MILITARY DEPARTMENT
OFFICE OF THE ADJUTANT GENERAL
10601 Bear Hollow Drive
Rancho Cordova, California 95670

Addendum #01

IFB No. 130636 - Waste Water Treatment Plant Modernization
Camp Roberts - San Miguel, CA
9/1/2026 at 2:00 PM

08/14/2026

Please review the following addendum to IFB No. 130636.

1. Attachment 01, RFIs_20260803
2. Attachment 02, Sheet_C03_Markup_20260805
3. Attachment 03, Interim_Guidance_Destruction_PFAS_20230711
4. Attachment 04, Updated_Rate_Sheet_20260813
5. Attachment 05, Drawings_19930721
6. Attachment 06, C03_Site_Plan_Rev_01_20260811
7. Attachment 07, C06_Permeate_Retention_Pond_REV_01_20260811
8. Attachment 08, P01_P&ID_Rev_01_20260811
9. Attachment 09, Drawings_20130814
10. Attachment 10, C03_Markup_20260805
11. Attachment 11, ENV_Checklist_ENV_Signed_20260708
12. Attachment 12, USFWS_Memorandum_20260109
13. Attachment 13, Water_Conditions_Monitoring_Summary_20260709

Please note that *no verbal* information given will be binding upon the State unless such information is issued in writing as an official addendum.

Robert Hawkins
Contracting Administrator

ATTACHMENT 01
RFIs_20260803

` Request for Information (RFI)

IFB No. 130636 - Waste Water Treatment Plant Modernization Camp
Roberts - San Miguel, CA
9/1/2026 at 2:00 PM

7/27/2026

Please review the following questions and answers for IFB No. 130636.

1) **Sludge Volume Clarification, Reference: Sheet C03, Estimated Sludge Volume for Removal and Disposal table, Notes 2 and 3**

   Sheet C03 lists an estimated 2,500 CY of sludge within the drying beds, lists Digester No. 1 volume as "varies," and lists Digester No. 2 as empty. Please confirm whether the 2,500 CY figure represents the total estimated sludge volume for removal and disposal across all areas combined, or whether it applies to the drying beds only.

   If it applies to the drying beds only, please provide a breakdown of estimated sludge volume by area:
   1. **Sludge Drying Beds**
   2. **Digester No. 1 (including the most recent measured or estimated volume, and the date of its last pump-out)**
   3. **Digester No. 2**
   4. **Any other area contributing to the 2,500 CY estimate, if applicable**

This breakdown will help us develop an accurate removal and disposal quantity for each area.

   a. *The 2,500 CY volume shown on sheet C03 is an estimate for the sludge in the existing sludge drying beds only. The volume was calculated based on surface elevation and measured thicknesses at the time of initial design and is assumed to be conservative.*

      Digester No. 1 is still in service and is currently estimated to have approximately 1,348 *CY of material* as of 7/30/2026 *(approximately* 21 *ft deep as of 7/30/26). Digester No. 1 was last serviced in* MARCH 2024*,*

      Digester No. 2 is abandoned and is expected to have very minimum, if any, residual sludge left from abandonment.

2) **Construction Water Source**

   Please confirm whether the Contractor may obtain construction water from the existing site water system at Camp Roberts, and identify any permit, metering, or backflow prevention requirements for that connection. If site water is not available for construction use, please confirm the approved source.

   a. *Utilities will be provided by Camp Roberts. Contractors may use water and electricity on site. Contractor must supply backflow device.*

3) **Reference: Sheet C03, Detail 8 (C03/C08), area near the New Permeate Retention Pond Pumping Station, Existing Discharge Manhole (MH1), and Existing Overflow Manhole**
    - **Sheet C03 shows the new 2" PVC water supply pipe routed through the same area as the new 8" DI treated wastewater tie in and the permeate return piping at this cluster. Please confirm whether the water supply pipe is intended to connect to the wastewater or permeate piping at this location, or whether it remains a separate, non-connected utility crossing through the area.**
    - **If a connection to the wastewater or permeate system is intended at this location, please confirm the required backflow prevention, air gap, or double check valve assembly, since a direct connection between the potable water supply and a non-potable line would not be code compliant without it.**

    a. *These are non-connected utility crossings within this area. There is no interconnection between the existing water supply line, the new permeate return line, and the MBR discharge line. Please see the attached markup for clarity.*

4) **Reference: Sheet C04, Notes 1, 5, and 6, versus Sheet C03 and Sheet C06**
Sheet C04 labels the permeate discharge piping at the MBR package plant as 8" diameter stainless steel. Sheet C03 and Sheet C06 label the same permeate discharge piping downstream, from the MBR to the Permeate Retention Pond, as 6" diameter stainless steel. No reducer or transition fitting is shown between these two points.
Please confirm the correct pipe size for the permeate discharge piping for its full length from the MBR package plant to the Permeate Retention Pond, and if the pipe size changes along the run, please identify the location of the transition and the fitting to be provided.

    a. *The permeate discharge piping from the MBR to the pond shall be 8" diameter stainless steel. The callouts on Sheets P01, C03, and C06 have been corrected on Revision 01 of the respective sheets (attached).*

5) **Reference: Sheet S08, General Foundation Notes, versus Sheet S04 and Section 03 30 00, Part 2, Concrete Mixtures**

    Sheet S04, MBR Foundation Plan, calls out concrete strength of 4,500 PSI, matching the default mixture proportioning in Section 03 30 00. Sheet S08, Sludge Tank Foundation Plan, calls out concrete strength of 4,000 PSI for the same type of mat slab foundation.

    Please confirm whether the 4,000 PSI strength shown on Sheet S08 is intentional, or whether the Sludge Tank foundation should match the 4,500 PSI strength used on Sheet S04 and in Section 03 30 00.

    a. *The Sludge Tank mat was designed for 4000 psi and could technically be 4000 psi, however in consideration of the whole project, to simplify things for everyone (batch plant, contractor, inspectors, paperwork, etc.) it may be constructed at 4500 psi to match the others. Either 4,000 psi or 4,500 psi is acceptable.*

6) **What are the Environmental restrictions if any?**

a. ***Special Status Species***

Environmental Briefing
Contractors must attend an Environmental briefing before start of work. Please contact Mark Williams, 805-238-8332, prior to job start too schedule briefing.

Wildlife Surveys
Wildlife surveys must be completed before work can begin. Proponent must contact the Environmental Office, Chelsea Fletcher 805-238-8548, at least two weeks before work starts to schedule surveys.

Escape Ramp
An escape ramp must be provided during the construction of the retention pond to prevent wildlife from becoming trapped in the basin.

b. ***Cultural Resources/Ground Disturbance***

Archaeological Monitoring:
Archaeological monitoring will be required for initial ground disturbance. The contractor will inform the environmental office, Juilana Wilder 805-238-8436, of the construction schedule at least 5 business days in advance. Archaeological monitoring will be done in-house by CAARNG staff.

c. ***Sensitive Habitats/Species***

Riparian/Wetland Setback:
No construction activities will occur within 50 feet and no project materials or equipment will be staged within 100 feet of a jurisdictional drainage or wetland unless authorized by the Environmental Office. No refueling will take place within 100 feet of jurisdictional drainage or wetland.

d. ***Water Quality/Erosion Control/Dust Control***

Storm Water Pollution Prevention Plan:
*Any ground disturbance that exceeds **one (1) acre** in size will require the development and implementation of a Construction Storm Water Pollution Prevention Plan. The plan will be developed by the project proponent and the proponent will ensure that required actions and best management practices are implemented by the proponent or the project contractor. The proponent will ensure a Notice of Intent is filed with the appropriate Regional Water Quality Control Board, that the permit is obtained and posted at the job site, that all permit fees are paid on time, and that a proper Notice of Termination is completed at the end of the project. Copies of documents will be provided to the Environmental Directorate.*

Erosion/Sedimentation Prevention Measures:
Prior to beginning soil disturbance, silt fencing, wattles, straw bales, berms and/or other appropriate measures will be installed in erosion prone areas of the project site, (including staging, storage and vehicle parking areas). Integrity of all erosion prevention measures will be maintained throughout construction and new devices added where necessary during project construction/training activities.

Re-vegetation:
All exposed soil surfaces will be hydro-seeded and/or covered with mulch, jute mat, or other suitable

material to establish vegetation cover as soon as practical after construction. Native plant species will be used for reseeding and re-vegetation (a list of appropriate plants is available from the Environmental Office).

Water Quality BMPs:
Temporary ground disturbance due to vehicle parking shall follow standard BMPs. Drip pans, spill kits, etc. shall be utilized for all fluid leaks.

e. ***Hazardous Waste Removal and Disposal***

Lead-based Paint (LBP) Abatement:
All project activities involving Lead-based Paint (LBP) abatement will be conducted by a certified contractor in compliance with all applicable federal, state, and local regulations.

Hazardous Waste:
All hazardous materials and hazardous waste shall be handled, stored, and disposed in accordance with the CAARNG Hazardous Materials and Waste Management Plan. At a minimum, containers shall be properly labeled, stored in secondary containment, and segregated according to material compatibility. The Environmental Office must be contacted prior to establishing any new HM/HW storage location. The sludge from the drying beds must be disposed of as a hazardous waste by DOD Guidance.

f. ***Solid Waste***

Report Project Solid Waste:
To meet state and federal requirements (CA AB 75; Executive Order 13514), the proponent and project contractor shall keep record of all project waste generated, by weight, to include total project waste generated and total project waste diverted. The proponent shall ensure that copies of all waste tickets or weights of project waste be reported to the CA ARNG Environmental Directorate solid Waste Program Manager at the conclusion of project activities: email: ***brian.a.pierskalla.nfg@army.mil.***

7) Are there any permits required?

a. *Two (2) Permits are required.*

- *Obtain New Air Permit:*
  A new air permit to operate may be needed. The proponent should contact the Air District to determine if a permit is required for the construction, an Authority to Construct, or if a new permit to operate the MBR is required.

- *Obtain New WDR, Waste Discharge Requirement:*
  A new WDR to operate will be needed. The proponent should contact the Water Board to apply for the WDR. The proponent will need to follow all requirements of the WDR for construction and operation of the new facility.

8) Any existing treated waste left on site, will that be moved prior to construction?

a. *Contractor will remove all treated waste off site to the proper facility. During construction, treated waste will still need to be removed off site until the new MBR comes online.*

9) For the Project Closeout, will the Contractor be responsible for completing a DD Form 1354?

a. *Yes, the A&E or Record, Weaver Group, has produced a draft DD Form 1354. When the Project is complete, the Contractor will update and submit an Interim DD Form 1354 to the Government.*

10) **The existing sludge digester sludge quantity is unknown. Please provide an approximate quantity for bidding purposes.**

    a. *The sludge within the digester is currently estimated to be approximately 1,348 CY of material as of 7/30/2026 (approximately 21 feet deep).*

11) **Please provide as-builts for the existing digesters, stabilizer tank, secondary clarifier, pump station and wet well, and yard piping.**

    a. *Available plans associated with the requested equipment attached. No existing as-built information is available for the stabilizer tank.*

12) **Please clarify the 4" SS and 6" SS centerline elevations at the tee shown in Detail 6 on Sheet C07. It appears the 4" pipe may create a tripping hazard at the existing platform walkway.**

    a. *Centerline shall be approximately 6-inches above top of concrete, or as required to clear all flanges and fittings.*

13) **Please clarify whether submersible pumps SP-3 have minimum clearance or spacing requirements from adjacent objects, per Detail 6 on Sheet C07.**

    a. *Minimum clearance for submersible pumps SP-2 and SP-3 shall be two (2) feet or that which is required by the pump manufacturer, whichever is greater.*

14) **Please clarify the warranty period for the MBR system. Sheet G03, General Note 14 states that the Contractor is responsible for removing sludge generated by the MBR system throughout the warranty period. For bidding purposes, please provide the warranty period duration, typical sludge generation quantity, and anticipated sludge removal frequency for the MBR system.**

    a. *The contractor warranty period is 2-years. The Drypac sludge system will produce a dry cake material and, for bidding purposes, may be expected to produce approximately 6 CY of dry cake monthly on average assuming an average daily wastewater flow of approximately 30,000 gpd.*

15) **Is the sludge considered hazardous? Also, please provide any sludge analytical data so bidders can determine where the sludge may be transported and properly disposed of.**

    a. The sludge is not considered hazardous, however existing sludge and future dry cake may contain detectible concentrations of PFOS/PFAS and will need to be disposed of at an appropriate accepting facility. Recent wastewater influent monitoring report may be downloaded on Geotracker. **https://documents.geotracker.waterboards.ca.gov/esi/uploads/geo_report/1379261136/WDR100029747.PDF**

    Wastewater influent contributing to existing and future sludge may also be comprised of landfill leachate, the most recent landfill monitoring report may be downloaded on Geotracker.

    https://documents.geotracker.waterboards.ca.gov/esi/uploads/geo_report/8755893826/L10005723390.PDF

16) **Can the northeast chain-link fence along the digesters be removed and replaced to allow for open-cut excavation for the demolition of the existing digesters? The digesters demo is more than 10 feet deep, and the existing fence line is less than 15 feet from the digester.**

    a. *The existing fencing may be removed and replaced, however, due to habitat and wildlife constraints, no work may take place outside of the current extents of the WWTP and pond(s) fenced area(s).*

17) **Please provide the shutdown working hours and durations allowed for MBR tie-in and Equalization Tank bypass.**

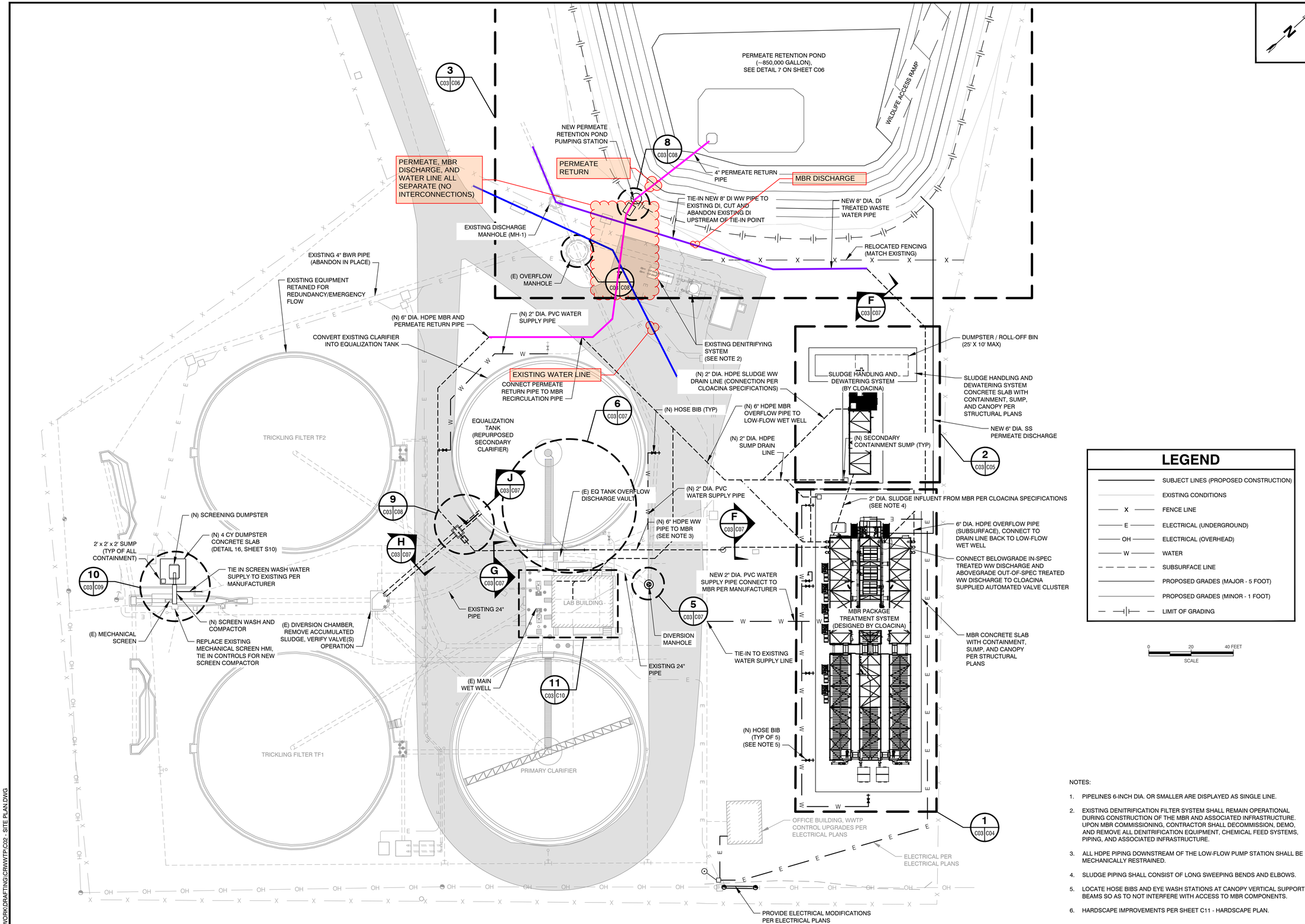
    a. *Allowable shutdown period for the WWTP varies with base occupation. However, during nominal low occupancy and low-flow periods, the WWTP may be shutdown for up to 1 week. Contractor shall coordinate with the WWTP operator for proposed shutdowns or provide for temporary bypass during tie-in work.*

18) **Please see the sketch below. Please provide the as-built electrical drawings, as several conduit lines may interfere with the Yard Pipe installation prior to the decommissioning of the Denitrifying Building. Also, will all piping and conduit associated with this building be demolished?**



    a. *Available plans associated with the requested equipment attached. All aboveground piping shall be removed. All belowground wastewater piping encountered that is not shown to remain shall be removed. Electrical pullboxes and conduit shall be protected-in-place and remain.*

ATTACHMENT 02
Sheet_C03_Markup_20260805



LEGEND

- SUBJECT LINES (PROPOSED CONSTRUCTION)
- EXISTING CONDITIONS
- X — FENCE LINE
- E — ELECTRICAL (UNDERGROUND)
- OH — ELECTRICAL (OVERHEAD)
- W — WATER
- SUBSURFACE LINE
- PROPOSED GRADES (MAJOR - 5 FOOT)
- PROPOSED GRADES (MINOR - 1 FOOT)
- LIMIT OF GRADING

0 20 40 FEET
SCALE

NOTES:

1. PIPELINES 6-INCH DIA. OR SMALLER ARE DISPLAYED AS SINGLE LINE.
2. EXISTING DENITRIFICATION FILTER SYSTEM SHALL REMAIN OPERATIONAL DURING CONSTRUCTION OF THE MBR AND ASSOCIATED INFRASTRUCTURE. UPON MBR COMMISSIONING, CONTRACTOR SHALL DECOMMISSION, DEMO, AND REMOVE ALL DENITRIFICATION EQUIPMENT, CHEMICAL FEED SYSTEMS, PIPING, AND ASSOCIATED INFRASTRUCTURE.
3. ALL HDPE PIPING DOWNSTREAM OF THE LOW-FLOW PUMP STATION SHALL BE MECHANICALLY RESTRAINED.
4. SLUDGE PIPING SHALL CONSIST OF LONG SWEEPING BENDS AND ELBOWS.
5. LOCATE HOSE BIBS AND EYE WASH STATIONS AT CANOPY VERTICAL SUPPORT BEAMS SO AS TO NOT INTERFERE WITH ACCESS TO MBR COMPONENTS.
6. HARDSCAPE IMPROVEMENTS PER SHEET C11 - HARDSCAPE PLAN.

C:\WORK\DRAFTING\CRWWTP\C02 - SITE PLAN.DWG

PREPARED BY
Weaver Consultants Group
1 TECHNOLOGY DRIVE, SUITE C515
IRVINE, CALIFORNIA 92618-5302

PREPARED FOR
CAL GUARD
CALIFORNIA MILITARY DEPARTMENT
CALIFORNIA MILITARY DEPARTMENT
CALIFORNIA MILITARY DEPARTMENT
10801 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REV	DATE	DESCRIPTION	BY	APPD
0	03/31/26	100% DESIGN SUBMITTAL	TMH	TMH
E	11/07/25	95% DESIGN SUBMITTAL	TMH	TMH
D	08/08/25	RESPONSE TO 90% DESIGN SUBMITTAL	TMH	TMH
C	12/04/24	90% DESIGN SUBMITTAL	TMH	TMH
B	04/17/24	REVISIONS TO CIVIL 35% DESIGN	TMH	TMH
A	02/28/18	35% DESIGN	BB	JP

REVISION SUMMARY

SCALE: AS NOTED
BAR SHOULD BE EXACTLY 1 INCH LONG
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER
TIMOTHY M. HUNT
C 69637
CIVIL
STATE OF CALIFORNIA

DESIGNER:	TMH
DRAWN BY:	TMH
CHECKED BY:	PM
APPROVED BY:	TMH
DATE:	03/31/2026

SITE PLAN

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 5890-300-01-47
FILE NAME: C02 - SITE PLAN.DWG

SHEET No. C03
SHEET 10 OF 42
REVISION 0

ATTACHMENT 03
Interim_Guidance_Destruction_PFAS_20230711

ASSISTANT SECRETARY OF DEFENSE
3400 DEFENSE PENTAGON
WASHINGTON, DC 20301-3400

ENERGY, INSTALLATIONS,
AND ENVIRONMENT

7/11/23

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (INSTALLATIONS, ENERGY AND ENVIRONMENT)
ASSISTANT SECRETARY OF THE NAVY (ENERGY, INSTALLATIONS AND ENVIRONMENT)
ASSISTANT SECRETARY OF THE AIR FORCE (INSTALLATIONS, ENVIRONMENT AND ENERGY)
DIRECTOR, DEFENSE LOGISTICS AGENCY (LOGISTICS OPERATIONS)

SUBJECT: Interim Guidance on Destruction or Disposal of Materials Containing Per- and Polyfluoroalkyl Substances in the United States

The DoD Per- and Polyfluoroalkyl Substances (PFAS) Task Force issues this interim guidance to help DoD make informed decisions in the evaluation of existing destruction and disposal options, and to comply with section 343 of the FY 2022 National Defense Authorization Act (NDAA). Section 343 requires DoD to prohibit the incineration of covered DoD PFAS-containing materials[1] until DoD issues guidance implementing the U.S. Environmental Protection Agency (EPA) "Interim Guidance on the Destruction and Disposal of Perfluoroalkyl and Polyfluoroalkyl Substances and Materials Containing Perfluoroalkyl and Polyfluoroalkyl Substances," December 18, 2020 (hereinafter referred to as the EPA guidance), and section 330 of the FY 2020 NDAA.

Concurrent with its compliance with these requirements on PFAS destruction and disposal, DoD is transitioning to a PFAS-free firefighting agent for land-based applications over the next few years. DoD has determined that this transition, which requires the removal of PFAS-containing firefighting foam (i.e., Aqueous Film Forming Foam (AFFF)) from installation fire protection inventories, will generate large quantities of PFAS-containing concentrate and rinsate for which DoD must find a safe disposal solution. In addition, quantities of PFAS-containing material are generated from DoD's nationwide cleanup program, and recovery of emergency use discharges or spills of AFFF. Given these combined quantities, DoD's long-term storage capabilities will be exceeded and thus DoD requires a comprehensive destruction and disposal strategy.

In choosing among disposal options, one of the most significant factors for DoD was the additional oversight and controls provided at disposal and destruction facilities with

[1] PFAS-containing materials covered under this guidance includes all "covered material" under Section 343 of the FY 2022 NDAA, which means "any [Aqueous Film Forming Foam] AFFF formulation containing PFAS, material contaminated by AFFF release, or spent filter or other PFAS-contaminated material resulting from site remediation or water filtration that—

(A) has been used by the Department of Defense or a military department;
(B) is being discarded for disposal by the Department of Defense or a military department; or
(C) is being removed from sites or facilities owned or operated by the Department of Defense."

environmental permits. In issuing this guidance to comply with section 343 of the FY 2022 NDAA, DoD continues to recognize the statutory authority and responsibility of the EPA and State environmental regulatory agencies to regulate the disposal of wastes that may threaten human health or the environment.

Based on the analysis contained in Attachment 1 and consistent with the EPA guidance, DoD has identified the following four commercially available options to destroy or dispose of DoD PFAS-containing materials, in the order of consideration:

- Carbon reactivation units with environmental permits (for used granular activated carbon only).
- Hazardous waste landfills with environmental permits.
- Solid waste landfills with environmental permits that have composite liners, and gas and leachate collection and treatment systems.
- Hazardous waste incinerators with environmental permits.

In addition to these four DoD-wide options, the DoD Components are directed to consider onsite hazardous waste storage on a site-specific basis, for storage over ninety days. The DoD Components may also consider underground injection control on a site-specific basis. Third, the DoD Components, upon notification to the Office of the Assistant Secretary of Defense for Energy, Installations, and Environment (OASD(EI&E)), may also consider other existing and developing PFAS treatment or destruction technologies that are accepted/permitted by the appropriate State or Federal regulator, instead of utilizing hazardous waste incinerators, on a site-specific basis. The DoD Components, when selecting one of the options above for the destruction or disposal of PFAS-containing materials, including AFFF, must continue to make informed, fact-based decisions to mitigate the risk of PFAS releases to the environment for the protection of human health, consistent with the attached guidance and decision tree.

DoD continues to evaluate existing and developing PFAS destruction and disposal technologies, monitor studies on those technologies' effectiveness and potential environmental effects, and collaborate Administration-wide on best practices.For example, DoD's Strategic Environmental Research and Development Program has ongoing projects to develop an improved understanding of the effectiveness and sustainability of thermal destruction technologies for treatment of PFAS-containing materials. Of particular interest is the assessment of the fate and behavior of PFAS throughout the thermal treatment process. DoD also anticipates that EPA will be updating its guidance by December 2023. OASD(EI&E) will update this guidance annually to reflect changes as technologies mature, EPA updates its guidance, and additional data becomes available. The point of contact for this guidance is Ms. Alexandria Long, OASD(EI&E), at 703-571-9061 or alexandria.d.long.civ@mail.mil.

OWENS.BRENDAN.M.1030451844 Digitally signed by OWENS.BRENDAN.M.1030451844 Date: 2023.07.11 18:11:14 -04'00'

Brendan M. Owens

Attachments:
As stated

Attachment 1 — DoD Guidance on Options for the Destruction and Disposal of PFAS-Containing Materials and Implementation of Section 343 of the FY 2022 NDAA

1. *DoD Implementation of the EPA's "Interim Guidance on the Destruction and Disposal of Perfluoroalkyl and Polyfluoroalkyl Substances and Materials Containing Perfluoroalkyl and Polyfluoroalkyl Substances," December 18, 2020*

The EPA issued the "Interim Guidance on the Destruction and Disposal of Perfluoroalkyl and Polyfluoroalkyl Substances and Materials Containing Perfluoroalkyl and Polyfluoroalkyl Substances," on December 18, 2020, (referred to as "the EPA guidance" in this document).[2] In the EPA guidance, EPA evaluated destruction and disposal technologies that are commercially available and have the potential to control the migration of PFAS to the environment and identified three destruction or disposal options: landfilling, thermal treatment, and underground injection. DoD reviewed the EPA guidance and is implementing that guidance through this interim policy. Specifically, DoD is using the EPA guidance to help DoD make informed decisions in the evaluation of existing destruction and disposal options, including the relative uncertainty associated with each technology's capability to control releases to the environment for the protection of human health. DoD is also implementing EPA's guidance on environmental justice considerations in disposal and destruction of PFAS-containing materials.

A. EPA Interim Guidance on Destruction and Disposal of PFAS and Materials Containing PFAS

EPA's guidance recognizes that interim storage is not a destruction or disposal method, but asserts that storage "may be an option" if the immediate destruction or disposal of PFAS-containing materials is "not imperative."[3] EPA defines "interim storage" as storage "estimated to be anywhere from 2 to 5 years."[4] EPA does not define the term "imperative." DoD finds that multi-year storage of large quantities of PFAS-containing materials is not a viable option, from either a safety, environmental, logistical, or economic perspective.[5] Thus, in general, DoD assesses that, due to the volume of PFAS-containing materials at issue, DoD will need to implement actual destruction or disposal solutions for those materials.

DoD is currently conducting cleanup investigations and response actions at over 700 military installations and State Guard facilities. These investigations and response actions generate PFAS-containing materials (e.g., granular activated carbon, soils, investigation-derived wastes). If DoD had to plan for, locate, and secure storage of all PFAS-containing materials at

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[2] "Interim PFAS Destruction and Disposal Guidance (Notice of Availability for Public Comment)." 85 Federal Register 83554 (Dec. 22, 2020).

[3] "Interim Guidance on the Destruction and Disposal of Perfluoroalkyl and Polyfluoroalkyl Substances and Materials Containing Perfluoroalkyl and Polyfluoroalkyl Substances," pp. 5. Environmental Protection Agency, 18 Dec. 2020, https://www.epa.gov/pfas/interim-guidance-destroying-and-disposing-certain-pfas-and-pfas-containing-materials-are-not. *Referred to as "EPA Interim PFAS Disposal Guidance (Dec. 2020)" in later footnotes.*

[4] EPA Interim PFAS Disposal Guidance (Dec. 2020), page 5.

[5] EPA's proposed PFAS National Primary Drinking Water Regulation similarly states: "As part of this rulemaking, EPA considered that in drinking water treatment, large volumes of spent [granular activated carbon] and ion exchange resin must be removed which does not lend itself to on-site storage over time. The disposal options identified in the Interim Guidance (US EPA, 2020b) are landfill disposal and thermal treatment." 88 Federal Register at 18686 (Mar. 29, 2023).

applicable DoD/Guard facilities, these storage requirements would affect the pace of this necessary cleanup. In addition, the storage would generate its own risks of release to the environment.

DoD is also required to transition to a new firefighting agent for land-based applications and remove existing AFFF. The volume of AFFF that requires disposal is estimated to be over 2 million gallons. DoD does not have the warehouse capacity to properly and safely store this AFFF and associated rinsate at individual bases. DoD also is concerned with the risks of release to the environment from storage and believes that secondary containment would be needed to contain releases of PFAS. Storage areas at individual military installations or Guard facilities, where these PFAS-containing materials could potentially be stored if space was available, are not likely to have secondary containment. Building additional storage capacity, to include the necessary contracting actions, would negatively affect the pace of these required cleanup and AFFF replacement activities. While DoD believes it does not have the capacity to properly store all PFAS-containing materials at its facilities, and thus disposal or destruction of those materials is imperative, the DoD Components are directed to consider if onsite hazardous waste storage capacity exists for storage over ninety days at an individual military installation.

DoD next considered all the existing destruction and disposal options identified in the EPA guidance to identify options that are protective of human health and the environment. EPA identified several factors to consider in determining how to destroy or dispose of PFAS-containing materials:

- The relative uncertainty associated with the technologies' capabilities to control migration of PFAS,
- Whether it is imperative to destroy or dispose of these materials versus storing it and waiting for uncertainties to be reduced,
- The cost and availability of destruction and disposal options,
- The type of waste materials,
- The concentrations of PFAS in the waste, and
- Health risks from PFAS releases, especially for potentially vulnerable populations [6]

The first option DoD considered was deep well injection. EPA acknowledged deep well injection has the capability to control migration of PFAS to the environment, and the limited number of these wells currently receiving PFAS "may significantly limit the practicability of this disposal option."[7] Because of the limited availability of deep well injection locations, use for only liquid materials, and the volume of disposal required for DoD PFAS-containing materials, DoD believes this disposal option will rarely be an available option for DoD. DoD, however, has identified deep well injection as a disposal option that maximizes reduction of PFAS releases or emissions to the environment and human health exposures, and the DoD Components may consider whether deep well injection is an available and cost-effective option at an individual military installation.

[6] EPA Interim PFAS Disposal Guidance (Dec. 2020), pages 5 and 83.
[7] EPA Interim PFAS Disposal Guidance (Dec. 2020), pages 5-6.

Consistent with the EPA guidance, DoD next considered permitted hazardous waste landfills. Hazardous waste landfills "have the most stringent environmental controls in place and higher potential capacity to manage the migration of PFAS into the environment."[8] Hazardous waste landfills are "more effective at minimizing PFAS migration into the environment than other landfill types."[9] Because "permitted hazardous waste landfills employ the most extensive set of environmental controls (e.g., double liner systems with leachate collection and leak detection) and practices (e.g., extensive record keeping) that are currently available for the containment of PFAS waste," DoD has identified these landfills as an available disposal option that maximizes reduction of PFAS releases or emissions to the environment and human health exposures.[10]

DoD next considered solid waste landfills. The EPA guidance identifies a variety of solid waste landfills: municipal solid waste, ash monofill, industrial, and construction and demolition landfills.[11] Because environmental controls can vary at landfills, EPA evaluated the viability of landfilling as a means of containing PFAS. Modern solid waste landfills "when constructed with appropriate controls (e.g., liner system and leachate and gas collection and management systems), can also control the migration of PFAS into the environment."[12] DoD has identified solid waste landfills with these controls in place (composite liner and gas and leachate collection and management) as an available disposal option that maximizes reduction of PFAS releases or emissions to the environment and human health exposures. Any solid waste landfill DoD uses for PFAS-containing materials must have a composite liner, gas and leachate collection and management systems, and an environmental permit.

The DoD Components, consistent with the Decision Tree in Attachment 2, will need to consider the type of PFAS-containing materials when considering the use of both hazardous waste and solid waste landfills. For example, liquids must be solidified to remove any free liquids before disposal in a landfill, which may increase the volume significantly (e.g., threefold).[13] The cost and availability of all destruction and disposal options are additional considerations that need evaluation.

DoD next considered thermal treatment technologies, recognizing that these options have higher levels of uncertainties regarding their capacity to control the migration of PFAS into the environment. Thermal treatment technologies include a wide-variety of technologies and controls, including hazardous waste combustors (e.g., incinerators, cement kilns, lightweight aggregate kilns), as well as other thermal treatment (e.g., carbon reactivation units, sewage sludge incinerators, municipal waste combustors, thermal oxidizers).[14] EPA, notwithstanding its acknowledgment of uncertainties with PFAS thermal treatment technologies, recognized that the subset of permitted hazardous waste combustors "may operate under conditions more conducive to destroying PFAS and controlling related [products of incomplete combustion] PICs relative to

[8] EPA Interim PFAS Disposal Guidance (Dec. 2020), page 5.
[9] EPA Interim PFAS Disposal Guidance (Dec. 2020), page 6.
[10] EPA Interim PFAS Disposal Guidance (Dec. 2020), page 6.
[11] EPA Interim PFAS Disposal Guidance (Dec. 2020), page 56.
[12] EPA Interim PFAS Disposal Guidance (Dec. 2020), page 55.
[13] https://www.geoengineer.org/education/web-class-projects/cee-549-geoenvironmental-engineering-winter-2013/assignments/stabilization-solidification ("Volume of the treated wastes usually increases significantly")
[14] EPA Interim PFAS Disposal Guidance (Dec. 2020), page 6.

thermal treatment units that do not have both [Resource Conservation and Recovery Act] RCRA and [Clean Air Act] CAA permits."[15] EPA also recognized that permitted hazardous waste incinerators "are designed to optimize temperatures, residence times, turbulence, and other parameters" to "maximize organic destruction and minimize the formation of PICs."[16] These controls include pollution control devices which can remove hydrogen fluoride and other products of combustion.[17] After considering the latest studies and additional information[18] presented in the next section of this guidance on implementation of section 330 of the FY 2020 NDAA, DoD has identified hazardous waste incinerators as an available destruction option that maximizes reduction of PFAS releases or emissions to the environment and human health exposures.

Because DoD, and others, have widely utilized granular activated carbon (GAC) to remove PFAS from drinking water and groundwater, and "GAC reactivation is economically favored over replacement with virgin carbon,"[19] DoD also considered carbon reactivation units.[20] While carbon reactivation units "use high temperatures to thermally desorb contaminants from GAC, which allows for the carbon to be used again,"[21] they are not "incinerators" and instead are a form of recycling/preserving virgin materials. While there are about seventeen commercial carbon reactivation units across the country, currently only four "operate under RCRA permits and applicable air permits" which "provide additional regulatory oversight and include operating requirements and emission limitations to safely and effectively treat the hazardous contaminants."[22] Due to these additional safeguards, RCRA-permitted carbon reactivation units "may operate under conditions more conducive to destroying PFAS and controlling related PICs."[23] Therefore, DoD has identified RCRA permitted carbon reactivation units as an available destruction option to address PFAS-containing GAC that maximizes reduction of PFAS releases or emissions to the environment and human health exposures.

B. EPA Guidance on Environmental Justice

DoD also considered section 4 of the EPA guidance, which addresses environmental justice and impacts on vulnerable communities. The recent April 2023 Executive Order on "Revitalizing Our Nation's Commitment to Environmental Justice for All",[24] emphasizes that every person has a right to breathe clean air, drink clean water, and live in a healthy community. Under Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations", Federal agencies are directed to identify and address,

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[15] EPA Interim PFAS Disposal Guidance (Dec. 2020), page 35.
[16] EPA Interim PFAS Disposal Guidance (Dec. 2020), page 35.
[17] EPA Interim PFAS Disposal Guidance (Dec. 2020), pages 33-35.
[18] Several of those studies post-date EPA's December 2020 Guidance and its findings on relative uncertainty.
[19] EPA Interim PFAS Disposal Guidance (Dec. 2020), page 95.
[20] EPA's proposed PFAS National Primary Drinking Water Regulation similarly states: "At present, the most likely management option for spent materials containing PFAS is reactivation for GAC and incineration for spent IX resin." 88 Federal Register at 18686 (Mar. 29, 2023).
[21] EPA Interim PFAS Disposal Guidance (Dec. 2020), page 36.
[22] EPA Interim PFAS Disposal Guidance (Dec. 2020), page 36.
[23] EPA Interim PFAS Disposal Guidance (Dec. 2020), page 36.
[24] "Executive Order 14096 of April 21, 2023, Revitalizing Our Nation's Commitment to Environmental Justice for All," *Federal Register* 88, no. 80 (April 26, 2023): 25251-25261. https://www.govinfo.gov/content/pkg/FR-2023-04-26/pdf/2023-08955.pdf.

as appropriate, "disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations."[25] In Executive Order 14008, "Tackling the Climate Crisis at Home and Abroad," Federal agencies shall "develop programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts."[26] DoD is also a signatory to a Memorandum of Understanding on Environmental Justice, and a member of the Environmental Justice Interagency Council under these Executive Orders. DoD considered these White House documents, as well as the EPA guidance, in determining what currently available disposal and destruction options should be included in this interim guidance.

As the EPA guidance notes, certain communities "may be highly exposed to environmental contaminants because they live or work near the sources of release or presence in the environment."[27] This includes "those living near and using PFAS-contaminated environments (e.g., drinking water, fishing, hunting, and recreation)."[28] DoD acknowledges that many of the communities surrounding our military installations are communities with environmental justice concerns. We have prioritized our cleanup program to address the highest risks first, regardless of the community demographics, and address exposures (e.g., drinking water) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, also known as Superfund). Environmental justice principles are incorporated into CERCLA through public participation in the cleanup process, as well as the additional public outreach and engagement that DoD conducts (e.g., Restoration Advisory Boards). It is this cleanup program that addresses high exposures to PFAS that generates a large volume of PFAS-containing materials for disposal. Impact on vulnerable communities is thus addressed primarily in our cleanup program, and we support the Superfund Community Involvement Toolkit referenced in the EPA guidance. DoD is working on improving its public outreach and community dialogue for our PFAS cleanups through expanded public outreach at both senior leadership and local levels, a more user-friendly DoD PFAS website, and updating our Restoration Advisory Board guidance. We also note that EPA's Office of Land and Emergency Management is working with DoD and State representatives to develop "approaches to characterizing communities adjacent to three federal facility [National Priority List] NPL sites, to identify those with [Environmental Justice] EJ concerns."[29] When completed, these projects will inform EPA's understanding of best practices and be publicly shared. DoD supports this approach.

We also considered the vulnerable communities that exist near landfills and hazardous waste incinerators. We found this to be more complex in helping to choose among existing

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[25] "Executive Order 12898 of February 11, 1994, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," *Code of Federal Regulations,* title 3 (1994): 1-101, https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf.
[26] "Executive Order 14008 of January 27, 2021, Tackling the Climate Crisis at Home and Abroad," *Federal Register* 86, no. 19 (February 1, 2021): 7619-7633, https://www.govinfo.gov/content/pkg/FR-2021-02-01/pdf/2021-02177.pdf.
[27] EPA Interim PFAS Disposal Guidance (Dec. 2020), page 87.
[28] EPA Interim PFAS Disposal Guidance (Dec. 2020), page 87.
[29] EPA Office of Land and Emergency Management, "EJ Action Plan. Building Up Environmental Justice in EPA's Land Protection and Cleanup Programs (Sept. 2022), page 25.

disposal and destruction options. For example, studies have identified that a disproportionate number of landfills and other hazardous waste facilities, such as incinerators, are located in communities with environmental justice concerns. DoD also used EPA's Environmental Justice Screening and Mapping Tool ("EJScreen")[30] to identify potentially impacted communities living near PFAS destruction or disposal sites identified in this guidance, as well as communities surrounding our military installations where PFAS cleanups are ongoing and AFFF will be replaced. DoD also considered the relative risk between its top priority of addressing elevated levels of PFAS in drinking water from DoD activities versus indirect potential PFAS exposures from destruction and disposal facilities.

In choosing among disposal options, however, one of the most significant factors for DoD was the additional oversight and controls provided at disposal and destruction facilities with environmental permits. We recognize the statutory authority and responsibility of the EPA and State environmental regulatory agencies to regulate the disposal of wastes that may threaten human health or the environment, and to issue environmental permits that are protective of human health and the environment. Section 4 of the EPA guidance thus focuses on considering vulnerable populations and community engagement in the regulatory siting or permitting processes for destruction and disposal facilities. DoD acknowledges that more work is needed to ensure that the impacts associated with the operation of destruction and disposal facilities are equitable. While DoD does not have a regulatory role, we encourage regulators and disposal facilities to consider PFAS in these regulatory processes. In addition, to facilitate engagement with communities near our military installations, as well as possibly adjacent to PFAS destruction and disposal facilities, we have developed a DoD PFAS Disposal Fact Sheet that will be posted on our DoD PFAS website (https://www.acq.osd.mil/eie/eer/ecc/pfas/index.html). This fact sheet summarizes this DoD PFAS disposal guidance, provides background information on PFAS and potential health effects based on EPA and the Agency for Toxic Substances and Disease Registry statements, and provides information on how DoD is incorporating environmental justice principles when addressing PFAS. DoD will also explore new partnership opportunities with EPA and other federal agencies to advance environmental justice issues in accordance with Executive Order 14096.

C. DoD Implementation

DoD is therefore identifying the following options, **in order of priority**, for the DoD Components to utilize for the destruction or disposal of PFAS-containing materials, including AFFF, that are not hazardous wastes:[31]

- **Carbon reactivation units with environmental permits (for used GAC only).** GAC is a common PFAS water treatment technique where PFAS attaches to the

[30] See https://www.epa.gov/ejscreen.

[31] Hazardous waste is regulated pursuant to RCRA authority. See 42 U.S.C. § 6903. The regulatory definition of hazardous waste is found in 40 CFR § 261.3. PFAS is currently not a listed or characteristic hazardous waste, but a PFAS-containing material may meet the regulatory definition of hazardous waste if PFAS is mixed with a listed hazardous waste or if a PFAS-containing mixture exhibits a hazardous characteristic (e.g., ignitability). Materials that qualify as a RCRA hazardous waste must follow RCRA storage and disposal requirements and are outside of the scope of this guidance.

carbon until the carbon is full. Carbon reactivation units use high temperatures to thermally treat contaminants collected in GAC, which allows for the carbon to be used again. Carbon reactivation units permitted under RCRA and the CAA have additional regulatory oversight and include operating requirements and emission limitations to safely and effectively treat hazardous contaminants.

- **Hazardous waste landfills with environmental permits.** These landfills have stringent environmental controls in place to manage the migration of PFAS into the environment. Permitted hazardous waste landfills employ the most extensive set of environmental controls (e.g., double liner systems with leachate collection and leak detection) and practices (e.g., extensive record keeping) that are currently available for the containment of PFAS waste.
- **Solid waste landfills with environmental permits that have composite liners, and gas and leachate collection and treatment systems.** Modern municipal solid waste landfills, when constructed with appropriate controls (e.g., liner system, leachate and gas collection and management systems, permits), can also control the migration of PFAS into the environment.
- **Hazardous waste incinerators with environmental permits**. These high temperature incinerators have stringent regulatory controls on temperature and other operating parameters to achieve a 99.99 percent destruction efficiency for other (non-PFAS) organic chemicals, and evidence suggests that a similar destruction efficiency may apply to PFAS-containing materials (see below). Currently, thermal treatment is the only commercially available technology that has the potential capability to destroy PFAS, rather than contain it.

In addition to these four DoD-wide options, the DoD Components are directed to consider onsite hazardous waste storage on a site-specific basis, for storage over ninety days. The DoD Components may also consider underground injection control, on a site-specific basis. Third, the DoD Components, upon notification to OASD(EI&E), may also consider other existing and developing PFAS treatment or destruction technologies that are accepted/permitted by the appropriate State or Federal regulator, *instead of* utilizing hazardous waste incinerators, on a site-specific basis. For example, at one site with a large volume of PFAS-impacted soils, where landfills were not an option in that State, OASD(EI&E) was notified that a State permitted thermal desorption unit would be considered rather than hazardous waste incineration. The DoD Components, when selecting one of the options above for the destruction or disposal of PFAS-containing materials, must continue to make informed decisions consistent with this guidance and the Decision Tree.

2. DoD Implementation of Section 330 of the FY 2020 NDAA

Section 330 of the FY 2020 NDAA requires DoD to ensure that when PFAS-containing materials or AFFF are disposed:

> "(1) all incineration is conducted at a temperature range adequate to break down PFAS chemicals while also ensuring the maximum degree of reduction in emission of PFAS, including elimination of such emissions where achievable;
> (2) all incineration is conducted in accordance with Clean Air Act (42 USC 7401 et seq.), including controlling hydrogen fluoride;

(3) any materials containing PFAS that are designated for disposal are stored in accordance with the requirement under part 264 of title 40, Code of Federal Regulations; and
(4) all incineration is conducted at a facility that has been permitted to receive waste regulated under [the Resource Conservation and Recovery Act][32] (42 USC 6921 et seq.)."

This guidance addresses the second, third, and fourth criteria together, followed by the first criterion.

The second criterion in section 330 requires that all incineration of PFAS-containing materials is conducted in accordance with CAA requirements. The third criterion in section 330 requires that PFAS-containing materials stored at hazardous waste combustors prior to incineration be stored in accordance with RCRA requirements. The fourth criterion in section 330 requires that incineration is conducted at a RCRA-permitted hazardous waste facility. **Based upon the review of these three criteria, if a DoD Component chooses to incinerate PFAS-containing materials in its custody, the DoD Component must send those PFAS-containing materials, including AFFF, only to RCRA- and CAA-permitted Hazardous Waste Incinerators (HWIs)**. RCRA-permitted HWIs with CAA Title V permits operate under conditions that represent the maximum commercially available destruction efficiencies for PFAS, including the control of hydrogen fluoride and other PICs. Additionally, RCRA- and CAA-permitted HWIs have experience in the proper storage of regulated hazardous wastes and must comply with part 264 of title 40, Code of Federal Regulations, concerning storage of material at their facilities. Therefore, the DoD Components will implement the CAA and RCRA permit and storage criteria in section 330 by ensuring that the HWIs utilized for the incineration of PFAS-containing materials, including AFFF, have valid RCRA and CAA operating permits.

The first criterion in section 330 requires that if DoD sends PFAS-containing materials to incinerators, the incinerators utilize a temperature range adequate to break down PFAS while also minimizing emissions of PFAS. Because the second, third, and fourth criterion in section 330 require incineration at permitted HWIs and because these permitted facilities are required to maintain minimum temperature thresholds, DoD used those minimum thresholds in determining whether it can reasonably conclude that its candidate HWIs will achieve the requirements of the first criterion in section 330.

A. Relevant RCRA and CAA permitting requirements

The regulatory requirements for RCRA- and CAA-permitted HWIs are summarized as follows:

RCRA-permitted HWIs must follow stringent regulatory requirements and are required by EPA to conduct testing to determine a Destruction and Removal Efficiency (DRE). The key factors in achieving a high DRE are time in the incinerator (residence time), high temperature, and turbulence (i.e., mixing). The purpose of DRE testing is to demonstrate that virtually all the molecules of a surrogate compound are destroyed in the incinerator.

[32] The Solid Waste Disposal Act of 1965 is commonly referred to as the Resource Conservation and Recovery Act (RCRA), which significantly amended the Solid Waste Disposal Act, in 1976.

For HWIs, EPA requires a minimum DRE of 99.99%. During DRE testing, a surrogate compound is fed into the incinerator that represents classes of compounds that are extremely difficult to destroy. EPA has developed a system of ranking these surrogate compounds, based on their difficulty to destroy. After a 99.99% DRE is achieved, EPA or the delegated State, issues a CAA Title V permit that includes requirements for operation. This includes a high temperature range and other parameters that are continuously monitored, and if not complied with, the incinerator will stop the flow of materials to the combustion unit automatically and immediately.

While there are several operating conditions specified in a HWI permit, the first criterion in section 330 focuses on a temperature range adequate to break down PFAS. DoD reviewed minimum temperatures specified in nine existing HWI permits to achieve their DRE and found their permits require a minimum temperature in the kiln that range from 1200°F to 1824°F. At these facilities, the kiln is followed by an afterburner/secondary combustion chamber to maximize organic destruction and their permits require a minimum temperature in the afterburner/secondary combustion chamber that ranges from 1488°F to 2026°F. Based on the studies and information described below, HWIs at their permitted temperature range will be adequate to break down detectable PFAS chemicals.

B. Existing Data on Destruction Capabilities of Incinerators

EPA's guidance contains the following findings on the destruction capabilities of HWIs:

HWIs are designed to optimize temperatures, residence times, turbulence, and other parameters to ensure compliance with organic DRE requirements. Most commercial HWIs use rotary kilns…that maintain high temperatures. Typically, solids retention time in the kiln is 0.5 to 1.5 hours, while gas residence time through the kiln is usually around two seconds. Kiln flame/solids temperatures range from 650°C to 1,650°C (1,200°F to 3,000°F). The rotary kiln is followed by an afterburner where additional high-heating-value gaseous and liquid wastes, and auxiliary fuels are added. The afterburner is typically operated at about 1,100°C to 1,370°C (2,000°F to 2,500°F) with a gas residence time from 1 to 3 seconds to maximize organic destruction and minimize the formation of PICs.[33]

Studies and information on PFAS destruction indicate that the temperature ranges used in these types of HWIs are effective in destroying the 50 PFAS that can currently be detected in air emissions through an EPA methodology:

- In 2021, EPA began conducting pilot-scale PFAS incineration studies using its "Rainbow" furnace, which allows EPA to conduct incineration experiments under controlled conditions.[34] This research identified fluorocarbon tracer gases (surrogates) that could potentially be used to monitor destruction efficiencies during incineration, and then began experiments. The first publication from these

[33] EPA Interim PFAS Disposal Guidance (Dec. 2020), page 35.
[34] "Combustion of C_1 and C_2 PFAS: Kinetic Modeling and Experiments," Krug et al., *Journal of the Air & Waste Management Association*. 2022, 72:3, 256-270. Published Feb. 11, 2022.

experiments suggests that PFAS can be destroyed when subjected to aggressive thermal environments above 1100°C. EPA is also conducting experiments to understand the incineration of PFAS present in AFFF.[35]

- In 2021, the New York State Department of Environmental Conservation (NYSDEC) announced that it had completed a study to determine if the thermal treatment of PFAS-containing materials at the Norlite facility in Cohoes, New York, resulted in soil and surface water contamination. The Norlite facility is a RCRA- and CAA-permitted hazardous waste combustor that had treated AFFF over a number of years. This NYSDEC study found no clearly discernible pattern of aerial deposition of PFAS that could be traced to Norlite's operations. Sampling identified low-level detections of PFAS compounds in all soil samples collected at upwind, downwind, and at background locations, consistent with emerging research on the prevalence of PFAS in urban, suburban, and rural environments. Concentrations of PFAS found in soils in the vicinity of the facility were below guidance values NYSDEC developed, indicating that the facility successfully destroyed the PFAS material and did not emit traceable amounts of PFAS during combustion.[36]
- In 2021, a commercial RCRA- and CAA permitted HWI conducted a PFAS-specific study. In this study, AFFF was added in high concentrations to a waste feed, and sampled at various times throughout the incineration process. A 99.9999% DRE was obtained for Perfluorooctanesulfonic Acid, Perfluorooctanoic Acid, Perfluorohexane Sulfonic Acid, and hexafluoropropylene oxide dimer acid (otherwise known as Gen-X) at a temperature of 1800 °F. The study determined that the 50 specific PFAS that can currently be measured were turned into hydrogen fluoride, which was trapped in the air pollution control system.[37] To measure PFAS air emissions, this study utilized EPA test method OTM-45, published in 2021, for stack gas sampling of PFAS air emissions during this testing program. This study has undergone EPA and peer review, and became publicly available in August 2022.[38]
- In 2022, a literature review covering 163 published works on thermal treatment of PFAS was published.[39] This paper suggests that "complete combustion of PFAS will likely be most successful in incinerators that employ a two-stage process. In these, the waste is first fed into the primary combustion chamber where PFAS desorb and partially degrade. The gaseous byproducts are sent to a secondary chamber (the afterburner) that operates in excess air (stoichiometric excess of oxygen) at high

[35] Shields, E. "ER21-1288: Multi-Scale Evaluation of PFAS Thermal Destruction Requirements." Strategic Environmental Research and Development Program In-Progress Review Meeting, Aug. 17, 2022 (Virtual).
[36] *Norlite Environmental Sampling Report*, pp 25-26. New York State Department of Environmental Conservation, March 2021, https://www.dec.ny.gov/docs/materials_minerals_pdf/norlitesamplingfull0321.pdf.
[37] EPA's Interim PFAS Disposal Guidance (Dec. 2020), page 34, recognizes that hydrogen fluoride is a break-down product of PFAS destruction, and is captured in air pollution control devices. ("…PFAS destruction is defined as the complete severing of all carbon-fluorine bonds in a PFAS molecule. Severing all carbon-fluorine bonds results in conversion to carbon dioxide, hydrogen fluoride (HF), and other compounds. HF and some of the other products of combustion can be removed in pollution control devices.").
[38] http://cleanharbors.dev-cleanharbors.acsitefactory.com/services/industrial-field-services/field-services/PFAS-PFOA-PFOS-Remediation
[39] "Critical Review of Thermal Decomposition of Per- and Polyfluoroalkyl Substances: Mechanisms and Implications for Thermal Treatment Processes," Wang et al., *Environ. Sci. Technol*. 2022, 56, 5355-5370. Published April 21, 2022.

> temperature (>950 °C) and short residence times (1-3 seconds)."[40] DoD notes that HWIs employ this two-stage process. This paper also stated that the "general consensus across these lab-scale studies is that even the most stable PFAS (e.g., long-chain sulfonates) desorb at temperatures less than 1000°C, and they are destroyed in the gas phase at temperatures greater than 1000°C."[41]

DoD acknowledges that the studies mentioned above and the EPA guidance identified uncertainties regarding PFAS thermal treatment. According to the EPA guidance:

> Key uncertainties include the lack of PFAS-specific information on these facilities. EPA currently has no emission characterizations from these sources when they burn PFAS, and is working to develop measurement methodologies as well as gather information to conclude whether potential [PICs] are adequately controlled. EPA recognizes that PICs are formed (even for nonfluorinated compounds); however, based on the unique characteristics of fluorine combustion chemistry, it needs to be determined whether thermal treatment devices and their associated post-combustion control devices are controlling fluorinated PICs.[42]

EPA, notwithstanding its general finding that there are uncertainties with PFAS thermal treatment technologies, recognized that there is less uncertainty for the permitted facilities that DoD will use for incineration if other disposal options are not deemed viable. According to EPA, the subset of permitted HWIs "may operate under conditions more conducive to destroying PFAS and controlling related PICs relative to thermal treatment units that do not have both RCRA and CAA permits." [43] EPA also recognized that permitted HWIs "are designed to optimize temperatures, residence times, turbulence, and other parameters" to "maximize organic destruction and minimize the formation of PICs." [44] These controls include pollution control devices which can remove hydrogen fluoride and other products of combustion.[45]

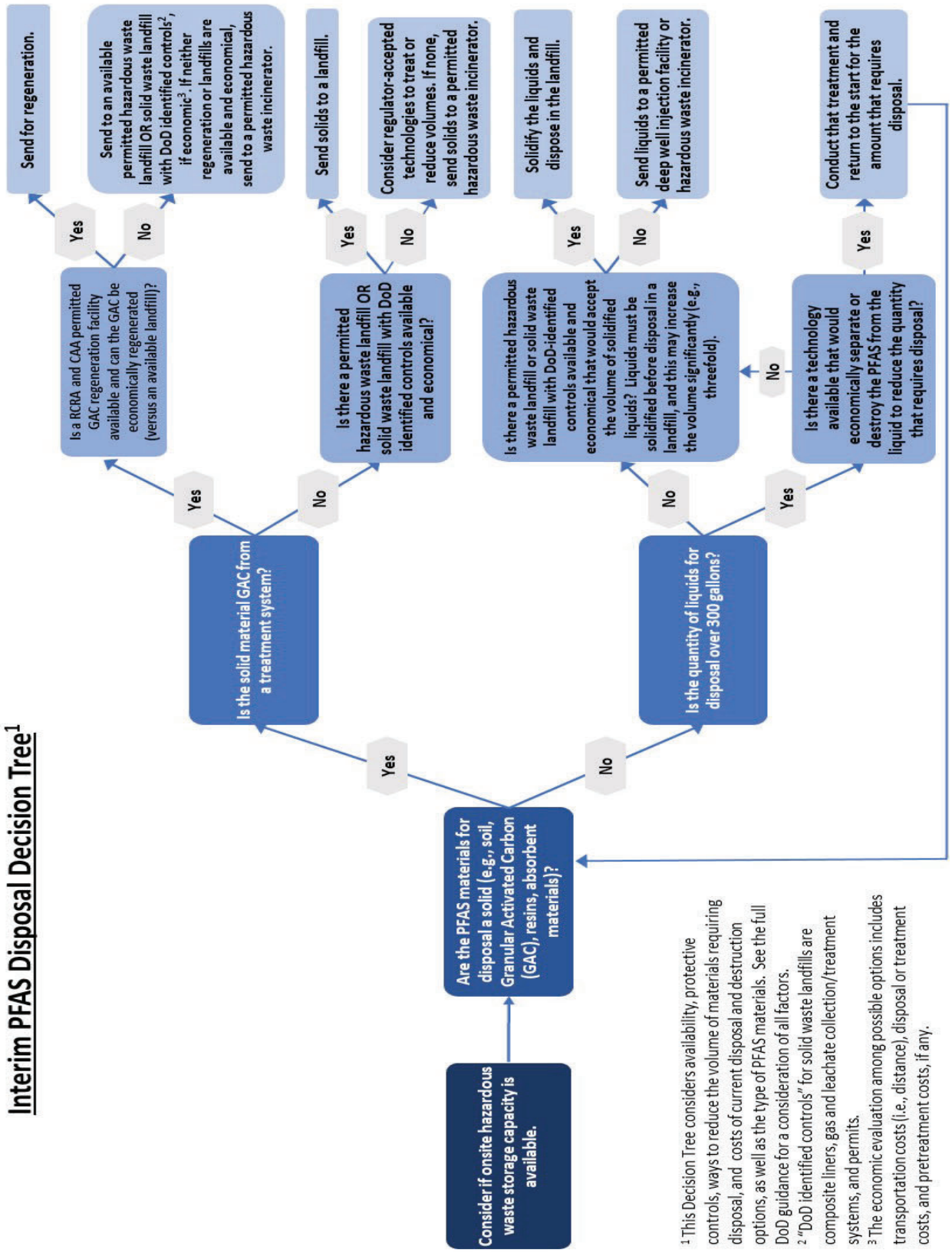
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[40] *Id.* at page 5363.
[41] *Id.* at page 5363.
[42] EPA Interim PFAS Disposal Guidance (Dec. 2020), page 6.
[43] EPA Interim PFAS Disposal Guidance (Dec. 2020), page 35.
[44] EPA Interim PFAS Disposal Guidance (Dec. 2020), page 35.
[45] EPA Interim PFAS Disposal Guidance (Dec. 2020), pages 33-35, 42-43.

3. DoD's Finding

In light of the 2021 PFAS air emission methodology and studies identified above, including at a full-scale RCRA- and CAA-permitted HWI, DoD finds that incineration at these facilities at their permitted temperature range will be adequate to break down detectable PFAS chemicals while also ensuring the maximum degree of reduction in emission of detectable PFAS. Based on the above studies and information that show HWI permits specify a temperature range and other operating parameters to achieve a 99.99% DRE, and HWIs are required to have air emission control devices, RCRA- and CAA permitted HWIs meet section 330's requirements for an adequate temperature range to break down PFAS that currently can be detected in air emissions and meet emission reduction requirements. Additional research is underway, and DoD will update this guidance annually to reflect changes as technologies mature, EPA updates its guidance, and additional data, including air emission detection methods, becomes available.

Attachment 2 –DoD PFAS Disposal Decision Tree



ATTACHMENT 04
Updated_Rate_Sheet_20260813

Attachment 3 – Rate Sheet

Contractor agrees to provide to CMD **Waste Water Treatment Plant Modernization** services, as described herein:

Contractor shall provide all materials, labor, bonds, licenses, insurance, equipment, tools, permits, taxes, transportation, and fees to perform the modernization of the Waste Water Treatment Plant.

Description of Services	Total
Waste Water Treatment Plant Modernization (**Base Project** All-inclusive Cost)	$
Total Lump Sum (Written)	
Bid Alternate 1 - Permeate Retention Pond	$
Bid Alternate 2 - MBR Canopy	$
Bid Alternate 3 – Sludge Handling Canopy	$
Bid Alternate 4 - Headworks Improvements and Sitewide Hardscape	$

In the event of a discrepancy between the written bid amount and the numerical (dollar) bid amount, the written amount shall govern and be considered the official bid amount.

The contract shall be awarded to the lowest responsive and responsible bidder based on the Base Bid only. Bid alternates shall not be considered in determining the lowest bid unless expressly stated in the bid documents.

Submitted by: _____ Date: _____

Contact Name / Title:	
Company Name:	
Company Address:	
Telephone Number:	
Fax Number:	
E-Mail Address:	

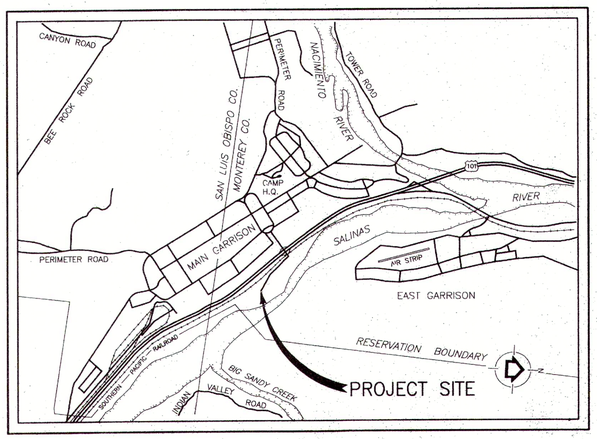
ATTACHMENT 05
Drawings_19930721

SEWAGE TREATMENT PLAN REHABILITATION

CALIFORNIA ARMY NATIONAL GUARD CAMP ROBERTS

PASO ROBLES, CALIFORNIA

PLANS FOR CONSTRUCTION



VICINITY MAP NOT TO SCALE

PREPARED BY:
BACKLUND ENGINEERING
CONSULTING ENGINEERS
ARROYO GRANDE, CALIF.

SHEET IN

SHEET NO.	DE
C-1	PARTIAL PLAN
C-2	PARTIAL PL DIGESTER BU
C-3	LABORATORY MISCELLANE
C-4	MISCELLANEO
C-5	POND REHABIL
E-1	ELECTRICAL

REFERENCE

1. INSTALL [illegible] ASSY. PER INSERT 'J' ABOVE F.G. SECURE [illegible] TO VERTICAL HANDRAIL POST [illegible] BRASS HIGH PRESSURE [illegible] MOUNT GALV. STEEL HOSE RACK [illegible] TO HOSE BIB USE ALL GALV. STEEL [illegible] MOUNTING HARDWARE.
2. [illegible] WATERLINE WITH NECESSARY BENDS & FITTINGS [illegible] & REPLACE 6" MIN. OF TYPE 'B' A.C. [illegible] TRENCH LINE.
3. INSTALL [illegible] WATERLINE LATERAL WITH NECESSARY BENDS & FITTINGS [illegible] & 2 1/2" BRASS FIRE HOSE VALVE PER DET. [illegible]
4. PAINT [illegible] WALL "DESERT SAND" PER PAINTING SPECIFICATIONS [illegible] 28 DAY MINIMUM CURE TIME FOR ALL NEW CONCRETE.
5. REMOVE [illegible] & MOTOR & SALVAGE TO OWNER INSTALL BLIND [illegible] PLUG AT EXISTING P.O.C.
6. REMOVE [illegible] PUMPS & MOTORS & SALVAGE TO OWNER INSTALL [illegible] MOUNTED GORMAN RUPP SELF PRIMING CENTRIFUGAL [illegible] PUMPS, MODEL T6A3-B-10-6, 8x6x6, 8" SUCTION & [illegible] DISCHARGE WITH U.S. MADE MOTORS AND BELT DRIVE. [illegible] GORMAN RUPP CHECK VALVE REQUIRED ON DISCHARGE [illegible] PUMP. COORDINATE EXACT LOCATION & ORIENTATION [illegible] PUMPS & MOTORS WITH SEWAGE PLANT FACILITY MANAGER. USE DRILL & PATCH CONCRETE DECK AS NECESSARY [illegible] NEW PUMP & PIPING. INSTALL FITTINGS, BENDS & [illegible] AS NEEDED TO MAKE [illegible] VALVES. CONSULT PUMP REPRESENTATIVE FOR [illegible] PAINT ABOVE GROUND D.I.P. "DESERT SAND" [illegible] CONNECT ELECTRICAL PER ELECTRICAL PLAN.
6B. INSTALL [illegible] ALUMINUM STAIRS WITH HANDRAIL ON ONE SIDE. INSTALL [illegible] LANDING AT BOTTOM FOR STRUCTURAL INTEGRITY IF NECESSARY. FIRMLY ATTACH TO NEW TRICKLING FILTER WALL. [illegible] TO ADJUST HEIGHT SHALL BE EVEN WITH TOP OF WALL. NEITHER [illegible] STAIRS OR HANDRAIL SHALL INTERFERE WITH THE OPERATION [illegible] THE ROTARY ARMS.
6C. INSTALL WARNING SIGN FOR ROTARY DISTRIBUTOR.

EXIST. 24" CONC. PIPE
EXIST. 24" CONC. PIPE
EXIST. TRICKLING FILTER (ABANDONED)
EXIST. CLARIFIER (ABANDONED)
6" C.I. PIPE
EXIST. 18" PIPE
EXIST. 2" G.I. PIPE
EXIST. 2" G.I. PIPE
EXIST. 24" CONC. PIPE
EXIST. DIVERSION MANHOLE
EXIST. CONC. PLUG
EXIST. 1 1/2" GSP
1" G.I. PIPE
LOCATION OF EXIST. GRIT CHAMBER SEE DETAIL SHT. 3 FOR RENOVATIONS
EXIST. 21" GRAVITY INFLUENT
EXIST. DIVERSION CHAMBER - SEE SHT. 3 FOR RENOVATIONS
EXIST. 6" C.I. PIPE
EXIST. CONC. PLUG
FOR LABORATORY BLDG., SEE SHT. 3
EXIST. 24" CONC. PIPE
EXIST. 2" PIPE
EXIST. 2" CHLORINE FEED LINE
EXIST. HEADWORKS SEE SHEET 3
EXIST. 18" C.I. PIPE
EXISTING VALVES
EXIST. 2" G.I. PIPE
EXIST. 6" C.I. SLUDGE LINE
EXIST. 18" GRAVITY INFLUENT
EXIST. 2 1/2" FIRE HOSE VALVE
EXIST. PUMP PITS (TYP.)
EXIST. 24" CONC. PIPE
EXIST. 6" C.I. PIPE
EXIST. 6" C.I. PIPE
EXIST. 2" P.V.C. WATERLINE
EXIST. UNDERGROUND POWER CABLE
SEE SHEET C-2
EXIST. 3" G.I. WATERLINE
REMOVE EXIST. ROCK MEDIA & REPLACE W/ PLASTIC MEDIA FILTERS - SEE DET., SHT. 4
NOTE: A PORTION OF THE ROCK MEDIA MAY BE DUMPED IN THE EXIST. ABANDONED STERILIZER TANK
± 90' DIA.
EXIST. 24" CONC. PIPE
REMOVE & REPLACE EXIST. EQUIP. W/ NEW ROTARY DISTRIBUTOR SEE SHEET 4
EXIST. TRICKLING FILTER
REMOVE & REPLACE EXIST. CONC. WALLS - SEE DET., SHT. 4
SAWCUT & REPLACE EXIST. A.C. PVM'T WHERE DETERIORATED, & INSTALL 6" MIN. TYPE 'B' A.C. REPAINT 4" WHITE STRIPE
EXIST. 24" CONC. PIPE
2' MIN.
EXIST. 24" CONC. PIPE
EXIST. SLUICE GATES & OPERATORS
EXIST. 24" CONC. PIPE
REMOVE & REPLACE ACCESS BRIDGE. PRECAST CONC. BRIDGE PER. DET., SHT. 4 MAY BE PROPOSED AS AN ALTERNATE
MATCH
EXIST. 2" P.V.C. WATERLINE
EXIST. 2" GATE VALVE IN CONC. VALVE BOX
3" P.V.C. H2O FLOW
0 2 5 10 20
SCALE: 1"=10'

NOTE:
1. RECONNECT CLARIFIER AND SLUDGE PUMP TO MAIN SWBD & MOTOR CONTROL CENTER.
2. INSTALL CLALIFIER OVERLOAD DEVICE AS CALLED OUT IN SPECIFICATIONS.

