



Point of Discharge: Current and Proposed Point of Discharge

The County of Placer Sewer Maintenance District No. 1 (SMD1) intends to fund the necessary improvements to facilitate regionalization of their north Auburn service area with the City of Lincoln's wastewater facilities. This action will involve the construction of facilities necessary to convey sewage from the SMD1 service area to the City of Lincoln wastewater treatment and reclamation facility (WWTRF). The necessary facilities include a pump station, gravity force main, treatment improvements at the WWTRF, and associated appurtenances.

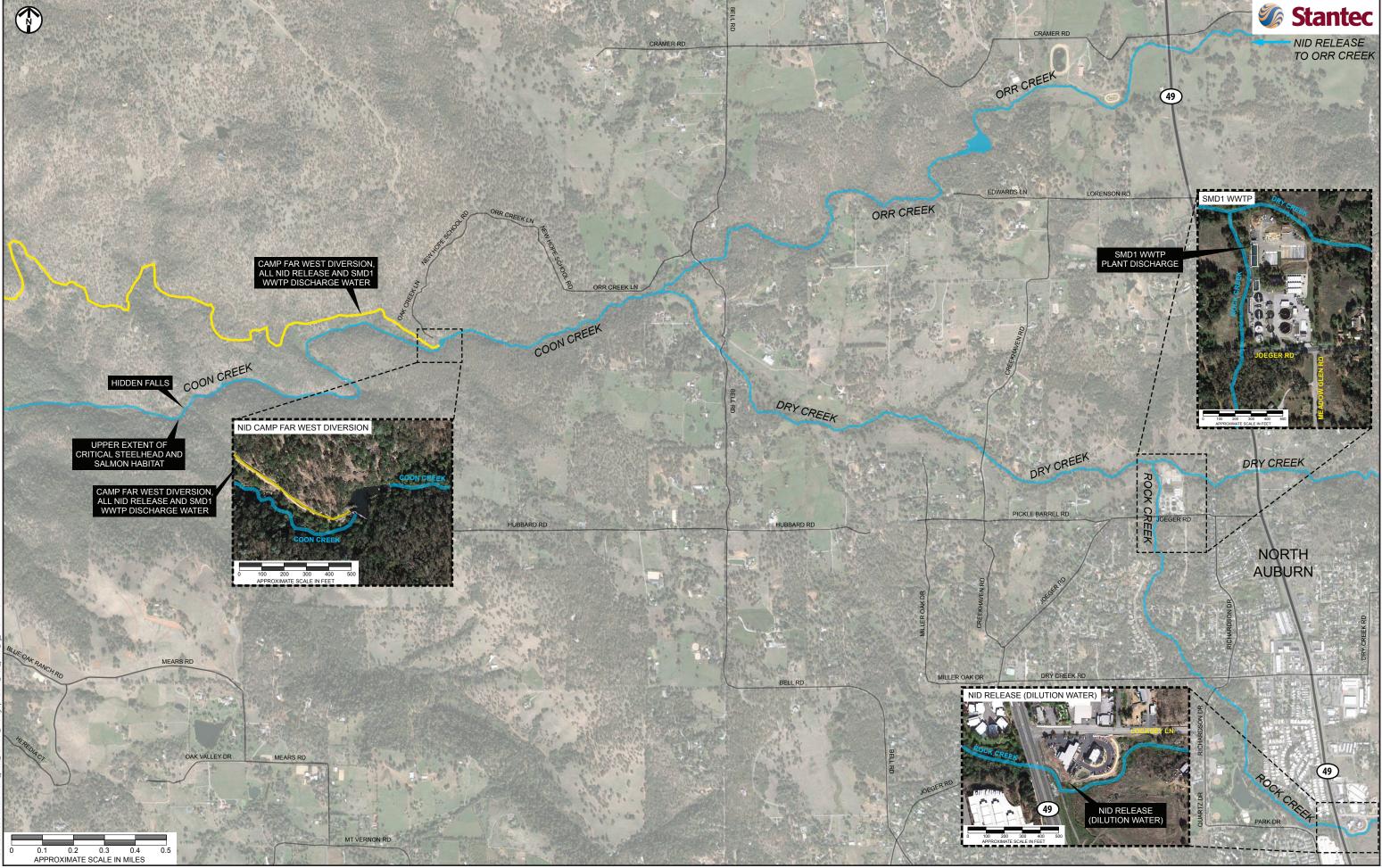
The current average dry weather wastewater flow treated at the SMD1 treatment plant ranges from 1.5 to 1.7 Mgal/d (2.3 to 2.6 cfs). The existing SMD1 treatment plant permitted capacity is 2.18 Mgal/d (average dry weather flow, ADWF) based on the current waste discharge requirements Order No. R5-2010-0092, NPDES No. CA0079316 (the SMD1 Order). The SMD1 Order includes effluent and receiving water limitations which the wastewater treatment plant (WWTP) discharge to Rock Creek is unable to meet. This is in part due to the fact that regulations have become more stringent, but is also made more difficult by the fact that Rock Creek is an ephemeral stream with little assimilative capacity. Decommissioning of the SMD1 WWTP and cessation of the discharge of effluent to Rock Creek will occur when the necessary regional facilities are in place.

