARGE TO INTERNAL BATTERY.
- E. REFER TO LIGHT FIXTURE SCHEDULE ON SHEET E11.1 FOR COMPLETE LIST OF FIXTURES.

LIGHTING KEYED NOTES

1. INTERIOR BUILDING LIGHT FIXTURES TO BE ENERGY EFFICIENT LED STRIP LIGHTS REFER TO LIGHT FIXTURE SCHEDULE ON SHEET E11.1. ELECTRICAL CONTRACTOR IS TO ACCOUNT/PROVIDE FOR A FULLY OPERATIONAL INSTALLATION.
2. EXTERIOR BUILDING MOUNTED FIXTURES TO BE ENERGY EFFICIENT LED FIXTURE CONTROLLED WITH A MANUAL ON/OFF SWITCH AT BUILDING ENTRY. REFER TO LIGHT FIXTURE SCHEDULE ON SHEET E11.1.
3. SWITCH PROVIDED FOR MANUAL LIGHTING ON/OFF.



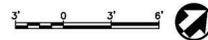
POWER GENERAL NOTES

- A. JUNCTION BOXES SHALL BE WEATHER PROOF (WP) AND SIZED AS REQUIRED, BUT NO SMALLER THAN 6" X 6" X 4".
- B. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE NO MORE THAN THREE CIRCUITS. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR.
- C. MULTI-GANG BACKBOXES FOR DIFFERENT VOLTAGES AND TYPES OF EMERGENCY NORMAL BRANCH WIRING DEVICES SHALL HAVE DIVIDERS BETWEEN DEVICES.

POWER KEYED NOTES

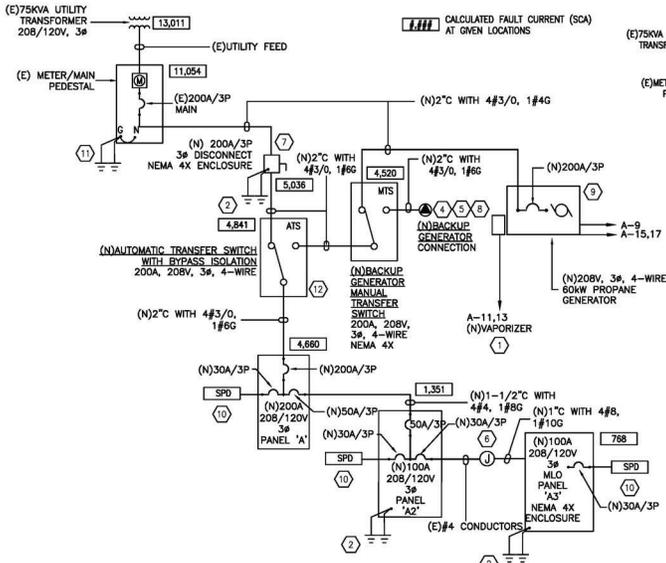
1. ALL OUTLETS IN CONTROL BUILDING SHALL BE GFCI.
2. INTERLOCK INTAKE LOUVER WITH EXHAUST FAN (EF-1) WITH GENERATOR ATS.
3. DEDICATED CIRCUIT TO SIMPLEX GFCI OUTLET TO POWER ASSOCIATED UV LIGHT POWER SUPPLY.

PLAN VIEW — ASH MOUNTAIN WWT/CONTROL BUILDING POWER AND LIGHTING PLANS

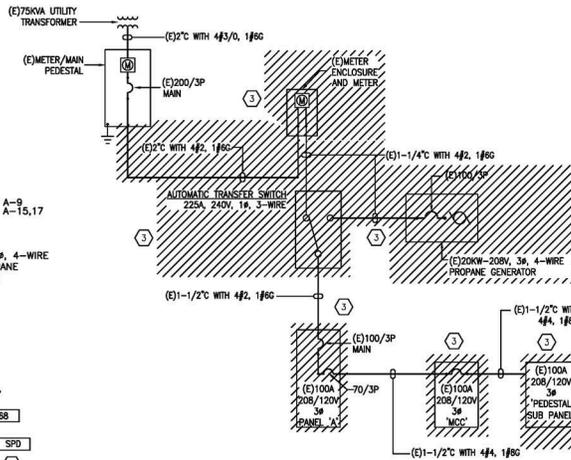


DESIGNED: M. SMITH	SUB SHEET NO. E2.0	TITLE OF SHEET CONTROL BUILDING ELECTRICAL PLAN	DRAWING NO. 102
CHECKED: J. CHEEK		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	DATE 03/31/2023
TECH. REVIEWER: B. ANDERSON		SEQUOIA & KINGS CANYON NATIONAL PARKS	PROJECT NO. 317446
DATE: 03/31/2023		SHEET 93 of 142	

Philo Carter



ASH MOUNTAIN WWTP NEW ONE-LINE DIAGRAM



ASH MOUNTAIN WWTP EXISTING ONE-LINE DIAGRAM

GENERAL NOTES

A. COORDINATE ALL ASPECTS OF THE UTILITY COMPANY REQUIREMENTS WITH REGARD TO SECONDARY CONDUCTORS, METERING, AND SPECIFIC GEAR REQUIREMENTS PRIOR TO ORDERING AND/OR INSTALLATION.

KEYED NOTES (F)

1. FURNISH AND INSTALL NEW PROPANE VAPORIZER SIZED AS REQUIRED FOR SPECIFIC GENERATOR THAT IS SELECTED (BY THIS CONTRACTOR).
2. GROUND PER NEC ARTICLE 250.52(A) 1-8.
3. DISCONNECT AND REMOVE EXISTING ELECTRICAL CONNECTIONS.
4. GROUND PER NEC ARTICLE 702.11(B).
5. PROVIDE PLACARD THAT STATES: WARNING: FOR CONNECTION TO NON-SEPARATELY DERIVED (FLOATING NEUTRAL) SYSTEM ONLY.
6. FURNISH/INSTALL NEW IN-GROUND JUNCTION BOX WHERE EXISTING "MCC" CURRENTLY RESIDES. RETAIN FEEDER FROM EXISTING CONTROL BUILDING PANEL 'A' AND SPLICE IN THIS JUNCTION BOX IN ORDER TO EXTEND FEED TO NEW SUB-PANEL 'A3' AT THE HEADWORKS.
7. INSTALL DISCONNECT ON THE OUTSIDE OF CONTROL BUILDING.
8. 208V, 3Ø WYE-CONNECTED, NEMA 3R GENERATOR PHIN AND SLEEVE CONNECTION WITH INTEGRAL INTERLOCKING DISCONNECT.
9. PROVIDE SIGNAGE PER NEC ARTICLE 702.7(A) & (B).
10. FURNISH AND INSTALL SURGE SUPPRESSION REMOTE UNIT. DEVICES WILL BE LOCATED NEXT TO PANELS AS INDICATED. PROVIDE TOTAL PROTECTION SYSTEMS SERVICE TRACK S1200, P/N TK-200-3Y208-FL-XX OR APPROVED EQUIVALENT.
11. CONFIRM MAIN BONDING JUMPER IS PRESENT AT THIS POINT IN THE BASE OF THE PEDESTAL. IF BOND IS NOT PRESENT, COMPLETE THE MAIN BONDING JUMPER PER THE NEC ARTICLE 250.
12. ATS IS A THREE-POLE TRANSFER SWITCH. NEUTRAL IS NOT SWITCHED. GROUND IS HARD WIRED. THERE IS NO SEPARATELY DERIVED SYSTEM AT THE GENERATOR.

VOLTAGE DROP AT PANELBOARDS										
PANEL	VOLTAGE	PHASE	CONNECTED LOAD	WIRE GAUGE	WIRE MATERIAL	WIRE RESISTANCE	DISTANCE (Feet)	VDROP	%VDROP	TOTAL %VDROP
MTR MAIN - A	208	3	108	3/0	CU	0.0797	139	2.07	1.00	1.00
GEN - A	208	3	108	3/0	CU	0.0797	20	0.30	0.14	0.14
A - A2	208	3	14	4	CU	0.321	185	1.44	0.69	0.69
A2 - A3	208	3	11	8	CU	0.809	83	1.28	0.62	0.62

ASH MOUNTAIN WWTP VOLTAGE DROP CALCULATIONS



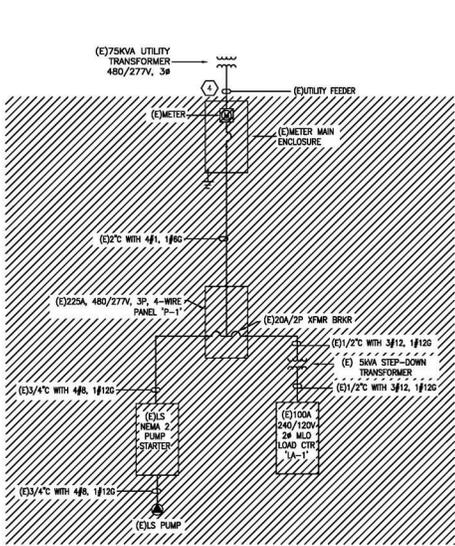
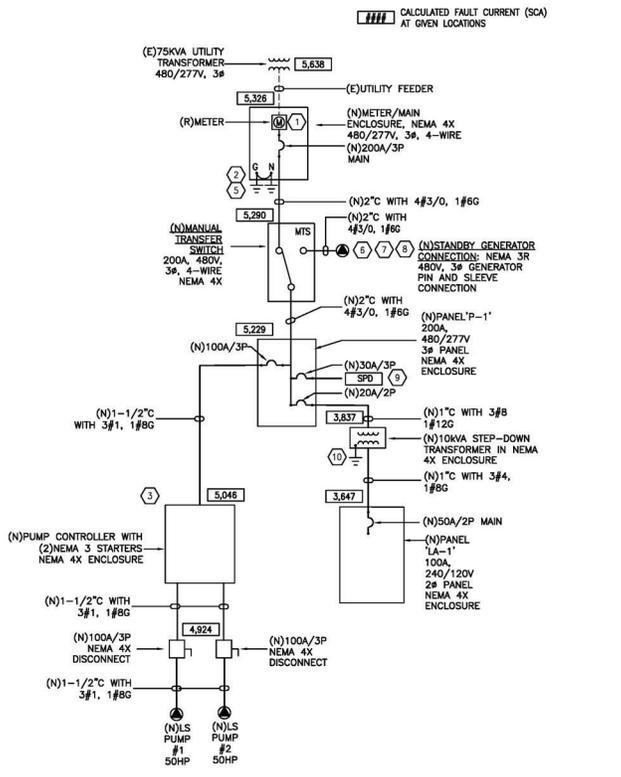
3-31-2023

Phil Carter

DESIGNED: M. SMITH	SUB SHEET NO.	TITLE OF SHEET ASH MOUNTAIN WWTP ONE-LINE DIAGRAM	DRAWING NO. 102
CHECKED: J. CHEEK	E3.0	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	177,507
TOTAL REVISED: B. ANDERSON		SEQUOIA & KINGS CANYON NATIONAL PARKS	94 of 142
DATE: 03/31/2023			

3/10/2023, 12:50 PM, BROCKE & CLARK ENGINEERS, 317445, SEQUOIA & KINGS CANYON NATIONAL PARKS, MOUNTAIN, INVENTORY, ELECTRICAL, ASH, WWTP, ONE-LINE, DIAGRAMING

3/10/2023, 12:50 PM, BPT, BROCKE, C:\CLIENTS\BPT\ASH\317440\DEMOS\ASH_MOUNTAIN_DEMOLITION\ELECTRICAL_PUMP HOUSE_ONE-LINE_DIAGRAM.DWG



ASH MOUNTAIN LIFT STATION DEMOLITION ONE-LINE PLAN

ASH MOUNTAIN LIFT STATION NEW ONE-LINE DIAGRAM

VOLTAGE DROP AT PANELBOARDS

PANEL	VOLTAGE	LOAD	CONNECTED WIRE GAUGE	WIRE MATERIAL	WIRE RESISTANCE (Feet)	VDR0P %	%VDR0P	TOTA
MTR Main - MTS	480	3	149	3/0	CU 0.0797	22	0.45	0.09
ATS - PNL P-1	480	3	149	3/0	CU 0.0797	12	0.25	0.05
P-1-STARTERS	480	3	130	3	CU 0.201	10	0.45	0.09
P-1-XFMR	480	3	9	8	CU 0.809	10	0.13	0.03
XFMR - PNL LA-1	240	3	9	4	CU 0.321	5	0.03	0.01

ASH MOUNTAIN LIFT STATION VOLTAGE DROP CALCULATIONS

GENERAL NOTES

- A. COORDINATE ALL ASPECTS OF THE UTILITY COMPANY REQUIREMENTS WITH REGARD TO SECONDARY CONDUCTORS, METERING, AND SPECIFIC GEAR REQUIREMENTS PRIOR TO ORDERING AND/OR INSTALLATION.

KEYED NOTES (f)

1. METER MAIN ENCLOSURE IS TO BE FURNISHED AND INSTALLED BY THIS CONTRACTOR. COORDINATE METER REPLACEMENT WITH SCE.
2. VERIFY EXISTING GROUNDING ELECTRODE AND MAIN BONDING JUMPER ARE PRESENT. IF NOT PRESENT, PROVIDE A NEW GROUNDING ELECTRODE SYSTEM AND MAIN BONDING JUMPER PER NEC ARTICLE 250.
3. NEW PUMP CONTROL PANEL WITH (2) NEMA SIZE 3 STARTERS, HOA, GREEN RUN LIGHT, RED TROUBLE LIGHT, AND PUMP RUNTIME METER.
4. COORDINATE REPLACEMENT OF METER MAIN WITH UTILITY COMPANY.
5. ENSURE THAT (2) GROUND RODS ARE FURNISHED/INSTALLED AND PROVIDE GROUND AND NEUTRAL BOND AT THIS POINT (SERVICE ENTRANCE) PER NEC ARTICLE 250.
6. GROUND PER NEC ARTICLE 702.11(B).
7. PROVIDE PLACARD THAT STATES: WARNING: FOR CONNECTION TO NON-SEPARATELY DERIVED (FLOATING NEUTRAL) SYSTEM ONLY.
8. GENERATOR SHALL BE EQUIPPED WITH AN INTERLOCKING DISCONNECTING MEANS PER NEC 702.12(C).
9. FURNISH AND INSTALL SURGE PROTECTION DEVICE IN PANEL P-1. DEVICE WILL BE LOCATED NEAR THE INDICATED PANEL. PROVIDE TOTAL PROTECTION SYSTEMS SERVICE TRACK ST200, MODEL NO. TX-ST200-4800N, OR APPROVED EQUIVALENT.
10. GROUND PER NEC ARTICLE 250.



3-31-2023
Philo Carter

DESIGNED: M. SMITH	SUB SHEET NO.	TITLE OF SHEET ONE-LINE DIAGRAM FOR LIFT STATION	DRAWING NO. 102
CHECKED: J. CHEEK	E3.1	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PROJECT NO. 317440
TOTAL REVIEWER: B. ANDERSON		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET NO. 95 of 142
DATE: 03/31/2023			

PANELBOARD SCHEDULE

PANEL A		PROJECT: ASH MOUNTAIN WWTP REHABILITATION		WIRE 4		AMPERE RATING: 200A		SC RATING: 10000		MAIN: 200A MAIN BREAKER																																																																																																																																																																																																																																																														
VOLTAGE: 208/120V		MOUNTING SURFACE		LOADS:		LOAD TYPES:		REMARKS:																																																																																																																																																																																																																																																																
LOAD (VA)	LOAD SERVED	NOTE	TYPE	AMPS	POLES	PHASE	CT </tr <tr> <td>720</td> <td>REC - CONTROL ROOM (GFCC)</td> <td>2</td> <td>20</td> <td>1</td> <td>A</td> <td>2</td> <td>20</td> <td>1</td> <td>3</td> <td>REFURB & EFFLUENT FLOW METER READOUTS</td> <td>360</td> </tr> <tr> <td>540</td> <td>REC - GEN ROOM (GFCC)</td> <td>2</td> <td>20</td> <td>1</td> <td>B</td> <td>4</td> <td>20</td> <td>1</td> <td>1</td> <td>LTG - INTERIOR</td> <td>452</td> </tr> <tr> <td>900</td> <td>REC - OFFICE & LAB (GFCC)</td> <td>2</td> <td>20</td> <td>1</td> <td>C</td> <td>8</td> <td>20</td> <td>1</td> <td>1</td> <td>LTG - EXTERIOR</td> <td>81</td> </tr> <tr> <td>180</td> <td>REC - EXT. OF BUILDING (GFCC)</td> <td>2</td> <td>20</td> <td>1</td> <td>A</td> <td>8</td> <td>20</td> <td>1</td> <td>4</td> <td>EXHAUST FAN - GEN ROOM</td> <td>420</td> </tr> <tr> <td>350</td> <td>GENERATOR BLOCK HEATER</td> <td>3</td> <td>20</td> <td>1</td> <td>B</td> <td>10</td> <td>-</td> <td>-</td> <td>-</td> <td></td> <td>420</td> </tr> <tr> <td>1200</td> <td>GENERATOR VAPORIZER</td> <td>3</td> <td>20</td> <td>2</td> <td>C</td> <td>12</td> <td>-</td> <td>-</td> <td>4</td> <td></td> <td>420</td> </tr> <tr> <td>1200</td> <td>---</td> <td>3</td> <td>-</td> <td>-</td> <td>13</td> <td>A</td> <td>14</td> <td>20</td> <td>1</td> <td>4</td> <td>MOTORIZED OVERFLOW - GEN ROOM</td> <td>300</td> </tr> <tr> <td>900</td> <td>GENERATOR BATTERY CHARGER</td> <td>3</td> <td>20</td> <td>2</td> <td>B</td> <td>16</td> <td>20</td> <td>2</td> <td>3</td> <td>WALL HEATER - OFFICE & LAB</td> <td>1500</td> </tr> <tr> <td>900</td> <td>---</td> <td>3</td> <td>-</td> <td>-</td> <td>17</td> <td>C</td> <td>18</td> <td>20</td> <td>3</td> <td></td> <td>1500</td> </tr> <tr> <td>180</td> <td>PANEL A2</td> <td>3</td> <td>50</td> <td>1</td> <td>A</td> <td>20</td> <td>60</td> <td>3</td> <td>4</td> <td>PUMP CONTROL PANEL</td> <td>4032</td> </tr> <tr> <td>1308</td> <td>---</td> <td>3</td> <td>-</td> <td>-</td> <td>21</td> <td>B</td> <td>22</td> <td>-</td> <td>4</td> <td></td> <td>4032</td> </tr> <tr> <td>1957</td> <td>---</td> <td>3</td> <td>-</td> <td>-</td> <td>23</td> <td>C</td> <td>24</td> <td>-</td> <td>4</td> <td></td> <td>4032</td> </tr> <tr> <td>2958</td> <td>DESINFECTATION</td> <td>4</td> <td>20</td> <td>1</td> <td>A</td> <td>25</td> <td>20</td> <td>1</td> <td>4</td> <td>EXHAUST FAN - OFFICE & LAB</td> <td>420</td> </tr> <tr> <td>2958</td> <td>(WHEN REQUIRED BY PERMIT)</td> <td>4</td> <td>-</td> <td>-</td> <td>27</td> <td>B</td> <td>28</td> <td>20</td> <td>1</td> <td>3</td> <td>1</td> <td>UV DISINFECTION</td> <td>240</td> </tr> <tr> <td>2958</td> <td>---</td> <td>4</td> <td>-</td> <td>-</td> <td>29</td> <td>C</td> <td>30</td> <td>20</td> <td>1</td> <td>3</td> <td>1</td> <td>UV DISINFECTION</td> <td>240</td> </tr> <tr> <td>580</td> <td>HIGH LEVEL/OVERFLOW ALARM & LIGHT</td> <td>3</td> <td>20</td> <td>1</td> <td>A</td> <td>32</td> <td>-</td> <td>-</td> <td>-</td> <td></td> <td>180</td> </tr> <tr> <td>SPARE</td> <td>---</td> <td>20</td> <td>1</td> <td>B</td> <td>34</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td></td> <td>180</td> </tr> <tr> <td>SPARE</td> <td>---</td> <td>20</td> <td>1</td> <td>C</td> <td>36</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td></td> <td>180</td> </tr> <tr> <td>SPACE ONLY</td> <td>---</td> <td>37</td> <td>A</td> <td>38</td> <td>30</td> <td>3</td> <td>3</td> <td></td> <td></td> <td>SURGE PROTECTION DEVICE</td> <td>180</td> </tr> <tr> <td>SPACE ONLY</td> <td>---</td> <td>39</td> <td>B</td> <td>40</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td></td> <td>180</td> </tr> <tr> <td>SPACE ONLY</td> <td>---</td> <td>41</td> <td>C</td> <td>42</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td></td> <td>180</td> </tr>	720	REC - CONTROL ROOM (GFCC)	2	20	1	A	2	20	1	3	REFURB & EFFLUENT FLOW METER READOUTS	360	540	REC - GEN ROOM (GFCC)	2	20	1	B	4	20	1	1	LTG - INTERIOR	452	900	REC - OFFICE & LAB (GFCC)	2	20	1	C	8	20	1	1	LTG - EXTERIOR	81	180	REC - EXT. OF BUILDING (GFCC)	2	20	1	A	8	20	1	4	EXHAUST FAN - GEN ROOM	420	350	GENERATOR BLOCK HEATER	3	20	1	B	10	-	-	-		420	1200	GENERATOR VAPORIZER	3	20	2	C	12	-	-	4		420	1200	---	3	-	-	13	A	14	20	1	4	MOTORIZED OVERFLOW - GEN ROOM	300	900	GENERATOR BATTERY CHARGER	3	20	2	B	16	20	2	3	WALL HEATER - OFFICE & LAB	1500	900	---	3	-	-	17	C	18	20	3		1500	180	PANEL A2	3	50	1	A	20	60	3	4	PUMP CONTROL PANEL	4032	1308	---	3	-	-	21	B	22	-	4		4032	1957	---	3	-	-	23	C	24	-	4		4032	2958	DESINFECTATION	4	20	1	A	25	20	1	4	EXHAUST FAN - OFFICE & LAB	420	2958	(WHEN REQUIRED BY PERMIT)	4	-	-	27	B	28	20	1	3	1	UV DISINFECTION	240	2958	---	4	-	-	29	C	30	20	1	3	1	UV DISINFECTION	240	580	HIGH LEVEL/OVERFLOW ALARM & LIGHT	3	20	1	A	32	-	-	-		180	SPARE	---	20	1	B	34	-	-	-	-		180	SPARE	---	20	1	C	36	-	-	-	-		180	SPACE ONLY	---	37	A	38	30	3	3			SURGE PROTECTION DEVICE	180	SPACE ONLY	---	39	B	40	-	-	-	-	-		180	SPACE ONLY	---	41	C	42	-	-	-	-	-		180
720	REC - CONTROL ROOM (GFCC)	2	20	1	A	2	20	1	3	REFURB & EFFLUENT FLOW METER READOUTS	360																																																																																																																																																																																																																																																													
540	REC - GEN ROOM (GFCC)	2	20	1	B	4	20	1	1	LTG - INTERIOR	452																																																																																																																																																																																																																																																													
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1200	GENERATOR VAPORIZER	3	20	2	C	12	-	-	4		420																																																																																																																																																																																																																																																													
1200	---	3	-	-	13	A	14	20	1	4	MOTORIZED OVERFLOW - GEN ROOM	300																																																																																																																																																																																																																																																												
900	GENERATOR BATTERY CHARGER	3	20	2	B	16	20	2	3	WALL HEATER - OFFICE & LAB	1500																																																																																																																																																																																																																																																													
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2958	DESINFECTATION	4	20	1	A	25	20	1	4	EXHAUST FAN - OFFICE & LAB	420																																																																																																																																																																																																																																																													
2958	(WHEN REQUIRED BY PERMIT)	4	-	-	27	B	28	20	1	3	1	UV DISINFECTION	240																																																																																																																																																																																																																																																											
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580	HIGH LEVEL/OVERFLOW ALARM & LIGHT	3	20	1	A	32	-	-	-		180																																																																																																																																																																																																																																																													
SPARE	---	20	1	B	34	-	-	-	-		180																																																																																																																																																																																																																																																													
SPARE	---	20	1	C	36	-	-	-	-		180																																																																																																																																																																																																																																																													
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SPACE ONLY	---	41	C	42	-	-	-	-	-		180																																																																																																																																																																																																																																																													

LOADING BY TYPE	CONNECTED	NEC CODE	DEMAND FACTOR	DEMAND	NOTES
LIGHTING	533 VA	210-19	125%	668 VA	1 - DEDICATED 120V POWER TO A 120V SMPLEX RECEPT.
RECEPTACLES	2340 VA	220-44	100% @ 100%, ELSE @ 50%	2340 VA	
MISC.	14570 VA	220-60	100%	14570 VA	
MOTOR	LARGEST MOT. 12098	22704 VA	220-50	100% + LARGEST x 25%	25728 VA
KITCHEN	# OF KIT. UNITS: 1	0 VA	220-56	0 VA	
TOTAL	111 A			192 A	

ASH MOUNTAIN WWTP NEW PANEL SCHEDULES

LIGHT FIXTURE SCHEDULE

TYPE	MANUFACTURER	PART NUMBER	LAMP SOURCE	INPUT WATTAGE	VOLTAGE	MOUNTING	NOTES
BH1	LITHONIA	ELSP-LH2	LED	1	120/277V	WALL	
EXT	LITHONIA	LHGALED-G-HO-RO-SD	LED	4.3	120/277V	CEILING	
S1	LITHONIA	CLX4-98-8000LM-SF-RBL-MVOLT-EZ1-38K-80CR-LMSD7-WH	LED	70.8	120VOLT	SURFACE	
S3	LITHONIA	CSVT-L48-5000LM-MVOLT-48K-80CR	LED	42	120VOLT	SURFACE	
W1	LITHONIA	DSXW1-LED-100-700-30K-120V-MVOLT-1-DDBXD	LED	27	120VOLT	WALL	
W2	LITHONIA	DSXW1-LED-100-330-30K-120V-MVOLT-1-BBW-DDBXD	LED	20	120VOLT	WALL	

General Notes:
 1. CONTRACTOR RESPONSIBLE FOR SUPPLYING ALL ACCESSORIES AND EXTRAS FOR A COMPLETE INSTALL.
 2. COORDINATE FINISH WITH ARCHITECT.