REMOVE & REPLACE EXIST. GEAR DRIVE MECHANISM, CENTER PIER & INFLUENT FEEDWELL, CENTER CAGE & SCRAPER ARMS, SURFACE SKIMMER, SCUM T ROUGH & SKIMMER BLADE RAMP.

EXIST. CLARIFIER

LEGEND

GI	GALVANIZED IRON
CI	CAST IRON
HB	HOSE BIB
PP	POWER POLE
FG	FINISH GRADE
EX.	EXISTING
POC	POINT OF CONNECTION
DIP	DUCTILE IRON PIPE

NOTES:
1. ELEVATIONS, EXISTING PIPE SIZES & LOCATIONS, AND EXISTING FACILITY LOCATIONS SHOWN ARE BASED ON CONSTRUCTION RECORD DRAWINGS BY BLACK & VEATCH, CONSULTING ENGINEERS, SACRAMENTO, CALIF.
2. PERFORM VIDEO INSPECTION OF ALL PIPES 4" DIA. & LARGER WITHIN SEWAGE TREATMENT PLANT SITE FROM INLETS OF GRIT CHAMBERS TO OUTLETS AT PONDS PER SPECIFICATIONS.
3. IT IS ASSUMED THAT THE EXISTING CLARIFIER WALLS AND BOTTOM ARE IN GOOD CONDITION. CONTACT ENGINEER IF VISUAL INSPECTION PROVES OTHERWISE.

EXIST. P.P.
EXIST. FENCE LINE

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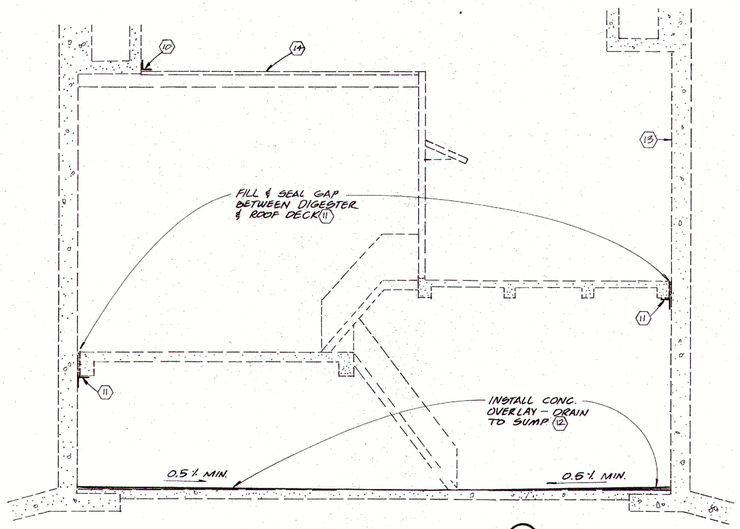
CALIFORNIA ARMY NATIONAL GUARD
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SEWAGE TREATMENT PLANT REHABILITATION

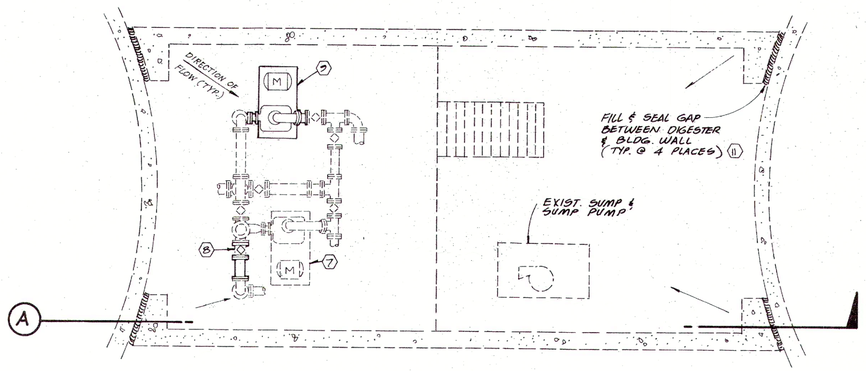
JOB NO. 9041C
DELIVERY ORDER NO. DAHA 04-92-F-037
SHEET NO. C-1

REFERENCE NOTES

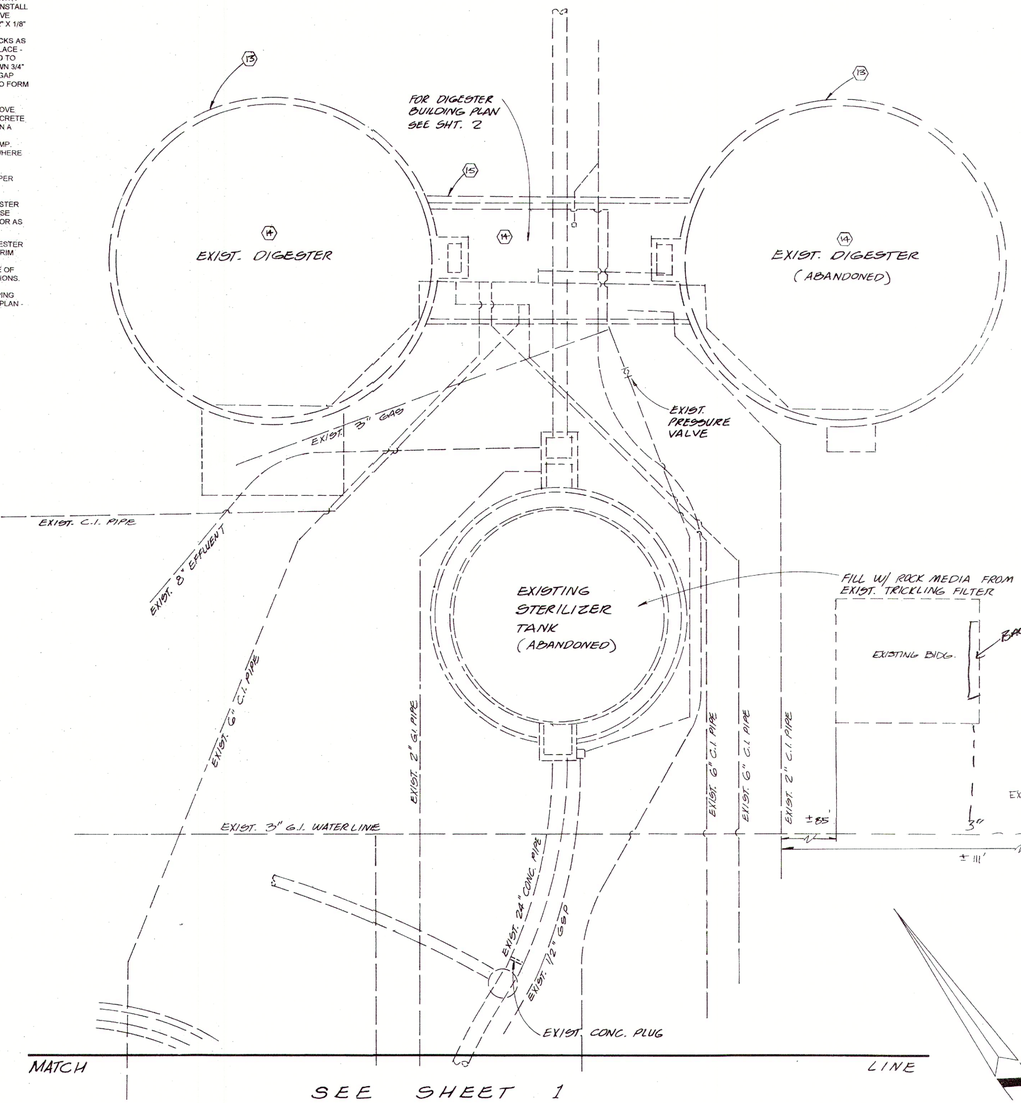
7. EXISTING GORMAN & RUPP T4A3 PUMP AND MOTOR.
8. REMOVE EXISTING 6" PIPE AND INSTALL 6" PLUG VALVE (DEZURIK OR EQUAL, TO MATCH EXISTING VALVES) & 6" DIA. FLANGED STEEL PIPE. FIELD MEASURE AND FABRICATE. PAINT TO MATCH EXISTING PIPES AND VALVES PER SPECIFICATIONS.
9. INSTALL GORMAN & RUPP T4A3 PUMP AND MOTOR (TO BE PROVIDED BY OWNER) WITH 4" SUCTION AND DISCHARGE. INSTALL NECESSARY FACTORY MADE OR FIELD FABRICATED FITTINGS AND BENDS INCLUDING 6 X 4 REDUCER AND 4 X 6 INCREASER TO TIE-IN PUMP IN SIMILAR FASHION AS EXISTING PUMP. FIELD MEASURE ALL DIMENSIONS. MAKE ELECTRICAL CONNECTION PER SHEET E-1. PAINT PIPES, SUPPORTS, BENDS, ETC. TO MATCH EXISTING PIPES PER SPECIFICATIONS.
10. SEAL GAP BETWEEN DIGESTER AND ROOF WITH FLASHING AND ROOF SEALANT AS NECESSARY TO FORM A WATER TIGHT SEAL.
11. FILL AND SEAL GAP BETWEEN DIGESTERS AND ROOF DECKS AND WALLS. FILL WALL AND ROOF GAPS WITH CONCRETE. CLEAN SURFACES AS NECESSARY. INSTALL TEMPORARY FORMWORK AS NECESSARY - REMOVE WHEN CONCRETE HAS SET. INSTALL 1-1/2" X 1-1/2" X 1/8" GALV. STEEL ANGLE IRON WITH 3/8" GALV. STEEL ANCHOR BOLTS AT 18" O.C. UNDER THE ROOF DECKS AS SHOWN TO PERMANENTLY HOLD CONCRETE IN PLACE - INSTALL BEFORE TEMPORARY FORMWORK - BEND TO CONFORM TO DIGESTERS. HOLD CONCRETE DOWN 3/4" BELOW TOP OF ADJACENT ROOF DECK AND FILL GAP WITH UV RESISTANT ELASTOMER UNTIL FLUSH, TO FORM A WATER-TIGHT SEAL.
12. SANDBLAST AND CLEAN CONCRETE FLOOR. REMOVE ALL DEBRIS. APPLY CONCRETE BINDER AND CONCRETE OVERLAY OF SUFFICIENT THICKNESS TO MAINTAIN A POSITIVE DRAINAGE OF 0.5% MINIMUM FROM THE CORNERS OF THE BUILDING TO THE EXISTING SUMP. ADJUST HEIGHTS OF EXISTING PIPE SUPPORTS WHERE NECESSARY.
13. PAINT EXTERIOR OF DIGESTERS "DESERT SAND" PER PAINTING SPECIFICATIONS.
14. HOT MOP AND ROCK DIGESTER ROOFS AND DIGESTER BUILDING. REPAIR ANY LEAKS AS NECESSARY. USE LIGHT-COLORED ROCK TO MATCH DIGESTER COLOR AS CLOSELY AS POSSIBLE
15. REMOVE OLD PAINT ON EXTERIOR OF WOOD DIGESTER BUILDING. REPAIR WOOD SIDING AND WINDOW TRIM AND RE-NAIL AS NECESSARY. PRIME AND PAINT EXTERIOR OF BUILDING AND INSIDE AND OUTSIDE OF DOOR "DESERT SAND" PER PAINTING SPECIFICATIONS.
16. INSTALL 3'X 3'X 6" THICK CONCRETE HOUSEKEEPING PAD. COORDINATE LOCATION WITH ELECTRICAL PLAN - SEE SHEET E-1.



SECTION (A)
1/4" = 1'-0"



DIGESTER BUILDING PLAN
1/4" = 1'-0"



0 2 5 10 20
SCALE: 1"=10'

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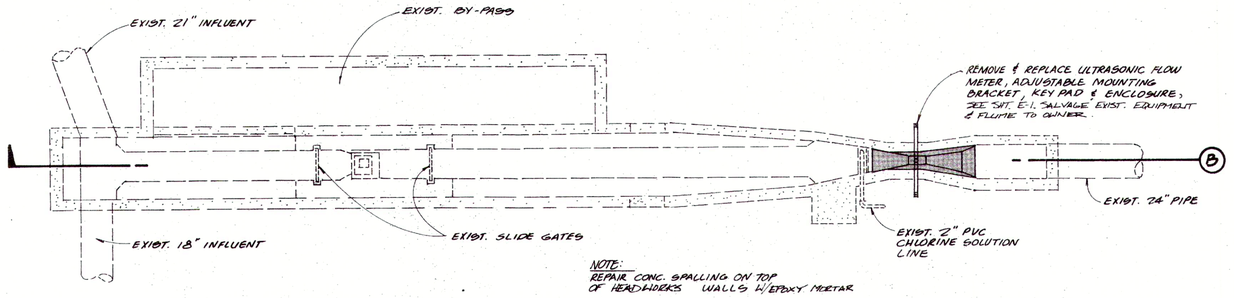
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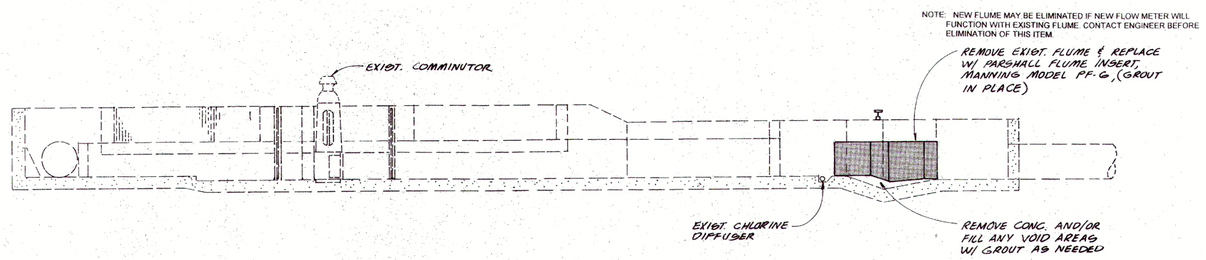
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SEWAGE TREATMENT PLANT REHABILITATION

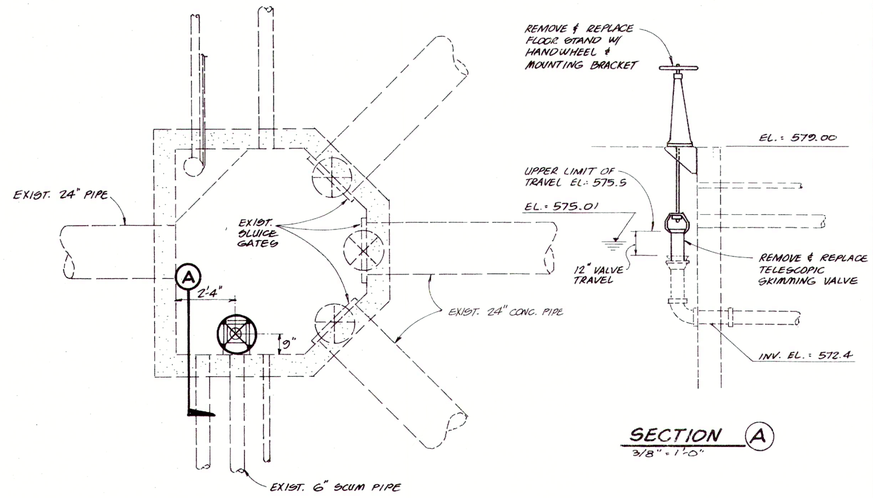
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DELIVERY ORDER NO. DAHA 04-92-F-0370
SHEET NO. C-2



EXISTING HEADWORKS PLAN
1/4"=1'-0"

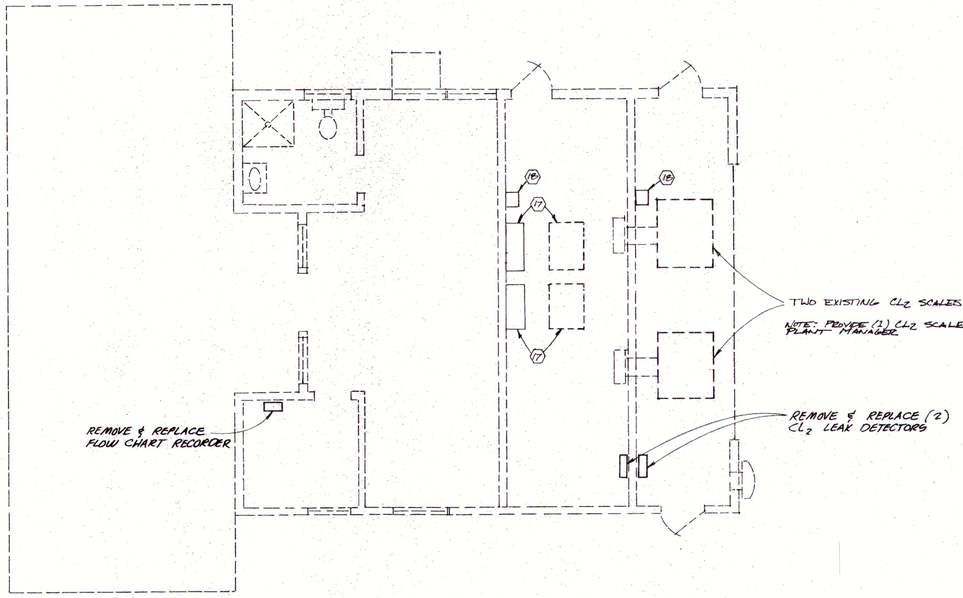


SECTION (B)
1/4"=1'-0"



SECTION (A)
3/8"=1'-0"

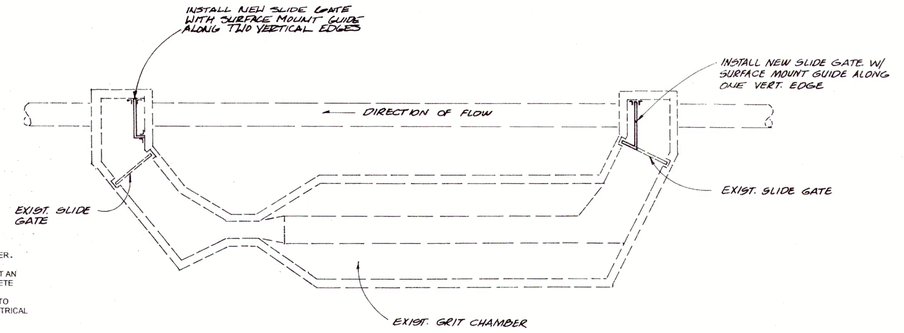
EXISTING DIVERSION CHAMBER PLAN
3/8"=1'-0"



LABORATORY PLAN
1/4"=1'-0"

REFERENCE NOTES:
(17) REMOVE (2) EXISTING CHLORINATORS - SALVAGE TO OWNER. REPLACE WITH (2) WALLACE & TIERNAN MODEL V 100 CHLORINATORS. CHLORINATORS TO BE WALL MOUNTED AT AN EASILY READABLE HEIGHT. CORE DRILL THROUGH CONCRETE FLOOR (BASEMENT BELOW) AND MAKE NEW PIPING CONNECTIONS AND CONCRETE PATCHES AS NECESSARY TO ACCOMODATE WALL MOUNTING. SEE SHEET E-1 FOR ELECTRICAL CONNECTIONS.

(18) INSTALL 5KW, 240V, WALL MOUNTED HEATER (TYP. OF 2), SEE SHEET E-1 FOR ELECTRICAL CONNECTIONS.



EXISTING GRIT CHAMBERS PLAN
1"=5'-0"

NOTES:
1. N'LY AND S'LY GRIT CHAMBERS ARE TO BE THROUGHLY CLEANED OUT.
2. REPAIR CONC. SPALLING ON TOP WALLS OF BOTH GRIT CHAMBERS WITH EPOXY MORTAR.
3. CONTRACTOR TO PROVIDE AND INSTALL TWO LEOPOLD LEO-LITE ALUMINUM SLIDE GATES AND TWO LEOPOLD FIBERGLASS REINFORCED POLYESTER RESIN SURFACE-MOUNTED EP-301 GUIDES FOR EACH GRIT CHAMBER (TYP. OF 2).
4. FIELD DETERMINE ALL DIMENSIONS AND SIZES BEFORE FABRICATION.

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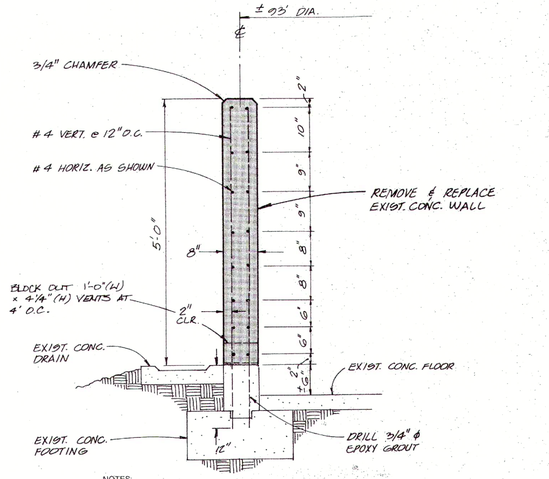
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SEWAGE TREATMENT PLANT REHABILITATION

JOB NO. 9041C
DELIVERY ORDER NO. DAHA 04-92-F-0370
SHEET NO. C-3

CSD 920123

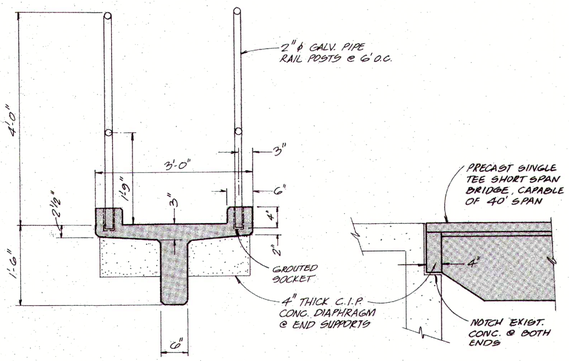


NOTES:
1. REMOVE EXISTING EXTERIOR TENSION RINGS AND CONCRETE WALL TO TOP OF OUTSIDE OF EXISTING PERIMETER CONCRETE DRAIN. USE 1" DEEP HORIZONTAL SAWCUT ON INSIDE AND OUTSIDE OF WALL AT BOTTOM OF REMOVAL. LEAVE 30 DIAMETERS OF EXISTING VERTICAL REBARS ABOVE BOTTOM OF REMOVAL.

2. AFTER PLACEMENT OF NEW REBAR AND FORMS; WET TOP OF EXISTING WALL OVERNIGHT. REMOVE ANY STANDING WATER, APPLY 1/4" OF NEAT CEMENT GROUT JUST AHEAD OF NEW CONCRETE POUR. USE INTERIOR AND EXTERIOR VIBRATORS. WET CURE WITH FORMS IN PLACE FOR MINIMUM OF 5 DAYS.

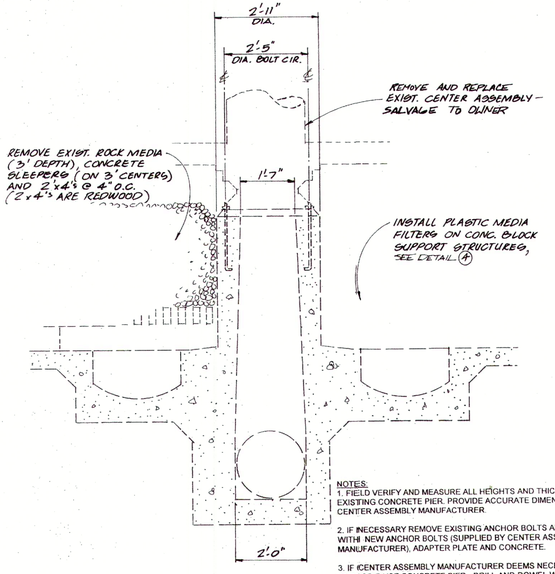
3. USE 3000 PSI CONCRETE WITH FINE FINES IN MIX FOR WATER TIGHTNESS, 2" MAX. SLUMP.

TRICKLING FILTER WALL REPLACEMENT (1)
SCALE: 3/4"=1'-0"



SECTION ELEVATION

CLARIFIER BRIDGE (ALTERNATE) (2)
SCALE: 3/4"=1'-0"

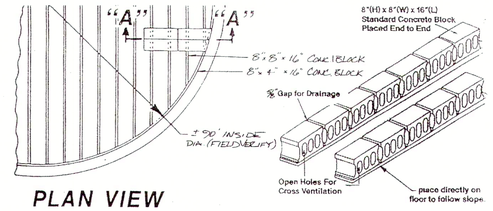


NOTES:
1. FIELD VERIFY AND MEASURE ALL HEIGHTS AND THICKNESSES OF EXISTING CONCRETE PIER. PROVIDE ACCURATE DIMENSIONS TO CENTER ASSEMBLY MANUFACTURER.

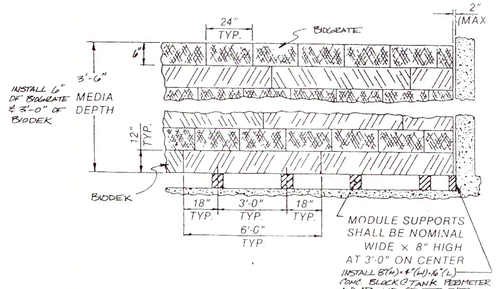
2. IF NECESSARY REMOVE EXISTING ANCHOR BOLTS AND REPLACE WITH NEW ANCHOR BOLTS (SUPPLIED BY CENTER ASSEMBLY MANUFACTURER), ADAPTER PLATE AND CONCRETE.

3. IF CENTER ASSEMBLY MANUFACTURER DEEMS NECESSARY, WIDEN AND/ OR RAISE CONCRETE PIER - DRILL AND DOWEL WITH #5 REBAR, 2" MIN. PENETRATION, EPOXY GROUT, 12" O.C. BOTH WAYS.

ROTARY DISTRIBUTOR SUPPORT COLUMN (3)
1/2"=1'-0"

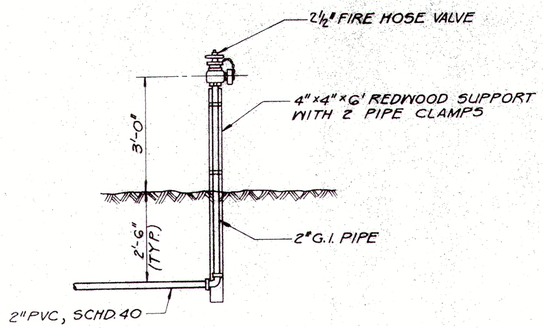


PLAN VIEW



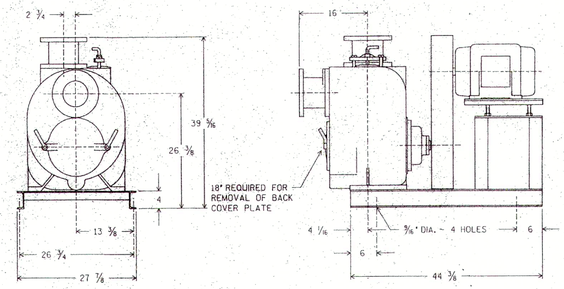
SECTION "A-A"

TRICKLING FILTER MEDIA AND SUPPORTS (4)
N.T.S.



FIRE HOSE CONNECTION DETAIL (5)
N.T.S.

NOTE:
1) 8" SUCTION & 6" DISCHARGE FLANGES
2) DIMENSIONS: INCHES



RECIRCULATION PUMP DETAIL (6)
N.T.S.

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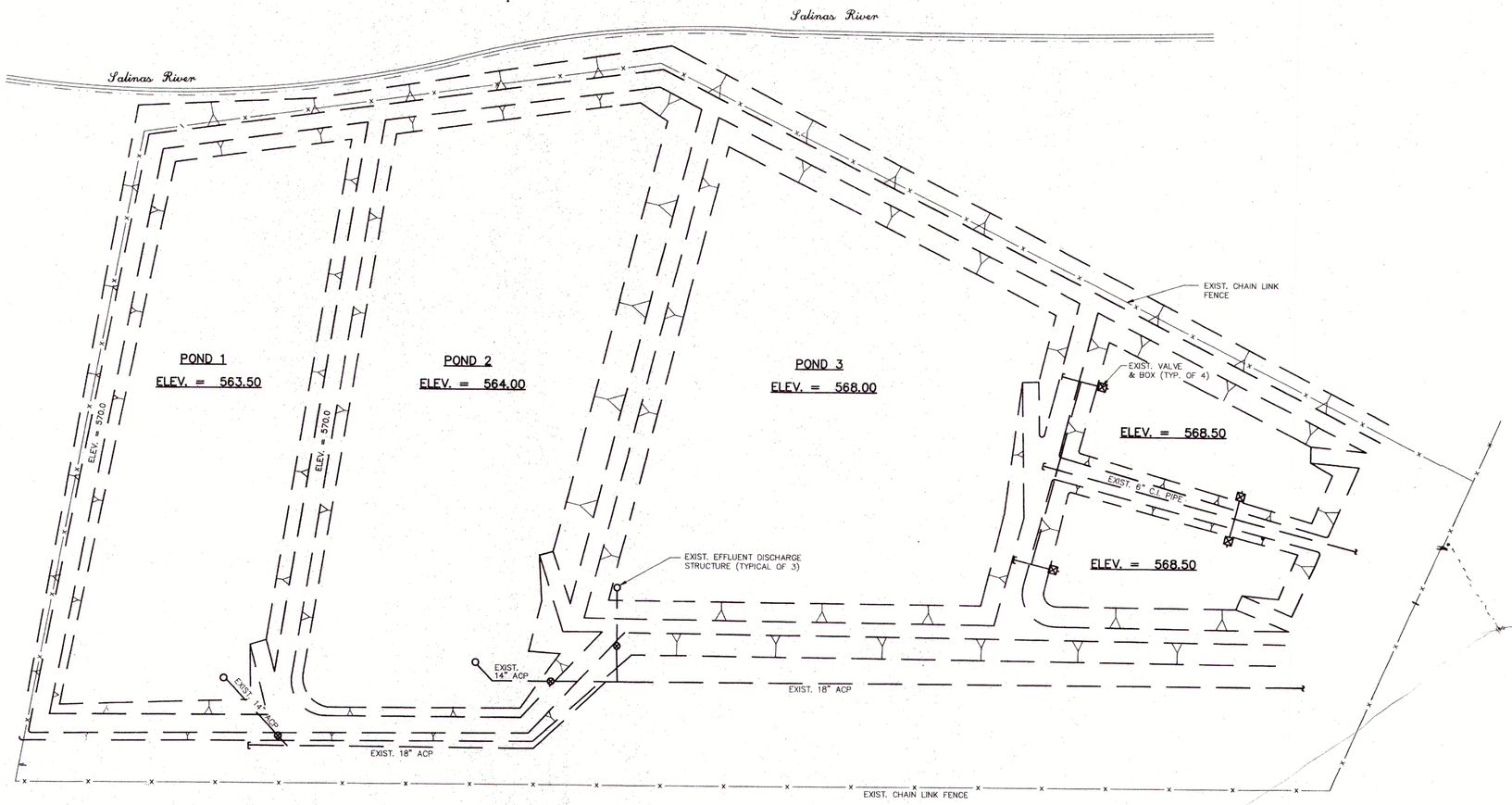
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SEWAGE TREATMENT PLANT REHABILITATION

JOB NO. 9041C
DELIVERY ORDER NO. DAHA 04-92-F-0370
SHEET NO. C-4

CSD 920123



NOTES:

1. CONTRACTOR SHALL REMOVE ALL WEEDS AND DEBRIS FROM EXIST. POND LEVEES AND POND BOTTOMS.
2. FINISH GRADE AND REPAIR LEVEES TO AN AS NEW CONDITION.
3. PERFORM VIDEO INSPECTION OF LINES 4" AND LARGER PER SPECIFICATIONS.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

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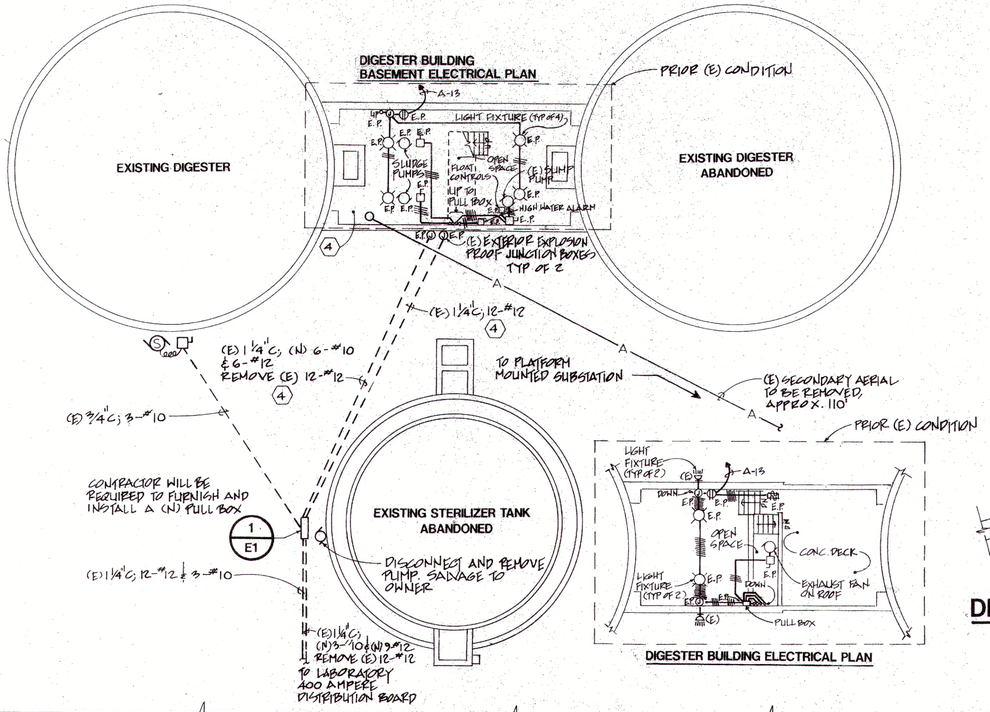
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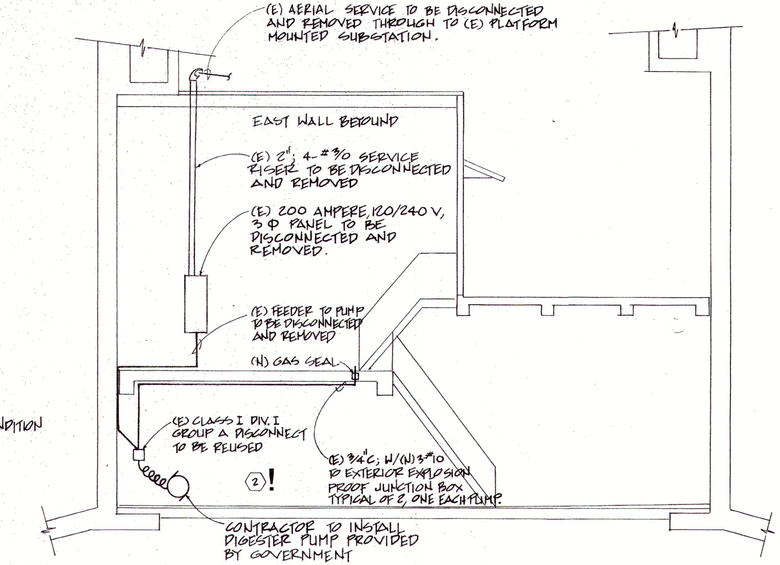
SEWAGE TREATMENT PLANT
POND REHABILITATION

JOB NO. 9041C
DELIVERY ORDER NO. DAHA04-92-F-037
SHEET NO. C-5



DIGESTER BUILDING AREA ELECTRICAL PLAN

SCALE: 1"=10'



DIGESTER BUILDING SECTION

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

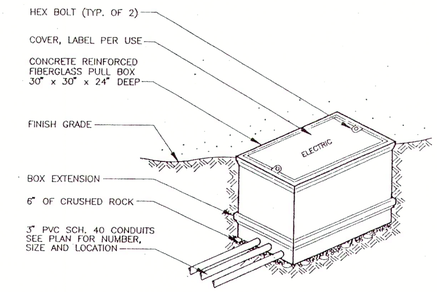
REFERENCE NOTES

1. CONTRACTOR WILL BE REQUIRED TO CHANGE THE TRIP SETTING OF THE CIRCUIT BREAKER FOR THE TWO (2) DIGESTER PUMPS. BREAKERS HAVE ADJUSTABLE TRIPS; SET FOR 40 AMPERES. EXISTING GENERAL ELECTRIC CR120BQ4022 CONTACTOR WITH GE TEC 36007 CIRCUIT BREAKER UNIT # 451X736M01 NEMA 1 FVNR. CONTRACTOR WILL NEED TO CHECK IF THE EXISTING OLA REQUIRES REPLACEMENT. STARTER EQUIPMENT INDICATES SIZE IS ADJUSTABLE THROUGH 7.5 HP.

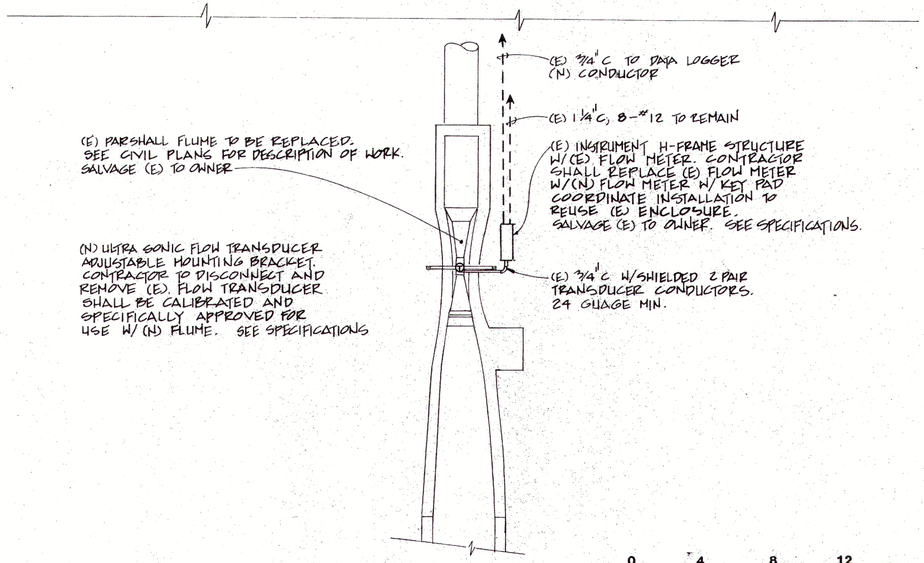
2. CONTRACTOR SHALL INSURE THAT ALL ELECTRICAL WORK, MATERIALS AND LABOR COMPLIES WITH ARTICLE 501 OF THE 1993 NATIONAL ELECTRICAL CODE FOR CLASS 1 Division HAZARDOUS ATMOSPHERES WITH IN THE DIGESTER PUMP PIT.

3. CONTRACTOR WILL BE REQUIRED TO DISCONNECT EXISTING CIRCUITS TO TWO EXISTING CHLORINATORS. REROUTE CONDUIT OVERHEAD CONDUIT TO EAST WALL AND RECONNECT NEW CHLORINATORS. COORDINATE ALL CONNECTIONS AND REQUIREMENTS WITH MECHANICAL CONTRACTOR. EXISTING 3/4"C; 3-#12.

4. CONTRACTOR WILL BE REQUIRED TO INSURE THAT ALL CONTROLS AND MISCELLANEOUS CIRCUITS ARE RETERMINATED AT THE DIGESTER BUILDING. REMOVAL OF THE EXISTING OVERHEAD SERVICE REQUIRES ALL POWER AND CONTROLS TO BE REVERTED TO PRIOR EXISTING CONDITIONS.

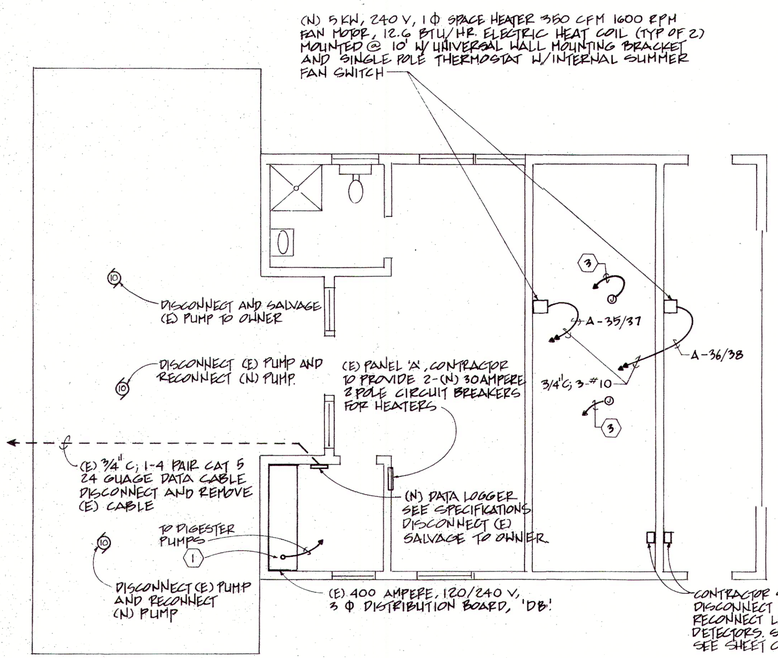


PULL BOX DETAIL 1



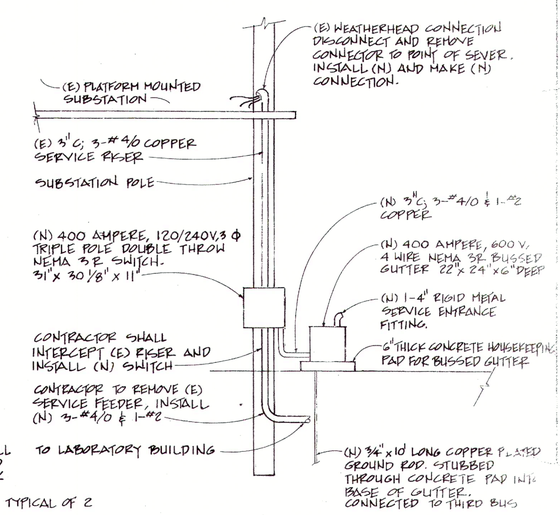
AREA PLAN EXISTING HEAD WORKS

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



LABORATORY BUILDING ELECTRICAL PLAN

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



BACKUP POWER CONNECTION

REGISTERED PROFESSIONAL ENGINEER STEVEN H. DITTMANN No. E10054 ELECTRICAL STATE OF CALIFORNIA

DITTMANN ASSOCIATES
ELECTRICAL ENGINEERS
805/773-3346
2665 Shell Beach Rd., Suite E- Shell Beach, CA 93449

BACKLUND ENGINEERING COMPANY, INC.
318 EAST BRANCH STREET
ARROYO GRANDE, CA 93420
(805) 489-4477

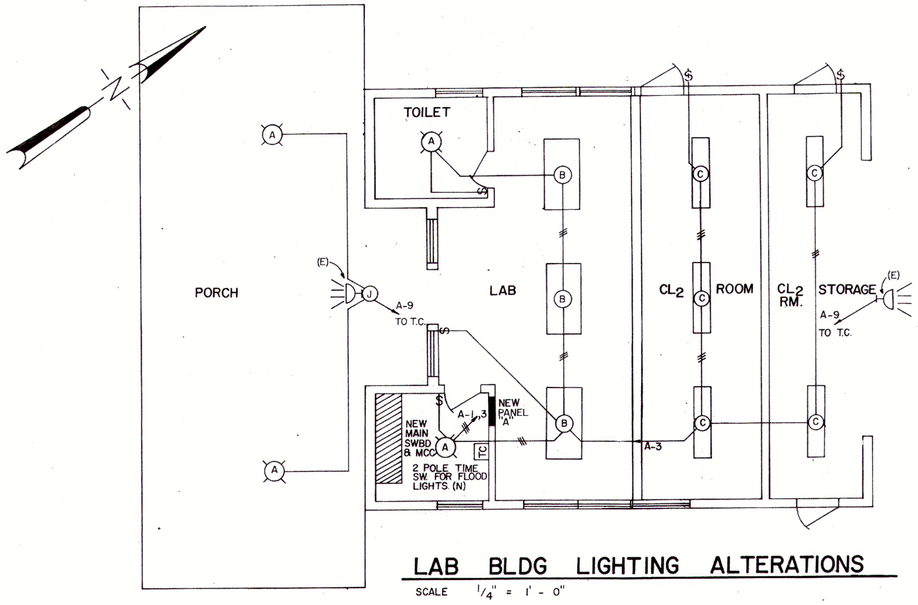
DATE	DESCRIPTION	BY
REVISIONS		
DESIGNED	DRAWN	CHECKED	DATE

CALIFORNIA ARMY NATIONAL GUARD
CAMP ROBLES
PASO ROBLES, CALIFORNIA

SEWAGE TREATMENT PLANT REHABILITATION

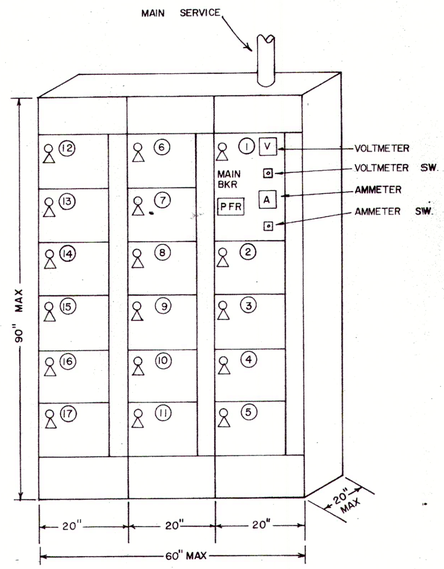
JOB NO. 9041C
DELIVERY ORDER DAHA04-92-F-0

SHEET NO. E1 OF



LAB BLDG LIGHTING ALTERATIONS

SCALE 1/4" = 1' - 0"

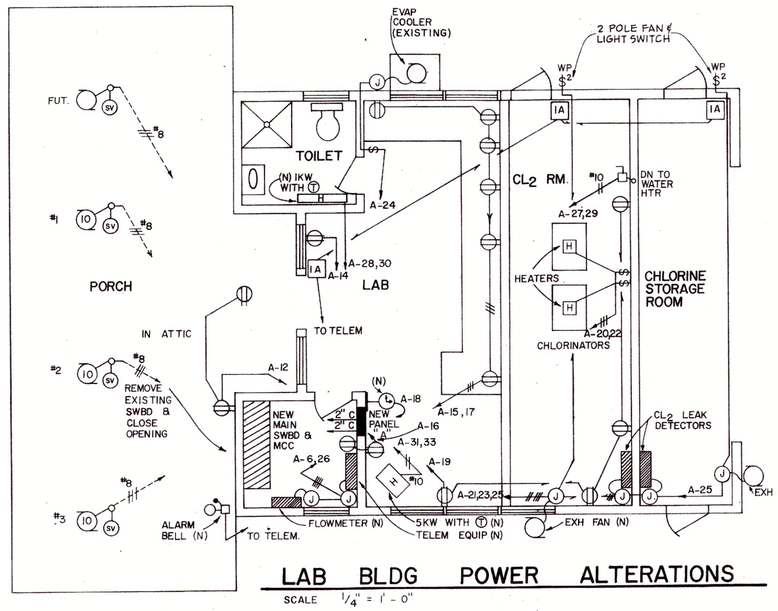


NEW MAIN SWBD

NTS

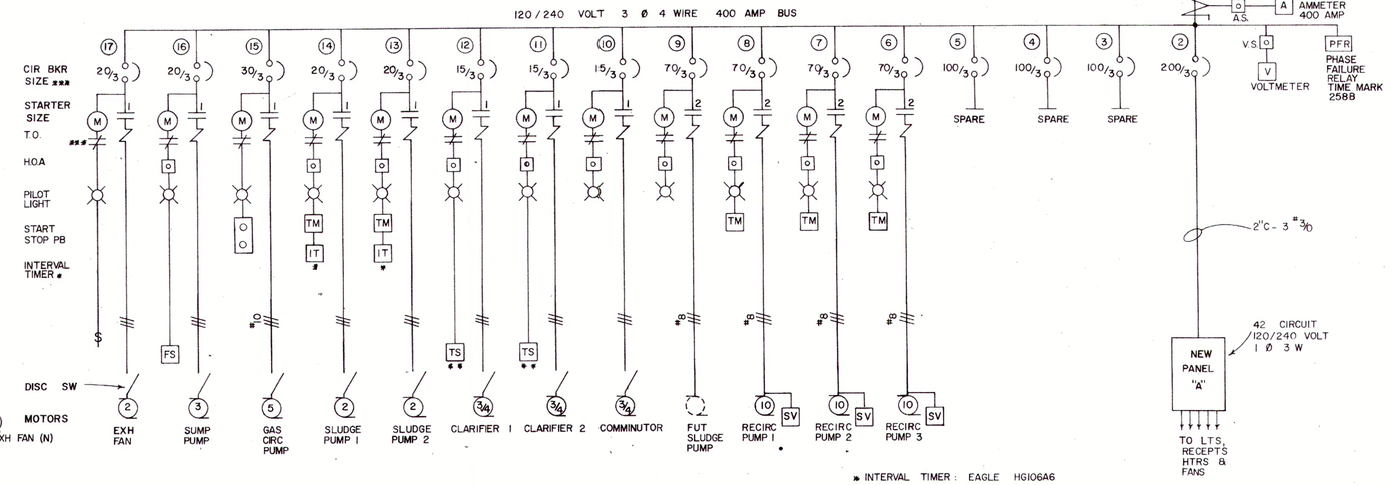
NEW LIGHTING FIXTURE SCHEDULE

SYMBOL	MANUFACTURER	CAT. #	WATTS	MOUNTING	REMARKS
A	ABOLITE MILLER	EDR - 150	150	CEILING	RLM
B	LITHONIA DAYBRITE	2M440MAI2	200	CEILING	2'x4' 4 TUBE FLUO. ACRYLIC
C	LITHONIA DAYBRITE	DVP240A	100	CEILING	1'x4' 2 TUBE VAPOR TIGHT FLUO.
D	CROUSE HINDS APPLETON	EVCX	150	CEILING	EXPLOSION PROOF INC.
E	STERNER HOLOPHANE	JN24EP250-MI20AC	250	POSTTOP	MERC VAPOR FLOOD LIGHT WITH 10' GALV. POLE RT-SOI WITH BALLAST & CONC. BASE



LAB BLDG POWER ALTERATIONS

SCALE 1/4" = 1' - 0"



* INTERVAL TIMER : EAGLE HG106A6

** LOCK OUT ON TORQUE OVERLOAD

*** ALL BREAKERS & STARTERS SHALL HAVE "TRIPALARM" CONTACTS
ALL STATERS SHALL HAVE 1 SPARE AUX CONTACT

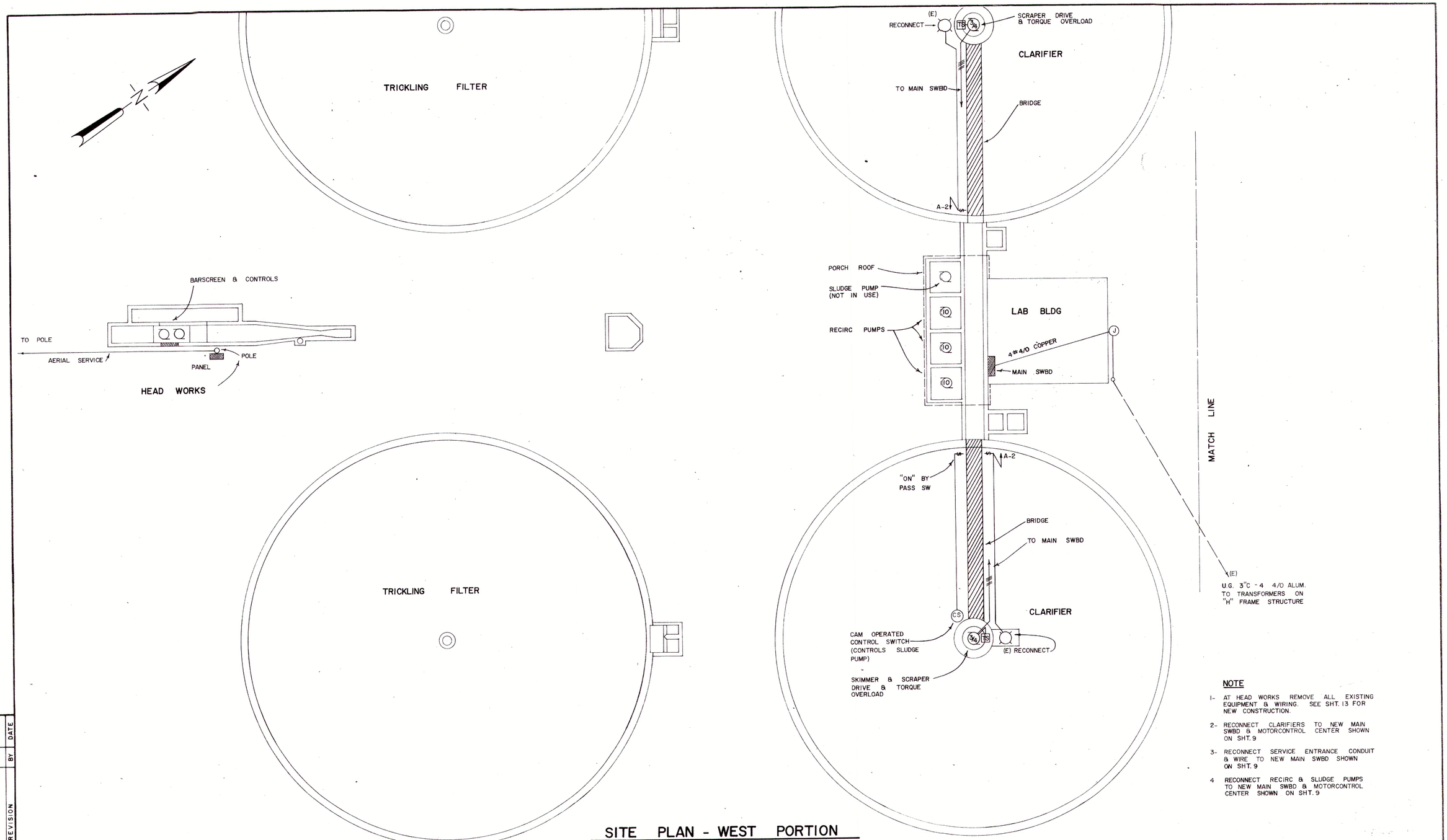
NEW LINE DIAGRAM

NTS

NO.	REVISION	BY	DATE

Black & Veatch Consulting Engineers Lafayette, CA

DESIGN:	DRAWN:	JOB NO	CALIFORNIA ARMY NATIONAL GUARD	ITEM A	CAMP ROBERTS	DRAWING
BY AVN	BY TQN	770232		CHLORINE LEAK REPAIRS	SEWAGE TREATMENT PLANT RENOVATIONS	9 of 14
CKD	CKD. AVN	DATE MAY 1979	APPROVED Harold W. Allen C 20362 P.E.	APPROVED		FILE NO. D—



SITE PLAN - WEST PORTION (EXISTING)

SCALE 1" = 10'

NOTE

1- AT HEAD WORKS REMOVE ALL EXISTING EQUIPMENT & WIRING. SEE SHT. 13 FOR NEW CONSTRUCTION.

2- RECONNECT CLARIFIERS TO NEW MAIN SWBD & MOTORCONTROL CENTER SHOWN ON SHT. 9

3- RECONNECT SERVICE ENTRANCE CONDUIT & WIRE TO NEW MAIN SWBD SHOWN ON SHT. 9

4 RECONNECT RECIRC & SLUDGE PUMPS TO NEW MAIN SWBD & MOTORCONTROL CENTER SHOWN ON SHT. 9

NO.	REVISION	BY	DATE

Black & Veatch Consulting Engineers Lafayette, CA

DESIGN: BY AVN CKD

DRAWN: BY TQN CKD AVN

JOB NO. 770232

DATE MAY 1979

CALIFORNIA ARMY NATIONAL GUARD

APPROVED Harold Wilson C 20362 P.E.

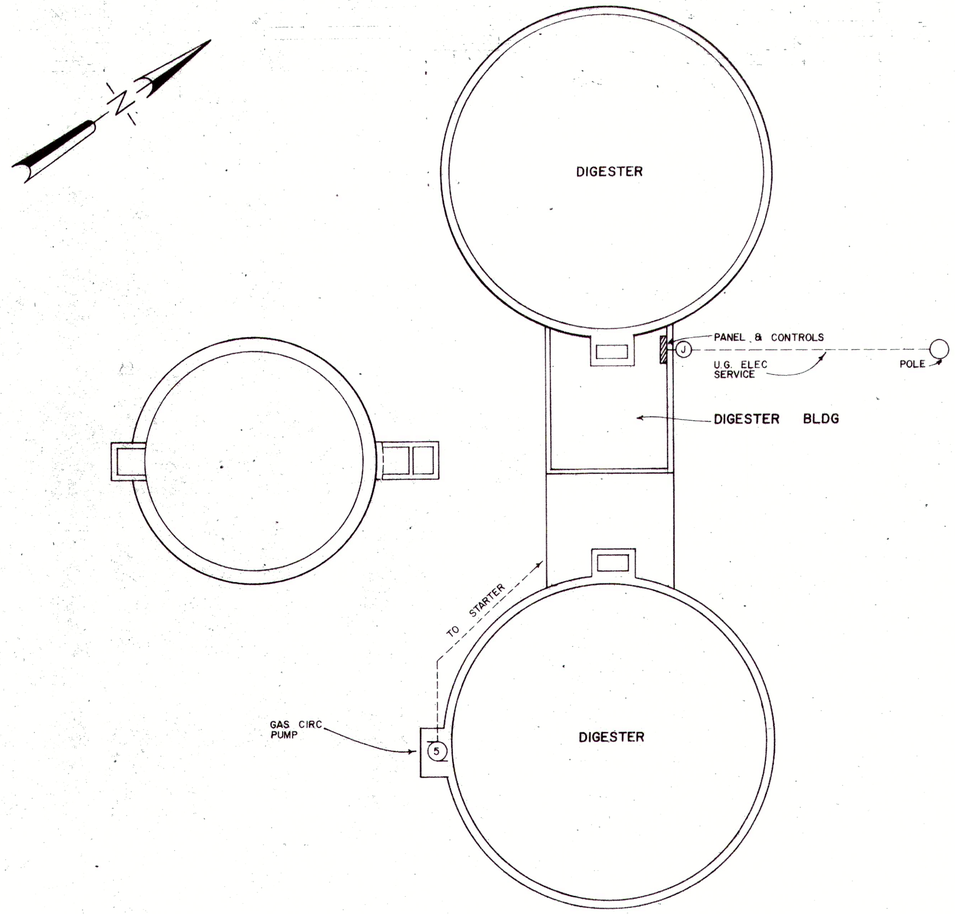
APPROVED

PARTIAL PLAN
EXISTING ELECTRICAL

CAMP ROBERTS
SEWAGE TREATMENT PLANT RENOVATIONS

DRAWING 10 of 14

FILE NO. D—



SITE PLAN - EAST PORTION (EXISTING)

SCALE 1" = 10'

SYMBOLS & ABBREVIATIONS

(E)	EXISTING
(N)	NEW
WP	WEATHER PROOF
EP	EXPLOSION PROOF
A	LIGHT OUTLET WITH FIXTURE TYPE NOTED
$	WALL SWITCH
	DUPLEX RECEPTACLE
	MOTOR OULET
	DISCONNECT SWITCH
J	JUNCTION BOX
———	CONDUIT RUN IN WALL OR CEILING
- - - - -	CONDUIT RUN UNDER FLOOR OR UNDER GROUND
////	DENOTES NR OF #12 WIRES, NO MARKS = 3/4"C-2-#12
	CIRCUIT RUN DIRECTLY TO DESTINATION
SV	SOLENOID VALVE
	CIRCUIT BREAKER
FS	FLOAT SWITCH
	CLOCK
	BELL
H	HEATER
U.G.	UNDERGROUND
CS	CAM SWITCH
TS	TORQUE SWITCH
M	MAGNETIC STARTER COIL
HOA	HAND OFF AUTO SWITCH
T.O.	THERMAL OVERLOAD
IA	INTRUSION ALARM SWITCH
≠	NORMALLY CLOSED CONTACT
	MANUAL START STOP PUSH BUTTON
IT	INTERVAL TIMER
TM	ELAPSED TIME METER
TC	TIME CLOCK

NOTE

1- REMOVE ALL EXISTING EQUIPMENT, CONDUIT & WIRE EXCEPT RELOCATE GAS CIRC PUMP AS SHOWN ON SHT. 13

2- SEE SHT.13 FOR NEW CONSTRUCTION.

NO.	REVISION	BY	DATE

Black & Veatch Consulting Engineers Lafayette, CA

DESIGN: BY AVN CKD ____ | DRAWN: BY TQN CKD AVN | JOB NO 770232 | DATE MAY 1979

CALIFORNIA ARMY NATIONAL GUARD

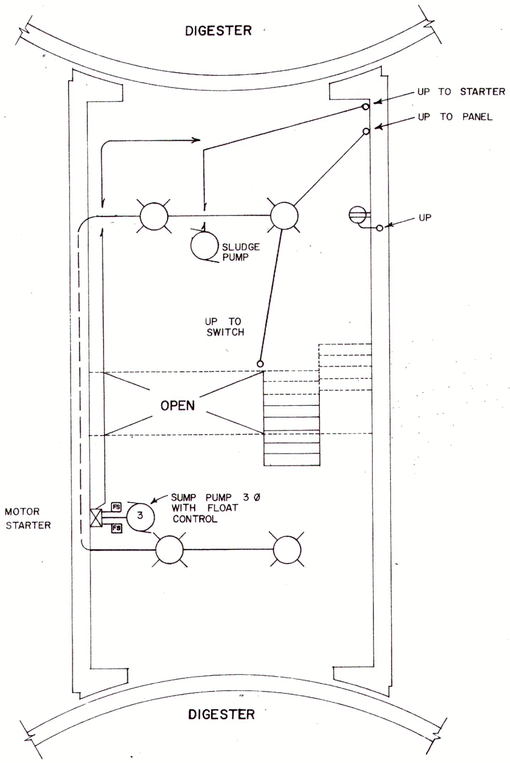
APPROVED Harold Wallace C 20362 PE | APPROVED Ralph Page

PARTIAL PLAN
EXISTING ELECTRICAL

CAMP ROBERTS
SEWAGE TREATMENT PLANT RENOVATIONS

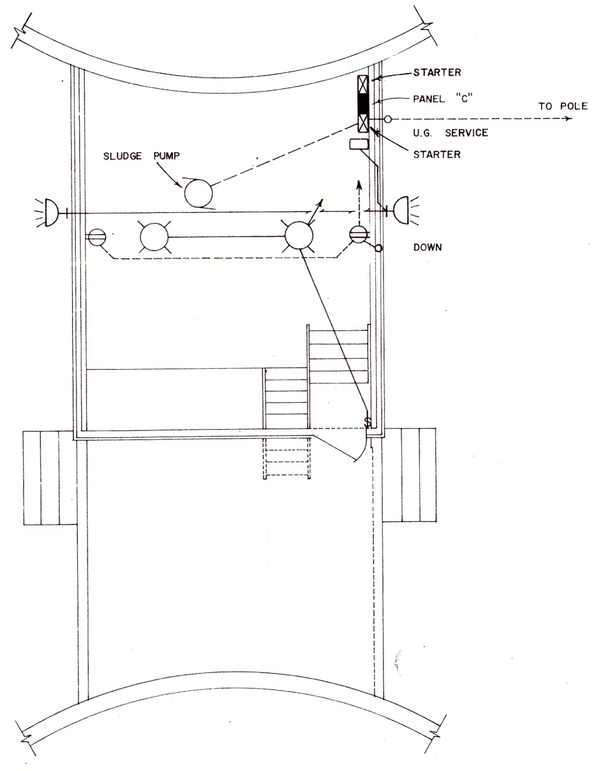
DRAWING 11 of 14

FILE NO D—



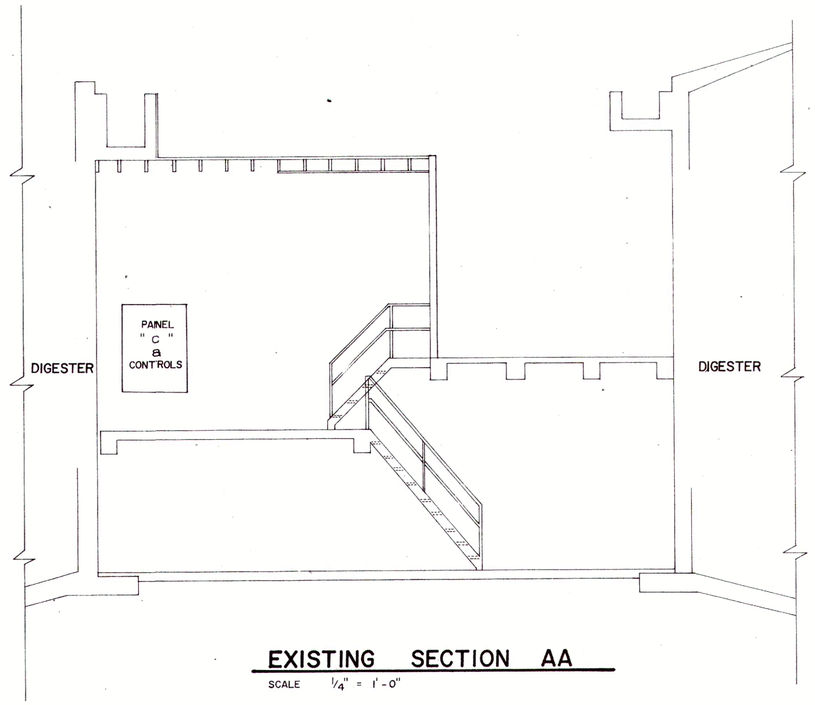
EXISTING BASEMENT PLAN

SCALE 1/4" = 1' - 0"



EXISTING FLOOR PLAN

SCALE 1/4" = 1' - 0"



EXISTING SECTION AA

SCALE 1/4" = 1' - 0"

NOTE

1- REMOVE ALL EXISTING EQUIPMENT, CONDUIT & WIRE, EXCEPT SUMP PUMP

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DATE MAY 1979

CALIFORNIA ARMY NATIONAL GUARD

APPROVED Harold Walton C 20362 P.E.