Figure A-1 shows the existing site plan and facilities including the location of the existing SMD1 facilities and the point of discharge to Rock Creek. Figure A-1 also shows the approximate location upstream of the WWTP where NID water purchased by the County for dilution of their effluent is currently delivered to Rock Creek. This purchase of water for dilution will no longer be necessary when the effluent discharge ceases.

The Lincoln WWTRF is located southwest of the City of Lincoln on Fiddyment Road, south of Moore Road, southeast of Auburn Ravine, and north of the West Placer Waste Management Authority's (WPWMA) Fiddyment Road facilities and Orchard Creek. Figure A-2 illustrates the location of the WWTRF in addition to the proposed regional project components.

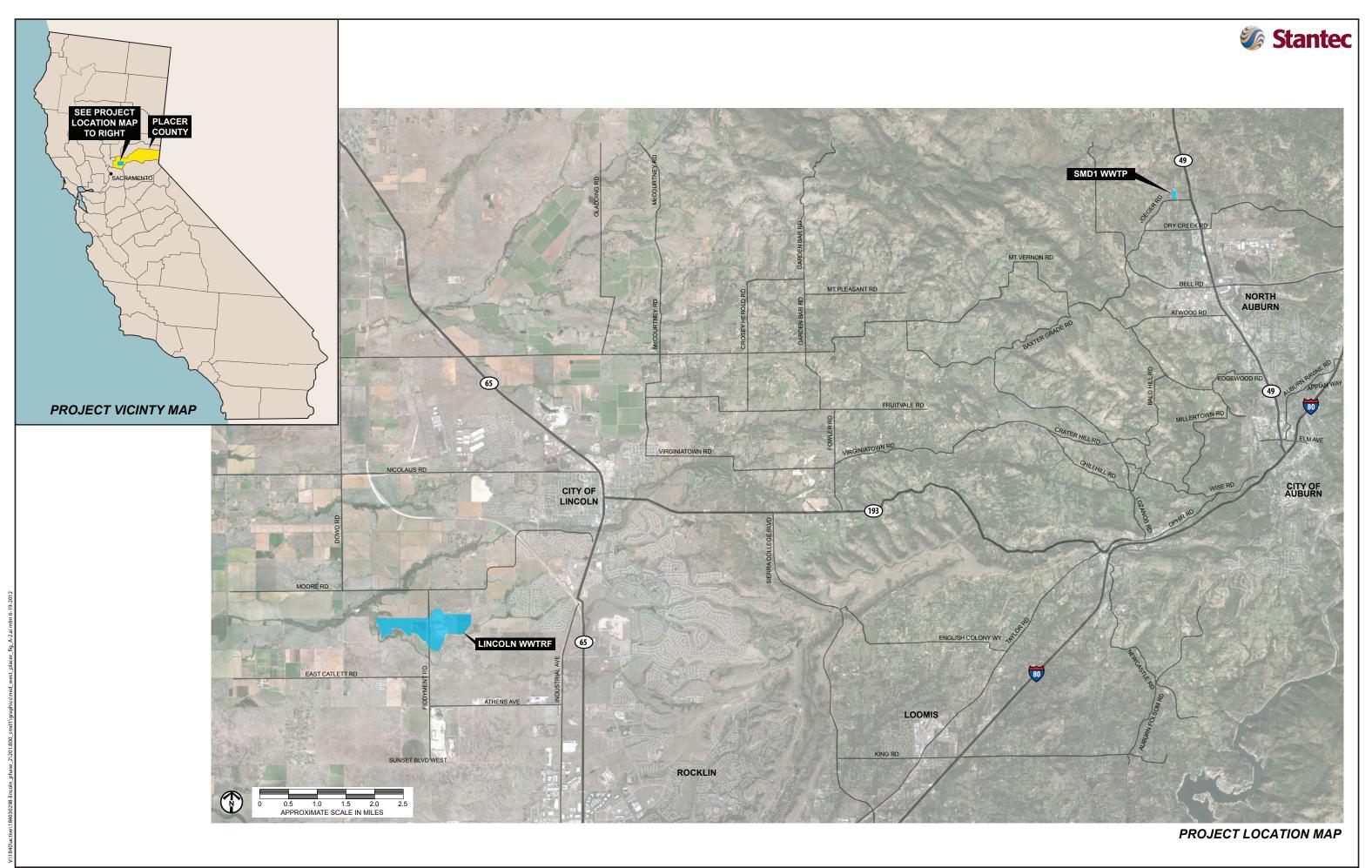
Currently only City of Lincoln wastewater is treated at the WWTRF facility and either discharged to Auburn Ravine under the existing Waste Discharge Requirements Order No. R5-2008-0156, NPDES NO. CA0084476 (Lincoln Order), or it is recycled.