ASH MOUNTAIN WWTP LIGHT FIXTURE SCHEDULE

PANEL A2		PROJECT: ASH MOUNTAIN WWTP REHABILITATION		WIRE 4		AMPERE RATING: 100A		SC RATING: 10000		MAIN: 100A MAIN BREAKER		
VOLTAGE: 208/120V		MOUNTING SURFACE		LOADS:		LOAD TYPES:		REMARKS:				
LOAD (VA)	LOAD SERVED	NOTE	TYPE	AMPS	POLES	PHASE	CT	AMPS	LOAD	NOTE	LOAD SERVED	LOAD (VA)
1176	PANEL A3	3	30	3	1	A	2	20	1	1	LTG - BUILDING TRS	111
1296	---	3	-	-	3	B	4	20	1	2	REC - BUILDING TRS WALL OUTLET	360
1300	---	3	-	-	5	C	6	20	1	3	REC-LTG CHLORINATOR BUILDING	471
SPARE	---	20	1	7	A	8	20	1			SPARE	
SPARE	---	20	1	9	B	10	20	1			SPARE	
SPARE	---	20	1	11	C	12	20	1			SPARE	
180	SURGE PROTECTION DEVICE	3	30	3	13	A	14				SPACE ONLY	
180	---	3	-	-	15	B	16				SPACE ONLY	
180	---	3	-	-	17	C	18				SPACE ONLY	

LOADING BY TYPE	CONNECTED	NEC CODE	DEMAND FACTOR	DEMAND	NOTES
LIGHTING	111 VA	210-19	125%	139 VA	
RECEPTACLES	360 VA	220-44	100% @ 100%, ELSE @ 50%	360 VA	
MISC.	4789 VA	220-60	100%	4789 VA	
MOTOR	LARGEST MOT. 0	0 VA	220-50	100% + LARGEST x 25%	0 VA
KITCHEN	# OF KIT. UNITS: 0	0 VA	220-56	0 VA	
TOTAL	15 A			15 A	

PANEL A3		PROJECT: ASH MOUNTAIN WWTP REHABILITATION		WIRE 4		AMPERE RATING: 100A		SC RATING: 10000		MAIN: 30A MAIN BREAKER																																																																																																																	
VOLTAGE: 208/120V		MOUNTING SURFACE		LOADS:		LOAD TYPES:		REMARKS:																																																																																																																			
LOAD (VA)	LOAD SERVED	NOTE	TYPE	AMPS	POLES	PHASE </tr <tr> <td>936</td> <td>GRINDER/COMMINUTOR</td> <td>4</td> <td>20</td> <td>3</td> <td>1</td> <td>A</td> <td>2</td> <td>20</td> <td>1</td> <td>1</td> <td>LT - OVERHEAD LIGHT</td> <td>60</td> </tr> <tr> <td>936</td> <td>---</td> <td>4</td> <td>-</td> <td>-</td> <td>3</td> <td>B</td> <td>4</td> <td>20</td> <td>1</td> <td>2</td> <td>REC</td> <td>180</td> </tr> <tr> <td>936</td> <td>---</td> <td>4</td> <td>-</td> <td>-</td> <td>5</td> <td>C</td> <td>6</td> <td>20</td> <td>1</td> <td>3</td> <td>REFLUENT FLOW METER</td> <td>180</td> </tr> <tr> <td>SPARE</td> <td>---</td> <td>20</td> <td>1</td> <td>7</td> <td>A</td> <td>8</td> <td>20</td> <td></td> <td></td> <td></td> <td>SPARE</td> <td></td> </tr> <tr> <td>SPACE ONLY</td> <td>---</td> <td>20</td> <td>1</td> <td>9</td> <td>B</td> <td>10</td> <td>20</td> <td></td> <td></td> <td></td> <td>SPARE</td> <td></td> </tr> <tr> <td>SPACE ONLY</td> <td>---</td> <td>2</td> <td>11</td> <td>C</td> <td>12</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>SPACE ONLY</td> <td></td> </tr> <tr> <td>180</td> <td>SURGE PROTECTION DEVICE</td> <td>3</td> <td>30</td> <td>3</td> <td>13</td> <td>A</td> <td>14</td> <td></td> <td></td> <td></td> <td>SPACE ONLY</td> <td></td> </tr> <tr> <td>180</td> <td>---</td> <td>3</td> <td>-</td> <td>-</td> <td>15</td> <td>B</td> <td>16</td> <td></td> <td></td> <td></td> <td>SPACE ONLY</td> <td></td> </tr> <tr> <td>180</td> <td>---</td> <td>3</td> <td>-</td> <td>-</td> <td>17</td> <td>C</td> <td>18</td> <td></td> <td></td> <td></td> <td>SPACE ONLY</td> <td></td> </tr>	936	GRINDER/COMMINUTOR	4	20	3	1	A	2	20	1	1	LT - OVERHEAD LIGHT	60	936	---	4	-	-	3	B	4	20	1	2	REC	180	936	---	4	-	-	5	C	6	20	1	3	REFLUENT FLOW METER	180	SPARE	---	20	1	7	A	8	20				SPARE		SPACE ONLY	---	20	1	9	B	10	20				SPARE		SPACE ONLY	---	2	11	C	12						SPACE ONLY		180	SURGE PROTECTION DEVICE	3	30	3	13	A	14				SPACE ONLY		180	---	3	-	-	15	B	16				SPACE ONLY		180	---	3	-	-	17	C	18				SPACE ONLY	
936	GRINDER/COMMINUTOR	4	20	3	1	A	2	20	1	1	LT - OVERHEAD LIGHT	60																																																																																																															
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LOADING BY TYPE	CONNECTED	NEC CODE	DEMAND FACTOR	DEMAND	NOTES
LIGHTING	80 VA	210-19	125%	75 VA	
RECEPTACLES	180 VA	220-44	100% @ 100%, ELSE @ 50%	180 VA	
MISC.	730 VA	220-60	100%	730 VA	
MOTOR	LARGEST MOT. 2808	2808 VA	220-50	100% + LARGEST x 25%	3510 VA
KITCHEN	# OF KIT. UNITS: 0	0 VA	220-56	0 VA	
TOTAL	10 A			12 A	



3-31-2023
 Philo Carter

DESIGNED: M. SMITH	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CHECKED: J. CHEEK		ASH MTN WWTP SCHEDULES	102
TOTAL REVIEWED: B. ANDERSON	E3.2	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	177,507
DWG: 03/31/2023		SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PHG NO. 31746
			SHEET 96 of 142

PANELBOARD SCHEDULE											
PANEL: NEW PANEL P-1		PROJECT: ASH MOUNTAIN WWTP SPRAYFIELD PUMP HOUSE REHABILITATION									
VOLTAGE: 480/277V		PHASE: 3		WIRE: 4		AMP PER RATING: 200A		SC RATING: 250KALC		MAIN: 200A MAIN BREAKER	
ENTRY: BOTTOM		MOUNTING: SURFACE		LOAD TYPES:		1 = LIGHTING		REMARKS:			
LOADS:		Amps VA		LOAD TYPES:		2 = RECEPTACLES		NEW COMMERCIAL BOLT-ON CIRCUIT BREAKER METERMAIN			
PHASE A:		135 37525				3 = MISC.					
PHASE B:		135 37525				4 = MOTOR					
PHASE C:		131 36150				5 = KITCHEN					
TOTAL:		110840									
LOAD (VA)	LOAD SERVED	NOTE	LOAD TYPE	AMPS	CTK	PHASE	CTK	AMPS	LOAD TYPE	LOAD SERVED	LOAD (VA)
18005	PUMP NO. 1		4	100	3	A	2	20	2	3	1135
18005	---		4	-	-	B	4	-	-	---	1135
18005	---		4	-	-	C	8	20	1	---	---
18005	PUMP NO. 2		4	100	3	A	8	20	1	---	---
18005	---		4	-	-	B	10	20	1	---	---
18005	---		4	-	-	C	12	20	1	---	---
180	SURGE PROTECTION DEVICE		3	30	3	A	14	-	-	---	---
180	---		3	-	-	B	16	-	-	---	---
180	---		3	-	-	C	18	-	-	---	---

PANEL: NEW PANEL LA-1											
PANEL: NEW PANEL LA-1		PROJECT: ASH MOUNTAIN WWTP SPRAYFIELD PUMP HOUSE REHABILITATION									
VOLTAGE: 240/120V		PHASE: 3		WIRE: 3		AMP PER RATING: 100A		SC RATING: 10000		MAIN: 50A MAIN BREAKER	
ENTRY:		MOUNTING: SURFACE		LOAD TYPES:		1 = LIGHTING		REMARKS:			
LOADS:		Amps VA		LOAD TYPES:		2 = RECEPTACLES		NEW COMMERCIAL BOLT-ON CIRCUIT BREAKER PANELBOARD.			
PHASE A:		6 765				3 = MISC.		DISCONNECT AND RECONNECT EXISTING LOADS FROM OLD PANEL TO NEW BREAKERS IN THIS PANELBOARD			
PHASE B:		3 370				4 = MOTOR					
TOTAL:		1135				5 = KITCHEN					
LOAD (VA)	LOAD SERVED	NOTE	LOAD TYPE	AMPS	CTK	PHASE	CTK	AMPS	LOAD TYPE	LOAD SERVED	LOAD (VA)
200	PUMP CONTROLLER		3	20	1	A	2	15	1	3	115
	SPARE		20	1	3	B	4	20	1	3	190
500	REG - INT WALL RECEPTACLES		2	20	1	A	6	20	1	1	90
180	REG - EXT WALL RECEPTACLE		2	20	1	B	8	20	1	---	---
	SPARE		20	1	9	A	10	20	1	---	---
	SPARE		20	1	11	B	12	20	1	---	---
	SPACE ONLY					13	A	14		---	---
	SPACE ONLY					15	B	16		---	---
	SPACE ONLY					17	A	18		---	---

ASH MOUNTAIN SPRAYFIELD LIFT STATION PANEL SCHEDULES											
LOADING BY TYPE	CONNECTED	NEC CODE	DEMAND FACTOR	DEMAND	NOTES:						
LIGHTING	0 VA	210-19	125%	0 VA							
RECEPTACLES	0 VA	220-44	10kVA @ 100% ELSE @ 50%	0 VA							
MISC.	1875 VA	220-60	100%	1875 VA							
MOTOR	LARGEST MOT.: 54015	100030 VA	100% + LARGEST x 25%	121524 VA							
KITCHEN	# OF KIT. UNITS:	0 VA		0 VA							
TOTAL		132 A		148 A							



DESIGNED: M. SMITH	SUB SHEET NO. E3.3	TITLE OF SHEET ASH MTN PUMP HOUSE PANEL SCHEDULE	DRAWING NO. 102 177,507
CHECKED: J. CHEEK		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PANEL/PHG NO. 317446
TOTAL REVIEWER: B. ANDERSON		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 97 of 142
DATE: 03/31/2023			

3/31/2023 12:48 PM: BROCKE, G. VALERIE; WESS, SARA; J. 17446; BUSINESS; ASH MOUNTAIN WWTP SPRAYFIELD PUMP HOUSE PANEL SCHEDULES

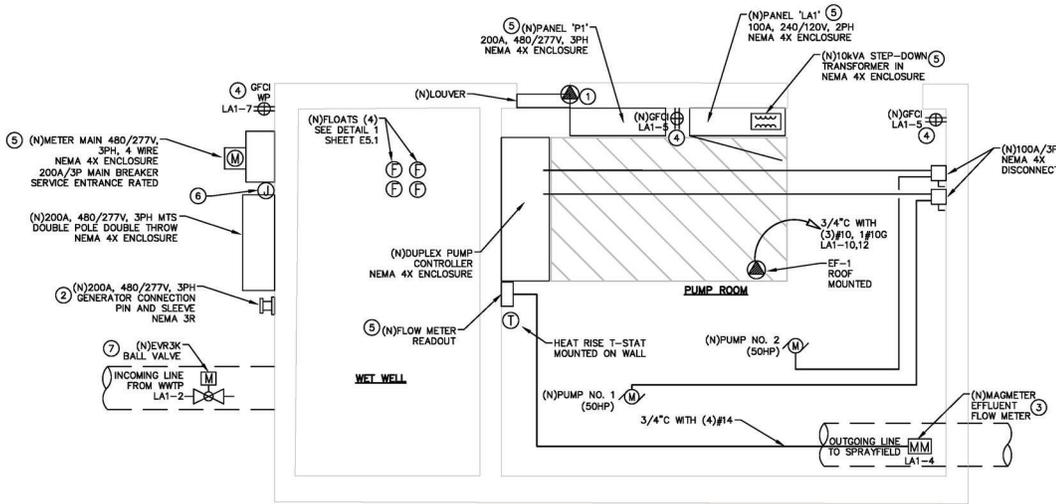
3/10/2023, 12:49 PM, BROCKE & CLARK ENGINEERS, 317445, 03/31/2023, 10:00 AM, MOUNTAIN VIEW ELECTRICAL SPRAYFIELD PUMP HOUSE POWER

GENERAL NOTES:

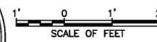
- A. COORDINATE ALL ASPECTS OF THE UTILITY COMPANY REQUIREMENTS WITH REGARD TO METERING, AND SPECIFIC GEAR REQUIREMENTS PRIOR TO ORDERING AND OR INSTALLATION.
- B. CONTRACTOR TO ENSURE THAT PROPER WORKING CLEARANCES AROUND ELECTRICAL EQUIPMENT ARE MAINTAINED PER NEC REQUIREMENTS.

KEYED NOTES (1)

- 1. INTERLOCK WITH EXHAUST FAN (EF-1).
- 2. CONNECTOR MUST BE COMPATIBLE WITH CURRENT PORTABLE GENERATOR USED BY PARK PERSONNEL.
- 3. FLOW METER MOUNTED ON PIPING EXITING THE PUMP HOUSE. COORDINATE MAGMETER INSTALLATION WITH GENERATOR INSTALL.
- 4. ALL RECEPTACLES AT PUMPHOUSE ARE REQUIRED TO BE GFCI, OUTDOOR RECEPTACLES REQUIRE A "WEATHERPROOF WHILE IN USE" COVER.
- 5. COORDINATE PANEL AND EQUIPMENT SIZES WITH PUMP PLACEMENT TO ENSURE ADEQUATE WORKING CLEARANCE FOR PANELS AND EQUIPMENT AS CODE REQUIRES.
- 6. MOVE CONDUIT AND J-BOX AS NEEDED TO INSTALL MTS.
- 7. CONNECT NEW EQUIPMENT SHOWN.



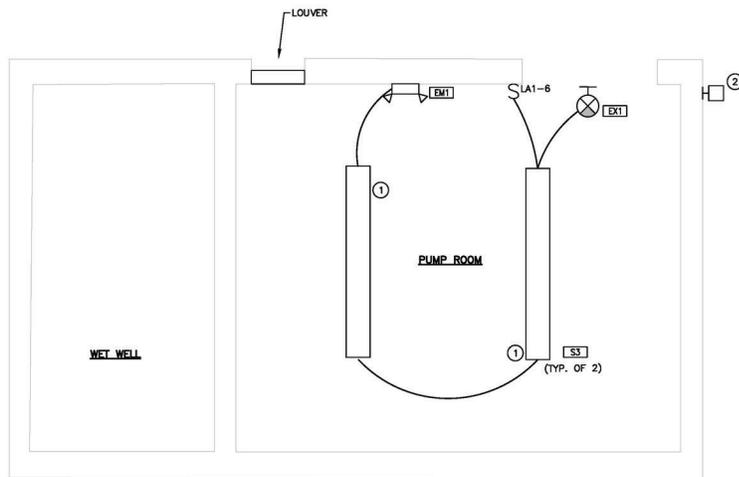
PLAN VIEW - SPRAYFIELD PUMP HOUSE POWER PLAN



DESIGNED: B. ANDERSON	SUB SHEET NO. E4.1	TITLE OF SHEET SPRAYFIELD PUMP HOUSE POWER	DRAWING NO. 102 177,507
DRAWN: J. CHEEK	DATE: 03/31/2023	REHABILITATE BUCKEYE WASTEWATER SYSTEMS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWD NO. 317446
TITLE: P. CARTER			SHEET 99 of 142

Philo Carter
3-31-2023

3/10/2023, 12:48 PM, BROCKE, G. CALIFORNIA REGISTERED ELECTRICAL ENGINEER, 317446, WASHINGTON, D.C., SPRAYFIELD PUMP HOUSE LIGHTING



PLAN VIEW - SPRAYFIELD PUMP HOUSE LIGHTING PLAN

GENERAL NOTES:

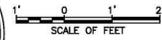
- A. ALL FINAL LOCATIONS AND ARRANGEMENTS OF LIGHTING FIXTURES SHALL BE VERIFIED AND APPROVED BEFORE INSTALLATION.
- B. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE NO MORE THAN THREE CIRCUITS. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR.
- C. MULTI-GANG BACKBOXES FOR DIFFERENT VOLTAGES AND TYPES OF EMERGENCY AND NORMAL BRANCH WIRING DEVICES SHALL HAVE DIVIDERS BETWEEN DEVICES.
- D. PROVIDE UNSWITCHED LEG OF LOCAL LIGHTING CIRCUIT TO INTERNAL BATTERY.

KEYED NOTES ①

- 1. LIGHT FIXTURES IN THIS AREA TO BE ENERGY EFFICIENT LED STRIP LIGHTS. ELECTRICAL CONTRACTOR IS TO FURNISH/PROVIDE FOR A FULLY OPERATIONAL SYSTEM.
- 2. DEMO EXISTING HORN AT THIS LOCATION REPLACE WITH NEW LED RED LIGHT WARNING BEACON. ELECTRICAL CONTRACTOR IS TO FURNISH/PROVIDE FOR A FULLY OPERATIONAL SYSTEM.



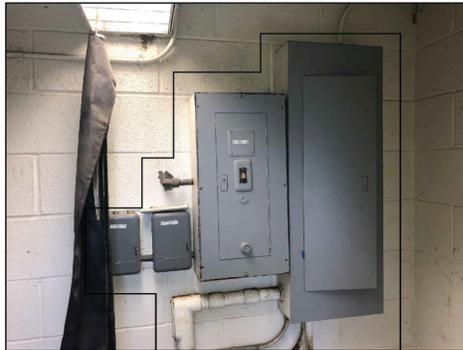
Philo Carter



DESIGNED: M. SMITH	SUB SHEET NO. E4.2	TITLE OF SHEET SPRAYFIELD PUMP HOUSE LIGHTING	DRAWING NO. 102
DRAWN: J. CHEEK		PROJECT NO. 317446	
TECH. REVIEWER: B. ANDERSON		SHEET NO. 100 of 142	
DATE: 03/31/2023			



A ASH MOUNTAIN EXISTING CONTROL BUILDING NORTH EXTERIOR WALL



B ASH MOUNTAIN EXISTING CONTROL BUILDING EQUIPMENT



C ASH MOUNTAIN POND AERATION PUMPS AND OUTDOOR RECEPTACLE



D ASH MOUNTAIN EXISTING STANDBY GENERATOR



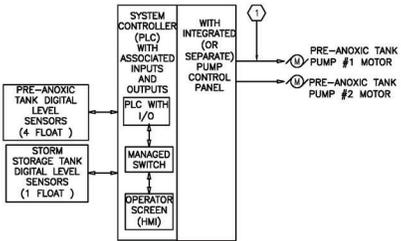
E ASH MOUNTAIN EXISTING 250 GALLON PROPANE TANK



Philo Carter

DESIGNED: M. SMITH	SUB SHEET NO. E5.0	TITLE OF SHEET CTRL BLDG DEMO DETAILS	DRAWING NO. 102
CHECKED: J. CHEEK			177,507
TECH. REVIEWER: B. ANDERSON		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWD NO. 317446
DATE: 03/31/2023			SHEET 101 of 142

31 JULY 2023, 12:48 PM, BROCKE, C:\CLIENTS\NCS\ASH\317443\DESIGN\NCS_ASH_MOUNTAIN_INSTRUMENTATION_CONTROL_SCHEME.PWG



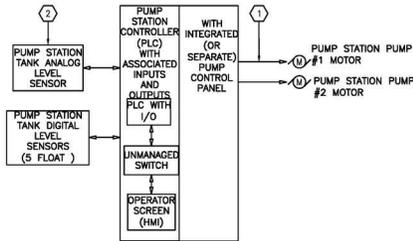
ASH MOUNTAIN SYSTEM BLOCK DIAGRAM AND CONTROL SCHEME

GENERAL NOTES

- A. SEE CONTRACT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND DETAILS.
- B. CONTROL PANEL SHALL BE PROVIDED BY CONTRACTOR. IT SHALL CONTAIN THE PLC COMPONENTS AND MOTOR CONTROLS REQUIRED TO MEET THE I/O REQUIREMENTS, AND A MANAGED SWITCH AND HMI DISPLAY. PANEL SHALL BE DESIGNED AND BUILT TO MEET UL508A REQUIREMENTS.
- C. SEE SPECIFICATIONS FOR A COMPLETE LIST OF SIGNALS REQUIRED FOR THE PROJECT.
- D. CONTRACTOR IS TO SUPPLY ALL ITEMS FOR A COMPLETE FUNCTIONING SYSTEM. SEE THE SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- E. SEE NETWORK BLOCK DIAGRAM FOR COMMUNICATIONS NETWORK DETAILS

KEYED NOTES (1)

- 1. MOTORS DEPICTED IN THIS BLOCK DIAGRAM REPRESENT THE MOTOR WIRING TO THE MOTOR AND/OR THE CONTROLS FOR THE MOTOR CONTROLLER EQUIPMENT AS APPLICABLE TO THE COMPONENTS SUPPLIED.