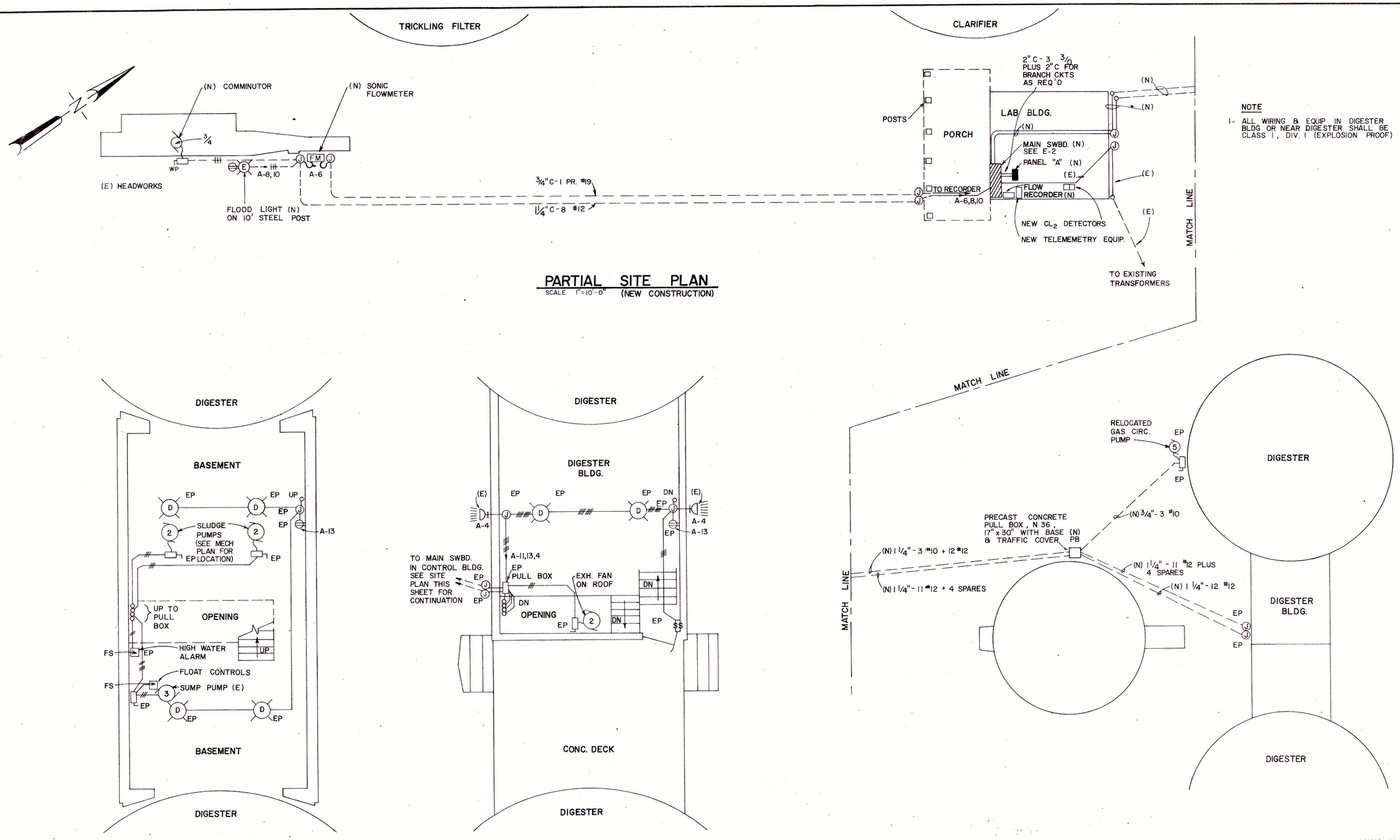
APPROVED

EXISTING DIGESTER BUILDING WIRING

CAMP ROBERTS
SEWAGE TREATMENT PLANT RENOVATIONS

DRAWING 12 of 14

FILE NO. D—



PARTIAL SITE PLAN
SCALE 1"=10'-0" (NEW CONSTRUCTION)

DIGESTER BLDG.
SCALE 1/4"=1'-0" (NEW CONSTRUCTION)

PARTIAL SITE PLAN
SCALE 1"=10'-0" (NEW CONSTRUCTION)

NO.	REVISION	BY	DATE

Black & Veatch Consulting Engineers Lafayette, CA

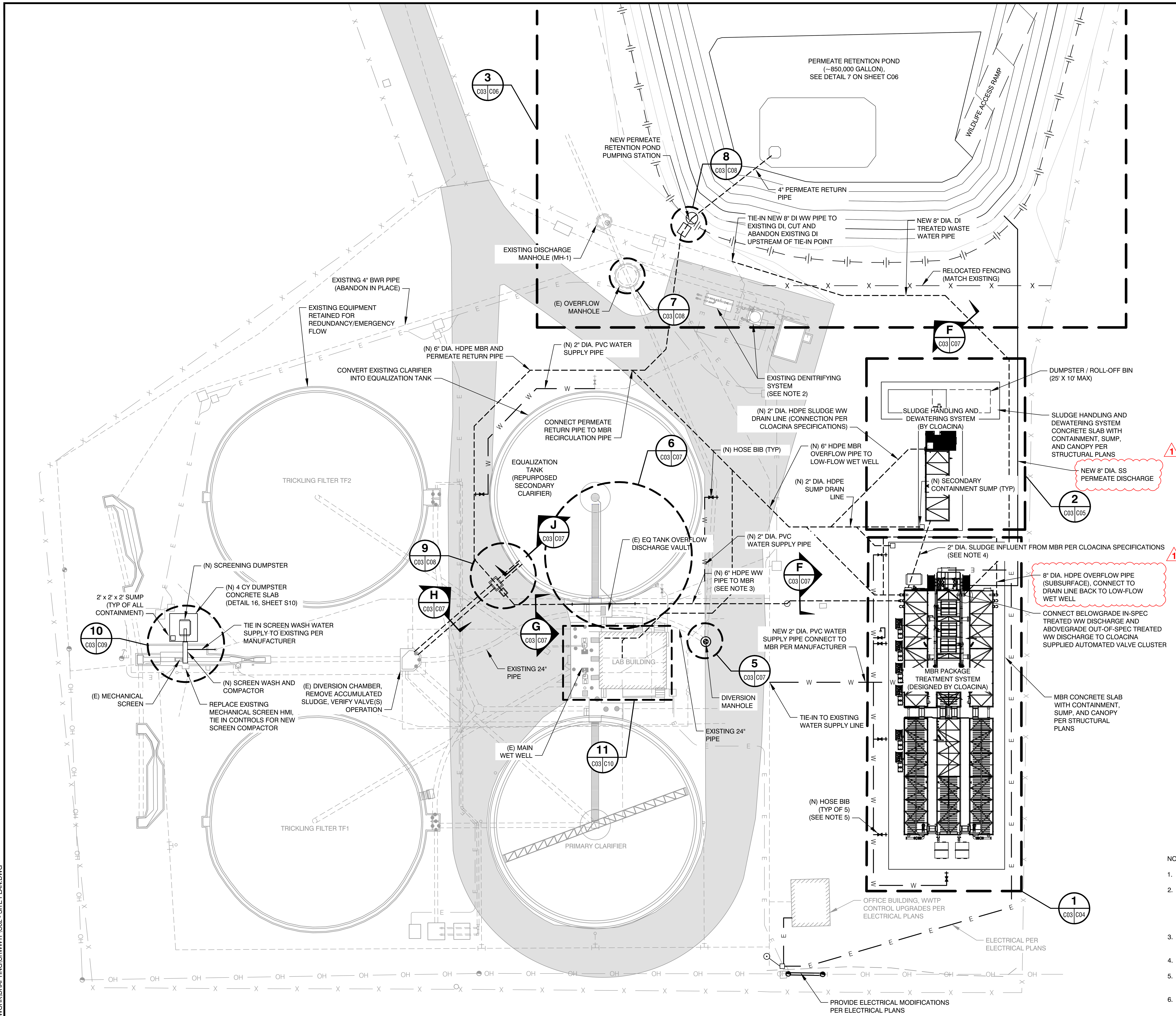
DESIGN: BY AVN CKD	DRAWN: BY TQN CKD AVN	JOB NO. 770232 DATE MAY 1979	CALIFORNIA ARMY NATIONAL GUARD
			APPROVED Harold Wilson C 20362 P.E. APPROVED

HEADWORKS & DIGESTER ALTERATIONS

CAMP ROBERTS
SEWAGE TREATMENT PLANT RENOVATIONS

DRAWING 13 of 14
FILE NO. D—

ATTACHMENT 06
C03_Site_Plan_Rev_01_20260811



LEGEND

———	SUBJECT LINES (PROPOSED CONSTRUCTION)
———	EXISTING CONDITIONS
—— X ——	FENCE LINE
—— E ——	ELECTRICAL (UNDERGROUND)
—— OH ——	ELECTRICAL (OVERHEAD)
—— W ——	WATER
— — — —	SUBSURFACE LINE
———	PROPOSED GRADES (MAJOR - 5 FOOT)
———	PROPOSED GRADES (MINOR - 1 FOOT)
— —‖— —	LIMIT OF GRADING

0 20 40 FEET
SCALE

NOTES:

1. PIPELINES 6-INCH DIA. OR SMALLER ARE DISPLAYED AS SINGLE LINE.
2. EXISTING DENITRIFICATION FILTER SYSTEM SHALL REMAIN OPERATIONAL DURING CONSTRUCTION OF THE MBR AND ASSOCIATED INFRASTRUCTURE. UPON MBR COMMISSIONING, CONTRACTOR SHALL DECOMMISSION, DEMO, AND REMOVE ALL DENITRIFICATION EQUIPMENT, CHEMICAL FEED SYSTEMS, PIPING, AND ASSOCIATED INFRASTRUCTURE.
3. ALL HDPE PIPING DOWNSTREAM OF THE LOW-FLOW PUMP STATION SHALL BE MECHANICALLY RESTRAINED.
4. SLUDGE PIPING SHALL CONSIST OF LONG SWEEPING BENDS AND ELBOWS.
5. LOCATE HOSE BIBS AND EYE WASH STATIONS AT CANOPY VERTICAL SUPPORT BEAMS SO AS TO NOT INTERFERE WITH ACCESS TO MBR COMPONENTS.
6. HARDSCAPE IMPROVEMENTS PER SHEET C11 - HARDSCAPE PLAN.

PREPARED BY
Weaver Consultants Group
1 TECHNOLOGY DRIVE, SUITE C515
IRVINE, CALIFORNIA 92618-5302

PREPARED FOR
CAL GUARD California Military Department EST. 1850
CALIFORNIA MILITARY DEPARTMENT
10601 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REVISION SUMMARY

REV	DATE	DESCRIPTION	BY	APP'D
1	08/11/26	BIDDING RFI REVISIONS	TMH	TMH
0	03/31/26	100% DESIGN SUBMITTAL	TMH	TMH
E	11/07/25	95% DESIGN SUBMITTAL	TMH	TMH
D	08/08/25	REVISED 65% DESIGN SUBMITTAL	TMH	TMH
C	12/16/24	65% DESIGN SUBMITTAL	TMH	TMH
B	04/17/24	REVISIONS TO CIVIL 35% DESIGN	TMH	TMH
A	02/28/18	35% DESIGN	BB	JP

SCALE: AS NOTED
BAR SHOULD BE EXACTLY 1 INCH LONG
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER TIMOTHY M. HUNT C 68637 STATE OF CALIFORNIA

DESIGNER: TMH
DRAWN BY: TMH
CHECKED BY: PM
APPROVED BY: TMH
DATE: 08/11/2026

SITE PLAN

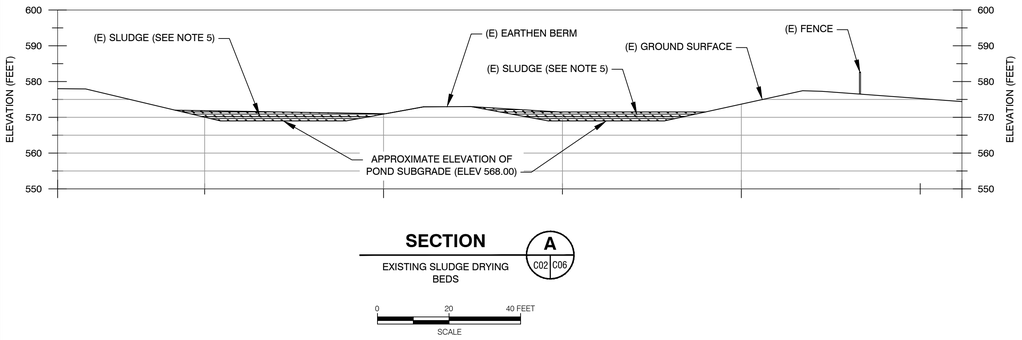
WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 5890-300-01-67
FILE NAME: C02 - SITE PLAN.DWG

SHEET No.
C03

SHEET 10 OF 42
REVISION 1

ATTACHMENT 07
C06_Permeate_Retention_Pond_REV_01_20260811

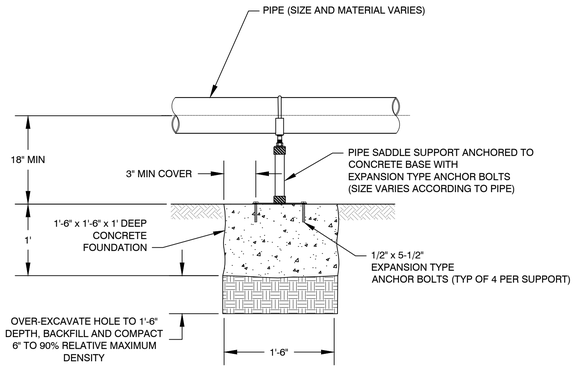


SECTION A (C02 | C06)

EXISTING SLUDGE DRYING BEDS

0 20 40 FEET
SCALE

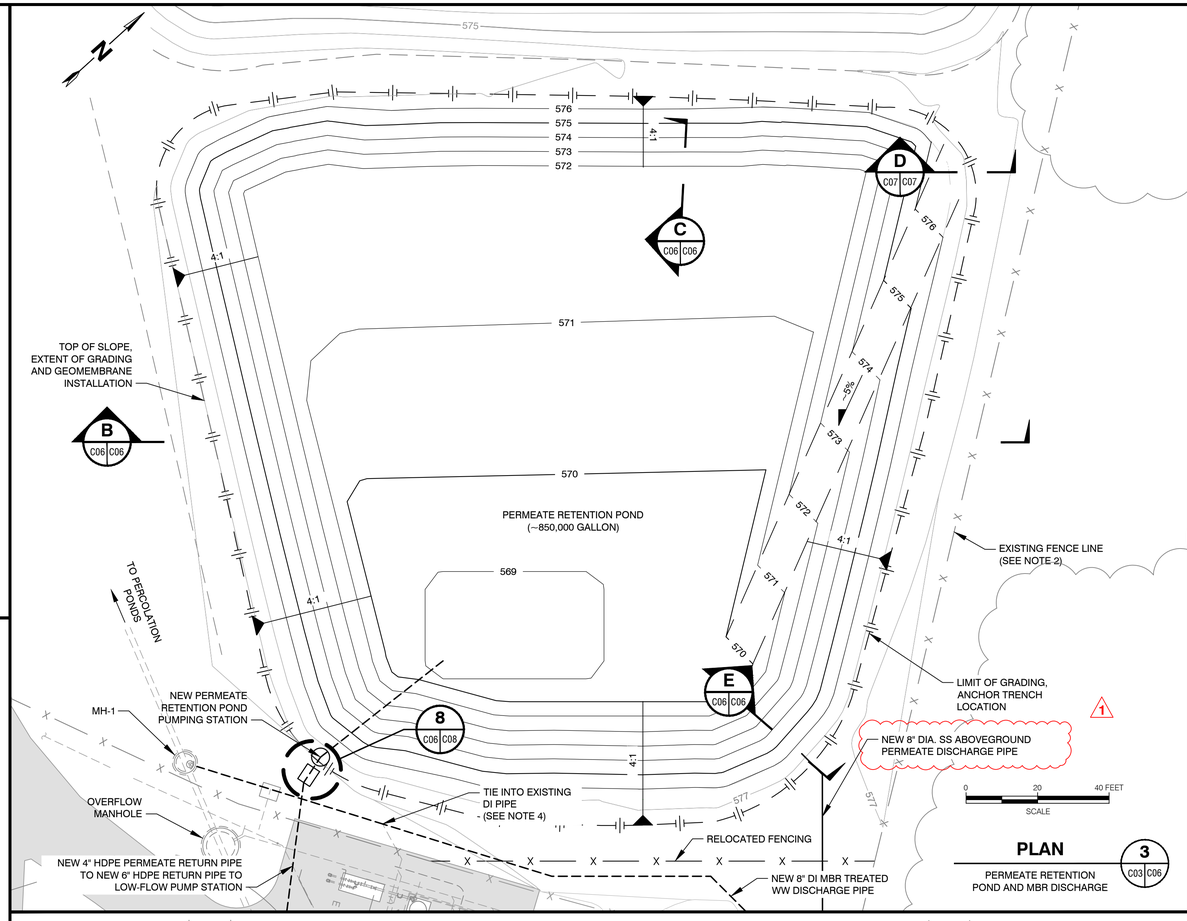
REFERENCE: EXISTING ELEVATIONS AND TOPOGRAPHIC CONTOURS ARE APPROXIMATE AND ARE BASED ON TOPOGRAPHIC INFORMATION PROVIDED BY ANDREGG GEOMATICS, DATED FEBRUARY 13, 2013. CONTRACTOR SHALL FIELD VERIFY ELEVATIONS.



DETAIL 4 (C06 | C06)

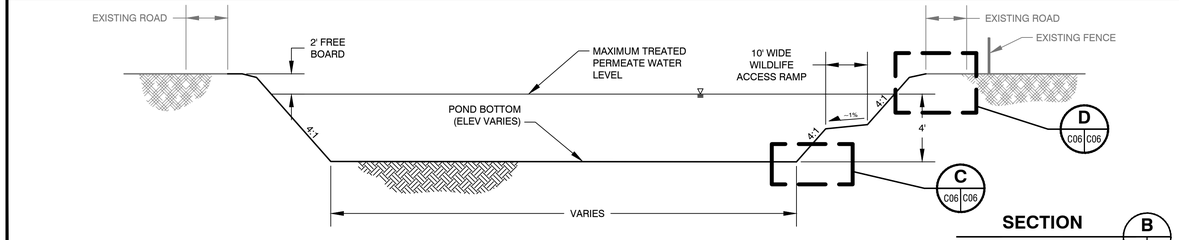
TYPICAL ABOVEGROUND PIPE SUPPORT

0 1 2 FEET
SCALE



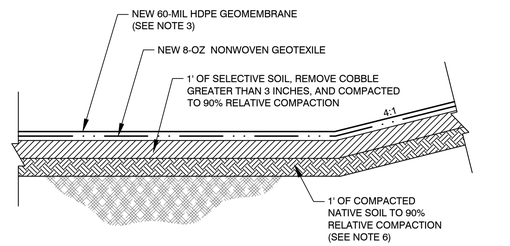
PLAN 3 (C03 | C06)

PERMEATE RETENTION POND AND MBR DISCHARGE



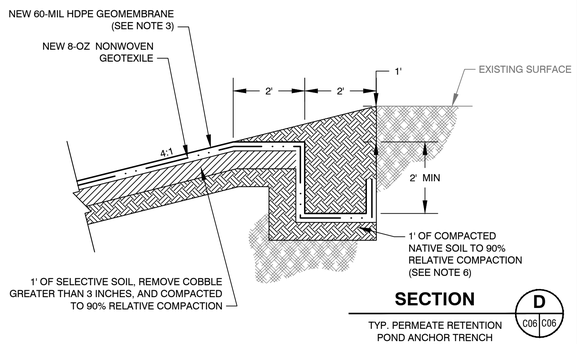
SECTION B (C05 | C05)

TYP. PERMEATE RETENTION POND CROSS SECTION (NTS)



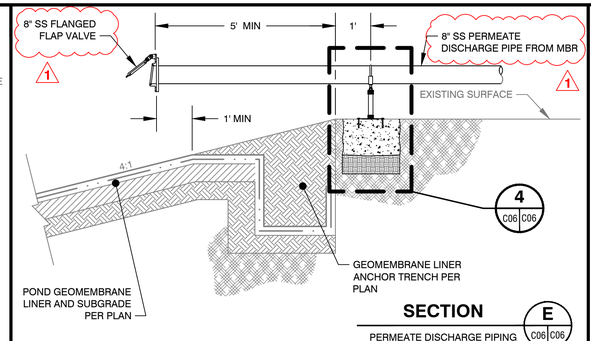
SECTION C (C06 | C06)

TYP. PERMEATE RETETION POND LINER CROSS SECTION (NTS)



SECTION D (C06 | C06)

TYP. PERMEATE RETENTION POND ANCHOR TRENCH (NTS)



SECTION E (C06 | C06)

PERMEATE DISCHARGE PIPING (NTS)

NOTES:

1. PIPE LINES 6 INCH DIA. OR SMALLER ARE DISPLAYED AS SINGLE LINE.
2. CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO WITHIN THE EXISTING FENCE LINE OF THE WASTEWATER TREATMENT PLANT AND ASSOCIATED DRYING BEDS AND PERCOLATION PONDS. ALL VEGETATION AND SITE IMPROVEMENTS OUTSIDE OF THE EXISTING FENCE LINE SHALL BE PROTECTED IN PLACE.
3. HDPE GEOMEMBRANE LINER SHALL BE 60-MIL (1.5 mm) THICKNESS AND SHALL BE TEXTURED (BOTH SIDES) WITH A MINIMUM TEAR RESISTANCE OF 42 LBS AND A PUNCTURE RESISTANCE OF 90 LBS. HDPE GEOMEMBRANE LINER SHALL BE ANCHORED AT THE PERIMETER WITHIN AN ANCHOR TRENCH AS SHOWN OR AS REQUIRED BY THE MANUFACTURER AND SHALL BE ANCHORED USING SANDBAGS OR OTHER APPROVED WEIGHT DEVICES TO PREVENT THE LINER FROM LIFTING FROM THE POND SURFACE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
4. ALL BELOW GROUND DI PIPE SHALL BE POLYETHYLENE ENCASED WITH TAPED ENDS.
5. CONTRACTOR SHALL FIELD VERIFY THICKNESS OF SLUDGE AT TIME AND BIDDING AND CONSTRUCTION. CONTRACTOR SHALL REMOVE ACCUMULATED SLUDGE UNTIL NATIVE SUBGRADE IS ESTABLISHED AND DISPOSE OF AS DIRECTED BY THE COR.
6. UPON COMPLETION OF SLUDGE REMOVAL AND GRADING FOR THE PERMEATE RETENTION POND, CONTRACTOR SHALL SCARIFY SUBGRADE TO A DEPTH OF 1' AND COMPACT TO 90% RELATIVE MAXIMUM DENSITY. COMPACTION INSPECTIONS SHALL BE IN ACCORDANCE WITH GEOTECHNICAL REQUIREMENTS SHOWN ON SHEET S01.

PREPARED BY
Weaver Consultants Group
1 TECHNOLOGY DRIVE, SUITE C515
IRVINE, CALIFORNIA 92618-5302

PREPARED FOR
CAL GUARD
CALIFORNIA MILITARY DEPARTMENT
CALIFORNIA MILITARY DEPARTMENT
10801 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REVISION SUMMARY

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C	10/01/24	60% DESIGN SUBMITTAL	TMH	TMH
B	04/17/24	REVISIONS TO CIVIL 35% DESIGN	TMH	TMH
A	02/28/18	35% DESIGN	BB	JP

SCALE: AS NOTED
BAR SHOULD BE EXACTLY 1 INCH LONG
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER TIMOTHY M. HUNT C 68637 CIVIL STATE OF CALIFORNIA

DESIGNER:	TMH
DRAWN BY:	TMH
CHECKED BY:	PM
APPROVED BY:	TMH
DATE:	08/11/2026

PERMEATE RETENTION POND PLAN

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

FILE NAME: C - HOLDING POND.DWG
PROJECT No. 5890-300-01-67

SHEET No. C06
SHEET 13 OF 42
REVISION 1

C:\WORK\DRAFTING\CRWWTP\C - HOLDING POND.DWG

ATTACHMENT 08
P01_P&ID_Rev_01_20260811

PROCESS ABBREVIATIONS

A	AMPERE
AFD	ADJUSTABLE FREQUENCY DRIVE
AI	ANALOG INPUT
AIC	AMPS INTERRUPTING CAPACITY
ARV	AIR RELIEF VALVE
AO	ANALOG OUTPUT
AS	AIR SUPPLY
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
CB	CIRCUIT BREAKER
CL2	CHLORINE
CON	CONTACTOR
CU	COPPER
CV	CONTROL VALVE
DCS	DISTRIBUTED CONTROL SYSTEM
DI	DISCRETE INPUT
DO	DISSOLVED OXYGEN, DISCRETE OUTPUT
DP	DIFFERENTIAL PRESSURE
DWG	DRAWING
EGO	EMERGENCY GAS OFF
ETM	ELAPSED TIME METER
ETMf	ELAPSED TIME METER (FAST SPEED)
ETMs	ELAPSED TIME METER (SLOW SPEED)
EOL	ELECTRONIC OVERLOAD
ELEV	MEAN SEA LEVEL ELEVATION
EXIST	EXISTING
FA	FOUL AIR
FC	FAIL CLOSED
FE	FINAL EFFLUENT
FIT	FLOW INDICATING TRANSMITTER
FR	FORWARD-REVERSE
FS	FLOAT SWITCH
FVNR	FULL VOLTAGE NON-REVERSING
FW	FINISHED WATER
GND	GROUND
GAL	GALLONS
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GRA	GRAVITY
H, HI	HIGH
H2S	HYDROGEN SULFIDE
HMI	HUMAN MACHINE INTERFACE
HOA	HAND-OFF-AUTO
I	CURRENT
IO	INPUT/OUTPUT
IOE	INTERNAL-OFF-EXTERNAL
JB	JUNCTION BOX
L, LO	LOW
LAN	LOCAL AREA NETWORK
LC	LOOP CONTROLLER
LCP	LOCAL CONTROL PANEL
LIT	LEVEL INDICATING TRANSMITTER
LOS	LOCK-OFF-STOP
LR	LOCAL/REMOTE
LS	LEVEL (i.e.. FLOAT) SWITCH
M	METER
MA	MANUAL/AUTO
mA	MILLIAMP
MC	MANUFACTURE CABLE
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MFR(S)	MANUFACTURER(S)
MGD	MILLION GALLONS PER DAY
MG/L	MILLIGRAMS PER LITER
MH	MANHOLE
MLR	MIXED LIQUOR RETURN
MO	MOISTURE
MOD	MODULATED
MTU	MASTER TELEMETRY UNIT
NPW	NON-POTABLE WATER
NS	NITROGEN SUPPLY
NTU	TURBIDITY
O/C	OPEN / CLOSE
OCA	OPEN-CLOSE-AUTO
OCR	OPEN-CLOSE-REMOTE
OIT	OPERATOR INTERFACE TERMINAL
OL	OVERLOAD
OO	ON/OFF (MAINTAINED)
OOA	ON-OFF-AUTO
OOR	ON-OFF-REMOTE
OSC	OPEN-STOP-CLOSE
PAH	PRESSURE ALARM HIGH
PDT	PRESSURE DIFFERENTIAL INDICATING TRANSMITTER
PDS	PRESSURE DIFFERENTIAL SWITCH
PER	PERMISSIVE
PIT	PRESSURE INDICATING TRANSMITTER
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PO	PULSE OUTPUT
POS	POSITION
POT	POTENTIOMETER
PPG	POUNDS PER GALLON
PPH	POUNDS PER HOUR
PPM	PARTS PER MILLION
PR	PAIR
PRES	PRESSURE
PS	PRESSURE SWITCH
PSI	POUNDS PER SQUARE INCH
PV	PROCESS VARIABLE
RAS	RETURN ACTIVATED SLUDGE
RAW	RAW WATER
REM	REMOTE
RF	RADIO FREQUENCY
RIO	REMOTE INPUT OUTPUT
RS	RAW SEWAGE
RSP	RAW SEWAGE PUMP
RST	RESET
RTD	RESISTANCE TEMPERATURE DETECTOR
RTU	REMOTE TELEMETRY UNIT
RUNf	RUN (FAST SPEED)
RUNs	RUN (SLOW SPEED)
SB	SLUDGE BLANKET
SEQ	SERVICE ENTRANCE EQUIPMENT
SES	SERVICE ENTRANCE SECTION
SLC	SINGLE LOOP CONTROLLER
SLOS	START-LOCK-OFF-STOP
SO2	SULFUR DIOXIDE
SOV	SOLENOID OPERATED VALVE
SP	SET POINT
SPD	SPEED
SPR	SPARE
SS	START/STOP (MAINTAINED)
SSS	SOLID STATE STARTER (SOFT START)
STR	MOTOR STARTER
TAH	TEMPERATURE ALARM HIGH
T/M	TEMPERATURE AND/OR MOISTURE
TEMP	TEMPERATURE
TS	TEMPERATURE SWITCH
TSS	TOTAL SUSPENDED SOLIDS
UG	UNDERGROUND
USD	UP/STOP/DOWN
V	VOLT
VFD	VARIABLE FREQUENCY DRIVE
W	WATER
WAS	WASTE ACTIVATED SLUDGE
WW	WASTEWATER
XMTR	TRANSMITTER
ZS	POSITION (i.e. LIMIT) SWITCH

PROCESS EQUIPMENT AND SYMBOLS

- SOLENOID VALVE 2-WAY
- SOLENOID VALVE 3-WAY
- PUMP CONTROL VALVE
- FLOW CONTROL VALVE
- PRESSURE RELIEF VALVE
- VACUUM RELIEF VALVE
- PRESSURE REGULATOR WITH REMOTE PROCESS CONNECTION
- PRESSURE REGULATOR SELF CONTAINED
- CENTRIFUGAL PUMP
- DRAIN
- AIR RELIEF VALVE
- PIPE REDUCER
- GATE OR GENERIC VALVE
- 3-WAY VALVE
- 4-WAY VALVE
- ANGLE VALVE
- BUTTERFLY VALVE
- PLUG VALVE
- ECCENTRIC PLUG VALVE
- BALL VALVE
- CHECK VALVE
- SWING CHECK VALVE
- STOP CHECK VALVE
- BALL CHECK VALVE
- PINCH VALVE
- DIAPHRAGM VALVE
- DIAPHRAGM VALVE (ALTERNATE)
- GLOBE VALVE
- HAND VALVE
- KNIFE VALVE
- AIR RELEASE VALVE
- SP-1 SUBMERSIBLE PUMP

PROCESS LINE SYMBOLS

- PROCESS PIPING
- EXISTING PROCESS PIPING AND EQUIPMENT
- FUTURE PIPING AND EQUIPMENT
- ELECTRICAL SIGNAL
- ELECTRICAL DIRECTION ARROW
- FLOW ARROW FOR PROCESS PIPING
- P03 /A — PROCESS LINE GOING TO ANOTHER SHEET (MATCH LETTERS)
- P03 /A — PROCESS LINE FROM ANOTHER SHEET (MATCH LETTERS)
- PROCESS LINES CROSSING (NOT CONNECTED)

SCHEDULE OF VALVES

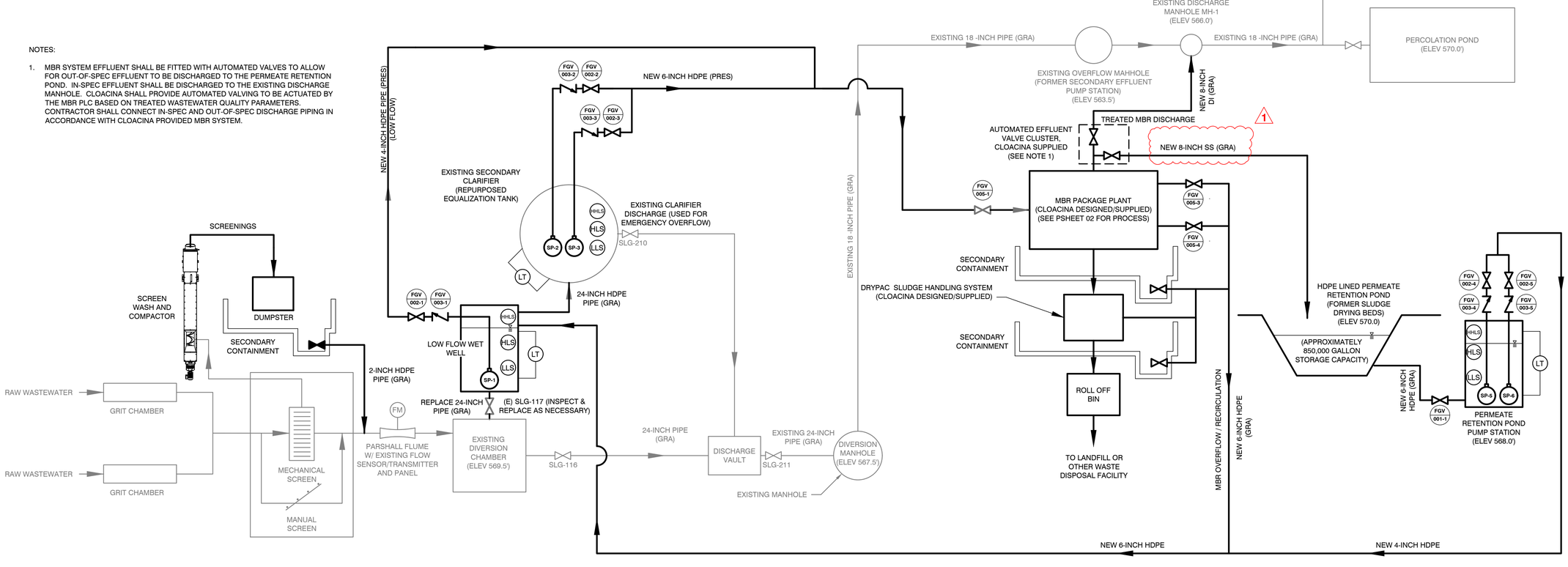
VALVE DESIGNATION	SIZE	TYPE	MATERIAL OF CONSTRUCTION	SERVICE
FGV 001	6-INCH	GATE	DI	BURIED/EXPOSED
FGV 002	4-INCH	GATE	DI	BURIED/EXPOSED
FGV 003	4-INCH	CHECK	DI	BURIED/EXPOSED
FGV 004	8-INCH	GATE	DI	BURIED/EXPOSED
FGV 005	6-INCH	BUTTERFLY	SS	EXPOSED

SCHEDULE OF PUMPS

PUMP DESIGNATION	FLOWRATE	POWER	DESCRIPTION	TYPE	MANUFACTURER / MODEL OR EQUAL
SP-1	75 GPM	1 HP	LOW-FLOW LIFT STATION	SUBMERSIBLE	GOULDS WS10BF
SP-2	250 GPM	3 HP	EQ LIFT STATION	SUBMERSIBLE	EBARA 100DLMFU63.7
SP-3	250 GPM	3 HP	EQ LIFT STATION	SUBMERSIBLE	EBARA 100DLMFU63.7
SP-5	75 GPM	0.5 HP	PERMEATE RECIRCULATION	SUBMERSIBLE	GOULDS WS05BF
SP-6	75 GPM	0.5 HP	PERMEATE RECIRCULATION	SUBMERSIBLE	GOULDS WS05BF

NOTES:

1. MBR SYSTEM EFFLUENT SHALL BE FITTED WITH AUTOMATED VALVES TO ALLOW FOR OUT-OF-SPEC EFFLUENT TO BE DISCHARGED TO THE PERMEATE RETENTION POND. IN-SPEC EFFLUENT SHALL BE DISCHARGED TO THE EXISTING DISCHARGE MANHOLE. CLOACINA SHALL PROVIDE AUTOMATED VALVING TO BE ACTUATED BY THE MBR PLC BASED ON TREATED WASTEWATER QUALITY PARAMETERS. CONTRACTOR SHALL CONNECT IN-SPEC AND OUT-OF-SPEC DISCHARGE PIPING IN ACCORDANCE WITH CLOACINA PROVIDED MBR SYSTEM.



C:\WORK\DRAFTING\CRW\WTP\P01 - P&ID.DWG

PREPARED BY
Weaver Consultants Group
1 TECHNOLOGY DRIVE, SUITE C515
IRVINE, CALIFORNIA 92618-5302

PREPARED FOR
CAL GUARD
CALIFORNIA MILITARY DEPARTMENT
CALIFORNIA MILITARY DEPARTMENT
CALIFORNIA MILITARY DEPARTMENT
10801 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REV	DATE	DESCRIPTION	BY	APPD
1	08/11/26	BIDDING RFI REVISIONS	TMH	TMH
0	03/31/26	100% DESIGN SUBMITTAL	TMH	TMH
E	11/07/25	90% DESIGN SUBMITTAL	TMH	TMH
D	06/06/25	REVISED 90% DESIGN SUBMITTAL	TMH	TMH
C	12/04/24	60% DESIGN SUBMITTAL	TMH	TMH
B	04/17/24	REVISIONS TO CIVIL 30% DESIGN	TMH	TMH
A	02/28/18	30% DESIGN	BB	JP

REVISION SUMMARY

SCALE: AS NOTED
BAR SHOULD BE EXACTLY 1 INCH LONG
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER TIMOTHY M. HUNT C 68637 CIVIL STATE OF CALIFORNIA

DESIGNED:	TMH
DRAWN BY:	TMH
CHECKED BY:	PM
APPROVED BY:	TMH
DATE:	08/11/2026

WWTP SITE PROCESS FLOW DIAGRAM

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

FILE NAME: P01 P&ID.DWG
PROJECT No. 5890-300-01-67

SHEET No. P01
SHEET 6 OF 42
REVISION 1

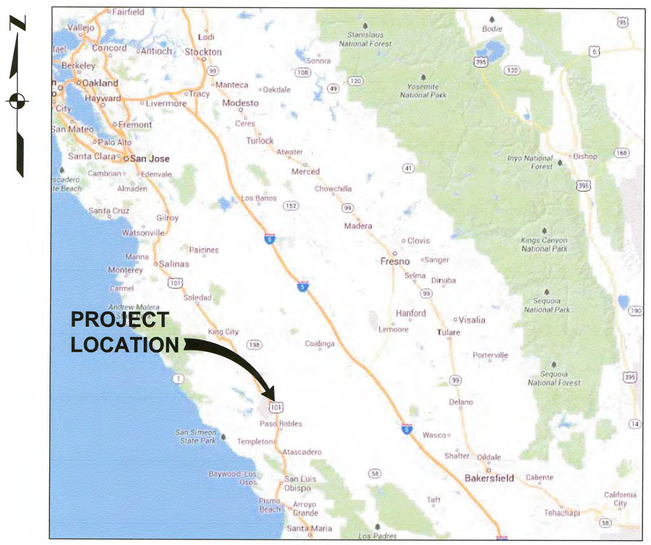
ATTACHMENT 09
Drawings_20130814

CALIFORNIA ARMY NATIONAL GUARD

CAMP ROBERTS, CALIFORNIA

SUSTAINMENT AND COMPLIANCE PROJECT
MAIN GARRISON WASTEWATER TREATMENT PLANT IMPROVEMENTS

AUGUST, 2013



VICINITY MAP
SCALE: NTS

DRAWING INDEX

DRAWING NO.	SHEET NO.	DRAWING TITLE
GENERAL		
1	G1	TITLE SHEET, VICINITY MAP, LOCATION MAP AND LIST OF DRAWINGS
2	G2	SYMBOLS, ABBREVIATIONS AND PIPING SCHEDULE
3	G3	DESIGN CRITERIA AND PROCESS FLOW SCHEMATIC
4	G4	HYDRAULIC PROFILE
CIVIL		
5	C1	EXISTING SITE AND DEMOLITION PLAN
6	C2	SITE PLAN
7	C3	BWR PIPE PLAN, PROFILE AND DETAILS
8	C4	CIVIL DETAILS
STRUCTURAL		
9	S1	GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS
10	S2	SECONDARY CLARIFIER CONCRETE REHABILITATION PLAN AND NOTES
11	S3	TRICKLING FILTER CONCRETE REHABILITATION PLAN AND NOTES
12	S4	SECONDARY EFFLUENT PUMP STATION PLAN AND SECTIONS
13	S5	DENITRIFYING FILTER PLAN AND SECTIONS
MECHANICAL		
14	M1	HEADWORKS PLAN AND SECTIONS
15	M2	SECONDARY CLARIFIER AND EXISTING PUMP STATION PLAN
16	M3	SECONDARY CLARIFIER SECTIONS
17	M4	TRICKLING FILTER MODIFICATION PLAN
18	M5	TRICKLING FILTER MODIFICATION SECTIONS AND DETAILS
19	M6	SECONDARY EFFLUENT PUMP STATION, DENITRIFYING FILTER PLAN AND SECTIONS
20	M7	DENITRIFYING FILTER DETAILS AND TF1 PUMP STATION PLAN AND SECTIONS
21	M8	MECHANICAL DETAILS 1
22	M9	MECHANICAL DETAILS 2
23	M10	MECHANICAL DETAILS 3
ELECTRICAL		
24	E1	ELECTRICAL SYMBOLS AND ABBREVIATIONS
25	E2	ELECTRICAL SITE PLAN
26	E3	EXISTING SINGLE LINE DIAGRAM AND MODIFICATIONS
27	E4	CONDUIT SCHEDULE AND ELEVATIONS
28	E5	EXISTING BUILDING ELECTRICAL PLAN
29	E6	HEADWORKS POWER PLAN
30	E7	SECONDARY CLARIFIER POWER PLAN
31	E8	DENITRIFYING FILTER POWER PLAN
32	E9	TF1 EFFLUENT PUMP STATION POWER PLAN
33	E10	CONTROL WIRING DIAGRAMS
34	E11	ELECTRICAL DETAILS 1
35	E12	ELECTRICAL DETAILS 2
36	E13	ELECTRICAL DETAILS 3
INSTRUMENTATION		
37	I1	INSTRUMENTATION AND CONTROLS SYMBOLS AND ABBREVIATIONS
38	I2	RTU-PLC DIAGRAMS
39	I3	PROCESS AND INSTRUMENTATION DIAGRAM HEADWORKS SCREENING AND PRIMARY CLARIFIER
40	I4	PROCESS AND INSTRUMENTATION DIAGRAM TRICKLING FILTERS AND SECONDARY CLARIFIER
41	I5	PROCESS AND INSTRUMENTATION DIAGRAM PUMP STATION AND DENITRIFYING FILTER



LOCATION MAP
SCALE: NTS

USE OF DOCUMENTS	NO.	REVISION	DATE	BY
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SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER KENNETH M. WONG No.41255 Exp.03/31/15 CIVIL STATE OF CALIFORNIA
8-14-13

DESIGNED	RLO
DRAWN	CCE
CHECKED	KMW

CALIFORNIA ARMY NATIONAL GUARD
CAMP ROBERTS, CALIFORNIA
SUSTAINMENT AND COMPLIANCE PROJECT
MAIN GARRISON WASTEWATER TREATMENT PLANT IMPROVEMENTS
Kennedy/Jenks Consultants©
10850 Gold Center Drive, Ste 350, Rancho Cordova, California 95670

TITLE SHEET, VICINITY MAP, LOCATION MAP AND LIST OF DRAWINGS

FILE NAME	127001201g01.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	G1
OF	

N:\2012\12700012.01_Camp_Roberts\127001201g01.dwg
CALVIN SUGG 8/14/2013 3:36 PM

CIVIL / GENERAL SYMBOLS

GENERAL CIVIL	NEW	EXISTING
GUY WIRE		
SPOT ELEVATION	18.00	x 35.5
INTERMEDIATE CONTOUR		
INDEX CONTOUR	120	120
SLOPE - TOP / TOE		
BURIED CABLE MARKER		
TRAFFIC BOLLARD		
SIGN		
TREE		
BUILDING		
BOULDER		
PAVED ROAD		EP
GUARD RAIL		
PIPELINE		
CHAINLINK FENCE	X X	
BURIED ELECTRICAL	E	E
OVERHEAD POWER LINE	OHE	OHE
UG ELECTRICAL DUCT BANK		UGE
RIGHT-OF-WAY	R/W	R/W
PROPERTY LINE		
EASEMENT		
FIBER OPTICS	FO	FO
STORM DRAIN	SD	SD
CULVERT		
POWER POLE		
LIGHT		(E)
FLOW LINE DIRECTION		
CENTERLINE		
PROJECT BENCHMARK		TBM
UNDISTURBED EARTH (IN SECTION)		
SLOPING GRADE (IN PLAN)	HIGH LOW	HIGH LOW
TO BE DEMOLISHED		
HOSE BIBB		
FIRE HYDRANT		
CATCH BASIN		
MANHOLE		
CONCRETE (IN SECTION)		(E) CONC
ASPHALTIC CONCRETE PAVEMENT (IN PLAN)		(E) AC
ASPHALTIC CONCRETE PAVEMENT (IN SECTION)		(E) AC
AGGREGATE BASE (IN SECTION)		(E) AB
LIMIT OF PAVEMENT SLURRY SEAL		
BORE AND JACK PIT (IN PLAN)		
STRUCTURAL FILL		

SURVEY CONTROL NOTES

HORIZONTAL DATUM:
CALIFORNIA STATE PLANE COORDINATE SYSTEM ZONE IV
NAD83(2010.0) CA HPGN

MEAN COMBINATION FACTOR (CF):
1.0000218950633270
DISTANCES SHOWN HEREON ARE GRID DISTANCES
TO CONVERT GRID DISTANCE TO GROUND DISTANCE ... DIVIDE BY THE CF
TO CONVERT GROUND DISTANCE TO GRID DISTANCE ... MULTIPLY BY THE CF

VERTICAL DATUM:
NAVD88 BASED ON BENCH MARK

PIPING SYMBOLS

JOINTS	SINGLE LINE	DOUBLE LINE
FLANGED OR GROOVED PIPE COUPLING		
BELL AND SPIGOT OR MECHANICAL		
SCREWED OR SOCKETWELD		

FITTINGS	SINGLE LINE	DOUBLE LINE
BLIND FLANGE		
REDUCER		
UNION		
FLEXIBLE COUPLING		
FLANGED COUPLING ADAPTER		
MALE CAM COUPLER		
PIPE CLEANOUT		

VALVE SYMBOLS

DESCRIPTION	SINGLE LINE	DOUBLE LINE
GATE		
BUTTERFLY		
BALL		
CHECK		
BALL CHECK		
DIAPHRAGM		
BACKFLOW PREVENTER	BFP	
STRAINER		
PRESSURE GAUGE W/GAUGE COCK & PROTECTOR		
COMBINATION AIR RELEASE/ VACUUM VALVE		
ANODE TEST STATION		
DRAIN		

REFERENCE SYMBOLS



DETAIL **SECTION**

ABBREVIATIONS

℄	PLATE	GA	GAUGE OR GUY ANCHOR	t	THICKNESS
&	AND	GALV	GALVANIZED	T	TRANSFORMER, WELD THICKNESS
L	ANGLE	GAL	GALLON	T & B	TOP & BOTTOM
±	APPROXIMATELY	GFI	GROUND FAULT INTERRUPTER	T & G	TONGUE & GROOVE
>	GREATER THAN	GND	GROUND	TB	THRUST BLOCK
<	LESS THAN	GP	GUARD POST	TBC	TOP BACK OF CURB
Ø	DIAMETER	GPM	GALLON PER MINUTE	TBM	TEMPORARY BENCH MARK
%	PERCENT	GS	GALVANIZED STEEL	TCE	TEMPORARY CONSTRUCTION EASEMENT
@	AT	GSP	GALVANIZED STEEL PIPE	TFE	TRICKLING FILTER EFFLUENT
		GV	GATE VALVE	TFR	TRICKLING FILTER RECYCLE
AB	AGGREGATE BASE, ANCHOR BOLT			TDH	TOTAL DISCHARGE HEAD
AC	ASPHALT CONCRETE	H	HEIGHT	TEL	TELEPHONE
A.C.	ALTERNATING CURRENT	HB	HOSE BIBB	TEMP	TEMPORARY
ACP	ASBESTOS CEMENT PIPE	HDPE	HIGH DENSITY POLYETHYLENE	THK	THICK
ALUM	ALUMINUM	HGL	HYDRAULIC GRADE LINE	TOC	TOP OF CONCRETE
APPROX	APPROXIMATE	HORIZ	HORIZONTAL	TOS	TOP OF SLAB
ARV	AIR RELEASE VALVE	HP	HORSEPOWER	TV	TOP OF VAULT
AVE	AVENUE			TYP	TYPE or TYPICAL
AVG	AVERAGE	ID	INSIDE DIAMETER OR IDENTIFICATION		
ADD	ADDITIONAL	IE	INVERT ELEVATION	UG	UNDERGROUND
AWG	AMERICAN WIRE GAUGE	IN	INCH		
AWWA	AMERICAN WATER WORKS ASSOCIATION	INT	INTERIOR	V	VENT
		INV	INVERT	VARS	VARIES
B	BURIED			VCP	VITRIFIED CLAY PIPE
BF	BLIND FLANGE	JT	JOINT	VERT	VERTICAL
BFP	BACKFLOW PREVENTER	JB, J-BOX	JUNCTION BOX	VIF	VERIFY IN FIELD
BFV	BUTTERFLY VALVE			VTR	VENT TO ROOF
BLDG	BUILDING	KW	KILOWATT		
BLKG	BLOCKING			W	WEST, WATER, WIDE
BOTT	BOTTOM	LB	POUND	W/	WITH
BM	BENCH MARK	LONGIT	LONGITUDINAL	W/O	WITHOUT
BP	BEGINNING POINT	LP	LOW POINT	WAB	WORK AREA BOUNDARY
BS	BLACK STEEL	LTG	LIGHTING	WP	WATERPROOF
B&S	BELL & SPIGOT	(M)	MODIFIED	WS	WELDED STEEL, WATER SURFACE
BV	BALL VALVE	MAX	MAXIMUM	WSEL	WATER SURFACE ELEVATION
BWR	BACKWASH RETURN WATER	MC	MICRO C	WSP	WELDED STEEL PIPE
		MCC	MOTOR CONTROL CENTER	WWTP	WASTER WATER TREATMENT PLANT
C	CONCRETE ENCASED	MB	MACHINE BOLT	WV	WATER VALVE
℄, C/L	CENTERLINE	MECH	MECHANICAL	WW	WASTE WATER
CA	COMPRESSED AIR	MFR	MANUFACTURER	WWF	WELDED WIRE FABRIC
CAV	COMBINATION AIR-VACUUM RELEASE VALVE	MGD	MILLION GALLONS PER DAY		
CB	CATCH BASIN	MH	MANHOLE		
CC	CENTER TO CENTER	MIN	MINIMUM		
CDF	CONTROLLED DENSITY FILL	MISC	MISCELLANEOUS		
CF	CUBIC FEET	MJ	MECHANICAL JOINT		
CFS	CUBIC FEET PER SECOND	MTR	MOTOR		
CI	CAST IRON				
CIP	CAST IRON PIPE	(N)	NEW		
CIPP	CURED-IN-PLACE PIPE LINING	N	NORTH		
CL2	CHLORINE	NC	NORMALLY CLOSED		
CLG	CHLORINE GAS	NG	NATURAL GAS		
CLR	CLEAR, CLEARANCE	NIC	NOT IN CONTRACT		
CLS	CHLORINE SOLUTION	NO	NORMALLY OPEN		
CLSM	CONTROLLED LOW STRENGTH MATERIAL	NO.	NUMBER		
CML&C	CEMENT LINED & COATED	NPT	NATIONAL PIPE THREAD		
CML	CEMENT MORTAR LINING	NTS	NOT TO SCALE		
CO	CLEANOUT	N/A	NOT APPLICABLE		
COMB	COMBINED				
COMM	COMMUNICATIONS	OC	ON CENTER		
COMP	COMPACTION	OD	OUTSIDE DIAMETER		
CONC	CONCRETE	OFCI	OWNER FURNISHED - CONTRACTOR INSTALLED		
CONN	CONNECTION				
CONSTR	CONSTRUCTION	OG	ORIGINAL GRADE		
CONT	CONTINUOUS	OPNG	OPENING		
COORD	COORDINATE				
COR	CONTRACTING OFFICER REPRESENTATIVE	PC	PIECE, POINT OF CURVE		
CPLG	COUPLING	PCC	POINT OF CURVE TO CURVE		
CSK	COUNTERSINK	PE	PLAIN END, PERMANENT EASEMENT, PRIMARY EFFLUENT		
CTR	CENTER				
CTS	CATHODIC PROTECTION TEST STATION	PI	POINT OF INTERSECTION		
CU	COPPER	PL	PLATE, PROPERTY LINE		
		PLCS	PLACES		
D	DIAMETER, DRAIN	POLY	POLYMER		
(D)	DEMOLISH	PP	POWER POLE		
DF	DITCH FLOW LINE	PPD	POUNDS PER DAY		
DFE	DENITRIFYING FILTER EFFLEUNT	PRESS	PRESSURE		
DG	DECOMPOSED GRANITE	PRV	PRESSURE REDUCING VALVE		
DI	DUCTILE IRON	PSI	POUNDS PER SQUARE INCH		
DIA	DIAMETER	PSF	POUNDS PER SQUARE FOOT		
DIM	DIMENSION	PT	POINT OF TANGENCY		
DIP	DUCTILE IRON PIPE	PVC	POLYVINYL CHLORIDE		
DN	DOWN	PW	PLANT WATER		
DPW	DEPARTMENT OF PUBLIC WORKS				
DR	DRIVE	R	RADIUS		
DS	DIGESTED SLUDGE	(R)	RELOCATE		
DWG	DRAWING	RCP	REINFORCED CONCRETE PIPE		
		RD	ROAD		
E	EAST, EXPOSED	RECT	RECTANGULAR		
(E)	EXISTING	RED	REDUCER		
EA	EACH	REG	REGULATOR		
ECC	ECCENTRIC	REINF	REINFORCING		
ED	EQUIPMENT DRAIN	REQ'D	REQUIRED		
EF	EACH FACE	R/W	RIGHT OF WAY		
EFF	PLANT EFFLUENT	RW	RAW WASTEWATER		
EL, ELEV	ELEVATION				
ELL	ELBOW	S	SOUTH, SLOPE		
ELEC	ELECTRICAL	SA	SAMPLE		
EP	EDGE OF PAVEMENT	SD	STORM DRAIN		
EQ	EQUAL, EQUALIZATION	SE	SECONDARY EFFLUENT		
EXP	EXPANSION	SED	SEDIMENTATION		
EW	EACH WAY	SES	SEDIMENTATION EFFLUENT SAMPLE		
		SDMH	STORM DRAIN MANHOLE		
(F)	FUTURE	SK	SCUM		
FB	FLAT BAR	SS	SANITARY SEWER, STAINLESS STEEL		
FC	FLEX COUPLING	SSMH	SANITARY SEWER MANHOLE		
FCA	FLANGE COUPLING ADAPTER	SCH, SCHED	SCHEDULE		
FD	FLOOR DRAIN	SECT	SECTION		
FES	FILTER EFFLUENT SAMPLE	SF	SQUARE FEET		
FF	FINISHED FLOOR	SHT,SH	SHEET		
FG	FINISHED GRADE	SIM	SIMILAR		
FH	FIRE HYDRANT	SL	SLUDGE		
FIG	FIGURE	SPECS	SPECIFICATIONS		
FIN	FINISHED	SQ	SQUARE		
FLEX	FLEXIBLE	STA	STATION		
FLG	FLANGE	STL	STEEL		
FLGD	FLANGED	STD	STANDARD		
FM	FLOW METER				
FO	FIBER OPTIC				
FRP	FIBERGLASS REINFORCED PLASTIC				
FT	FEET				
FTGS	FITTINGS				
FURN	FURNISH				

GENERAL NOTES

1. THE EXISTING TREATMENT FACILITIES SHALL REMAIN IN OPERATION AT ALL TIMES DURING THE CONSTRUCTION OF THE PROJECT. FOR SHUTDOWN OF FACILITY REQUIREMENTS, SEE SPECIFICATION SECTION 01010.
2. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING FACILITIES THAT ARE TO REMAIN IN PLACE. ALL FACILITIES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE EXPEDITIOUSLY REPAIRED OR RECONSTRUCTED AT THE CONTRACTOR'S EXPENSE WITHOUT ADDITIONAL COMPENSATION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING RECORD DRAWINGS FOR ALL WORK THROUGHOUT THE COURSE OF CONSTRUCTION. SUCH DRAWINGS SHALL RECORD THE LOCATION AND GRADE OF ALL FACILITIES CONSTRUCTED.
4. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL SURPLUS EXCAVATION MATERIAL AND DEBRIS PROMPTLY FROM THE SITE AND SHALL MAINTAIN THE SITE IN A NEAT AND ORDERLY CONDITION. SURPLUS EXCAVATION MATERIAL AND DEBRIS CAN BE DISPOSED AT CAMP ROBERTS DISPOSAL SITE AT NO CHARGE TO CONTRACTOR (4 MILES ONE WAY FROM WWTP). CONTRACTOR SHALL COORDINATE WITH CAMP ROBERTS COR AND DPW.
5. FOR WORK SEQUENCE, REFER TO SPECIFICATION SECTION 01014.
6. EXISTING FENCE AND GATES SHALL BE PROTECTED IN PLACE UNLESS UNLESS NOTED OTHERWISE.
7. LOCATION AND DEPTH OF (E) UTILITIES SHOWN ARE BASED ON AVAILABLE DRAWINGS AND OBSERVABLE SURFACE FEATURES. CONTRACTOR SHALL POTHOLE AND FIELD VERIFY DEPTH AND LOCATION OF ALL UTILITIES, (IN PARTICULAR AT CONNECTION AND PIPE CROSSING POINTS).
8. CONTRACTOR SHALL GRADE SITE TO PRE-CONSTRUCTION CONDITIONS AND RESTORE EXISTING ACCESS ROADS TO PRE-CONSTRUCTION CONDITIONS UNLESS OTHERWISE NOTED ON THE DRAWNGS.

PIPE SCHEDULE

ID	DESCRIPTION	SIZE	SERVICE	MATERIAL	VALVE SYSTEM
BWR	BACKWASH	ALL	B/C	HDPE	B
	RETURN		E	DI	B
CA	COMPRESSED AIR	ALL	E	CU	I
		ALL	B/C	GS	I
D	DRAIN	ALL	B/E	PVC	B
DFE	DENITRIFYING FILTER EFFLUENT	ALL	B/E/C	DI	B
MC	MICRO C	ALL	B/E/C	U-4,PVC (SEE NOTE 1)	C
PW	PLANT WATER	< 4"	B/C	PVC	A
		< 4"	E	GS	A
		≥4"	B/C	HDPE	A
SA	SAMPLE	ALL	B/E/C	PVC	C
SE	SECONDARY EFFLUENT	ALL	B/E/C	DI	B
SK	SCUM	ALL	B/E/C	DI	B
SL	SLUDGE	ALL	B/E/C	DI	B
TFE	TRICKLING FILTER EFFLUENT	ALL	B/E/C	DI	B

SERVICE LEGEND

B = BURIED
E = EXPOSED
C = CONCRETE

NOTE:

1. ALL BURIED MC LINES SHALL BE INSTALLED WITH 1 1/2" TYPE V-1 PIPE WITH LONG RADIUS ELBOWS AND 3/8" TYPE U-4 TUBING INSIDE.

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NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
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8-14-13

DESIGNED	RLO
DRAWN	CCE
CHECKED	KMW

CALIFORNIA ARMY NATIONAL GUARD
CAMP ROBERTS, CALIFORNIA

SUSTAINMENT AND COMPLIANCE PROJECT
MAIN GARRISON WASTEWATER TREATMENT PLANT IMPROVEMENTS

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SYMBOLS, ABBREVIATIONS AND PIPING SCHEDULE

FILE NAME	127001201g02.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	G2
OF	

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DESIGN CRITERIA

INFLUENT CHARACTERISTICS

FLOW	FIRST PHASE
AVERAGE DAILY	0.04 MGD
MAXIMUM DAILY	0.10 MGD
PEAK WET WEATHER	0.20 MGD

CONSTITUENTS	
BOD	
AVERAGE	120 MG/L
MAXIMUM MONTHLY	230 MG/L
TSS	
AVERAGE	140 MG/L
MAXIMUM MONTHLY	350 MG/L
TOTAL NITROGEN	
AVERAGE	45 MG/L
MAXIMUM MONTHLY	70 MG/L
AMMONIA	
AVERAGE	25 MG/L
MAXIMUM MONTHLY	45 MG/L

EFFLUENT OBJECTIVES	
BOD (MONTHLY AVERAGE)	30 MG/L
TSS (MONTHLY AVERAGE)	30 MG/L
NITRATE + AMMONIA (AS N) (QUARTERLY AVERAGE)	10 MG/L

HEADWORKS

CHANNEL	
WIDTH	2 FT
DEPTH	2 FT

MECHANICAL BAR SCREEN	
NUMBER OF UNITS	1
WIDTH	2 FT
SCREEN OPENING	3/8 INCHES

TREATMENT PROCESS

PRIMARY CLARIFIER (EXISTING CLARIFIER)	
NUMBER	1 (EXISTING)
TYPE	CIRCULAR
DIAMETER	85 FT
SIDE WATER DEPTH	12 FT

TRICKLING FILTER (EXISTING)	
NUMBER	2 (1 EXISTING, 1 RECOMMISIONED)
DIAMETER	90 FT
DEPTH	4 FT
MEDIA TYPE	MODULAR PLASTIC MEDIA
RECIRCULATION PUMPS (EXISTING)	
NUMBER	2
MOTOR	10 HP

TF1 EFFLUENT PUMP STATION	
NUMBER	2 (1 DUTY, 1 STANDBY)
TYPE	SUBMERSIBLE
CAPACITY	350 GPM @ 15' TDH
MOTOR	3 HP

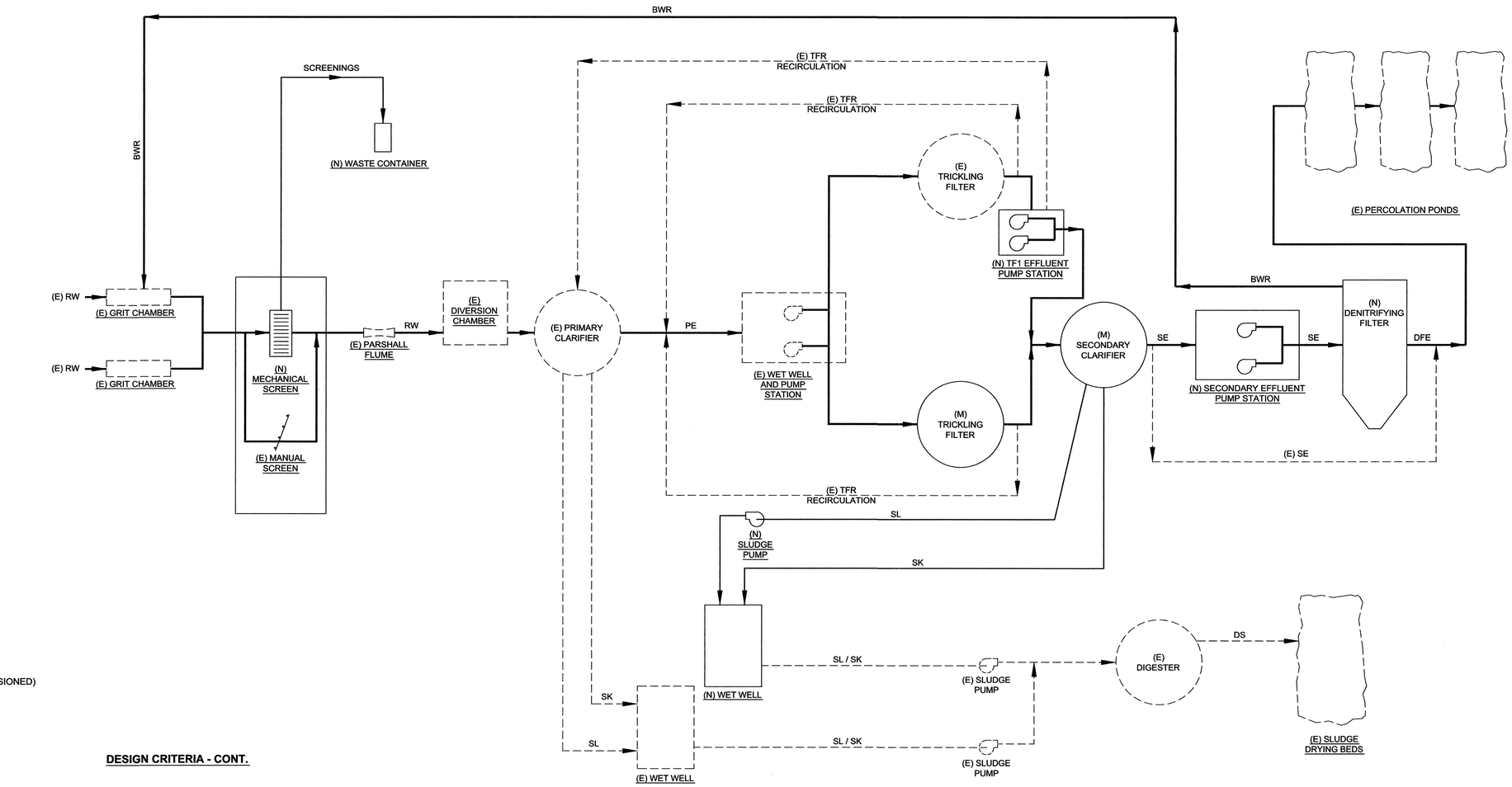
SECONDARY CLARIFIER (RECOMMISIONING OF ABANDONED CLARIFIER)	
NUMBER	1
TYPE	CIRCULAR
DIAMETER	85 FT
SIDE WATER DEPTH	12 FT

SLUDGE PUMP	
NUMBER	1
TYPE	SELF PRIMING CENTRIFUGAL
CAPACITY	150 GPM @ 15' TDH
MOTOR	2 HP

DESIGN CRITERIA - CONT.

SECONDARY EFFLUENT PUMP STATION	
NUMBER	2 (1 DUTY, 1 STANDBY)
TYPE	SUBMERSIBLE
CAPACITY	85 GPM @ 30' TDH
MOTOR	2 HP

DENITRIFICATION FILTER	
NUMBER	1
TYPE	UPFLOW CONTINUOUS BACKWASH
HEIGHT	18 FT
DEPTH OF MEDIA	80 INCHES
DIAMETER	4 FT - 9 INCHES
CAPACITY	
AVERAGE DESIGN FLOW	0.04 MGD
MAXIMUM DESIGN FLOW	0.10 MGD
AVERAGE HYDRAULIC LOADING RATE	1.6 GPM / FT²
MAXIMUM HYDRAULIC LOADING RATE	3.9 GPM FT²



LEGEND

- NEW PUMP
- EXISTING PUMP
- EXISTING EQUIPMENT/PIPING
- NEW EQUIPMENT/PIPING
- MAIN PROCESS FLOW
- SECONDARY PROCESS FLOW

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SCALES

0 ——— 1"

0 ——— 25mm

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DESIGNED	RLO
DRAWN	CCE
CHECKED	OTC

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CAMP ROBERTS, CALIFORNIA

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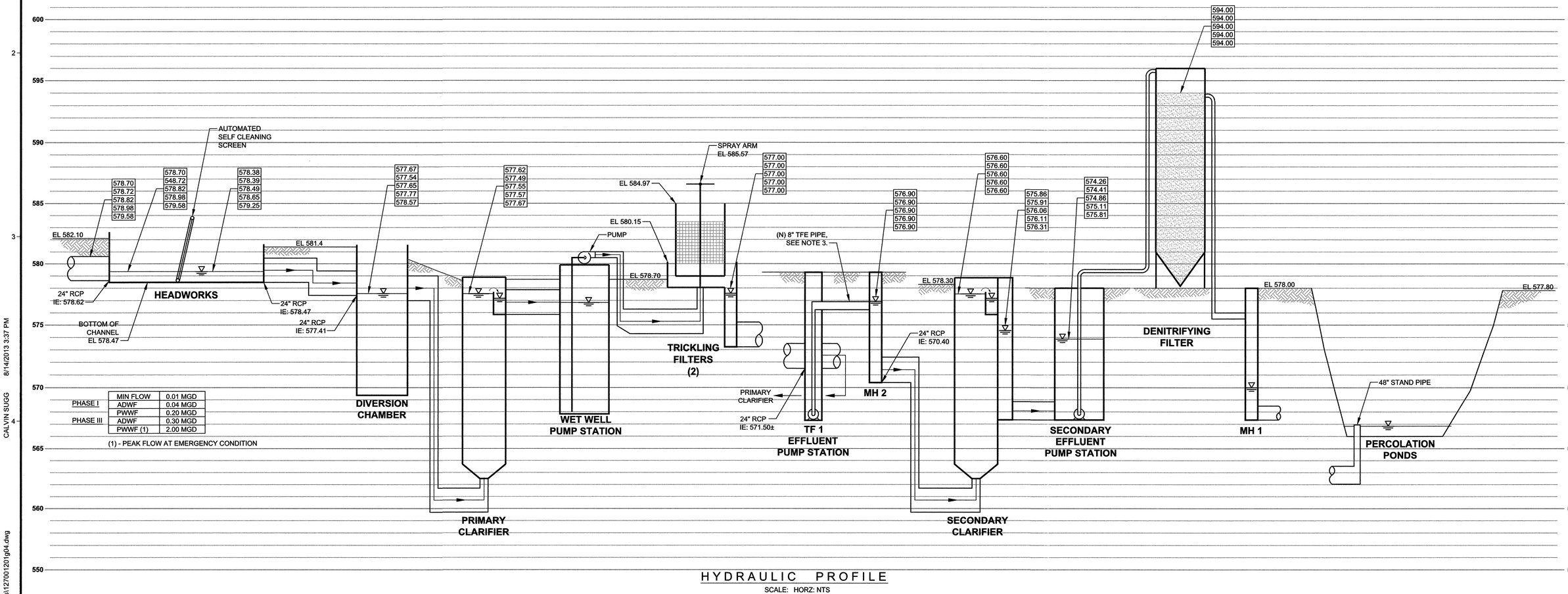
DESIGN CRITERIA AND PROCESS FLOW SCHEMATIC

FILE NAME	127001201g03.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	G3

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NOTES:

1. THE WATER SURFACE DOWNSTREAM OF THE TRICKLING FILTER IS A CONSTANT AND IS DEFINED BY THE PUMPING RATE OF THE EXISTING PUMPING UNITS THAT SUPPLY THE TRICKLING FILTERS. PUMPING RATE IS ESTIMATED AT 1.0 MGD.
2. THE WATER SURFACE IN THE PERCOLATION PONDS WILL BE SUBJECT TO TWO FACTORS --- THE ACTUAL PERCOLATION CAPACITY AND THE BYPASS FLOW (WHEN IT OCCURS).
3. THE NEW 8" TFE PIPE SHALL BE INSTALLED IN SHALLOW PIPE TRENCH. SEE DETAIL 2, SHEET C4.