Treated effluent is discharged seasonally from the Lincoln WWTRF to Auburn Ravine, a water of the United States, and tributary to East Side Canal, Cross Canal, and the Sacramento River, within the Pleasant Grove Hydrologic Sub Area, the Coon-American Hydrologic Area, and the Valley-American Hydrologic Unit of the Sacramento Hydrologic Basin. The discharge is just south of Moore Road at Auburn Ravine Creek, northwest of the WWTRF. The location of the WWTRF outfall is identified on Figure A-3.



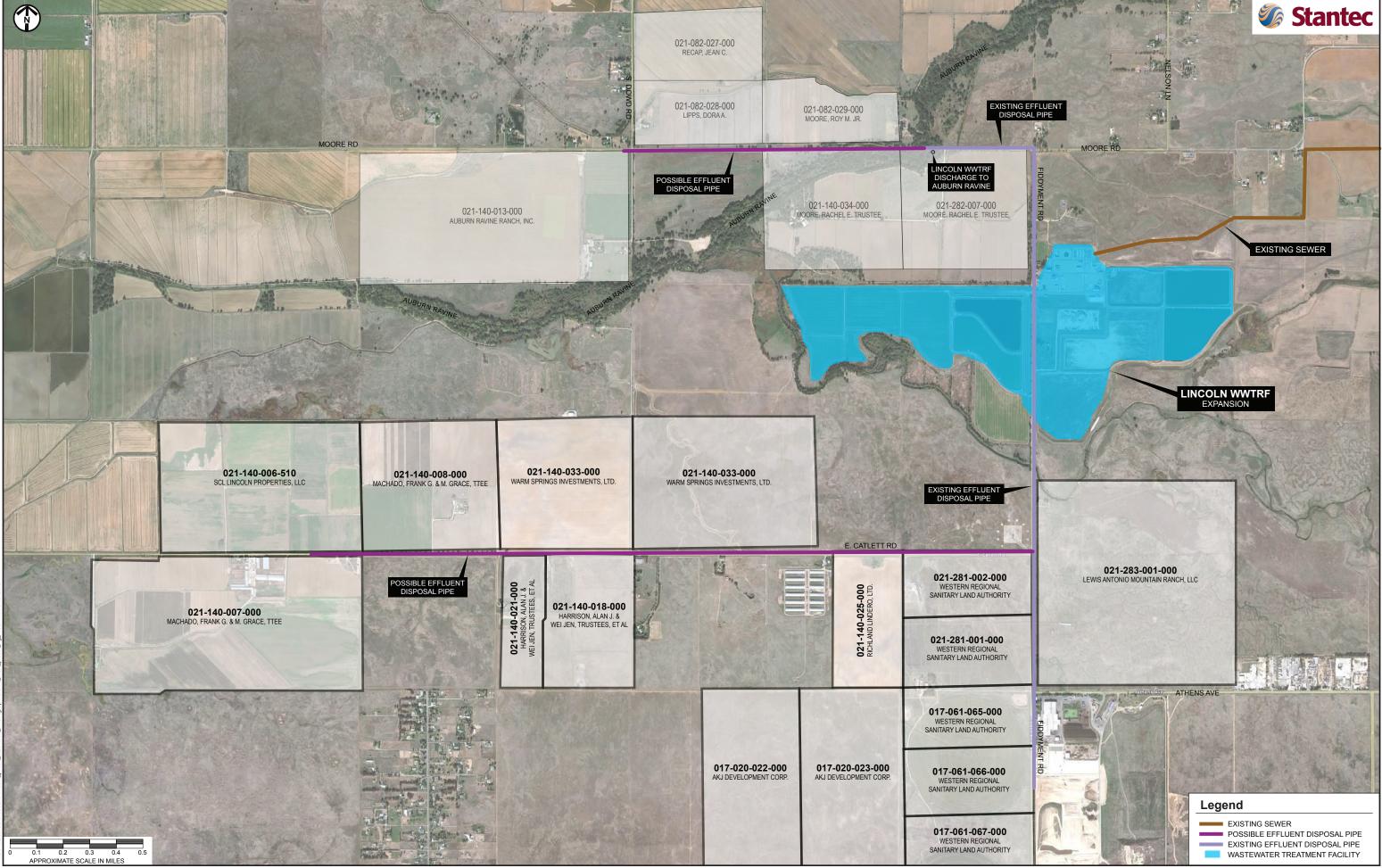
















Reuse occurs in accordance with Lincoln's existing Master Reclamation Permit Order No. R5-2005-0040-01 (the Master Reclamation Permit) on the WWTRF property and lands west of the WPWMA's Fiddyment Road facilities. Attachment B to this petition describes in more detail the lands permitted by the Master Reclamation Permit on which effluent is applied currently and may be applied in the future.