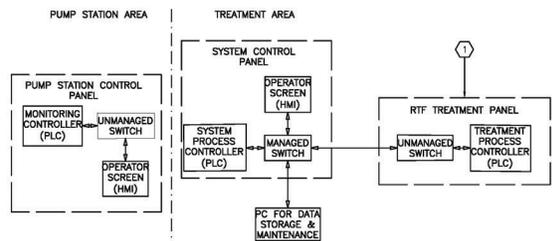
ASH MOUNTAIN PUMP STATION BLOCK DIAGRAM AND CONTROL SCHEME

GENERAL NOTES

- A. SEE CONTRACT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND DETAILS.
- B. CONTROL PANEL SHALL BE PROVIDED BY CONTRACTOR. IT SHALL CONTAIN THE PLC COMPONENTS AND MOTOR CONTROLS REQUIRED TO MEET THE I/O REQUIREMENTS, AND AN UNMANAGED SWITCH AND HMI DISPLAY. PANEL SHALL BE DESIGNED AND BUILT TO MEET UL508A REQUIREMENTS.
- C. SEE SPECIFICATIONS FOR A COMPLETE LIST OF SIGNALS REQUIRED FOR THE PROJECT.
- D. CONTRACTOR IS TO SUPPLY ALL ITEMS FOR A COMPLETE FUNCTIONING SYSTEM. SEE THE SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- E. SEE NETWORK BLOCK DIAGRAM FOR COMMUNICATIONS NETWORK DETAILS

KEYED NOTES (1)

- 1. MOTORS DEPICTED IN THIS BLOCK DIAGRAM REPRESENT THE MOTOR WIRING TO THE MOTOR AND/OR THE CONTROLS FOR THE MOTOR CONTROLLER EQUIPMENT AS APPLICABLE TO THE COMPONENTS SUPPLIED.
- 2. SENSORS LOCATED INSIDE TANKS SHALL HAVE INTRINSIC ISOLATION.



ASH MOUNTAIN NETWORK BLOCK DIAGRAM

GENERAL NOTES

- A. SEE CONTRACT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND DETAILS.
- B. CONTROL PANEL SHALL BE PROVIDED BY CONTRACTOR. IT SHALL CONTAIN THE PLC COMPONENTS AND MOTOR CONTROLS REQUIRED TO MEET THE I/O REQUIREMENTS, AND AN UNMANAGED SWITCH AND HMI DISPLAY. PANEL SHALL BE DESIGNED AND BUILT TO MEET UL508A REQUIREMENTS.
- C. SEE SPECIFICATIONS FOR A COMPLETE LIST OF SIGNALS REQUIRED FOR THE PROJECT.
- D. CONTRACTOR IS TO SUPPLY ALL ITEMS FOR A COMPLETE FUNCTIONING SYSTEM. SEE THE SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- E. SEE NETWORK BLOCK DIAGRAM FOR COMMUNICATIONS NETWORK DETAILS

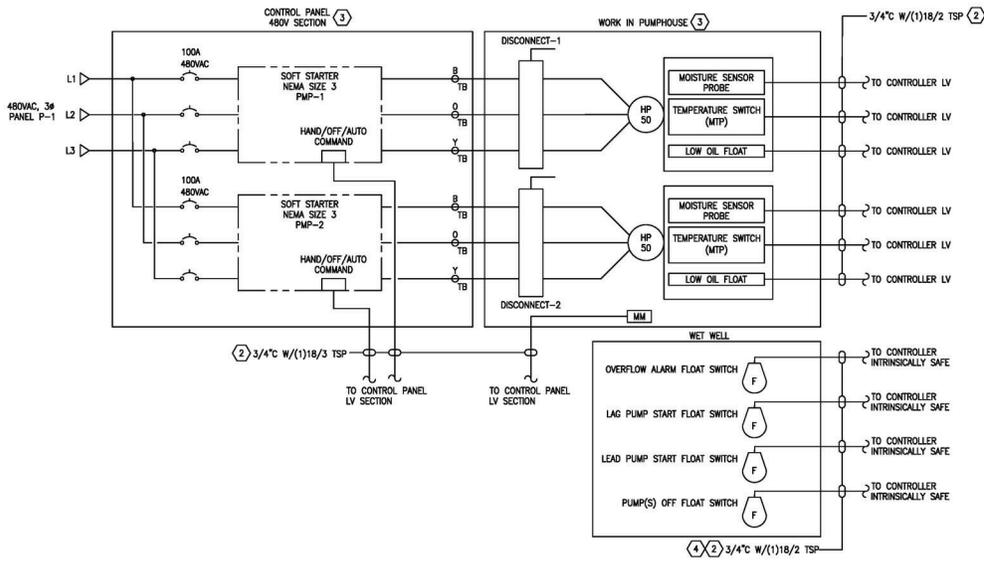
KEYED NOTES (1)

- 1. PROVIDED BY ORENCO.



Philo Carter

DESIGNED: M. SMITH	SUB SHEET NO. E6.0	TITLE OF SHEET CONTROL SCHEME	DRAWING NO. 102
CHECKED: J. CHEEK			177,507
TEAM REVIEWER: B. ANDERSON		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PWS/PWD NO. 317446
DATE: 03/31/2023			SHEET 103 of 142



GENERAL NOTES

- A. PROVIDE ALL EQUIPMENT, AND CONNECTIONS AS SHOWN. ALL FIELD SENSORS WILL BE TERMINATED IN THE CONTROLS PANEL.
- B. MAG FLOW METER TO BE INTRINSICALLY SAFE, WITH FLOW RANGE 0-1600 GPM MINIMUM.
- C. PS-1 TO BE PRESSURE SENSOR WITH 24 VDC POWER IN, 4-20 mA POWER OUT.
- D. FLOAT SWITCHES TO BE -40 TO 200 FAHRENHEIT RATED 24 VDC, 0.5A.
- E. LEVEL SENSING PRESSURE TRANSDUCER.

KEYED NOTES

- 1. INTRINSICALLY SAFE AREA SHALL FOLLOW NEC 504 & UL698A.
- 2. CABLE SHIELDING SHALL BE GROUNDED AND ONLY AT ONE END. THE CABLE SHIELDING GROUNDING SHALL BE IN THE CONTROL PANEL.
- 3. MOTOR CONTROL PANEL IS PART OF A PACKAGED PUMP SYSTEM. SYSTEM IS TO BE FURNISHED BY THE GENERAL CONTRACTOR. CONTRACTOR WILL HAVE INTEGRAL MOTOR STARTERS. THIS CONTRACTOR IS RESPONSIBLE TO INSTALL THE MOTOR CONTROL PANEL. THIS CONTRACTOR IS ALSO RESPONSIBLE FOR ALL FIELD CONDUITS, CABLING AND ASSOCIATED FIELD TERMINATIONS.
- 4. FURNISH / INSTALL CONDUIT SEAL OFFS FOR ALL CONDUITS THAT ENTER/EXIT THE WET WELL.

ASH MOUNTAIN SPRAYFIELD LIFT STATION PUMP CONTROL SYSTEM DIAGRAM

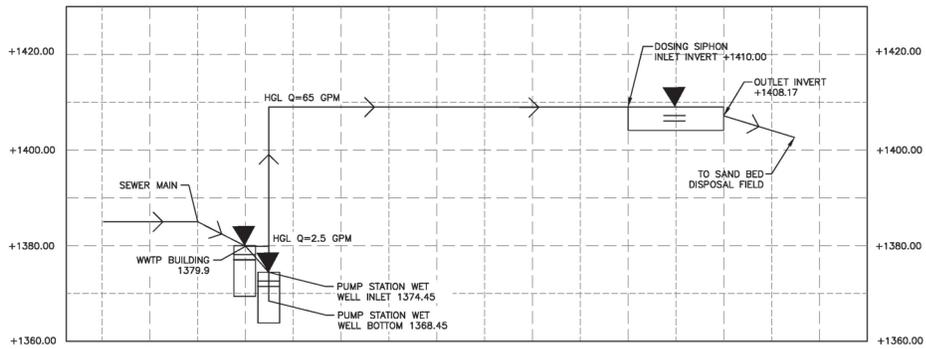


Philo Carter

DESIGNED: M. SMITH	SUB SHEET NO.	TITLE OF SHEET CONTROL PANEL DIAGRAM-A	DRAWING NO. 102
CHECKED: J. CHEEK	E6.1	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWG NO. 317446
TOTAL REVIEWER: B. ANDERSON		SHEET 104 of 142	
DATE: 03/31/2023			

3/10/2023, 12:47 PM, B. BRODIE, C:\CLIENTS\NCS\ASH\317446\DWG\MSS\ASH_MOUNTAIN_SPRAYFIELD_LIFT_STATION_CONTROL_PANEL_DIAGRAM-A.DWG

28/03/2023 08:40 BRT BROOKE C:\CLIENTS\NPS\SEA\317446\DRAWINGS\BUCKET\NPS\12-CIVIL SHEETS\HYDRAULIC PROFILE PHASE 1 BHWWT.DWG



PROFILE VIEW - HYDRAULIC FLOW PROFILE BHWWT
SCALE: NTS



David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
DRAWN: M. GARCIA	HP2.1	HYDRAULIC PROFILE PHASE 1 BHWWT	102 177,507
TECH. REVIEWER: J. BLOM		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWD NO. 317446
DATE: 03/31/2023			SHEET 106 of 142

28 JULY 2021 09:40 BUREAU OF CALIFORNIA REGISTERED PROFESSIONAL ENGINEERS, CIVIL, STATE OF CALIFORNIA, SHEET DC2.1, DESIGN CRITERIA, REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS, SEQUOIA & KINGS CANYON NATIONAL PARKS

BHWTP DAILY SEPTIC TANK TREATMENT PARAMETERS			
BUCKEYE HOUSING WWTP INFLUENT FLOWS RECORDED 2014-2021			
8-YEAR AVERAGE	MAX MONTHLY AVE GPD	MIN MONTHLY AVE GPD	AVE MONTHLY MEAN GPD
JANUARY	1,450	60	407
FEBRUARY	1,770	180	522
MARCH	1,600	20	510
APRIL	1,360	60	503
MAY	1,500	275	784
JUNE	1,788	350	1,027
JULY	1,688	275	959
AUGUST	1,575	175	827
SEPTEMBER	1,456	313	823
OCTOBER	1,450	338	704
NOVEMBER	1,163	25	393
DECEMBER	1,000	50	471
AVERAGE	1,483	177	661

BHWTP DRAINFIELD SIZING CRITERIA			
SOURCE	INFILTRATION RATE MIN/IN	APPLICATION RATE GPD/SF	MINIMUM REQUIRED EFFECTIVE AREA - SF
TEST PIT 1	31	Q=5/SQRT(I)	2,820GPD/0.88GPD/SF
TEST PIT 2	42		
TEST PIT 3	50		
STATE NOA	10	0.88	3,200
STATE NOA	28		
AVERAGE	32.2		

BHWTP PRIMARY TREATMENT PARAMETERS	
WASTE DISCHARGE PERMIT FLOWS VS DESIGN MAXIMUM DAY FLOW	
WASTE DISCHARGE PERMIT FLOWS	
DESCRIPTION	2014 THRU 2021 AVE VOLUME (GPD)
CURRENT WASTE DISCHARGE PERMIT DESIGN FLOW	3,600
CURRENT WASTE DISCHARGE PERMIT AVERAGE DRY WEATHER FLOW	1,500
AVERAGE MAXIMUM DAY VS DESIGN MAXIMUM DAY FLOW	
EIGHT YEAR AVERAGE DAY FLOW	682
DESIGN MAXIMUM DAY FLOW ¹	2,850
¹ PEAKING FACTOR = 4.18	
SEPTIC TANK SIZE - GALLONS	
DESIGN MINIMUM	2,850
LARGER CAPACITY FOR SLUDGE STORAGE	4,300

BHWTP SAND BED DISPOSAL EFFLUENT CAPACITY					
ZONE 1					
ZONE	PIPE DIA - INCH	PIPE LENGTH - FT	PIPE VOLUME - GAL	DISCHARGE VOLUME - GAL (1)	SAND BED AREA - SF
ZONE 1-1	4	30	78.3	52.8	360
ZONE 1-2	4	36	117.4	79.2	522
ZONE 1-3	4	36	117.4	79.2	522
ZONE 1-4	4	18	58.7	39.6	261
ZONE(1) 1 - 4 TOTAL (2)		120	371.7	250.9	1665
ZONE 2					
ZONE 2-1	4	18	58.7	39.6	312
ZONE 2-2	4	44	143.5	96.8	675
ZONE 2-3	4	22	71.7	48.4	337
ZONE 2-4	4	22	71.7	48.4	337
ZONE(2) 1 - 4 TOTAL (2)	4	106	345.6	233.3	1661
SYSTEM TOTAL		226	717.0	484.2	3326
(1) DISCHARGE VOLUME EQUALS 67.5% PIPE CAPACITY VOLUME (2) VOLUME EQUALS DOSING SIPHON SINGLE DISCHARGE VOLUME DOSE					

DESIGN CRITERIA - PRIMARY TREATMENT AND DISPOSAL (BHWTP)

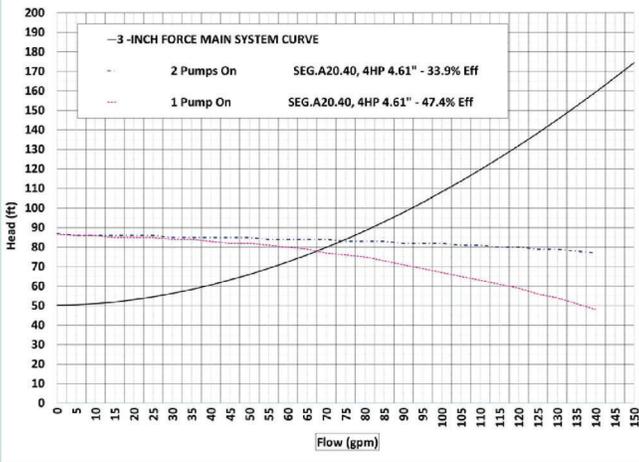


David Barton Brooker

DESIGNED: D. BROOKE	SUB SHEET NO. DC2.1	TITLE OF SHEET DESIGN CRITERIA (BHWTP)	DRAWING NO. 102
DRAWN: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	DRAWING NO. 177,507
TOTAL REVIEW: J. BLOM			PMS/PWG NO. 317446
DATE: 03/31/2023			SHEET 107 of 142

BHWTP LIFT STATION HYDRAULICS

PUMP PERFORMANCE ONE & TWO PUMP OPERATION
With
3-inch Diameter Force Main



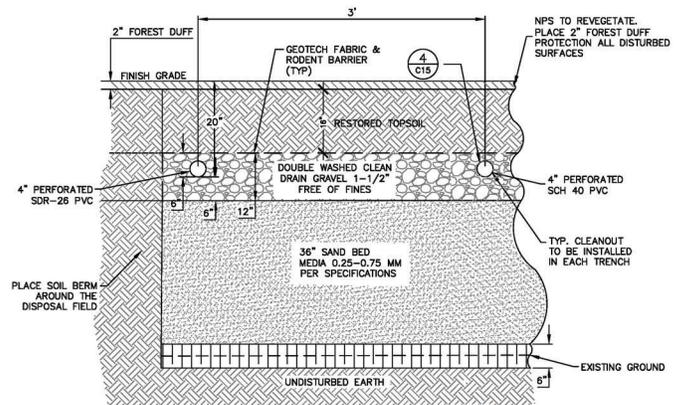
BHWTP DOSING SIPHON & SAND BED PARAMETERS

DISPOSAL FIELD THREE-WAY VALVE OPERATION LOGIC

PERIOD	REST BED NO.	DISCHARGE TO	SIPHON - A		SIPHON - B	
			VALVE #1 OPERATION	VALVE #2 OPERATION	FIELD 1	FIELD 2
1	NA	DRAINFIELD #1 & #2	OPEN	CLOSED	CLOSED	OPEN
2	1	DRAINFIELD #2	CLOSED	OPEN	CLOSED	OPEN
3	2	DRAINFIELD #1	OPEN	CLOSED	OPEN	CLOSED

NOTE: IN A TWO-YEAR CYCLE, EACH BED OPERATES FOR 18-MONTHS AND RESTS FOR 6-MONTHS.

BHWTP SAND BED HYDRAULICS



DESIGN CRITERIA - LIFT STATION - DOSING SIPHON & SAND BED (BHWTP)



David Barton Brodke

DESIGNED: D. BRODKE	SUB SHEET NO. DC2.2	TITLE OF SHEET DESIGN CRITERIA (BHWTP)	DRAWING NO. 102
CHECKED: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PWG NO. 317446
TECH. REVIEWER: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 108 of 142
DATE: 03/31/2023			

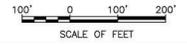
28/07/2023 08:40 BRY BROOKE © CLIENTS/MS/SEA/317448/DOMINUS/BUCKET/INNS/CAVE/BUCKEYE/02 PROJECT SITE PLAN.DWG



SITE PLAN_BHWWTP

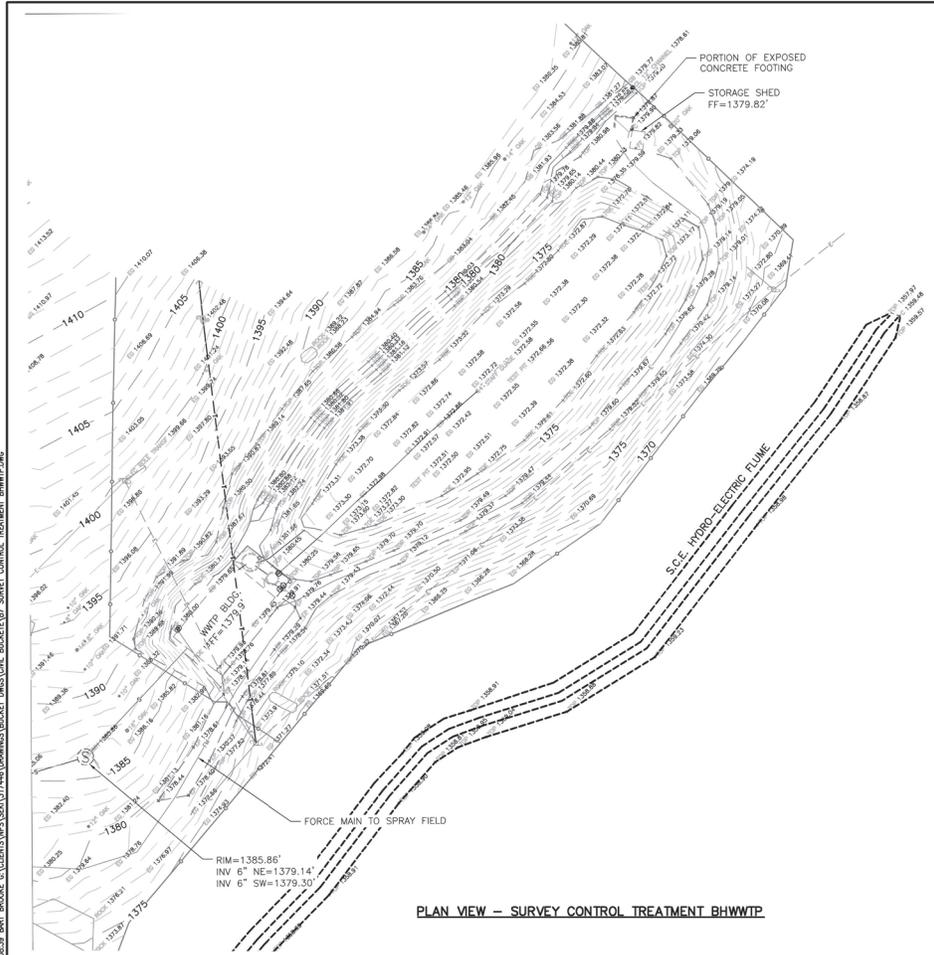


David Barton Brooke



DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
DRAWN: M. GARCIA	C2.1	PROJECT SITE PLAN	102
CHECKED/REVIEWER: J. BLOM			PMS/PHD NO. 317448
DATE: 03/31/2023		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 109 of 142

28/01/2023 08:39 BRT BROOKE C. CLIENTS\NPS\SEA\317446\DOMINUS\BUCKET\NMS\CA\BUCKETE\VP SURVEY CONTROL TREATMENT BHWWT.DWG



PLAN VIEW - SURVEY CONTROL TREATMENT BHWWT

SURVEYOR'S NOTES:
 VEGETATION TREE DIAMETERS WERE MEASURED AT CHEST HEIGHT AND ARE APPROXIMATE. ALL SYMBOLS HAVE BEEN SCALED BASED ON THIS MEASUREMENT.

- SYMBOLS AND ABBREVIATIONS:**
- AC ASPHALT CONCRETE
 - C CONCRETE
 - CP CONTROL POINT
 - EG EXISTING GROUND
 - EP EDGE OF PAVEMENT
 - FF FINISHED FLOOR ELEVATION
 - FL FLOW LINE
 - GB GRADE BREAK
 - TC TOP FACE OF CURB

- △ CONTROL POINT
- ⊙ SANITARY SEWER MANHOLE
- WATER VALVE
- ⊕ FIRE HYDRANT
- ⊕ TREE
- ⊠ ELEC. TRANSFORMER
- ⊠ ELEC. VAULT
- ELEC. METER

TOPOGRAPHY NOTE
 TOPOGRAPHY SHOWN HEREON WAS COLLECTED BY PROVOST AND FRETCHARD CONSULTING DURING A FIELD SURVEY CONDUCTED IN MARCH OF 2020.

BASIS OF BEARING
 THE CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 4, AS ESTABLISHED LOCALLY BY STATIC GPS OBSERVATION.