PHASE I	MIN FLOW	0.01 MGD
	ADWF	0.04 MGD
	PWWF	0.20 MGD
PHASE III	ADWF	0.30 MGD
	PWWF (1)	2.00 MGD

(1) - PEAK FLOW AT EMERGENCY CONDITION

HYDRAULIC PROFILE

SCALE: HORZ: NTS
VERT: 1"=4'

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0 25mm
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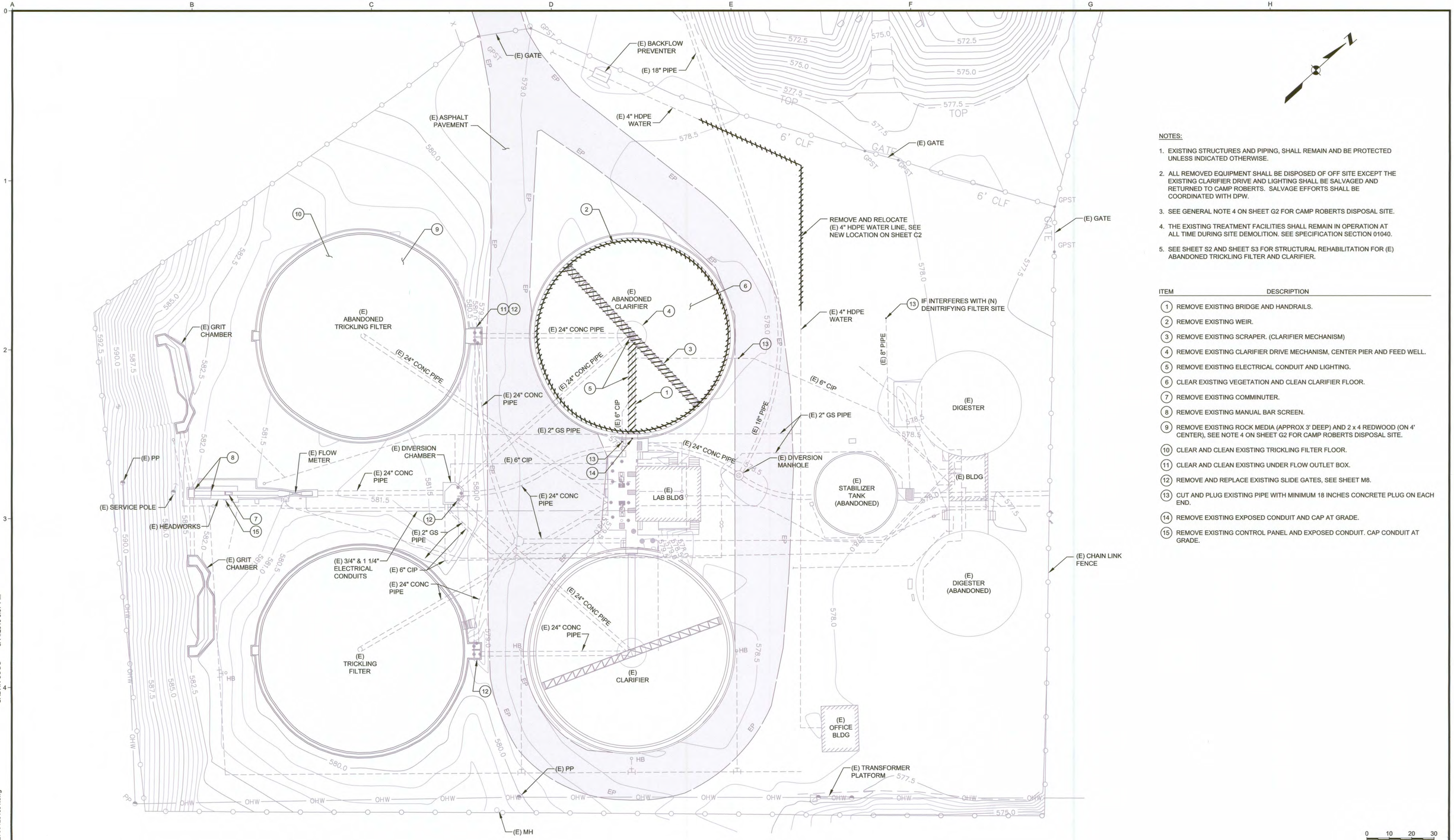
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HYDRAULIC PROFILE

FILE NAME 127001201g04.dwg
JOB NO. 1270012.01
DATE AUGUST 14, 2013
SHEET G4 OF

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NOTES:

1. EXISTING STRUCTURES AND PIPING, SHALL REMAIN AND BE PROTECTED UNLESS INDICATED OTHERWISE.
2. ALL REMOVED EQUIPMENT SHALL BE DISPOSED OF OFF SITE EXCEPT THE EXISTING CLARIFIER DRIVE AND LIGHTING SHALL BE SALVAGED AND RETURNED TO CAMP ROBERTS. SALVAGE EFFORTS SHALL BE COORDINATED WITH DPW.
3. SEE GENERAL NOTE 4 ON SHEET G2 FOR CAMP ROBERTS DISPOSAL SITE.
4. THE EXISTING TREATMENT FACILITIES SHALL REMAIN IN OPERATION AT ALL TIME DURING SITE DEMOLITION. SEE SPECIFICATION SECTION 01040.
5. SEE SHEET S2 AND SHEET S3 FOR STRUCTURAL REHABILITATION FOR (E) ABANDONED TRICKLING FILTER AND CLARIFIER.

ITEM	DESCRIPTION
1	REMOVE EXISTING BRIDGE AND HANDRAILS.
2	REMOVE EXISTING WEIR.
3	REMOVE EXISTING SCRAPER. (CLARIFIER MECHANISM)
4	REMOVE EXISTING CLARIFIER DRIVE MECHANISM, CENTER PIER AND FEED WELL.
5	REMOVE EXISTING ELECTRICAL CONDUIT AND LIGHTING.
6	CLEAR EXISTING VEGETATION AND CLEAN CLARIFIER FLOOR.
7	REMOVE EXISTING COMMINUTER.
8	REMOVE EXISTING MANUAL BAR SCREEN.
9	REMOVE EXISTING ROCK MEDIA (APPROX 3' DEEP) AND 2 x 4 REDWOOD (ON 4' CENTER), SEE NOTE 4 ON SHEET G2 FOR CAMP ROBERTS DISPOSAL SITE.
10	CLEAR AND CLEAN EXISTING TRICKLING FILTER FLOOR.
11	CLEAR AND CLEAN EXISTING UNDER FLOW OUTLET BOX.
12	REMOVE AND REPLACE EXISTING SLIDE GATES, SEE SHEET M8.
13	CUT AND PLUG EXISTING PIPE WITH MINIMUM 18 INCHES CONCRETE PLUG ON EACH END.
14	REMOVE EXISTING EXPOSED CONDUIT AND CAP AT GRADE.
15	REMOVE EXISTING CONTROL PANEL AND EXPOSED CONDUIT. CAP CONDUIT AT GRADE.

0 10 20 30
1"=20'

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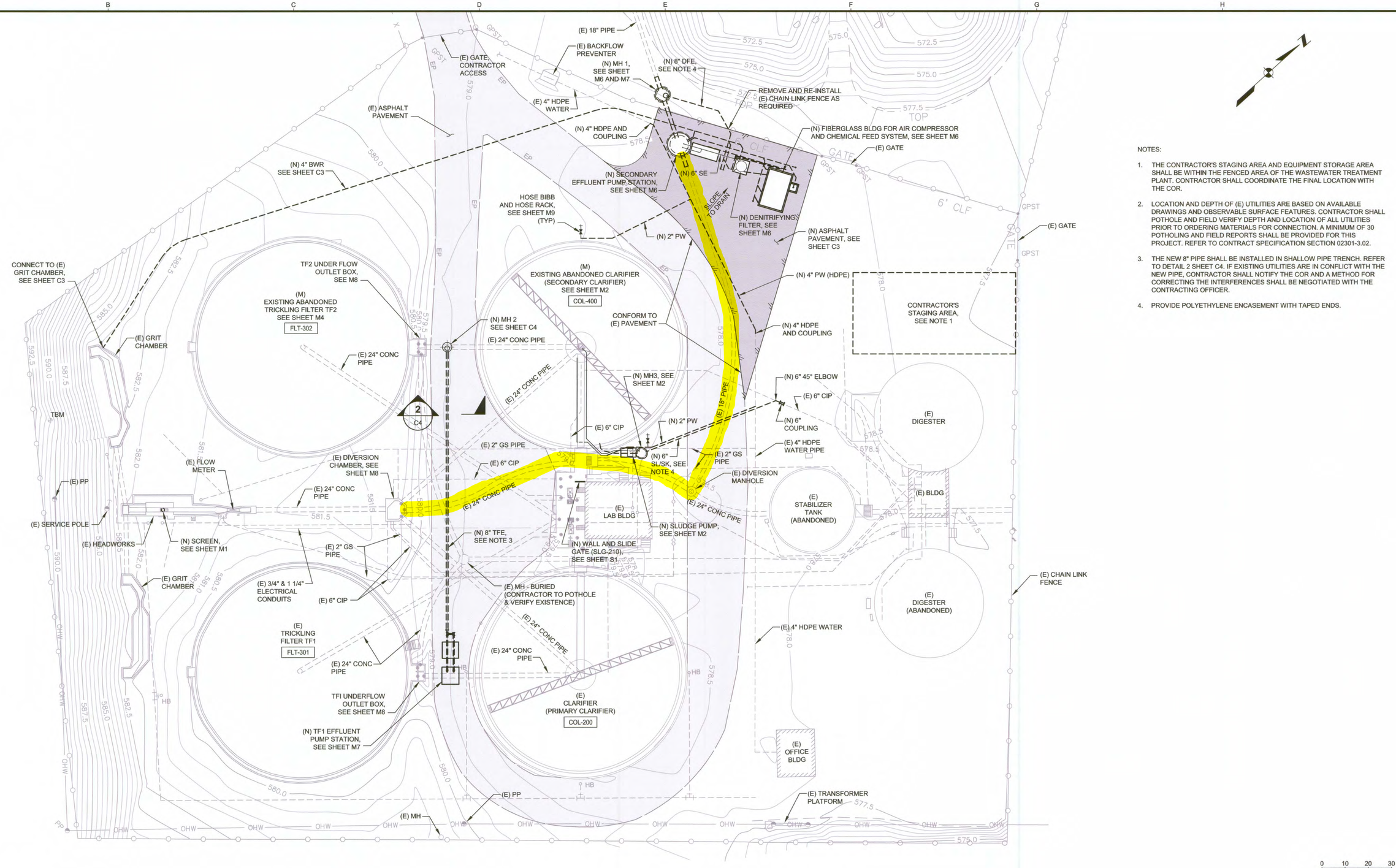
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DRAWN	HCS
CHECKED	OTC

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CAMP ROBERTS, CALIFORNIA
SUSTAINMENT AND COMPLIANCE PROJECT
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EXISTING SITE AND DEMOLITION PLAN

FILE NAME	127001201c01.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	C1



NOTES:

1. THE CONTRACTOR'S STAGING AREA AND EQUIPMENT STORAGE AREA SHALL BE WITHIN THE FENCED AREA OF THE WASTEWATER TREATMENT PLANT. CONTRACTOR SHALL COORDINATE THE FINAL LOCATION WITH THE COR.
2. LOCATION AND DEPTH OF (E) UTILITIES ARE BASED ON AVAILABLE DRAWINGS AND OBSERVABLE SURFACE FEATURES. CONTRACTOR SHALL POTHOLE AND FIELD VERIFY DEPTH AND LOCATION OF ALL UTILITIES PRIOR TO ORDERING MATERIALS FOR CONNECTION. A MINIMUM OF 30 POTHOLING AND FIELD REPORTS SHALL BE PROVIDED FOR THIS PROJECT. REFER TO CONTRACT SPECIFICATION SECTION 02301-3.02.
3. THE NEW 8" PIPE SHALL BE INSTALLED IN SHALLOW PIPE TRENCH. REFER TO DETAIL 2 SHEET C4. IF EXISTING UTILITIES ARE IN CONFLICT WITH THE NEW PIPE, CONTRACTOR SHALL NOTIFY THE COR AND A METHOD FOR CORRECTING THE INTERFERENCES SHALL BE NEGOTIATED WITH THE CONTRACTING OFFICER.
4. PROVIDE POLYETHYLENE ENCASEMENT WITH TAPED ENDS.

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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

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DRAWN	HCS
CHECKED	OTC

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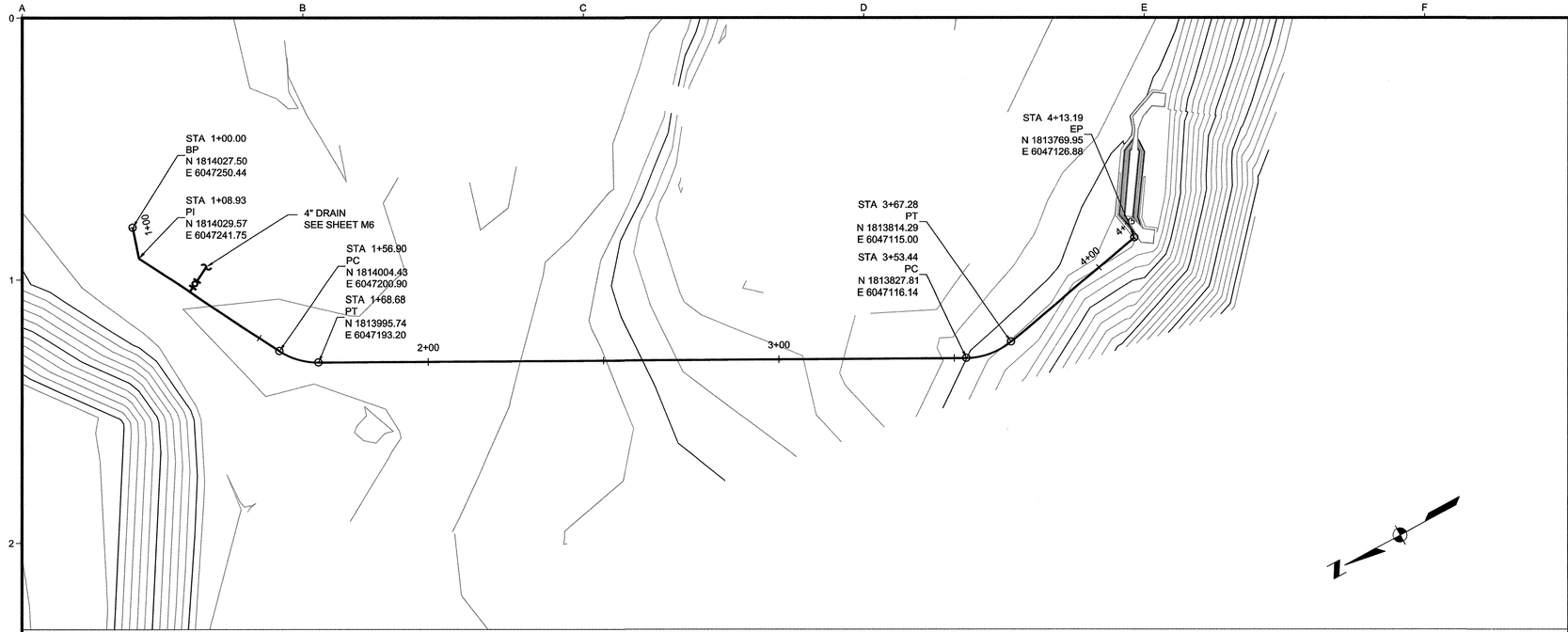
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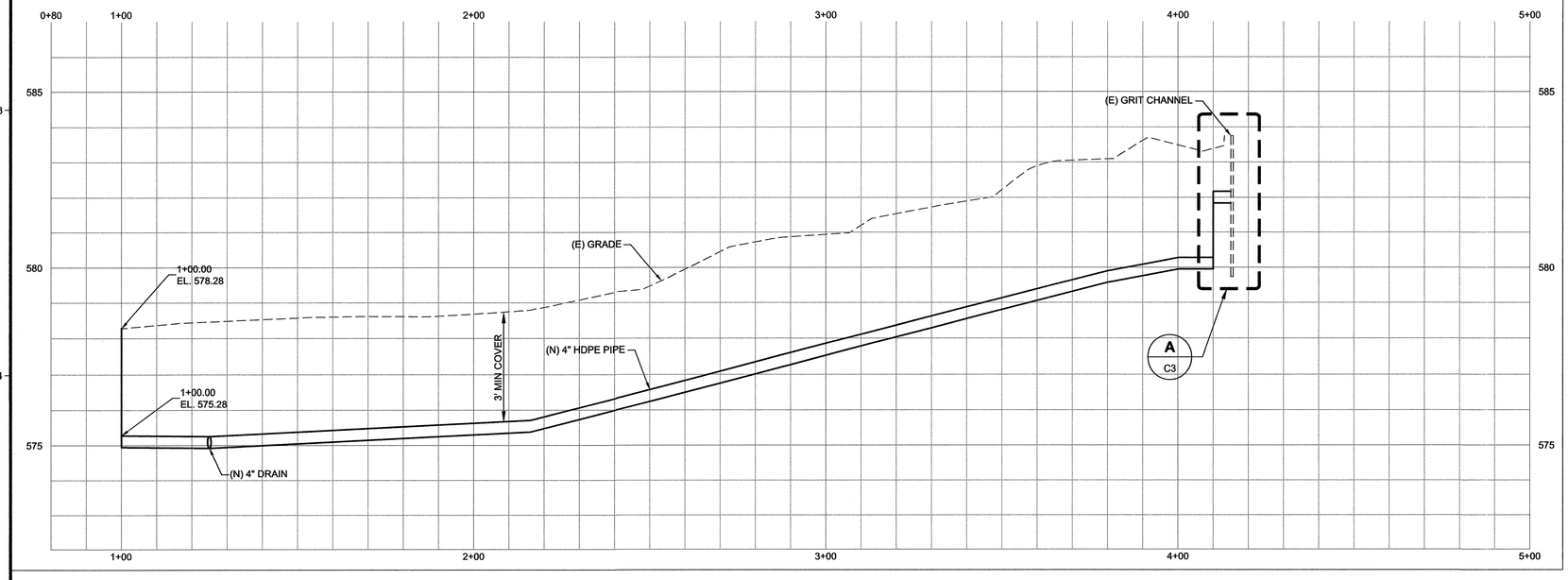
SITE PLAN

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JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	C2

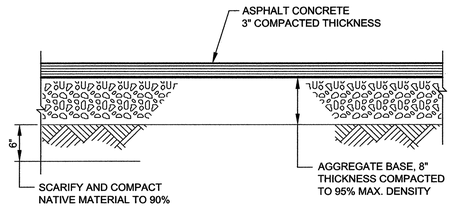
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PLAN 0 20 40 60 1"=40'

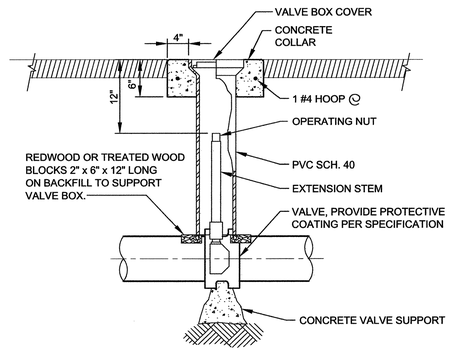


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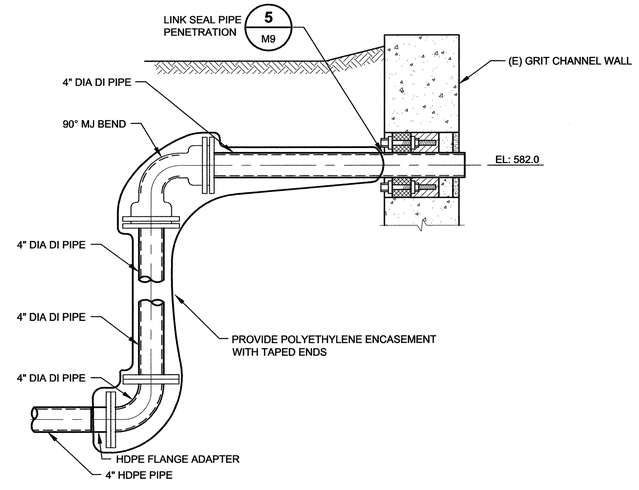
ASPHALT CONCRETE PAVING DETAIL 1 / C3

SCALE: N.T.S.



BURIED VALVE DETAIL 2 / C3

SCALE: N.T.S.



GRIT CHANNEL WALL PENETRATION A / C3

SCALE: N.T.S.

0 20 40 60 HORIZ. 1"=40'

0 2 4 VERT. 1"=4'

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DRAWN CCE

CHECKED KMW

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BWR PIPE PLAN, PROFILE AND DETAILS

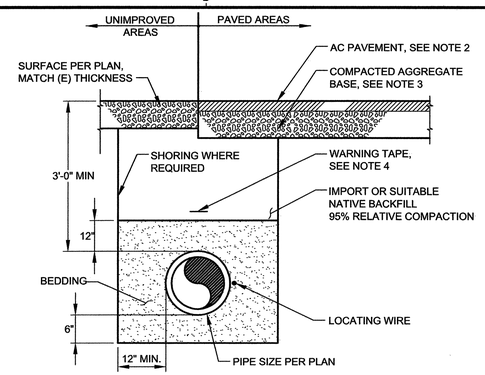
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DATE AUGUST 14, 2013

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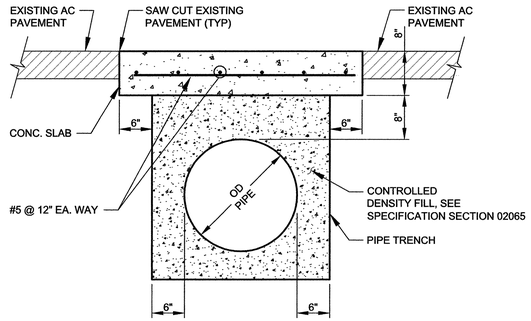
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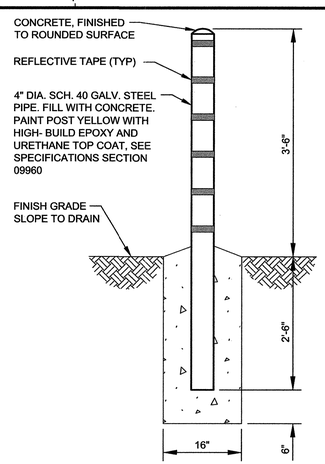
NOTES:

1. ALL TRENCH CONSTRUCTION SHALL BE IN ACCORDANCE WITH OSHA AND CAL OSHA.
2. REQUIRED PAVEMENT THICKNESS SHALL BE 3" MIN OR MATCH EXISTING, WHICHEVER IS GREATER.
3. COMPACTED AGGREGATE BASE THICKNESS SHALL BE 8" MIN OR MATCH EXISTING, WHICHEVER IS GREATER.
4. PLACE WARNING TAPE IN TRENCH 24" BELOW GRADE.

TYPICAL TRENCH DETAIL 1 / C2
SCALE: NTS



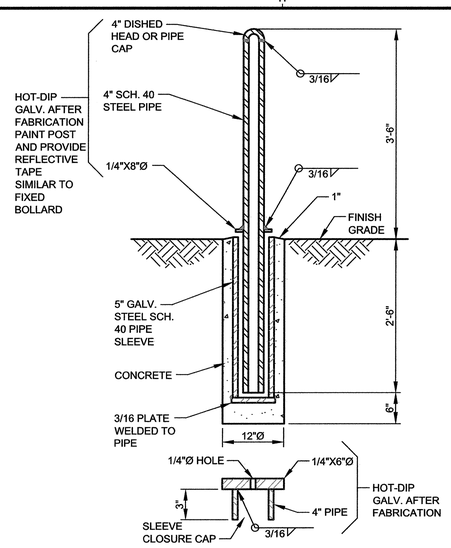
CONCRETE SLAB OVER SHALLOW PIPE DETAIL 2 / C2
SCALE: NTS



NOTES:

1. INSTALL POST SO THAT IT IS VERTICAL AND FIRMLY EMBEDDED.

FIXED



REMOVABLE

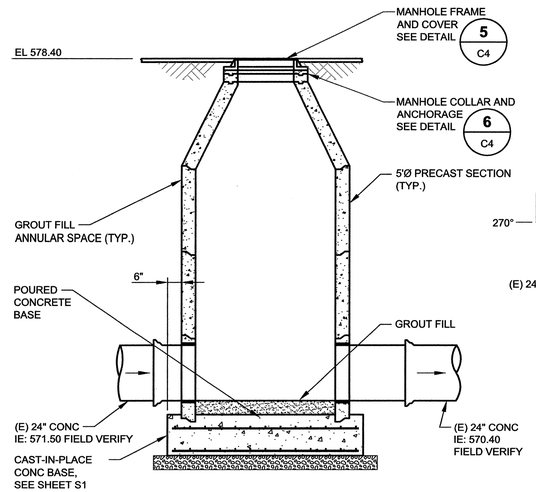
BOLLARD DETAILS 3 / VAR
SCALE: NTS

LID SECTION

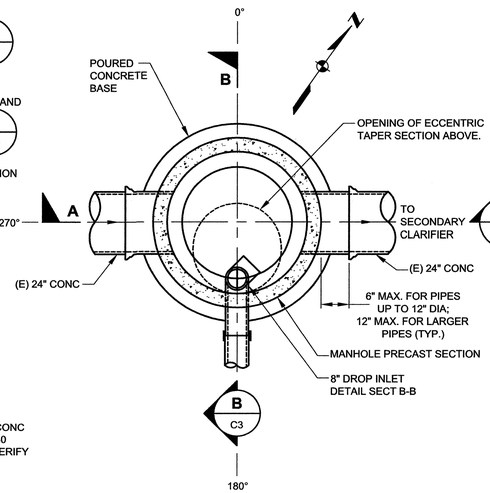
NOTES:

1. STANDARD COVER MARKINGS: "SANITARY SEWER"
2. CASTING SHALL BE FURNISHED WITH BLIND PICK HOLES.
3. CASTING SHALL BE DIPPED IN ASPHALT PAINT.
4. PROVIDE WATER TIGHT COVERS WITH RUBBER GASKET.

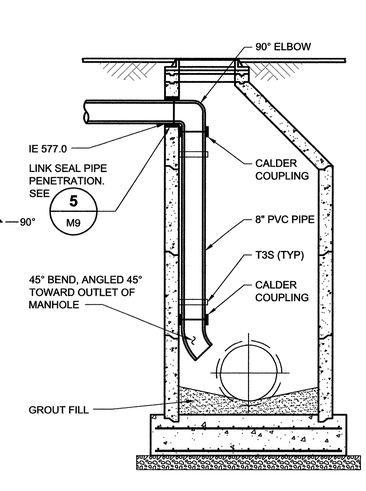
MANHOLE FRAME AND COVER 5 / C4
SCALE: NTS



SECTION A-A

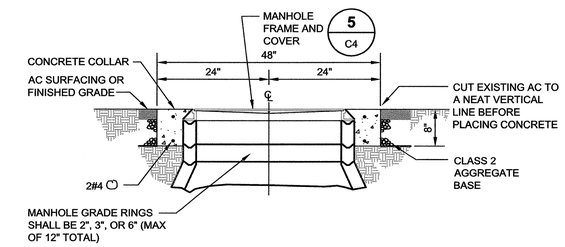


PLAN



SECTION B-B

SEWER MANHOLE 2 (MH2) DETAIL 4 / C2
SCALE: 3/8" = 1'-0"



MANHOLE COLLAR DETAIL 6 / C4
SCALE: NTS

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CIVIL DETAILS

FILE NAME 127001201c04.dwg
JOB NO. 1270012.01
DATE AUGUST 14, 2013
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GENERAL STRUCTURAL NOTES

GENERAL

1. DESIGN AND CONSTRUCTION SHALL CONFORM TO THE 2010 CALIFORNIA BUILDING CODE AND THE REFERENCED BUILDING CODE STANDARDS.
2. THESE NOTES AS WELL AS THE TYPICAL DETAILS APPLY TO ALL PARTS OF THE PROJECT, UNLESS NOTED OTHERWISE.
3. SHOP DRAWINGS FOR THIS CONTRACT SHALL BE COORDINATED WITH FAVORABLY REVIEWED EQUIPMENT MANUFACTURER'S DRAWINGS.
4. DIMENSIONS NOTED WITH AN ASTERISK, "*", ARE TO BE COORDINATED WITH FAVORABLY REVIEWED SUBMITTAL BY THE EQUIPMENT MANUFACTURER.

PERMITS AND INSPECTIONS

1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING INSPECTIONS REQUIRED BY THE COR AND AS DESCRIBED IN THE SPECIFICATIONS.
2. THE CONTRACTOR SHALL SELECT, INSTALL AND MAINTAIN SHORING, SHEETING, BRACING AND SLOPING AS NECESSARY TO MAINTAIN SAFE EXCAVATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING FULL COMPLIANCE WITH 29 CFR PART 1926 OSHA SUBPART P EXCAVATIONS AND TRENCHES REQUIREMENTS. ALL EARTHWORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH APPLICABLE LAW, INCLUDING CALOSHA, CALIFORNIA CIVIL CODE AND CALIFORNIA DEPARTMENT OF INDUSTRIAL SAFETY REQUIREMENTS, AND APPLICABLE OSHA REQUIREMENTS.

SPECIAL INSPECTIONS AND STRUCTURAL OBSERVATIONS

1. THE CONTRACTOR SHALL NOTIFY THE COR 48-HOURS BEFORE PLACEMENT OF REINFORCING STEEL AND CONCRETE SO THAT THE SUBGRADE OF EXCAVATIONS MAY BE INSPECTED BY THE GEOTECHNICAL ENGINEER.
2. THE GEOTECHNICAL ENGINEER SHALL VERIFY BACKFILL MATERIAL AND BACKFILLING PROCEDURES AND PROVIDE SOIL COMPACTION TESTS.
3. STRUCTURAL OBSERVATION SHALL BE PROVIDED BY THE DESIGN ENGINEER(S) OF RECORD OR THEIR AUTHORIZED REPRESENTATIVES IN ACCORDANCE WITH CBC 2010, SECTION 1710. STRUCTURAL OBSERVATION SHALL CONSIST OF SITE VISITS AT THE STAGES LISTED BELOW TO OBSERVE CONSTRUCTION IN PROGRESS AND REVIEW OF TESTING AND INSPECTION REPORTS FOR GENERAL COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS RELATING TO THE STRUCTURAL WORK AND THE NONSTRUCTURAL COMPONENTS AND EQUIPMENT ANCHORAGE.
   - AFTER REMOVAL OF EQUIPMENT AND DEBRIS FROM SECONDARY CLARIFIER
   - AFTER REMOVAL OF EQUIPMENT AND MEDIA FROM TRICKLING FILTER
4. SPECIAL INSPECTION IN ACCORDANCE WITH CBC 2010, SECTION 1704, SHALL BE REQUIRED AS INDICATED IN THE SPECIAL INSPECTION AND TESTING SCHEDULE ON THIS SHEET.

SOIL AND FOUNDATIONS

1. GEOTECHNICAL INVESTIGATIONS FOR DESIGN PURPOSES FOR THIS PROJECT WERE MADE FOR CAMP ROBERTS BY BSK ASSOCIATES IN A REPORT DATED MARCH 13, 2013.
2. IN ACCORDANCE WITH THE CBC CHAPTER 18 THE SOILS IN PROJECT LOCATION ARE GENERALLY CLASSIFIED SILTY SAND UNDERLAIN BY GRAVELLY SAND.
3. THE DESIGN BEARING CAPACITY OF THE SOILS IS (2,500) PSF FOR FOOTINGS. BEARING CAPACITY OF SOILS ARE FOR DEAD AND LIVE LOADS FOR FOUNDATIONS. BEARING VALUES MAY BE INCREASED BY ONE-THIRD WHEN TRANSIENT LOADS SUCH AS WIND OR SEISMIC LOADS ARE INCLUDED.
4. SOILS SHALL BE EXCAVATED TO THE ELEVATIONS INDICATED ON THE DRAWINGS FOR FOUNDATIONS. THE SUBGRADE SHALL BE PREPARED AS INDICATED ON THE DRAWINGS AND SPECIFICATIONS AND APPROVED BY THE GEOTECHNICAL ENGINEER. EXCAVATED MATERIAL SHALL BE REPLACED WITH STRUCTURAL FILL AS SHOWN ON THE DRAWINGS. FOUNDATIONS SHALL BE CONSTRUCTED AGAINST UNDISTURBED NATIVE COMPETENT MATERIAL OR COMPACTED STRUCTURAL FILL.

LOADING CRITERIA

1. MINIMUM LOADING REQUIREMENTS PER CHAPTER 16 OF THE 2010 CALIFORNIA BUILDING CODE INCLUDING LATEST REVISION.
2. DEAD LOAD: AS CALCULATED
3. LIVE LOADS:
   - FIXED LADDERS: 300 LBS POINT
   - HANDRAILS, GUARDRAILS AND GRAB BARS: 50 PLF AT TOP RAIL, 200 LBS POINT
   - GRATING, CHECKERED PLATE, ACCESS HATCHES: EQUAL TO FLOOR LIVE LOAD
   - UNRESTRICTED VEHICULAR ACCESS: HS20-44
   - CONCRETE VAULTS AND COVERS: AASHTO HS20-44
4. WIND LOAD:
   - IMPORTANCE FACTOR, Iw: 1.15
   - BASIC WIND SPEED: 85 MPH
   - EXPOSURE: C
5. SNOW LOAD:
   - IMPORTANCE FACTOR, I: NOT APPLICABLE
   - BASIC GROUND SNOW LOAD, Pg: NOT APPLICABLE
   - SNOW EXPOSURE COEFFICIENT, Ce: NOT APPLICABLE
   - THERMAL FACTOR, Ct: NOT APPLICABLE
6. SEISMIC LOAD:
   - OCCUPANCY CATEGORY: III
   - SEISMIC IMPORTANCE FACTOR, I: 1.25
   - SEISMIC IMPORTANCE FACTOR, Ip: 1.00
   - SOIL CLASS: D
   - SITE COEFFICIENT S_S: 1.18
   - SITE COEFFICIENT S_1: 0.51
   - SEISMIC DESIGN RESPONSE PARAMATER S_{MS}: 0.81
   - SEISMIC DESIGN RESPONSE PARAMATER S_{D1}: 0.51
   - SEISMIC DESIGN CATEGORY: D
   - SITE COEFFICIENT Fa: 1.03
   - SITE COEFFICIENT Fv: 1.50
   - LONG PERIOD TRANSITION PERIOD, T_L: 12 SEC

REINFORCING STEEL

1. REINFORCING BARS SHALL BE ASTM A615-GRADE 60.
2. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
3. ARRANGEMENT AND DETAILING OF REINFORCING STEEL, INCLUDING BAR SUPPORTS AND SPACERS, SHALL BE IN ACCORDANCE WITH THE LATEST ACI 315 DETAILING MANUAL.
4. REINFORCING SHALL LAP IN ACCORDANCE WITH THE CONCRETE REINFORCEMENT SPLICE TABLE, UNLESS OTHERWISE SHOWN. WHEN BARS OF DIFFERENT SIZE LAP TO EACH OTHER, SPLICE LENGTH FOR THE SMALLER BAR CAN BE USED. DOWELS SHALL HAVE THE SAME SIZE AND SPACING AS THAT OF THE REINFORCING STEEL THEY ARE SPLICED AND SHALL HAVE A MINIMUM LAP AS NOTED ABOVE. BAR SPLICES SHALL BE STAGGERED.
5. HOOK REINFORCING BARS INTERRUPTED BY OPENINGS.
6. NO WELDING OF REINFORCING BARS SHALL BE PERMITTED, UNLESS APPROVAL IN WRITING IS OBTAINED FROM THE COR PRIOR TO CONSTRUCTION.
7. DIMENSIONS TO REINFORCING ARE TO BAR CENTERLINES, UNLESS NOTED OTHERWISE BAR COVER IS CLEAR DISTANCE BETWEEN THE BAR AND THE CONCRETE SURFACE. UNLESS NOTED OR SHOWN OTHERWISE BAR COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

FOOTINGS AND BASE SLABS:	
FORMED SURFACES AND BOTTOMS ON CONCRETE WORK MAT	2-INCH
TOP SURFACES EXPOSED TO EARTH, WATER, OR WEATHER	2-INCH
BOTTOMS AND SIDES IN CONTACT WITH EARTH	3-INCH
SUSPENDED SLABS:	
FORMED SURFACES EXPOSED TO EARTH, WATER, OR WEATHER	2-INCH
TOP AND BOTTOM BARS DRY CONDITION	1-INCH
BEAMS AND COLUMNS:	
DRY CONDITIONS:	
STIRRUPS, SPIRALS, AND TIES	1 1/2-INCH
PRINCIPAL REINFORCEMENT	2-INCH
EXPOSED TO EARTH, WATER, OR WEATHER:	
STIRRUPS, SPIRALS, AND TIES	2-INCH
PRINCIPAL REINFORCEMENT	2 1/2-INCH
WALLS:	
LESS THAN 12-INCHES THICK	1 1/2-INCH
12 INCHES OR OVER IN THICKNESS	2 1/2-INCH

CONCRETE:

1. CEMENT SHALL BE ASTM C150 TYPE V FOR ALL STRUCTURES. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH (PSI) AS NOTED IN THE TABLE BELOW AND AS FURTHER DEFINED IN THE SPECIFICATIONS:

CONCRETE STRENGTH (PSI)		
TYPE	STRENGTH	LOCATION
B	4,500	SEVERE SANITARY CONCRETE - DENITRIFYING FILTER PADS, MANHOLE BASE SLABS, PUMP STATION BASE SLAB, SLIDE GATE WALL
E	2,500	MISCELLANEOUS STRUCTURES AND SITEWORK AND SHALLOW PIPE CAP

2. CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 318-08 INCLUDING BAR BENDS AND HOOKS, UNLESS DETAILED OTHERWISE.
3. SUBMIT CONCRETE AND MASONRY LIFT DRAWINGS SHOWING THE LOCATION OF CONSTRUCTION JOINTS, WATERSTOPS AND OTHER TYPES OF JOINTS OTHER THAN SPECIFIED OR SHOWN ON THE DRAWINGS FOR FAVORABLE REVIEW BY THE COR BEFORE START OF WORK ON FORMS, REINFORCING STEEL OR PLACING CONCRETE. ANY ADDITIONAL VERTICAL OR HORIZONTAL CONSTRUCTION JOINTS SHALL HAVE A STANDARD KEYWAY AND SHALL BE FAVORABLY REVIEWED BY THE COR. REFER TO SPECIFICATIONS AND TYPICAL DETAILS FOR ADDITIONAL INFORMATION. CONSTRUCTION JOINTS SHALL BE ROUGHENED TO 1/4-INCH AMPLITUDE.
4. OPENINGS, PIPE SLEEVES, CONDUITS, INSERTS AND OTHER EMBEDDED ITEMS SHALL BE IN PLACE BEFORE CONCRETE IS PLACED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ARCHITECTURAL, CIVIL, MECHANICAL, ELECTRICAL, LANDSCAPING, HVAC, PLUMBING, INSTRUMENTATION AND OTHER PLANS FOR ITEMS REQUIRING SLEEVES AND EMBEDMENTS IN CONCRETE WHICH ARE NOT INDICATED OR SHOWN ON STRUCTURAL DRAWINGS. NO PIPES OR SLEEVES SHALL PASS THROUGH STRUCTURAL MEMBERS (UNLESS SHOWN ON STRUCTURAL DRAWINGS). COORDINATE WITH EQUIPMENT MANUFACTURERS DRAWINGS FOR ANCHORING DEVICES.
5. UNLESS OTHERWISE NOTED, ALL EXPOSED EDGES AND CORNERS SHALL BE CHAMFERED 3/4-INCH. INTERIOR FLOOR SLABS AND EXTERIOR SIDEWALKS SHALL HAVE TOOLED 3/8-INCH RADIUS CONSTRUCTION JOINT.
6. EACH FACE CONCRETE SHALL BE REINFORCED A MINIMUM OF NO. 5 BARS AT 12-INCHES EACH WAY.
7. CONCRETE ENCASE ALL PIPES AND CONDUITS UNDER CONCRETE SLABS AND FOOTINGS

STRUCTURAL STEEL:

1. UNLESS OTHERWISE NOTED, STRUCTURAL STEEL SHALL CONFORM TO ASTM A36. W- AND WT-SHAPES SHALL CONFORM TO ASTM A992. PLATES CONNECTING TO W- AND WT- SHAPES SHALL CONFORM TO ASTM A572 GRADE 50. HOLLOW STRUCTURAL SECTIONS (HSS) SHALL CONFORM TO ASTM A500 GRADE B. STEEL PIPE SHALL CONFORM TO ASTM A53 TYPE E OR S.
2. ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN CONFORMANCE WITH THE LATEST AISC SPECIFICATION PARTS 1 THRU 4 AND THE "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS".
3. CONNECTIONS AND BOLTS SHALL CONFORM TO THE AISC ALLOWABLE STRESS DESIGN SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS. CONNECTIONS SHALL USE ASTM A325-X BOLTS UNLESS NOTED OTHERWISE. PROVIDE WASHERS AT ALL CONNECTIONS WITH OVERSIZE OR SHORT SLOTTED HOLES.
4. WELD ELECTRODES SHALL CONFORM TO AWS A5.1 OR A5.5 E70XX ELECTRODES. WELDING SHALL BE DONE BY CERTIFIED WELDERS. WELDING SHALL USE ONLY APPROVED ELECTRODES. WELDING SHALL CONFORM TO THE PROVISIONS OF THE LATEST STRUCTURAL WELDING CODE (AWS D1.1).
5. UNLESS NOTED OTHERWISE, STRUCTURAL STEEL COMPONENTS AND CONNECTIONS SHALL BE PAINTED OR PROTECTIVE COATED IN ACCORDANCE WITH THE SPECIFICATIONS.

SPECIAL INSPECTION AND TESTING SCHEDULE

1. CONCRETE

CONT	PER	
[X]	[ ]	CONTINUOUS PLACEMENT INSPECTION
		EXCEPT f'c<2,500 PSI OR TYPE E CONCRETE
[ ]	[X]	VERIFY DESIGN MIX
[X]	[ ]	AT TIME SAMPLE TAKEN FOR STRENGTH, SLUMP, UNIT WEIGHT, AIR AND TEMPERATURE TESTS.
[ ]	[X]	PROPER CURING AND TEMPERATURE
[X]	[ ]	BOLTS INSTALLED IN CONCRETE
[ ]	[X]	REINFORCING PLACEMENT
[ ]	[X]	FORMWORK
[ ]	[ ]	STRESSING & GROUTING OF TENDONS

TESTING:
[X] 4 CYLINDERS PER 100 CUBIC YARDS*
TEST: 2 @ 7 DAYS, 2 @ 28 DAYS.
* EACH MIX PLACED, EACH DAY PLACED
EXCEPT f'c<2,500 PSI OR TYPE E CONCRETE
[X] SLUMP TEST - PER 50 CY & AT STRENGTH SAMPLE
[X] AIR TEST - PER STRENGTH SAMPLES
[ ] SHRINKAGE TEST - 3 SPECIMENS PER STRENGTH SCHEDULE
[ ] UNIT WEIGHT TEST - PER STRENGTH SAMPLES

2. STEEL

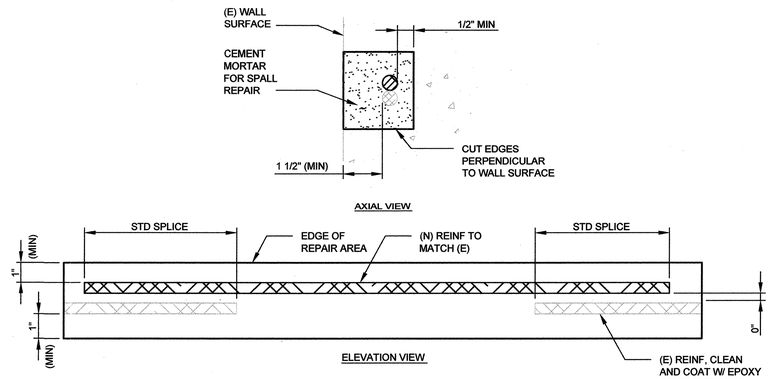
CONT	PER	
[ ]	[X]	HIGH STRENGTH BOLT, NUT AND WASHERS CONFORM TO ASTM STANDARDS SPECIFIED
[ ]	[X]	BOLT MFR CERTIFICATE OF COMPLIANCE
[ ]	[X]	BEARINGS-TYPE CONNECTIONS
[ ]	[X]	SLIP-CRITICAL CONNECTIONS
[ ]	[X]	SINGLE PASS FILLET WELDS ≤ 5/16"
[X]	[ ]	SINGLE PASS FILLET WELDS > 5/16"
[X]	[ ]	MULTI-PASS FILLET WELDS
[X]	[ ]	ALL CJP AND PJP GROOVE WELDS
[ ]	[ ]	FLOOR AND ROOF DECK WELDS
[ ]	[X]	STEEL FRAMING COMPLIANCE W/ CONST DOCUMENTS
[ ]	[X]	MAGNETIC PARTICLE TESTING 25% OF FILLET WELDS
[ ]	[ ]	UT ON ALL CJP WELDS

3. SOILS
INSPECTION AND TESTING:

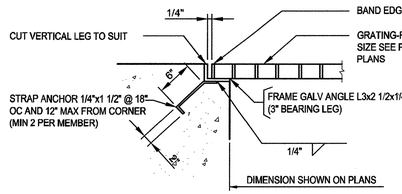
CONT	PER	
[ ]	[X]	VERIFY MATERIAL BELOW FOOTING IS ADEQUATE TO ACHIEVE DESIGN BEARING CAPACITY
[ ]	[X]	VERIFY EXCAVATIONS EXTEND TO PROPER DEPTH
[X]	[ ]	VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESS DURING PLACEMENT OF CONTROLLED FILL
[ ]	[X]	PRIOR TO PLACEMENT OF CONTROLLED FILL, VERIFY PROPER SUBGRADE PREPARATION
[ ]	[X]	CLASSIFICATION AND TESTING OF CONTROLLED FILL
[ ]	[X]	EXCAVATION SUPPORT & SHORING
[ ]	[ ]	UNDERPINNING

4. SPECIAL CASES
ANCHORAGE TO EXISTING CONCRETE/MASONRY (SPEC 05090):
[X] CONTINUOUS INSTALLATION INSPECTION
[X] PROOF LOAD TEST PER SPEC 05090
(SUBMIT TEST LOADS TO ENGINEER PRIOR TO TEST)
- 10% OF ANCHORS FOR DOWELS
- 10% OF ANCHORS FOR SILL PLATE BOLTS
- 50% OF ANCHORS FOR EQUIP ANCHORAGE
- 100% OF ANCHORS FOR HOLD-DOWN BOLTS
- 100% FOR ALL OTHER ANCHORS

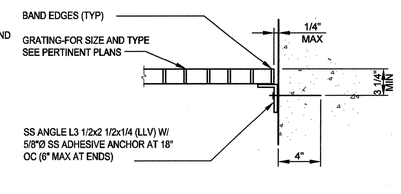
NOTE: POST-INSTALLED FASTENERS ARE ONLY TO BE INSTALLED WHERE SPECIFICALLY INDICATED AND SHALL RECEIVE SPECIAL INSPECTION AND TESTING IN ACCORDANCE WITH SECTION 05090.



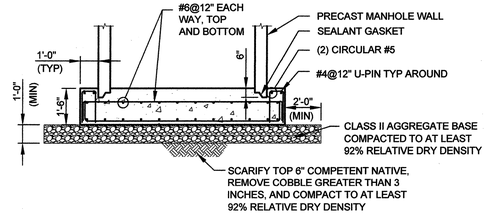
REINFORCING REPLACEMENT DETAIL



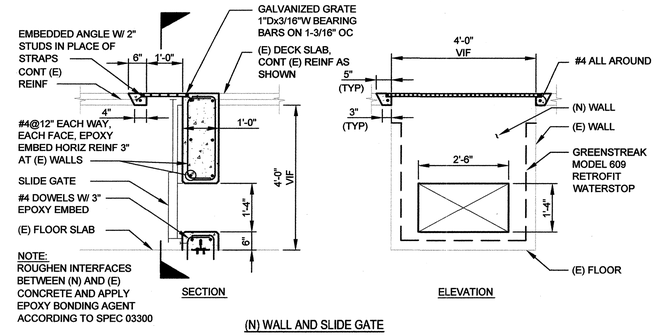
GRATING EMBEDDED ANGLE SUPPORT



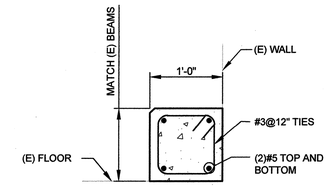
GRATING BOLTED ANGLE SUPPORT



CAST-IN-PLACE CONCRETE BASE



(N) WALL AND SLIDE GATE



(N) CONCRETE BEAM

USE OF DOCUMENTS

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NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER — JAKE DARIN SALTER — No. C75464 — Exp. 3/31/14 — CIVIL — STATE OF CALIFORNIA — 8/14/13

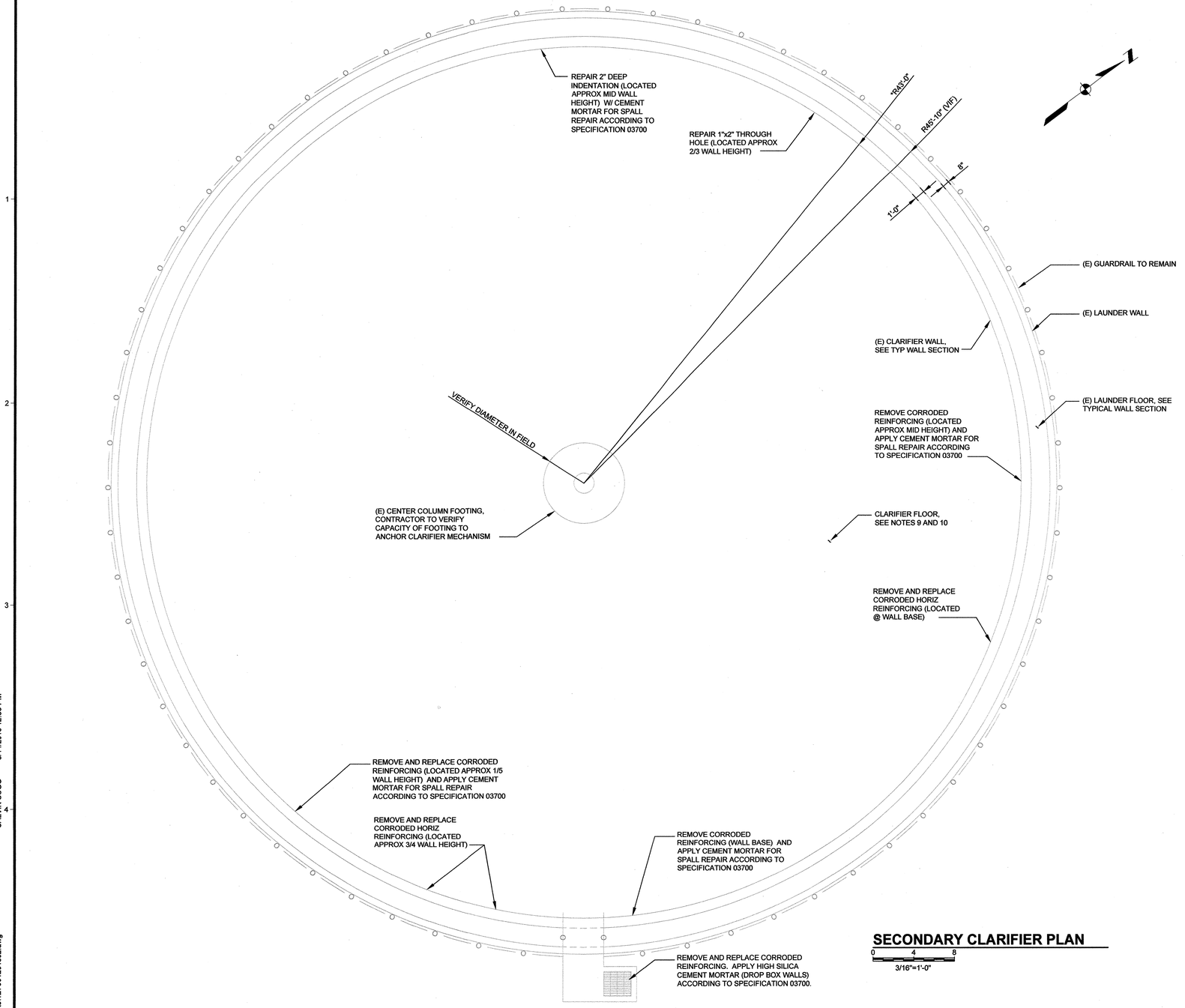
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DRAWN	JDS
CHECKED	PDS

CALIFORNIA ARMY NATIONAL GUARD
CAMP ROBERTS, CALIFORNIA
SUSTAINMENT AND COMPLIANCE PROJECT
MAIN GARRISON WASTEWATER TREATMENT PLANT IMPROVEMENTS
Kennedy/Jenks Consultants©
10850 Gold Center Drive, Ste 350, Rancho Cordova, California 95670

GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS

FILE NAME	127001201s01.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	S1

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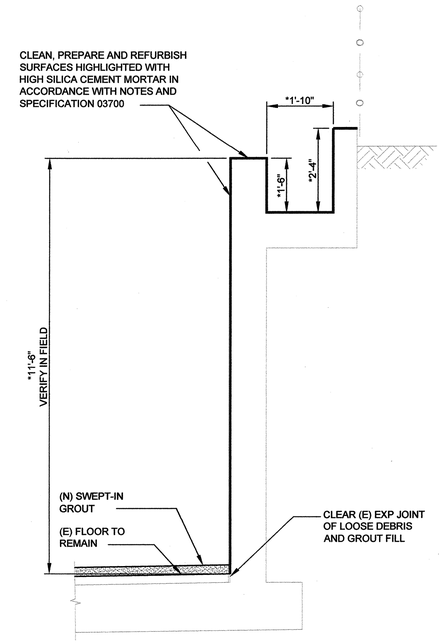
SECONDARY CLARIFIER PLAN

0 4 8

3/16"=1'-0"

NOTES:

1. SEE SHEET C1 FOR DEMOLITION OF EXISTING EQUIPMENT.
2. REMOVE VEGETATION FROM CLARIFIER AND LAUNDER FLOORS. CLEAN INTERIOR SURFACES OF DIRT, DUST, GREASE, COATINGS, MOSSES, LICHENS, AND LOOSE DEBRIS. CLEAR (E) EXPANSION JOINT OF VEGETATION AND DEBRIS IN ACCORDANCE WITH SPECIFICATION 03700.
3. ABRADE INTERIOR WALL SURFACES TO A MINIMUM SURFACE PROFILE OF CSP-5 IN ACCORDANCE WITH SPECIFICATION 03700.
4. REMOVE AND REPAIR CORRODED REINFORCING IN ACCORDANCE WITH SPECIFICATION 03700. CONTRACTOR SHALL BE PREPARED TO REMOVE AND REPAIR A MINIMUM OF 50 LINEAR FEET OF CORRODED REINFORCING.
5. REPAIR SURFACE CRACKS AND STRUCTURAL CRACKS IN ACCORDANCE WITH SPECIFICATION 03700. THE CONTRACTOR SHALL BE PREPARED TO REPAIR A MINIMUM OF 50 LF OF SURFACE CRACKS AND 20 LF OF STRUCTURAL CRACKS.
6. PATCH HOLES AND SPALLS GREATER THAN 1/4-INCH IN DEPTH AND AS RECOMMENDED BY FAVORABLY REVIEWED RESURFACING MORTAR MANUFACTURER.
7. APPLY HIGH SILICA CEMENT MORTAR TO INTERIOR WALLS AND FINISH IN ACCORDANCE WITH SPECIFICATION 03700. CURE IN ACCORDANCE WITH THE FAVORABLY REVIEWED MANUFACTURERS RECOMMENDATIONS.
8. GROUT FILL (E) EXPANSION JOINT.
9. ABRADE (E) CLARIFIER FLOOR TO PROFILE CSP-3 WHERE FLOOR WILL BE COVERED BY (N) SWEPT-IN-GROUT.
10. APPLY A MINIMUM 3-INCH THICK LAYER OF SWEPT-IN-GROUT TO CLARIFIER FLOOR IN ACCORDANCE WITH FAVORABLY REVIEWED CLARIFIER MECHANISM MANUFACTURER AND SPECIFICATION 03300 PARAGRAPH 2.09.



TYPICAL WALL SECTION

0 1 2 3

1/2"=1'-0"

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SCALES

0 1"

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REGISTERED PROFESSIONAL ENGINEER — DARIN SAITER — No. C75844 Exp. 6/31/14 — CIVIL — STATE OF CALIFORNIA

8.14.13

DESIGNED	JDS
DRAWN	JDS
CHECKED	PDS

CALIFORNIA ARMY NATIONAL GUARD
CAMP ROBERTS, CALIFORNIA

SUSTAINMENT AND COMPLIANCE PROJECT
MAIN GARRISON WASTEWATER TREATMENT PLANT IMPROVEMENTS

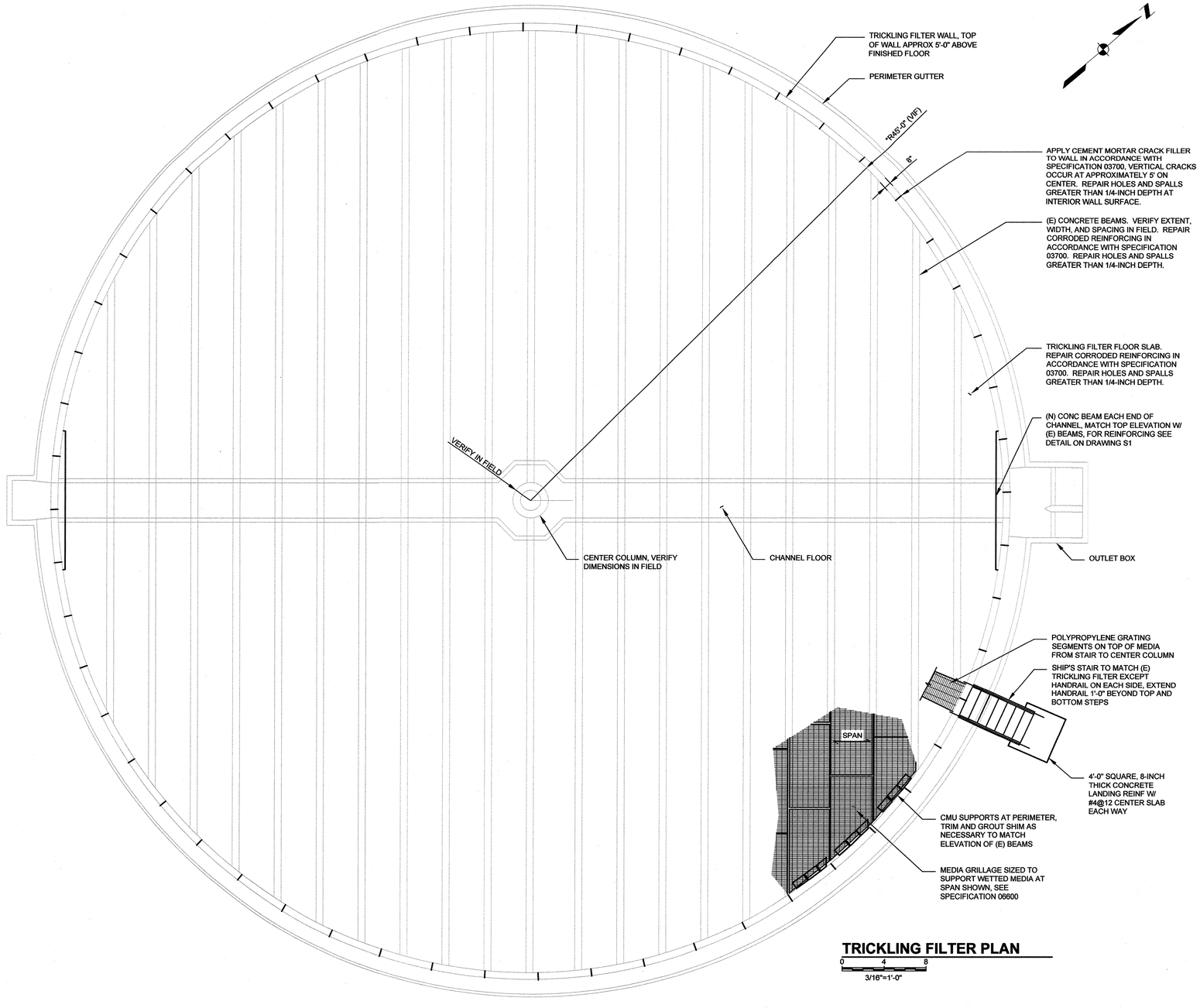
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SECONDARY CLARIFIER CONCRETE REHABILITATION PLAN AND NOTES

FILE NAME	127001201s02.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	S2
OF	

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TRICKLING FILTER PLAN

0 4 8

3/16"=1'-0"

NOTES:

1. SEE SHEETS C1 FOR DEMOLITION AND REMOVAL OF EXISTING HARDWARE AND MEDIA.
2. REMOVE VEGETATION FROM FILTER FLOOR. CLEAN INTERIOR SURFACES OF DIRT, DUST, GREASE, COATINGS, MOSSES, LICHENS, AND LOOSE DEBRIS IN ACCORDANCE WITH SPECIFICATION 03700.
4. REMOVE CORRODED REINFORCING AND PATCH SPALLS ACCORDING TO SPECIFICATION 03700. THE CONTRACTOR SHALL BE PREPARED TO REMOVE A MINIMUM OF 20 LF OF CORRODED REINFORCING.
5. APPLY CEMENT MORTAR CRACK FILLER TO VERTICAL WALL CRACKS IN ACCORDANCE WITH SPECIFICATION 03700. CONTRACTOR SHALL BE PREPARED TO REPAIR A MINIMUM OF 400 LF OF SURFACE CRACKS IN THE WALLS.
6. REPAIR SURFACE CRACKS AND STRUCTURAL CRACKS IN (E) FLOOR AND BEAMS IN ACCORDANCE WITH SPECIFICATION 03700. CONTRACTOR SHALL BE PREPARED TO REPAIR A MINIMUM OF 100 LF OF SURFACE CRACKS AND 20 LF OF STRUCTURAL CRACKS IN (E) FLOOR AND BEAMS.

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NO.	REVISION	DATE	BY

SCALES

0 1"

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REGISTERED PROFESSIONAL ENGINEER JAMIE DARIN SALTER No. C75884 Exp. 3/31/14 CIVIL STATE OF CALIFORNIA 8-14-13

DESIGNED	JDS
DRAWN	JDS
CHECKED	PDS

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CAMP ROBERTS, CALIFORNIA

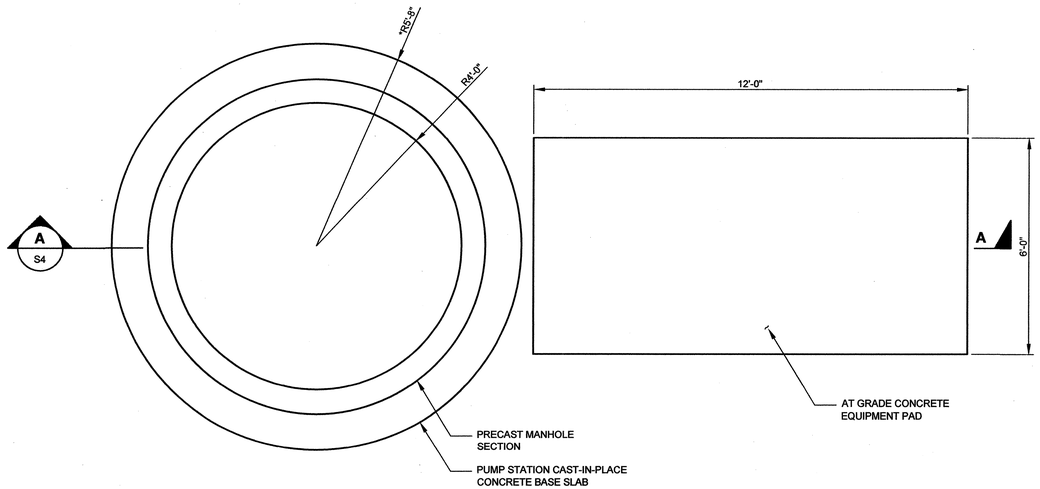
SUSTAINMENT AND COMPLIANCE PROJECT
MAIN GARRISON WASTEWATER TREATMENT PLANT IMPROVEMENTS

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TRICKLING FILTER CONCRETE REHABILITATION PLAN AND NOTES

FILE NAME	127001201s03.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	S3
OF	

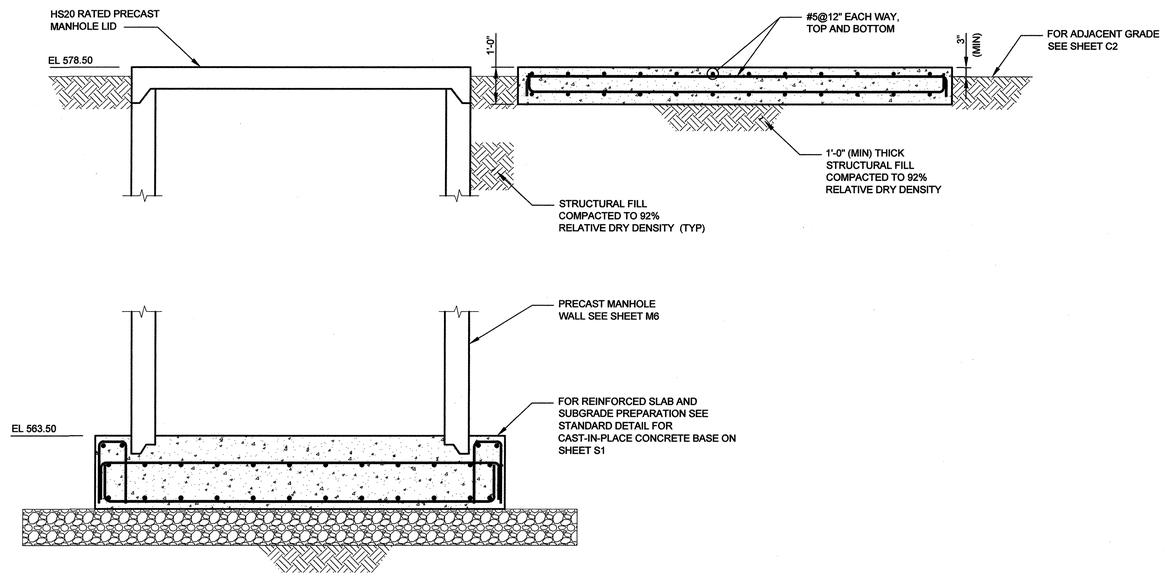
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SECONDARY EFFLUENT PUMP STATION PLAN

0 1 2 3

1/2"=1'-0"



SECTION A

S4

0 1 2 3

1/2"=1'-0"

NOTES:

1. SEE SHEET S1 FOR CONCRETE AND REINFORCING STANDARD DETAILS NOTES AND STANDARD DETAILS.
2. PUMP STATION BASE SLAB TO RECEIVE A FLOAT FINISH. AT-GRADE SLABS TO RECEIVE A LIGHT BROOM FINISH.