In accordance with its Order, the WWTRF is restricted from discharging to the creek under certain conditions that often exist in the spring and fall. During these times treated wastewater that exceeds the amount of reclaimed water needed for crops and landscaping is held in storage basins on the WWTRF property until it can be used for irrigation or discharged into Auburn Ravine in compliance with the Order.

Implementation of the Regional Sewer Project will result in the seasonal discharge of SMD1 effluent to Auburn Ravine at the location of the existing WWTRF outfall in accordance with the Lincoln Order. Reclamation using the SMD1 effluent will occur seasonally as well, similar to the existing reuse operations carried out by the City of Lincoln in accordance with the Lincoln Order and the Master Reclamation Permit. This entails intermittent surface water discharge including periods of time on the order of weeks during which no effluent is discharged to Auburn Ravine.

The Regional Sewer Project will not result in any changes to the point of discharge, place of use or purpose of use of the effluent generated by treatment of wastewater from the City of Lincoln's service area. This is true of both existing and future wastewater generation rates.

Table 1 is excerpted from the draft Clean Water State Revolving Fund Project Report for the Mid-Western Placer Regional Sewer Project (June 2012, Stantec). The Project Report describes in detail the criteria to be applied to design of the regional facilities. The Proposed Regional Sewer Project will provide conveyance capacity for buildout of the existing Placer County General Plan land uses within the SMD1 service area. Initially, the improvements to the WWTRF treatment and disposal facilities will be limited to what is sufficient to serve existing flows and loads only. However, the long term planning for the SMD1 service area involves expansion of the WWTRF facilities as needed to accommodate future growth. This petition, therefore, encompasses the potential discharge to Auburn Ravine of up to the amount of SMD1 flow generated at service area buildout. However, such discharge will likely never occur due to planned water reuse plans in the Master Reclamation Plan.

The purpose of the Proposed Regional Project is to consolidate wastewater treatment in midwestern Placer County to provide long-term, efficient, reliable, high quality treatment of effluent in a cost-effective, environmentally beneficial manner.

The project is needed for the following reasons:

SMD1 has an aged WWTP that is currently operating in violation of effluent limitations
contained in its NPDES permit. Placer County has concluded it must be replaced in its
entirety to comply with current permit requirements at significant expense, if the
Proposed Regional Project is not constructed.

- SMD1 does not have space for sewage emergency storage or non-compliant effluent storage; all flow passes directly through the treatment facilities to Rock Creek.
- The SMD1 service area is a relatively small community with limited economies of scale to comply with future maintenance and regulatory driven costs.
- SMD1 discharges effluent upstream of critical salmon and steelhead spawning habitat. Wastewater effluent is known to contain a variety of unregulated compounds with impacts to aquatic life that are not yet known.

Table 1 **Design Flows and Loads**

Project Component	Flow and Load Basis	Parameter	Value	EDUs
SMD1 Pipeline ^(a)	SMD1 Service Area Buildout	Design Flows, Mgal/d		
		Average Dry Weather Flow, ADWF	4.2	19,552
		Peak Hourly Flow, PHF	14.8	
Treatment, Disposal and Reclamation	SMD1 Service Area Existing	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	3,700	7,900
		Maximum Monthly Load, MML	4,200	
		TSS Load, lb/d		
		AAL	3,900	
		MML	4,700	
		TKN Load, lb/d		
		AAL	1,000	
		MML	1,210	

- (a) Includes pump stations and storage at SMD1 WWTP site.
 - SMD1 does not have viable reclamation options to limit future permit compliance costs associated with surface water discharges and facilitate statewide efforts to encourage reclamation to extend potable water supplies statewide.
 - SMD1 does not have space to cost effectively provide low-tech, but land intensive, solutions to aid regulatory compliance, such as maturation ponds.
 - Lincoln has a new, compliant Title 22 WWTP with space for efficient expansion and upgrades.

- Lincoln has 90 million gallons of emergency storage which can store influent sewage for a month if there is an effluent compliance problem or systemic equipment failure, with space available for expansion if necessary.
- Lincoln has 180 million gallons of maturation ponds to equalize dissolved contaminants and improve effluent transmittance, a water quality parameter indicative of reduced dissolved contaminants.
- Lincoln's effluent transmittance is comparable to what is expected from ozone treatment, the best apparent treatment technology for CECs, indicating that CEC treatment at Lincoln may not be required or, if required, will be required at a reduced scale and cost.
- Lincoln has 190 million gallons of effluent storage, which can be used to cease a surface water discharge if there is a non-compliant effluent or adverse receiving water conditions, such as low flows, for several months. The storage also facilitates land disposal and reclamation.
- A regional facility at the Lincoln WWTRF offers immediate operational costs savings due to large economies of scale. Operational savings will continue indefinitely as compared to operating multiple smaller WWTPs.
- A regional facility at the Lincoln WWTRF offers future capital cost savings for maintenance, expansions and regulatory upgrades due to large economies of scale.
- Lincoln's surface water discharge is downstream of critical salmon and steelhead spawning habitat, avoiding exposure of effluent to sensitive fish larvae and fry.
- Lincoln's surface water discharge is utilized predominantly when Auburn Ravine flows are high (winter) or outside salmon and steelhead spawning cycles.
- Placer County's stated policy preference is for wastewater regionalization.
- The Regional Board's stated policy preference (Res. No. R5-2009-0028) is for wastewater regionalization, as supported by a January 20, 2012 letter from the Regional Water Board Executive Officer to SMD1 and the State Board Division of Financial Assistance offer of principal forgiveness and extended term financing for regional projects.