SITE BENCH MARK
 POINT #3 (ALUMINUM DISK MARKED BE-1)
 ELEVATION: 1388.10' NAVD83 DATUM
 PER STATIC GPS OBSERVATIONS PROCESSED WITH NGS OPUS PROJECTS

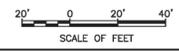
CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 4 COORDINATES:
 N: 2058110.99'
 E: 860877.00'

SECONDARY BENCHMARK
 POINT #4 (ALUMINUM DISK MARKED BE-2)
 ELEVATION: 1388.67' NAVD83 DATUM
 PER STATIC GPS OBSERVATIONS PROCESSED WITH NGS OPUS PROJECTS AND RTK GPS OBSERVATIONS

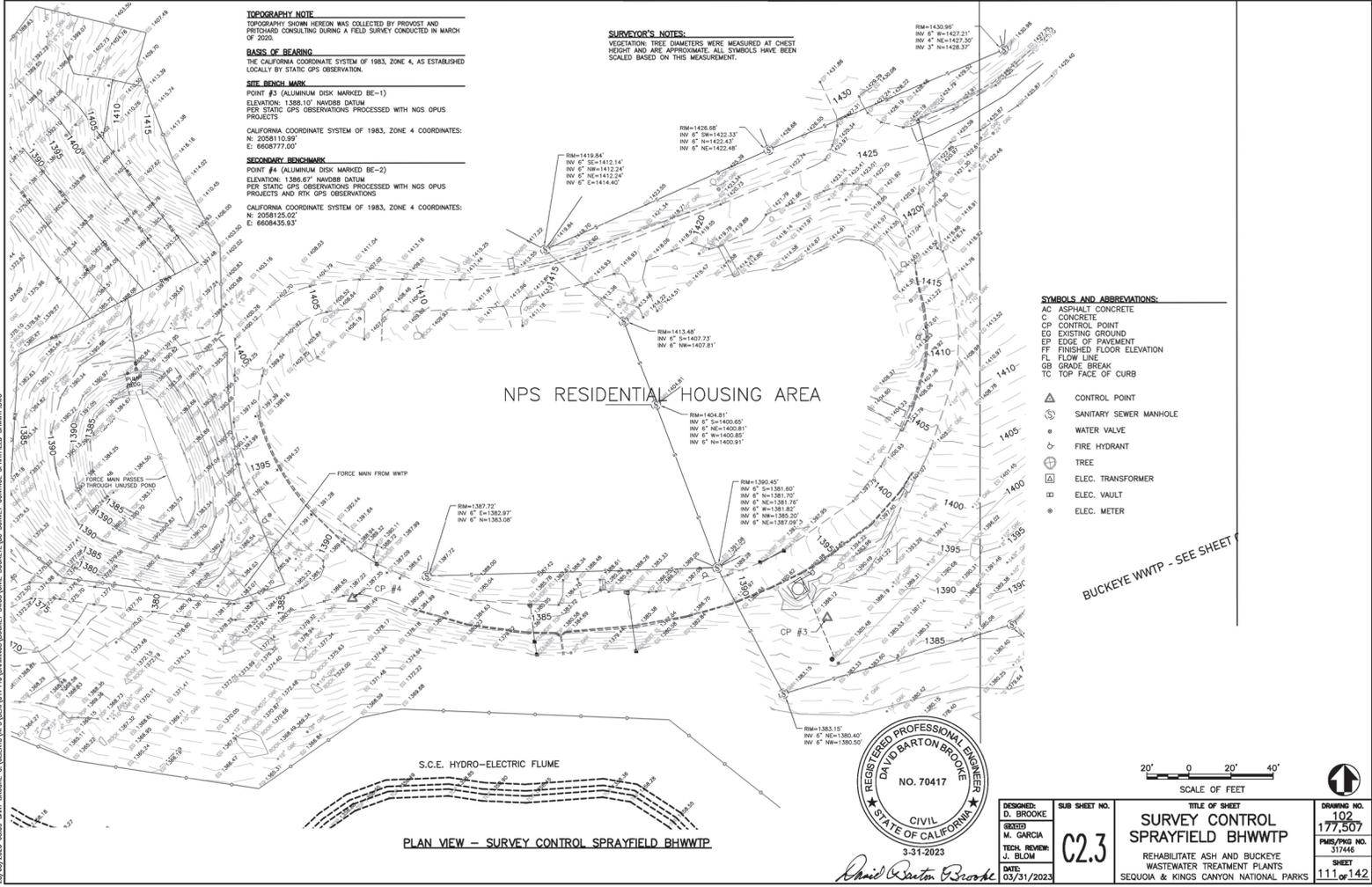
CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 4 COORDINATES:
 N: 2058125.02'
 E: 8608435.93'



David Barton Brooke



DESIGNED: D. BROOKE	SUB SHEET NO. C2.2	TITLE OF SHEET SURVEY CONTROL TREATMENT BHWWT	DRAWING NO. 177,507
DRAWN: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PWG NO. 317446
TECH. REVIEW: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 110 of 142
DATE: 03/31/2023			



TOPOGRAPHY NOTE
 TOPOGRAPHY SHOWN HEREON WAS COLLECTED BY PROWST AND PITCHARD CONSULTING DURING A FIELD SURVEY CONDUCTED IN MARCH OF 2023.

BASIS OF BEARING
 THE CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 4, AS ESTABLISHED LOCALLY BY STATIC GPS OBSERVATION.

SITE BENCHMARK
 POINT #3 (ALUMINUM DISK MARKED BE-1)
 ELEVATION: 1388.10' NAVD83 DATUM
 PER STATIC GPS OBSERVATIONS PROCESSED WITH NGS OPUS PROJECTS
 CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 4 COORDINATES:
 N: 2058110.99'
 E: 660977.00'

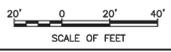
SECONDARY BENCHMARK
 POINT #4 (ALUMINUM DISK MARKED BE-2)
 ELEVATION: 1386.67' NAVD83 DATUM
 PER STATIC GPS OBSERVATIONS PROCESSED WITH NGS OPUS PROJECTS AND RTK GPS OBSERVATIONS
 CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 4 COORDINATES:
 N: 2058125.02'
 E: 6608435.03'

SURVEYOR'S NOTES:
 VEGETATION: TREE DIAMETERS WERE MEASURED AT CHEST HEIGHT AND ARE APPROXIMATE. ALL SYMBOLS HAVE BEEN SCALED BASED ON THIS MEASUREMENT.

NPS RESIDENTIAL HOUSING AREA

- SYMBOLS AND ABBREVIATIONS:**
- AC ASPHALT CONCRETE
 - C CONCRETE
 - CP CONTROL POINT
 - EG EXISTING GROUND
 - EP EDGE OF PAVEMENT
 - FF FINISHED FLOOR ELEVATION
 - FL FLOW LINE
 - GB GRADE BREAK
 - TC TOP FACE OF CURB
- △ CONTROL POINT
 - ⊙ SANITARY SEWER MANHOLE
 - ⊕ WATER VALVE
 - ⊕ FIRE HYDRANT
 - ⊕ TREE
 - ⊕ ELEC. TRANSFORMER
 - ⊕ ELEC. VAULT
 - ⊕ ELEC. METER

BUCKEYE WWTP - SEE SHEET

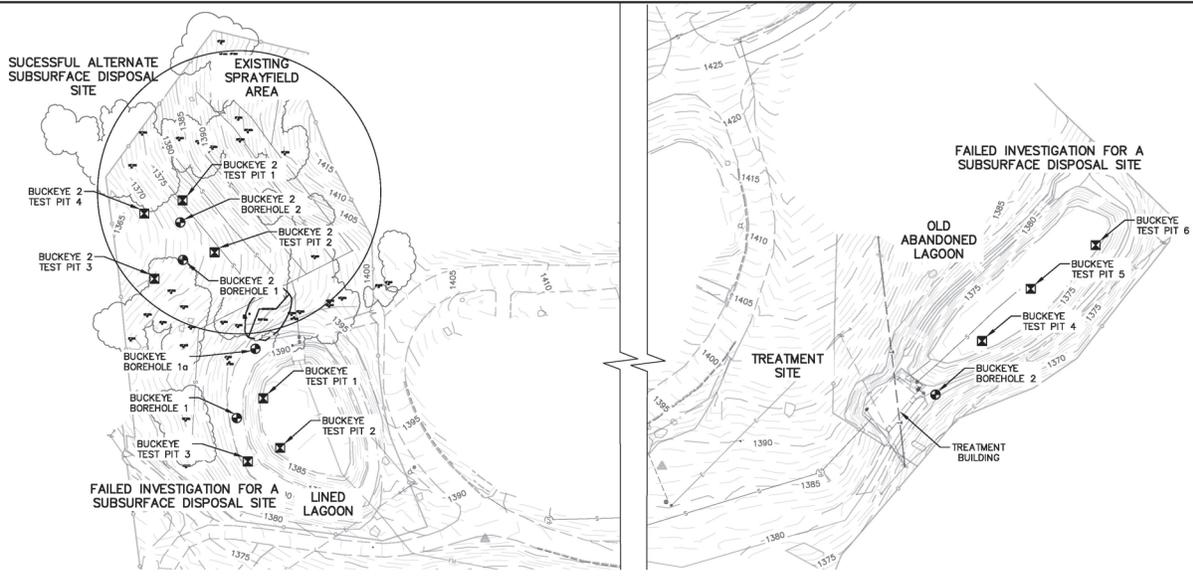


PLAN VIEW - SURVEY CONTROL SPRAYFIELD BHHWTP

DESIGNED: D. BROOKE	SUB SHEET NO. C2.3	TITLE OF SHEET SURVEY CONTROL SPRAYFIELD BHHWTP	DRAWING NO. 102
DRAWN: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWG NO. 317446
TECH. REVIEWER: J. BLOM			SHEET 111 of 142
DATE: 03/31/2023			

28/03/2023 08:39 BART BROOKE © CLENNIS/NPS/SEA/317446/DRAWINGS/BUCKET SURVEY CONTROL SPRAYFIELD BHHWTP.DWG

28/03/2023 06:39 BRT BROOKE C. CLIENTS\NPS\SEA\317446\DOMINOS\BUCKET - GIS\CAL - BUCKEYE - 08 - GEOTECH - BOREHOLES & TEST PITS BHWTP.DWG



PLAN VIEW - GEOTECH - BOREHOLES & TEST PITS BHWTP

SUMMARY OF BUCKEYE HOUSING PERCOLATION TESTING		
TEST PIT	MEASURED PERCOLATION RATE (MIN/INCH)	LOCATION
BE-TP-1	50	LINED LAGOON
BE-TP-2	CANNOT CALCULATE	OLD ABANDONED LAGOON
BE-TP-3	CANNOT CALCULATE	LINED LAGOON
BE-TP-4	CANNOT CALCULATE	OLD ABANDONED LAGOON
BE-TP-5	250	OLD ABANDONED LAGOON
BE-TP-6	CANNOT CALCULATE	OLD ABANDONED LAGOON
JUNE 10, 2010 SWRCB NOA PAGE 2	19	EXISTING SPRAYFIELD
JUNE 10, 2010 SWRCB NOA PAGE 2	28	EXISTING SPRAYFIELD
BE2-TP-1	31	EXISTING SPRAYFIELD
BE2-TP-2	42	EXISTING SPRAYFIELD
BE2-TP-3	50	EXISTING SPRAYFIELD
BE2-TP-4	250	EXISTING SPRAYFIELD

SUMMARY OF BUCKEYE HOUSING BOREHOLE TESTING		
TEST BORING DEPTH - FEET	USCS CLASSIFICATION ^{1,2,3}	LOCATION
BE-B-1 (0 to 15.4)	SC (CLAYEY SAND)	LINED LAGOON
BE-B-1a (0 to 15.8)	SC (CLAYEY SAND)	LINED LAGOON
BE-B-2 (0 to 15.2)	SC (CLAYEY SAND)	OLD ABANDONED LAGOON
BE2-B-1 (0 to 35.1)	SC (CLAYEY SAND)	SPRAYFIELD
BE2-B-2 (0 to 35.1)	SC (CLAYEY SAND)	SPRAYFIELD

NOTES:
 1. SC (CLAYEY SAND) SANDS WITH 50% OR MORE OF COARSE FRACTION PASS NO.4 SIEVE; HAVING SANDS WITH FINES MORE THAN 12% FINES, AND FINES CLASSIFY AS CL OR CH WHERE CL = LEAN CLAY AND CH = FAT CLAY.



David Barton Brooke

DESIGNED:
D. BROOKE
 CHECKED:
M. GARCIA
 TECH. REVIEW:
J. BLOM
 DATE:
03/31/2023

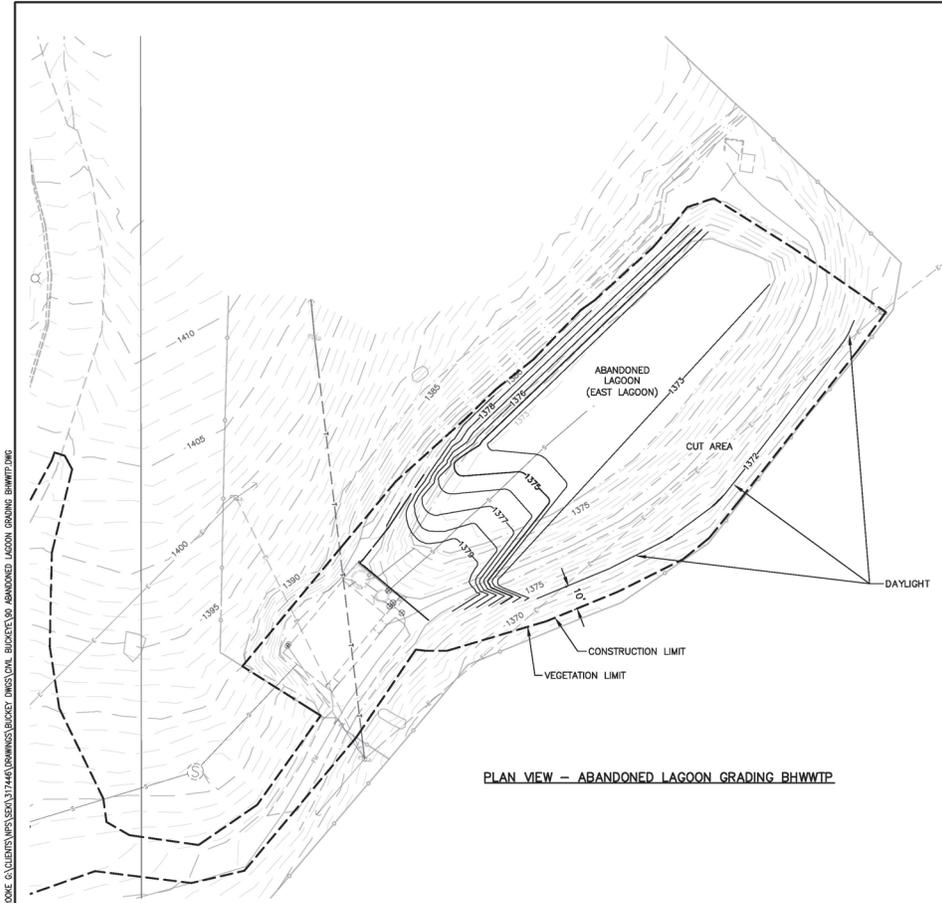
SUB SHEET NO.
C2.4

TITLE OF SHEET
GEOTECH BOREHOLES & TEST PITS BHWTP
 REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS
 SEQUOIA & KINGS CANYON NATIONAL PARKS

DRAWING NO.
102
177,507
 PMS/PWG NO.
317446
 SHEET
112 of **142**

40' 0 40' 80'

SCALE OF FEET



PLAN VIEW - ABANDONED LAGOON GRADING BHWTP

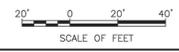
- NOTES:**
1. COORDINATE GRADING SEQUENCE AND CONSTRUCTION OF NEW ACCESS ROAD WITH AMWWTP PHASING DRAWINGS PH1.1, PH1.2, AND PH1.3.
 2. COORDINATE BHWTP GRADING PLAN EXPORT TO HAUL TO AMWWTP GRADING SITE. SOME ADDITIONAL IMPORT FILL MATERIAL FROM OUTSIDE THE PARK MAY BE EXPECTED.
 3. MAXIMUM CUT OR FILL SLOPES 2:1
 4. MINIMUM SLOPE 2% TO DRAIN.
 5. PREPARED DISTURBED SURFACE AFTER CONSTRUCTION PER SPECIFICATIONS. RE-VEGETATION WILL BE DONE BY PARK STAFF.

ESTIMATED EARTH QUANTITIES CUBIC YARD (FILL FACTOR 1.3)				
SOURCE	CUT	FILL	IMPORT	EXPORT
AMWWTP	3312	5920	2608	-0-
BHWTP E LAGOON	1005	417	-0-	588
BHWTP W LAGOON	2482	711	-0-	1771
TOTAL	6788	7048	2608	2359
OFFSITE IMPORT	(7048 - 6799) = 249		(2608 - 2359) = 249	

SURFACE RESTORATION					
ITEM	BEGIN STA.	END STA.	AREA SF	TYPE	KEYNOTE
NEW ACCESS ROAD	N/A	N/A		ASPHALT	
	N/A	N/A	N/A	CONCRETE	
VEGETATION	N/A	N/A	24321.14	VEGETATION	VEGETATION LIMIT



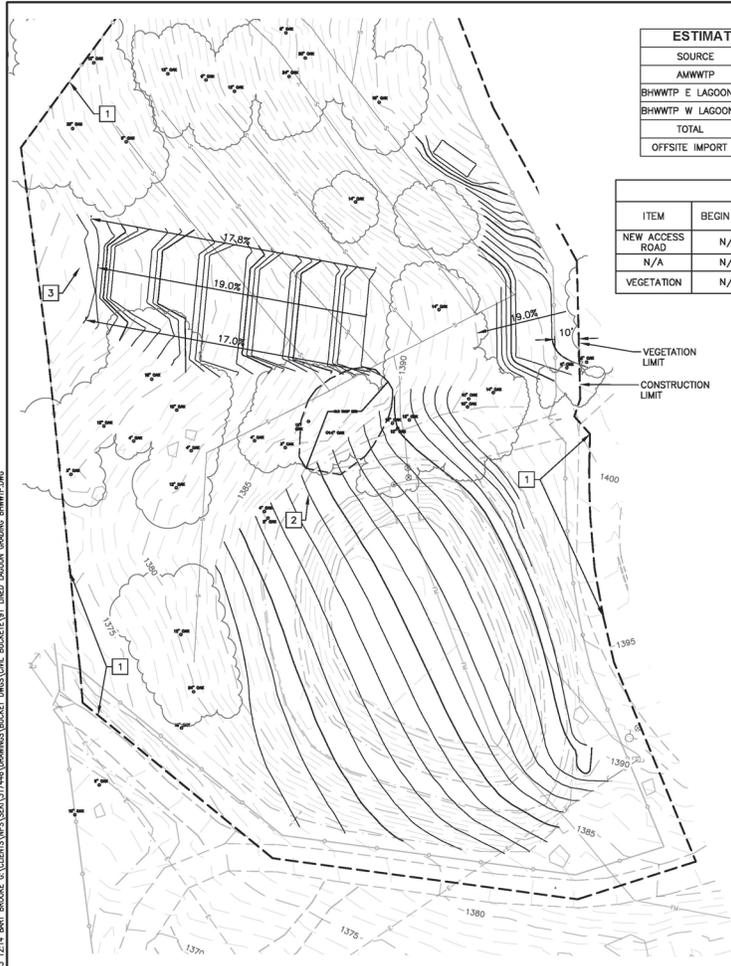
David Barton Brooke



DESIGNED: D. BROOKE	SUB SHEET NO. C2.5	TITLE OF SHEET ABANDONED LAGOON GRADING BHWTP	DRAWING NO. 177,507
BY: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PWG NO. 317446
TEAM REVIEWER: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 11.3 of 142
DATE: 03/31/2023			

3/17/2023 12:14 BRT BROOKE & CLIENTS\MS\SEA\317446\DOMINOS\BUCKET (MS)\CAL BUCKEYE\ABANDONED LAGOON GRADING BHWTP.DWG

3/17/2023, 12:14 BRY BROOKE & CLIENTS\INPS\SEM\317448\DRAWINGS\BUCKET\INPS\CAL\BUCKET\01 LINED LAGOON GRADING BHHWTP.DWG



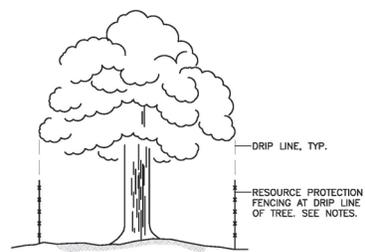
PLAN VIEW - LINED LAGOON GRADING BHHWTP (WEST LAGOON)

ESTIMATED EARTH QUANTITIES CUBIC YARD (FILL FACTOR 1.3)				
SOURCE	CUT	FILL	IMPORT	EXPORT
AMHWTP	3312	5920	2608	-0-
BHHWTP E LAGOON	1005	417	-0-	588
BHHWTP W LAGOON	2482	711	-0-	1771
TOTAL	6788	7048	2608	2359
OFFSITE IMPORT	(7048 - 6799) = 249		(2608 - 2359) = 249	

SURFACE RESTORATION				
ITEM	BEGIN STA.	END STA.	AREA SF	KEYNOTE
NEW ACCESS ROAD	N/A	N/A	N/A	ASPHALT
N/A	N/A	N/A	N/A	CONCRETE
VEGETATION	N/A	N/A	87090.27	VEGETATION VEGETATION LIMIT

- NOTES:**
- COORDINATE GRADING SEQUENCE AND CONSTRUCTION OF NEW ACCESS ROAD WITH AMHWTP PHASING DRAWINGS PH1.1, PH1.2, AND PH1.3.
 - COORDINATE BHHWTP GRADING PLAN EXPORT TO HAUL TO AMHWTP GRADING SITE. SOME ADDITIONAL IMPORT FILL MATERIAL FROM OUTSIDE THE PARK MAY BE EXPECTED.
 - MAXIMUM CUT OR FILL SLOPES 2:1
 - MINIMUM SLOPE 2% TO DRAIN.
 - EXISTING SURFACE GROUND SLOPES ARE PROVIDED ON PLAN FOR CLARITY.

- KEYNOTES:**
- PREPARED DISTURBED SURFACE AFTER CONSTRUCTION PER SPECIFICATIONS AND LIMITS PER PLAN. RE-VEGETATION WILL BE DONE BY PARK STAFF.
 - RETAIN AND PROTECT ALL OAKS TREES PER DETAIL HEREON.
- KEYNOTES (BID OPTION):**
- INSTALL MONITORING WELL DOWN GRADIENT OF SPRAY FIELD PER SHEET D2.1. FINAL LOCATION TO BE DETERMINED BY THE C.O. IN THE FIELD.

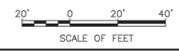


- NOTES:**
- PROVIDE RESOURCE PROTECTION FENCING IN THE INDICATED AREAS FOR THE DURATION OF THE CONTRACT. FENCE SHALL BE FOUR FOOT HIGH ORANGE POLYETHYLENE SAFETY FENCE WITH ULTRAVIOLET STABILIZER SUPPORTED ON STEEL T-POSTS AT TEN FOOT MAXIMUM SPACING. FENCE SHALL BE TENAX CORPORATION GUARDIAN SAFETY FENCE OR EQUAL.
 - PROVIDE RESOURCE PROTECTION FENCE AROUND THE DRIP LINE OF TREES. WHERE DRIP LINE EXTENDS OVER PAVED AREAS, RUN THE FENCE ALONG THE EDGE OF THE PAVEMENT.

1 TREE PROTECTION FENCING DETAIL

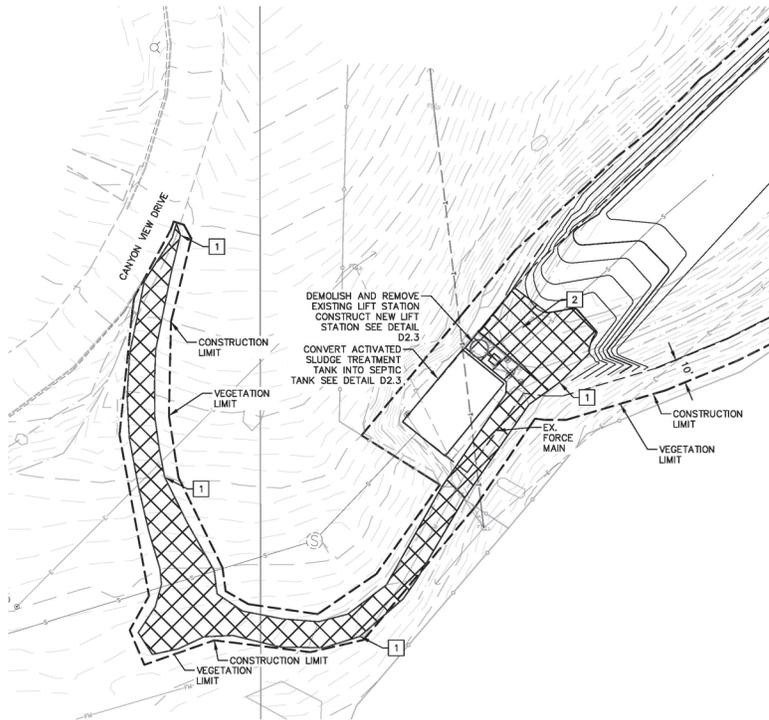


David Barton Brooke



DESIGNED: D. BROOKE	SUB SHEET NO. C2.6	TITLE OF SHEET SAND BED & LAGOON GRADING BHHWTP	DRAWING NO. 102
BY: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	177,507
TEAM REVIEW: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PHG NO. 317448
DATE: 03/31/2023			SHEET 114 of 142

28/03/2023 08:38 BRT BROOKE & GLENNIS\INPS\SEA\317446\DRAWINGS\BUCKET\INPS\CAL\BUCKETE\113\BHWTP SITE ACCESS ROAD BID OPTION.DWG



PLAN VIEW - BID OPTION SITE PAVING BHWTP

KEYNOTES (BASE BID):

- 1 ALL BASE BID SITE CONSTRUCTION TO BE COMPLETED PRIOR TO BID OPTION CONSTRUCTION ACTIVITIES.