USE OF DOCUMENTS

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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

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REGISTERED PROFESSIONAL ENGINEER JAKE DARIN SALTER No. C75464 Exp. 3/31/14 CIVIL STATE OF CALIFORNIA 8-14-13

DESIGNED	JDS
DRAWN	JDS
CHECKED	PDS

CALIFORNIA ARMY NATIONAL GUARD
CAMP ROBERTS, CALIFORNIA

SUSTAINMENT AND COMPLIANCE PROJECT
MAIN GARRISON WASTEWATER TREATMENT PLANT IMPROVEMENTS

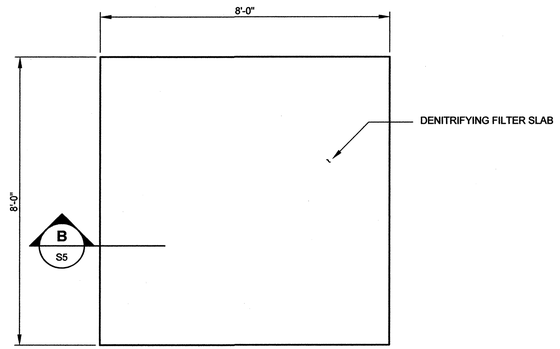
Kennedy/Jenks Consultants©
10850 Gold Center Drive, Ste 350, Rancho Cordova, California 95670

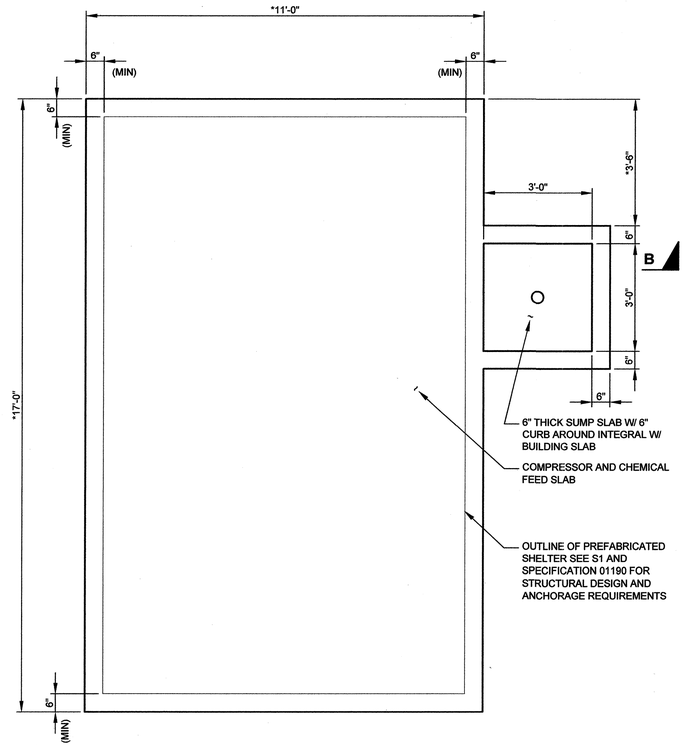
SECONDARY EFFLUENT PUMP STATION PLAN AND SECTIONS

FILE NAME	127001201s04.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	S4 OF

CALVIN SUGG 8/14/2013 12:56 PM

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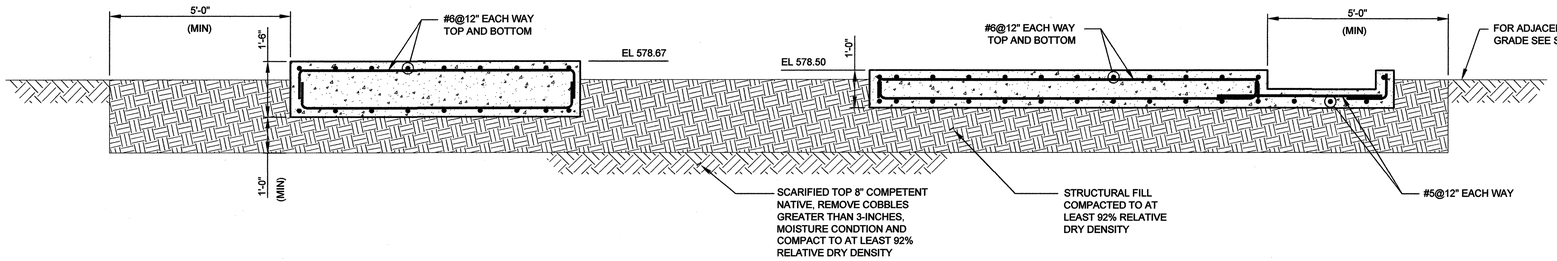




DENITRIFYING FILTER PLAN

0 1 2 3

1/2"=1'-0"



SECTION B / S5

0 1 2 3

1/2"=1'-0"

NOTES:

1. SEE SHEET S1 FOR CONCRETE AND REINFORCING STANDARD DETAILS NOTES AND STANDARD DETAILS.
2. SLABS SHALL RECEIVE A LIGHT BROOM FINISH.

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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

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REGISTERED PROFESSIONAL ENGINEER — PATRICE DA RIN — No. C76484 — Exp. 3/31/14 — CIVIL — STATE OF CALIFORNIA — 8.14.13

DESIGNED	JDS
DRAWN	JDS
CHECKED	PDS

CALIFORNIA ARMY NATIONAL GUARD
CAMP ROBERTS, CALIFORNIA

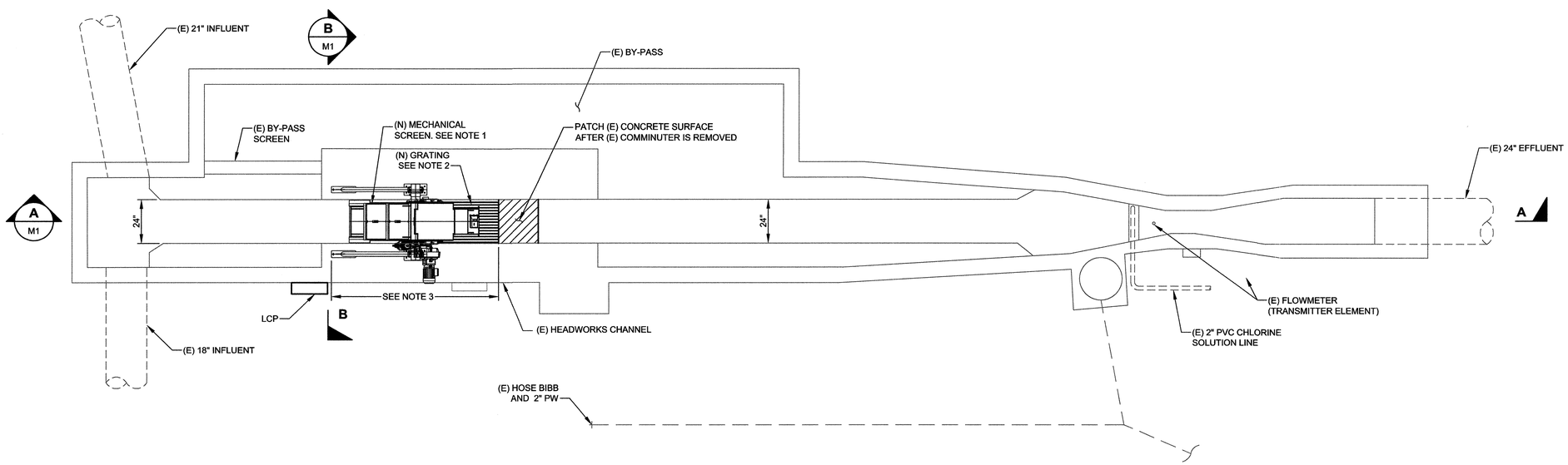
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MAIN GARRISON WASTEWATER TREATMENT PLANT IMPROVEMENTS

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DENITRIFYING FILTER PLAN AND SECTIONS

FILE NAME	127001201s05.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	S5
OF	

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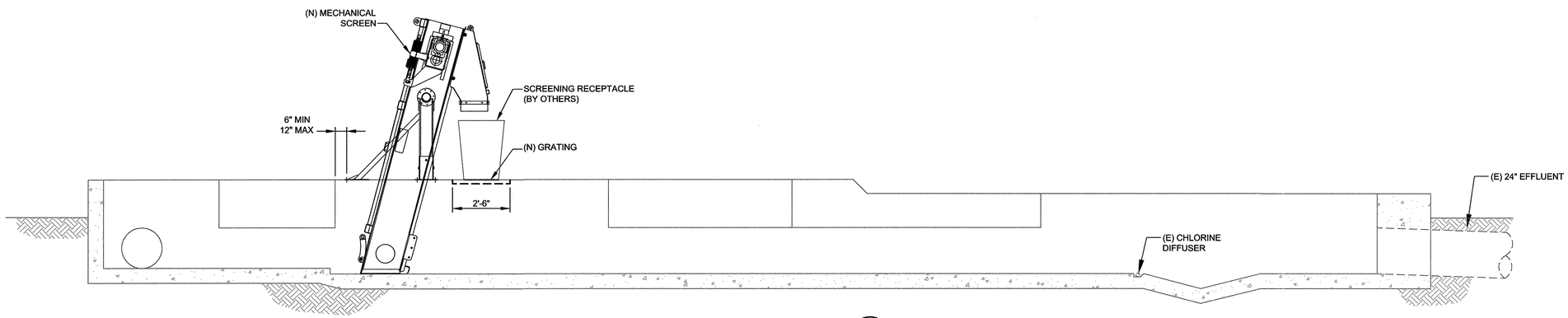
HEADWORKS PLAN

SCALE: 3/8" = 1'- 0"

1 / M1

NOTES:

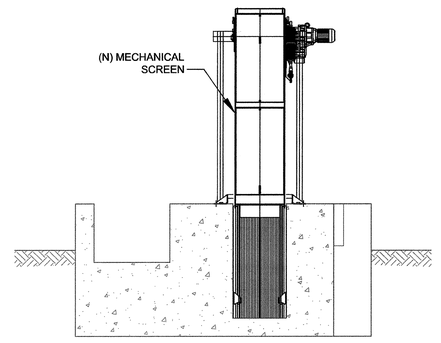
1. INSTALL MECHANICAL SCREEN IN (E) HEADWORKS CHANNEL AS RECOMMENDED BY THE MANUFACTURER.
2. STAINLESS GRATING W/ 1-1/2"Dx3/16"W BEARING BARS @ 1-3/16" CENTERS. CENTER GRATING BELOW SCREEN DISCHARGE, FLUSH WITH TOP OF (E) HEADWORKS CHANNEL. SEE SHEET S1 FOR GRATING SUPPORT DETAIL.
3. REMOVE (E) HANDRAIL AND (E) SAFETY CHAIN IN AREA SHOWN. PROVIDE (N) SAFETY CHAIN AND ATTACHMENT EYE(S) AS NEEDED.



HEADWORKS SECTION

SCALE: 3/8" = 1'- 0"

A / M1



HEADWORKS SECTION

SCALE: 3/8" = 1'- 0"

B / M1

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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

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REGISTERED PROFESSIONAL ENGINEER KENNETH M. WONG No.41255 Exp.03/31/15 CIVIL STATE OF CALIFORNIA

8-14-13

DESIGNED	SAG
DRAWN	CCE
CHECKED	KMW

CALIFORNIA ARMY NATIONAL GUARD
CAMP ROBERTS, CALIFORNIA

SUSTAINMENT AND COMPLIANCE PROJECT
MAIN GARRISON WASTEWATER TREATMENT PLANT IMPROVEMENTS

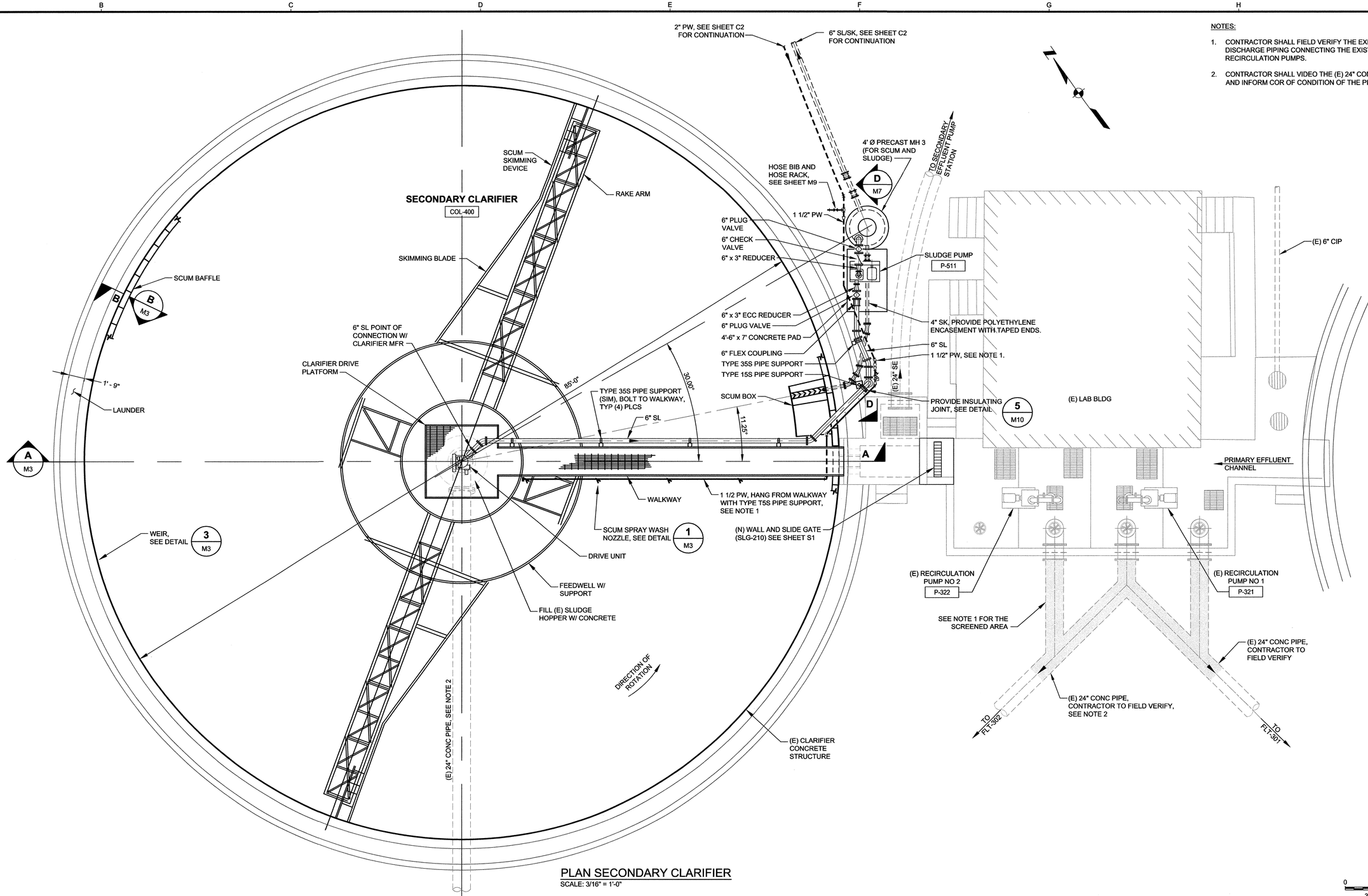
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HEADWORKS PLAN AND SECTIONS

FILE NAME	127001201m01.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	M1
OF	

NOTES:

1. CONTRACTOR SHALL FIELD VERIFY THE EXISTENCE OF DISCHARGE PIPING CONNECTING THE EXISTING RECIRCULATION PUMPS.
2. CONTRACTOR SHALL VIDEO THE (E) 24" CONCRETE PIPE AND INFORM COR OF CONDITION OF THE PIPE.



PLAN SECONDARY CLARIFIER

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

0 4 8
3/16"=1'-0"

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NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER KENNETH M. KONG No.41255 Exp.03/31/15 CIVIL STATE OF CALIFORNIA
8-14-13

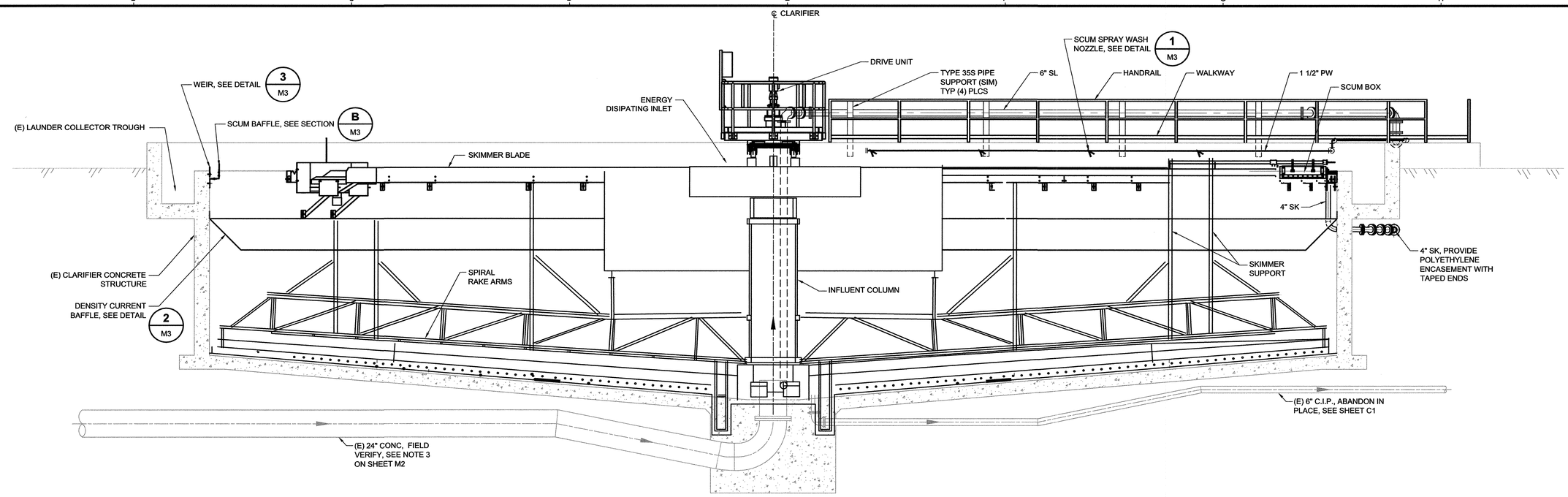
DESIGNED RLO
DRAWN DDM
CHECKED RFY

CALIFORNIA ARMY NATIONAL GUARD
CAMP ROBERTS, CALIFORNIA
SUSTAINMENT AND COMPLIANCE PROJECT
MAIN GARRISON WASTEWATER TREATMENT PLANT IMPROVEMENTS
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SECONDARY CLARIFIER AND EXISTING PUMP STATION PLAN

FILE NAME 127001201m02.dwg
JOB NO. 1270012.01
DATE AUGUST 14, 2013
SHEET M2 OF

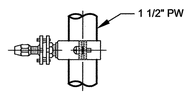
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SECONDARY CLARIFIER SECTION A M2

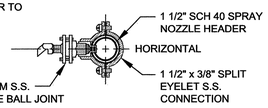
0 3 6

1/4"=1'-0"



PLAN

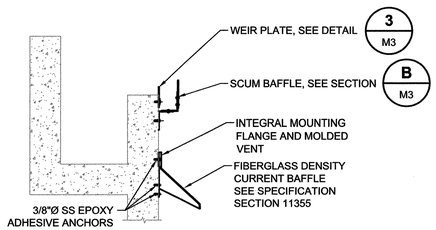
NOTE:
INSTALL SPRAY NOZZLES AT 84-INCH SPACING CENTER TO CENTER.



SECTION

SCUM SPRAY WASH NOZZLE ASSEMBLY 1 M3

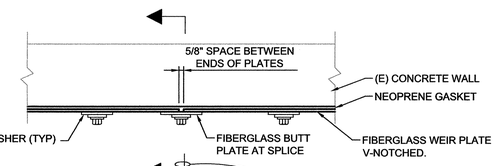
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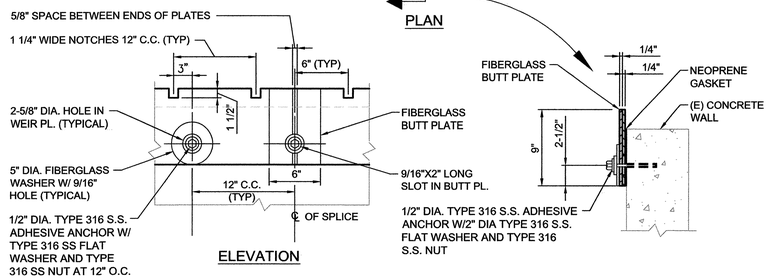
NOTE:
DRILL 2" DIA HOLES, 4 FEET O.C., CENTERED ALONG THE ENTIRE LENGTH OF THE BAFFLE.

TYPICAL DENSITY CURRENT BAFFLE DETAIL 2 M3

SCALE: N.T.S.



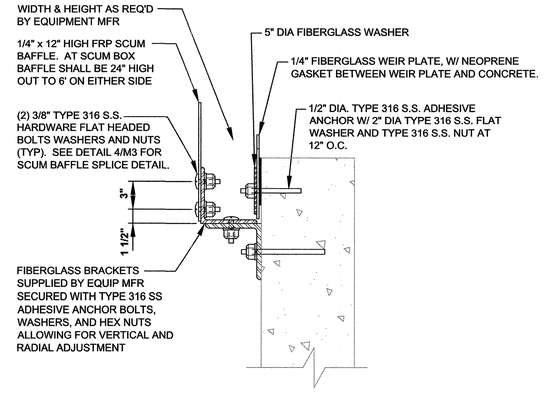
PLAN



ELEVATION

FIBERGLASS WEIR INSTALLATION & SPLICE DETAIL 3 M3

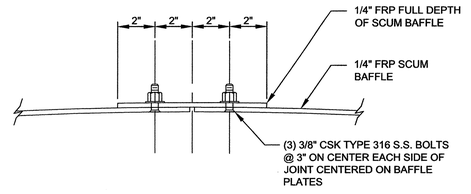
SCALE: N.T.S.



SCUM BAFFLE SECTION B M3

0 1

1 1/2"=1'-0"



SCUM BAFFLE SPLICE DETAIL 4 M3

0 1/2

3"=1'-0"

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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

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REGISTERED PROFESSIONAL ENGINEER KENNETH M. WONG No.41255 Exp.03/31/15 CIVIL STATE OF CALIFORNIA

8.14.13

DESIGNED	RLO
DRAWN	CCE
CHECKED	RFY

CALIFORNIA ARMY NATIONAL GUARD
CAMP ROBERTS, CALIFORNIA

SUSTAINMENT AND COMPLIANCE PROJECT
MAIN GARRISON WASTEWATER TREATMENT PLANT IMPROVEMENTS

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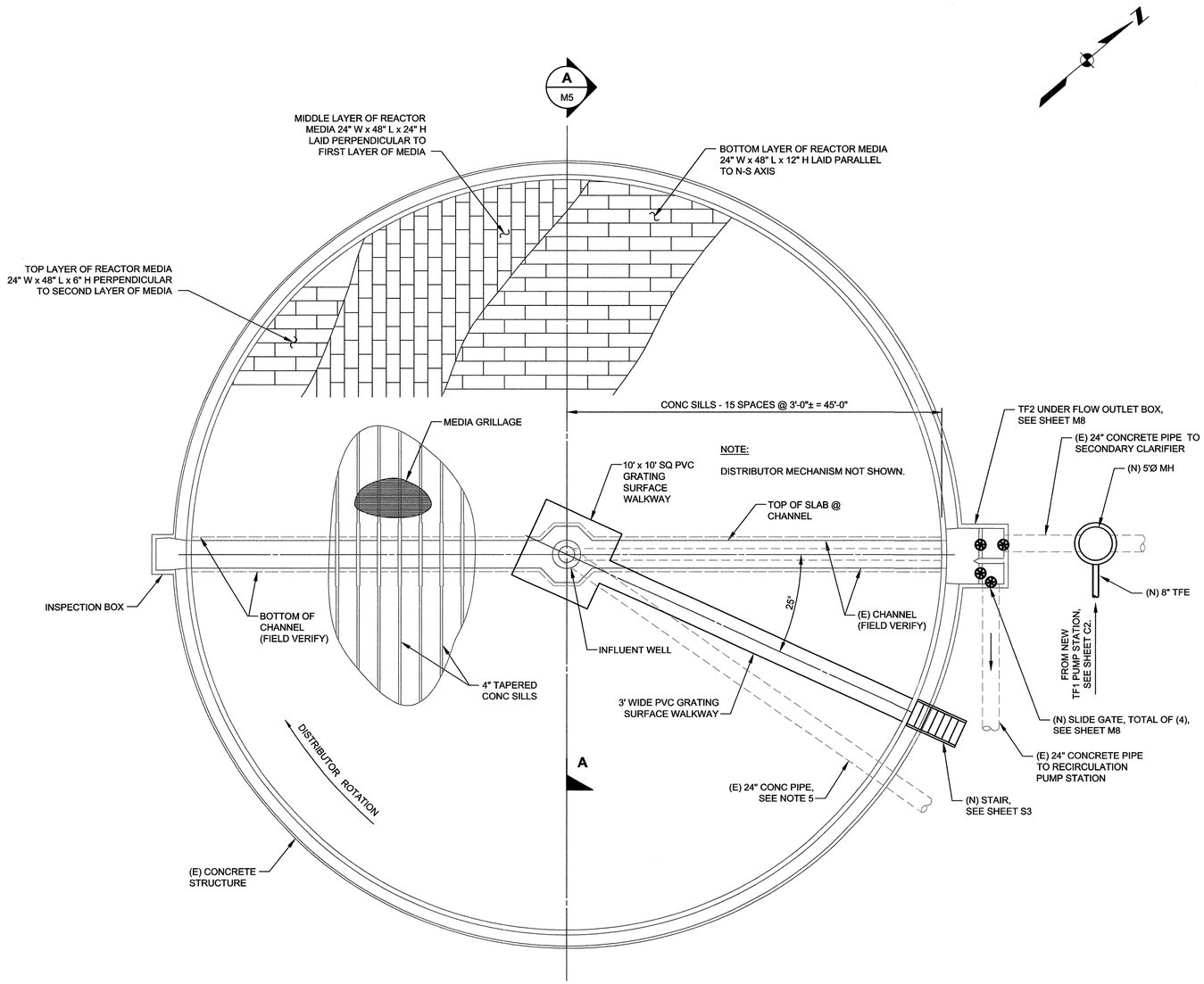
SECONDARY CLARIFIER SECTIONS

FILE NAME	127001201m03.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	M3 OF

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NOTES:

1. INSIDE DIAMETER OF TRICKLING FILTER BASIN IS NOMINALLY 90 FEET. CONTRACTOR SHALL VERIFY DIAMETER AND ROUNDNESS BEFORE FABRICATING PROPOSED EQUIPMENT.
2. CONTRACTOR SHALL VERIFY FLOOR TOPOGRAPHY FOR DRAINAGE TO THE UNDER FLOW OUTLET BOX.
3. SUPPORT FOR MEDIA SHALL BE FABRICATED TO PROVIDE A UNIFORM ELEVATION FOR THE BOTTOM OF THE PVC MEDIA MODULES.
4. TOTAL HEIGHTS OF THE MEDIA SUPPORTS SHALL NOT EXCEED 12 INCHES AT THE HIGHEST POINT OF THE EXISTING FLOOR.
5. CONTRACTOR SHALL VIDEO THE (E) 24" CONCRETE PIPE AND INFORM COR OF THE CONDITION OF THE PIPE.



PLAN

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

0 5 10

1/8"=1'-0"

N:\2012\1270012.01_Camp_Roberts\127001201m04.dwg 8/15/2013 1:41 PM CALVIN SUGG

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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

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DESIGNED	RLO
DRAWN	CCE
CHECKED	RFY

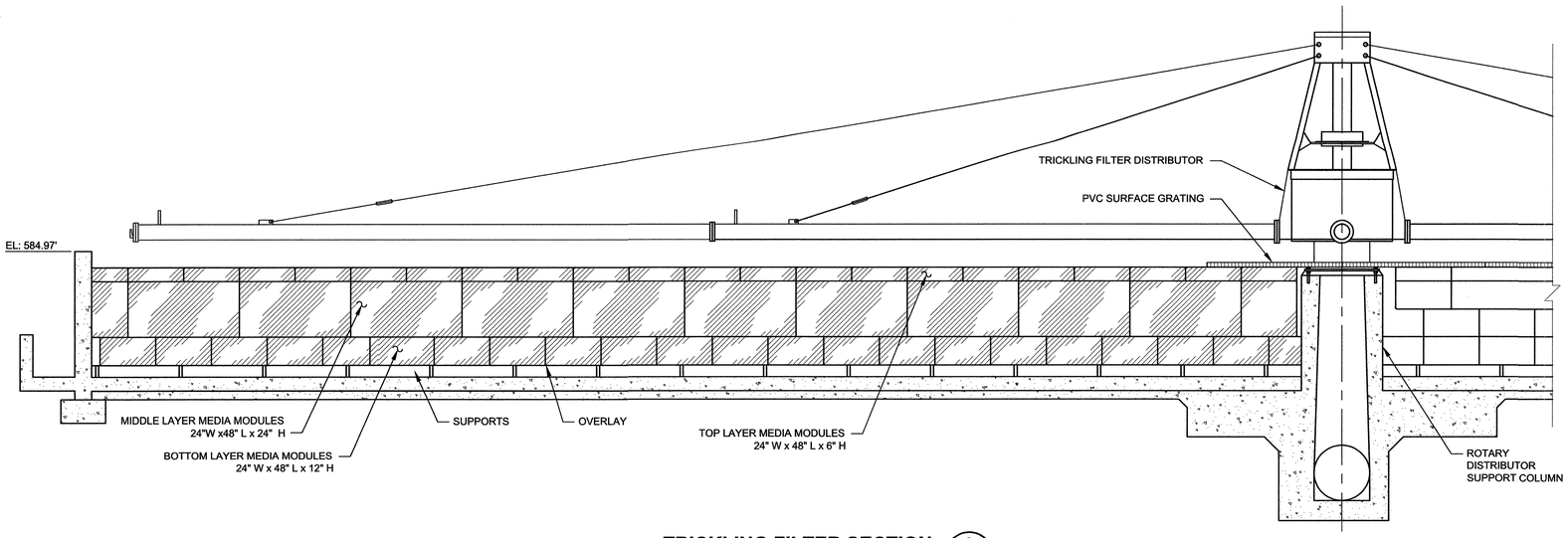
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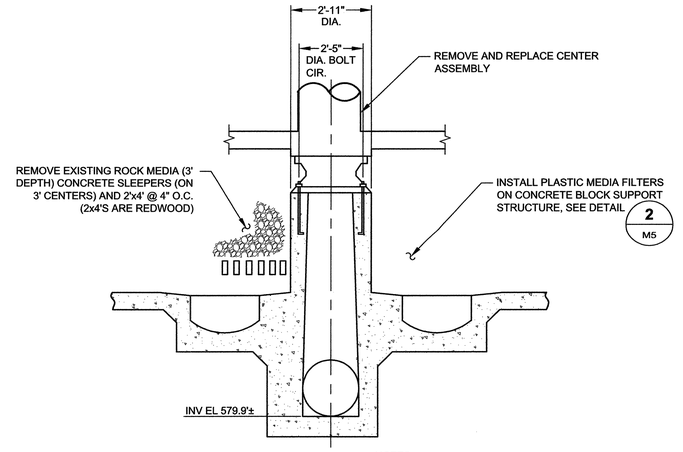
TRICKLING FILTER MODIFICATION PLAN

FILE NAME	127001201m04.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	M4
OF	



TRICKLING FILTER SECTION (A / M4)

SCALE: NTS

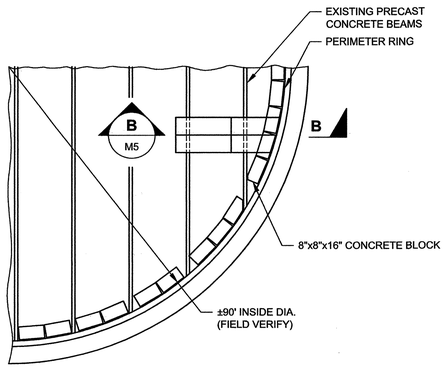


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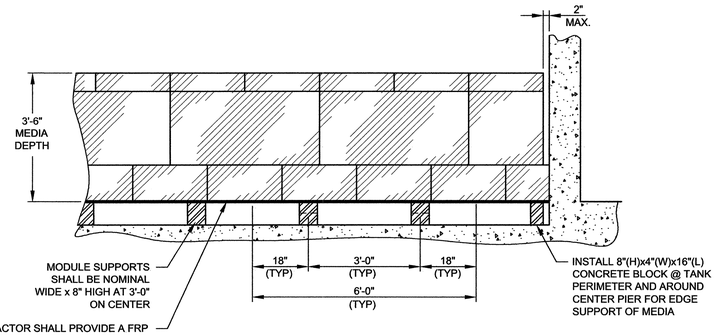
1. FIELD VERIFY AND MEASURE ALL HEIGHTS AND THICKNESSES OF EXISTING CONCRETE PIER. PROVIDE ACCURATE DIMENSIONS TO CENTER ASSEMBLY MANUFACTURER.
2. IF NECESSARY REMOVE EXISTING ANCHOR BOLTS AND REPLACE WITH NEW ANCHOR BOLTS (SUPPLIED BY CENTER ASSEMBLY MANUFACTURER). ADAPTER PLATE AND CONCRETE.
3. IF CENTER ASSEMBLY MANUFACTURER DEEMS NECESSARY, WIDEN/ OR RAISE CONCRETE PIER - DRILL AND DOWEL WITH #5 REBAR 2" MIN PENETRATION EPOXY GROUT. 12" O.C. BOTH WAYS.

ROTARY DISTRIBUTOR SUPPORT COLUMN (1 / M5)

SCALE: NTS



PLAN



SECTION (B / M5)

TRICKLING FILTER MEDIA AND SUPPORTS (2 / M5)

SCALE: NTS

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NO.	REVISION	DATE	BY

SCALES

0 ——— 1"

0 ——— 25mm

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REGISTERED PROFESSIONAL ENGINEER
KENNETH M. WONG
No.41255
Exp.03/31/15
CIVIL
STATE OF CALIFORNIA
8-14-13

DESIGNED	RLO
DRAWN	CCE
CHECKED	RFY

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MAIN GARRISON WASTEWATER TREATMENT PLANT IMPROVEMENTS

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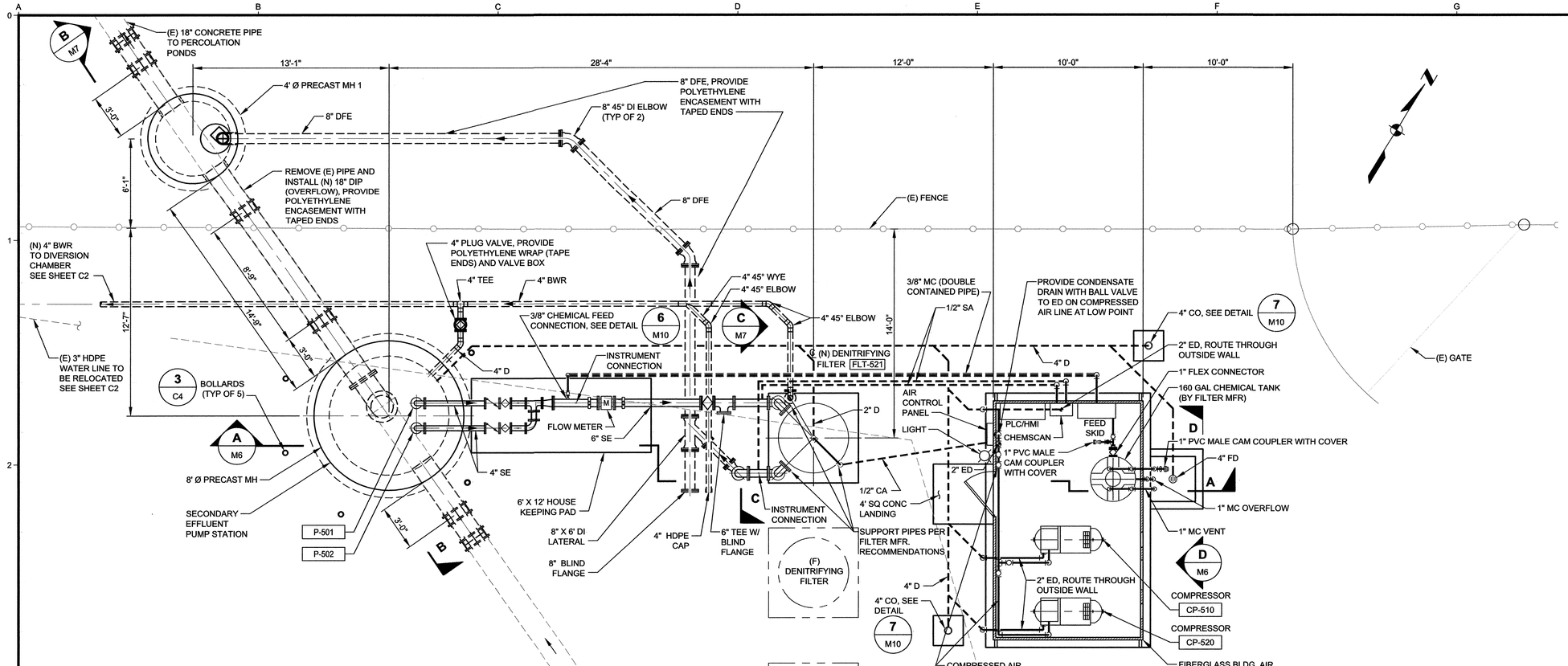
TRICKLING FILTER MODIFICATION SECTIONS AND DETAILS

FILE NAME	127001201m05.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	M5
OF	

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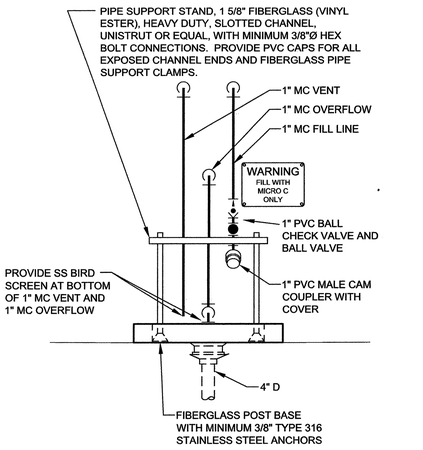
NOTE:

1. FINAL PIPING AND ELECTRICAL CONDUIT ARRANGEMENT SHALL BE PER FILTER MANUFACTURER.



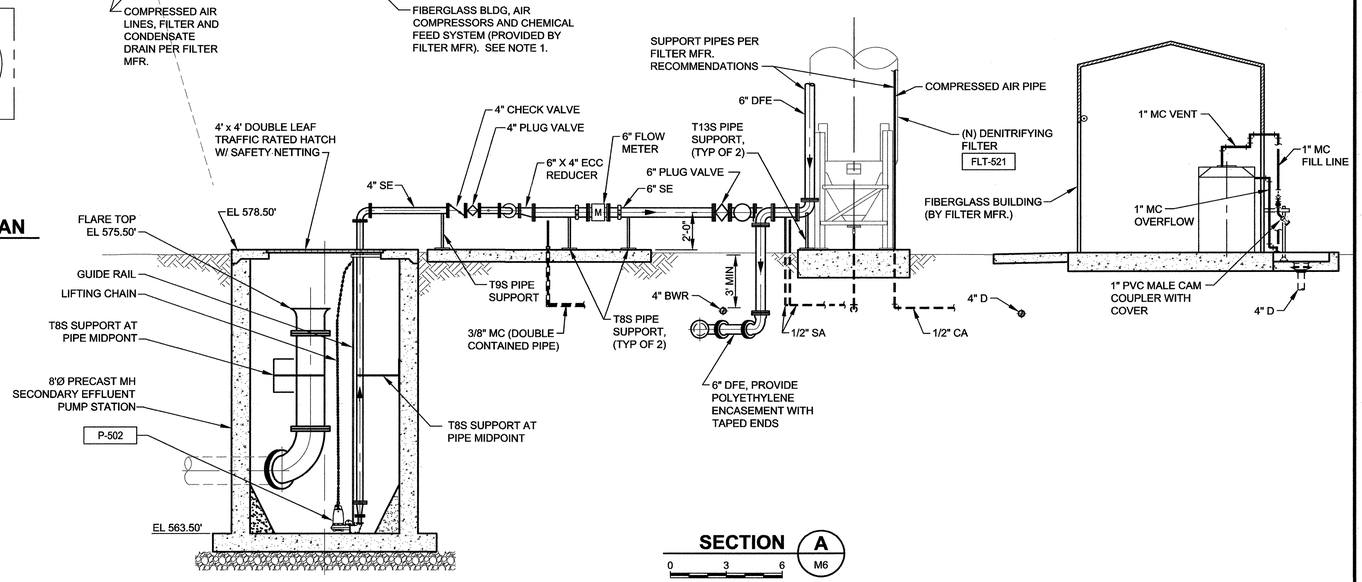
SECONDARY EFFLUENT PUMP STATION AND DENITRIFYING FILTER - PLAN

0 3 6
1/4"=1'-0"



SECTION D M6

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



SECTION A M6

0 3 6
1/4"=1'-0"

N:\2012\1270012.01_Camp_Roberts\127001201m06.dwg 8/14/2013 3:38 PM CALVIN SUGG

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NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER KENNETH M. WONG No.41255 Exp.03/31/15 CIVIL STATE OF CALIFORNIA 8-14-13

DESIGNED	RLO
DRAWN	CCE
CHECKED	RFY

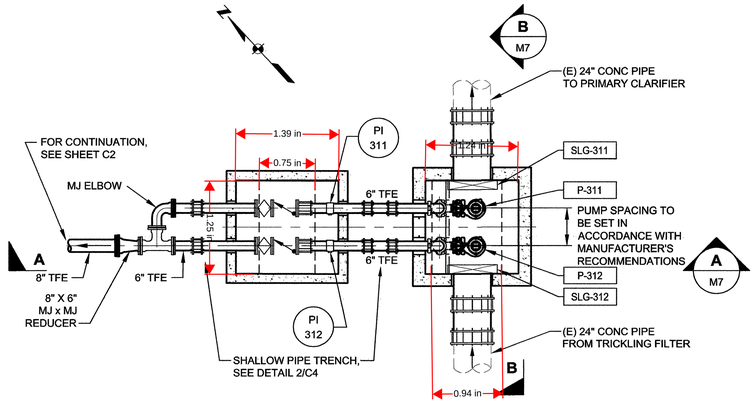
CALIFORNIA ARMY NATIONAL GUARD
CAMP ROBERTS, CALIFORNIA

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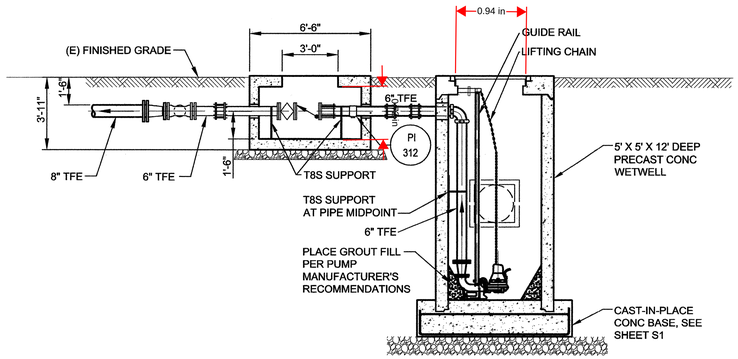
SECONDARY EFFLUENT PUMP STATION, DENITRIFYING FILTER PLAN AND SECTIONS

FILE NAME	127001201m06.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	M6
OF	



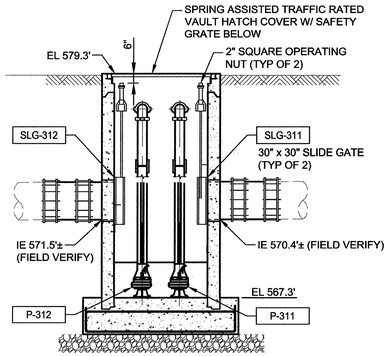
TF1 EFFLUENT PUMP STATION - PLAN 1 C2

0 3 6
1/4"=1'-0"



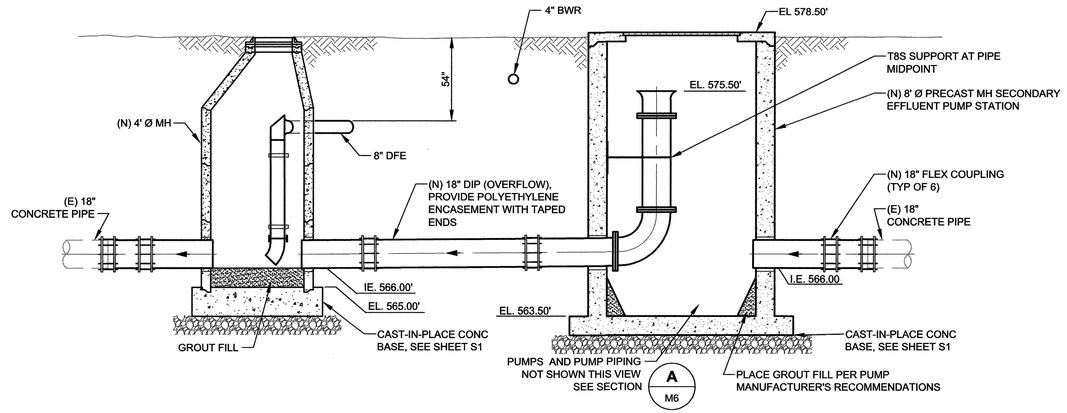
SECTION A M7

0 3 6
1/4"=1'-0"



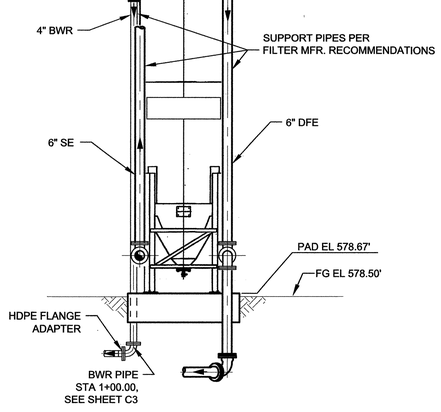
SECTION B M7

0 3 6
1/4"=1'-0"



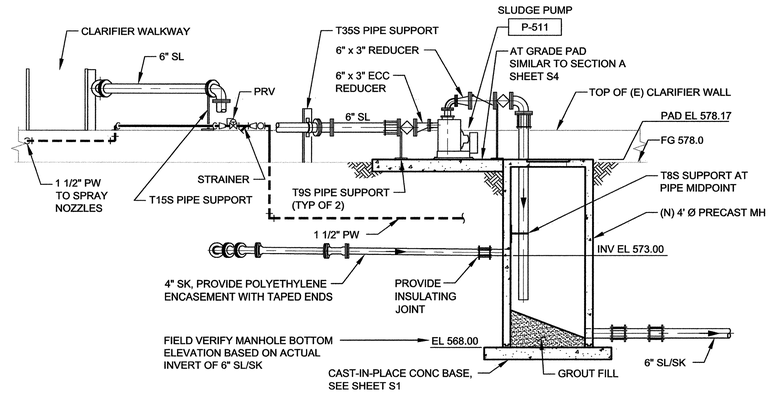
SECONDARY CLARIFIER SECTION - PUMP STATION - SECTION B M6

0 3 6
1/4"=1'-0"



DENITRIFYING FILTER - SECTION C M6

0 3 6
1/4"=1'-0"



SLUDGE PUMP SECTION D M2

0 3 6
1/4"=1'-0"

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NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
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REGISTERED PROFESSIONAL ENGINEER
KENNETH W. WONG
No.41255
Exp.03/31/15
CIVIL
STATE OF CALIFORNIA
8-14-13

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DRAWN	CCE
CHECKED	RFY

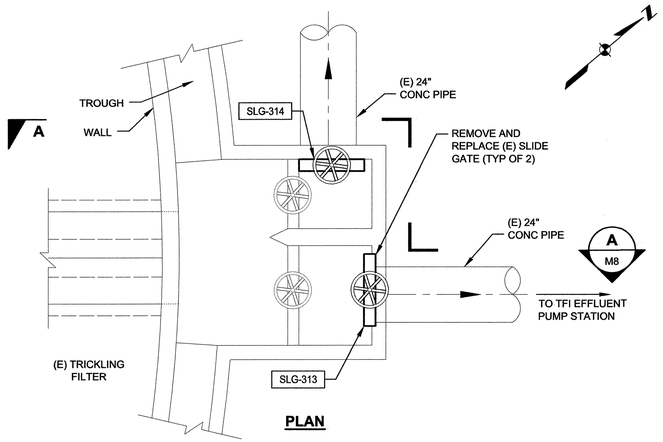
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SUSTAINMENT AND COMPLIANCE PROJECT
MAIN GARRISON WASTEWATER TREATMENT PLANT IMPROVEMENTS

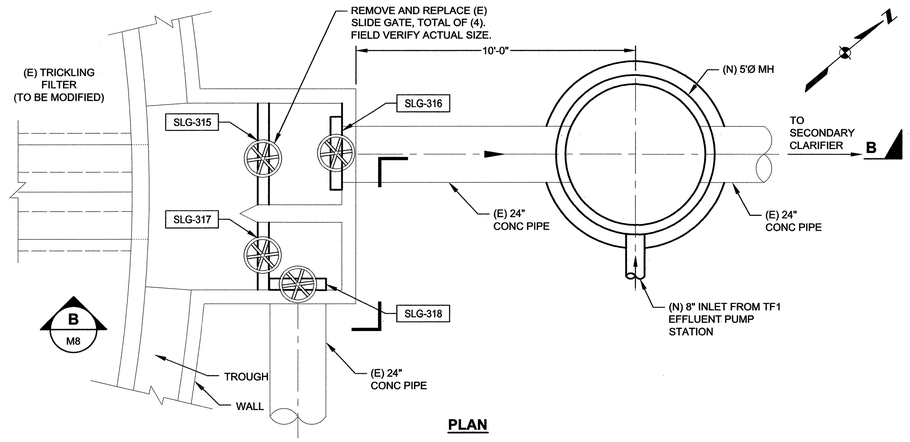
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DENITRIFYING FILTER DETAILS AND TF1 PUMP STATION PLAN AND SECTIONS

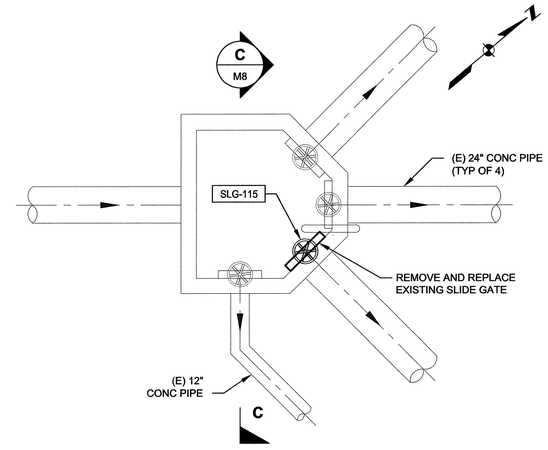
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JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	M7
OF	



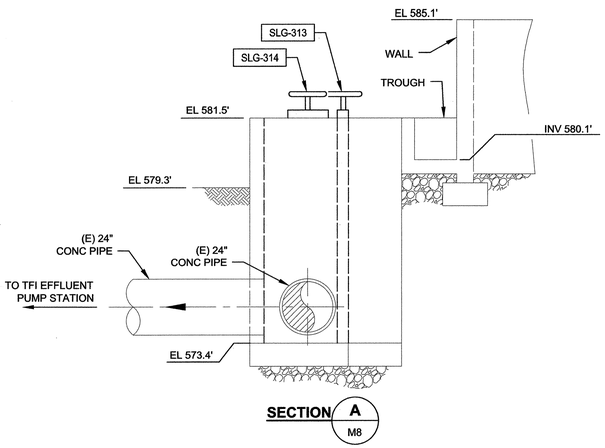
PLAN



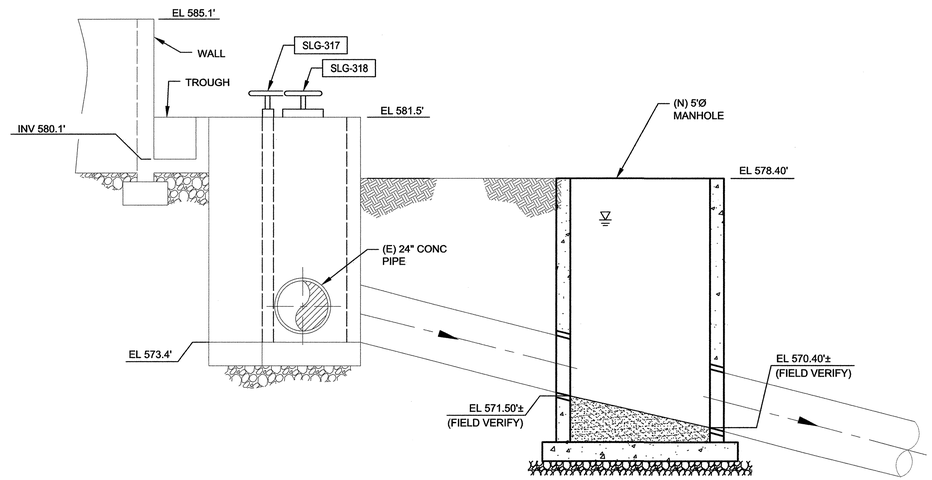
PLAN



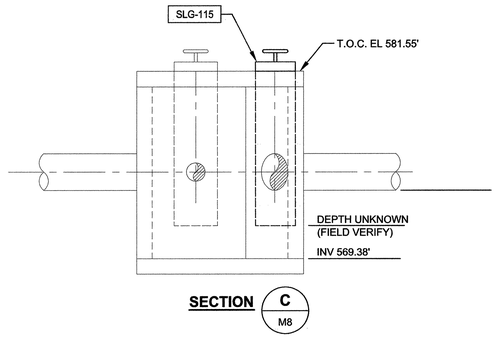
PLAN



SECTION A M8



SECTION B M8



SECTION C M8

TF1 UNDERFLOW OUTLET BOX 1 M8

SCALE: N.T.S.

TF2 UNDERFLOW OUTLET BOX 2 M8

SCALE: N.T.S.

EXISTING DIVERSION CHAMBER 3 M8

SCALE: N.T.S.

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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

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REGISTERED PROFESSIONAL ENGINEER
KENNETH M. WONG
No.41255
Exp.03/31/15
CIVIL
STATE OF CALIFORNIA
8-14-13

DESIGNED RLO

DRAWN CCE

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SUSTAINMENT AND COMPLIANCE PROJECT
MAIN GARRISON WASTEWATER TREATMENT PLANT IMPROVEMENTS

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MECHANICAL DETAILS 1

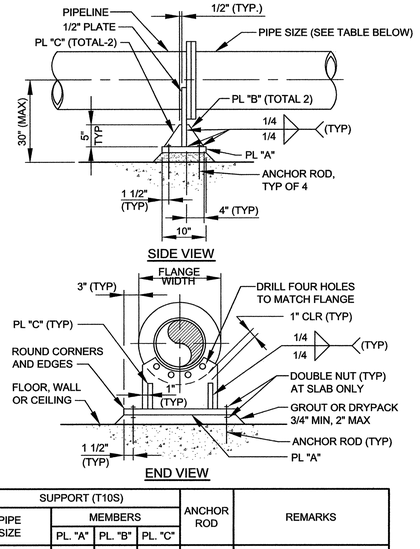
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JOB NO. 1270012.01

DATE AUGUST 14, 2013

SHEET M8 OF

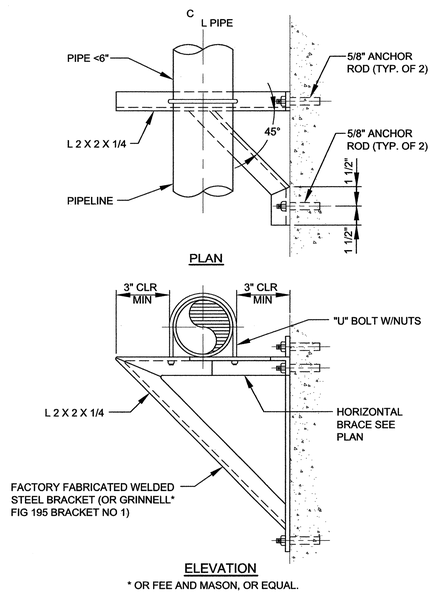
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SUPPORT (T10S)				ANCHOR ROD	REMARKS
PIPE SIZE	MEMBERS				
	PL. "A"	PL. "B"	PL. "C"		
≤ 12"	1/2"	-	-	3/4"	PL. "B" & "C" NOT REQ'D.

TYPE 10 PIPE SUPPORT (T10S) 1 M9

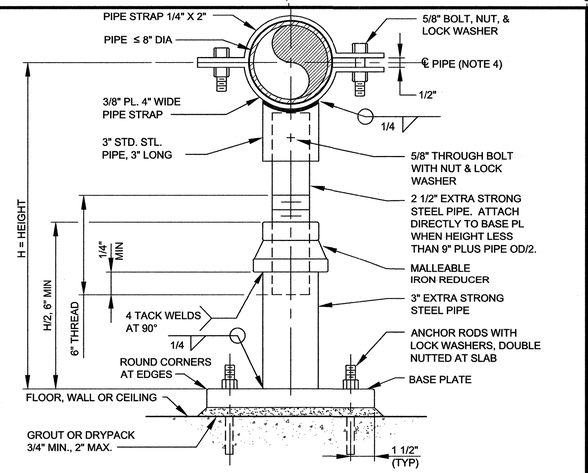
SCALE: N.T.S.



* OR FEE AND MASON, OR EQUAL.

TYPE 17 PIPE SUPPORT (T17S) 2 M9

SCALE: N.T.S.

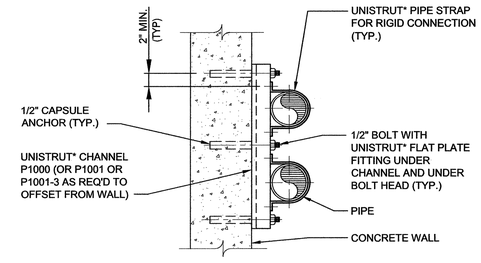


LOCATION	H (MAX.)	MEMBER	
		BASE PLATE	ANCHOR ROD
FLOOR	3'-0"	3/8 X 9 X 9	4-5/8"
WALL	1'-6"	5/8 X 9 X 9	4-3/4"

NOTES:
1. AS AN ALTERNATE, IF ADJUSTMENT IS NOT NECESSARY, DELETE PIPE AND REDUCER AND WELD 3" STEEL PIPE DIRECTLY TO BOTTOM PIPE STRAP.
2. DO NOT CUT OR WELD AFTER GALVANIZING.
3. PIPE SUPPORT MAY BE ORIENTATED IN ANY DIRECTION.
4. WHERE SLIDING SUPPORT REQUIRED, OMIT GAP AND SIZE STRAP SO THAT IT FITS LOOSE..

TYPE 8 PIPE SUPPORT (T8S) 3 M9

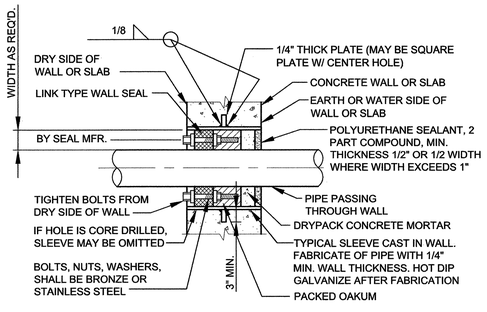
SCALE: N.T.S.



* OR B-LINE INC., OR EQUAL.

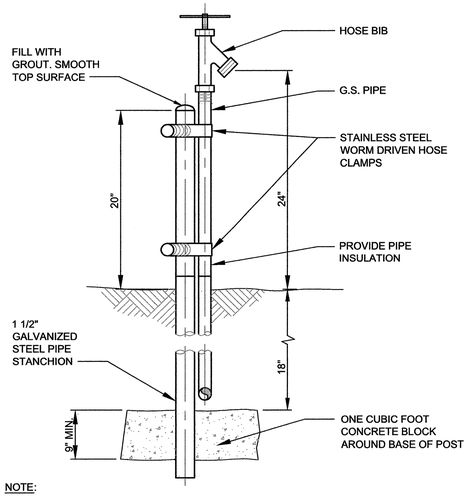
TYPE 3 PIPE SUPPORT (T3S) 4 M9

SCALE: N.T.S.



LINK SEAL PIPE PENETRATION 5 M9

SCALE: N.T.S.

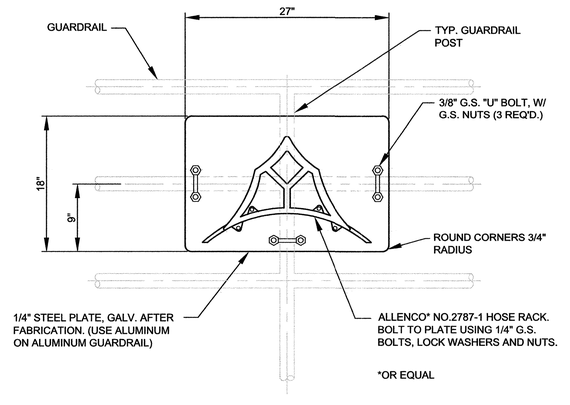


NOTE:

PVC TAPE WRAP G.S. PIPE & STANCHION WHERE BURIED TO 3" ABOVE GRADE AND 3" INTO CONCRETE EMBEDMENT.

EXTERIOR HOSE BIBB DETAIL 6 M9

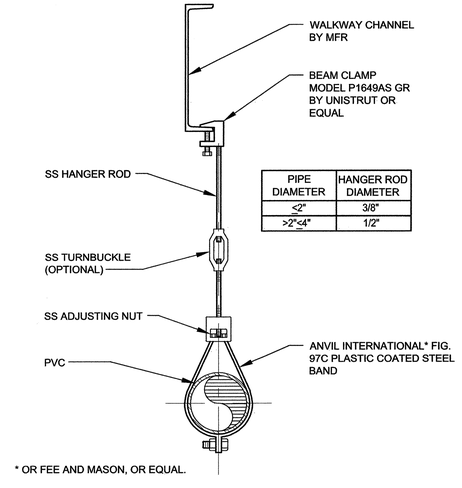
SCALE: N.T.S.



*OR EQUAL

HOSE RACK ON GUARDRAIL DETAIL 7 M9

SCALE: N.T.S.



PIPE DIAMETER	HANGER ROD DIAMETER
<2"	3/8"
>2"<4"	1/2"

* OR FEE AND MASON, OR EQUAL.

TYPE 5 PIPE SUPPORT (T5S) 8 M9

SCALE: N.T.S.

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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

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REGISTERED PROFESSIONAL ENGINEER KENNETH M. WONG No.41255 Exp.03/31/15 CIVIL STATE OF CALIFORNIA 8-14-13

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CAMP ROBERTS, CALIFORNIA

SUSTAINMENT AND COMPLIANCE PROJECT
MAIN GARRISON WASTEWATER TREATMENT PLANT IMPROVEMENTS

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MECHANICAL DETAILS 2

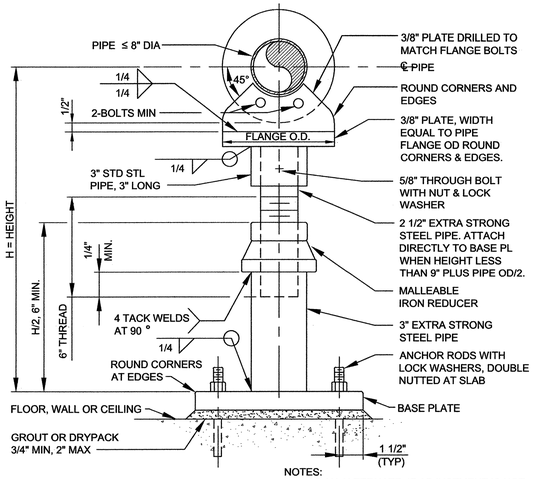
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JOB NO. 1270012.01

DATE AUGUST 14, 2013

SHEET OF **M9**

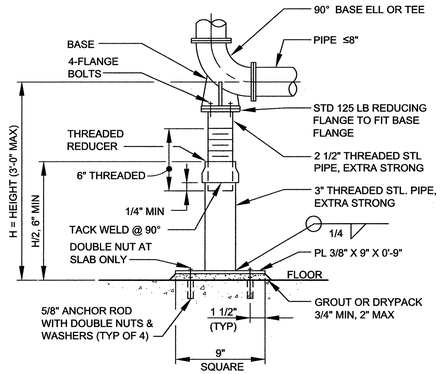
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LOCATION	H (MAX.)	MEMBER	
		BASE PLATE	ANCHOR ROD
FLOOR	3'-0"	3/8 X 9 X 9	4-5/8"
CEILING	3'-0"	5/8 X 9 X 9	4-3/4"
WALL	1'-6"	5/8 X 9 X 9	4-3/4"

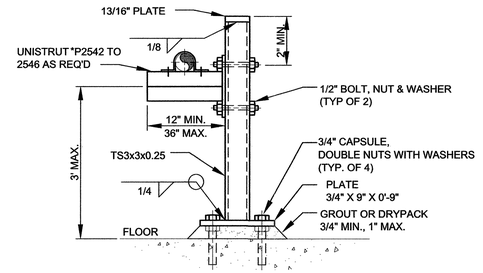
NOTES:
1. AS AN ALTERNATE, IF ADJUSTMENT IS NOT NECESSARY, DELETE 2 1/2" PIPE AND REDUCER AND WELD 3" STEEL PIPE DIRECTLY TO 3/8" PLATE ATTACHED TO PIPE FLANGE.
2. DO NOT CUT OR WELD AFTER GALVANIZING.
3. PIPE SUPPORT MAY BE ORIENTATED IN ANY DIRECTION.

TYPE 9 PIPE SUPPORT (T9S) 1
SCALE: N.T.S. M10



NOTES:
1. AS AN ALTERNATE, IF ADJUSTMENT IS NOT NECESSARY, DELETE 2 1/2" STEEL PIPE AND SCREW 3" STEEL PIPE DIRECTLY TO REDUCING FLANGE.
2. DO NOT CUT OR WELD AFTER GALVANIZING.

TYPE 13 PIPE SUPPORT (T13S) 2
SCALE: N.T.S. M10

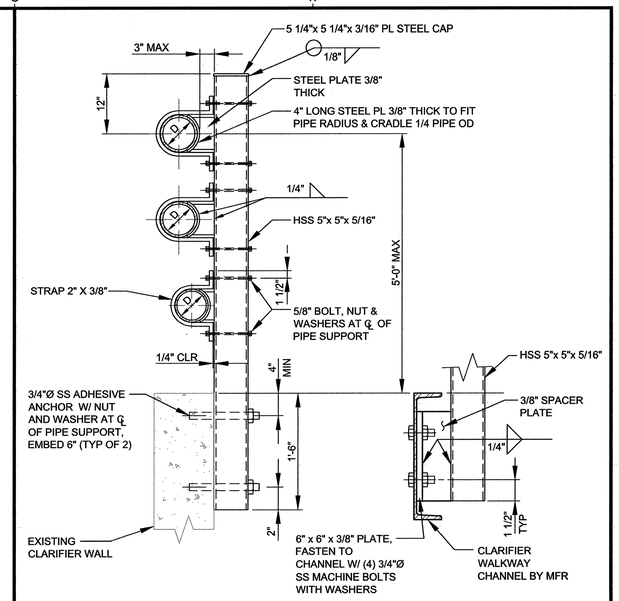


MAX. LOAD LIMITS (ALL ON ONE SIDE ONLY)	
NUMBER OF PIPES	PIPE SIZE
1	6"
4	4"
5	<4"

NOTE:
BOTH SIDES OF PIPE SUPPORT MAY BE LOADED PROVIDED THE NUMBER OF PIPES PER SIDE IS NOT EXCEEDED.

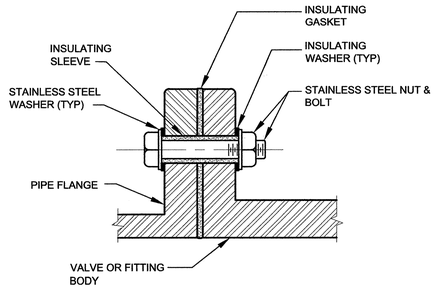
* OR KIN-LINE, INC., OR EQUAL.

