EXHIBIT 1 – LINCOLN – COUNTY PROJECT DESCRIPTION

Summary & Purpose

The Mid-Western Placer Regional Sewer Project (Project) will consolidate wastewater treatment from the County's North-Auburn Sewer Maintenance District 1 (SMD 1) and the City of Lincoln ("Lincoln"). The purpose of this project description is to generally describe the features and design considerations of the various aspects of the proposed Project.

The two main elements of the Project are:

Wastewater conveyance facilities consisting of a new pump station and new and existing pipelines which run from the existing SMD 1 Wastewater Treatment Plant (WWTP) to the Lincoln Wastewater Treatment and Reclamation Facility (WWTRF)

Expanding the treatment capacity of the existing Lincoln WWTRF

Proposed Project Components

As mentioned above, the project includes both wastewater conveyance and treatment elements. These are further described below.

Wastewater conveyance facilities from the SMD 1 WWTP to Lincoln WWTRF

The wastewater conveyance facilities include:

1. SMD 1 Export Pump Station - A Pump Station at the current SMD 1 WWTP with odor control, and emergency containment basins;
2. SMD 1 Export Sewer - A gravity force main from the SMD 1 Export Pump Station to the Junction Structure where a pipe from the City of Auburn ("Auburn") WWTP may connect;
3. Junction Structure - A junction structure to facilitate the connection of a potential Auburn Export Sewer (gravity force main pipeline from the Auburn WWTP) with the SMD 1 Export Sewer, with odor control, and energy dissipation as necessary;
4. Joint Export Sewer - A gravity force main from the Junction Structure to the location of an Energy Dissipation Structure near Sierra College Blvd.;
5. Energy Dissipation Structure - An Energy Dissipation Structure to facilitate the transition from gravity force main flow to gravity flow located at the end of the Joint Export Sewer, and odor control;
6. Bickford Sewer - The gravity sewer designed and partially constructed by the Bickford subdivision.
7. Lincoln Sewers - The Project will also make use of existing sewers through Lincoln.

SMD 1 Export Pump Station

Overview

The SMD 1 Export Pump Station will pump raw wastewater received directly from the collection system. It will be located in the Southeast corner of the SMD 1 WWTP site so that construction of the pump station will not interfere with the operation of the SMD 1 WWTP. Once flows can be diverted to the Lincoln WWTRF, selected existing SMD 1 WWTP water bearing structures will be retrofitted to be utilized for emergency containment. Two basins will be constructed to provide the remainder of the emergency containment. These basins will be located on the north side of the existing plant site in the vicinity of the existing sludge drying beds.

Design Criteria

Design criteria are presented below.

Project Component	**Flow and Load Basis** [1]		
SMD 1 Export Pump Station Structures and Piping	SMD 1 Service Area Build out	**Parameter**	**Value**
		Design Flows, Mgal/d	
		Average Dry Weather Flow, ADWF	4.2
		Peak Hourly Flow, PHF	14.8
SMD 1 Export Pump Station Pumps	SMD 1 Existing Service Area and near-term growth	**Parameter**	**Value**
		Design Flows, Mgal/d	
		Average Dry Weather Flow, ADWF	1.8
		Peak Hourly Flow, PHF	11.0
SMD 1 Flushing Storage – Retrofit of Existing Structures – Primary Clarifiers	Volume of Existing SMD 1 WWTP Structures	**Parameter**	**Value**
		Design Volume, Mgal	~0.5
SMD 1 Emergency Containment– New Basin	Volume of New SMD 1 Basins	**Parameter**	**Value**
		Design Volume, Mgal	6

[1] Design considered the full range of flows and loading anticipated

The construction of Project improvements at the SMD 1 WWTP will be designed and constructed so as to not interfere with the continued operation of the SMD 1 WWTP until completion of all of the improvements with the exception of the decommissioning, the emergency containment basin and retrofitting of the existing WWTP structures for containment use.