Place of Use: Existing Place of Use and Reclamation Lands to be Served by the Project

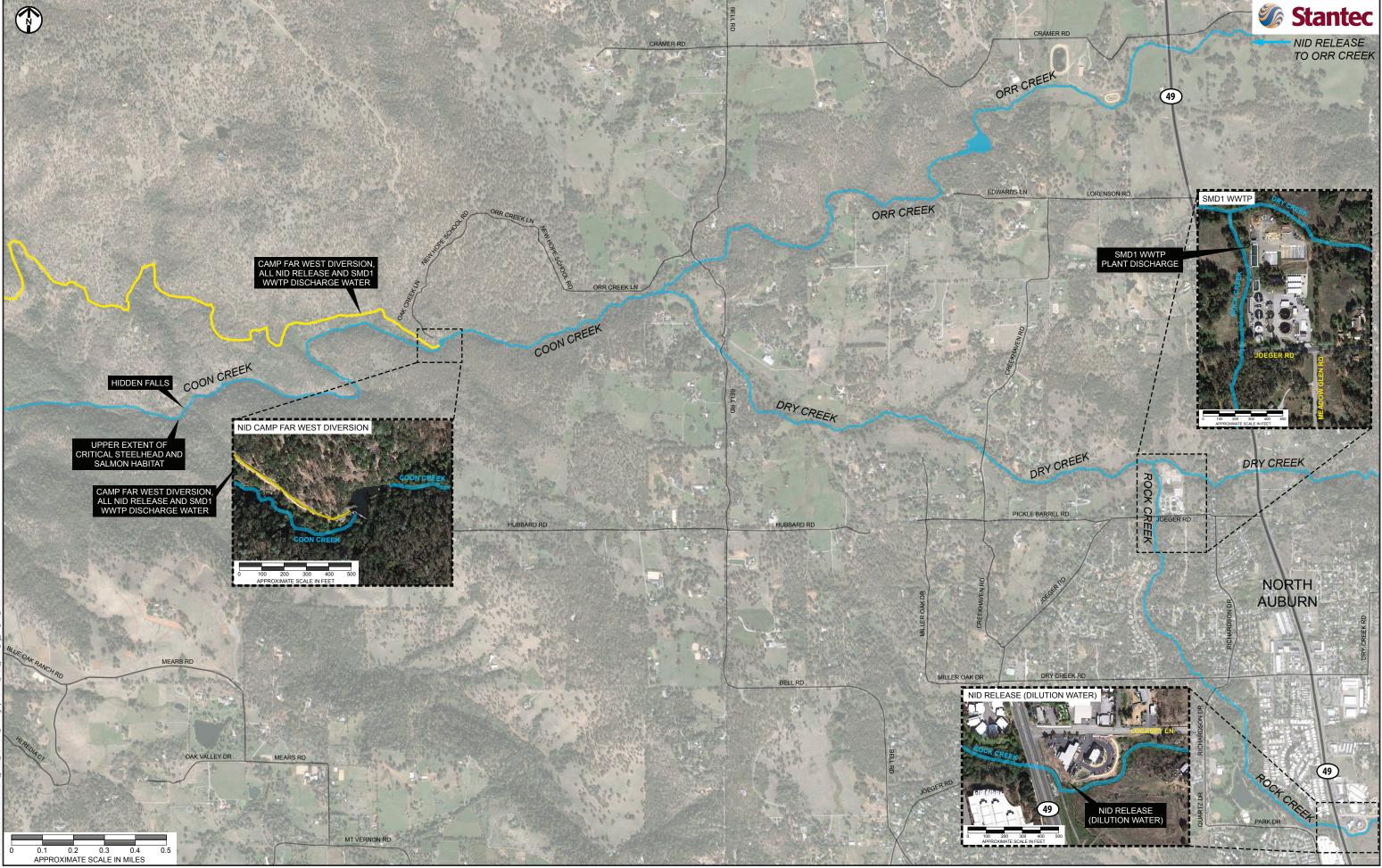
Figure B-1 shows the Rock/Dry/Orr and Coon Creek system as it currently operates. This includes the SMD1 effluent discharge to Rock Creek as well as pertinent NID water releases to the system. Figure B-2 shows this system as it would be operated after completion of the Regional Sewer Project when the SMD1 WWTP effluent discharges cease. Figure B-3 provides additional information regarding the water system and flows in the area.