TYPE 15 PIPE SUPPORT (T15S) 3
SCALE: N.T.S. M10



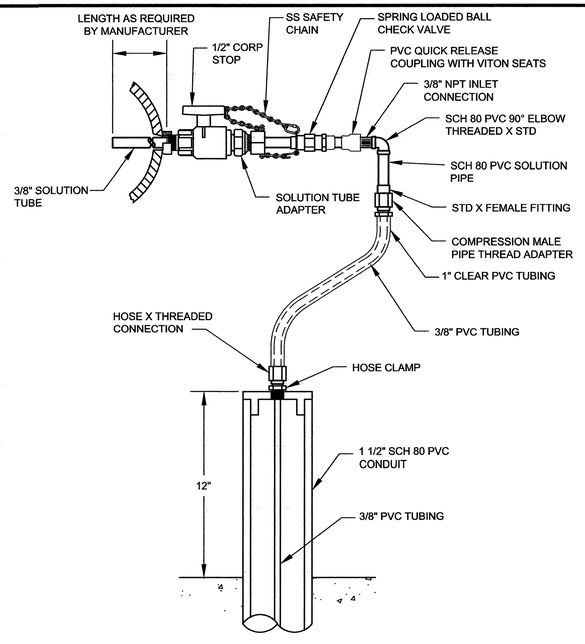
NOTES:
1. PIPES MAY BE ATTACHED TO EITHER SIDE OF SUPPORT.

TYPE 35 PIPE SUPPORT (T35S) 4
SCALE: N.T.S. M10

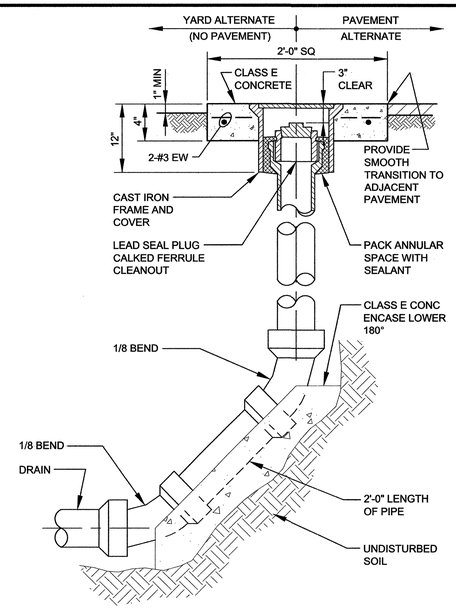


NOTE: PIPE COATING NOT SHOWN.

INSULATION FLANGE DETAIL 5
SCALE: N.T.S. M10



CHEMICAL FEED CONNECTION DETAIL 6
SCALE: N.T.S. M10



CLEANOUT DETAIL 7
SCALE: N.T.S. M10

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NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
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DRAWN	CCE
CHECKED	RFY

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MAIN GARRISON WASTEWATER TREATMENT PLANT IMPROVEMENTS

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MECHANICAL DETAILS 3

FILE NAME	127001201m10.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	M10
OF	

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SYMBOLS LIST

SYMBOL	DESCRIPTION
A	LIGHTING FIXTURE SYMBOL
	PANELBOARD
	CONTROL PANEL
	SWITCHBOARD
AM	AMMETER 250 DEGREE SCALE
VM	VOLT METER 250 DEGREE SCALE
WHM	WATT HOUR METER AND SOCKET
PFR	PHASE FAILURE RELAY
TM	ELAPSED TIME METER
	CONTROL STATION (SEE WIRING DIAGRAMS) COMBINATION STARTER
LOS	LOCK-OFF-STOP SELECTOR SWITCH
VS	VOLT METER SWITCH, 4 POSITION
AS	AMMETER POSITION, 4 POSITION
T OR	TRANSFORMER
	CONTROL POWER TRANSFORMER
	CURRENT TRANSFORMER
M	METER & CURRENT TRANSFORMER
	SELECTOR SWITCH
TDD	TIME DELAY RELAY
LR	LATCHING RELAY
CR	CONTROL RELAY
R	INDUSTRIAL RELAY (MACHINE TOOL)
LS	LIMIT SWITCH
ISR	INTRINSICALLY SAFE RELAY
LI	TERMINAL BLOCK POINT
	CEILING LIGHT FIXTURE
	BRACKET LIGHT FIXTURE
F	WARNING LIGHT
	POLE MOUNTED LIGHT FIXTURE
	FLUORESCENT LIGHT FIXTURE, SEE SCHEDULE FOR MOUNTING (SHADED FOR NIGHT LIGHT)
	FLOOD LIGHT
	EMERGENCY LIGHT PACK
$_a	SINGLE POLE TOGGLE SWITCH, SWITCHING FIXTURES DENOTED
$_3	THREE WAY TOGGLE SWITCH
$_T	THERMAL MANUAL STARTER
	DUPLEX CONVENIENCE OUTLET
	20A, 220V RECEPTACLE OUTLET
	FOURPLEX CONVENIENCE RECEPTACLE OUTLET 20A, 125V
	DUPLEX CONVENIENCE OUTLET, HALF SWITCHED
	MOUNT OUTLET OR SWITCH ABOVE COUNTER OR BACKSPLASH
	WELDER OUTLET, 50 AMP, 3Ø, 4W, 206 V WITH MATCHING CAP.
LA	LIGHTNING ARRESTER
PXXXA	CONDUIT & WIRE IDENTIFICATION TAG

SYMBOL	DESCRIPTION
	TELEPHONE OUTLET, WALL
J	JUNCTION BOX
	GROUND
H	ALARM HORN
T	THERMOSTAT
H	HEATER, ELECTRIC
	CIRCUIT BREAKER OPERATING HANDLE
5	MOTOR, HORSEPOWER SIZE NOTED
M	MOTOR STARTER CONTACTOR COIL
	MANUAL MOTOR STARTER
	DISCONNECT SWITCH - NON FUSED
F	DISCONNECT SWITCH - FUSED
	DISCONNECT SWITCH
	DISCONNECT SWITCH WITH START PB LOS & AUX CONTACT
5A	INDICATION FUSE HOLDER AMPERE SIZE SHOWN
CT-XXXX 5A	CURRENT TRIP RELAY
5A	FUSE, AMPERE SIZE SHOWN
	CONDUIT RUN ON/IN WALL OR CEILING
	DUCT BANK
	CONDUIT RUN UNDER FLOOR/GROUND
	DENOTES NUMBER OF #12 WIRES. NO MARKS = 3/4"C, 2 #12
	DENOTES WIRE FOR GROUND FAULT CIRCUIT INTERRUPTER OR GROUND
	CIRCUIT RUN DIRECT TO DESTINATION
	SEAL-OFF FITTING
	WIRES CONNECTED
	WIRES NOT CONNECTED
	CONDUIT CROSSING NOT CONNECTED
G	GROUND BUS
N	NEUTRAL BUS
PB	PULL BOX
	HORN
	CONTACT NORMALLY OPEN
	CONTACT NORMALLY CLOSED
OL	OVERLOAD DEVICE CONTACT
	OVERLOAD DEVICE ELEMENT
	DISCONNECT SWITCH
W	WHITE PILOT LIGHT
	ANTENNA MAST
	GROUND ROD
S	SMOKE DETECTOR
1	SHEET NOTE TAG

SYMBOL	DESCRIPTION
	NAMEPLATE
AE	ANALYZER ELEMENT
FE	FLOW ELEMENT
FIT	FLOW INDICATOR TRANSMITTER
LE	LEVEL ELEMENT
LIT	LEVEL INDICATOR TRANSMITTER
LSH	LEVEL SWITCH HIGH
LSL	LEVEL SWITCH LOW
LT	LEVEL TRANSMITTER
OE	OXYGEN ELEMENT
PI	PRESSURE INDICATOR
PSH	PRESSURE SWITCH HIGH
PIT	PRESSURE INDICATOR TRANSMITTER
PEC	PHOTOELECTRIC
SV	SOLENOID VALVE
ZS	LIMIT / INTRUSION SWITCH

LIMIT SWITCHES	
	CLOSE ON REACHING LIMIT
	CLOSE ON LEAVING LIMIT

TIMED CONTACTS			
SYMBOL	NORMAL	OPEN TO CLOSED	CLOSED TO OPEN
	OPEN	DELAYED	INSTANTANEOUS
	CLOSED	INSTANTANEOUS	DELAYED
	OPEN	INSTANTANEOUS	DELAYED
	CLOSED	DELAYED	INSTANTANEOUS

SENSING SWITCHES		
CLOSE ON		SENSED VARIABLE
RISING	FALLING	
		FLOW
		LEVEL
		PRESSURE
		TEMPERATURE

ABBREVIATIONS

A	AMPERES
AFD	ADJUSTABLE FREQUENCY
AIC	AMPS INTERRUPTING CAPACITY
AI	ANALOG INPUT DRIVE
AO	ANALOG OUTPUT
BC	BARE COPPER
BP	BOOSTER PUMP
C	CONDUIT
CB	CIRCUIT BREAKER
CH	CHANNEL
CNTL	CONTROL
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CT	CURRENT TRANSFORMER
CU	COPPER
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
(E)	EXISTING
EYS	CATALOG NUMBER OF TYPICAL GAS TIGHT CONDUIT SEAL
ETM	ELAPSED TIME METER
F	FUSE, FILTER
(F)	FUTURE
FSP	FILTER SOLENOID PANEL
FVNR	FULL VOLTAGE NON REVERSING
FVR	FULL VOLTAGE REVERSING
GND	GROUND
G	GREEN
GFI	GROUND FAULT CIRCUIT INTERRUPTER
HPS	HIGH PRESSURE SODIUM
ID	INSIDE DIMENSION
ISR	INTRINSICALLY SAFE RELAY
INST	INSTANTANEOUS
JB	JUNCTION BOX
KVA	KILOVOLT AMPERES
KW	KILOWATT
LA	LIGHTNING ARRESTER
LC	LIGHTNING CONTROL
LCP	LOCAL CONTROL PANEL
LOS	LOCK OFF STOP PUSH BUTTON
LPU	LINE PROTECTION UNIT
mA	MILLIAMPERES
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MFG	MANUFACTURER
MOT	MOTOR OVERTEMPERATURE SENSOR
MSB	MAIN SWITCHBOARD
MT	EMPTY CONDUIT (W/ PULLROPE)
MTS	MANUAL TRANSFER SWITCH
NTS	NOT TO SCALE
N	NEUTRAL
N/A	NOT APPLICABLE
NA	NON AUTOMATIC
(N)	NEW
N.I.C.	NOT IN CONTRACT
NP	NAMEPLATE
OI	OPERATOR INTERFACE
OL	OVERLOAD DEVICE
PB	PULLBOX
PFR	POWER FAILURE RELAY
PLC	PROGRAMMABLE CONTROLLER
PNL	PANEL
PM	POWER MONITOR
POC	POINT OF CONNECTION
POT	POTENTIOMETER SHIELDED,
PR	PAIR CABLE
PT	POTENTIAL TRANSFORMER
PTT	PUSH TO TEST
PWR	POWER
R	RED
(R)	EXISTING TO BE REMOVED OR RELEASED
RSC	RIGID STEEL CONDUIT
RSC/PVC	RIGID STEEL PVC COATED
RVAT	REDUCED VOLTAGE AUTOTRANSFORMER
SP	SOLENOID PANEL
SOV	SOLENOID OPERATED VALVE
SWBD	SWITCHBOARD
SZ	SIZE
TB	TERMINAL BOX
TERM	TERMINAL BOX
TD	TIME DELAY RELAY
TC	TIME CLOCK
TM	THERMAL MAGNETIC
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TWSP	TWISTED SHIELDED PAIR
TWP	TWISTED PAIR
TYP	TYPICAL
UPS	UNINTERRUPTIBLE POWER SUPPLY
UON	UNLESS OTHERWISE NOTED
V	VOLTS, VOLTAGE
WP	WEATHERPROOF
WW	WET WELL
XFMR	TRANSFORMER
XP	EXPLOSION PROOF

UTILITY SERVICE NOTE

ALL WORK REQUIRED FOR UTILITY SERVICES SHALL BE IN ACCORD WITH CONTRACT DOCUMENTS, SPECIFICATIONS, DRAWINGS AND AS REQUIRED BY DPW, CAMP ROBERTS.

COORDINATE REQUIREMENTS WITH.....

DPW

RON NEIGHBORS (805) 365-5083
TRADE SUPERVISOR

	CONTRACTOR	BASE
RISER	X	
SECONDARY CONDUIT	X	
SECONDARY CONDUCTORS		X
METER ENCLOSURE	X	
METER & CTS		X
SPARE CONDUIT	X	

NOTE:

1. IN GENERAL, WHERE NEW EQUIPMENT IS SHOWN ON THE SAME SHEET AS EXISTING OR FUTURE EQUIPMENT, THE NEW EQUIPMENT WILL BE SHOWN IN A HEAVIER LINE WEIGHT.

ECS
ECS Engineering, Inc.
Electrical & Control Systems Engineering
For Pump Stations & Treatment Facilities
Elk Grove, CA
916-694-1477 Fax 916-694-7161
samterry@earthlink.net

USE OF DOCUMENTS

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NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER — No.14638 — Exp.12-31-2014 — ELECTRICAL — STATE OF CALIFORNIA
08/15/13

DESIGNED	SWT
DRAWN	CCE
CHECKED	JL

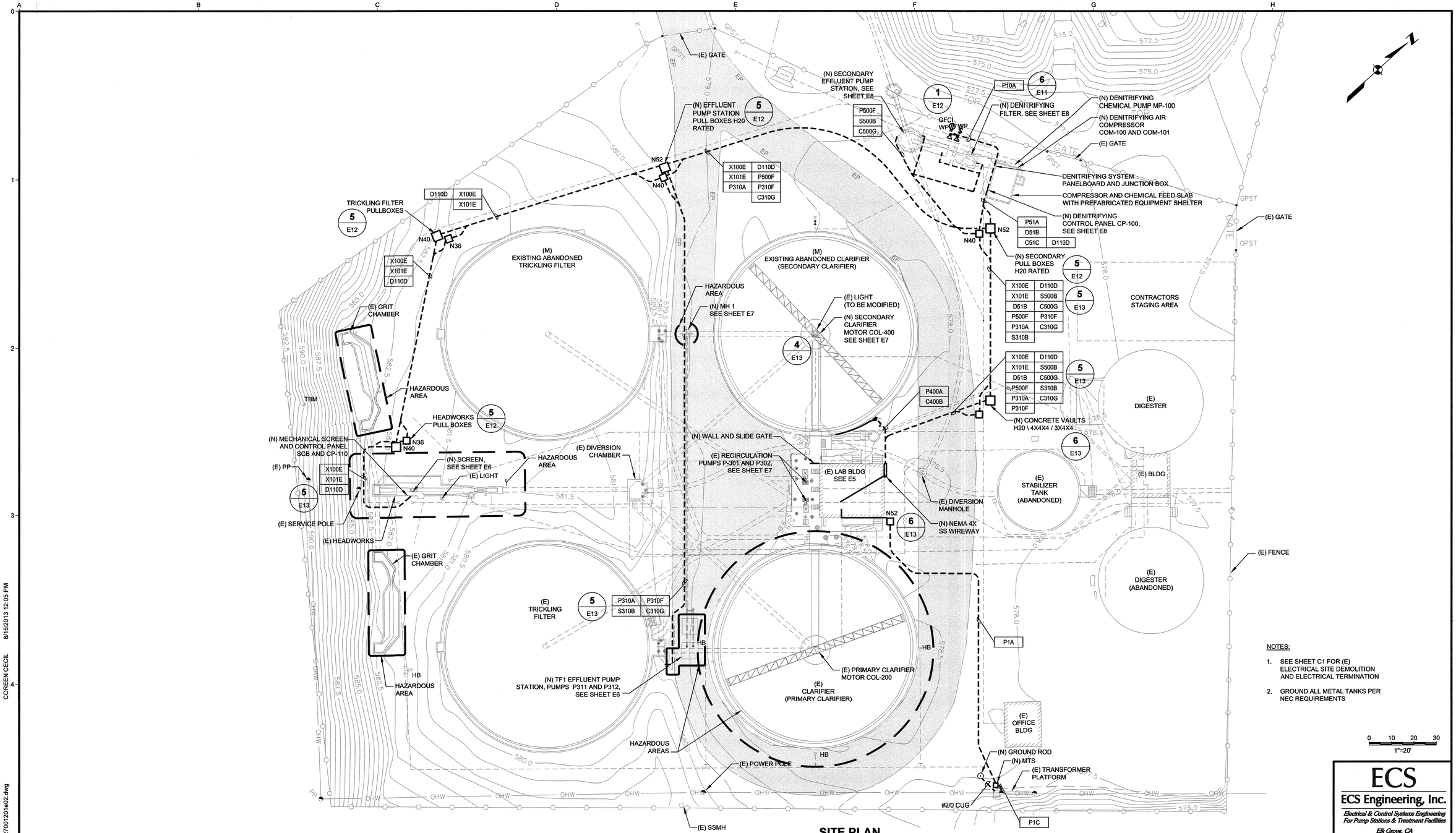
CALIFORNIA ARMY NATIONAL GUARD
CAMP ROBERTS, CALIFORNIA
SUSTAINMENT AND COMPLIANCE PROJECT
MAIN GARRISON WASTEWATER TREATMENT PLANT IMPROVEMENTS

Kennedy/Jenks Consultants©
10850 Gold Center Drive, Ste 350, Rancho Cordova, California 95670

ELECTRICAL SYMBOLS AND ABBREVIATIONS

FILE NAME	127001201e01.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	E1
OF	

N:\2012\12700012.01_camp_roberts\127001201e01.dwg
8/15/2013 12:28 PM
COREEN CECIL



NOTES:

1. SEE SHEET C1 FOR (E) ELECTRICAL SITE DEMOLITION AND ELECTRICAL TERMINATION
2. GROUND ALL METAL TANKS PER NEC REQUIREMENTS

0 10 20 30
1"=20'

SITE PLAN
SCALE: 1" = 20'

ECS
ECS Engineering, Inc.
Electrical & Control Systems Engineering For Pump Stations & Treatment Facilities
Elk Grove, CA
916-684-1477 Fax 916-684-7161
samleny@earthlink.net

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SCALES
0 1"
0 25mm
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REGISTERED PROFESSIONAL ENGINEER — James D. Kelly — No.14638 Exp.12-31-2014 — ELECTRICAL — STATE OF CALIFORNIA
08/15/13

DESIGNED	SWT
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CHECKED	JL

CALIFORNIA ARMY NATIONAL GUARD
CAMP ROBERTS, CALIFORNIA
SUSTAINMENT AND COMPLIANCE PROJECT
MAIN GARRISON WASTEWATER TREATMENT PLANT IMPROVEMENTS

Kennedy/Jenks Consultants©
10850 Gold Center Drive, Ste 350, Rancho Cordova, California 95670

ELECTRICAL SITE PLAN

FILE NAME	127001201e02.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	E2 OF

N:\2012\12700012.01_Camp_Roberts\127001201e02.dwg 8/15/2013 12:05 PM COREEN CECIL

SINGLE LINE DIAGRAM

NOTES:

1. PROVIDE (N) MTS MOUNTS IN THE LOCATION OF (E) MTS

⚠ WARNING

ARC FLASH & SHOCK HAZARD

APPROPRIATE PPE AND TOOLS REQUIRED WHEN WORKING ON THIS EQUIPMENT

LOAD CALCULATION

(E) MCC-1	UTILITY	GEN LOAD	FUTRE LOAD
(E) EXHAUST FAN	6.8 AMPS	6.8 AMPS	6.8 AMPS
(E) SUMP PUMP	9.6 AMPS	9.6 AMPS	9.6 AMPS
(E) PRIMARY CLARIFIER	2.8 AMPS	2.8 AMPS	2.8 AMPS
(E) CIRC PUMP No. 1	28.0 AMPS	28.0 AMPS	28.0 AMPS
(E) CIRC PUMP No. 2 (STANDBY)	0.0 AMPS	0.0 AMPS	0.0 AMPS
(E) PANEL A (3Ø EQUIVALENT)	64.0 AMPS	64.0 AMPS	68.0 AMPS
(E) DIGESTER SLUDGE PUMP NO.1	42.0 AMPS	42.0 AMPS	42.0 AMPS
(E) DIGESTER SLUDGE PUMP NO.2 (STANDBY)	0.0 AMPS	0.0 AMPS	0.0 AMPS
(E) GAS CIRC PUMP	15.2 AMPS	15.2 AMPS	15.2 AMPS
	168.4 AMPS	168.4 AMPS	172.4 AMPS
25% OF LARGEST MOTOR	10.5 AMPS	0.0 AMPS	10.5 AMPS
TOTAL	178.9 AMPS	168.4 AMPS	182.9 AMPS
(N) HEADWORKS CONTROL PANEL	3.6 AMPS	3.6 AMPS	3.6 AMPS
(N) TOTAL	182.5 AMPS	172.0 AMPS	186.5 AMPS
(N) MCC-2	2.0 AMPS	2.0 AMPS	2.0 AMPS
(N) SECONDARY CLARIFIER FEED PUMP NO. 1	14.0 AMPS	14.0 AMPS	14.0 AMPS
(N) SECONDARY CLARIFIER FEED PUMP NO. 2	0.0 AMPS	0.0 AMPS	14.0 AMPS
(N) DENITRATE PANEL BOARD (STANDBY)	28.0 AMPS	28.0 AMPS	80.0 AMPS
(N) TRICKLING FILTER No. 1 PUMP No. 1	15.2 AMPS	15.2 AMPS	15.2 AMPS
(N) TRICKLING FILTER No. 1 PUMP No. 2 (STDBY)	0.0 AMPS	0.0 AMPS	15.2 AMPS
(N) SECONDARY EFFL PUMP No. 1	6.8 AMPS	6.8 AMPS	22.0 AMPS
(N) SECONDARY EFFL PUMP No. 2 (STANDBY)	0.0 AMPS	0.0 AMPS	22.0 AMPS
(N) SLUDGE/ SCUM PUMP	2.8 AMPS	2.8 AMPS	2.8 AMPS
(E) MCC-1	185.3 AMPS	174.8 AMPS	189.3 AMPS
TOTAL	256.1 AMPS	243.6 AMPS	376.5 AMPS

NAMEPLATE SCHEDULE

NO.	LETTER SIZE	INSCRIPTION
1	1/2"	MCC-2
2	1/4"	MAIN DISCONNECT
3	↓	SPACE
4	↓	SURGE PROTECTION DEVICE
5	1/2"	MCC-2
6	1/4"	MECHANICAL SCREEN LCP
7	↓	DENTRIFING SYSTEM PANEL BOARD
8	↓	FILTER FEED PUMP NO. 1
9	↓	FILTER FEED PUMP NO. 2
10	↓	SPARE BREAKER
11	↓	SPARES
12	↓	SPARE BREAKER
13	↓	SPARE STARTER
14	↓	SECONDARY CLARIFIER
15	↓	SECONDARY CLARIFIER FEED PUMP NO. 1
16	↓	SECONDARY CLARIFIER FEED PUMP NO. 2
17	↓	MCC-1
18	↓	PUMP RUNNING
19	↓	VFD AUTO LINE
20	↓	HAND OFF AUTO
21	↓	FAIL
22	↓	ELAPSED TIME METER

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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

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REGISTERED PROFESSIONAL ENGINEER — No.14638 — Exp 12-31-2014 — ELECTRICAL — STATE OF CALIFORNIA

08/15/13

DESIGNED	SWT
DRAWN	CCE
CHECKED	JL

CALIFORNIA ARMY NATIONAL GUARD
CAMP ROBERTS, CALIFORNIA

SUSTAINMENT AND COMPLIANCE PROJECT
MAIN GARRISON WASTEWATER TREATMENT PLANT IMPROVEMENTS

Kennedy/Jenks Consultants©
10850 Gold Center Drive, Ste 350, Rancho Cordova, California 95670

EXISTING SINGLE LINE DIAGRAM AND MODIFICATIONS

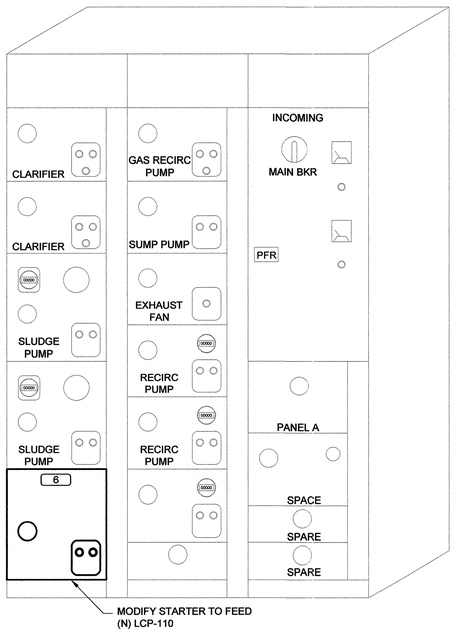
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JOB NO.	1191016.20
DATE	JULY 2013
SHEET	E3 OF

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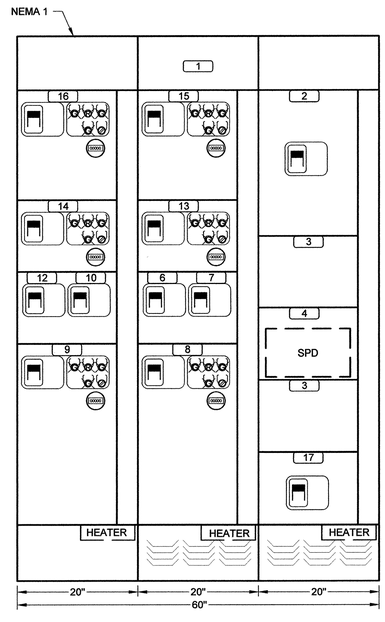
N:\2012\127001201_Camp_Roberts\127001201e03.dwg

CONDUIT NUMBER	SIZE (INCH)	CONDUIT RUN FROM	RUN TO	EQUIP SERVED	CKT TYPE	CKT VOLTS	QUAN. CKT/CNTL WIRES	CKT TYPE WIRE	CKT WIRE SIZE	N WIRE SIZE	GND TYPE WIRE	GND WIRE SIZE	NOTES
P1A	4	(E) SERVICE	(N) MCC-2	PLANT	P	240	3 + 1	THWN	500	500	THWN	1/0	NEW MCC FEEDER
P1B	2	(E) MCC-1	(N) MCC-2	PLANT	P	240	3 + 1	THWN	3/0	3/0	THWN	4	NEW MCC FEEDER
P1C	3	(E) SERVICE	(N) MCC-2	PLANT	P	240	3 + 1	THWN	500	500	THWN	1/0	NEW MCC FEEDER
P2A	1	(E) PANEL A	AIR CONDITIONING UNIT	PLANT	P	120/240	2 + 1	THWN	10	10	THWN	12	AIR CONDITIONER UNIT POWER FEEDER
P3A	2	(E) PANEL A	WIRE WAY AT LAB BUILDING	PLANT	P	120	4 + 4	THWN	8	8	THWN	2 x 10	COMBINED P310A, P400C
P3A				PLANT	P	120	1 + 1	THWN	1	1	THWN	4	RECPTACLE POWER (650 FT MAX LENGTH)
S3B	2	MAIN CP	WIRE WAY AT LAB BUILDING	PLANT	S	24	2	TWSP	18		THWN	14	COMBINE S310B AND S500B
S3B				PLANT	C	24	4	TWSP	16				ISR SENSING OF HIGH LEVEL ALARM SWITCHES
C3C	1-1/4	MAIN CP	WIRE WAY AT LAB BUILDING	PLANT	C	120	16	THWN	14		THWN	14	COMBINE C400B AND C510B
D3D	1-1/2	MAIN CP	WIRE WAY AT LAB BUILDING	PLANT	D		4	CAT 6SH					COMBINE D110D AND D51B
P10A	1-1/4	LGT POLES	DENIT SYS PANELBOARD	LIGHTS & RECPT	P	120	2 + 2	THWN	8	8	THWN	2 x 10	SITE LIGHTS AND RECEPTACLE POWER FEEDER
P51A	2	(N) MCC-2	DENIT SYS PANELBOARD	DENITRFYING FIL	P	240	3 + 1	THWN	1	1	THWN	6	DENITRFYING SYSTEM PANELBOARD
D51B	1-1/4	MAIN CP	PLC NETWORK SWITCH	DENITRFYING FIL	D		2	CAT 6SH					NETWORK DATA CABLES (ONE SPARE) (D3D)
P100A	1	MAIN CP	(E) PANEL A	PLANT	P	120	2 + 2	THWN	12	12	THWN	12	MAIN CONTROL PANEL POWER FEREDER
C100C	1	MAIN CP	(E) MCC-1	PLANT	C	120	20	THWN	14			14	MCC STARTER ALARMS AND STATUS
C100D	1-1/4	MAIN CP	(N) MCC-2	PLANT	C	120	40	THWN	14			14	MCC STARTER ALARMS AND STATUS
X100E	1-1/2	LCP-110	(N) MCC-2	BAR SCREEN	X		1	PULLROPE					CAP FOR FUTURE USE
P101A	1	LCP-110	TRANSMITTER LIT-101	BAR SCREEN	P	120	1+1	THWN	12	12	THWN	12	LEVEL TRANSMITTER POWER
S101B	1-1/4	LCP-110	TRANSMITTER LIT-101	BAR SCREEN	S	24	2	TWSP	18			14	LEVEL SIGNALS
S101C	1	LE-101A	TRANSMITTER LIT-101	BAR SCREEN	S	24	1	PER MFG				14	LEVEL SIGNAL
S101D	1	LE-101A	TRANSMITTER LIT-101	BAR SCREEN	S	24	1	PER MFG				14	LEVEL SIGNAL
X101E	1-1/4	MAIN CP	TRANSMITTER LIT-101	BAR SCREEN	X		1	PULLROPE					CAP FOR FUTURE USE
P110A	(E)	(E) MCC-1	(E) HEADWORKS CP (N) JB	BAR SCREEN	P	240	5 + 2	THWN	10	10	THWN	12	BAR SCREEN CP POWER FEED (+ FIT-112)
P110B	1-1/4	LCP-110	(E) HEADWORKS CP (N) JB	BAR SCREEN	P	240	4 + 1	THWN	10	10	THWN	12	BAR SCREEN CP POWER FEED
P110C	1	LCP-110	BARSCREEN MOTOR M-110	BAR SCREEN	P	240	3	THWN	12		THWN	12	BAR SCREEN MOTOR POWER FEED
D110D	1-1/4	NETWORK SW	MAIN CONTROL PANEL	BAR SCREEN	D		1	4PR					NETWORK DATA CABLES (WITH 4 PAIR FIBER)
C110E	1	LCP-110	ZS-110A	BAR SCREEN	C	120	2	THWN	14			14	SCREEN SENSOR
C110F	1	LCP-110	ZS-110B	BAR SCREEN	C	120	2	THWN	14			14	SCREEN SENSOR
S112A	1	MAIN CP	(N) I/I IN MCC OR RECORDER	PLANT	S	24	1	TWSP	18			14	FLOW SIGNAL
P201	(E)	(E) MCC-1	(E) PRIMARY CLARIFIER	CLARIFIER	P	240	(E)						NO MODIFICATIONS REQUIRED
				FILTER									
P301	(E)	(E) MCC-1	(E) TRICKLING FILTER NO. 1	FILTER									NO MODIFICATIONS REQUIRED
P310A	2	BLDG WIREWAY	TRANSMITTER LIT-310	TRICKLING FILTER	P	120	1 + 1	THWN	8	8	THWN	10	LEVEL TRANSMITTER POWER FEEDER (P3A)
P310A			RECEPTACLE	TRICKLING FILTER	P	120	1 + 1	THWN	1	1	THWN	4	RECPTACLE POWER (650 FT MAX LENGTH)
S310B	1-1/2	BLDG WIREWAY	TRANSMITTER LIT-310	TRICKLING FILTER	S	24	1	TWSP	16			14	LEVEL SIGNAL (S3B)
S310B				SEC EFFL PS	C	24	1	TWSP	16				ISR SENSING OF HIGH LEVEL ALARM SWITCH
S310C	1-1/4	LE-310A	TRANSMITTER LIT-310	TRICKLING FILTER	S	24	1	PER MFG					LEVEL SIGNAL
C310D	1-1/4	LSH-310	TRANSMITTER J BOX	SEC EFFL PS	C	24	1	PER MFG					ISR SENSING OF HIGH LEVEL ALARM SWITCH
P310F	2	PB	BUILDING WIREWAY	TRICKLING FILTER	P	240	6	THWN	4		THWN	2 x 6	FEED PUMPS POWER FEEDER
C310G	1	PB	BUILDING WIREWAY	TRICKLING FILTER	C	120	10	THWN	12		THWN	14	FEED PUMPS STATUS (650 FT MAX LENGTH)
P311A	1-1/2	PB	TF EFFLUENT PUMP NO. 1 TB	TRICKLING FILTER	P	240	3	THWN	4		THWN	6	FEED PUMP POWER FEEDER (P310F)
C311B	1	PB	TF EFFLUENT PUMP NO. 1 TB	TRICKLING FILTER	C	120	6	THWN	12		THWN	14	FEED PUMP STATUS AND LOS (C310G)
PC311C	2-1/2	PUMP NO. 1	TF EFFLUENT PUMP NO. 1 TB	TRICKLING FILTER	PC	240	1	PER MFG					SUBMERSIBLE PUMP CABLE IN CONDUIT
P312A	1-1/2	PB	TF EFFLUENT PUMP NO. 2 TB	TRICKLING FILTER	P	240	3	THWN	4		THWN	6	FEED PUMP POWER FEEDER (P310F)
C312B	1	PB	TF EFFLUENT PUMP NO. 2 TB	TRICKLING FILTER	C	120	6	THWN	12		THWN	14	FEED PUMP STATUS AND LOS (C310G)
PC312C	2-1/2	PUMP NO. 2	TF EFFLUENT PUMP NO. 2 TB	TRICKLING FILTER	PC	240	1	PER MFG					SUBMERSIBLE PUMP CABLE IN CONDUIT
P321	(E)	(E) MCC-1	RECIRC PUMP NO. 1	PLANT	P	240	(E)						NO MODIFICATIONS REQUIRED
P322	(E)	(E) MCC-1	RECIRC PUMP NO. 2	PLANT	P	240	(E)						NO MODIFICATIONS REQUIRED
P400A	1-1/2	BLDG WIREWAY	CLARIFIER JUNCTION BOX	SEC CLARIFIER	P	240	6 + 2	THWN	10	10	THWN	4 X 12	SECONDARY CLARIFIER EQUIPMENT POWER
P400A					C	120	10	THWN	14				SECONDARY CLARIFIER EQUIPMENT STATUS
C400B	1-1/4	BLDG WIREWAY	CLARIFIER JUNCTION BOX	SEC CLARIFIER	C	120	8	THWN	14		THWN	14	SEC CLARIFIER EQUIPMENT STATUS (C3C)
P400C	1	LTG&RECPT	CLARIFIER JUNCTION BOX	SEC CLARIFIER	P	120	2 + 2	THWN	10	10	THWN	12	LIGHTS AND RECPTACLE POWER FEEDER (P3A)
P401A	1	COL-400	CLARIFIER JUNCTION BOX	SEC CLARIFIER	P	240	3	THWN	10		THWN	12	SEC CLARIFIER POWER FEEDER (P400A)
P401A				SEC CLARIFIER	C	120	8	THWN	14				SEC CLARIFIER STATUS AND LOS
P411A	1	LCP-411	CLARIFIER JUNCTION BOX	SEC CLARIFIER	P	240	3 + 1	THWN	10	10	THWN	12	SCREEN /SLUDGE PUMP POWER
X411B	1	LCP-411	CLARIFIER JUNCTION BOX	SEC CLARIFIER	X			PULLROPE					CAP FOR FUTURE USE
P411C	1	LCP-411	SLUDGE/SCUM PUMP	SEC CLARIFIER	P	240	3	THWN	12		THWN	12	SLUDGE/SCUM PUMP POWER FEEDER
C411D	1	LCP-411	LSH-411	SEC CLARIFIER	C	120	2	THWN	14		THWN	14	SCUM PUMP DISABLE ON HIGH LEVEL
P500A	1	PANELBOARD	TRANSMITTER LIT-500	SEC EFFL PS	P	120	1+1	THWN	12	12	THWN	12	LEVEL TRANSMITTER POWER
S500B	1-1/4	MAIN CP	TRANSMITTER LIT-500	SEC EFFL PS	S	24	1	TWSP	18			14	LEVEL SIGNAL (S3B)
S500B				SEC EFFL PS	C	24	1	TWSP	16				ISR SENSING OF HIGH LEVEL ALARM SWITCH
S500C	1-1/4	LE-500A	TRANSMITTER LIT-500	SEC EFFL PS	S	24	1	PER MFG					LEVEL SIGNAL
C500D	1-1/4	LSH-500	TRANSMITTER J BOX	SEC EFFL PS	C	24	1	PER MFG					ISR SENSING OF HIGH LEVEL ALARM SWITCH
D500D	1-1/4	MAIN CP	(N) MCC-2 (VFDS)	SEC EFFL PS	D		2	PER MFG					VFD NETWORK
X500E	1-1/4	MAIN CP	(N) MCC-2	SEC EFFL PS	X		1	PULLROPE					CAP FOR FUTURE USE
P500F	1-1/2	PB	(N) MCC-2 (VFDS)	SEC EFFL PS	P	240	6	VFD	10		THWN	2 x 12	SHIELDED PUMP POWER FEEDERS (VFD)
C500G	1	PB	(N) MCC-2 (VFDS)	SEC EFFL PS	C	120	8	THWN	14		THWN	14	PUMP STATUS (300 FT MAX LENGTH)
P501A	1	PB	FILTER FEED PUMP NO. 1 TB	SEC EFFL PS	P	240	3	THWN	10		THWN	12	FEED PUMP POWER FEEDER
C501B	1	PB	FILTER FEED PUMP NO. 1 TB	SEC EFFL PS	C	120	6	THWN	14		THWN	14	FEED PUMP STATUS AND LOS
PC501C	2-1/2	PUMP NO. 1	FILTER FEED PUMP NO. 1 TB	SEC EFFL PS	P	240	1	PER MFG					SUBMERSIBLE PUMP CABLE IN CONDUIT
P502A	1	PB	FILTER FEED PUMP NO. 2 TB	SEC EFFL PS	P	240	3	THWN	10		THWN	12	FEED PUMP POWER FEEDER
C502B	1	PB	FILTER FEED PUMP NO. 2 TB	SEC EFFL PS	C	120	6	THWN	14		THWN	14	FEED PUMP STATUS AND LOS

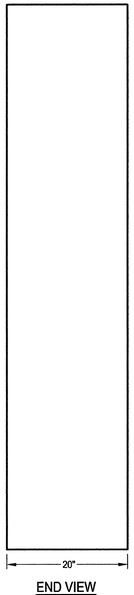
CONDUIT NUMBER	SIZE (INCH)	CONDUIT RUN FROM	RUN TO	EQUIP SERVED	CKT TYPE	CKT VOLTS	QUAN. CKT/CNTL WIRES	CKT TYPE WIRE	CKT WIRE SIZE	N WIRE SIZE	GND TYPE WIRE	GND WIRE SIZE	NOTES
PC502C	2-1/2	PUMP NO. 2	FILTER FEED PUMP NO. 2 TB	SEC EFFL PS	P	240	1	PER MFG					SUBMERSIBLE PUMP CABLE IN CONDUIT
P510A	1-1/2	PANELBOARD	COMPRESSOR CP	DENITRFYING FIL	P	240	3 + 1	THWN	1	1	THWN	6	COMPRESSOR LCP POWER FEEDER
C510B	1	MAIN CP	PSL-510	DENITRFYING FIL	C	120	4	THWN	14		THWN	14	LOW PRESSURE STATUS (C3C)
P510C	1	PANELBOARD	DRYER	DENITRFYING FIL	P	120	1 + 1	THWN	10	10	THWN	12	DRYER POWER FEEDER
P511A	1-1/4	COMP NO. 1	COMPRESSOR CP	DENITRFYING FIL	P	240	3	THWN	10		THWN	12	COMPRESSOR POWER FEEDER
P512A	1-1/4	COMP NO. 2	COMPRESSOR CP	DENITRFYING FIL	P	240	3	THWN	10		THWN	12	COMPRESSOR POWER FEEDER
P520A	1	PANELBOARD	CHEMICAL PUMP	DENITRFYING FIL	P	240	3 + 1	THWN	12	12	THWN	12	CHEMICAL FEED PUMP VFD POWER FEED
S520B	1	DENIT CP	CHEMICAL PUMP	DENITRFYING FIL	S	24	1	TWSP	18			14	PUMP SPEED CONTROL
P521A	1	PANELBOARD	AIR CONTROL PANEL	DENITRFYING FIL	P	120	1 + 1	THWN	12	12	THWN	12	CONTROL PANEL POWER FEEDER
P522A	1	PANELBOARD	LEVEL SWITCH AT TANK	DENITRFYING FIL	P	120	1 + 1	THWN	12	12	THWN	12	LEVEL SENSOR POWER FEEDER
C522B	1	LEVEL SWITCH	DENITRFYING CP	DENITRFYING FIL	C	120	4	THWN	14	14	THWN	12	LEVEL SWITCH SIGNAL
X523A	1	PANELBOARD	DENITRFYING JUNTION BOX	DENITRFYING FIL	X		1	PULLROPE					CAP FOR FUTURE USE
X523B	1	(F) FILTER	DENITRFYING JUNTION BOX	DENITRFYING FIL	X		1	PULLROPE					CAP FOR FUTURE USE
X524A	1	PANELBOARD	DENITRFYING JUNTION BOX	DENITRFYING FIL	X		1	PULLROPE					CAP FOR FUTURE USE
X524B	1	(F) FILTER	DENITRFYING JUNTION BOX	DENITRFYING FIL	X		1	PULLROPE					CAP FOR FUTURE USE
P530A	1	PANELBOARD	LCP-530	DENITRFYING FIL	P	120	1 + 1	THWN	12	12	THWN	12	CONTROL PANEL POWER FEEDER
P530C	1	PANELBOARD	FIT-530	DENITRFYING FIL	P	120	1+1	THWN	12	12	THWN	12	FLOWMETER TRANSMITTER POWER
S530D	1-1/4	FIT-530	LCP-530	DENITRFYING FIL	S	24	1	TWSP	18			14	FLOWMETER SIGNAL
P530E	1	PANELBOARD	OIT/AITS	DENITRFYING FIL	P	120	4 + 4	THWN	12	12	THWN	12	INSTRUMNET TRANSMITTERS POWER
S530F	1-1/2	AIT/OITS	LCP-530	DENITRFYING FIL	S	24	5	TWSP	18			14	INSTRUMENTS SIGNALS



(E) MCC-1 ELEVATION



(N) MCC-2 ELEVATION



END VIEW

IDENTIFIES THE TYPE OF CIRCUIT BEING SERVICED	
A= ALARM	L= LIGHTING
C= CONTROL	P= POWER
D= DATA	PN= AIR
E= EMERGENCY	S= SIGNAL
X= SPARE	T= TELEPHONE
I= INSTRUMENT	U= UPS

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0 1"
0 25mm
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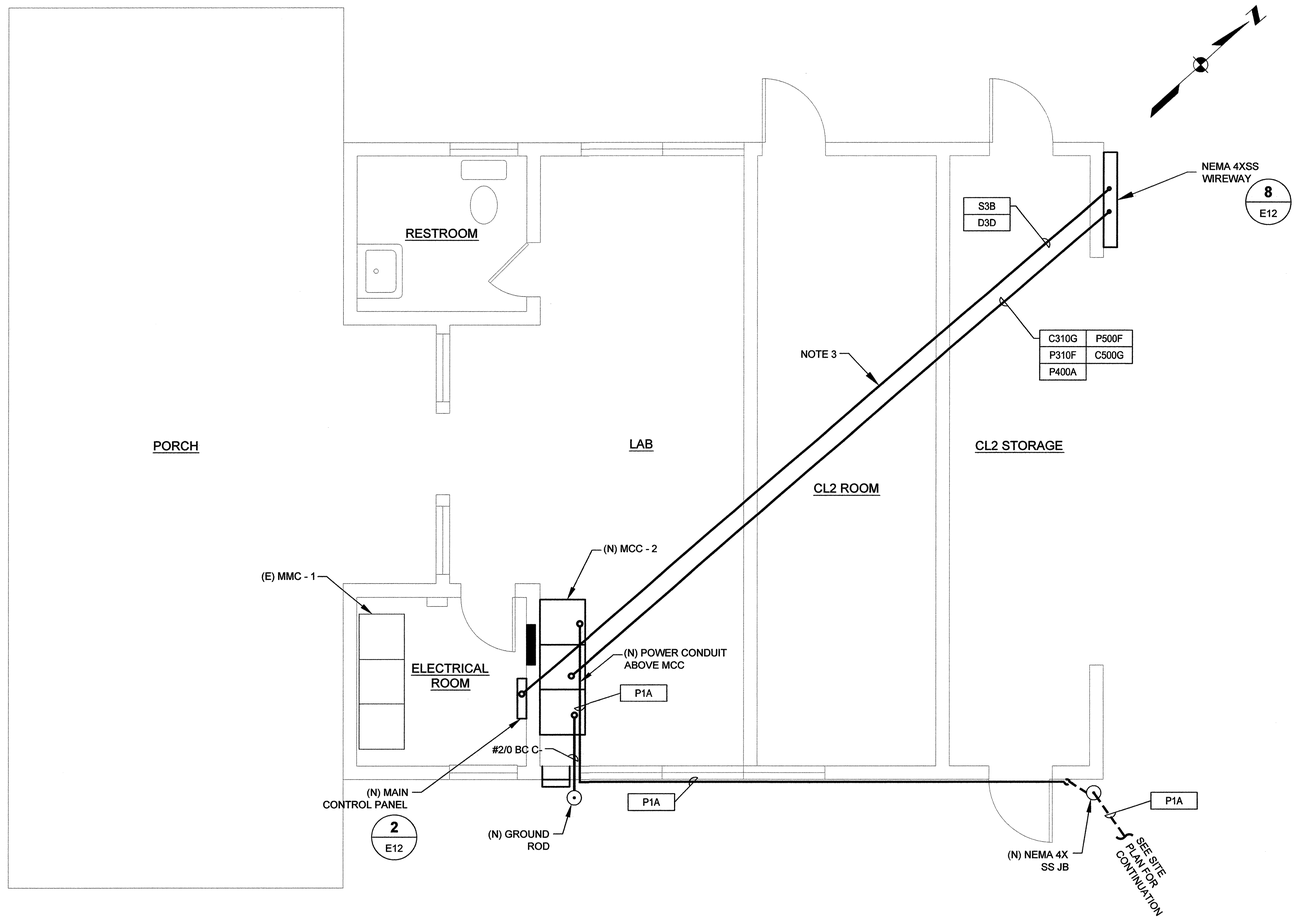
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CONDUIT SCHEDULE AND ELEVATIONS

FILE NAME 127001201e04.dwg
JOB NO. 1270012.01
DATE AUGUST 14, 2013
SHEET E4 OF

N:\2012\1270012.01_Camp_Roberts\1270012201e04.dwg 8/15/2013 12:05 PM COREEN CECIL



EXISTING BUILDING ELECTRICAL PLAN 1

SCALE: 3/8" = 1'-0"

NOTES:

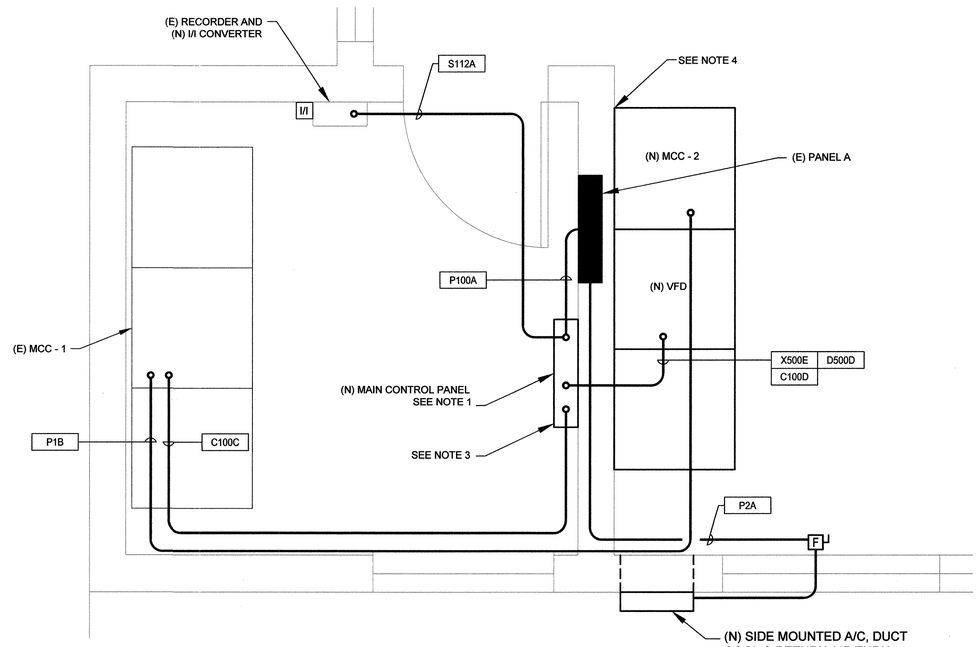
1. REMOVE THE EXISTING ALARM NOTIFICATION EQUIPMENT ON THIS WALL AND RECONNECT THE EXISTING ALARMS TO THE NEW PLC VIA THE NEW I/O.
2. (E) CONDUIT P110A TAKES DIRECT ROUTE FROM (E) LAB BUILDING TO HEADWORKS
3. ROUTE CONDUIT OVERHEAD IN ATTIC SPACE.
4. REROUTE (E) CONDUIT TO ALLOW FOR (N) MCC-2 TO BE MOUNTED FLUSH TO WALL.

(E) PANEL A

CONNECTED

VOLTAGE: 120/208V,1PH,3W
BUS: 225 AMP
MOUNTING: .
TYPE: .
KVA: 23.9 (E)+2.8(N)=26.7
CURRENT: 111 AMPS (64A AT 3Ø)

LOAD	KVA	CB	NO		NO	CB	KVA	LOAD
LIGHTS - LAB	0.9		1		2		0.2	LIGHTS - CLAR
LIGHTS - LAB	0.5		3		4		0.6	LIGHTS - DIGESTER FLOOD VIA TC
LIGHTS - BASEMENT	0.6		5		6		0.2	FLOWMETER AND (N) LIT-310
C.O. BASEMENT	0.2		7		8		0.3	C.O. HEADWORKS
LIGHTS - FLOOD VIA TC	0.6		9		10		0.8	LIGHTS - FLOOD PE CELL
LIGHTS - DIGESTER	0.9		11		12		0.5	C.O. - LAB
C.O. DIGESTER	0.4		13		14		0.6	EVAP COOLER
C.O. - LAB	0.4		15		16		0.1	C.O. - LAB
C.O. - LAB	0.8		17		18		0.1	CLOCK
C.O. - CL2 ROOM	0.8		19		20		0.5	HEATER CL2 RM
EXHAUST FAN CL2	0.5		21		22		0.5	HEATER CL2 RM
CL2 LEAK DETECTORS	0.5		23		24		0.2	C.O. - LAB
EXHAUST FAN CL2	0.5		25		26			TELEMETRY
WATER HEATER	2.2		27		28		1.0	ELEC HEATER BASE BOARD
(N) MAIN CONTROL PANEL	0.7	20/1	29		30	20/1	0.2	(N) HEADWORKS AUX NO. 2
HEATER M. ROOM	2.5		31		32		1.0	SYBRON THERMOLYNE
HEATER M. ROOM	2.5		33		34	20/1	0.4	(N) SEC. CLAR. & HEADWORKS RECPT
C.O. - LAB	0.2		35		36		1.0	HOT PLATE
C.O. - UNDER COUNTER	0.2		37		38	20/1	0.2	(N) SECONDARY CLARIFIER
C.O. - UNDER COUNTER	0.2		39		40		1.0	PRECISION OVEN
(N) A/C UNIT	1.2	20/1	41		42		0.2	C.O. - LAB



ENLARGED ELECTRICAL ROOM 2

SCALE: 1" = 1'-0"

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0 1"
0 25mm
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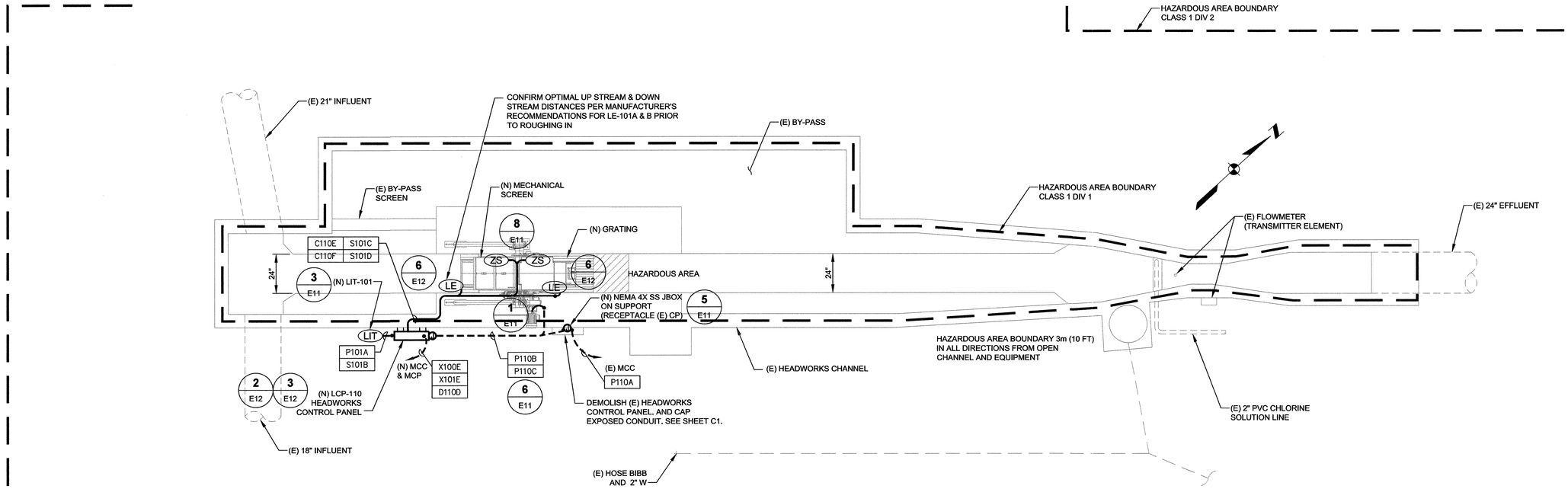
DESIGNED: SWT
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EXISTING BUILDING ELECTRICAL PLAN

FILE NAME: 127001201e05.dwg
JOB NO.: 1270012.01
DATE: AUGUST 14, 2013
SHEET: E5 OF

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COREEN CECIL 8/15/2013 12:05 PM



HEADWORKS PLAN

SCALE: 3/8" = 1'- 0"

1
M1

NOTE:

1. CONFIRM LOCATION OF ALL CONDUIT STUB-UP LOCATION WITH BAR SCREEN MANUFACTURER (BASED UPON APPROVED SUBMITTAL)
2. SEE C1 FOR DEMO WORKED.

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0 25mm

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HEADWORKS POWER PLAN

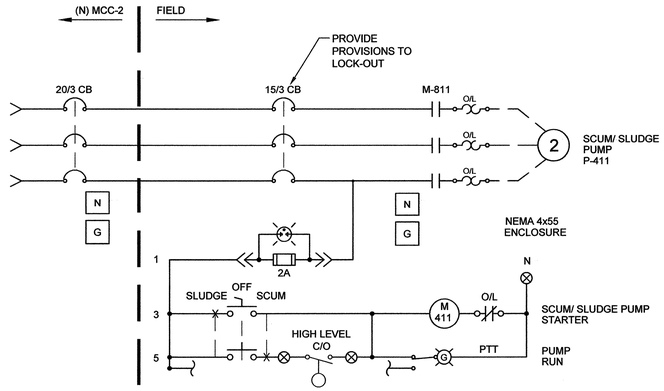
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DATE	AUGUST 14, 2013
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OF	

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SECONDARY CLARIFIER POWER PLAN

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



CONTROL PANEL LCP-411 WIRING DIAGRAM

0 4 8

3/16"=1'-0"

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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

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CHECKED	JL

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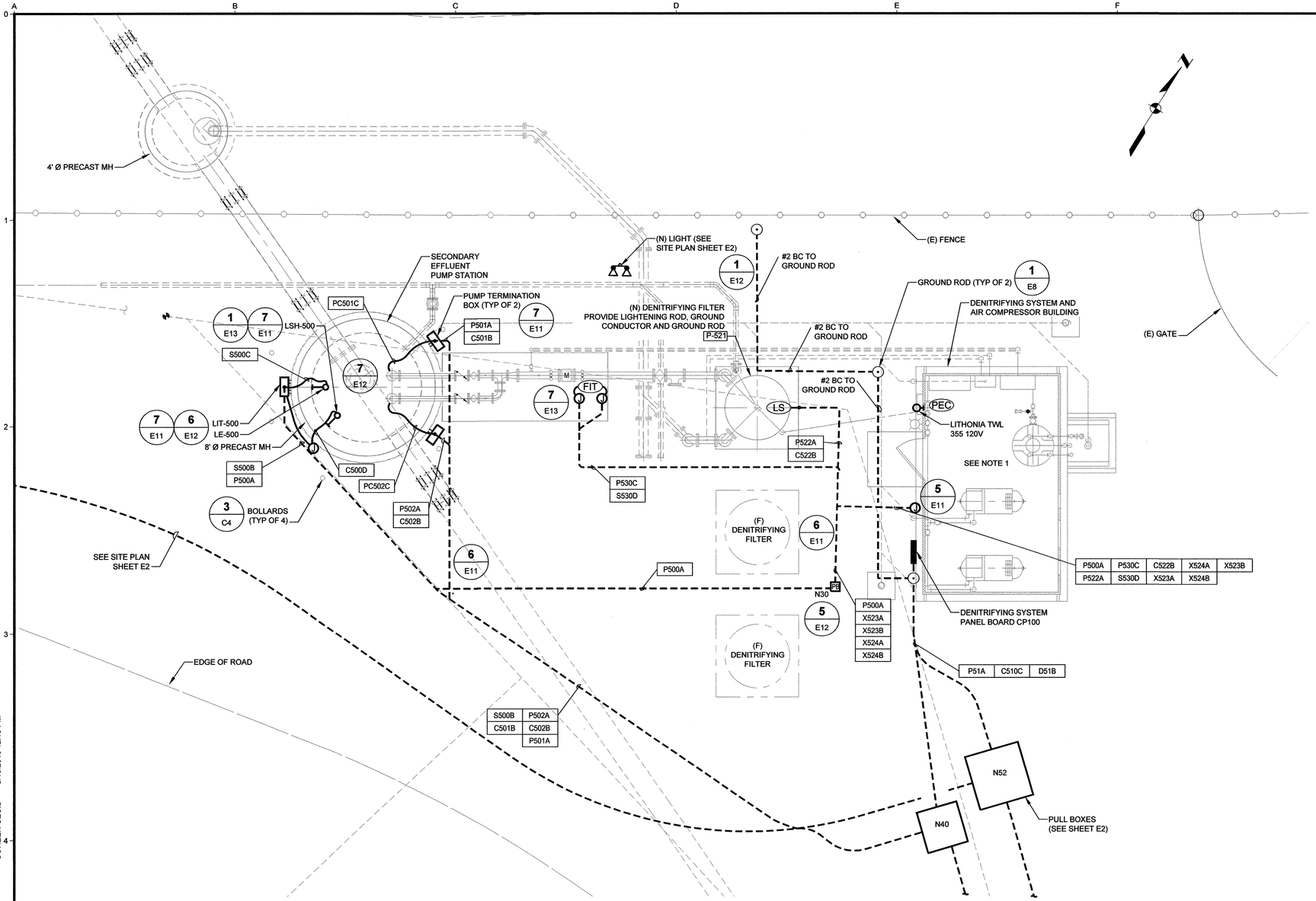
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SECONDARY CLARIFIER POWER PLAN

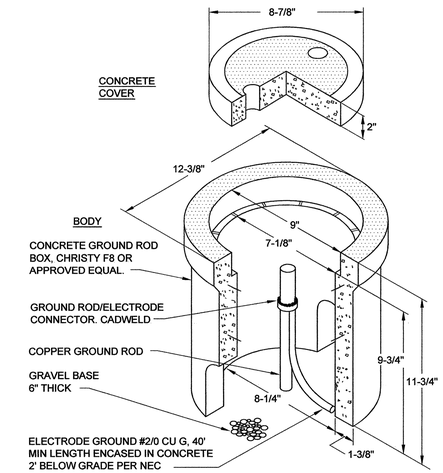
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DATE	AUGUST 14, 2013
SHEET	E7 OF

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SECONDARY EFFLUENT PUMP STATION AND DENITRIFYING FILTER POWER PLAN

0 3 6
1/4"=1'-0"



CONCRETE GROUND ROD BOX DETAIL (1 / E8)

NOTES:

1. CONNECT POWER, CONTROL, SIGNAL AND DATA (CONDUIT AND CONDUCTORS) PER THE MANUFACTURERS RECOMMENDATIONS BASED UPON THE PROCESS AND INSTRUMENTATION DIAGRAMS, SINGLE LINE DIAGRAM AND CONDUIT SCHEDULE. COORDINATE WORK.

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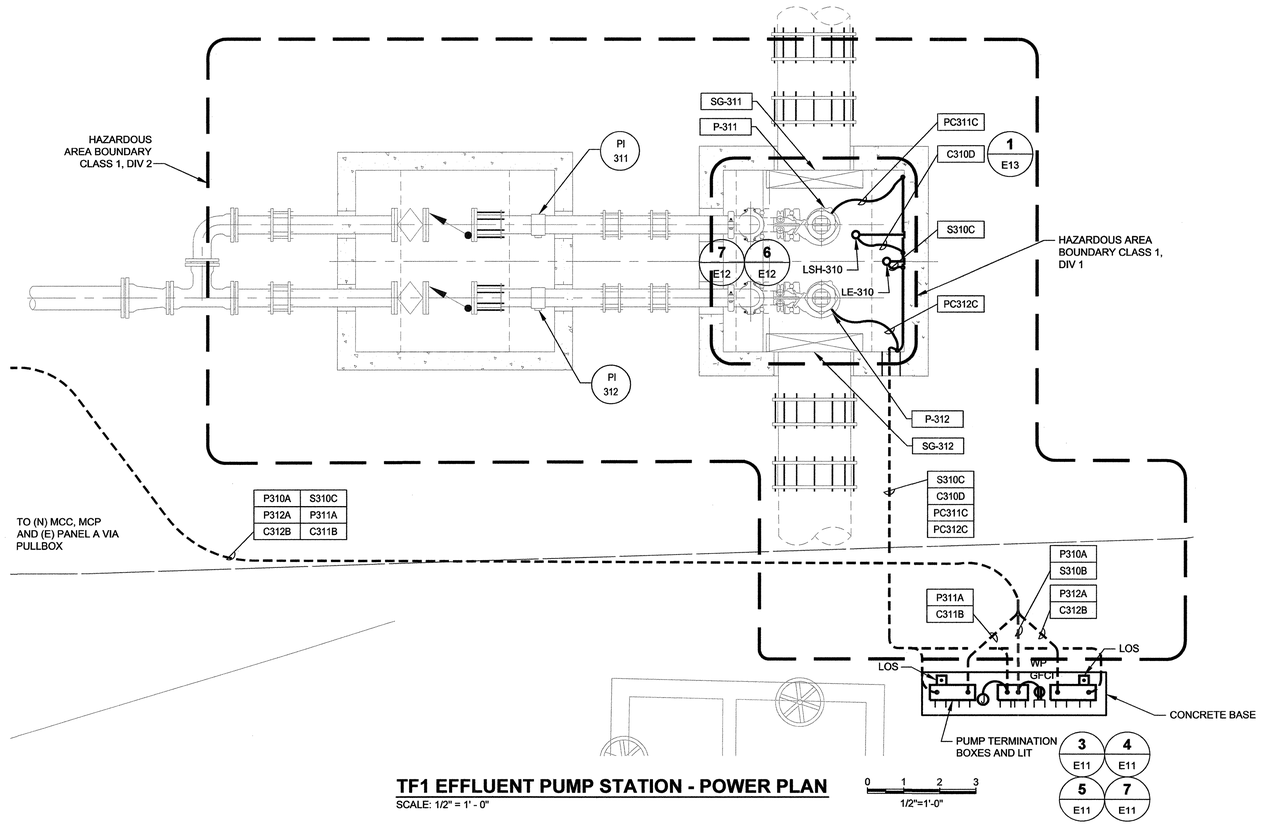
DESIGNED	SWT
DRAWN	CCE
CHECKED	JL

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DENITRIFYING FILTER POWER PLAN

FILE NAME	127001201e08.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	E8
OF	

N:\2012\12700012.01_Camp_Roberts\127001201e08.dwg
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TF1 EFFLUENT PUMP STATION - POWER PLAN

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

0 .5 10
1/8"=1'-0"

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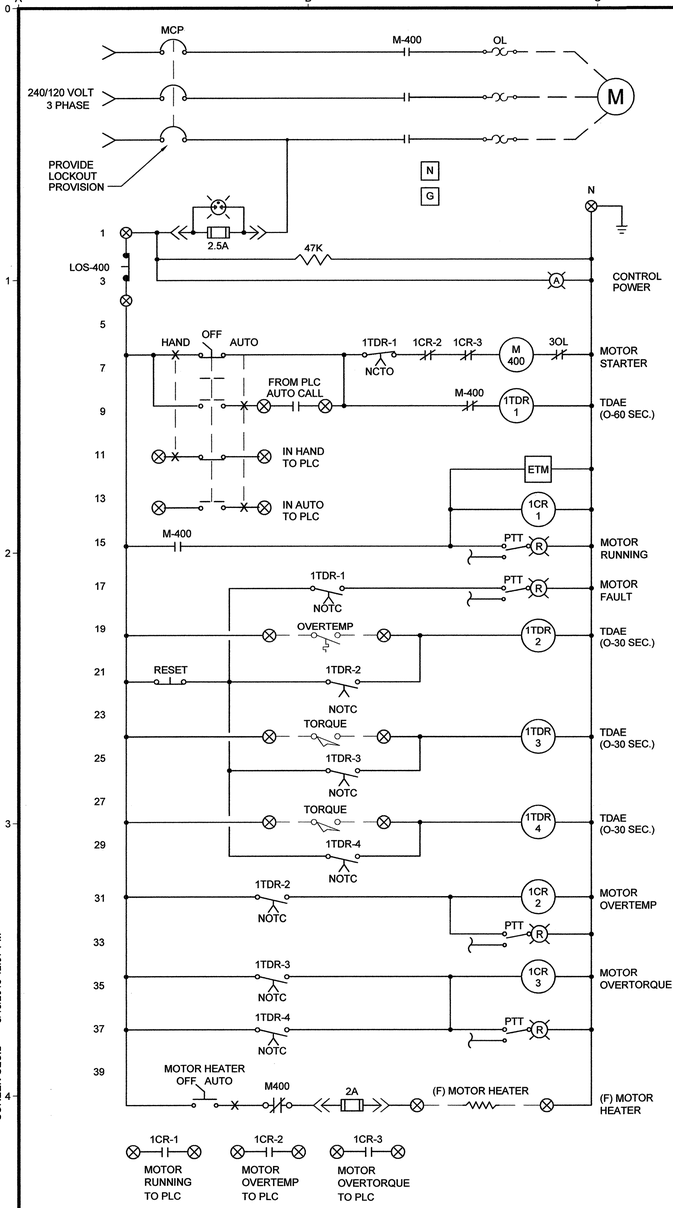
DESIGNED	SWT
DRAWN	CCE
CHECKED	JL

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TF1 EFFLUENT PUMP STATION POWER PLAN

FILE NAME	127001201e09.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	E9
OF	

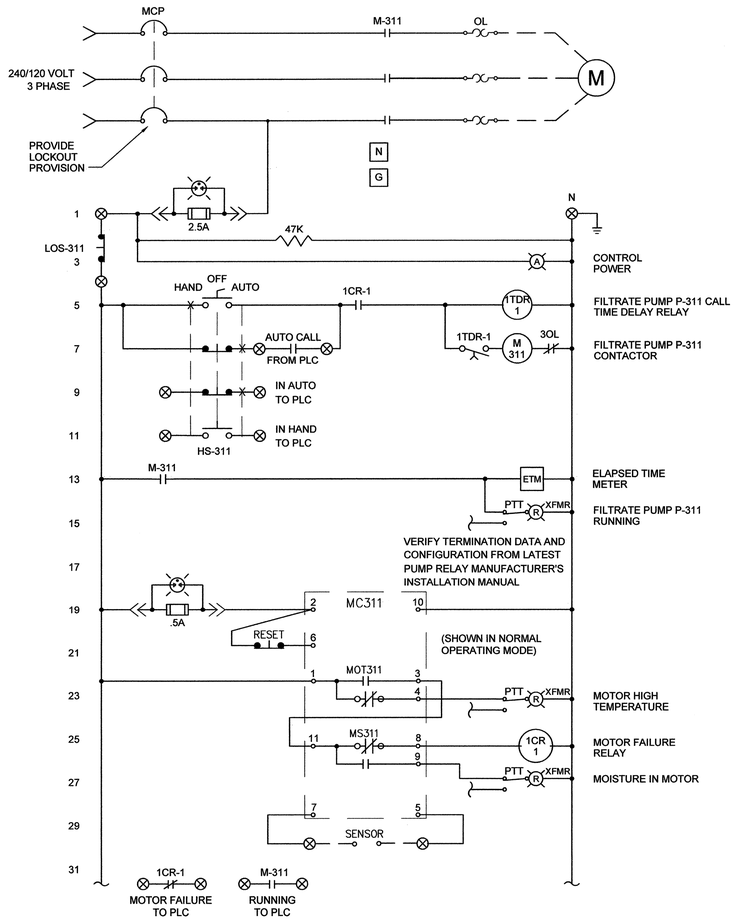
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COREEN CECIL 8/15/2013 12:06 PM



DEVICE IDENTIFICATION

DESCRIPTION	CR	TDR	M
SECONDARY CLARIFIER M-401	2CR-(X)	2TDR-(X)	M-400

SECONDARY CLARIFIER CONTROL WIRING DIAGRAM 1 E10

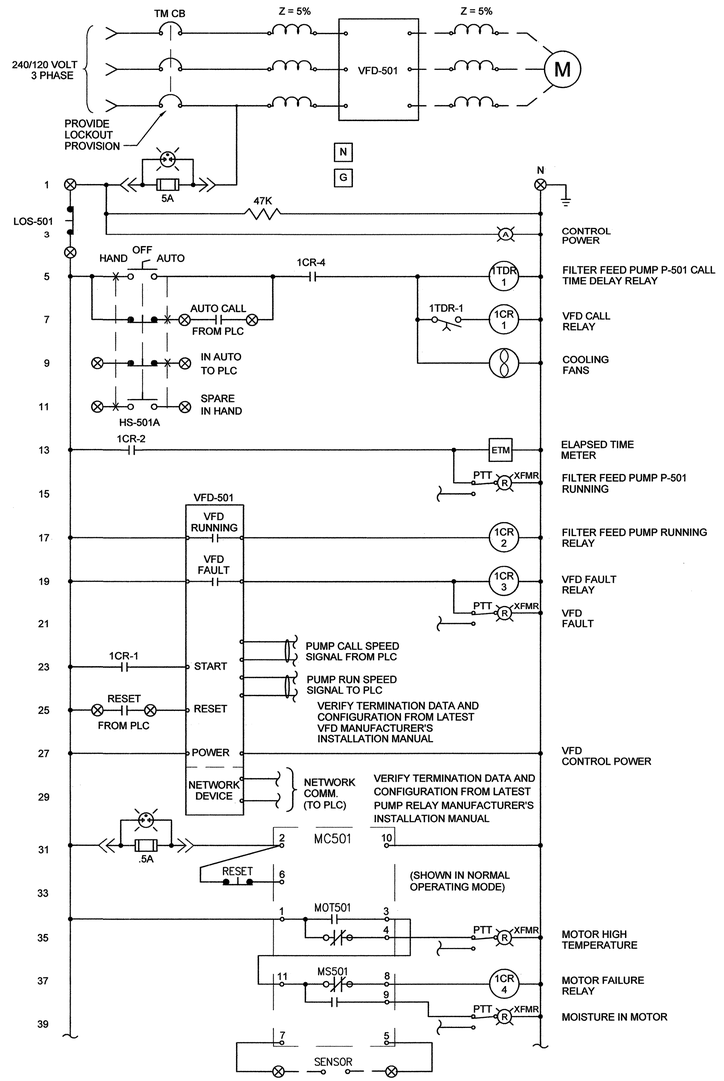


DEVICE IDENTIFICATION

DESCRIPTION	CR	TDR	HS	MC
CLARIFIER FEED PUMP NO. 1 P-311	1CR-(X)	1TDR-(X)	311	311
CLARIFIER FEED PUMP NO. 2 P-312	2CR-(X)	2TDR-(X)	312	312

SECONDARY CLARIFIER FEED PUMP NO. 1 2 E10

TYPICAL FOR SECONDARY CLARIFIER FEED PUMP NO. 2



DEVICE IDENTIFICATION

DESCRIPTION	CR	TDR	HS	VFD	MC
FILTER FEED PUMP P-501	1CR-(X)	1TDR-(X)	501(X)	501(X)	501(X)
FILTER FEED PUMP P-502	2CR-(X)	2TDR-(X)	502(X)	502(X)	502(X)

FILTER FEED PUMP NO.1 CONTROL WIRING DIAGRAM 3 E10

TYPICAL FOR FILTER FEED PUMP NO. 2

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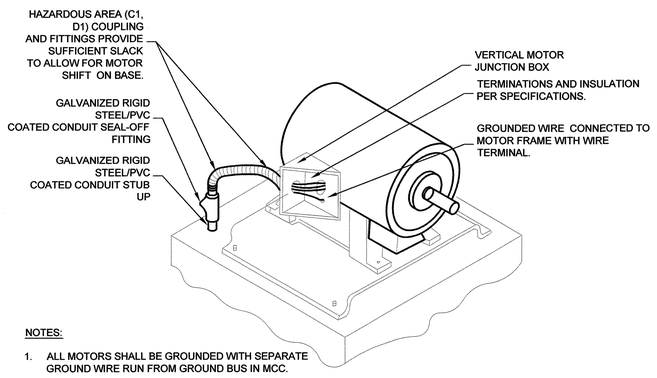
DESIGNED	JL
DRAWN	CCE
CHECKED	SWT

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CONTROL WIRING DIAGRAMS

FILE NAME	127001201e10.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	E10 OF

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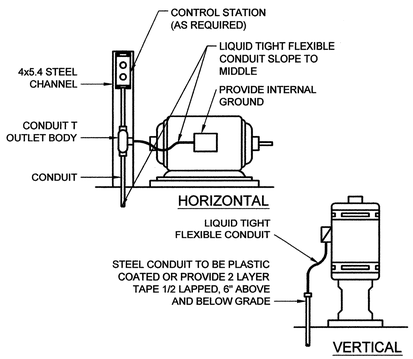


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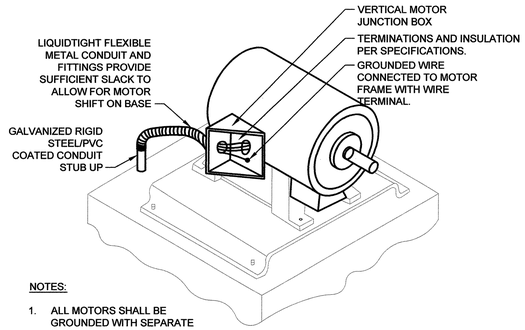
1. ALL MOTORS SHALL BE GROUNDED WITH SEPARATE GROUND WIRE RUN FROM GROUND BUS IN MCC.