Specific Improvements

The proposed SMD 1 Export Sewer Pump Station design will include the following features:

A. Piping and structures designed for the SMD 1 Service Area Peak Hour Flow (PHF) of 14.8 Mgal/d.
B. Pumps to accommodate a PHF of 11 Mgal/d, expandable without the need for major structural changes up to 14.8 Mgal/d with the number and size of pumps necessary to accommodate the range of flows in an economical manner.
C. Dual wet well configuration for redundancy with discharge piping and valves at grade or in shallow vaults to facilitate operation.
D. Wastewater storage utilizing the primary clarifiers for pipeline flushing such that all solids will not accumulate in the pipelines where daily flows do not provide scour velocities. Flushing will be sufficient to migrate solids through the conveyance system to the WWTRF in two to five cycles so that solids do not accumulate in the pipeline.
E. Screening and grit removal upstream of the pump station to protect the pumps and minimize solids deposition in the pipeline will utilize the existing facilities.
F. Odor control utilizing a biofilter.
G. Surge control facilities as required by the pipe material.

Other SMD 1 WWTP site work

The Project also includes the following additional site work at the SMD 1 WWTP site:

1. Retrofit existing water bearing structures for use as emergency containment.
2. Construction of 2 new basins to provide for a total of 6 Mgal of emergency containment.
    - Basin No1 will be located on the north side of the existing plant site in the vicinity of the existing RBCs and will be constructed to include a synthetic liner to prevent percolation of raw wastewater into the ground as this basin may see periodic use during significant rainfall events.
    - Basin No. 2 will be located on the north side of the existing Plant and designed to run freely for normal rain events and closed for containment of wastewater flows during an extended Emergency operational period with contained wastewater returned to the Pump Station for export and the basin cleaned.
3. Lining of the basin as necessary to prevent sewage infiltration to underlying groundwater or the adjacent creeks.
4. Frontage, fire protection, and other improvements as required by the conditions of approval for use permits.

See Figure 1 for an approximate layout of the existing SMD 1 WWTP and the new SMD 1 Export Pump Station and related improvements.

SMD 1 Export Sewer

Overview

This pipe is 22-inch to 28-inch in diameter and extends from the SMD1 WWTP site to the Junction Structure. See Figure 2.

Project Component	Flow and Load Basis [1]		
SMD1 Pipeline [(a)]	SMD1 Service Area Build out	**Parameter**	**Value**
		Design Flows, Mgal/d	
		Average Dry Weather Flow, ADWF	4.2
		Peak Hourly Flow, PHF	14.8

[1] Design should considered the full range of flows and loading anticipated.

Specific Improvements

The proposed SMD 1 Export Sewer design will include the following features:

A. Pipeline will be buried below finished grade in existing road rights-of-way and in appropriate easements. In-roadway excavation will be such that a minimum of 3-feet of cover from the top of pipe to finished grade will be maintained. Excavation in unpaved areas will be such that a minimum of 4-feet of cover from the top of pipe to finished grade will be maintained. Pipelines will be appropriately marked above and below grade to prevent damage from excavation. Pipe location tracer wire or other appropriate location means will be provided for all below grade piping.
B. Road sections will be restored to match existing or better conditions.
C. Air valves to be provided as necessary to prevent air binding in the pipe and as well as vacuum relief valves to protect the pipe from collapse due to the net fall in elevation from the pump station discharge point to the discharge point.
D. All air valves will be outfitted with odor scrubbers to reduce odors at air valve locations.
E. Appurtenances will be in below grade vaults.
F. Access to all valves and odor facilities will be secured from vandalism and shielded aesthetically with dull colors or otherwise camouflaged to minimize any attractive nuisance and visual impacts.
G. Pipeline extra work areas or laydown sites will be located in areas identified along the pipe alignment.

Junction Structure

Overview

This structure will facilitate the connection of a future Auburn Export Sewer with the SMD 1 Export Sewer, with odor control, and energy dissipation as necessary.