KEYNOTES (BID OPTION):

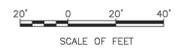
- 2 CONSTRUCT STRUCTURAL ROAD BASE AND PAVE WITH 4 INCHES OF ASPHALT. LIMITS OF PAVING ENDS AT TIE-IN TO CANYON VIEW DRIVE EXISTING PAVEMENT.



SURFACE RESTORATION					
ITEM	BEGIN STA.	END STA.	AREA SF	TYPE	KEYNOTE
BID OPTION EXISTING ACCESS ROAD	N/A	N/A	6000	ASPHALT	2

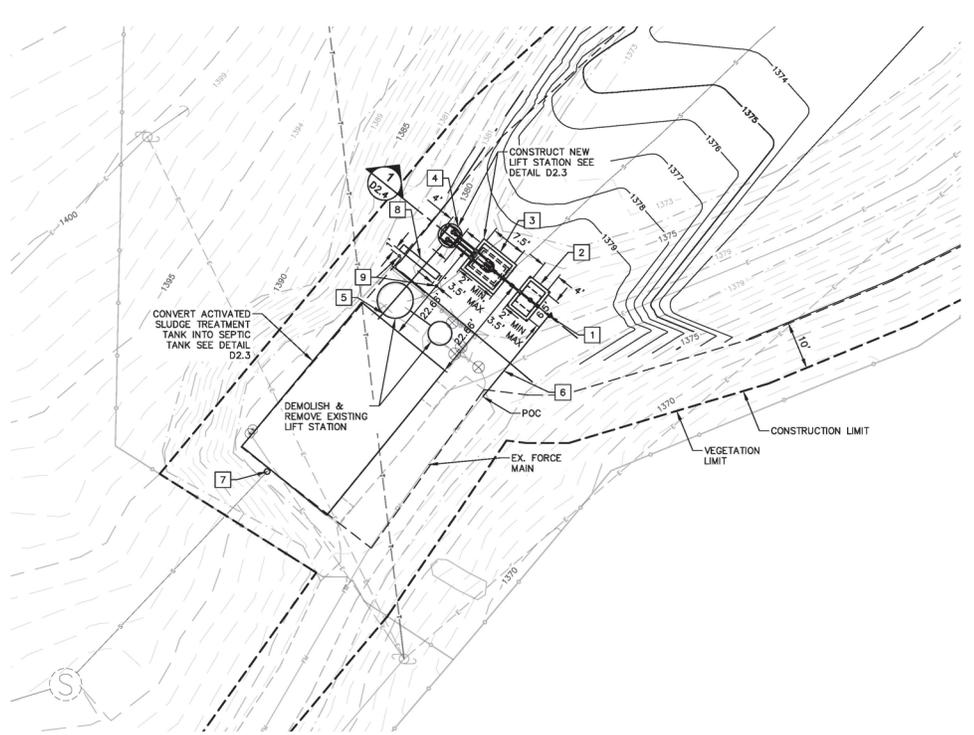


David Barton Brooke



DESIGNED: D. BROOKE	SUB SHEET NO. C2.7	TITLE OF SHEET BID OPTION SITE PAVING	DRAWING NO. 102
DRAWN: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PKG NO. 317446
TECH. REVIEWER: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 115 of 142
DATE: 03/31/2023			

28/10/2023 08:38 BRT BROOKE & GLENIS\INPS\SEA\317446\DOMINOS\BUCKET\INMS\CA\BUCKETE\03_SEE_TREATMENT.DWG



PLAN VIEW - PRIMARY TREATMENT & LIFT STATION BHWTP

NOTES:

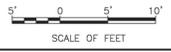
1. SEE D2.3 AND D2.4 FOR PUMP STATION DETAIL. FIELD VERIFY SEPTIC TANK OUTLET AND EXISTING FORCE MAIN TO ALIGN WITH THE PUMP STATION INLET AND OUTLET.

KEYNOTE:

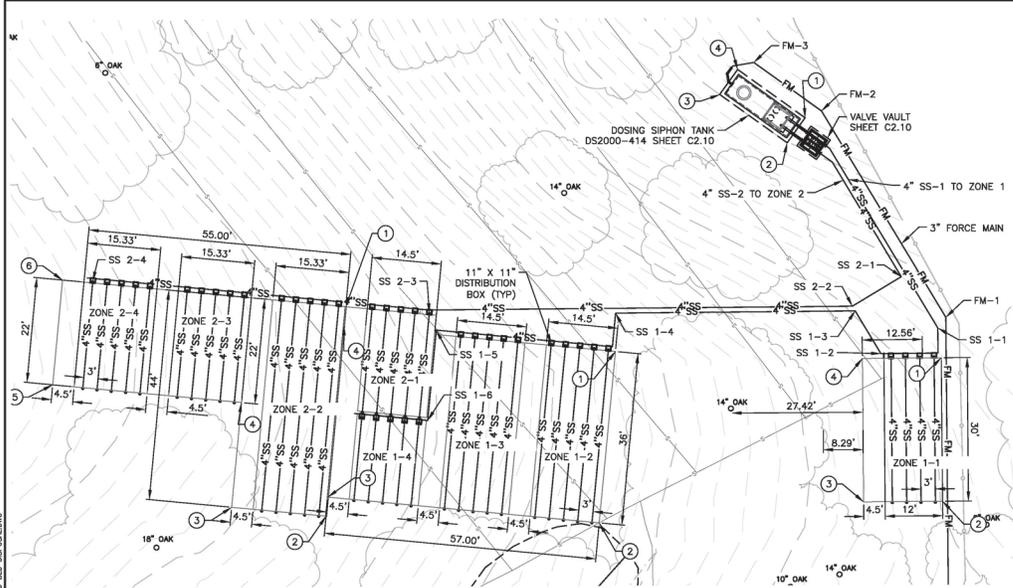
- 1 3" 90° DI ELBOW
- 2 4' X 6.5' PRECAST CONCRETE VAULT
- 3 7.5' X 6.5' PRECAST CONCRETE VAULT
- 4 4' DIA. PRECAST WET WELL WITH POLYURETHANE LINING
- 5 6" C900 PVC
- 6 3" DI TO CONNECT WITH EXISTING FORCE MAIN
- 7 SEE SHEET D2.2 FOR WYE AND VENT INSTALLATION.
- 8 ELECTRICAL PANEL SEE SHEET E8.1.
- 9 INSTALL BOLLARDS TO PROTECT ELECTRICAL PANEL. SEE DETAIL 4
D1.1



David Barton Brooke



DESIGNED: D. BROOKE	SUB SHEET NO. C2.8	TITLE OF SHEET SITE TREATMENT	DRAWING NO. 102
DRG CD M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	177,507
TECH. REVIEW: J. BLOM			PMS/PWG NO. 317446
DATE: 03/31/2023			SHEET 116 of 142



SAND BED DISPOSAL FIELD BHWTF

NOTES:

- COORDINATE CONSTRUCTION OF SAND BED DISPOSAL FIELD.
- THE TWO MARKED ZONES ARE TO BE CLEANED, RAKED AND IMMEDIATELY COVERED WITH 6" LAYER NATIVE SOIL & IMPORTED SAND MIXED 50-50. SEE DETAILS IN C2.11.
- INSTALL DOSING TANK AND VALVE VAULT. SEE C2.9 FOR DETAILS.
- THE POSITION OF DOSING PIPING AND DISTRIBUTION BOXES SHOULD BE LOCATED ACCORDING TO THE COORDINATION TABLE AND SAND BED DIMENSIONS.
- SEE SAND BED SECTION DETAILS ON C2.11 AND D2.5.
- PREPARED DISTURBED SURFACE AFTER CONSTRUCTION PER SPECIFICATIONS. RE-VEGETATION WILL BE DONE BY PARK STAFF.

COORDINATE TABLE

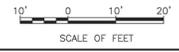
POINT	NORTHING	EASTING	FG ELEV.	NOTE
3" FORCE MAIN				
DESIGNATED AS FM-1, FM-2 AND FM-3				
FM-1	2058379.09	6608338.43	1403.6700	PIPING
FM-2	2058422.25	6608332.43	1413.0500	PIPING
FM-3	2058432.34	6608298.28	1413.25	PIPING
SIPHON DOSING TANK				
SEE C2.9 FOR DETAILS				
1	2058420.83	6608309.00	1412.06	FOOTING EDGE
2	2058415.59	6608305.25	1409.92	FOOTING EDGE
3	2058425.70	6608291.14	1410.00	FOOTING EDGE
4	2058430.93	6608294.89	1412.19	FOOTING EDGE
VALVE VAULT				
2058415.59 6608310.79 1410.77 CENTER, SEE C2.10 FOR DETAILS				
4" SS TO ZONE 1				
DESIGNATED AS SS 1-1 TO SS 1-6				
SS 1-1	2058376.88	6608336.74	1402.81	PIPING
SS 1-2	2058371.51	6608324.84	1399.48	PIPING
SS 1-3	2058380.43	6608319.47	1400.25	PIPING
SS 1-4	2058379.97	6608289.37	1390.38	PIPING
SS 1-5	2058376.43	6608231.86	1381.70	PIPING
SS 1-6	2058357.51	6608230.07	1379.68	PIPING
4" SS TO ZONE 2				
DESIGNATED AS SS 2-1 TO SS 2-4				
SS 2-1	2058387.59	6608329.11	1404.00	PIPING
SS 2-2	2058391.42	6608318.87	1400.33	PIPING
SS 2-3	2058380.00	6608230.42	1382.00	CONNECT TO DISTRIBUTION BOX
SS 2-4	2058386.46	6608160.04	1368.98	CONNECT TO DISTRIBUTION BOX
ZONE 1-1				
SEE C2.10 FOR DETAILS.				
1	2058370.63	6608337.47	1401.92	SEE SAND BED DETAILS ON C2.10 AND D2.5
2	2058340.63	6608337.75	1400.09	
3	2058340.48	6608321.25	1398.88	
4	2058370.48	6608320.97	1398.51	

BED	NUMBER OF LATERALS	LATERAL INVERT ELEVATION	BED AREA (SF)
ZONE 1-1	4	1401.00	380
ZONE 1-2	5	1388.00	522
ZONE 1-3	5	1384.00	522
ZONE 1-4	5	1381.00	261
ZONE 2-1	5	1381.00	319
ZONE 2-2	5	1377.00	875
ZONE 2-3	5	1374.00	337
ZONE 2-4	5	1371.00	
			TOTAL = 3333

POINT	NORTHING	EASTING	FG ELEV.	NOTE
MIXED ZONE (57' X 36')				
DESIGNATED AS ZONE 1-2; ZONE 1-3; ZONE 1-4; ZONE 2-1				
1	2058371.95	6608289.33	1388.52	SEE SAND BED DETAILS ON C2.10 AND D2.5
2	2058336.08	6608265.92	1387.95	
3	2058341.49	6608209.21	1377.28	
4	2058377.33	6608212.57	1377.51	
LEFTOVER ZONE 2				
DESIGNATED AS ZONE 2-2; ZONE 2-3; ZONE 2-4				
1	2058381.31	6608212.95	1378.07	SEE SAND BED DETAILS ON C2.10 AND D2.5
2	2058337.51	6608208.83	1377.54	
3	2058339.36	6608189.09	1374.67	
4	2058361.27	6608191.15	1373.68	
5	2058364.98	6608191.66	1387.47	
6	2058386.88	6608153.72	1387.97	



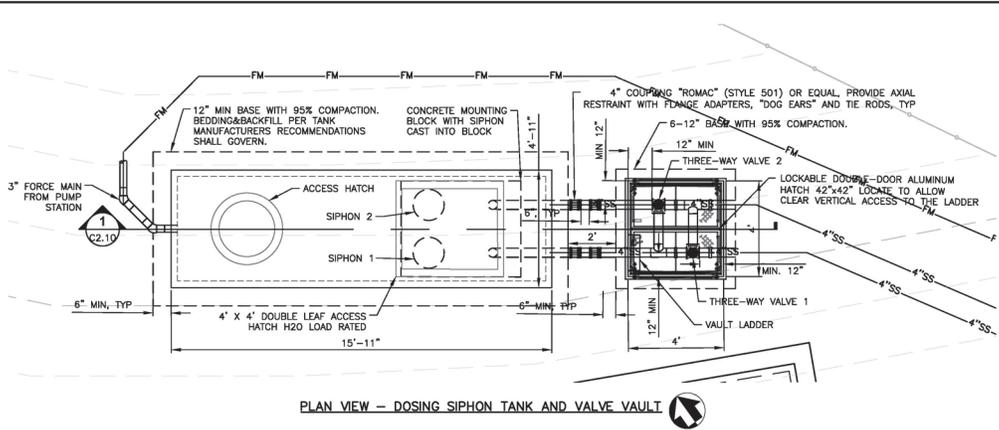
David Barton Brodke



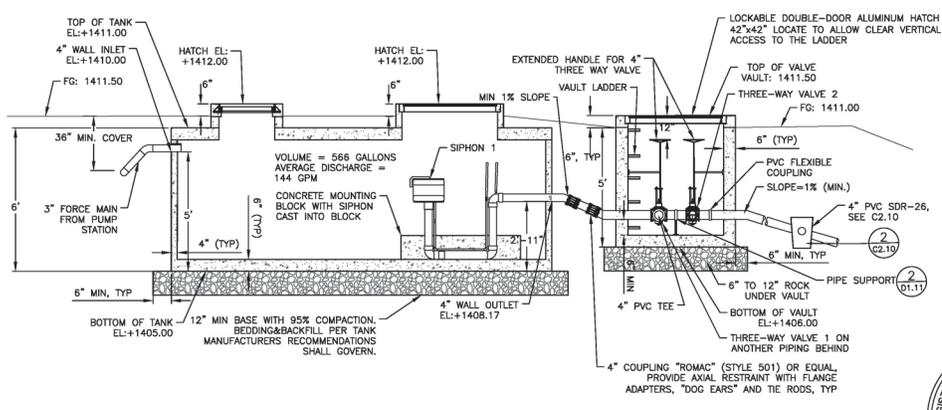
DESIGNED: D. BRODKE	SUB SHEET NO. C2.9	TITLE OF SHEET SAND BED DISPOSAL BHWTF	DRAWING NO. 177,507
CHECKED: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PWG NO. 317446
TEAM LEADER: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 117 of 142
DATE: 03/31/2023			

3/10/2023 12:14 BRT BRODKE © CLIENTS (MPS, SEM, J17446) DOMINIONS (BUCKET, (MNS), (CAL, BUCKEYE), (M, SAND BED DISPOSAL) (MNG

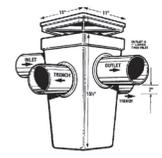
28/03/2023 08:33 BRT BROOKE C. GLENNIS\INPS\SHA\317446\DOMINOS\BUCKET (MNS)\CAL. BUCKEYE VS. SAND BED DISPOSAL PLAN & PROFILE.MXD



PLAN VIEW - DOSING SIPHON TANK AND VALVE VAULT



SECTION VIEW OF DOSING SIPHON TANK AND VALVE VAULT
SCALE: NTS



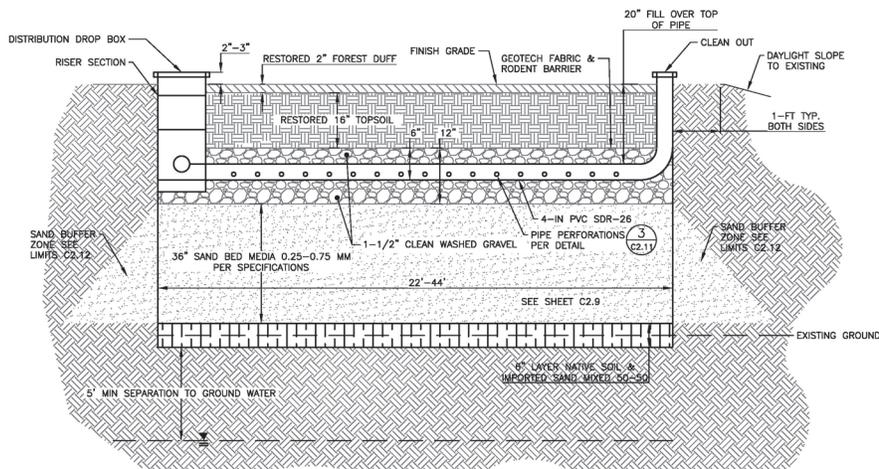
2 DISTRIBUTION BOX
SCALE: NTS

1. DROP BOX TO THE "TUF-TITE" MODEL DB02 OR APPROVED EQUAL.
2. DISTRIBUTION BOX TO BE "TUF-TITE" MODEL 4HD2 OR APPROVED EQUAL.
3. ADD RISERS AS NEEDED TO SET RIM 2"-3" ABOVE FINISHED GRADE.

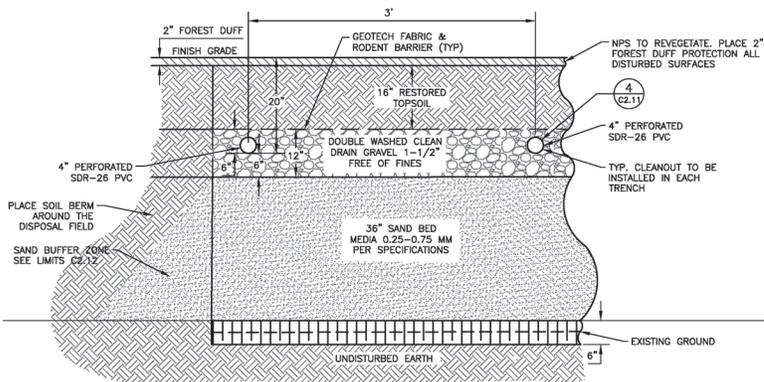


David Barton Brooke

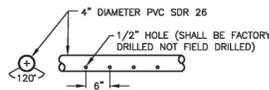
DESIGNED: D. BROOKE	SUB SHEET NO. C2.10	TITLE OF SHEET SAND BED DISPOSAL DOSING SIPHON BHWTF	DRAWING NO. 177,507
CHECKED: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWG NO. 317446
TECH. REVIEWER: J. BLOM	DATE: 03/31/2023		SHEET 118 of 142



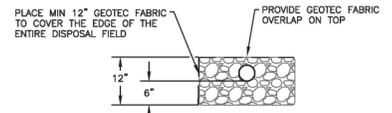
1 DRAIN FIELD DISTRIBUTION SYSTEM PROFILE
2.11 NTS



2 TYPICAL DRAIN FIELD SECTION
C2.11 NTS



3 PERFORATED PIPE
C2.11 NTS



4 FILTER FABRIC
C2.11 NTS



David Barton Brooke

DESIGNED:
D. BROOKE
CHECKED:
M. GARCIA
TOWN REVIEWER:
J. BLOM
DATE:
03/31/2023

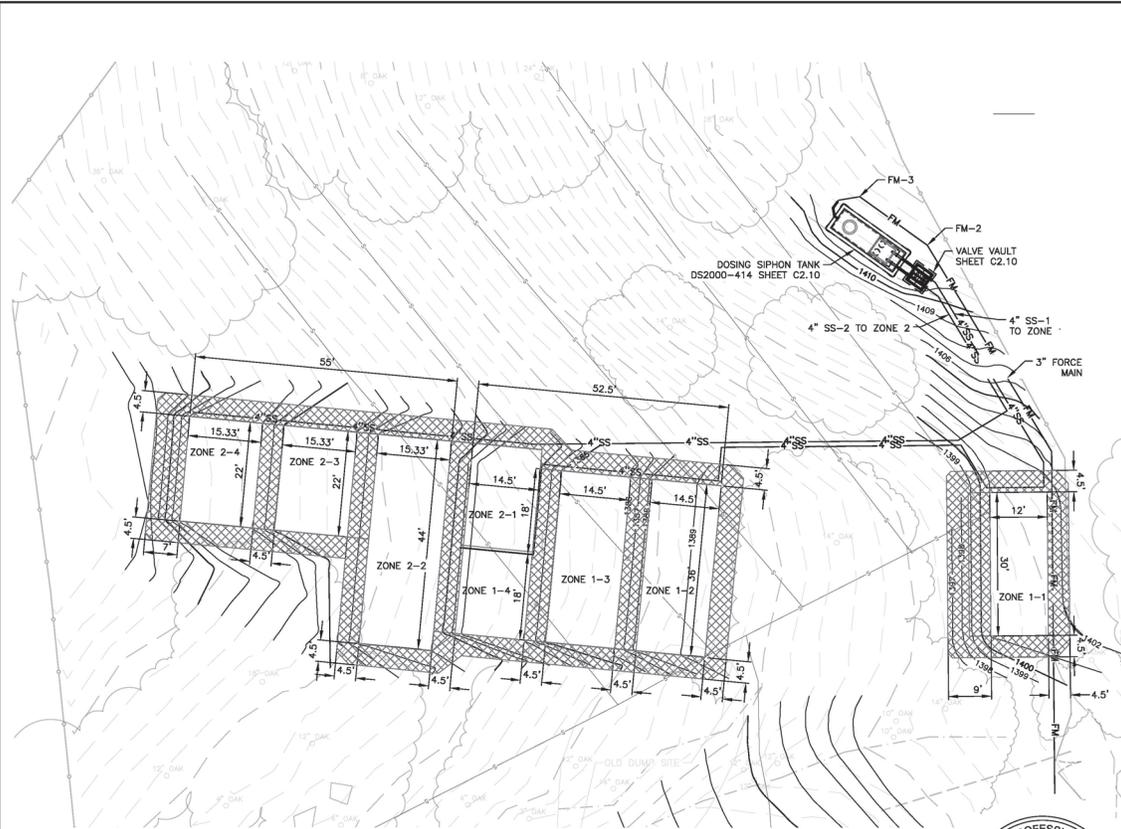
SUB SHEET NO.
C2.11

TITLE OF SHEET
**DRAINFIELD TRENCH
DETAIL**
REHABILITATE ASH AND BUCKEYE
WASTEWATER TREATMENT PLANTS
SEQUOIA & KINGS CANYON NATIONAL PARKS

DRAWING NO.
**102
177,507**
SHEET
119 of **142**

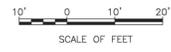
28 JUL 2023 08:35 BART BROOKE C:\CLIENTS\NPS\SEA\317440\DWG\NPS\BUCKET_FINAL\CAD_TRENCH.DWG DRAWN BY: BART BROOKE

3/10/2023 12:13 BRY BROOKE & CLIENTS\NPS\SEA\317446\DOMINUS\BUCKET\DNMS\CAL_BUCKEY\07 SAND BED LIMITS.DWG



- NOTES:**
- COORDINATE CONSTRUCTION OF SAND BED DISPOSAL FIELD.
 - THE TWO MARKED ZONES ARE TO BE CLEANED, RAKED AND IMMEDIATELY COVERED WITH 6" LAYER NATIVE SOIL & IMPORTED SAND MIXED 50-50. SEE DETAILS IN C2.11.
 - INSTALL DOSING TANK AND VALVE VAULT. SEE C2.9 FOR DETAILS.
 - THE POSITION OF DOSING PIPING AND DISTRIBUTION BOXES SHOULD BE LOCATED ACCORDING TO THE COORDINATION TABLE AND SAND BED DIMENSIONS.
 - SEE SAND BED SECTION DETAILS ON C2.11 AND D2.5.
 - HATCHED AREAS REPRESENT SAND BUFFER ZONES AROUND AND IN BETWEEN SAND BEDS.
 - PREPARED DISTURBED SURFACE AFTER CONSTRUCTION PER SPECIFICATIONS. RE-VEGETATION WILL BE DONE BY PARK STAFF.