The SMD1 WWTP discharges treated effluent to Rock Creek in a location just north of Joeger Road and upstream of Dry Creek (see Figure B-1). Since the late 1990s Placer County has purchased water from NID for dilution of effluent discharged from their SMD1 WWTP to Rock Creek. The dilution water originates in Combie Reservoir from which it is conveyed through the Bear River Siphon to the Combie Ophir conveyance system. The dilution water is released to Rock Creek upstream of the effluent discharge as shown on Figure B-1. The relative location of the WWTP effluent discharge and the dilution water is also shown schematically on Figure B-3. The dilution water comingles with the Rock Creek background flow and treated effluent discharged from the WWTP in an attempt to allow the County to comply with Receiving Water Limitations for ammonia. This practice was initiated following failed efforts at achieving adequate nitrification of the wastewater through the SMD1 treatment process train (ref. Waste Discharge Requirements Order No. R5-2005-0074). Elimination of the effluent discharge would eliminate the need for the NID dilution water to mitigate downstream water quality impacts.

NID operates the Camp Far West Canal diversion structure downstream of where Dry Creek and Rock Creek join with Orr Creek to become Coon Creek. This diversion is used to meet NID obligations to provide irrigation water to NID customers. The diversion structure is upstream of the designated critical habitat for steelhead and salmon (see Figure B-1). The critical habitat ends near Hidden Falls, downstream of the Camp Far West Canal diversion. NID also releases water into Orr Creek upstream of NID's Orr Creek Reservoir. NID currently diverts from Coon Creek at its Camp Far West and Gold Hill I Diversions all of the water it releases into Rock Creek and Orr Creek as well as the effluent discharged from the SMD1 WWTP into Rock Creek.

During both the non-irrigation season and the irrigation season, the amount of water diverted by NID at Camp Far West Canal almost always exceeds the SMD1 discharge plus the NID dilution release. Therefore, moving these two releases to the Orr Creek release location will not change the amount of water released into Coon Creek, diverted from Coon Creek, or flowing in Coon Creek downstream of the Camp Far West Diversion. See Figure B-4.

Prior to SMD1 purchase of dilution water, NID met irrigation demands in the Camp Far West canal system by releasing water into Orr Creek upstream of Coon Creek. The water was then diverted from Coon Creek at the Camp Far West diversion. Currently these irrigation flow needs are met by a combination of Orr Creek releases, Rock Creek releases and SMD1 discharges. All of this flow is currently diverted from Coon Creek at the Camp Far West diversion during the irrigation season as described above. During the non-irrigation season, the diversion almost always exceeds the sum of the SMD1 discharge and the NID dilution water release to Rock Creek, as can be seen in Figure B-4.