Project Component	Flow and Load Basis [1]		
Junction Structure, Joint Export Sewer	SMD1 and Auburn Service Area Build out	**Parameter**	**Value**
		Design Flows, Mgal/d	
		Average Dry Weather Flow, ADWF	6.7
		Peak Hourly Flow, PHF	20.0

[1] Design should consider the full range of flows and loading anticipated

Specific Improvements

The proposed Junction Structure design will include the following features:

A. Site safety and security including lighting, fencing, safety showers, and eyewash systems as appropriate.
B. Access to all above and below ground facilities will be secured from vandalism.
C. Minimization as an attractive nuisance and shielded aesthetically with dull colors or otherwise camouflaged.
D. Site will be designed to provide for maintenance as may be required to all above and below ground structures with cranes, hoists, and heavy service vehicles.
E. Parking so that service vehicles will not be parked on adjacent public road.
F. Odor control utilizing an activated carbon system, other synthetic media, or biofilter.
G. Surge control facilities as may be required by the pipe material and hydraulic conditions.
H. Energy dissipation as may be required by the hydraulic conditions.

Joint Export Sewer

Overview

This pipe extends from Junction Structure to the Energy Dissipation Structure. See Figure 5.

Design Criteria

See table in Junction Structure above.

Specific Improvements

See SMD 1 Export Sewer above.

Energy Dissipation Structure

Overview

A transition structure to transition from a gravity force main hydraulic configuration to a gravity sewer, with energy dissipation and odor control

Design Criteria

See table in Junction Structure above.

Specific Improvements

See Junction Structure above. Additionally, an odor control structure will be constructed downstream.

Bickford Sewer

Overview

Construction of 150 feet of 42 inch concrete sewer pipe with t-lock liner to match existing pipeline already constructed in Highway 193 to extend the pipeline to the east of the Energy Dissipation Structure. Completion of manholes as necessary to facilitate operation of the project without inhibiting future connections as included in the Regional Sewer Pipeline design prepared by MHM Engineers, dated October 2005. If an alternate route as currently proposed is not selected or is unattainable, the Project will need to complete construction of Bickford pipeline from Energy Dissipation Structure to the end of the constructed portion (approximately 3000 ft west of the intersection of Hwy 193 and Sierra College Blvd.).

Design Criteria

The Bickford Sewer was sized to accommodate flows from Bickford Lincoln, the County, and Auburn (as well as other agencies who are no longer participating in the Project). The completion of the Bickford Sewer must maintain these design capacities.

The vertical alignment of Bickford Sewer being constructed as part of the Project will need to be such that it accommodates the gravity flow of wastewater from the Bickford subdivision.

Specific Improvements

The Project will need to complete construction of an additional 150 feet of the Bickford pipeline as designed from the end of the constructed portion (approximately 3000 ft west of the intersection of Hwy 193 and Sierra College Blvd.) to the east of the point of connection with the Energy Dissipation Structure.

Additionally, the Project will need to make any repairs to completed pipeline sections as required by the approving agency as well as final site and roadway restorations as required by those agencies responsible for those facilities.

Lincoln Sewer

Overview

Lincoln also has approximately six miles of influent sewer running from the west end of the Bickford Sewer to the WWTRF sized to serve SMD1, Auburn, Bickford and Lincoln needs.

Design Criteria

The Lincoln Sewer was sized to accommodate flows from Bickford, Lincoln, the County, and Auburn (as well as other agencies who are no longer participating in the Project).

Specific Improvements

Some odor control improvements may be necessary. The County's Portion of the Overall Lincoln – County Project Costs to be paid by SMD 1 to Lincoln includes an "oversizing reimbursement" to cover the "buy-in" cost of using the existing Lincoln Sewer which will provide peak flow capacity for current SMD 1 flows with future "oversizing reimbursements" to cover the "buy-in" cost for future connections.

Expanded Lincoln WWTRF

Overview

Lincoln has a compliant wastewater treatment and reclamation facility (WWTRF) that came online in 2004 designed to be readily expandable with space for treatment capacity to serve the City of Lincoln's General Plan and the General Plans for the SMD1 and Auburn service areas. The Lincoln WWTRF is designed to produce disinfected tertiary water, as described by Title 22 for unrestricted reuse options.