TYPICAL HAZARDOUS AREA MOTOR CONNECTION DETAIL 1 VAR

SCALE: N.T.S.



ALTERNATE DETAIL WITH LOS CS

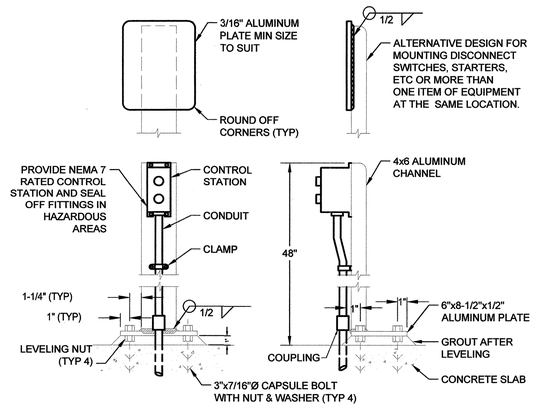


NOTES:

1. ALL MOTORS SHALL BE GROUNDED WITH SEPARATE GROUND WIRE RUN FROM GROUND BUS IN MCC

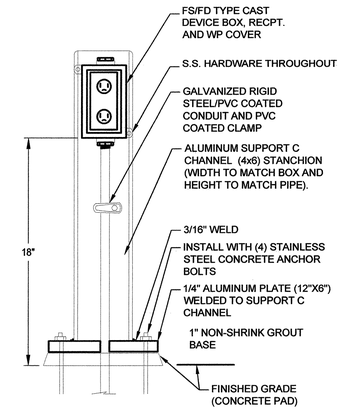
TYPICAL MOTOR CONNECTION DETAIL 2 VAR

SCALE: N.T.S.



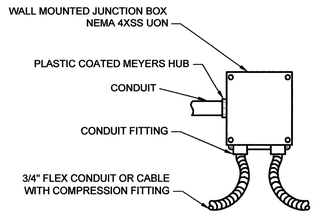
TYPICAL WALL-MOUNT EQUIPMENT HEIGHT DETAIL 3 VAR

SCALE: N.T.S.



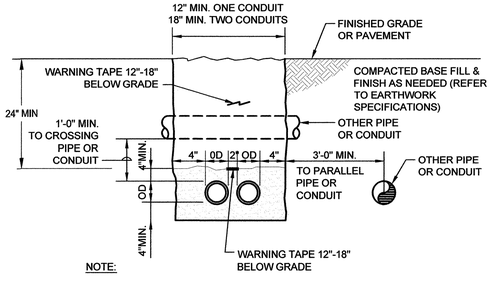
STANCHION MOUNTED RECEPTACLE DETAIL 4 VAR

SCALE: N.T.S.



JUNCTION BOX DETAIL 5 VAR

SCALE: N.T.S.

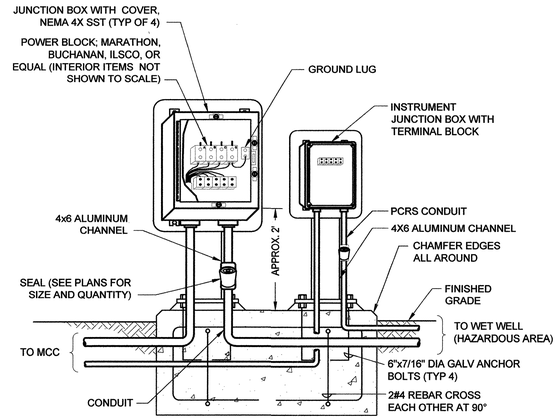


NOTE:

1. TRENCHING LOCATED IN PAVED AREAS - ALL EARTHWORK AND REPAIR SHALL BE IN ACCORDANCE WITH AGENCY THAT HAS JURISDICTION.

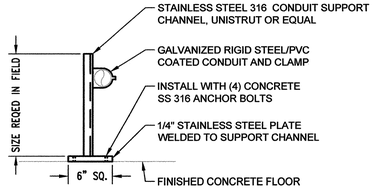
TYPICAL TRENCH DETAIL 6 VAR

SCALE: N.T.S.



PUMP TERMINAL BOX DETAIL 7 VAR

SCALE: N.T.S.



SIDE VIEW

SUPPORT CHANNEL DETAIL FLOOR MOUNTED CONDUIT 8 VAR

SCALE: N.T.S.

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Electrical & Control Systems Engineering
For Pump Stations & Treatment Facilities
Elk Grove, CA
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SCALES
0 1"
0 25mm
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REGISTERED PROFESSIONAL ENGINEER Samuel Pugh No.14638 Exp.12-31-2014 ELECTRICAL STATE OF CALIFORNIA
08/15/13

DESIGNED	SWT
DRAWN	CCE
CHECKED	JL

CALIFORNIA ARMY NATIONAL GUARD
CAMP ROBERTS, CALIFORNIA

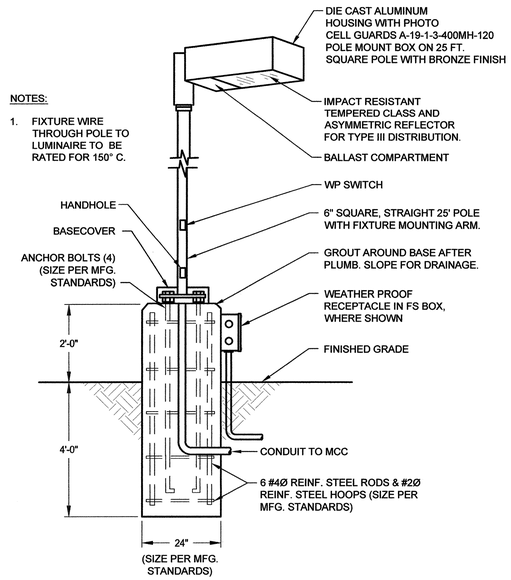
SUSTAINMENT AND COMPLIANCE PROJECT MAIN GARRISON WASTEWATER TREATMENT PLANT IMPROVEMENTS

Kennedy/Jenks Consultants©
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ELECTRICAL DETAILS 1

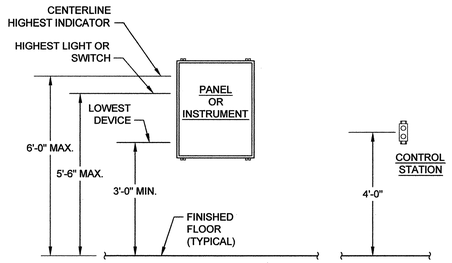
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DATE	AUGUST 14, 2013
SHEET	E11 OF

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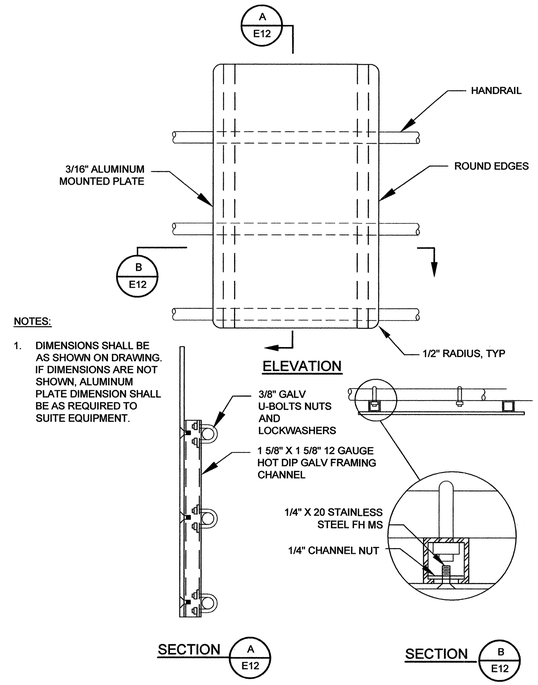
POLE MOUNTED FIXTURE DETAIL 1 VAR

SCALE: N.T.S.



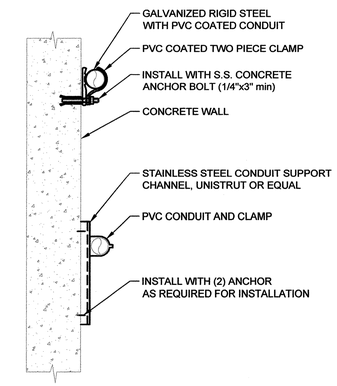
TYPICAL WALL-MOUNT EQUIPMENT HEIGHT DETAIL 2 VAR

SCALE: N.T.S.



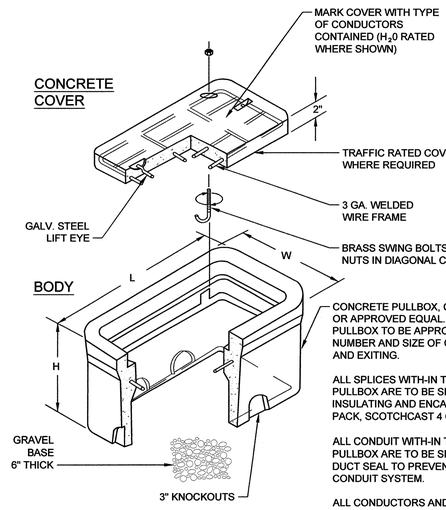
HANDRAIL MOUNTED EQUIPMENT SUPPORT DETAIL 3 VAR

SCALE: N.T.S.



WALL MOUNTED CONDUIT SUPPORT DETAIL 4 VAR

SCALE: N.T.S.



PULL BOX SCHEDULE			
SIZE	D*	L*	W*
N9	36"	19"	14"
N16	36"	25"	15"
N30	36"	27"	18"
N36	36"	35"	22"
N40	42"	40"	28"
N48	42"	52""	34"
N52	42"	64"	35"

* ALL DIMENSIONS ARE NOMINAL

CONCRETE PULLBOX, CHRISTY, JENSEN OR APPROVED EQUAL. N16 SIZE SHOWN, PULLBOX TO BE APPROPRIATE SIZE FOR NUMBER AND SIZE OF CONDUITS ENTERING AND EXITING.

ALL SPLICES WITH-IN THE CONCRETE PULLBOX ARE TO BE SEALED WITH AN INSULATING AND ENCAPSULATING RESIN PACK, SCOTCHCAST 4 OR EQUAL.

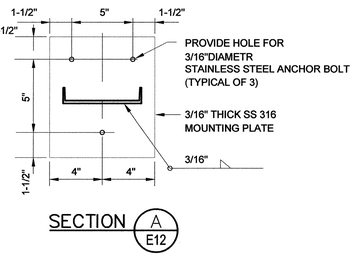
ALL CONDUIT WITH-IN THE CONCRETE PULLBOX ARE TO BE SEALED WITH RTV DUCT SEAL TO PREVENT WATER ENTERING CONDUIT SYSTEM.

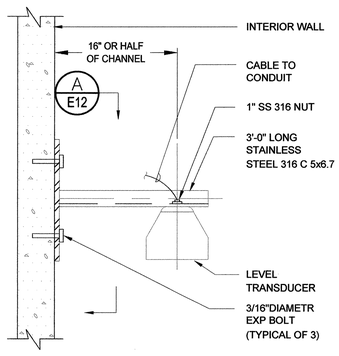
ALL CONDUCTORS AND CABLES ARE TO BE GROUPED AND WIRE TIED EVERY 6" PER CONDUIT FILL.

WHEN PAIRED LARGER BOX IS POWER AND 120VAC CONTROL, SMALLER BOX IS NETWORK, COMM, DC SIGNAL AND DC I/O.

CONCRETE PULLBOX DETAIL 5 VAR

SCALE: N.T.S.

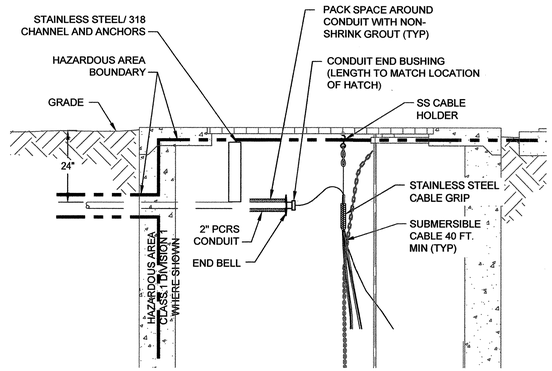




NOTES:
ALL FASTENERS SHALL BE STAINLESS STEEL 316.

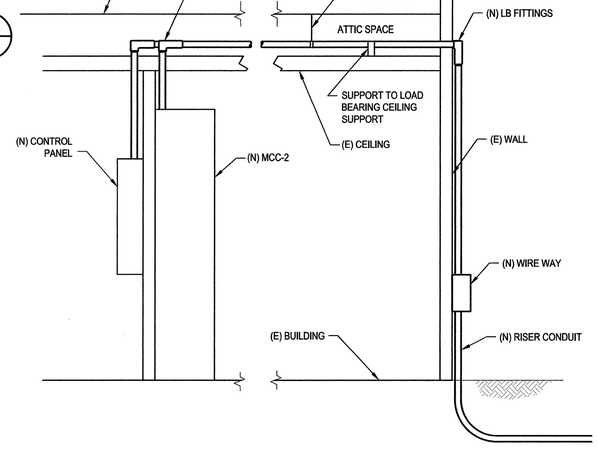
ULTRASONIC LEVEL ELEMENT DETAIL 6 VAR

SCALE: N.T.S.



WET WELL CABLE INSTALLATION 7 VAR

SCALE: N.T.S.



BUILDING ENTRY DETAIL 8 VAR

SCALE: N.T.S.

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0 25mm
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08/15/13

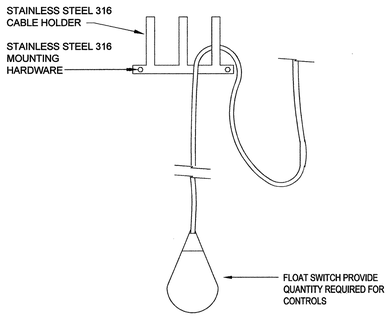
DESIGNED	SWT
DRAWN	CCE
CHECKED	JL

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ELECTRICAL DETAILS 2

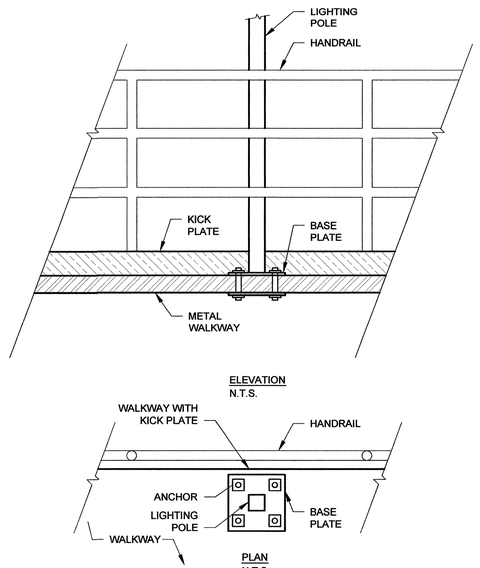
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JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	E12 OF

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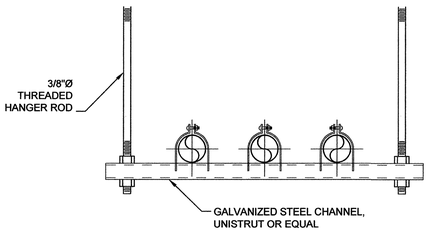
FLOAT SWICTH MOUNTING DETAIL 1 VAR

SCALE: N.T.S.



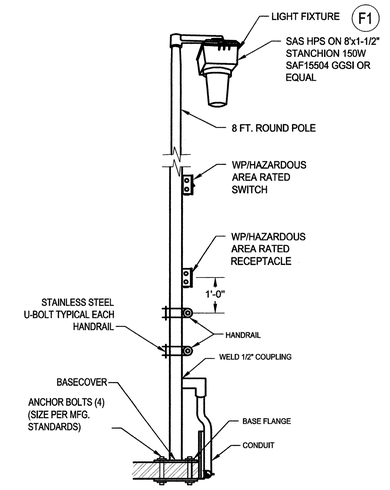
POLE INSTALLATION ON METAL WALKWAY 2 VAR

SCALE: N.T.S.



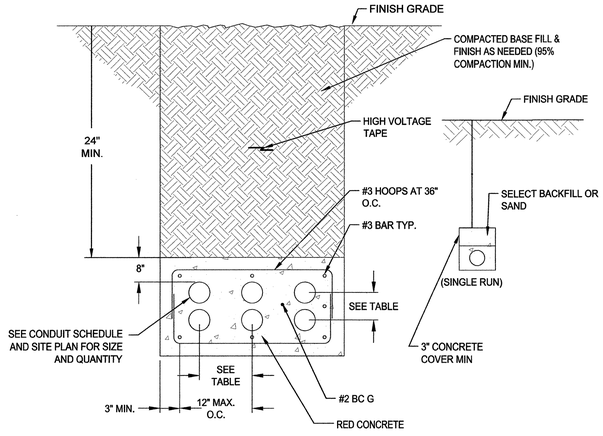
CONDUIT ON TRAPEZE MOUNTING DETAIL 3 VAR

SCALE: N.T.S.



STANCHION MOUNTED LIGHT FIXTURE DETAIL 4 VAR

SCALE: N.T.S.



CONDUIT TABLE		
CONDUIT TYPE	CONDUIT SIZE	MIN. CENTERS
POWER	1"	4"
POWER	1 1/2"	5"
POWER	2"	5"
POWER	3"	6"
POWER	4"	7"
POWER	5"	7.5"
CONTROL	1"	4"
SIGNAL	1"	4"

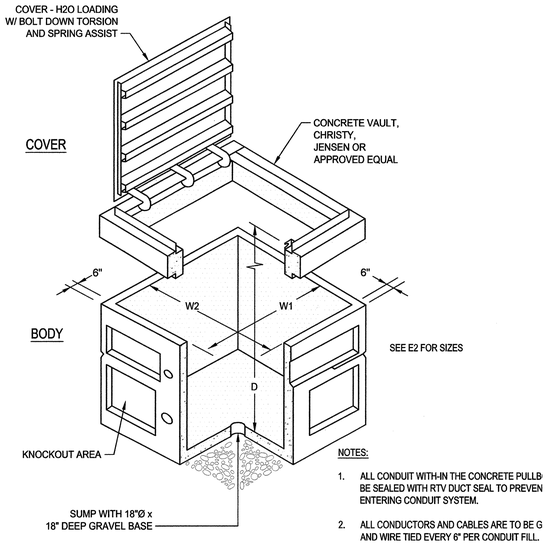
(MULTIPLE RUNS)

NOTES:

1. COLOR OF CONCRETE ENCASEMENT SHALL BE RED.

TYPICAL DUCT BANK 5 VAR

SCALE: N.T.S.

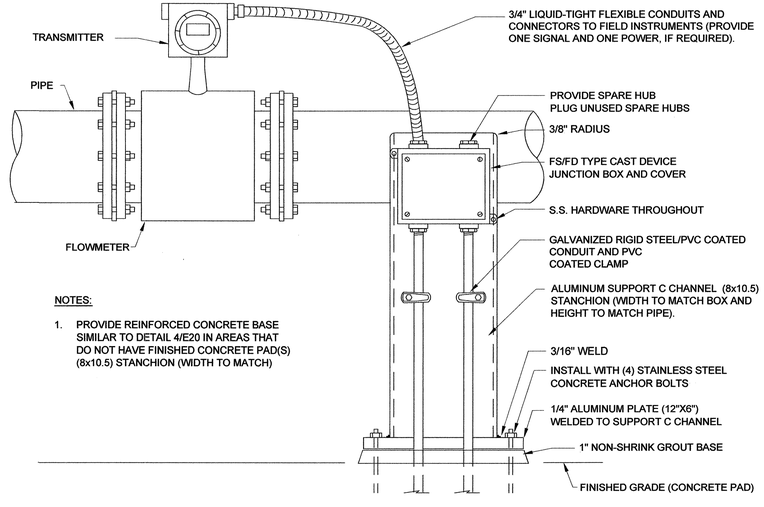


NOTES:

1. ALL CONDUIT WITH-IN THE CONCRETE PULLB BE SEALED WITH RTV DUCT SEAL TO PREVEN ENTERING CONDUIT SYSTEM.
2. ALL CONDUCTORS AND CABLES ARE TO BE G AND WIRE TIED EVERY 6" PER CONDUIT FILL.

CONCRETE VAULT DETAIL (CV) 6 VAR

SCALE: N.T.S.



NOTES:

1. PROVIDE REINFORCED CONCRETE BASE SIMILAR TO DETAIL 4/E20 IN AREAS THAT DO NOT HAVE FINISHED CONCRETE PAD(S) (8x10.5) STANCHION (WIDTH TO MATCH)

FLOWMETER JUNCTION BOX AND STANCHION MOUNTING DETAIL 7 VAR

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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

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CHECKED	JL

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SUSTAINMENT AND COMPLIANCE PROJECT
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ELECTRICAL DETAILS 3

FILE NAME	127001201e13.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	E13
OF	

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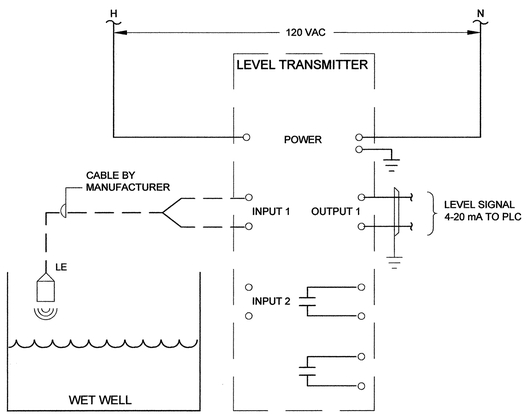
SYMBOLS

SYMBOL	DESCRIPTION
1	SHEET NOTE TAG
FE / M	MAGNETIC FLOW METER
	ELECTRICAL SIGNAL
	ELECTRIC POWER
	ELECTRIC CONTROL
	SOFTWARE OR DATA LINK
	DRAIN
I/I	SIGNAL CONVERTER
	BASKET STRAINER
BFP	BACK FLOW PREVENTER
I	INTERLOCK
	VENT
ES / AS	ELECTRIC SUPPLY OR AIR SUPPLY
M	MOTOR
	PUMP
M	SUBMERSIBLE PUMP
RES	RESISTOR
SV	SOLENOID VALVE
	PRESSURE CONTROL VALVE
	ALTITUDE VALVE
	AIR RELEASE VALVE
	GLOBE VALVE

SYMBOL	DESCRIPTION
	GATE VALVE
	BUTTERFLY VALVE
	CHECK VALVE
N.C.	MOTORIZED OPERATED VALVE
	FLEXIBLE COUPLING
	BALL VALVE
	BUBBLER ELEMENT
	FLOAT SWITCH
	LEVEL PROBE
	PROPELLER FLOW METER ELEMENT
M	MAGNETIC FLOW METER ELEMENT
	METERING PUMP
	BLOWER
	CALIBRATION COLUMN
	REDUCER
	ULTRASONIC LEVEL SENSOR
	STATIC MIXER
	FLANGE COUPLING ADAPTER
ISR	INTRINSICALLY SAFE RELAY

ABBREVIATIONS

A	AMPS
AC	ALTERNATING CURRENT
AI	ANALOG INPUT
AFD	ADJUSTABLE FREQUENCY DRIVE
AO	ANALOG OUTPUT
AS	AIR SUPPLY SOURCE
BW	BACKWASH
C	CLOSE
CP	CONTROL PANEL
CR	CONTROL RELAY
Cu	COPPER
DC	DIRECT CURRENT
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
D.O.	DISSOLVED OXYGEN
DPDT	DOUBLE POLE DOUBLE THROW
ES	ELECTRICAL POWER SOURCE
ETM	ELAPSED TIME METER
FC	FAIL CLOSED
FLP	FAIL LAST POSITION
FO	FAIL OPEN
F	FILTER
FS	FLOAT SWITCH
FSP	FILTER SOLENOID PANEL
FV	FLOW VALVE
GPM	GALLONS PER MINUTE
G	GREEN
G,GND	GROUND
HOA	HAND OFF AUTO
HP	HORSEPOWER
I	INTERLOCK
I/I	CURRENT TO CURRENT DEVICE
I/E	CURRENT TO VOLTAGE DEVICE
I/0	INPUT/OUTPUT
I/P	CURRENT TO PRESSURE DEVICE
ISR	INTRINSICALLY SAFE RELAY
LPU	LINE PROTECTION UNIT
mA	MILLIAMPERES
MOV	MOTOR OPERATED VALVE
MUX	MULTIPLEXER
N	NEUTRAL
N.O.	NORMALLY OPEN
N.C.	NORMALLY CLOSED
NTS	NOT TO SCALE
O	OPEN
PNL	PANEL
PSIG	POUNDS PER SQUARE INCH GAGE
POT	POTENTIOMETER
P/I	PRESSURE TO CURRENT DEVICE
PID	PROPORTIONAL, INTEGRATION, DERIVATIVE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PR	SHIELDED, PAIR CABLE
PS	PRESSURE SWITCH
PTT	PUSH TO TEST
PV	PROCESS VARIABLE
R	RED
RTU	REMOTE TELEMETRY UNIT
SV	SOLENOID VALVE
SCFM	STANDARD CUBIC FEET PER MINUTE
SP	SOLENOID PANEL
SS	STAINLESS STEEL
TDD,TDE	TIME DELAY RELAY
TWSP	TWISTED SHIELDED PAIR
TWP	TWISTED PAIR
TYP	TYPICAL
V	VOLTS, VOLTAGE
VLV	VALVE
W	WHITE
UPS	UNINTERRUPTIBLE POWER SUPPLY



NOTE:

1. LIT-101 HAS TWO ELEMENTS. SEE SPECIFICATION SECTION 17010.

LIT WIRING DIAGRAM 1 / I1

INPUT & OUTPUT SIGNALS TO PLC/RTU

- ANALOG INPUT
- ANALOG OUTPUT
- PULSE INPUT
- MODULATING OUTPUT
- DIGITAL INPUT
- DIGITAL OUTPUT

P & I DIAGRAM INSTRUMENT IDENTIFICATION

CODE LETTER	FIRST LETTER(S)		SUCCEEDING LETTER(S)		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER FLAME				
C	CONDUCTIVITY			CONTROL	CLOSE
D	DENSITY	DIFFERENTIAL			
E	VOLTAGE		ELEMENT		
F	FLOW	RATIO			
G	GAGING		GLASS		
H	HAND				HIGH
I	CURRENT		INDICATE		
J	POWER	SCAN			
K	TIME			CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	MOISTURE	MOMENTARY			MIDDLE
N	STATUS				
O	OPERATOR		ORIFICE		OPEN
P	PRESSURE		POINT		
Q	EVENT	TOTALIZE			
R	RESET		RECORD		
S	SPEED	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION		
V	VIBRATION			VALVE	
W	WEIGHT, FORCE		WELL		
X	SWITCH		TROUBLE/FAIL		
Y	EVENT/STATE			COMPUTE/RELAY	
Z	POSITION			ACTUATE	

GENERAL INSTRUMENT OR FUNCTION SYMBOLS

	LOCATION NORMALLY ACCESSIBLE TO OPERATOR	FIELD MOUNTED	LOCATION NORMALLY NOT ACCESSIBLE TO OPERATOR	SECONDARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR
DISCRETE INSTRUMENTS	⊖	○	⊖	⊜
SHARED DISPLAY. SHARED CONTROL	⊖	○	⊖	⊜
COMPUTER FUNCTION	⬡	⬡	⬡	⬡
PROGRAMMABLE LOGIC CONTROL	◇	◇	◇	◇

NOTE:

1. IN GENERAL, WHERE NEW EQUIPMENT IS SHOWN ON THE SAME SHEET AS EXISTING OR FUTURE EQUIPMENT, THE NEW EQUIPMENT WILL BE SHOWN IN A HEAVIER LINE WEIGHT.

PRELIMINARY N.F.C.

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ECS Engineering, Inc.
Electrical & Control Systems Engineering
For Pump Stations & Treatment Facilities
Elk Grove, CA
916-694-1477 Fax 916-694-7161
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08/15/13

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INSTRUMENTATION AND CONTROLS SYMBOLS AND ABBREVIATIONS

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JOB NO. 1270012.01
DATE AUGUST 14, 2013
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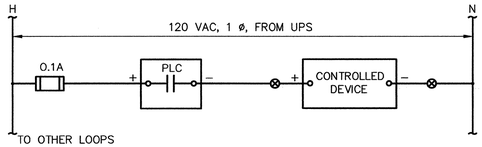
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PLC			
DI-1	120 VAC	MOTOR IN AUTO HS-302A	STARTER WIRING DIAGRAM TF2 MOTOR M-302
DI-2	120 VAC	MOTOR IN HAND HS-302B	STARTER WIRING DIAGRAM TF2 MOTOR M-302
DI-3	120 VAC	MOTOR RUNNING YN-302	STARTER WIRING DIAGRAM TF2 MOTOR M-302
DI-4	120 VAC	MOTOR OVERTORQUE YA-302A	STARTER WIRING DIAGRAM TF2 MOTOR M-302
DI-5	120 VAC	MOTOR OVERTEMP YA-302B	STARTER WIRING DIAGRAM TF2 MOTOR M-302
DI-6	120 VAC	FEED PUMP 1 IN AUTO HS-311A	STARTER WIRING DIAGRAM PUMP P-311
DI-7	120 VAC	FEED PUMP 1 IN HAND HS-311B	STARTER WIRING DIAGRAM PUMP P-311
DI-8	120 VAC	FEED PUMP 1 RUNNING YN-311	STARTER WIRING DIAGRAM PUMP P-311
DI-9	120 VAC	FEED PUMP 1 FAIL YA-311	STARTER WIRING DIAGRAM PUMP P-311
DI-10	120 VAC	FEED PUMP 2 IN AUTO HS-312A	STARTER WIRING DIAGRAM PUMP P-312
DI-11	120 VAC	FEED PUMP 2 IN HAND HS-312B	STARTER WIRING DIAGRAM PUMP P-312
DI-12	120 VAC	FEED PUMP 2 RUNNING YN-312	STARTER WIRING DIAGRAM PUMP P-312
DI-13	120 VAC	FEED PUMP 2 FAIL YN-312	STARTER WIRING DIAGRAM PUMP P-312
DI-14	120 VAC	MOTOR IN AUTO HS-401A	STARTER WIRING DIAGRAM COL-400 MOTOR M-401
DI-15	120 VAC	MOTOR IN HAND HS-401B	STARTER WIRING DIAGRAM COL-400 MOTOR M-401
DI-16	120 VAC	MOTOR RUNNING YN-401	STARTER WIRING DIAGRAM COL-400 MOTOR M-401
DI-17	120 VAC	MOTOR OVERTORQUE YA-401A	STARTER WIRING DIAGRAM COL-400 MOTOR M-401
DI-18	120 VAC	MOTOR OVERTEMP YA-401B	STARTER WIRING DIAGRAM COL-400 MOTOR M-401
DI-19	120 VAC	(E) MOTOR OVERTORQUE YA-201A	(E) PRIMARY CLARIFIER TELEMETRY DIAGRAM COL-200 MOTOR M-201
DI-20	120 VAC	SPARE	SPARE
PLC			
DO-1	120 VAC	TF2 MOTOR CALL YC-302	STARTER WIRING DIAGRAM TF2 MOTOR M-302
DO-2	120 VAC	SC FEED PUMP CALL YC-311	STARTER WIRING DIAGRAM TF1 PUMP P-311
DO-3	120 VAC	SC FEED PUMP CALL YC-312	STARTER WIRING DIAGRAM TF1 PUMP P-312
DO-4	120 VAC	SC MOTOR CALL YC-401	STARTER WIRING DIAGRAM SEC CL MOTOR M-401
DO-5	120 VAC	FLTR FEED VFD CALL YC-501	STARTER WIRING DIAGRAM SEC EFF PUMP P-501
DO-6	120 VAC	FLTR FEED VFD RESET YC-501A	STARTER WIRING DIAGRAM SEC EFF PUMP P-501
DO-7	120 VAC	FLTR FEED VFD CALL YC-502	STARTER WIRING DIAGRAM SEC EFF PUMP P-502
DO-8	120 VAC	FLTR FEED VFD RESET YC-502A	STARTER WIRING DIAGRAM SEC EFF PUMP P-502

PLC I/O BLOCK DIAGRAM

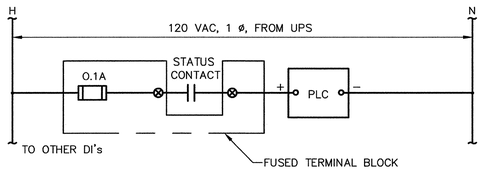
SCALE: NONE

PLC MODULE				
	DI-1	120 VAC	FLTR FEED P1 AUTO HS-501A	STARTER WIRING DIAGRAM PUMP P-501
	DI-2	120 VAC	FLTR FEED P1 HAND HS-501B	STARTER WIRING DIAGRAM PUMP P-501
	DI-3	120 VAC	FLTR FEED P1RUNNING YN-501	STARTER WIRING DIAGRAM PUMP P-501
	DI-4	120 VAC	FLTR FEED P1 FAULT YA-501A	STARTER WIRING DIAGRAM PUMP P-501
	DI-5	120 VAC	FLTR FEED P1 FAIL YA-501B	STARTER WIRING DIAGRAM PUMP P-501
	DI-6	120 VAC	FLTR FEED P1 AUTO HS-502A	STARTER WIRING DIAGRAM PUMP P-502
	DI-7	120 VAC	FLTR FEED P1 HAND HS-502B	STARTER WIRING DIAGRAM PUMP P-502
	DI-8	120 VAC	FLTR FEED P1RUNNING YN-502	STARTER WIRING DIAGRAM PUMP P-502
	DI-9	120 VAC	FLTR FEED P1 FAULT YA-502A	STARTER WIRING DIAGRAM PUMP P-502
	DI-10	120 VAC	FLTR FEED P1 FAULT YA-502B	STARTER WIRING DIAGRAM PUMP P-502
	DI-11	120 VAC	PLC PANEL PWR FAIL	PLC POWER WIRING DIAGRAM
	DI-12	120 VAC	UTILITY PWR FAIL	PFR
	DI-13	120 VAC	(E) EX FAN MTR TRIP	RECONNECT TO (N) PLC
	DI-14	120 VAC	(E) SUMP HIGH LEVEL	RECONNECT TO (N) PLC
	DI-15	120 VAC	(E) CL2 LEAK	RECONNECT TO (N) PLC
	DI-16	120 VAC	(E) BLDG. INTRUSION	RECONNECT TO (N) PLC
PLC MODULE	DI-1	120 VAC	PLC PANEL UPS FAULT	PLC POWER WIRING DIAGRAM
	DI-2	120 VAC	LEVEL SENSOR HIGH YLA-310	TF1 EFFLUENT PUMP STATION LEVEL HIGH
	DI-3	120 VAC	LEVEL SENSOR HIGH YLA-500	SECONDARY EFFLUENT PUMP 1 LEVEL HIGH
	DI-4 TO DI-16	120 VAC	SPARES	SPARES



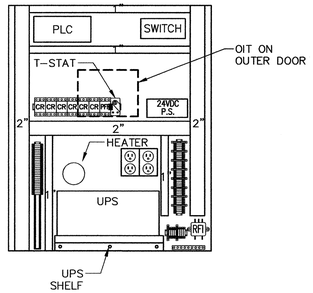
TYPICAL "DO" LOOP WIRING DIAGRAM

SCALE: NONE



TYPICAL "DI" LOOP WIRING DIAGRAM

SCALE: NONE

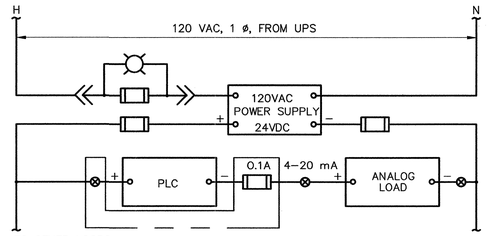


PLC BACKPAN LAYOUT DIAGRAM

SCALE: NONE

PLC MODULE			
AI-1	4-20 MA	(E) FLOW TRANSMITTER	INFLUENT FLOW YF-112
		(E) FLOW RECORDER	
AI-2	4-20 MA	RECEIVER	TF1 WETWELL LEVEL LIT-310
AI-3	4-20 MA	RECEIVER	SECONDARY EFFL. WETWELL LEVEL LIT-500
AI-4	4-20 MA	VFD	FILTER FEED PUMP 1 SPEED YS-501
AI-5	4-20 MA	VFD	FILTER FEED PUMP 2 SPEED YS-502
AI-6	4-20 MA	SPARE	SPARE
AO-1	4-20 MA	VFD	FILTER FEED PUMP 1 SPEED CONTROL YC-501
AO-2	4-20 MA	VFD	FILTER FEED PUMP 2 SPEED CONTROL YC-502

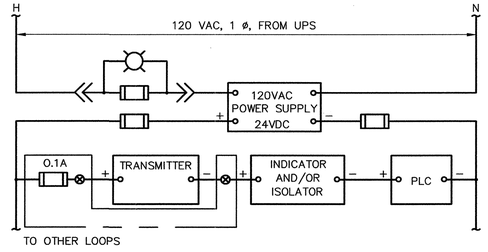
NOTE: ALL SPARE I/O SHALL BE WIRED TO FIELD TERMINAL BLOCKS.



NOTE:
SUPPLY SURGE PROTECTION DEVICE IF SIGNAL IS GENERATED OUTSIDE OF PANEL.

TYPICAL "AO" LOOP WIRING DIAGRAM

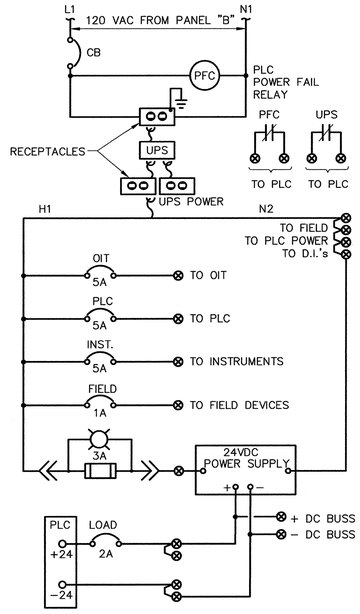
SCALE: NONE



NOTE:
SUPPLY SURGE PROTECTION DEVICE IF SIGNAL IS GENERATED OUTSIDE OF PANEL.

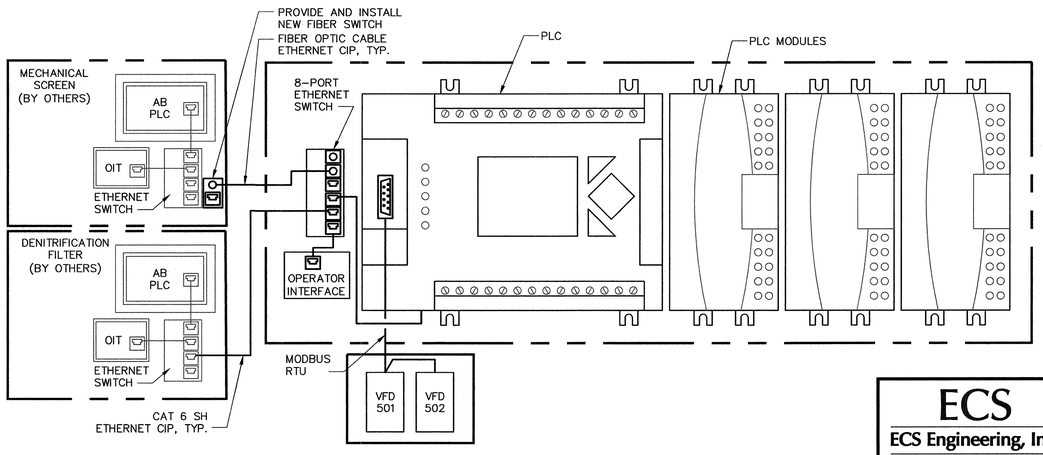
TYPICAL "AI" LOOP WIRING DIAGRAM

SCALE: NONE



TYPICAL PLC POWER DISTRIBUTION WIRING DIAGRAM

SCALE: NONE



NEW PUMP STATION PLC COMMUNICATION DIAGRAM

SCALE: NONE

ECS
ECS Engineering, Inc.
Electrical & Control Systems Engineering
For Pump Stations & Treatment Facilities
Elk Grove, CA
916-684-1477 Fax 916-684-7161
samlemy@earthlink.net

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NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER — No.7125 — Exp.06-30-2015 — CONTROL SYSTEMS — STATE OF CALIFORNIA
08/15/13

DESIGNED	SWT
DRAWN	CCE
CHECKED	JL

CALIFORNIA ARMY NATIONAL GUARD
CAMP ROBERTS, CALIFORNIA

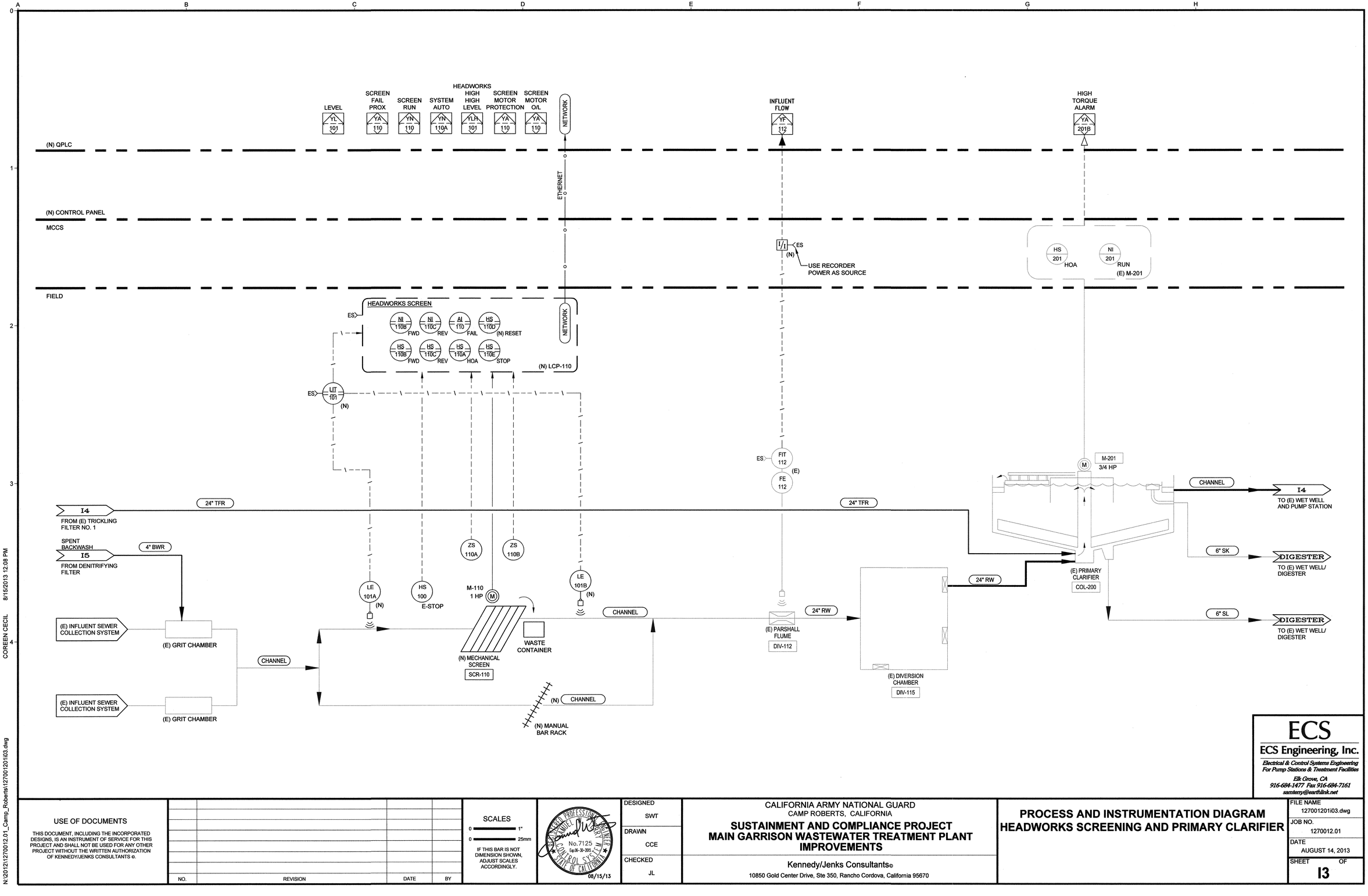
SUSTAINMENT AND COMPLIANCE PROJECT
MAIN GARRISON WASTEWATER TREATMENT PLANT IMPROVEMENTS

Kennedy/Jenks Consultants©
10850 Gold Center Drive, Ste 350, Rancho Cordova, California 95670

RTU-PLC DIAGRAMS

FILE NAME	127001201i02.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	12 OF

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COREEN CECIL 8/15/2013 12:08 PM

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SCALES

0 ——— 1"

0 ——— 25mm

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REGISTERED PROFESSIONAL ENGINEER — SAMUEL L. TERRY — No.7125 — Exp.06-30-2015 — CONTROL SYSTEMS — STATE OF CALIFORNIA

08/15/13

DESIGNED	SWT
DRAWN	CCE
CHECKED	JL

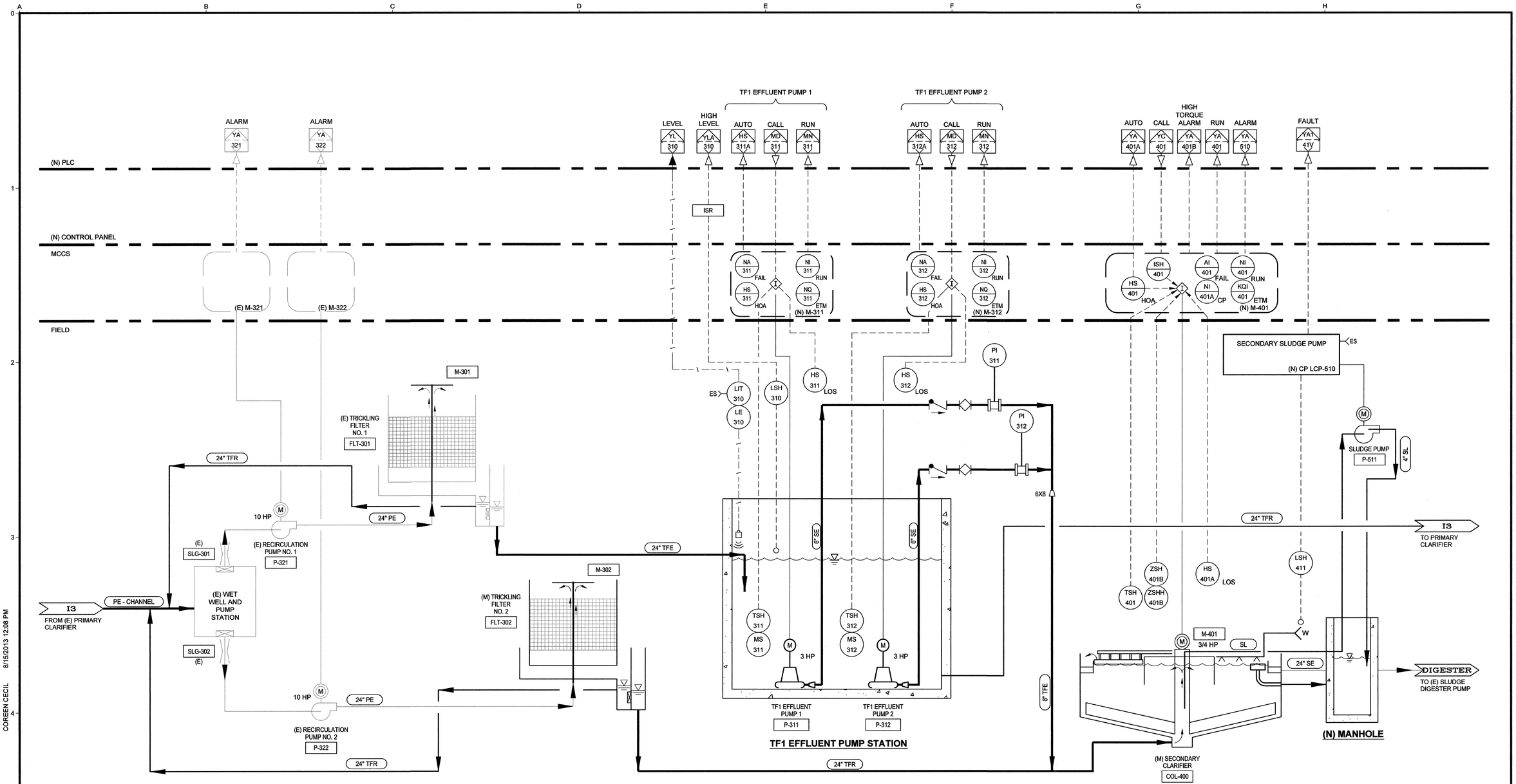
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SUSTAINMENT AND COMPLIANCE PROJECT
MAIN GARRISON WASTEWATER TREATMENT PLANT IMPROVEMENTS

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PROCESS AND INSTRUMENTATION DIAGRAM
HEADWORKS SCREENING AND PRIMARY CLARIFIER

FILE NAME	1270012011i03.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	13 OF



N:\2012\1270012.01_Camp_Roberts\1270012001\04.dwg 8/15/2013 12:08 PM COREEN CECIL

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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER Samuel Lee Jenkins No.7125 Exp.06-30-2015 CIVIL STATE OF CALIFORNIA

08/15/13

DESIGNED	SWT
DRAWN	CCE
CHECKED	JL

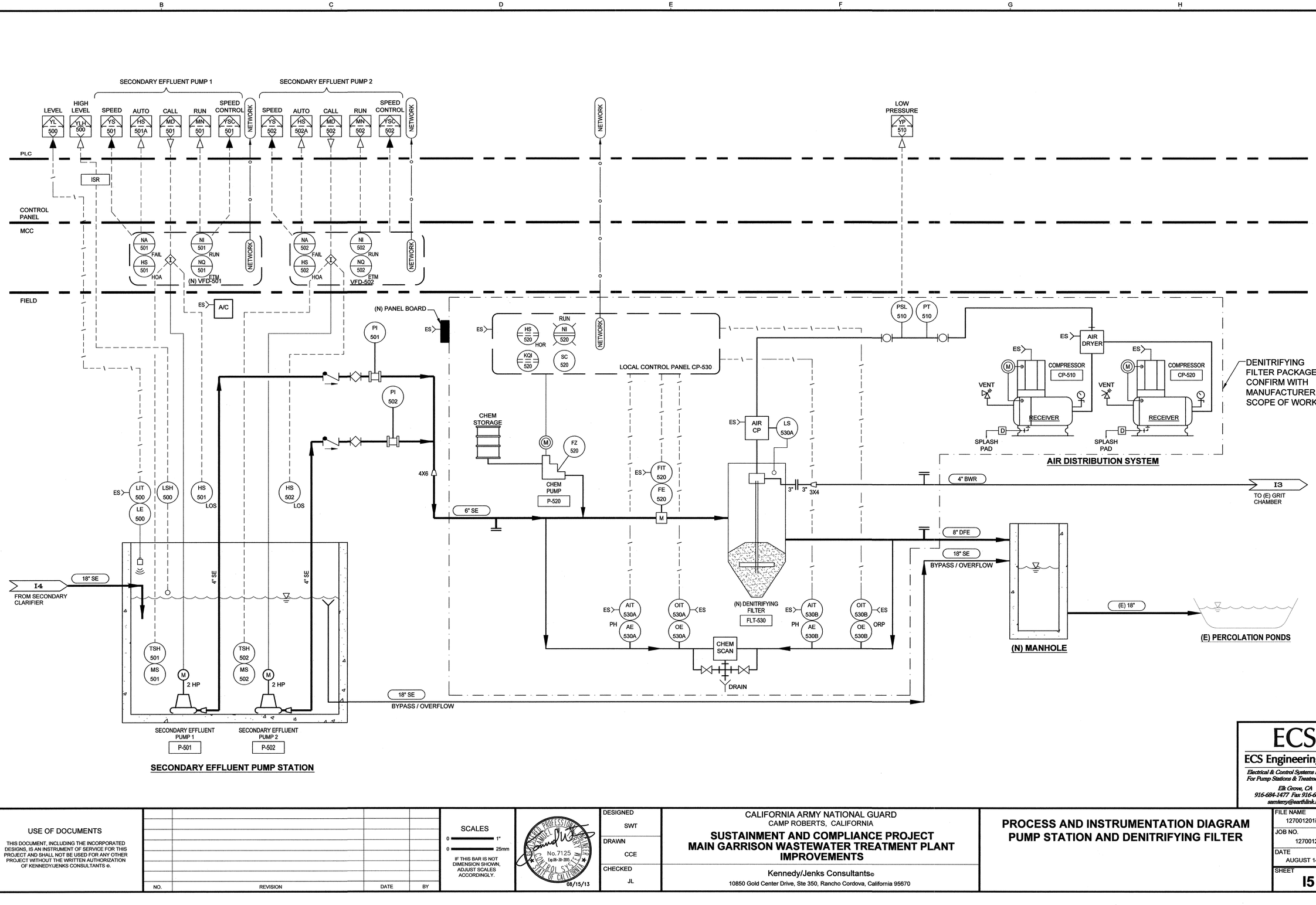
CALIFORNIA ARMY NATIONAL GUARD
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SUSTAINMENT AND COMPLIANCE PROJECT
MAIN GARRISON WASTEWATER TREATMENT PLANT IMPROVEMENTS

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PROCESS AND INSTRUMENTATION DIAGRAM TRICKLING FILTERS AND SECONDARY CLARIFIER

FILE NAME	127001201i04.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	14 OF



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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER Samuel W. Terry No.7125 Exp.06-30-2015 ELECTRICAL CONTROL SYSTEMS STATE OF CALIFORNIA

08/15/13

DESIGNED	SWT
DRAWN	CCE
CHECKED	JL

CALIFORNIA ARMY NATIONAL GUARD
CAMP ROBERTS, CALIFORNIA

SUSTAINMENT AND COMPLIANCE PROJECT
MAIN GARRISON WASTEWATER TREATMENT PLANT IMPROVEMENTS

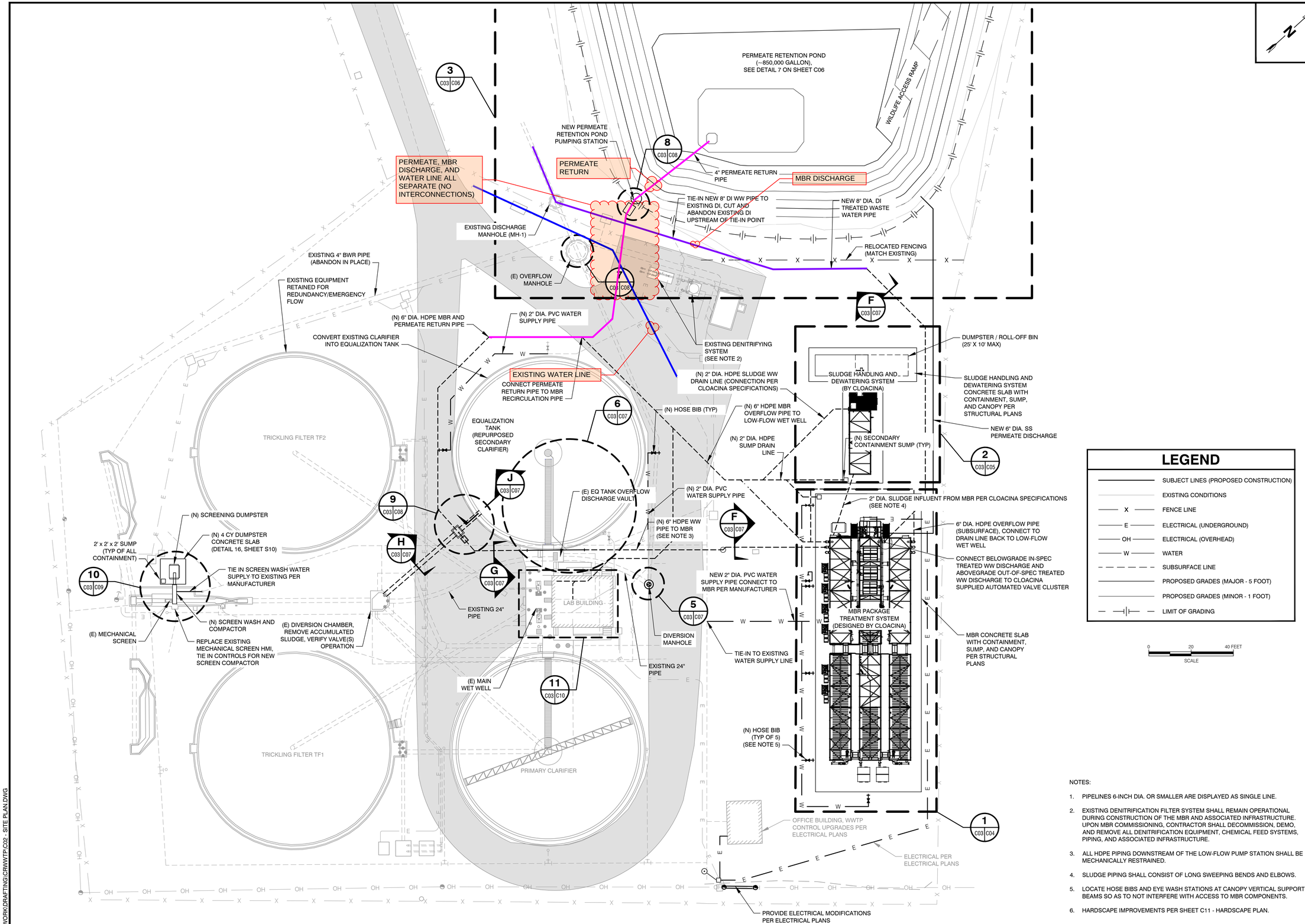
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PROCESS AND INSTRUMENTATION DIAGRAM
PUMP STATION AND DENITRIFYING FILTER

FILE NAME	12700120105.dwg
JOB NO.	1270012.01
DATE	AUGUST 14, 2013
SHEET	15 OF

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ATTACHMENT 10
C03_Markup_20260805



LEGEND

- SUBJECT LINES (PROPOSED CONSTRUCTION)
- EXISTING CONDITIONS
- X — FENCE LINE
- E — ELECTRICAL (UNDERGROUND)
- OH — ELECTRICAL (OVERHEAD)
- W — WATER
- SUBSURFACE LINE
- PROPOSED GRADES (MAJOR - 5 FOOT)
- PROPOSED GRADES (MINOR - 1 FOOT)
- LIMIT OF GRADING

0 20 40 FEET
SCALE

NOTES:

1. PIPELINES 6-INCH DIA. OR SMALLER ARE DISPLAYED AS SINGLE LINE.
2. EXISTING DENITRIFICATION FILTER SYSTEM SHALL REMAIN OPERATIONAL DURING CONSTRUCTION OF THE MBR AND ASSOCIATED INFRASTRUCTURE. UPON MBR COMMISSIONING, CONTRACTOR SHALL DECOMMISSION, DEMO, AND REMOVE ALL DENITRIFICATION EQUIPMENT, CHEMICAL FEED SYSTEMS, PIPING, AND ASSOCIATED INFRASTRUCTURE.
3. ALL HDPE PIPING DOWNSTREAM OF THE LOW-FLOW PUMP STATION SHALL BE MECHANICALLY RESTRAINED.
4. SLUDGE PIPING SHALL CONSIST OF LONG SWEEPING BENDS AND ELBOWS.
5. LOCATE HOSE BIBS AND EYE WASH STATIONS AT CANOPY VERTICAL SUPPORT BEAMS SO AS TO NOT INTERFERE WITH ACCESS TO MBR COMPONENTS.
6. HARDSCAPE IMPROVEMENTS PER SHEET C11 - HARDSCAPE PLAN.

C:\WORK\DRAFTING\CRWWTP\C02 - SITE PLAN.DWG

PREPARED BY
Weaver Consultants Group
1 TECHNOLOGY DRIVE, SUITE C515
IRVINE, CALIFORNIA 92618-5302

PREPARED FOR
CAL GUARD
CALIFORNIA MILITARY DEPARTMENT
CALIFORNIA MILITARY DEPARTMENT
CALIFORNIA MILITARY DEPARTMENT
10801 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REV	DATE	DESCRIPTION	BY	APPD
0	03/31/26	100% DESIGN SUBMITTAL	TMH	TMH
E	11/07/25	95% DESIGN SUBMITTAL	TMH	TMH
D	08/08/25	RESPONSE TO 90% DESIGN SUBMITTAL	TMH	TMH
C	12/04/24	90% DESIGN SUBMITTAL	TMH	TMH
B	04/17/24	REVISIONS TO CIVIL 35% DESIGN	TMH	TMH
A	02/28/18	35% DESIGN	BB	JP

REVISION SUMMARY

SCALE: AS NOTED
BAR SHOULD BE EXACTLY 1 INCH LONG
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER
TIMOTHY M. HUNT
C 69637
CIVIL
STATE OF CALIFORNIA

DESIGNER:	TMH
DRAWN BY:	TMH
CHECKED BY:	PM
APPROVED BY:	TMH
DATE:	03/31/2026

SITE PLAN

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 5890-300-01-47
FILE NAME: C02 - SITE PLAN.DWG

SHEET No. C03
SHEET 10 OF 42
REVISION 0

ATTACHMENT 11
ENV_Checklist_ENV_Signed_20260708

Enviro Tracking #:	ARNG ENVIRONMENTAL CHECKLIST	State ARNG
	Enter information in the yellow shaded areas.	

PART A - PROJECT INFORMATION

1. PROJECT NAME:

Wastewater Treatment Plant Replacement

2. PROJECT NUMBER: (MILCON if applicable)	3. DATE PREPARED:
	4 May 2025

4. DESCRIPTION AND LOCATION OF THE PROJECT/PROPOSED ACTION:

a. Location (Include a detailed map, if applicable):

Project is located at the current wastewater treatment plant in the cantonment of Camp Roberts.

b. Description:

The project will upgrade the current wastewater treatment plant built in 1941 to a new treatment plant using a Membrane Reactor system, MBR, that comes pre-engineered in a package plant and requires minimal construction. Existing settling ponds will be reconfigure to act as an equalization pond of 500,000 gallons for emergency use. Electrical systems will be upgrade and new piping will be installed where needed to

c. The proposed action will involve (check all that apply):

- ☐ Training activities/areas
- ☐ Maintenance/repair/rehabilitation
- ☐ Innovative readiness training project
- ☐ Other (Explain):
- ☐ Construction
- ☐ Real estate action
- ☐ Natural resource management
- ☐ Environmental plans/surveys

d. Project size (acres): 4.5 (if applicable) Acres of new surface disturbance (proposed): 0 (if applicable)

5. START DATE of PROPOSED ACTION (dd-mmm-yy): 01-Nov-26 Note: This must be a future date.

6. PROGRAMMED FISCAL YEAR (if applicable): FY26

7. END DATE (if applicable): 26-Jul-27

PART B - DECISION ANALYSIS GUIDE

To use a categorical exclusion, the project must satisfy the following three screening criteria: no segmentation, no exceptional circumstances and a qualifying categorical exclusion that covers the project. The following decision tree will guide the application and documentation of these three screening criteria. The criteria were extracted from 32 CFR Section 651.29 and represent the most common screening conditions experienced in the ARNG. NOTE: Each question in Part B must have an applicable block checked for concurrence with REC.