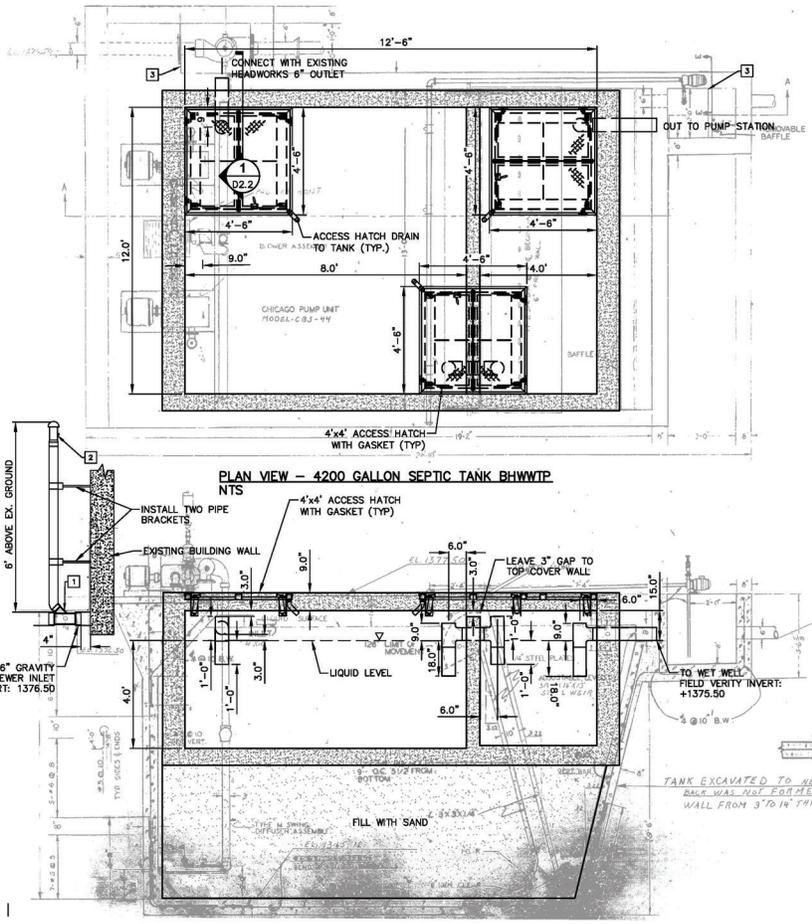
SAND BED DISPOSAL FIELD OUTER BUFFER ZONE - BHWWT



DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
DRG'D M. GARCIA	C2.12	SAND BED BUFFER ZONE	102
TORN: REVIEWER: J. BLOM			177,507
DATE: 03/31/2023		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWG NO. 317446
			SHEET 120 of 142

David Barton Brooke

28/01/2023 08:45 BRY BROOKE C. CLIENTS\NPS\SEA\317446\DRAWINGS\BUCKET\DWG\DETAILS\BUCKET\18 SEPTIC TANK BHHWTP.DWG



PLAN VIEW - 4200 GALLON SEPTIC TANK BHHWTP
NTS

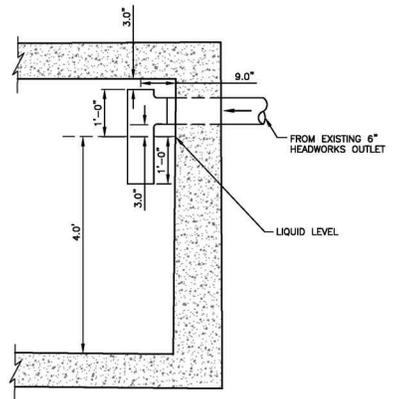
SECTION VIEW - 4200 GALLON SEPTIC TANK BHHWTP
NTS

NOTES:

1. COORDINATE CONSTRUCTION OF SEPTIC TANK WITH PHASING DRAWING PH2.1.
2. CONSTRUCT TWO COMPARTMENTS INCLUDING SIDE WALLS, PARTITION WALL AND TOP COVER WALL. LEAVE 3" GAP BETWEEN PARTITION WALL AND TOP COVER WALL.
3. INSTALL THREE 4' X 4' ACCESS HATCHES (BILCO JD-2AL) WITH GASKET AND FALL PROTECTION GRATING ON TOP OF THE NEW SEPTIC TANK. THE ACCESS DRAIN CAN BE REMOVED.
4. INSTALL 6" SCHEDULE 40 PVC INLET, PARTITION, OUTLET PIPE AND CARBON ODOR FILTER FOR THE NEW SEPTIC TANK. FIELD VERIFY SEPTIC TANK OUTLET INVERT ELEVATION.
5. INSTALL VENT PIPE 6" ABOVE THE EX. GROUND.
6. CONNECT SEPTIC INLET WITH EXISTING HEADWORKS OUTLET. SEE S2.1 FOR STRUCTURAL DETAILS.

KEYNOTE:

- 1 INSTALL 6" X6" X 4" PVC WYE AND VERTICAL PVC PIPING ATTACHED TO OUTSIDE BUILDING WALL
- 2 INSTALL PASSIVE PACKAGE ACTIVATED CARBON SEPTIC VENT ODOR FILTER SYSTEM (4" WOLVERINE BRAND LINEAR ACTIVATED CARBON SEPTIC VENT ODOR FILTER OR EQUAL).
- 3 SEAL AROUND METAL COVER WITH NEOPRENE GASKET.



1 SECTION VIEW OF SEPTIC TANK INLET
SCALE: NTS

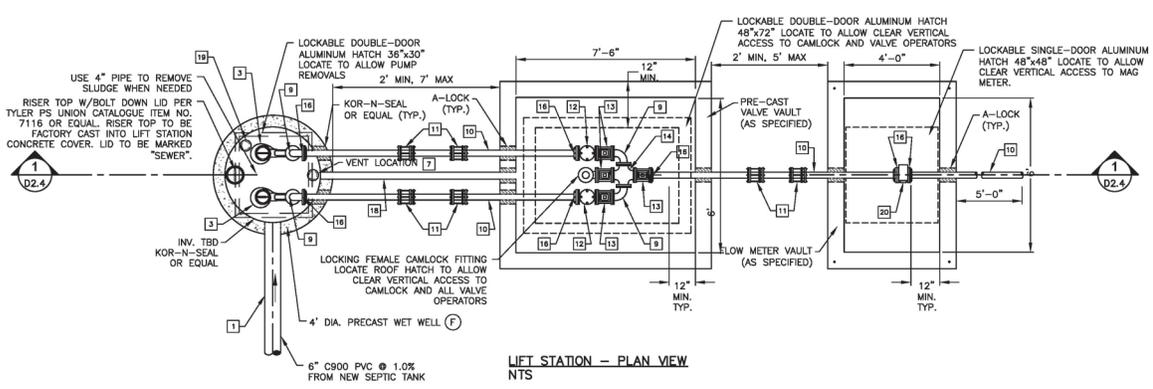


David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO. D2.2	TITLE OF SHEET SEPTIC TANK BHHWTP	DRAWING NO. 102
CHECKED: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PWG NO. 317446
TEAM REVIEWER: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 123 of 142
DATE: 03/31/2023			

28/01/2023 08:44 BRT BROOKE C. CLIENTS\INPS\SEA\317440\DOMINOS\BUCKET (INCS)\DETAILS\BUCKET\19 LIFT STATION PLAN BHWTP.DWG

SEE ELECTRICAL DRAWINGS FOR
PANEL AND CONDUIT LOCATIONS



LIFT STATION -- PLAN VIEW
NTS

NOTES:

1. EXCEPT AS NOTED, ALL PIPE IS DUCTILE IRON CL-52 CONFORMING TO ALL RELEVANT AWWA STANDARDS. EXTERNAL COATING: ASPHALTIC COATING, 0.025 mm (1 MIL) THICK MINIMUM. INTERNAL COATING: PROTECTO 401 CERAMIC EPOXY COATING, 1mm (40 MILS) THICK.
2. ALL PIPE PENETRATIONS THROUGH MANHOLE WALL SHALL BE WITH "A-LOCK" WATERTIGHT MANHOLE ADAPTERS OR AS SPECIFIED.
3. CONNECT PUMP GUIDE RAIL(S) AND PUMP SUPPORTS TO MANHOLE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
4. ALL ANCHOR BOLTS & SHIMS SHALL BE STAINLESS STEEL.
5. ALL METAL IN WET WELL SHALL BE STAINLESS STEEL.
6. ALL VAULTS, STORAGE TANK AND WET WELL SHALL BE WATERTIGHT HS-20 RATED. EPOXY LINE INTERIOR OF WET.
7. FORCED MAIN SEPARATION DETERMINED BY VALVE ASSEMBLY. COORDINATE WITH PUMP RAIL MANUFACTURER ON SEPARATION OF PUMP AND GUIDE RAIL ASSEMBLY.
8. CONTRACTOR SHALL DETERMINE SIZE OF VAULTS REQUIRED TO ACHIEVE MINIMUM CLEARANCES SHOWN BASED ON SPECIFIC COMPONENTS FURNISHED AND INSTALLED.

KEY NOTES:

- 1 NEW GRAVITY SEWER INLET PIPE (EL. +1375.0)
- 2 NOT USED
- 3 SUBMERSIBLE PUMP
- 4 NOT USED
- 5 NOT USED
- 6 NOT USED
- 7 3" - "GOOSE NECK" VENT WITH CARBON FILTER
- 8 NOT USED
- 9 90° D.I. ELBOW FLxFL
- 10 3" D.I. DISCHARGE PIPE
- 11 COUPLING "ROMAC" (STYLE 501) OR EQUAL, PROVIDE AXIAL RESTRAINT WITH FLANGE ADAPTERS, "DOG EARS" AND TIE RODS
- 12 3" CHECK VALVE FLxFL
- 13 3" PLUG VALVE
- 14 CROSS FL ADD SPOOLS BETWEEN CROSS AND ADJACENT FITTINGS FOR FIELD BOLT-UP AS NECESSARY, ADJUST DIMENSIONS OF VAULT AS REQUIRED
- 15 NOT USED
- 16 FLANGE ADAPTER, "EBBA IRON" (SERIES 1000) OR EQUAL
- 17 NOT USED
- 18 2" - SCH. 80 PVC VAULT DRAIN WITH "P" TRAP
- 19 1" - SCH. 80 PVC PIPE FOR ATTACHMENT OF PUMP CONTROL FLOATS
- 20 3" FLOW METER



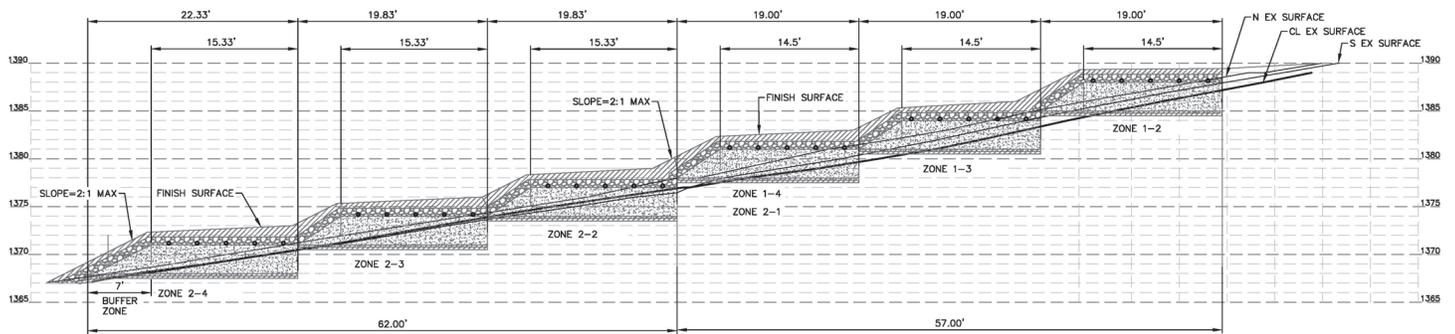
David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO. D2.3	TITLE OF SHEET LIFT STATION PLAN BHWTP	DRAWING NO. 102
CHECKED: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWC NO. 317446
TECH. REVIEWER: J. BLOW	DATE: 03/31/2023		SHEET 124 of 142

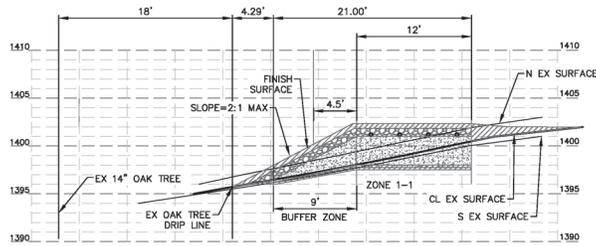
28/01/2023 06:44 BRT BROOKE C:\CLIENTS\NPS\SEA\317446\DOMINOS\BUCKET\DWG\DETAILS\BUCKET\101 SAND BED DISPOSAL BHWTP.DWG

NOTES:

1. COORDINATE CONSTRUCTION OF SAND BED DISPOSAL WITH PHASING DRAWING PH2.1.
2. CONSTRUCT SAND BED DISPOSAL PER SHEET C2.11.



SAND BED DISPOSAL BHWTP SECTION VIEW



SAND BED DISPOSAL BHWTP SECTION VIEW

5' 0 5' 10'
SCALE OF FEET VERTICAL & HORIZONTAL



David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CHECKED: M. GARCIA	D2.5	SAND BED DISPOSAL SECTION BHWTP	102
TOTAL REVIEWER: J. BLOM			PMS/PHG NO. 317446
DATE: 03/31/2023		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 126 of 142

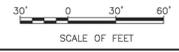
28 / 03 / 2023 08:44 BRT BROOKE C. GLENN (NPS) (S&I) (317446) (DAMNINGS) (BUCKET) (MNS) (CAL) (BUCKET) (11) A. BHWTF SITE AREAS



PLAN VIEW - FORCE MAIN DETAIL BHWTF

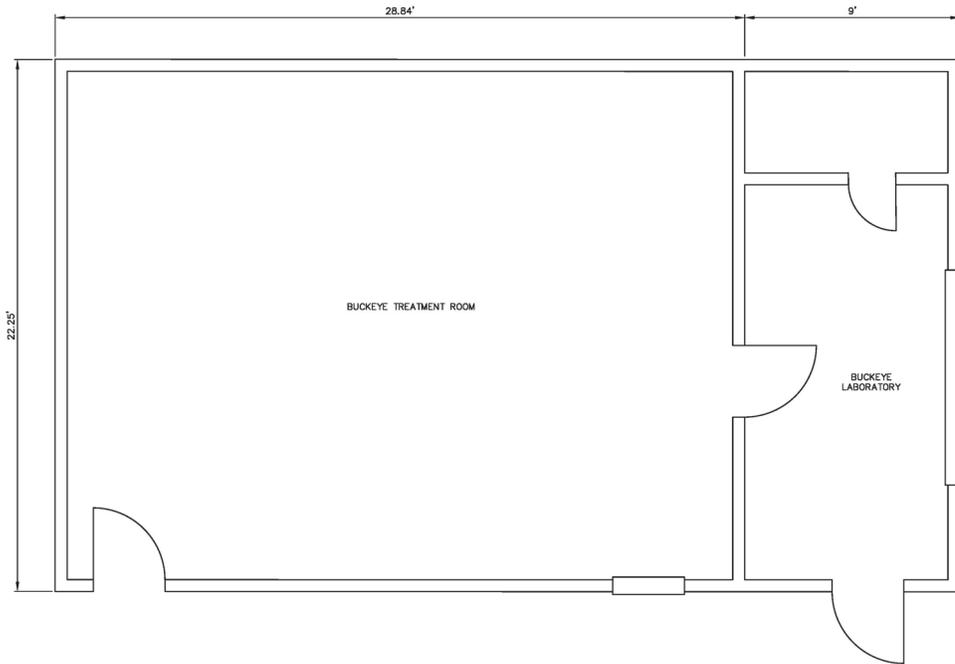


David Barton Brooke



DESIGNED: D. BROOKE	SUB SHEET NO. D2.6	TITLE OF SHEET FORCE MAIN DETAIL BHWTF	DRAWING NO. 177,507
CHECKED: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PKG NO. 317446
TECH. REVIEWER: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 127 of 142
DATE: 03/31/2023			

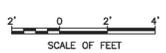
28.03.2023 08:43 BRT BROOKE G. CULLEN\USP\ASH\317448\DWG\NS\BUCKET_BUCKEYE\118_CONTROL_BUILDING_FLOOR_PLAN.rvt



CONTROL BUILDING FLOOR PLAN-BHWTP



David Barton Brooke



DESIGNED: D. BROOKE	SUB SHEET NO. A2.1	TITLE OF SHEET CONTROL BUILDING FLOOR PLAN-BHWTP	DRAWING NO. 102
DRAWN: M. GARCIA		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PWG NO. 317448
TECH. REVIEWER: J. BLOM		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 128 of 142
DATE: 03/31/2023			

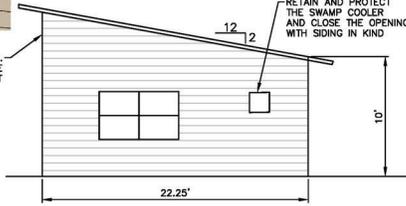
28 JUL 2023 08:43 BPT BROOKE C. CALLENS/PCS/SVA/317448/REVIEWS/BROOKE DINS/ARCH BUCKEYE 119 CONTROL BUILDING EXTERIOR - ELEVATIONS.DWG



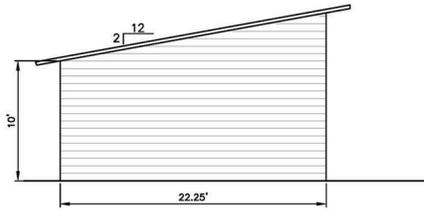
REPLACE DAMAGED SIDING IN KIND. CONTRACTOR TO COORDINATE WITH THE GOVERNMENT



RETAIN AND PROTECT THE SWAMP COOLER AND CLOSE THE OPENING WITH SIDING IN KIND



1 ELEVATION 1
A2.2 NTS



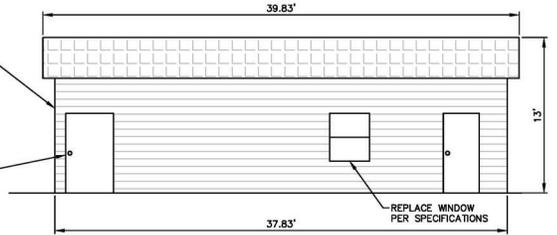
3 ELEVATION 3
A2.2 NTS



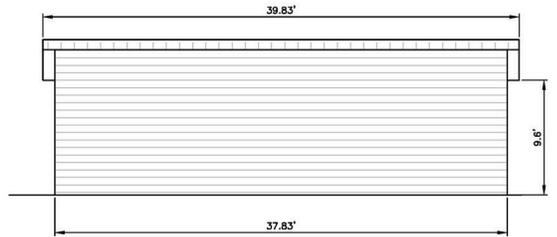
REPLACE DAMAGED SIDING IN KIND. CONTRACTOR TO COORDINATE WITH THE GOVERNMENT



REPLACE DOOR PER SPECIFICATIONS



2 ELEVATION 2
A2.2 NTS



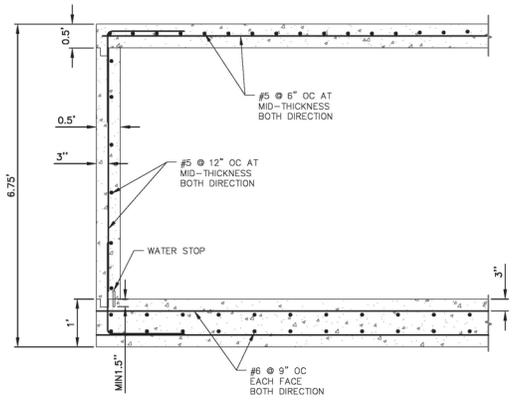
4 ELEVATION 4
A2.2 NTS



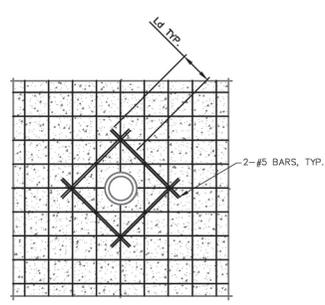
David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO. A2.2	TITLE OF SHEET CONTROL BUILDING EXT. ELEV.- BHWTP	DRAWING NO. 102
DRAWN: M. GARCIA			177,507
TECH. REVIEW: J. BLOM			PMS/PWD NO. 317448
DATE: 03/31/2023		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 129 of 142

28 JUL 2023 08:43 BRT BROOKE G. CALIFORNIA REG. NO. 3174463 DRAWINGS BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS

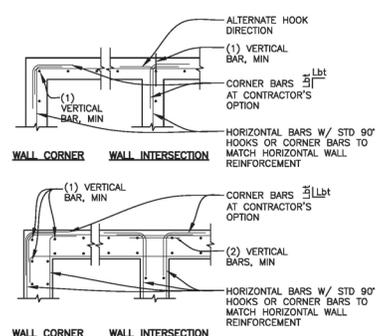


1 TANK SECTION
SCALE: NTS



2 PIPE PENETRATION DETAIL
SCALE: NTS

- NOTES:**
- LAP WALL AT SPLICES Ld. SEE DETAIL 3/S1.4.
 - ALL VERTICAL REINFORCEMENT IN CONCRETE SHALL BE CONTINUOUS FROM STRUCTURAL FOOTING TO FIRST STRUCTURAL FLOOR/SLAB ABOVE, UNLESS NOTED OTHERWISE.
 - START HORIZONTAL AND VERTICAL BARS 1-INCH CLEAR OF EDGE OF OPENINGS. SPACE REINFORCEMENT BARS AT EQUAL SPACES NOT TO EXCEED REQUIRED SPACING.
 - REFER TO DEVELOPMENT LENGTH AND LAP SPLICE TABLES FOR VALUE OF Ld, Lb, AS SHOWN IN DETAIL 3/S1.4.
 - SPLICES IN HORIZONTAL REINFORCEMENT SHALL BE STAGGERED. SPLICES IN TWO CURTAINS WHERE USED SHALL NOT OCCUR IN THE SAME LOCATION, UNLESS NOTED OTHERWISE.