The existing WWTRF nominal capacity is 4.2 MGD average dry weather flow (ADWF). The Proposed Regional Project will expand the WWTRF capacity to 5.9 Mgal/d ADWF.

Description	ADWF (Mgal/d)	PWWFD (Mgal/d)
Existing Capacity at Lincoln WWTRF:	4.2	15.2
Proposed Regional Project Capacity Expansion at Lincoln WWTRF:	1.7	10.4
Total Proposed Capacity at Lincoln WWTRF	5.9	25.6
Current Permitted Capacity at Lincoln WWTRF	8.4	-
Capacity Available for Future Connections by All Member Agencies after Expansion	1.4	4.2

Design Criteria

Design criteria are presented below.

Project Component	Flow and Load Basis		
Treatment and Disposal	SMD1 Service Area Existing	**Parameter**	**Value**
		Design Flows, Mgal/d	
		Average Dry Weather Flow, ADWF	1.7
		Average Annual Flow, AAF	2.0
		Maximum Monthly Flow, MMF	3.6
		Maximum Daily Flow, MDF	8.4
		Peak Hourly Flow, PHF	10.4
		BOD Load, lb/d	
		Average Annual Load, AAL	4,000
		Maximum Monthly Load, MML	5,000
		TSS Load, lb/d	
		AAL	4,000
		MML	5,000
		TKN Load, lb/d	
		AAL	1,000
		MML	1,200

Specific Improvements

Many WWTRF facilities will not require upgrades (or will require only minor adjustments). Other WWTRF require unique improvements such as new land disposal facilities, but most unit treatment processes can be expanded efficiently by providing new, identical (or similar) improvements in the space provided, such as the head works, oxidation ditches and clarifiers, and other unit processes.

Lincoln WWTRF Current Capacity, Capacity Required for the Proposed Regional Project, and Capacity Remaining [a]

	Treatment Component	Pre-Project Capacity (Mgal/d) [b]	Project Added Capacity (Mgal/d)	Post-Project Capacity Remaining (Mgal/d) [c]
1	Influent Sewer [d]	14.7	0	10.2
2	Influent Pump Station	8.8 [e]	0	4.3
3	Headworks	4.4 [e]	4.4	4.3
4	Oxidation Ditch Splitter Box	8.8	0	4.3
5	Anoxic and Oxidation Basins	4.2	1.7	1.4
6	Clarifier Splitter Box	4.2 [e]	1.7	1.4
7	Secondary Clarifiers	4.2	1.7	1.4
8	Scum Pump Station	4.2	1.7	1.4
9	SC Drain Pump Station	8.8	0	3.5
10	RAS Pump Station	4.2	1.7	1.4
11	WAS Metering Station	4.2	1.7	1.4
12	Maturation Pond Pump Station	5.9 [e]	0	1.4
13	Maturation Ponds	5.9 [e]	0	1.4
14	Dissolved Air Floatation Clarifier	8	0	3.5
15	DAF Splitter Box	8 [e]	0	3.5
16	DAF Float Pump Station	8 [e]	0	3.5
17	DAF Recirculation Pump Station	8 [e]	0	3.5
18	Filter Feed Pump Station	12 [e] [f]	0	7.5 [f]
19	Filter Rapid Mix Basin	6 [g]	0	1.5 [g]
20	Filter Flocculation Basins	6 [g]	0	1.5 [g]
21	Tertiary Filters	4.2 [e] [g]	1.7	1.4
22	Filter Mud Well	12 [g]	0	7.5 [g]
23	Filter Clear Well	12 [g]	0	7.5 [g]
24	Plant Water Pump Station	12 [g]	0	7.5 [g]
25	UV Disinfection	8 [e] [g]	0	3.5 [g]
26	Reaeration Basins	8 [e] [g]	0	3.5 [g]
27	Effluent Pump Station	12 [e] [g]	0	7.5 [g]
28	Chemical Facilities	5 [g]	0.8	1.4 [g]
29	Solids Holding Facilities	6 [e]	0	1.5
30	Reclamation Booster Pump Station	10 [e] [g]	0	5.5