1. Is this action segmented (the scope of the action must include the consideration of connected, cumulative, and similar actions)? ☐ YES (go to #30) ■ NO (go to #2)

2. Is there reasonable likelihood of significant environmental effects (direct, indirect,and cumulative)? If action meets screening criteria but is assessed in an existing EA or EIS, check NO and proceed to the next question. ☐ YES (go to #30) ■ NO (go to #3)

3. Is there a reasonable likelihood of significant effects on public health, safety or the environment? If action meets screening criteria but is assessed in an existing EA or EIS, check NO and proceed to the next question. ☐ YES (go to #30) ■ NO (go to #4)

4. Is there an imposition of uncertain or unique environmental risks? If action meets screening criteria but is assessed in an existing EA or EIS, check NO and proceed to the next question. ☐ YES (go to #30) ■ NO (go to #5)

5. Is the project of greater scope or size than is normal for the category of action? If action meets screening criteria but is assessed in an existing EA or EIS, check NO and proceed to the next question. ☐ YES (go to #30) ■ NO (go to #6)

6. Does the project introduce or employ unproven technology? If action meets screening criteria but is assessed in an existing EA or EIS, check NO and proceed to the next question. ☐ YES (go to #30) ■ NO (go to #7)

PART B - DECISION ANALYSIS (continued)

7. Will there be reportable releases of hazardous or toxic substances as specified in 40 CFR Part 302? If action meets screening criteria but is assessed in an existing EA or EIS, check NO and proceed to the next question.

☐ YES (go to #30) ■ NO (go to #8)

8. If proposed action is in a non-attainment or maintenance area, will air emissions exceed de minimus levels or otherwise require a formal Clean Air Act (CAA) conformity determination? If action meets screening criteria but is assessed in an existing EA or EIS, check NO and proceed to the next question. ☐ YES (go to #30) ■ NO (go to #9) ☐ NA (go to #9)

9. Will the project have effects on the quality of the environment that are likely to be highly controversial? If action meets screening criteria but is assessed in an existing EA or EIS, check NO and proceed to the next question.

☐ YES (go to #30) ■ NO (go to #10)

10. Will the project establish a precedent (or make decisions in principle) for future or subsequent actions that are reasonably likely to have future significant effects? If action meets screening criteria but is assessed in an existing EA or EIS, check NO and proceed to the next question. ☐ YES (go to #30) ■ NO (go to #11)

11. Has federal funding been secured for the Innovative Readiness Training (IRT) project?

■ N/A (go to #13) ☐ YES (go to #13) ☐ NO (go to #12)

12. NOTE: IRT projects not currently funded can secure approved NEPA documentation. However, once funding is secured State ARNG is required to coordinate with ARNG-ILE-T to complete natural and cultural surveys via proponent funding.

☐ CONFIRMED (go to #27)

13. Do you have a species list from the U.S. Fish and Wildlife Service that is less than 90 days old?

■ YES (go to #14) Date of List: 4 May 2026 ☐ NO (update species list return to #13)

14. In reviewing the species list, what determination was made by the State ARNG?

☐ No species present (go to #16)
☐ No affect (go to #16)
■ May affect but not likely to adversely affect (go to # Date of USFWS concurrence: 20 Jan 2026
☐ May affect likely to adversely affect (go to #15)

15. Does an existing Biological Opinion cover the action?

☐ YES (go to #16) Date of BO: ☐ NO (go to #30)

16. Have the Endangered Species Act, Section 7 requirements completed?

■ YES (go to #17) Date of Documentation: 4 May 2026 ☐ NO (complete documentation, return to #16)

17. Does the project involve an undertaking to a building or structure that is 50 years of age or older?

■ YES (go to #18) ☐ NO (go to #20)

18. Has the building or structure been surveyed for the National Register of Historic Places?

■ YES (go to #19) ☐ NO (complete inventory, return to #18)

19. Is the building or structure eligible for or listed on the National Register of Historic Places?

☐ YES (go to #20) ■ NO (go to #20)

20. Does the action involve ground disturbing activities?

■ YES (go to #21) ☐ NO (go to #22)

21. Has an archaeological inventory or research been completed to determine if there are any archeological resources present?

■ YES (go to #22) ☐ NO (complete inventory or conduct research, return to #21)

22. In reviewing the undertaking, under the National Historic Preservation Act (NHPA) (for both above and below ground resources), what determination was made by the State ARNG?

■ No 106 undertaking; no additional consultation required under NHPA (go to question #27)
☐ No properties affected (go to #24) Date of SHPO Concurrence:
☐ No adverse effect (go to #24) Date of SHPO Concurrence:
☐ Adverse effect (go to #23)

23. Has the State ARNG addressed the adverse effect?

☐ YES (place date of MOA or existing PA and explanation of mitigation in box below, go to #24) ☐ NO (go to #30)

23a.

PART B - DECISION ANALYSIS (continued)

24. Per DoDI 4710.02 did the state ARNG determine that tribal consultation was necessary for this project?

☐ YES (go to #25)

☐ NO (Provide reason in this block 24a, go to #27)

24a.

25. Did the Tribes express an interest or respond with concerns about the project?

☐ YES (go to #26) ☐ NO (go to #27) Date of Documentation:

26. Has the State ARNG addressed the Tribal concerns?

☐ YES (place date of MOU or explanation of how State ARNG addressed tribal concerns in box below, go to #27)

☐ NO (address concerns, return to #26)

Complete only if additional documentation is required in question #26

26a.

27. Does the project involve an unresolved effect on areas having special designation or recognition such as those listed below? For any yes responses go to #30 otherwise go to #28. If any No response is a result of negotiated and/or previously resolved effects please describe resolution in box 27a below.

TYPE	Unresolved Effects?	TYPE	Unresolved Effects?
a. Prime/Unique Farmland	no	e. Wild/Scenic River	no
b. Wilderness Area/National Park	no	f. Coastal Zones	no
c. Sole-Source Aquifer	no	g. 100-year Floodplains	no
d. Wetlands	no	h. National Wildlife Refuges	no

27a.

28. Is this project addressed in a separate EA or EIS review?

☐ YES (complete table below; go to Part C, Determination) ■ NO (go to #29)

Document Title:	
Lead Agency:	
Date of Decision Document:	

29. Does the project meet at least one of the categorical exclusions listed in 32 CFR 651 App B?

■ YES (complete table below; go to Part C, Determination) ☐ NO (go to #30)

List primary CAT EX code	C-1: Construction of an addition to an existing structure or new…
Descibe why CAT EX applies	The project will add a new Membrane Reactor system to the old wastewater treatment plant. Old structures will be demolished, remaining utilities will be upgraded or replaced for the new MBR plant.

30. At this time your project has not met all the qualifications for using a categorical exclusion under 32 CFR 651. Unless the scope of the project is changed, it will require an Environmental Assessment or possibly an Environmental Impact Statement. If you feel this is in error, please call your NEPA Regional Manager to discuss. If needed, go to Part C Determination.

Additional Information (if needed):

PART C - DETERMINATION

On the basis of this initial evaluation, the following is appropriate:

- ☐ IAW 32 CFR 651 Appendix B, the proposed action qualifies for a Categorical Exclusion (CX) that does not require a Record of Environmental Consideration.
- ■ A Record of Environmental Consideration (REC).
- ☐ An Environmental Assessment (EA).
- ☐ A Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS).

Signature of Proponent (Requester)	Environmental Program Manager
MAJ Myles Colendich Branch Chief DPM	Douglas Bryceson
Printed Name of Proponent (Requester)	Printed Name of Env. Program Manager
08 July 2026	
Date Signed	Date Signed

Other concurrence (as needed):

Signature	Signature
Printed Name	Printed Name
Date Signed	Date Signed
Signature	Signature
Printed Name	Printed Name
Date Signed	Date Signed
Signature	Signature
Printed Name	Printed Name
Date Signed	Date Signed

ATTACHMENT 12
USFWS_Memorandum_20260109

DEPARTMENT OF THE ARMY
CALIFORNIA ARMY NATIONAL GUARD
FACILITIES & INFRASTRUCTURE
10601 BEAR HOLLOW DRIVE
SACRAMENTO, CA 95670-6350

January 9, 2026

SUBJECT: Informal Consultation for Wastewater Treatment Plant Modernization at Camp Roberts, California; Project Code: 2025-0150527

Ms. Cat Darst
U.S. Fish and Wildlife Service
Ventura Field Office
2493 Portola Road, Suite B
Ventura, CA 93003

Dear Ms. Darst,

The California Army National Guard (CA ARNG) is requesting your agency's concurrence with our determination relating to the Wastewater Treatment Plant (WWTP; Project) at Garrison Training Center, Camp Roberts (CR), California. The project involves modernization of WWTP facilities to meet current standards. The WWTP is the primary wastewater treatment facility for CR and encompasses approximately 4.5 acres of grass and shrubland adjacent to the Salinas River.

The WWTP was built in the 1950s to treat wastewater generated at Camp Robert's main garrison. Initially the site was designed for peak flows of approximately 2 million gallons per day (mgd), but in 1979 the operation of the plant was scaled back significantly in terms of overall capacity and treatment processes. The facility was last upgraded in 2016 because of discharge requirements issued by the Regional Water Quality Control Board (RWQCB) in 2014. The proposed Project will modernize the WWTP to meet the new waste discharge requirements. Construction is scheduled for 2026 and estimated to take between six (6) to nine (9) months.

Several federally listed species regulated by the United States Fish and Wildlife Service (USFWS) are known to occur on and within the vicinity of CR. These include threatened, endangered or proposed species of all kinds. As discussed in the Programmatic Biological Opinion (PBO) for Multiple Activities on Camp Roberts (2023), species that fall under the jurisdiction of USFWS that may be affected by activities on CR include: California condor (*Gymnogyps californianus*), San Joaquin kit fox (*Vulpes*

macrotis mutica), vernal pool fairy shrimp *(Branchinecta lynchi)* and purple amole (*Hooveria purpurea*). Vernal pool fairy shrimp and purple amole do not occur near the Project site and will not be affected by project activities. Construction activities are included in the PBO and have been considered for potential effects to the San Joaquin kit fox and California condor.

Species not included in the PBO with potential to occur at the project site are monarch butterfly (*Danaus* Plexippus), least Bell's vireo (LBVI; *Vireo bellii pusillus*), southwestern pond turtle (SWPT; *Actinemys pallida*), and western spadefoot toad (WSFT; *Spea hammondii*). The CA ARNG has determined that the 2025 USFWS Conference Opinion for Monarch Butterfly adequately addresses potential effects from Project activities. However, due to the recent documented occurrence of LBVI on CR and recent candidate designation of SWPT and WSFT, the CA ARNG determined additional consultation for these species was warranted for the Project.

a. LBVI was listed as State Endangered in 1980 and Federally Endangered in 1986. In line with the CR Integrated Natural Resource Management Plan (INRMP), strategies for managing LBVI are focused on monitoring and habitat restoration including protection of riparian habitat.
The CA ARNG conducted focused LBVI surveys in potentially suitable habitat in 2019, 2020, 2023, and 2025, with an outside agency conducting surveys in 2024. No observations of LBVI occurred during these surveys. In 2023 and 2024, the United States Army Corps of Engineers (USACE) deployed six Autonomous Recording Units (ARUs) in support of the Department of Defense Strategic Environmental Research and Development Program (SERDP) project aimed at understanding environmental stressors on LBVI. A single LBVI was confirmed singing on two separate events (May 31 and June 17, 2023) approximately 1000 feet downstream of High-Water Bridge, 1.64 miles from the Project site. Due to the new occurrence of LBVI on CR, potential effects to LBVI are addressed in this document.

b. SWPT are currently proposed for listing under the federal Endangered Species Act. The CA ARNG anticipates formal listing of SWPT by the time the proposed project is underway. SWPT are known to occur in multiple locations throughout CR, including the Nacimiento River and the cantonment area. In May 2024, the CA ARNG participated in a range-wide SWPT status assessment on military lands, a collaborative effort between the U.S. Navy, Smithsonian Institution, and the Illinois Natural History Survey. Survey efforts documented 19 SWPT in the Nacimiento River approximately ten miles upstream of the Project location. The existing sludge drying bed ponds are considered potential SWPT aquatic and upland habitat on the Project site. As such, potential effects to SWPT are addressed in this document.

c. WSFT, northern distinct population segment (DPS) is currently up for federal listing under the Endangered Species Act. The CA ARNG anticipates formal listing of WSFT by the time the proposed project is underway. WSFT are known to occur in multiple locations throughout CR, including ponds on both sides of the Salinas River. No WSFT specific efforts, including surveys, have been made to date. As such, and after conversation with USFWS biologists about potential habitat (see Figure 3), potential effects to WSFT are addressed in this document.

Currently, the PBO for Multiple Activities on CR was issued by USFWS in 2023, which is a compilation of previous consultations as well as an evaluation of routine military training and installation activities including this proposed work. However, the PBO did not include LBVI, SWPT, or WSFT thus the Project requires a separate effects analysis for these species.

The project site is located along the Salinas River, within the north central section of CR, approximately four miles southeast of the town of Bradley, Monterey County, California (Bradley NE 7.5-minute United States Geological Survey [USGS] quadrangle) (Figure 1). The Salinas River originates in the coastal mountains of San Luis Obispo County and flows northwest to the Salinas Valley in Monterey County, which ultimately leads to the Pacific Ocean.

The Action Area encompasses the project footprint (staging areas, existing wastewater treatment systems, and sludge drying bed ponds) as described in the project description and is approximately 4.5 acres in size. The Action Area contains all built and previously disturbed areas. The site adjoins a riparian woodland along the Salinas River (Figure 1) and is enclosed by an existing fence.

The project consists of several components including construction staging areas, converting existing sludge drying ponds into a permeate retention pond, removing existing sludge digesters, removing an abandoned stabilizer tank, rehabilitating existing pipelines, installation of a new membrane bioreactor (MBR) wastewater treatment system, and adding new subsurface wastewater conveyance piping and electrical/communications conduits, all within the existing highly disturbed/developed WWTP footprint. The following sections provide further details of the project activities.

a Staging Areas- Staging areas would be located just west of the existing sludge drying ponds and east of the access road within already highly disturbed/developed and fenced area. Staging areas would be used for all aspects of the project.

b. Permeate Retention Pond- The existing sludge drying ponds will not be needed with the new MBR system, and in their existing location a new 850,000 gallon permeate retention pond will be constructed. During high occupancy events at CR, the new permeate retention pond will hold partially treated effluent which will be recirculated back through the MBR during off-peak hours for further wastewater treatment. Once fully treated, the wastewater will be discharged into the existing percolation ponds. Percolation ponds will remain as-is and will continue to be the discharge point of the WWTP after all upgrades and modifications are complete. The construction process involves installing 40-mil HDPE geomembrane liner held in place via a perimeter anchor trench to prevent any permeate from infiltrating into the subsurface. Associated transfer piping will be installed between the MBR and the permeate retention pond so that permeate can be pumped to and from the pond as appropriate.

Heavy equipment will be used to construct the new permeate retention pond. Total graded area is estimated to be 38,100 square feet. There will be approximately 1,265 cubic yards of cut and approximately 37 cubic yards of fill, with a total approximate net (cut) of 1,228 cubic yards. The depth of the new retention basin will be approximately 5 feet on the northern end and up to 8 feet on the southern end. Upon completion of grading for the permeate retention pond, the contractor will scarify subgrade to a depth of 1' and compact to 90% relative maximum density prior to installation of the HDPE liner.

All construction activities will remain within the existing fence line of the treatment plant. The HDPE geomembrane liner will be anchored using sandbags or other approved weight devices to prevent the liner from lifting from the pond surface.

c. Digester and Stabilizer Tank Removal- Three structures will be removed from the project site, two digesters and one in-ground stabilizer tank.

Two existing sludge digester vessels are located at the WWTP to accommodate the sludge generated in the primary and secondary clarifiers of the existing wastewater treatment system. The digesters, which were sized to handle the sludge produced in treating 1 mgd, are approximately 40 feet in diameter with a side water depth of 15 feet. Based on the available information, the two existing sludge digester tanks have not been used as originally intended for anaerobic digestion since after the rehabilitation of the WWTP in 1979. The vessel to the southeast has been effectively sealed and abandoned in place, and the vessel to the northwest is primarily used as a sludge holding tank. The sludge accumulated in the northwest digester tank is periodically pumped to the sludge drying beds. Dried sludge, which may contain PFAS compounds,

is then disposed of off-site at an approved accepting facility. The digesters, along with connected structures and pump stations, will be demolished and removed.

The stabilizer tank was a former chlorination tank, which was part of the original treatment process at the WWTP. The open-top, cone-bottomed concrete tank is approximately six decades old and has been out of service for at least 30 years. This tank will be demolished and removed.

d. Install of MBR System and Sludge Handling and Dewatering System- After the removal of the digesters and stabilizer tank, a new MBR system and a new sludge handling system will be built. An MBR is similar to a conventional activated sludge plant that consumes biological oxygen demand (BOD) and can nitrify and denitrify; however, it uses membranes to extract water from the solids rather than settling solids in a clarifier. The new systems will treat effluent with less than 5 mg/L total suspended solids, thereby making the treated water suitable for reuse after disinfection. Disinfection would not be part of the treatment process and fully treated wastewater will be discharged to the existing percolation ponds in accordance with the existing WDR.

e. Rehab of Existing Equipment- The Project would convert an existing clarifier tank into an equalization tank, with new pipelines, lift stations, and electrical systems. The existing primary clarifier, trickling filter, and denitrification system will remain in use during installation of new systems and may serve as a backup in case of future need. The project is updating existing hardware to maintain longevity and modern standards. The project is anticipated to require replacement of the existing pipeline and parts, including potential realignment.

f. Subsurface Power and Communications- Additional trenching will take place to install subsurface power supply and communications conduit to the new sludge handling and MBR systems. Power will come from the existing overhead power supply feeding the WWTP, located adjacent to the office building and run to the systems buildings. All trenching and power work will take place within the Project site.

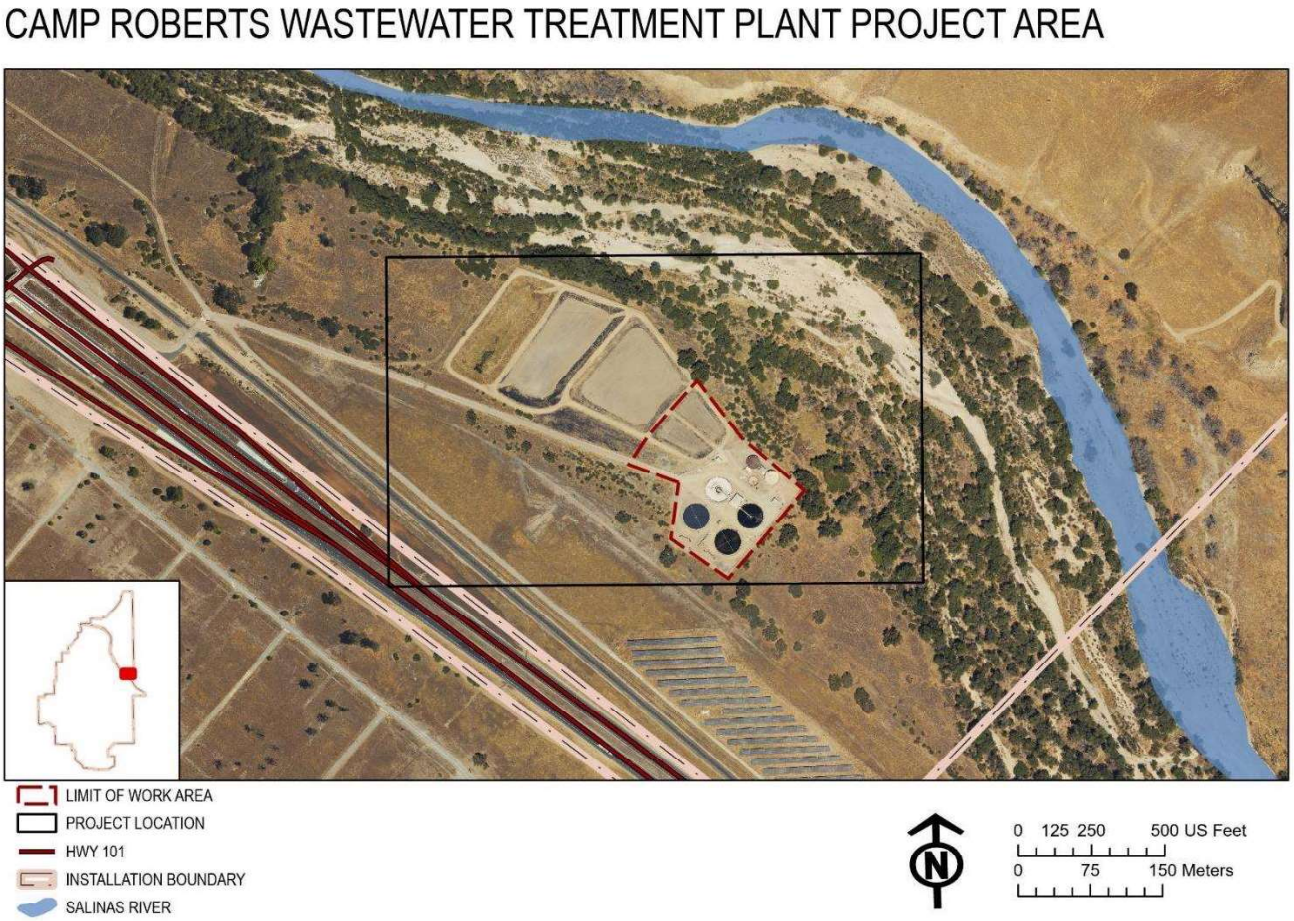


Figure 1- Camp Roberts Wastewater Treatment Plant Project Area

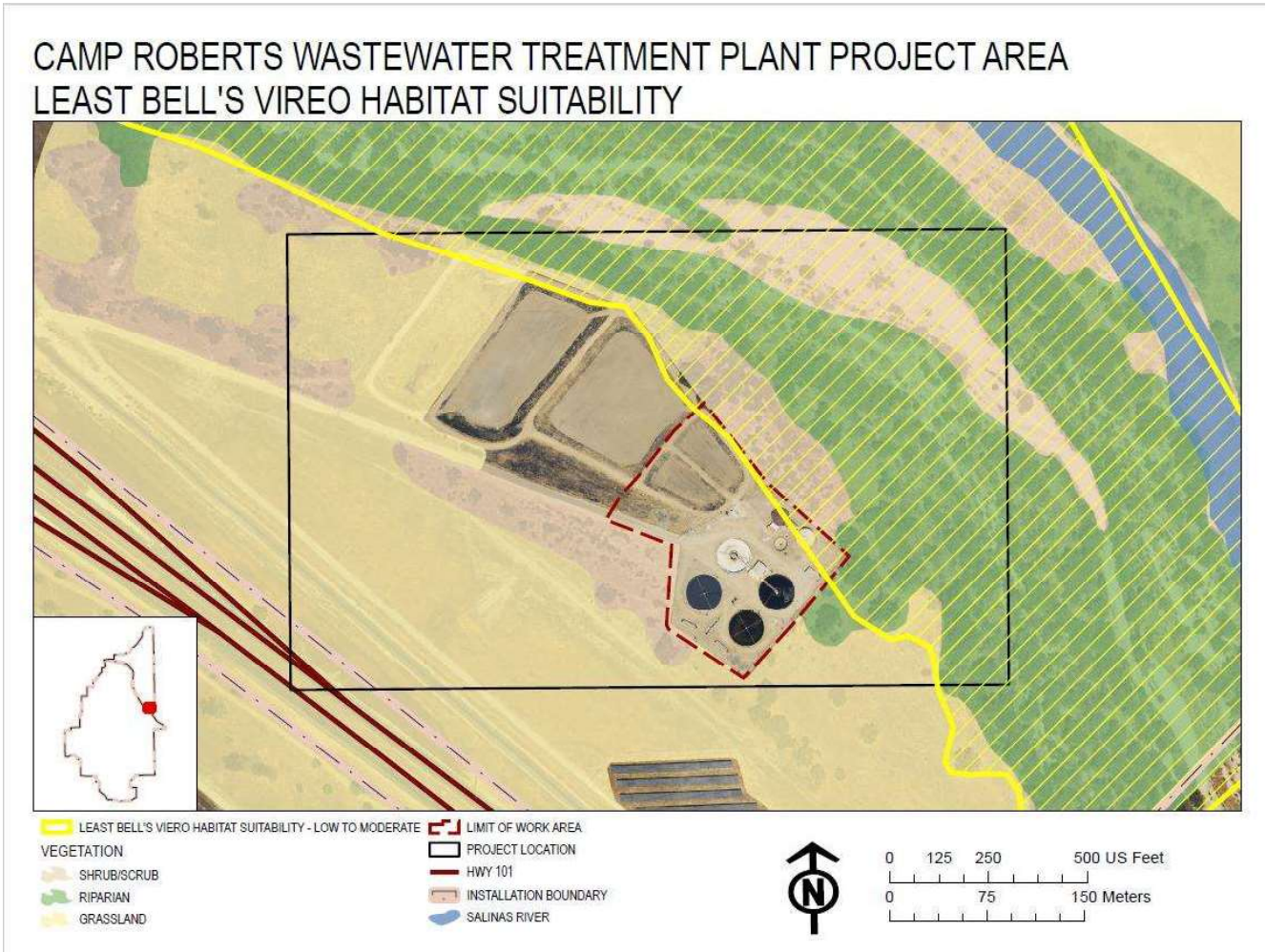


Figure 1- Least Bell's Vireo Habitat Suitability

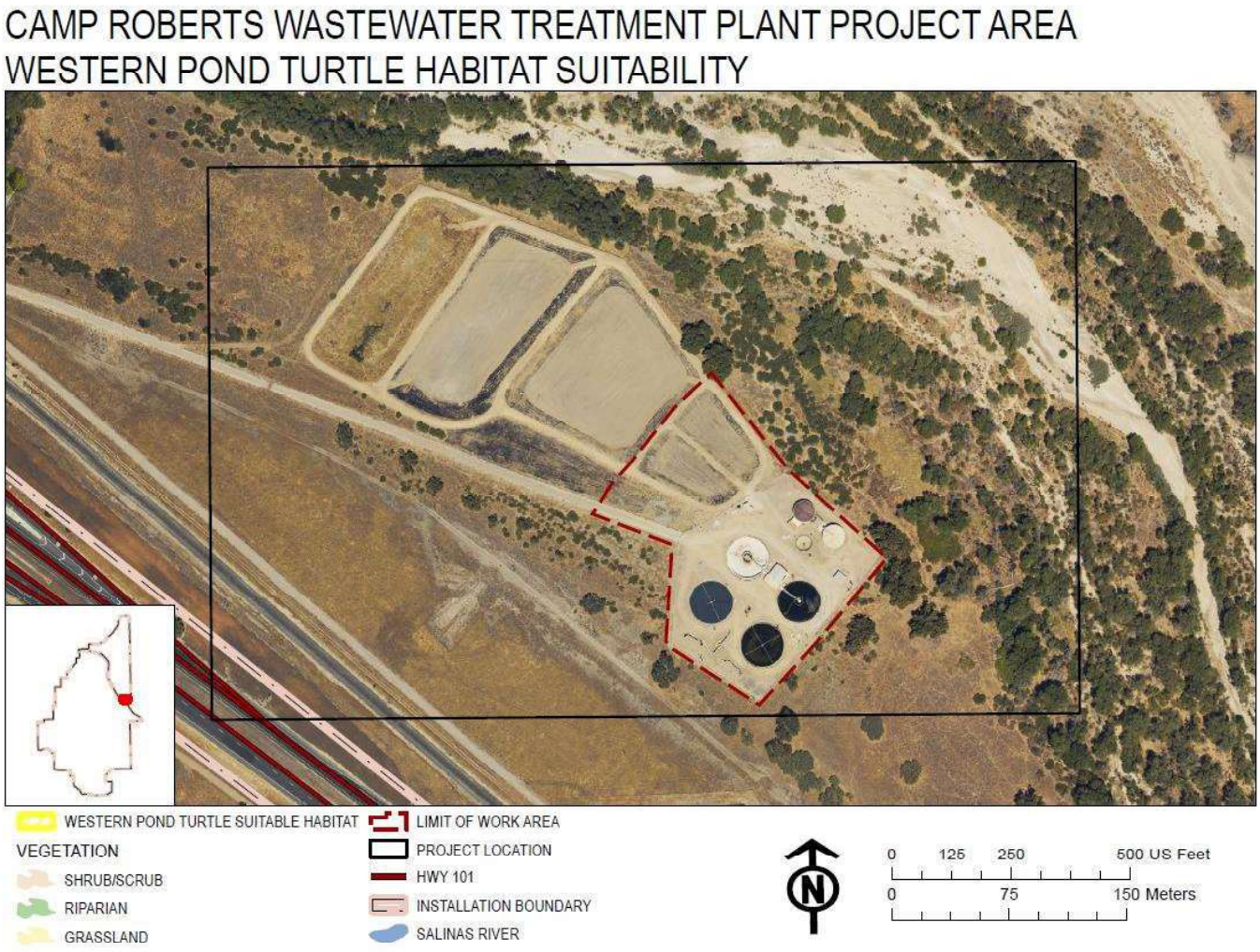


Figure 2- Western Pond Turtle Habitat Suitability (no suitable habitat within Project Location)

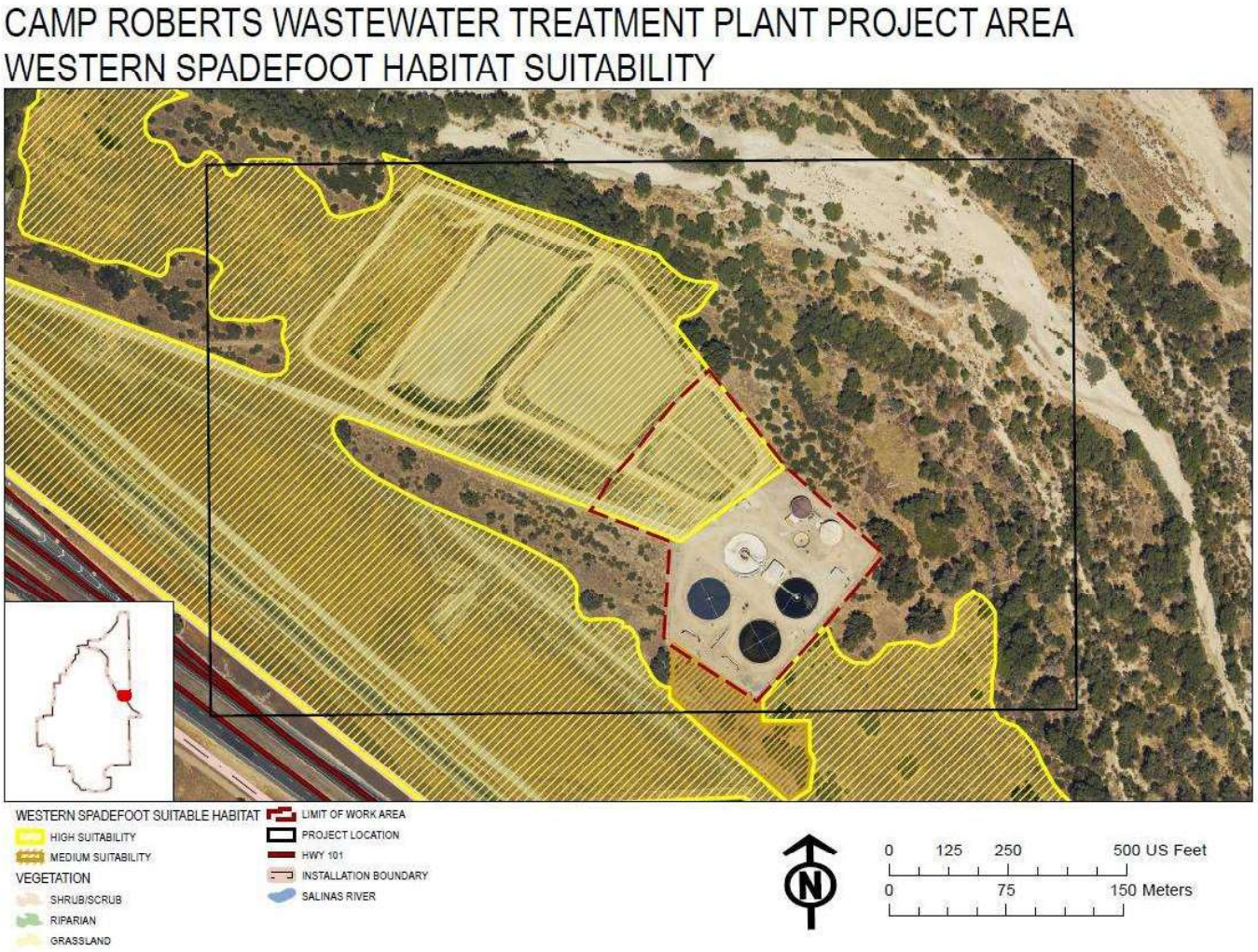


Figure 3- Western Spadefoot Habitat Suitability

The CA ARNG reviewed the current available information and based its analysis on similar activities and consultations to determine the potential effects of this proposed action on LBVI, SWPT, and WSFT. As discussed, the Nacimiento River and adjacent riparian vegetation offers low to moderate suitable habitat for LBVI (Figure 2), no quality suitable habitat for SWPT (Figure 3), and limited high quality suitability habitat for WSFT (Figure 4). None of the species have been documented in or near the Project but have a potential to occur in the project area. The potential effects of the action on these species are detailed below.

a. Effects on LBVI- The project will occur on the upper river terrace in vegetation communities already disturbed. These areas consist of gravel or weedy vegetation and do not offer suitable habitat to LBVI. Dust, noise, and vibrations from vehicles using the staging area for construction are expected to be minor and brief, while long-term

impacts will not be any greater than current usage. Nesting LBVI is not likely to occur in or near the project area. Transient or foraging LBVI are also unlikely. Implementation of conservation measures detailed below would minimize effects to LBVI.

b. Effects on SWPT- The project will occur on the upper river terrace in vegetation communities already disturbed, and within a fenced area that would deter adults from entering the area. These areas consist of gravel or weedy vegetation with little to no water and do not offer suitable habitat to SWPT. Leaks or spills of petroleum or other chemicals from heavy equipment at the staging areas could cause pollution, affecting water quality and SWPT health. All equipment will be staged at least 100 feet from the edge of bank and equipment will be inspected daily to eliminate potential for accidental contamination.

Earthwork associated with construction could impact SWPT moving through upland habitat during the nesting season (typically April to August) (DoD 2020). The new pond liner will not allow for burrowing as the substrate will be impermeable. Any SWPT exposed to disturbances like these in their physical environment will likely use avoidance behavior to find nearby habitat that contains suitable conditions. Implementation of conservation measures detailed below would minimize effects on SWPT.

c. Effects on WSFT- The project will occur on the upper river terrace in vegetation communities already disturbed. These areas consist of gravel or weedy vegetation and do not offer suitable habitat to WSFT. Leaks or spills of petroleum or other chemicals from heavy equipment at the staging areas could cause pollution, affecting water quality and SWPT health. All equipment will be staged at least 100 feet from the edge of bank and equipment will be inspected daily to eliminate potential for accidental contamination.

Earthwork associated with construction could impact WSFT moving through upland habitat during the nesting season, typically April to August (DoD 2020). Additionally, the new pond liner will not allow for burrowing as the substrate will be impenetrable. Any WSFT exposed to disturbances like these in their physical environment will likely use avoidance behavior to find nearby habitat that contains suitable conditions. Implementation of conservation measures detailed below would minimize effects to WSFT.

The CA ARNG proposes implementing the following conservation measures to minimize impacts to LBVI, SWPT, WSFT:

- Work only within the existing disturbed and fenced area of the existing WWTP.
- All construction personnel will receive an environmental briefing prior to starting the project. The briefing will include a description of LBVI, SWPT, and WSFT biology

and life history, project protection measures, communication requirements if observed, and consequences for non-compliance.

- The project boundary will be marked and access routes for personnel and equipment will be delineated to reduce unnecessary impacts to riparian and aquatic habitat.
- During the months of March through August, silt fencing will be installed around the project footprint, prior to the first construction season to exclude SWPT from accessing upland nesting areas. Prior to fence installation, qualified biologists will survey the project area for evidence of SWPT nests or SWPT and WSFT individuals. If a nest is found, a protective 50-foot buffer would be established, and fence installation would provide for a hatchling egress route. If a SWPT is found, it would be allowed to vacate the area on its own accord. No fencing installation will entrap the SWPT.

  Silt fencing will be a minimum of 16 inches high and trenched six inches into the ground, contain no gaps, and will be installed such that wood stakes are inward, away from aquatic SWPT and WSFT habitat. Fencing will be checked weekly prior to construction start and repaired or replaced as needed. Once construction starts, fencing will be checked daily. Fencing will remain in place throughout the duration of construction activities. Fencing will be removed immediately upon completion of construction.
- Pre-activity surveys for SWPT and WSFT will occur in the project area within 10 days of project start. Pre-activity surveys will consist of visual encounter surveys. If SWPT are found, they will be allowed to vacate the site on their own accord and egress locations will be created along the exclusionary fence line to facilitate dispersal from the project site. Survey results will be submitted to USFWS within two weeks of completion.
- An escape ramp OR an edge with no greater than 45deg. will be built into the eastern side of project site of the retention basin to eliminate entrapment of SWPT.
- Pre-activity SWPT surveys will be conducted in the Project area. SWPT nests will be marked and a protective 50ft buffer will be established.
- Suitable BMPs, such as silt fences, fiber rolls, or earthen berms will be installed or constructed around temporary material stockpile areas during the wet season. These structures will be installed pursuant to regulatory specifications prior to pending rain events (trigger = greater than 50 percent possibility of rain within the next 24 hours), as forecasted by the National Weather Service. Any sediment caught by the fence or rolls would be removed before the fence/rolls are pulled.
- Temporary spoils or construction material sites will be located to not drain directly into ditches, streams, or other waterbodies. If a spoils/construction materials site has

the potential to drain into a surface water feature, a retention basin, berm(s), or other catchment device will be constructed or installed to intercept silt-laden storm runoff before it reaches any waterbody. Areas disturbed by construction and temporary storage sites will be graded, seeded, and mulched upon completion of construction, whether or not they pose the risk of erosion and the off-site release of fine sediment.

- All construction debris will be removed from the site in a timely manner and disposed of appropriately.
- All trash will be stored in sealed containers and containers will be emptied when full.
- Equipment parking, maintenance, and fueling will occur at designated upland staging areas only, with all staging locations spatially isolated from watercourses. Refueling of equipment will not occur within 100 feet of waters or wetlands.
- Any construction equipment will be inspected daily for leaks. Any oil, fuel, and grease residue that has the potential to fall from machinery will be removed and properly disposed of.
- Light equipment such as generators, welders, or pumps, or any heavy equipment including water trucks, would use drip pans or other devices (i.e., absorbent blankets, sheet barriers, or other materials) to avoid contamination of surface waters or soils located adjacent to waterbodies.
- Fuels and lubricants will not be stored on-site after-hours or on weekends or holidays.
- Two sealed 5-gallon spill kits will be kept on-site through the course of the construction. Kits that are used will be replaced in-kind with new sealed kits. Unsealed spill kits will be removed from the site as they are oftentimes missing key components necessary during emergency spill situations.
- In the event of a spill, the CR Environmental Office will be notified and consulted regarding clean-up procedures.

In conclusion, The CA ARNG has made the determination that the proposed Project ***may affect, but is not likely to adversely affect*** LBVI, SWPT and WSFT. This determination is based on the best scientific information available; the proposed conservation measures; and the limited extent, duration and intensity of the action. We request your concurrence with this determination at your earliest opportunity.

The CA ARNG is committed to its efforts in ensuring environmental protection and compliance while providing for full training capability at our training installations. If you have any questions or would like to discuss this determination, please feel free to

contact Ms. Chelsea Fletcher, Senior Environmental Scientist for Natural Resources, Camp Roberts, CA at chelsea.fletcher@cmd.ca.gov or (805) 238-8548.

Sincerely,

DOUGLAS BRYCESON

Digitally signed by DOUGLAS BRYCESON
Date: 2026.01.09 16:31:02 -08'00'

Douglas Bryceson
Environmental Programs Branch Chief
Directorate of Facilities & Infrastructure

Enclosure

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ventura Fish And Wildlife Office
2493 Portola Road, Suite B
Ventura, CA 93003-7726
Phone: (805) 644-1766 Fax: (805) 644-3958
Email Address: FW8VenturaSection7@FWS.Gov

In Reply Refer To: 09/16/2025 21:32:28 UTC
Project Code: 2025-0150527
Project Name: Camp Roberts Wastewater treatment plant upgrade 2025

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed list identifies species listed as threatened and endangered, species proposed for listing as threatened or endangered, designated and proposed critical habitat, and species that are candidates for listing that may occur within the boundary of the area you have indicated using the U.S. Fish and Wildlife Service's (Service) Information Planning and Conservation System (IPaC). The species list fulfills the requirements under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the species list should be verified after 90 days. We recommend that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists following the same process you used to receive the enclosed list. Please include the Consultation Tracking Number in the header of this letter with any correspondence about the species list.

Due to staff shortages and excessive workload, we are unable to provide an official list more specific to your area. Numerous other sources of information are available for you to narrow the list to the habitats and conditions of the site in which you are interested. For example, we recommend conducting a biological site assessment or surveys for plants and animals that could help refine the list.

If a Federal agency is involved in the project, that agency has the responsibility to review its proposed activities and determine whether any listed species may be affected. If the project is a major construction project*, the Federal agency has the responsibility to prepare a biological assessment to make a determination of the effects of the action on the listed species or critical habitat. If the Federal agency determines that a listed species or critical habitat is likely to be adversely affected, it should request, in writing through our office, formal consultation pursuant to section 7 of the Act. Informal consultation may be used to exchange information and resolve conflicts with respect to threatened or endangered species or their critical habitat prior to a

written request for formal consultation. During this review process, the Federal agency may engage in planning efforts but may not make any irreversible commitment of resources. Such a commitment could constitute a violation of section 7(d) of the Act.

Federal agencies are required to confer with the Service, pursuant to section 7(a)(4) of the Act, when an agency action is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat (50 CFR 402.10(a)). A request for formal conference must be in writing and should include the same information that would be provided for a request for formal consultation. Conferences can also include discussions between the Service and the Federal agency to identify and resolve potential conflicts between an action and proposed species or proposed critical habitat early in the decision-making process. The Service recommends ways to minimize or avoid adverse effects of the action. These recommendations are advisory because the jeopardy prohibition of section 7(a)(2) of the Act does not apply until the species is listed or the proposed critical habitat is designated. The conference process fulfills the need to inform Federal agencies of possible steps that an agency might take at an early stage to adjust its actions to avoid jeopardizing a proposed species.

When a proposed species or proposed critical habitat may be affected by an action, the lead Federal agency may elect to enter into formal conference with the Service even if the action is not likely to jeopardize or result in the destruction or adverse modification of proposed critical habitat. If the proposed species is listed or the proposed critical habitat is designated after completion of the conference, the Federal agency may ask the Service, in writing, to confirm the conference as a formal consultation. If the Service reviews the proposed action and finds that no significant changes in the action as planned or in the information used during the conference have occurred, the Service will confirm the conference as a formal consultation on the project and no further section 7 consultation will be necessary. Use of the formal conference process in this manner can prevent delays in the event the proposed species is listed or the proposed critical habitat is designated during project development or implementation.

Candidate species are those species presently under review by the Service for consideration for Federal listing. Candidate species should be considered in the planning process because they may become listed or proposed for listing prior to project completion. Preparation of a biological assessment, as described in section 7(c) of the Act, is not required for candidate species. If early evaluation of your project indicates that it is likely to affect a candidate species, you may wish to request technical assistance from this office.

Only listed species receive protection under the Act. However, sensitive species should be considered in the planning process in the event they become listed or proposed for listing prior to project completion. We recommend that you review information in the California Department of Fish and Wildlife's Natural Diversity Data Base. You can contact the California Department of Fish and Wildlife at (916) 324-3812 for information on other sensitive species that may occur in this area.

[*A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the

human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Ventura Fish And Wildlife Office
2493 Portola Road, Suite B
Ventura, CA 93003-7726
(805) 644-1766

PROJECT SUMMARY

Project Code: 2025-0150527
Project Name: Camp Roberts Wastewater treatment plant upgrade 2025
Project Type: Wastewater Facility - Maintenance / Modification
Project Description: The wastewater treatment plant (WWTP) project is within the north central section of Camp Roberts, which is approximately four miles southeast of the town of Bradley, in Monterey County, California. The WWTP is the primary wastewater treatment facility for Camp Roberts. The proposed Project footprint (including staging areas, existing equipment, new equalization tank, new low-flow pump station, existing and new permeate retention pond, new sludge handling system, new subsurface power supply, and abandoned stabilizer tank that will be removed) is approximately 5 acres in size, within the existing WWTP fence line. Timing is expected for 2026.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@35.797348549999995,-120.73455931607415,14z



Counties: Monterey County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 11 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered

BIRDS

NAME	STATUS
California Condor *Gymnogyps californianus* Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8193	Endangered
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

REPTILES

NAME	STATUS
Southwestern Pond Turtle *Actinemys pallida* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4768	Proposed Threatened

AMPHIBIANS

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened
Western Spadefoot *Spea hammondii* Population: Northern DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5425	Proposed Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRUSTACEANS

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

FLOWERING PLANTS

NAME	STATUS
Purple Amole *Chlorogalum purpureum* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5531	Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Army National Guard
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ATTACHMENT 13
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CAMP ROBERTS WASTEWATER TREATMENT PLANT WATER CONDITIONS AND MONITORING SUMMARY

Conditions of Approval and Brief Description **NOTE TO CONTRACTORS:** **This Spreadsheet summarizes the environmental conditions and conservation measures and is provided to assist in identifying roles and responsibilities of the Government and Contractor. IT DOES NOT SUBSTITUTE REGULATORY AGENCIES REQUIREMENTS, POLICIES and STANDARDS.** **A Qualified Biologist(s) is must meet such qualifications as defined by the United States Fish and Wildlife Service (USFWS).** **Species with potential to occur at the project site are monarch butterfly, least Bell's vireo (LBVI), southwestern pond turtle (SWPT), and western spadefoot toad (WSFT).**	**Source**	**Responsible Monitoring Party**	**Monitoring Method**	**Monitoring Phase**	**Action to Comply**	**Oversight and Mitigation Measure Verification**	**Completion Requirement**
Pre-construction							
A Cultural and Natural Resources Environmental Awareness Training shall be prepared and presented to all onsite field personnel at the beginning of the initial work activities. The CA ARNG shall provide an initial sensitivity training session to all project employees, Contractors, subcontractors, and other workers prior to their involvement in any ground-disturbing activities, with subsequent training sessions to accommodate new personnel becoming involved in the Project. The orientation shall explain the importance of minimizing disturbance, adhering to all permit conditions, and proper reporting of observations or incidents.	CA ARNG USFWS Informal Consultation Letter, Dated 9 JAN 26 INRMP 2022 Camp Roberts Programmatic Biological Opion, letter dated 30 JAN 2023	Government	The Contractor shall ensure compliance with the Condition to all personnel working in the project area.	Prior to construction initiation and ongoing as new personnel work in the project area.	Contractor to inform Government 10 days prior to construction initiation. Contractor shall ensure that all persons involved in the contruction activies are aware of the environmental conditions and natural and cultural resources as presented by Government.	Government provides initial training and Contractor can provide additional trainings upon request. It is the responsibility of the Contractor to ensure all personnel are aware of the environmental conditions.	Contractor shall prepare a signup sheet of personnel trained at the initial briefing and submit to Government. As new personnel work in the project area, they shall be added to the sheet and submitted to Government.
The project boundary will be clearly marked and access routes for personnel and equipment will be clearly delineated to reduce unnecessary impacts to riparian and aquatic habitat.	CA ARNG USFWS Informal Consultation Letter, Dated 09 JAN 26	Contractor	The Contractor shall ensure compliance with the Condition.	Prior to start of construction activities.	Contractor shall ensure the markings and access route delineations are maintained throughout the contruction activites.	Government to review and approve.	
During the months of March through August, silt fencing will be installed around the project footprint, prior to the first construction season to exclude Southwestren Pond Turtle (SWPT) from accessing upland nesting areas. Prior to fence installation, qualified biologists shall survey the project area for evidence of SWPT nests or SWPT and Western Spadefoot Toad (WSFT) individuals. If a nest is found, a protective 50-foot buffer shall be established, and such fence installation shall provide for a hatchling egress route. If a SWPT is found, it shall be allowed to vacate the area on its own accord. No fencing installation will entrap the SWPT. Silt fencing shall be a minimum of 16 inches high and trenched six inches into the ground, contain no gaps, and shall be installed such that wood stakes are inward, away from aquatic SWPT and WSFT habitat. Fencing shall be checked weekly prior to construction start and repaired or replaced as needed. Once construction starts, fencing will be checked daily. Fencing shall remain in place throughout the duration of construction activities. Fencing shall be removed immediately upon completion of construction.	CA ARNG USFWS Informal Consultation Letter, Dated 09 JAN 26	Contractor	Contractor shall conduct SWPT and WSFT surveys prior to construction and prior to fencing installation. The Contractor shall notify the Camp Roberts Enviromental Office of any SWPT and WSFT nests or individuals within the project boundaries.	During the months of March through August prior to the first construction season and throughout construction.	If a SWPT is found, the contractor shall allow the SWPT to vacate the area on its own accord. Any fencing installed will provide an egress route towards water and suitable habitat. No fencing installation will entrap the SWPT. Contractor shall check fencing weekly prior to construction start and repaired or replaced as needed. Once construction starts, fencing will be checked daily. Fencing shall remain in place throughout the duration of construction activities. Contractor shall install silt fencing at a minimum of 16 inches above the ground and trenched 6 inches into the ground surrounding the entire worksite.	CMD ro routinely observe construction activities.	The contractor shall remove fencing immediately upon completion of construction.
If the Project occurs within the nesting bird season (February 1 – August 31), qualified biologists shall conduct pre-activity nesting surveys of the Project site plus a 500-ft buffer as feasible within one week prior to start of work activities. If an active bird nest is found (nest 50% or greater complete), a 150-ft buffer (or appropriate-sized buffer at the discretion of the qualified biologist) shall be established around the nest and no work shall be completed within the buffer until the nest is deemed inactive by the qualified biologist.	Migratory Bird Treaty Act Environmental Determination 11 MAR 26	Contractor	The Contractor shall ensure compliance with the mitigation measures and have a qualified biologist conduct the surveys.	Prior to start of construction activities and any construction phase that occurs between 1 FEB and 31 AUG.	Contractor shall conduct surveys and report on the findings to Government.	Government ENV to review and approve.	Contractor shall report to Government survey results, nests, and any protective buffers established. Construction activities shall not occur until Government approval.

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Any ground disturbance that exceeds one (1) acre in size will require the development and implementation of a Construction Storm Water Pollution Prevention Plan. The plan will ensure that required actions and best management practices are implemented by the contractor. The contractor will ensure a Notice of Intent is filed with the appropriate Regional Water Quality Control Board, that the permit is obtained and posted at the job site, that all permit fees are paid on time, and that a proper Notice of Termination is completed at the end of the project. Copies of these documents will be provided to the Camp Roberts' and HQ Environmental Office.	Environmental Determination 11 MAR 26	Contractor	The Contractor shall ensure compliance with the Condition.	Prior to start of construction activities.	The Contractor will ensure a Notice of Intent is filed with the appropriate Regional Water Quality Control Board, that the permit is obtained and posted at the job site and that all permit fees are paid on time.	Government to provide oversight.	The Contractor will ensure that a Notice of Termination is completed at the end of the project. Copies of these documents will be provided to the Government.
Erosion and sediment control measures shall be on site prior to the start of construction and kept on site at all times so they are immediately available for installation in anticipation of rain events.	Environmental Determination 11 MAR 26	Contractor	The Contractor shall ensure compliance with the Condition.	Prior to construction activities and rain events.	Contractor shall employ all measures to ensure there is no unauthorized discharge to waters of the U.S. and/or State and report types of measures to be employed to the Government.	Government ENV to review and approve.	Contractor shall immediately report any unauthorized discharges to waters of the U.S. and/ or State as described in the Certification to the Government. Contractor to provide report on Certification clean-up efforts and completion of implementation.
A Project Work and Safety Plan (PWSP) shall be submitted to Camp Roberts Public Works staff for review and approval at least 30 days prior to the implementation of the Project. The PWSP shall include the following information (at a minimum): Hazardous Spill Response and Contingency Plan A.Emergency Action Plan B.Summary of the Project Execution Plan C.Project Management Plan D.Site Safety Plan, including measures for proper handling of hazardous materials including, but not limited to soils containing residual pesticides E.Permit Condition Compliance Matrix	California Health and Safety Code	Contractor	The Contractor shall ensure compliance with the Mitigation Measure.	30 days prior to start of construction activities.	Contractor shall submit Project Work and Safety Plan (PWSP) to the Government.	Government to review and approve.	
The existing drying beds contain sludge with Perfluoroalkyl and Polyfluoroalkyl Substances and Materials (PFAS) that must be properly disposed in either: A hazardous waste landfills with environmental permits or, a solid waste landfills with environmental permits that have composite liners, and gas and leachate collection and treatment systems or, a hazardous waste incinerators with environmental permits. Handling of PFAS containing materials requires personal protection equipment in accordance US Occupational Health and Safety Administration (OSHA)	Environmental Determination 11 MAR 26 US Environmenta Protection Agency Interim Guidance on the Destruction and Disposal of Perfluoroalkyl and Polyfluoroalkyl Substances and Materials Containing Perfluoroalkyl and Polyfluoroalkyl Substances	Contractor	The Contractor shall properly dispose the sludge containing PFAS.	Prior to construction activities or as directed by Government.	Contractor shall document the amount of sludge removed to ensure the amount removed is the amount properly disposed.	Government ro routinely observe construction activities.	Contractor shall demonstrate to Government that all sludge containing PFAS was removed and disposed in accordnace with the EPA Guidance.
Construction							
The United States Fish and Wildlife Service found the proposed action to "not likely to adversely affect" listed or proposed to be listed species under the Endangered Species Act. To ensure any proposed or listed species are not adversely affected by construction activities a qualified biologist shall report any observance (of any life stage) of such species to the Government and submit the observation to the California Natural Diversity Database.	CA ARNG USFWS Informal Consultation Letter, Dated 09 JAN 26. (This condition is written as ammended by USFWS via e-mail 20 JAN 26)	Contractor	The Contractor shall monitor for listed and proposed ESA species, as described, during construction activites.	Immediately upon observance.	Contractor shall notify Government of any encounter of ESA species.	Government to routinely observe construction activities	If necessary, work shall stop and Contractor shall implement any buffer zones. Activities may resume upon the termination of the need for a buffer zone and Government approval. If an ESA species is found, a copy of the California Natural Diversity Database observation will be sent to Government.

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All work performed shall occur within the existing WWTP fence line. If any work is to occur outside the fence line, the Contractor shall notify the Camp Roberts Enviromental Office.	CA ARNG USFWS Informal Consultation Letter, Dated 09 JAN 26	Contractor	The Contractor shall notify the Camp Roberts Enviromental Office prior to any work outside the fence line, if necessary.	Prior to such activities.	Contractor shall not perform any construction outside the fenceline without Governnment approval.	A PIP shall be submitted if any work outside is to occur outside the fence line.	
An escape ramp OR an edge with no greater than 45 degrees. will be built into the eastern side of the retention basin to eliminate entrapment of SWPT.	CA ARNG USFWS Informal Consultation Letter, Dated 9 JAN 26 and Environmental Determination 11 MAR 26	Contractor	The Contractor shall construct an escape ramp OR an edge with no greater than 45 degrees into the eastern side of the retention basin to eliminate entrapment of SWPT.	This is condition is on the final design plans. The contractor shall ensure SWPT can escape the retention basins. A temporary slope of under <45 degrees shall be created on the easter side of the retention basins to ensure animals can escape.	Contractor will build slope into eastern side of the retention basin as in the 95% design plan.	Government ro routinely observe to ensure escape ramp.	
Suitable BMPs, such as silt fences, fiber rolls, or earthen berms will be installed or constructed around temporary material stockpile areas during the wet season. These structures will be installed pursuant to regulatory specifications prior to pending rain events (trigger = greater than 50 percent possibility of rain within the next 24 hours), as forecasted by the National Weather Service. Any sediment caught by the fence or rolls would be removed before the fence/rolls are pulled.	CA ARNG USFWS Informal Consultation Letter, Dated 09 JAN 36	Contractor	The Contractor shall install BMPs per the Condition as described.	Complete per the Condition prior to the as described weather events.	Contractor shall enure BMPs are in place throughout a rain event.	Government to routinely observe construction activities.	The Contractor shall remove any sediment caught by the fence or rolls before the fence/rolls are removed.
All initial ground disturbance will be monitored by a CMD archaeologist. Archaeological monitoring shall be conducted during initial project-related ground-disturbing activities for the purpose of identifying and avoiding impacts to cultural resources, consistent with the procedures outlined in CAARNG's Integrated Cultural Resources Management Plan for 2005 – 2009 (Jones and Stokes 2004). In the event of any inadvertent discovery of prehistoric or historic period archaeological resources during construction, all work within 30 meters of the discovery shall immediately cease (or greater or lesser distance as needed to protect the discovery and determined in the field by the Project archaeologist). The CMD Project archaeologist shall evaluate the significance of the discovery prior to resuming any activities that could impact the site/discovery. If the Project archaeologist determines that the find may qualify for listing in the CRHR or NRHP, the site shall be avoided or shall be subject to a mitigation program, such as data recovery excavations, and funded by CA ARNG.	Environmental Determination 11 MAR 26 Integrated Cultural Resources Management Plan SOP 11	Government	The Contractor shall have a Government archaeological monitor present to while performing initial ground disturbance. The Contractor shall provide Government with at least five (5) business day's notice before any ground disturbing activities.	The contractor must provide a ground disturbing activity plan at least 5 days prior to such activity. The contractor will continue to provide a one week look-ahead schedule with anticipated ground disturbing activities to the CMD environmental office throughout the duration of the project. After initial ground disturbance, archaeological monitoring may move to more infrequent spot-checking at the discretion of the CMD archaeologist. The CMD archaeologist will communicate monitoring needs to the contractor as work progresses.	In the event of any inadvertent discovery of prehistoric or historic period archaeological resources during construction, all work within 30 meters of the discovery shall immediately cease (or greater or lesser distance as needed to protect the discovery and determined in the field by the Project archaeologist).	Govermment to perform arhaeological monitoring.	

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If human remains are encountered, all provisions provided in California Health and Safety Code section 7050.5 and California Public Resources Code section 5097.98 shall be followed. The contractor will immediately notify the CMD Contract Manger by phone. The CMD CM will then immediately contact the CMD CRM, who will contact the coroner. The contractor must also provide written notification of the discovery to the CMD CM within 24 hours. All work will stop within 100 ft. of the find. Work will not proceed in the area until all consultation and attempts to avoid or recover the remains are complete.	Environmental Determination 11 MAR 26 Integrated Cultural Resources Management Plan SOP 4	Contractor	The Contractor shall ensure compliance with the Condition.	During construction activities.	Contractor shall report any cultural resource discovery of suspected human remains to the CM immediately. Contractor shall notify the Government in writing within 24 hours if human remains are uncovered during activities and construction activities shall immediately stop within 100 feet of discovery. The CM and CMD CRM will assess the discovery and consult with appropriate agencies as necessary.	Government to routinely observe.	Contractor shall report any findings to the Government immediately upon such uncovering or discovering.
No construction activities, materials and equipment staging shall occur within 50 feet of riparian and wetland areas and 100 feet within waters of the United States. Implement and maintain an effective combination of erosion and sediment control measures (e.g., revegetation, fiber rolls, erosion control blankets, hydromulching, compost, straw with tackifiers, temporary basins) to prevent erosion and capture sediment. Implement and maintain washout, trackout, dust control, and any other applicable source control BMPs.	Environmental Determination 11 MAR 26	Contractor	The Contractor shall ensure compliance with the Condition.	Prior and during construction activities.	Contractor shall report erosion control measures to Government.	Government to routinely observe.	
A spill plan and appropriate spill control and clean up materials (e.g., oil absorbent pads) onsite in case spills occur must be retained on-site. In the event of a spill, the Government shall be notified and consulted regarding clean-up procedures.	Environmental Determination 11 MAR 26	Contractor	The Contractor shall ensure compliance with the Condition.	Prior and during construction activities.	Contractor shall prepare a spill prevention and counter-control plan for immediate implementation of Plan measures if necessary. The Plan shall be provided to the Government for approval.	Government to routinely observe.	Contractor shall immediate report toxic discharge the Government.
All construction debris will be removed from the site in a timely manner and disposed of appropriately. All trash will be stored in sealed containers and containers will be emptied when full.	CA ARNG USFWS Informal Consultation Letter, Dated 09 JAN 26 and Environmental Determination 11 MAR 26	Contractor	The Contractor shall ensure compliance with the Condition.	During construction activities.	Contractor shall ensure trash and debris bins can sufficiently be enclosed, trash will be disposed of at least weekly.	Government to routinely observe.	
Equipment parking, maintenance, and fueling will occur at designated upland staging areas only, with all staging locations spatially isolated from watercourses. Refueling of equipment will not occur within 100 feet of waters or wetlands. Any construction equipment will be inspected daily for leaks. Any oil, fuel, and grease residue that has the potential to fall from machinery will be removed and properly disposed of.	CA ARNG USFWS Informal Consultation Letter, Dated 09 JAN 26 and Environmental Determination 11 MAR 26	Contractor	The Contractor shall ensure compliance with the Condition.	During construction activities.	Contractor shall ensure construction vehicles and equipment used on site be well maintained and checked daily for fuel, oil, and hydraulic fluid leaks or other problems that could result in spills of toxic materials. Contractor will not fuel vehicles or equipment within 100 feet of water or wetlands.	Government to routinely observe.	Contractor shall immediate report discharge the Government.

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Temporary spoils or construction material sites shall be located to not drain directly into ditches, streams, or other waterbodies. If a spoils/construction materials site has the potential to drain into a surface water feature, a retention basin, berm(s), or other catchment device shall be constructed or installed to intercept silt-laden storm runoff before it reaches any waterbody. Areas disturbed by construction and temporary storage sites shall be graded, seeded, and mulched upon completion of construction, whether or not they pose the risk of erosion and the off-site release of fine sediment.	Environmental Determination 11 MAR 26	Contractor	The Contractor shall ensure compliance with the Condition.	During construction activities.	Contractor shall ensure temporary spoils or construction material sites be located as to not drain directly into ditches, streams, or other waterbodies. If a spoils/construction materials site has the potential to drain into a surface water feature, a retention basin, berm(s), or other catchment device shall be constructed or installed to intercept silt-laden storm runoff before it reaches any waterbody.	Government ENV to routinely observe.	Contractor shall provide a report on areas disturbed by construction and ensure temporary storage sites be graded, seeded, and mulched upon completion of construction.
Light equipment such as generators, welders, or pumps, or any heavy equipment including water trucks, would use drip pans or other devices (i.e., absorbent blankets, sheet barriers, or other materials) to avoid contamination of surface waters or soils located adjacent to waterbodies.	CA ARNG USFWS Informal Consultation Letter, Dated 09 JAN 26 and Environmental Determination 11 MAR 26	Contractor	The Contractor shall ensure compliance with the Condition.	During construction activities.	Contractor shall ensure light equipment use drip pans or other devices to avoid contamination of surface waters or soils located adjacent to waterbodies.	Government to routinely observe.	
Fuels and lubricants shall not be stored on-site after-hours or on weekends or holidays.	CA ARNG USFWS Informal Consultation Letter, Dated 09 JAN 26 and Environmental Determination 11 MAR 26	Contractor	The Contractor shall ensure compliance with the Condition.	During construction activities.	Contractor shall ensure fuels and lubricants are not stored on-site after-hours or on weekends or holidays.	Government to routinely observe.	
Two sealed 5-gallon spill kits shall be kept on-site through the course of the construction. Kits that are used shall be replaced in-kind with new sealed kits. Unsealed spill kits shall be removed from the site as they are oftentimes missing key components necessary during emergency spill situations	CA ARNG USFWS Informal Consultation Letter, Dated 09 JAN 26 and Environmental Determination 11 MAR 26	Contractor	The Contractor shall ensure compliance with the Condition.	During construction activities.	Contractor shall ensure 5-gallon spill kits on-site and ensure unsealed and used kits are removed from the site. If a spill kit is used, it will be replaced by a new 5-gallon spill kit.	Government to routinely observe.	
All project activities involving Lead-based Paint (LBP) abatement will be conducted by a certified contractor in compliance with all applicable federal, state, and local regulations.	Environmental Determination 11 MAR 26	Contractor	The Contractor shall ensure compliance with the Condition.	During construction activities.	Contractor shall conduct Lead-based Paint (LBP) abatement and dispose of materials per applicable federal, state, and local regulations.	Government to routinely observe.	
All hazardous materials and hazardous wastes shall be handled, stored, and disposed in accordance with the CAARNG Hazardous Materials (HM) and Waste (HW) Management Plan. At a minimum, containers shall be properly labeled, stored in secondary containment, and segregated according to material compatibility. The Government must be contacted prior to establishing any new HM/HW storage location.	Environmental Determination 11 MAR 26	Contractor	The Contractor shall ensure compliance with the Condition.	During construction activities.	Contractor shall ensure that all hazardous materials and hazardous wastes shall be handled, stored, and disposed in accordance with the CAARNG Hazardous Materials (HM) and Waste (HW) Management Plan.	Government to routinely observe.	

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Green waste must be disposed of following state requirements (CA Senate Bill SB-1383). All green or organic waste from the project must be disposed of through green/organic waste bins from the local solid waste facility, through self-hauling to a facility that processes green/organic waste, or through management onsite. (Green Waste is solid wastes containing material originated from living organisms and their metabolic waste products including, but not limited to, food, green material, landscape and pruning waste, organic textiles and carpets, lumber, wood, paper products, and printing and writing paper)	CA SB-1383	Contractor	The Contractor shall ensure compliance with the Condition.	During construction activities.	Contractor shall ensure track weights of green/organic waste.		Contractor shall ensure that all copies of waste tickets or weights of green/organic waste and associated costs are reported to the Government at the conclusion of project activities.
No green waste shall be disposed of in the CR Landfill. Under California Senate Bill 1383, green waste generated by state agencies must be diverted from the Landfill. Contractor to ensure that green waste associated with construction is disposed of in compliance with Senate Bill 1383.	CA SB-1383	Contractor	The Contractor shall ensure compliance with the Condition.	During construction activities.			
50% of construction waste shall be recycled.	AR 420-1 section 23-11	Contractor	The Contractor shall ensure compliance with the Condition.	During construction activities.	Contractor shall divert all divertable construction and demolition waste to ensure that a 50% diverstion rate is met.	Government to review and approve manifests, weight tickets, sales receipts, and invoices for both waste and recycled materials	The Contractor shall submit manifests, weight tickets, sales receipts, and invoices to the Government.
Implementation of Construction Waste Management Plan shall be submitted to and approved by Government.	AR 420-1 section 23-12	Contractor	The Contractor shall ensure compliance with the Condition.	Prior to Construction.	The Contractor shall submit the construction waste management plan (as outlined in Paragraph 1.7 CONSTRUCTION WASTE MANAGEMETN PLAN of Specifications 01 74 19) to Government	Government to review and approve the construction waste management plan.	Contractor shall implement the construction waste management plan.
In order to meet Army Requirement AR 420-1, the contractor shall keep record of all project waste generated, by weight, to include total project waste generated and total project waste diverted. Ensure that copies of all waste tickets or weights of project waste be reported to the Government at the conclusion of project activities.	AR 420-1 section 23-13	Contractor	The Contractor shall ensure compliance with the Condition.	During construction activities.	The Contractor shall submit manifests, weight tickets, sales receipts, and invoices to the Government.	Government to review and approve manifests, weight tickets, sales receipts, and invoices for both waste and recycled materials.	The Contractor shall submit manifests, weight tickets, sales receipts, and invoices to the Government.