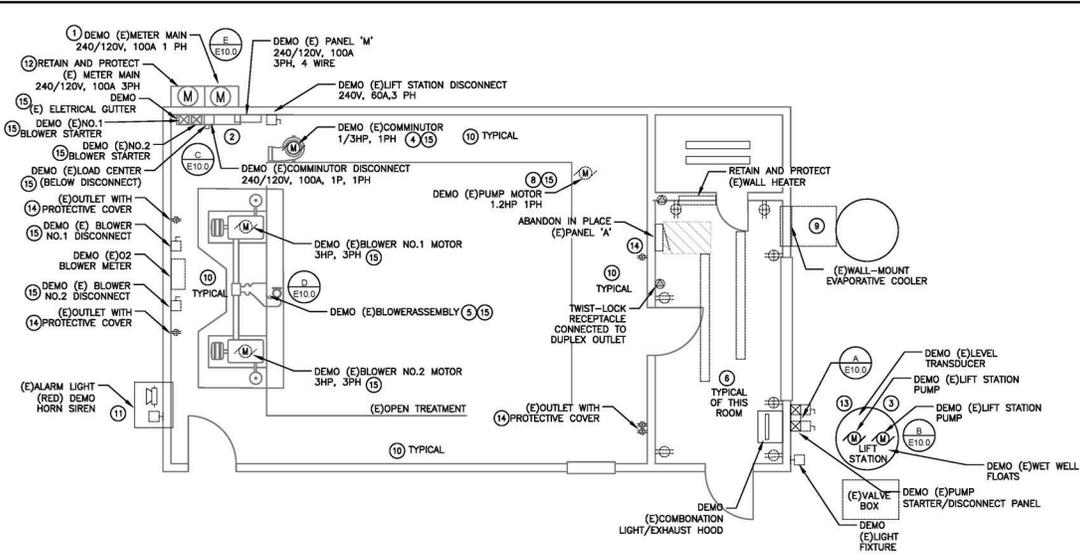
3 TYPICAL DETAIL: CONCRETE WALL REINFORCEMENT
SCALE: NTS



David Barton Brooke

DESIGNED: D. BROOKE	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CHECKED: M. GARCIA	S2.1	SEPTIC TANK-- BHWWT	102
TOTAL REVIEWER: J. BLOM			177,507
DATE: 03/31/2023		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PHG NO. 317446
			SHEET 130 of 142

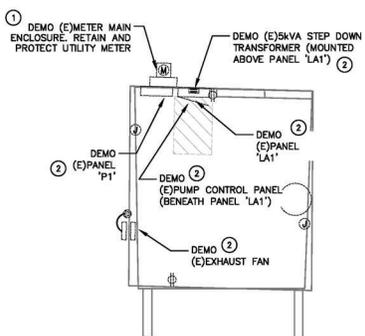
31/01/2023 12:58 BRT BRODIE & CLIENTS\NPS\SEA\317440\DOWNINGS\BUCKET DEMO\ELEC\BUCKET HOUSING WWTB CONTROL BUILDING ELECTRICAL DEMO PLAN.DWG



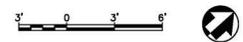
PLAN VIEW -BUCKEYE HOUSING WWTB ELECTRICAL DEMOLITION PLAN

- GENERAL NOTES: BUCKEYE WWTB BUILDING**
- EXISTING EQUIPMENT, SUCH AS LIGHTING FIXTURES, WIRING DEVICES, CONDUITS, ETC., SHOWN ON PLANS SHALL BE REMOVED, PATCH/REPAIR SURFACES, AND DEMO CIRCUITS (INCLUDING CONDUIT AND WIRE) BACK TO POINT OF ORIGIN.
 - DISCONNECT ALL ABANDONED WIRING OF ALL TYPES AT THE OVERCURRENT PROTECTIVE DEVICE. COMPLETELY REMOVE ALL ABANDONED WIRING.
 - MAINTAIN AND RESTORE, IF INTERRUPTED, ALL CONDUITS AND CONDUCTORS PASSING THROUGH RENOVATED AREAS AND SERVICING UNDISTURBED AREAS.
- KEYED NOTES: ①**
- SINGLE PHASE SERVICE TO BE REMOVED. COORDINATE SINGLE PHASE SERVICE REMOVAL WITH UTILITY COMPANY. CONTRACTOR TO DEMO OLD SINGLE PHASE SERVICE METER MAIN ENCLOSURE AND WEATHERHEAD.
 - EXISTING GUTTER, TIMER, STARTERS, AND PANELS TO BE DEMOLISHED. PANEL 'M' WILL BE REPLACED WITH NEW 240/120V, THREE-PHASE PANEL, NEMA 4X RATED.
 - LIFT STATION EQUIPMENT, INCLUDING PUMPS, STARTERS/DISCONNECTS, TO BE REMOVED.
 - COMMUNUTOR TO BE REMOVED FROM BUILDING.
 - BLOWER ASSEMBLY AND RELATED EQUIPMENT (MOTORS, STARTERS, DISCONNECTS, METER) TO BE REMOVED FROM BUILDING.
 - EXISTING INDOOR RECEPTACLES TO BE DEMOLISHED. RETAIN AND PROTECT EXISTING J-BOXES AND CIRCUITRY FOR FUTURE USE.
 - EXISTING 120/240V POWER PANEL ENCLOSURE TO REMAIN. PANEL INTERIOR IS TO BE REMOVED. ALL CIRCUITS THAT ORIGINATED IN THIS PANEL ARE TO BE TRACED. ALL DEVICES THAT WERE SERVED BY THIS PANEL ARE TO BE INTERCEPTED AND EXTENDED TO NEW PANEL 'M'. UPDATE CIRCUIT DIRECTORY IN PANEL 'M' UPON COMPLETION. PROVIDE PERMANENT PLACARD ON OLD PANEL TO DESIGNATE THE ENCLOSURE A 'JUNCTION BOX'.
 - MECHANICAL PUMP IN TREATMENT ROOM TO BE REMOVED.
 - EXISTING WALL-MOUNT EVAPORATIVE COOLER TO REMAIN.
 - EXISTING LIGHT FIXTURES IN THIS AREA TO BE REMOVED.
 - DEMO EXISTING SIREN AND REMOVE RED STROBE. RETAIN AND PROTECT EXISTING J-BOX AND CIRCUITRY OF THE RED STROBE FOR FUTURE USE.
 - EXISTING THREE PHASE SERVICE TO REMAIN. RETAIN AND PROTECT EXISTING THREE PHASE SERVICE THROUGHOUT CONSTRUCTION.
 - FLOATS AND SENSOR(S) IN WET WELL TO BE REMOVED.
 - REPLACE EXISTING RECEPTACLE WITH NEW GFCI VERSION. FURNISH WITH WEATHERPROOF WHILE IN USE COVER.
 - DEMO EXISTING DEVICE AND ASSOCIATED CONDUIT/WIRE BACK TO POINT OF ORIGIN.

- GENERAL NOTES: BUCKEYE WWTB CHLORINATION BUILDING**
- DEMOLISH AND REMOVE THE ENTIRE ELECTRICAL INSTALLATION INSIDE THE CHLORINE BUILDING.
 - COORDINATE ALL ASPECTS OF THE UTILITY COMPANY REQUIREMENTS PRIOR TO DEMOLISHING ELECTRICAL POWER.
- KEYED NOTES: BUCKEYE WWTB CHLORINATION BUILDING**
- CONTRACTOR TO REMOVE AND PROTECT UTILITY METER. AFTER CHLORINATION BUILDING IS DEMOLISHED, BUILD SUPPORT RACK AND MOUNT METER. COORDINATE ALL ASPECTS WITH UTILITY COMPANY (SCE). METER TO REMAIN FOR FUTURE NET METERING OF THE FUTURE PV SYSTEM.
 - DEMOLISH AND REMOVE PANELS 'LA1' AND 'P1', STEP DOWN TRANSFORMER, AND PUMP CONTROL PANEL. DEMOLISH AND REMOVE OUTLETS, CONDUIT, J-BOXES, EXHAUST FAN(S), AND ALL OTHER ELECTRICAL ITEMS.

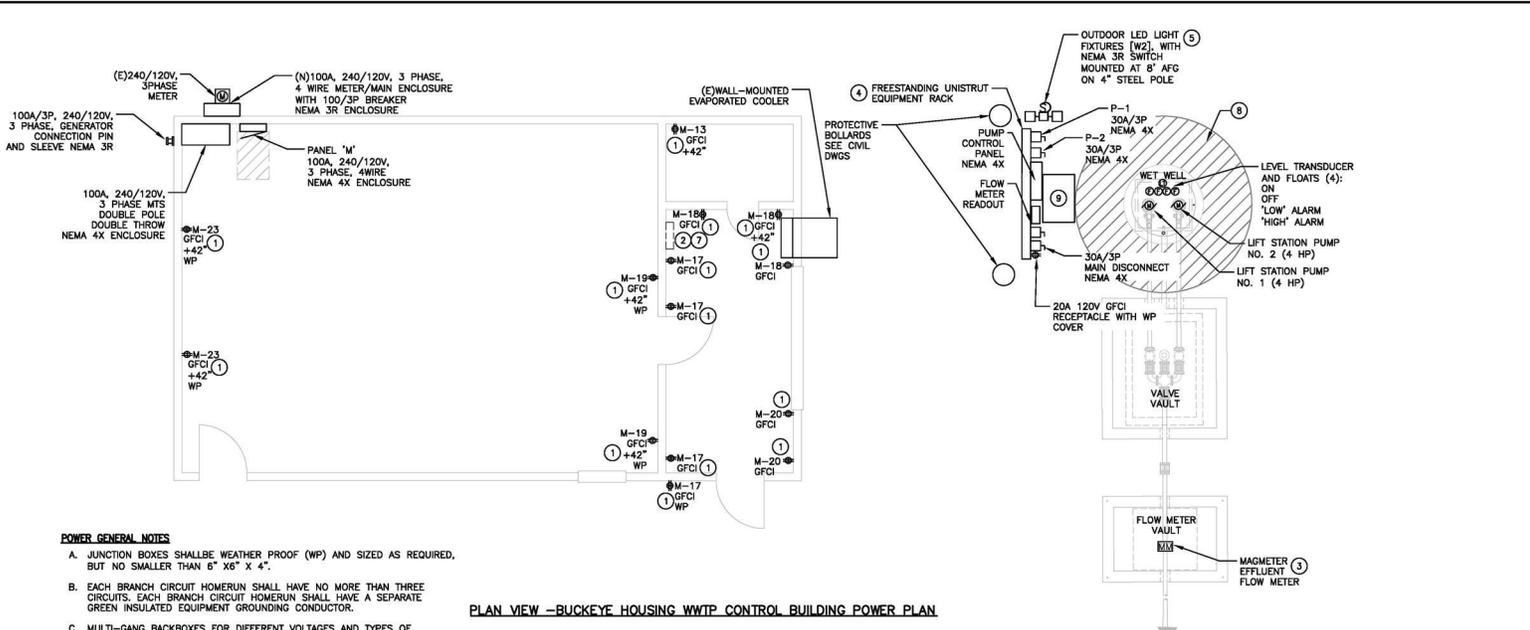


CHLORINATION BUILDING BHWWTB



DESIGNED: M. SMITH	SUB SHEET NO. E8.0	TITLE OF SHEET CTRL BLDG, CHLORINE BLDG ELEC DEMO PLAN	DRAWING NO. 102 177,507
CHECKED: J. CHEEK			
TOTAL REVIEWER: B. ANDERSON			
DATE: 03/31/2023			
		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET NO. 132 of 142

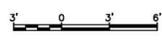
31/07/2023 12:58 BRYT BRODIE & CLIENTS\NPS\SEA\317446\DOMINICK BUCKEY WWTPL\EEB - BUCKEYEE.B1 - CONTROL BUILDING POWER PLAN.DWG



PLAN VIEW -BUCKEYEE HOUSING WWTPL CONTROL BUILDING POWER PLAN

- POWER GENERAL NOTES**
- JUNCTION BOXES SHALL BE WEATHER PROOF (WP) AND SIZED AS REQUIRED, BUT NO SMALLER THAN 6" X 6" X 4".
 - EACH BRANCH CIRCUIT HOMERUN SHALL HAVE NO MORE THAN THREE CIRCUITS. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR.
 - MULTI-GANG BACKBOXES FOR DIFFERENT VOLTAGES AND TYPES OF EMERGENCY NORMAL BRANCH WIRING DEVICES SHALL HAVE DIVIDERS BETWEEN DEVICES.

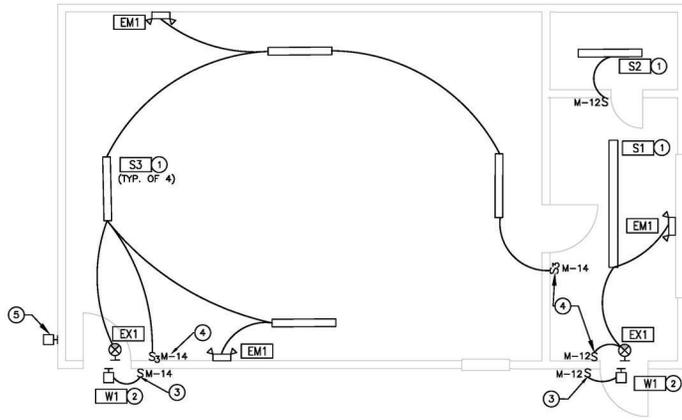
- POWER KEYED NOTES**
- ALL OUTLETS IN CONTROL BUILDING SHALL BE GFCI.
 - PANEL 'A' ENCLOSURE TO REMAIN. REMOVE PANEL INTERIOR. RETAIN AND PROTECT EXISTING CIRCUITRY FOR EXTENSION TO NEW PANEL LOCATION. MARK OLD PANEL ENCLOSURE AS A JUNCTION BOX.
 - 3/4" WITH 18/3 TSP UNDERGROUND BACK TO CONTROLLER.
 - REFER TO DETAIL 4 AND 5 ON SHEET E10.1 FOR UNI-STRUT EQUIPMENT RACK.
 - REFER TO LIGHT FIXTURE SCHEDULE ON SHEET E11.1.
 - INTERCEPT AND EXTEND EXISTING CIRCUITS WITHIN THIS PANEL TO NEW PANEL 'M'. PROVIDE ALL CONDUIT AND WIRE AS NEEDED. UTILIZE CIRCUIT NUMBERS SHOWN ON THIS SHEET. TEST ALL ASSOCIATED DEVICES.
 - CLASS 1 DIV 2 AREA PER NEC ARTICLE 501.11.
 - EXPLOSION PROOF IN-GROUND JUNCTION BOX. SEE DETAIL 3 ON SHEET E10.1.



DESIGNED: M. SMITH	SUB SHEET NO. E8.1	TITLE OF SHEET CONTROL BLDG POWER PLAN	DRAWING NO. 102
CHECKED: J. CHEEK		REHABILITATE ASH AND BUCKEYEE WASTEWATER TREATMENT PLANTS	177,507
TOTAL REVIEWER: B. ANDERSON		SEQUOIA & KINGS CANYON NATIONAL PARKS	PMS/PWG NO. 317446
DATE: 03/31/2023			SHEET 133 of 142

Philo Carter

3/10/2023, 12:57 BRYT BRODIE © CLIENTS: MFS, SEA, 317446, DOMINIONS BUCKET, (MNS), ELE, BUCKEYE, EB, CTRL, BUILDING LIGHTING PLANING



PLAN VIEW -BUCKEYE HOUSING WWTP CONTROL BUILDING LIGHTING PLAN

LIGHTING GENERAL NOTES

- A. ALL FINAL LOCATIONS AND ARRANGEMENTS OF LIGHTING FIXTURES SHALL BE VERIFIED AND APPROVED BEFORE INSTALLATION.
- B. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE NO MORE THAN THREE CIRCUITS. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR.
- C. MULTI-GANG BACKBOXES FOR DIFFERENT VOLTAGES AND TYPES OF EMERGENCY AND NORMAL BRANCH WIRING DEVICES SHALL HAVE DIVIDERS BETWEEN DEVICES.
- D. PROVIDE UNSWITCHED LEG OF LOCAL LIGHTING CIRCUIT TO EMERGENCY/EXIT FIXTURE FOR CONSTANT CHARGE TO INTERNAL BATTERY.
- E. REFER TO LIGHT FIXTURE SCHEDULE ON SHEET E11.1 FOR COMPLETE LIST OF FIXTURES.

LIGHTING KEYED NOTES

- 1. INTERIOR BUILDING LIGHT FIXTURES TO BE ENERGY EFFICIENT LED STRIP LIGHTS REFER TO LIGHT FIXTURE SCHEDULE ON SHEET E11.1. ELECTRICAL CONTRACTOR IS TO ACCOUNT/PROVIDE FOR A FULLY OPERATIONAL INSTALLATION.
- 2. EXTERIOR BUILDING MOUNTED FIXTURES TO BE ENERGY EFFICIENT LED FIXTURE CONTROLLED WITH A MANUAL ON/OFF SWITCH AT BUILDING ENTRY. REFER TO LIGHT FIXTURE SCHEDULE ON SHEET E11.1.
- 3. PROVIDE WITH WEATHERPROOF SWITCH COVER.
- 4. INTERCEPT AND EXTEND (E) LIGHTING CIRCUIT TO INCLUDE THE INDICATED FIXTURES. CONTRACTOR TO VERIFY THE CIRCUIT CAN ACCOMMODATE THE ELECTRICAL LOAD PRIOR TO INSTALLATION.
- 5. REPLACE WARNING BEACON (RED LIGHT) WITH ENERGY EFFICIENT LED BEACON. ELECTRICAL CONTRACTOR IS TO ACCOUNT/PROVIDE FOR A FULLY OPERATIONAL INSTALLATION.

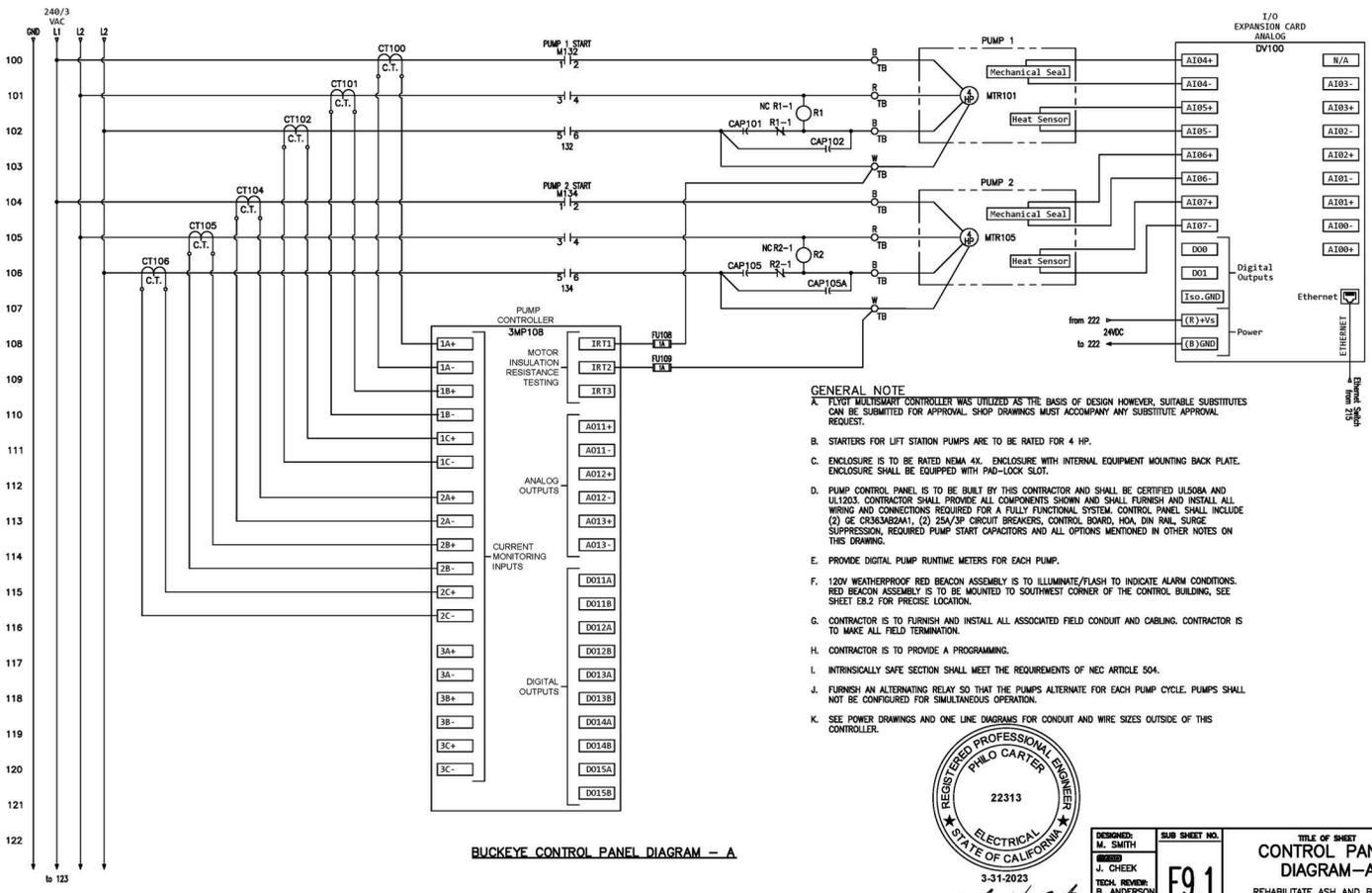


Philo Carter



DESIGNED: M. SMITH	SUB SHEET NO. E8.2	TITLE OF SHEET CTRL BLDG LIGHTING PLAN	DRAWING NO. 102
CHECKED: J. CHEEK			177,507
TOTAL REVIEWER: B. ANDERSON			PMS/PHG NO. 317446
DATE: 03/31/2023		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 134 of 142

31 JUL 2023 12:58 BRT BROOKE G. CULBERTSON/ASH/317448/REHAB/BUCKET CONTROL PANEL DIAGRAM-A.DWG



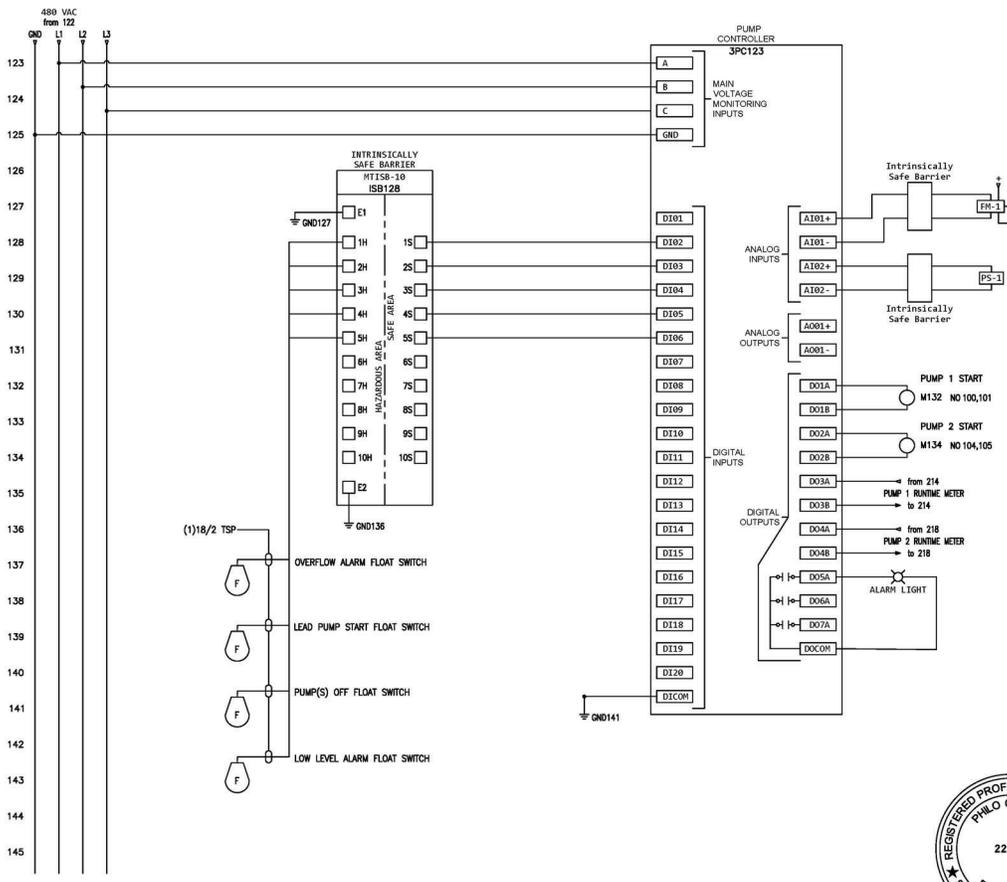
- GENERAL NOTE**
- PLC/RTU MULTISMART CONTROLLER WAS UTILIZED AS THE BASIS OF DESIGN HOWEVER, SUITABLE SUBSTITUTES CAN BE SUBMITTED FOR APPROVAL. SHOP DRAWINGS MUST ACCOMPANY ANY SUBSTITUTE APPROVAL REQUEST.
 - STARTERS FOR LIFT STATION PUMPS ARE TO BE RATED FOR 4 HP.
 - ENCLOSURE IS TO BE RATED NEMA 4X. ENCLOSURE WITH INTERNAL EQUIPMENT MOUNTING BACK PLATE. ENCLOSURE SHALL BE EQUIPPED WITH PAD-LOCK SLOT.
 - PUMP CONTROL PANEL IS TO BE BUILT BY THIS CONTRACTOR AND SHALL BE CERTIFIED UL508A AND UL1203. CONTRACTOR SHALL PROVIDE ALL COMPONENTS SHOWN AND SHALL FURNISH AND INSTALL ALL WIRING AND CONNECTIONS REQUIRED FOR A FULLY FUNCTIONAL SYSTEM. CONTROL PANEL SHALL INCLUDE (2) 50 AMP CIRCUIT BREAKERS, (2) 25A/3P CIRCUIT BREAKERS, CONTROL BOARD, HOA, DIN RAIL, SURGE SUPPRESSION, REQUIRED PUMP START CAPACITORS AND ALL OPTIONS MENTIONED IN OTHER NOTES ON THIS DRAWING.
 - PROVIDE DIGITAL PUMP RUNTIME METERS FOR EACH PUMP.
 - 120V WEATHERPROOF RED BEACON ASSEMBLY IS TO ILLUMINATE/FLASH TO INDICATE ALARM CONDITIONS. RED BEACON ASSEMBLY IS TO BE MOUNTED TO SOUTHWEST CORNER OF THE CONTROL BUILDING, SEE SHEET EB.2 FOR PRECISE LOCATION.
 - CONTRACTOR IS TO FURNISH AND INSTALL ALL ASSOCIATED FIELD CONDUIT AND CABLING. CONTRACTOR IS TO MAKE ALL FIELD TERMINATION.
 - CONTRACTOR IS TO PROVIDE A PROGRAMMING.
 - INTRINSICALLY SAFE SECTION SHALL MEET THE REQUIREMENTS OF NEC ARTICLE 504.
 - FURNISH AN ALTERNATING RELAY SO THAT THE PUMPS ALTERNATE FOR EACH PUMP CYCLE. PUMPS SHALL NOT BE CONFIGURED FOR SIMULTANEOUS OPERATION.
 - SEE POWER DRAWINGS AND ONE LINE DIAGRAMS FOR CONDUIT AND WIRE SIZES OUTSIDE OF THIS CONTROLLER.