	Treatment Component	Pre-Project Capacity (Mgal/d) [b]	Project Added Capacity (Mgal/d)	Post-Project Capacity Remaining (Mgal/d) [c]
31	Creek Outfall	6.3 [g]	0	1.8
32	Effluent Storage (w/ Additional Disposal Land)	5.9	0	1.4
33	Disposal Land	4.2	1.7	1.4
34	Laboratory Facilities	N/A	N/A	N/A
35	Administration Facilities	N/A	N/A	N/A
36	Maintenance Facilities	N/A	N/A	N/A
37	General Site Work	6 to 12 [g]	1.7 [g]	1.4 to 6 [g]
38	Yard Piping and Appurtenances	12 [h]	0	6 [h]
39	Electrical and Instrumentation	4.2	1.7	1.4

(a) All flows are presented as approximate average dry weather flow (ADWF); refinement and adjustment possible.

(b) The structure hydraulic capacity is cited. Additional equipment, pipe, etc. may be required.

(c) Total capacity used with proposed project is equal to 1.7 Mgal/d from SMD1 and 2.8 Mgal/d from the City of Lincoln for a total project flow of 4.5 Mgal/d. Post-Project Capacity cited is equal to Pre-Project Capacity minus 4.5 Mgal/d.

(d) From existing sewer connection point along Highway 193 to the WWTRF; not the new pipeline from SMD1.

(e) Designed to be readily expandable, with knock-out walls, connecting wing-walls, etc.; may not actually include additional capacity, as indicated.

(f) Design flows downstream of the Maturation Pond are ADWF*1.7 (peak month flow) plus recycle flows.

(g) No new site work will be required for in-fill facilities; some new site work will be required for outward expansion elements.

(h) Some arterial piping and main distribution pipes are oversized. New individual facilities will require new piping.

The following sections briefly describe the improvements for each unit process at the Lincoln WWTRF for the Project. All of the improvements identified are approximate; final design may modify details, including the improvements identified below. See Figure 6 for the approximate location of these new facilities.

Influent Pump Station

While the influent pump station structure is sized for 12.6 MGD, two new pumps, piping, and valves will be constructed for the Proposed Regional Project to provide the required additional pumping capacity.

Headworks

The headworks screening serves to remove large materials such as rags from the sewage stream to protect downstream equipment and produce cleaner water and sludge. The maximum flow capacity of the existing headworks channel and screen is about 23 Mgal/d (peak flow). The Proposed Regional Project will have peak flows equal to almost 30 Mgal/d. As a result, the project will include one new headworks channel, screen, washer compactor, and flow control gates. This will occur adjacent to the existing headworks channel.

Parshall Flume

The existing headworks nested Parshall flume will also be modified to accurately measure higher flow rates.

Oxidation Ditches and Anoxic Basins

The oxidation ditch and anoxic basins work as a system with the clarifiers and RAS pump station to remove organics and nitrogen compounds from the wastewater through an activated sludge treatment technology, utilizing biological microorganisms. To provide sufficient treatment capacity, the Proposed Regional Project will include the addition of one oxidation ditch and anoxic basin, including new aeration and mixing equipment.

Secondary Clarifiers

To provide regional capacity for the separation of activated sludge from the liquid stream, the Proposed Regional Project will include one additional secondary clarifier and equipment. The clarifier splitter box will also be expanded to accommodate the additional clarifier with a new splitter chamber, gate and weir.

Return Activated Sludge (RAS) Pump Station

The RAS pump station returns biologically active sludge settled in the secondary clarifier back to the aeration and anoxic basin treatment basins. The new clarifier will require one new RAS pump station for the Proposed Regional Project, including pumps, piping, valves and appurtenances.

Scum Pump Station

The scum pump station moves scum from the surface of the secondary clarifiers and conveys it to the solids handling facilities (centrifuges with disposal to a landfill). The existing scum pump station will be configured to serve the new clarifier.

Secondary Clarifier Drain Pump Station

The purpose of the secondary clarifier drain pump station is to facilitate clarifier maintenance by allowing it to be taken off-line and drained. The Proposed Regional Project will use the existing drain pump station .

Waste Activated Sludge (WAS) Metering Station

With a continuous inflow of organics with the wastewater stream, there is continuous growth of the biologically active sludge. Some must be wasted regularly to the solids handling facility to maintain a consistent concentration in the oxidation ditch and anoxic basin for optimal treatment. The existing WAS metering station will be included in the Proposed Regional Project with modifications to facilitate the wasting process.

Dissolved Air Flotation Thickener (DAFT)

The maturation pond (not expanded with the Project) is a large basin with partially treated wastewater that grows algae in the presence of sunlight. The DAFT utilizes pressurized air (like soda carbonation) to float the algae to the water surface where it is skimmed off and disposed of with the solids handling facilities. This is necessary to avoid fouling the tertiary filters with algae. The DAFT also functions to remove algae grown in effluent stored in the TSB prior to delivery for reuse. With the higher flows from a regional project, additional DAFT units are not required the reason for this is that high sewer flows occur during the winter, but there is no algae production at this time.

Filter Feed Pump Station

With higher flows, the Project will expand the filter feed pump station which conveys flows from the DAFT to the filters for further treatment. The pump station expansion will include one additional pump, valves and pipe in the existing wet well structure.

Filter Facilities

The filtration process removes small particulate matter that remains in the wastewater prior to disinfection. With higher flows, additional filter cells are required. The proposed project includes two new sand filter cells with under drains and associated piping and control valves.

Chemical Facilities

The chemical feed facilities include provisions for pH control, on-site system disinfection and coagulants used in the flocculation basin and solids handling processes. To accommodate the Project flows, the chemical facilities will be modified to include larger chemical feed pumps to increase the dosing range and larger chemical storage tanks to limit the frequency between material deliveries.

Solids Handling Facilities

The polymer feed system injects polymer into the waste solids to facilitate the dewatering process by binding the solids together, making the solid/water separation more efficient. The existing solids holding tank, sludge pumps, centrifuge and building are sufficient to meet the needs of the proposed Regional Project. However, polymer feed improvements are necessary to limit the frequency of material deliveries with increased use of the dewatering facilities. These are included with the Project.

Effluent Pump Station

While the low head effluent pump station (for flood irrigation and creek discharge) structure (wet well) is sized for 12.6 MGD, one new pump, piping, and valves will be constructed for the Project to provide the required additional pumping capacity.

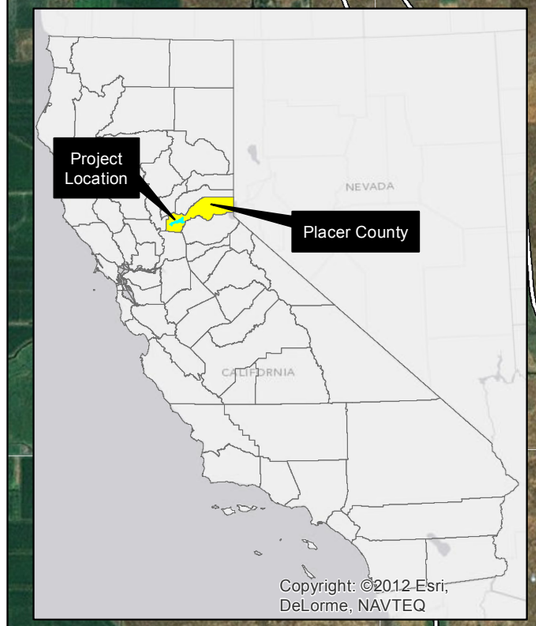
Effluent Disposal Improvements

The Project includes piping west on East Catlett Road from a new connection to an existing 24-inch force main in Fiddyment Road. The pipe will provide irrigation water (effluent disposal) to approximately 1,000 acres of land used to grow fodder crops. The pipe will be constructed in the East Catlett roadway and will connect to existing farmer irrigation systems.