DESIGNED: M. SMITH	SUB SHEET NO.	TITLE OF SHEET CONTROL PANEL DIAGRAM-A	DRAWING NO. 102
CHECKED: J. CHEEK	E9.1		177,507
TECH. REVIEW: B. ANDERSON		DATE: 03/31/2023	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS
			SHEET 136 of 142

BUCKEYE CONTROL PANEL DIAGRAM - A

3/10/2023, 12:58 BRT, BROCKE & CHEEK ENGINEERS, 317440, 168MINNISTERS, BUCKEYE CONTROL PANEL DIAGRAM - B



- GENERAL NOTE**
- A. FLYGT MULTISWART CONTROLLER WAS UTILIZED AS THE BASIS OF DESIGN HOWEVER, SUITABLE SUBSTITUTES CAN BE SUBMITTED FOR APPROVAL. SHOP DRAWINGS MUST ACCOMPANY ANY SUBSTITUTE APPROVAL REQUEST.
 - B. STARTERS FOR LIFT STATION PUMPS ARE TO BE RATED FOR 4 HP.
 - C. ENCLOSURE IS TO BE RATED NEMA 4X. ENCLOSURE WITH INTERNAL EQUIPMENT MOUNTING BACK PLATE. ENCLOSURE SHALL BE EQUIPPED WITH PAD-LOCK SLOT.
 - D. PUMP CONTROL PANEL IS TO BE BUILT BY THIS CONTRACTOR AND SHALL BE CERTIFIED ILS08A AND UL1203. CONTRACTOR SHALL PROVIDE ALL COMPONENTS SHOWN AND SHALL FURNISH AND INSTALL ALL WIRING AND CONNECTIONS REQUIRED FOR A FULLY FUNCTIONAL SYSTEM. CONTROL PANEL SHALL INCLUDE (2) GE CROSSLANDM1, (2) 25A/3P CIRCUIT BREAKERS, CONTROL BOARD, HDA, DIN RAIL, SURGE SUPPRESSION, REQUIRED PUMP START CAPACITORS AND ALL OPTIONS MENTIONED IN OTHER NOTES ON THIS DRAWING.
 - E. PROVIDE DIGITAL PUMP RUNTIME METERS FOR EACH PUMP.
 - F. 120V WEATHERPROOF RED BEACON ASSEMBLY IS TO ILLUMINATE/FLASH TO INDICATE ALARM CONDITIONS. RED BEACON ASSEMBLY IS TO BE MOUNTED TO SOUTHWEST CORNER OF THE CONTROL BUILDING, SEE SHEET E8.2 FOR PRECISE LOCATION.
 - G. CONTRACTOR IS TO FURNISH AND INSTALL ALL ASSOCIATED FIELD CONDUIT AND CABLING. CONTRACTOR IS TO MAKE ALL FIELD TERMINATION.
 - H. CONTRACTOR IS TO PROVIDE A PROGRAMMING.
 - I. INTRINSICALLY SAFE SECTION SHALL MEET THE REQUIREMENTS OF NEC ARTICLE 504.
 - J. FURNISH AN ALTERNATING RELAY SO THAT THE PUMPS ALTERNATE FOR EACH PUMP CYCLE. PUMPS SHALL NOT BE CONFIGURED FOR SIMULTANEOUS OPERATION.
 - K. SEE POWER DRAWINGS AND ONE LINE DIAGRAM FOR CONDUIT AND WIRE SIZES OUTSIDE OF THIS CONTROLLER.

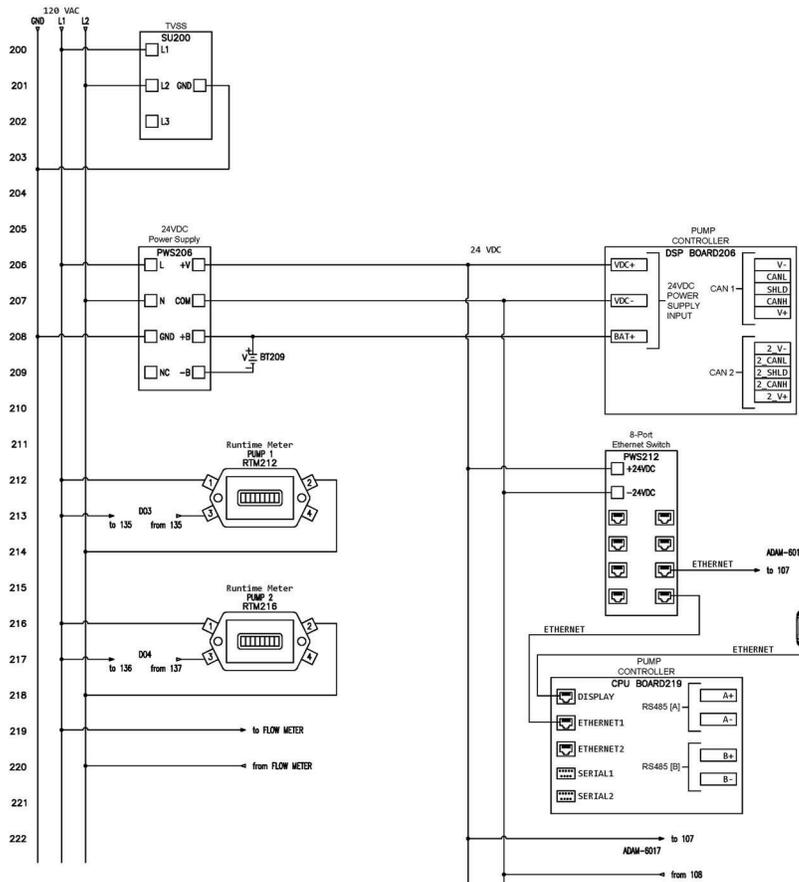


BUCKEYE CONTROL PANEL DIAGRAM - B

DESIGNED: M. SMITH	DATE: 03/31/2023	SUB SHEET NO. E9.2	TITLE OF SHEET CONTROL PANEL DIAGRAM-B	DRAWING NO. 102
TECH. REVIEW: B. ANDERSON	DATE: 03/31/2023			PMS/PWD NO. 317446

REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS

3/10/2023, 12:58 PM, BRT, BROOKE G. CULBERTSON/ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS, BUCKEYE CONTROL PANEL DIAGRAM - C



GENERAL NOTE

- A. FLVGT MULTISMART CONTROLLER WAS UTILIZED AS THE BASIS OF DESIGN HOWEVER, SUITABLE SUBSTITUTES CAN BE SUBMITTED FOR APPROVAL. SHOP DRAWINGS MUST ACCOMPANY ANY SUBSTITUTE APPROVAL REQUEST.
- B. STARTERS FOR LIFT STATION PUMPS ARE TO BE RATED FOR 4 HP.
- C. ENCLOSURE IS TO BE RATED NEMA 4X. ENCLOSURE WITH INTERNAL EQUIPMENT MOUNTING BACK PLATE. ENCLOSURE SHALL BE EQUIPPED WITH PAD-LOCK SLOT.
- D. PUMP CONTROL PANEL IS TO BE BUILT BY THIS CONTRACTOR AND SHALL BE CERTIFIED UL508A AND UL1203. CONTRACTOR SHALL PROVIDE ALL COMPONENTS SHOWN AND SHALL FURNISH AND INSTALL ALL WIRING AND CONNECTIONS REQUIRED FOR A FULLY FUNCTIONAL SYSTEM. CONTROL PANEL SHALL INCLUDE (2) DE CROSSBARZANI, (2) 25A/3P CIRCUIT BREAKERS, CONTROL BOARD, HOA, DIN RAIL, SURGE SUPPRESSION, REQUIRED PUMP START CAPACITORS AND ALL OPTIONS MENTIONED IN OTHER NOTES ON THIS DRAWING.
- E. PROVIDE DIGITAL PUMP RUNTIME METERS FOR EACH PUMP.
- F. 120V WEATHERPROOF RED BEACON ASSEMBLY IS TO ILLUMINATE/FLASH TO INDICATE ALARM CONDITIONS. RED BEACON ASSEMBLY IS TO BE MOUNTED TO SOUTHWEST CORNER OF THE CONTROL BUILDING, SEE SHEET EB.2 FOR PRECISE LOCATION.
- G. CONTRACTOR IS TO FURNISH AND INSTALL ALL ASSOCIATED FIELD CONDUIT AND CABLING. CONTRACTOR IS TO MAKE ALL FIELD TERMINATION.
- H. CONTRACTOR IS TO PROVIDE A PROGRAMMING.
- I. INTRINSICALLY SAFE SECTION SHALL MEET THE REQUIREMENTS OF NEC ARTICLE 504.
- J. FURNISH AN ALTERNATING RELAY SO THAT THE PUMPS ALTERNATE FOR EACH PUMP CYCLE. PUMPS SHALL NOT BE CONFIGURED FOR SIMULTANEOUS OPERATION.
- K. SEE POWER DRAWINGS AND ONE LINE DIAGRAMS FOR CONDUIT AND WIRE SIZES OUTSIDE OF THIS CONTROLLER.

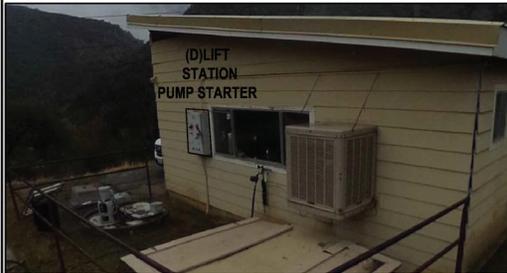


BUCKEYE CONTROL PANEL DIAGRAM - C

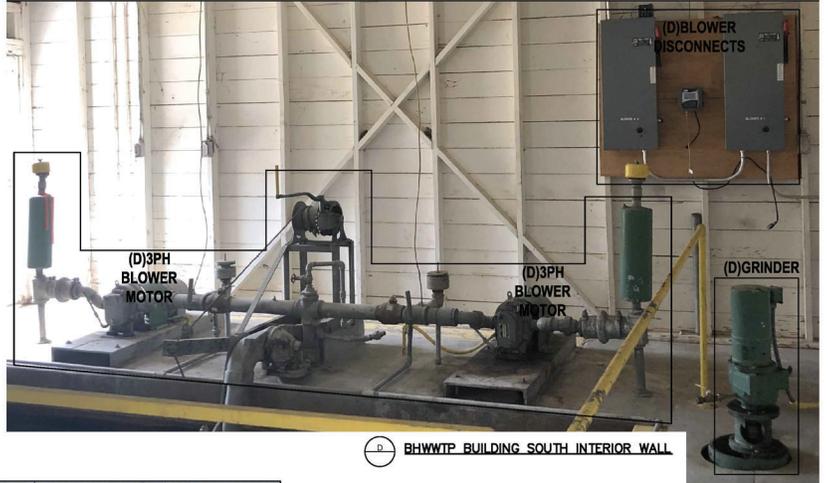
3-31-2023

Philo Carter

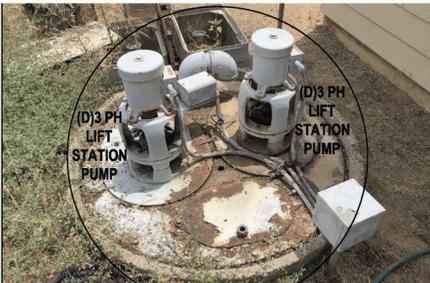
DESIGNED: M. SMITH	SUB SHEET NO.	TITLE OF SHEET CONTROL PANEL DIAGRAM-C	DRAWING NO. 102
CHECKED: J. CHEEK	E9.3	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PWS/PWD NO. 317446
TECH. REVIEWER: B. ANDERSON		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 138 of 142
DATE: 03/31/2023			



(A) BHWTP BUILDING NORTH EXTERIOR WALL



(D) BHWTP BUILDING SOUTH INTERIOR WALL



(B) BHWTP BUILDING PUMPS NORTH END OF BUILDING



(E) BHWTP BUILDING WEST EXTERIOR WALL



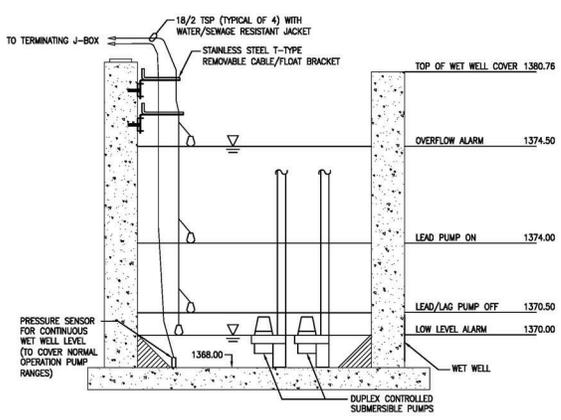
(C) BHWTP BUILDING WEST INTERIOR WALL



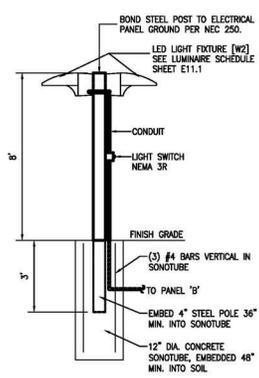
DESIGNED: M. SMITH	SUB SHEET NO. E10.0	TITLE OF SHEET EXISTING ELECTRICAL SITE DETAILS	DRAWING NO. 102 177,507
CHECKED: J. CHEEK		REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	PMS/PWD NO. 317446
TECH. REVIEWER: B. ANDERSON		SEQUOIA & KINGS CANYON NATIONAL PARKS	SHEET 139 of 142
DATE: 03/31/2023			

3/10/2023, 12:55 PM: BRET BRODIE & COLLEEN WISLA (317446) REVIEWS: BUCKEYE RECOVERY CONSULTING: BUCKEYE VAD & PARTNER: ELECTRICAL SITE DETAILS

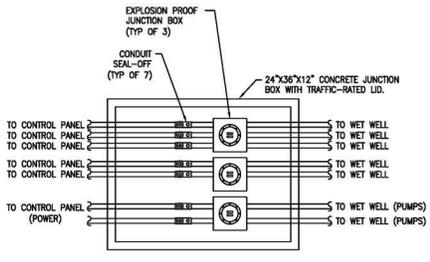
3/10/2023, 12:55 BMT, BROOKE G. CALDERON/PCS/S/ASH, 3174463, UNIMAINS/BROCKEY, FINISH/ELEC, BUCKEYE, VIO, 1, ELECTRICAL, DETAILS, S/W



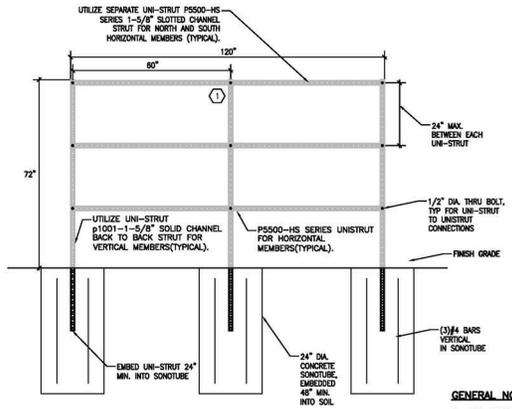
1 WET WELL CONTROL ELEVATION
E10.1/NTS



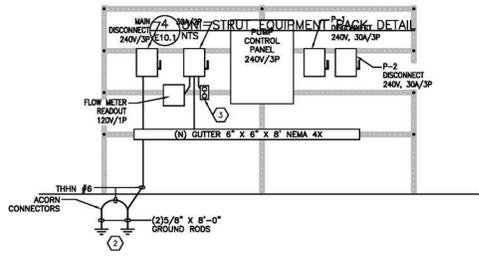
2 POLE MOUNTED LIGHTING DETAIL
E10.1/NTS



3 EXPLOSION PROOF JUNCTION BOX DETAIL
E10.1/NTS



5 UNI-STRUT EQUIPMENT RACK ELEVATION
E10.1/NTS



- GENERAL NOTES**
- UNI-STRUTS SHALL BE 316 STAINLESS STEEL (TYPICAL).
 - CONCRETE STRENGTH = 3,000 PSI.
 - RACK AND EQUIPMENT WILL BE OUTSIDE AND EXPOSED TO THE WEATHER. PENETRATIONS TO THE TOP OF EQUIPMENT SHALL NOT OCCUR.
- KEYED NOTES** (E)
- VERIFY UNI-STRUT RACK SIZING REQUIREMENTS WITH ACTUAL EQUIPMENT PRIOR TO BUILDING. MODIFY AS REQUIRED. SET VERTICAL STRUTS SUPPORT IN CONCRETE, SEE DETAIL 4 THIS SHEET.
 - BOND UNI-STRUT TO ELECTRICAL PANEL GROUND PER NEC 250.
 - FURNISH AND INSTALL GFI RECEPTACLE 20A-120V. RECEPTACLE SHALL HAVE WEATHERPROOF WHILE IN USE COVER.



DESIGNED: M. SMITH	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CHECKED: J. CHEEK		ELECTRICAL DETAILS	177,507
TECH. REVIEWER: B. ANDERSON	E10.1	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS	140 of 142
DATE: 03/31/2023		SEQUOIA & KINGS CANYON NATIONAL PARKS	

3/10/2023 12:55 BRT BROOKE G. CALDWELL/MSA/317446/SEMINOS/BROOKE ANDERSON/BUCKET CONSULTING BUCKEYE WWTTP PANEL SCHEDULES

PANELBOARD SCHEDULE													
PANEL: M		PROJECT: BUCKEYE WWTTP REHABILITATION											
VOLTAGE: 240/120V		PHASE: 3		WIRE: 4		AMPERE RATING: 100A		SC RATING: 22 KAIC		MAIN: MAIN BREAKER			
ENTRY: BOTTOM		MOUNTING SURFACE											
LOADS:		Amps		VA		LOAD TYPES:		REMARKS:					
		57		6868		1 = LIGHTING		NEW COMMERCIAL BOLT-ON CIRCUIT BREAKER PANELBOARD.					
		40		4800		2 = RECEPTACLES							
		49		5905		3 = MISC							
				17600		4 = MOTOR							
						5 = KITCHEN							
TOTAL:													
LOAD (VA)	LOAD SERVED	NOTE	LOAD (AMPS)	TYPE	POLES	CKT NO	PHASE	CKT NO	AMPS/POLES	LOAD TYPE	NOTE	LOAD SERVED	LOAD (VA)
1560	PUMP NO. 1 LIFT STATION		4	30	3	1	A	2	30	3		PUMP NO. 2 LIFT STATION	1560
1560	---		4	--	3		B	4	--	4		---	1560
1560	---		4	--	5		C	6	--	4		---	1560
200	CONTROLLER		3	20	1	7	A	8	20	1		FLOWMETER	190
1000	EVAP COOLER (LAB)	**** CAUTION - WILD PHASE ****SPACE	3	30	1	11	C	12	20	1		LYG - LAB	165
215	LYG REC - BATHROOM	**** CAUTION - WILD PHASE ****SPACE	1	20	1	13	A	14	20	1		LYG - TANK ROOM	230
540	REC - LAB WEST WALL AND EXT	**** CAUTION - WILD PHASE ****SPACE	2	20	1	17	C	18	20	1		REC - LAB NORTH CORNER	540
360	REC - TANK ROOM EAST WALL	**** CAUTION - WILD PHASE ****SPACE	2	20	1	19	A	20	20	1		REC - LAB EAST WALL AND EXT	900
360	REC - TANK ROOM WEST WALL	**** CAUTION - WILD PHASE ****SPACE	2	20	1	23	C	24	20	1		SPARE	
1500	(E) HEATER (LAB)		3	20	2	25	A	28	20	1		SPARE	
1500	SPARE		3	--	27		B	28	--			**** CAUTION - WILD PHASE ****SPACE	
180	SURGE PROTECTION DEVICE		3	30	3	31	A	32				SPACE ONLY	
180	---		3	--	33		B	34	--			**** CAUTION - WILD PHASE ****SPACE	
180	---		3	--	35		C	36	--			SPACE ONLY	
	SPACE ONLY					37	A	38				SPACE ONLY	
	**** CAUTION - WILD PHASE ****SPACE					39	B	40				**** CAUTION - WILD PHASE ****SPACE	
	SPACE ONLY					41	C	42				SPACE ONLY	

LOADING BY TYPE	CONNECTED	NEC CODE	DEMAND FACTOR	DEMAND	NOTES:
LIGHTING	610 VA	210-19	125%	763 VA	E - DENOTES EXISTING BREAKER TO REMAIN
RECEPTACLES	2700 VA	220-44	10KVA @ 100%, ELSE @ 50%	2700 VA	N - DENOTES NEW BREAKER REQUIRED
MISC.	4930 VA	220-60	100%	4930 VA	R - DENOTES TO REUSE EXISTING BREAKER
MOTOR	LARGEST MOT.: 4880	220-50	100% + LARGEST x 25%	10530 VA	
KITCHEN	# OF KIT. UNITS: 0	0 VA		0 VA	
TOTAL	42 A	220-56		46 A	

BHWWTP PANEL SCHEDULE

LIGHT FIXTURE SCHEDULE							
TYPE	MANUFACTURER	PART NUMBER	LAMP SOURCE	INPUT WATTAGE	VOLTAGE	MOUNTING	NOTES
EM1	LITHONIA	ELM01-M12	LED	1	120/277V	WALL	
EK1	LITHONIA	LH04L-LED-4-HO-RO-SD	LED	4.3	120/277V	CEILING	
S1	LITHONIA	CLX-L96-8000LM-SEF-RDL-MVOLT-EZ-1-35K-80CRI-MSD7-WH	LED	70.8	MVOLT	SURFACE	
S3	LITHONIA	CSVT-L16-5900LM-MVOLT-40K-80CRI	LED	42	MVOLT	SURFACE	
W1	LITHONIA	DSXW1-LED-10C-100-30K-125LM-MVOLT-1-000BXD	LED	27	MVOLT	WALL	
W2	LITHONIA	DSXW1-LED-10C-530-30K-1FHM-MVOLT-88W-000BXD	LED	20	MVOLT	WALL	

General Notes:
1. CONTRACTOR RESPONSIBLE FOR SUPPLYING ALL ACCESSORIES AND EXTRAS FOR A COMPLETE INSTALL.
2. COORDINATE FINISH WITH ARCHITECT.

BHWWTP LIGHT FIXTURE SCHEDULE



Philo Carter

DESIGNED: M. SMITH	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CHECKED: J. CHEEK		BHWWTP SCHEDULES	102
TOTAL REVIEW: B. ANDERSON	E11.1	REHABILITATE ASH AND BUCKEYE WASTEWATER TREATMENT PLANTS SEQUOIA & KINGS CANYON NATIONAL PARKS	177,507
DATE: 03/31/2023			PMS/PWD NO. 317446
			SHEET 142 of 142