The Project includes coordination with the farmer to provide the required improvements for compliance with all water reuse laws as applicable, including run-off containment ditches, berms recapture basins, seasonal run-off control gates, groundwater monitoring wells and separation from potable water wells. A metering and control station will also be included at points of connection as required to meter and control the flow of water, as well as prevent backflow into the transmission main.

Booster Pump Station

The existing high head booster pump station (for sprinkler application of reclaimed water) structure (wet well) that will supply new off-site land disposal improvements is sized for 12.6 MGD, two new pumps, piping, and valves will be constructed for the Proposed Regional Project to provide the required additional pumping capacity.



SMD1 WWTP

Lincoln WWTRF

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Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Pump Stations
Proposed and Alternative Pipe Junction
Common Preferred Alignment
Lincoln Effluent Pipeline Preferred Alignment
Lincoln Sewer Existing Alignment
SMD1 Preferred Alignment
Preferred Potential Effluent Reclamation Area
Wastewater Treatment Facility

N

0 2 Miles

1 inch = 6,125 feet

Stantec

Location and Vicinity

Midwestern Placer Regional Sewer Project

Project: 184030298; Sources: Stantec 2012, ECO:LOGIC 2008, ESRI 2011, Placer County GIS 2012, City of Lincoln GIS 2012; Created By: K.Clyma; Updated: 8/28/2013

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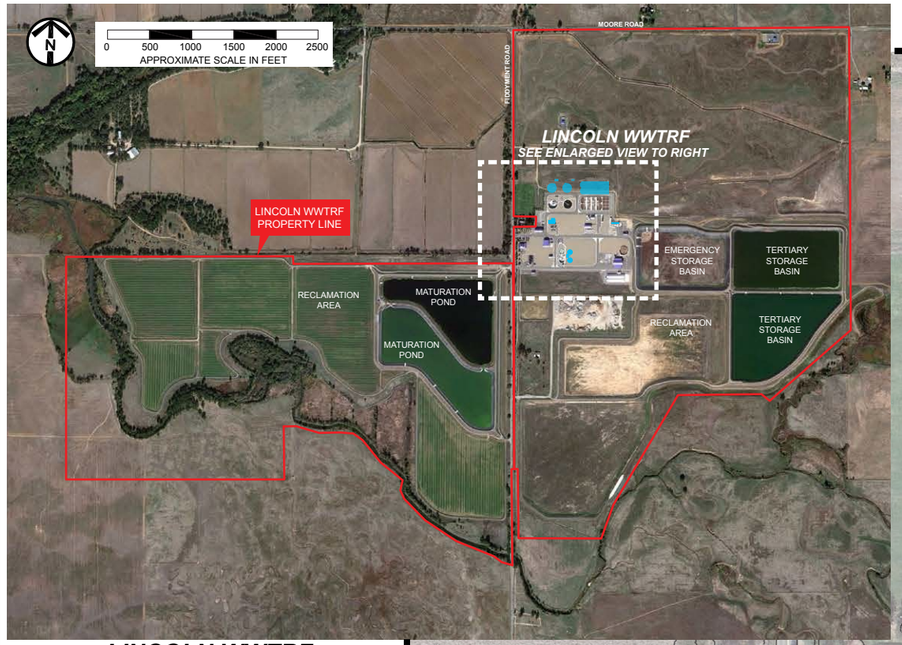
Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet. Projection:Lambert Conformal Conic. Datu



LINCOLN WWTRF

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Layout of Existing and Proposed Regional Project Improvements at the Lincoln WWTRF

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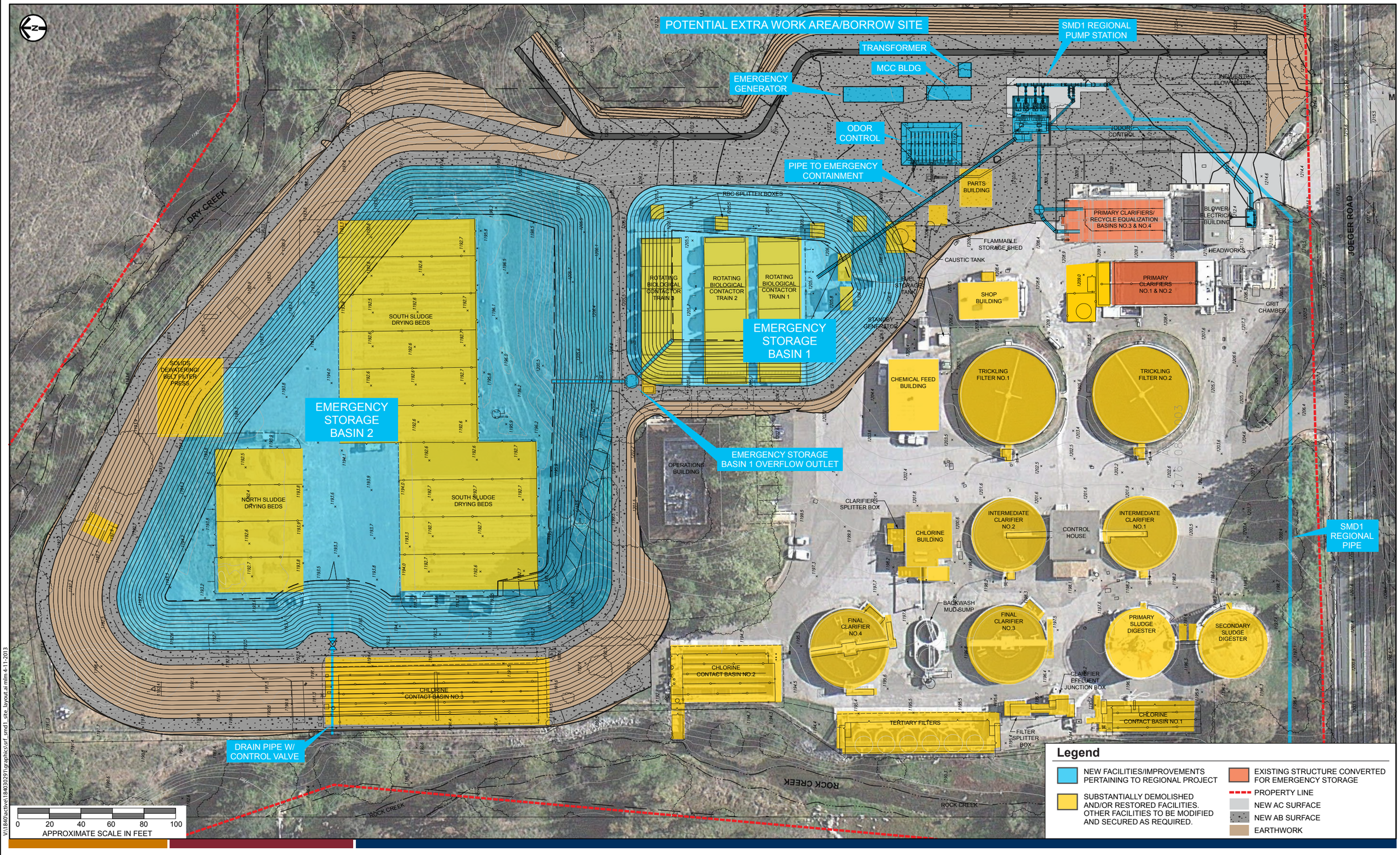
Midwestern Placer Regional Sewer Project



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Layout of Existing SMD1 WWTP and the Proposed SMD1 Regional Pump Station and Improvements

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Midwestern Placer Regional Sewer Project