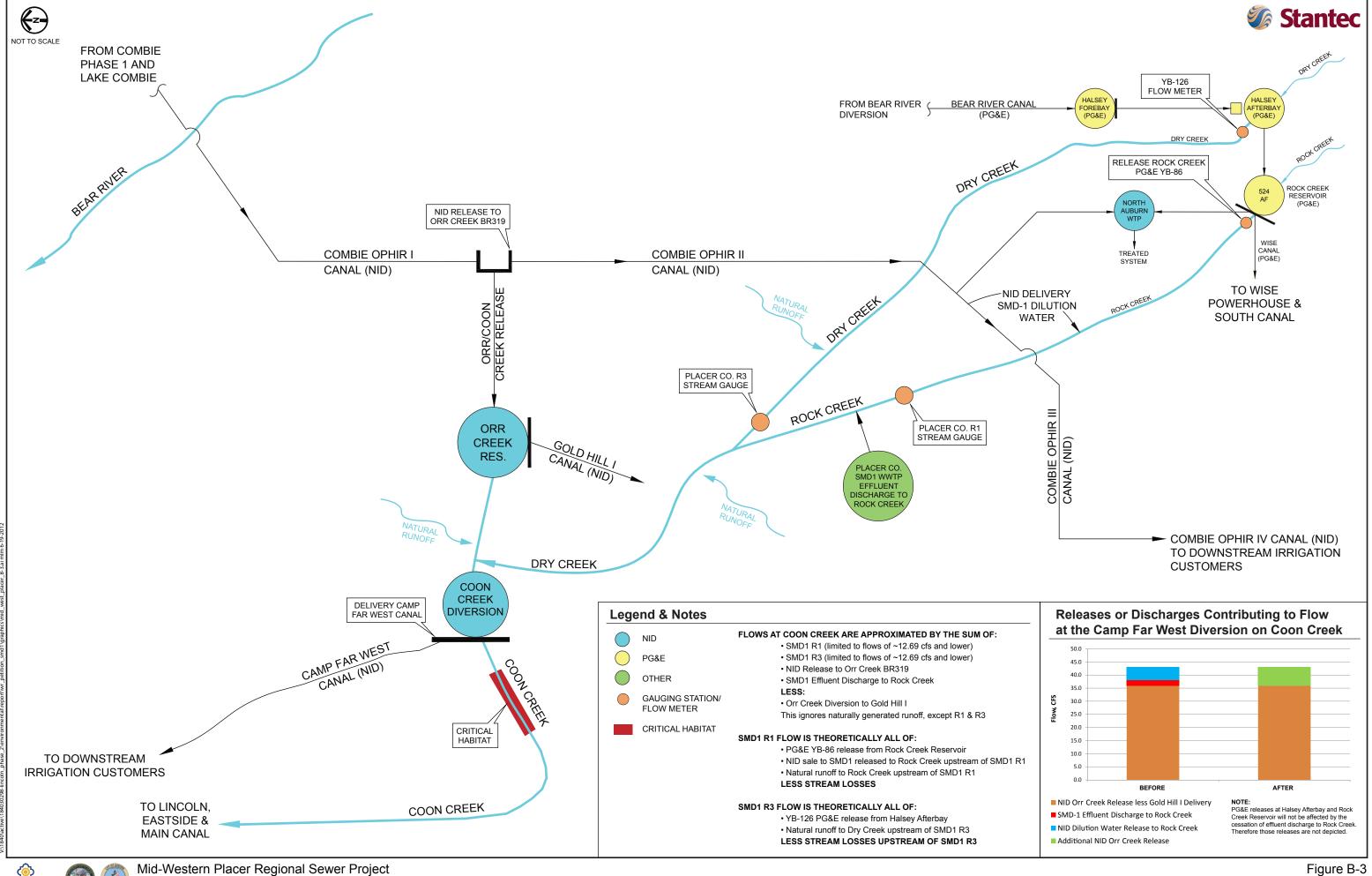


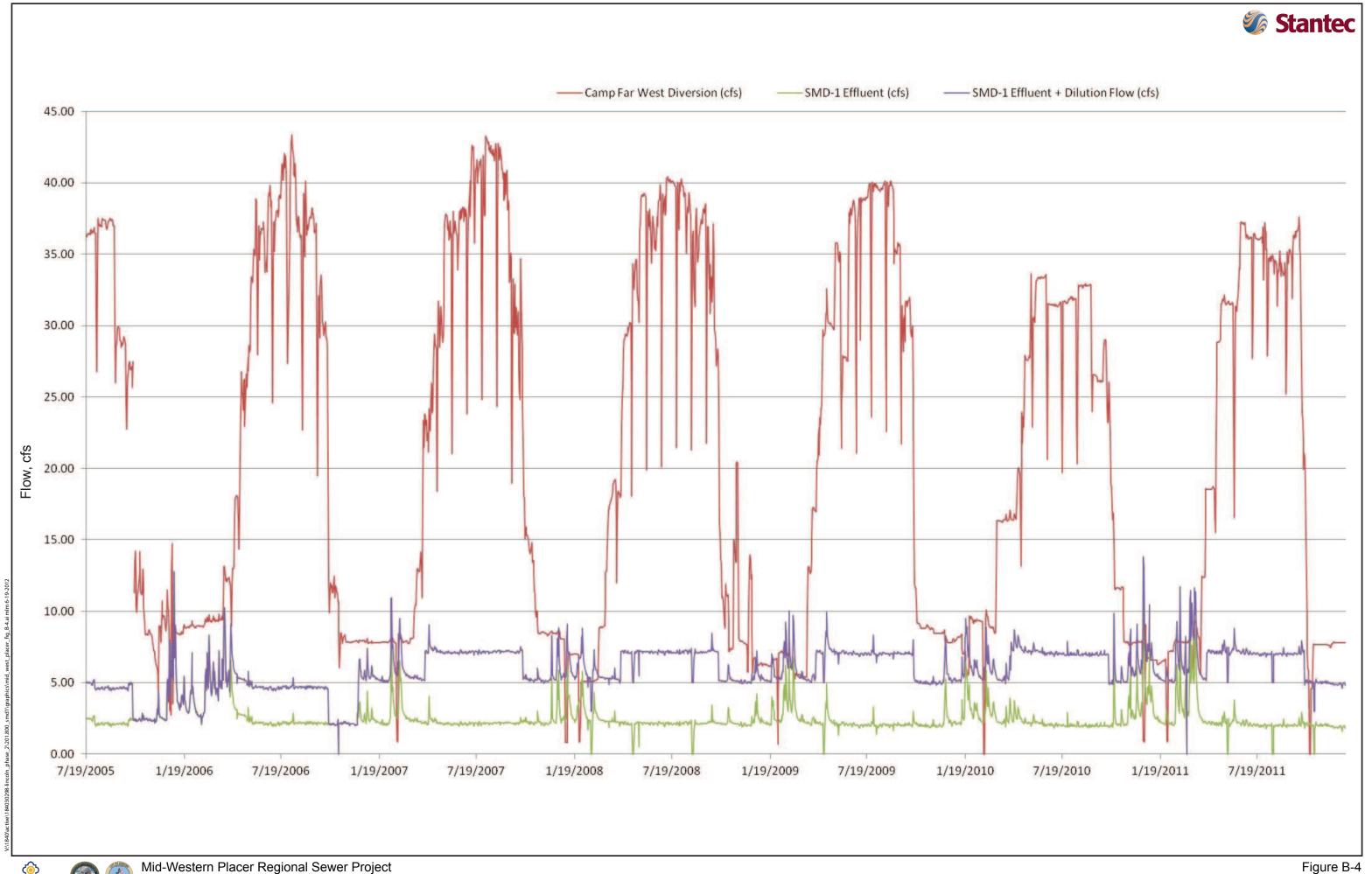










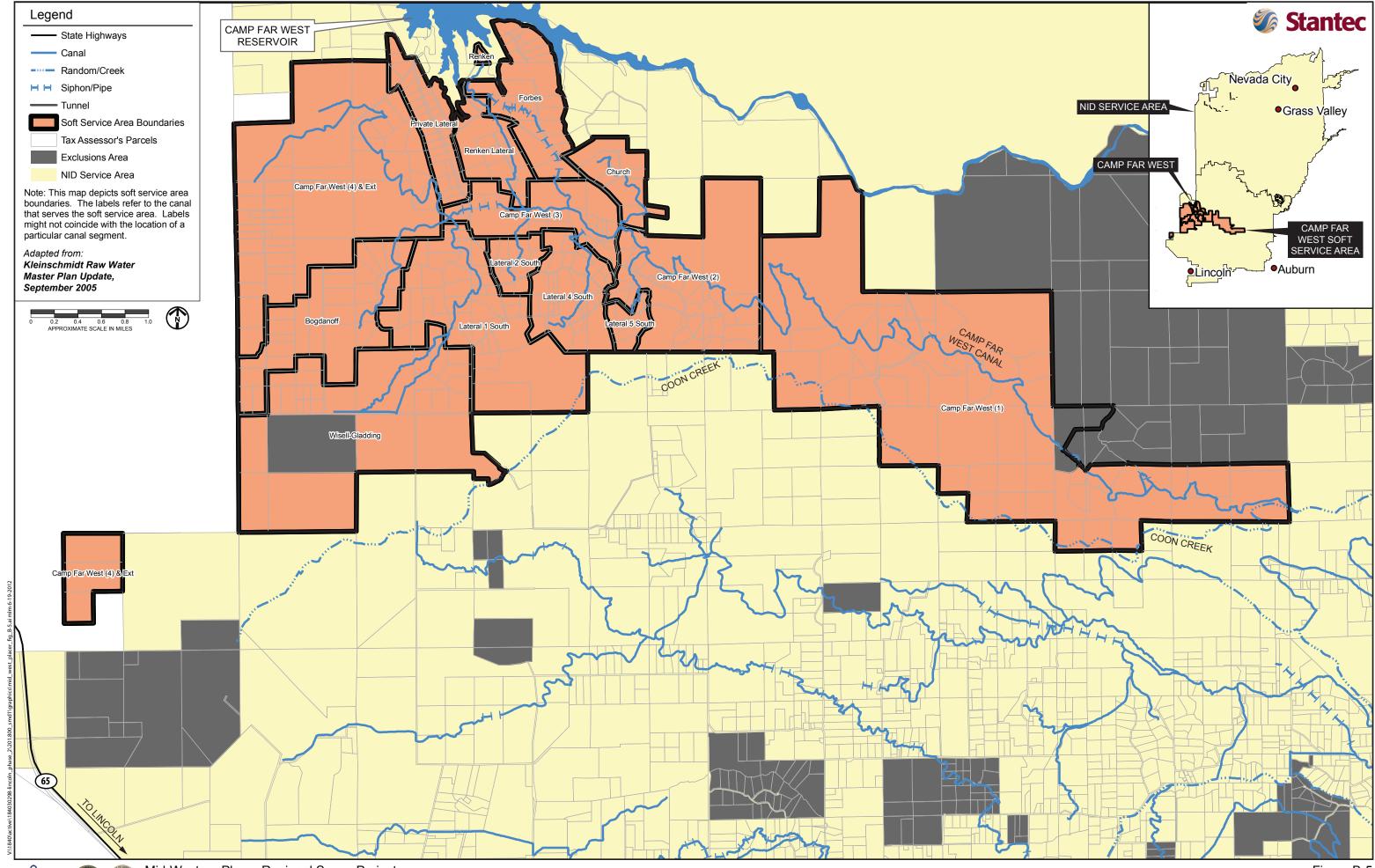


Upon completion of the Regional Sewer Project, effluent discharges from the SMD1 WWTP will cease. To meet its Camp Far West customers' irrigation demands, NID will have to add an equivalent volume of water to replace the effluent and dilution water that will no longer be put into the creek near the SMD-1 WWTP. NID has indicated that this water will be released into Orr Creek (upstream of the NID Orr Creek Reservoir) and removed at the NID Camp Far West diversion as it was before the dilution flows existed.

As noted above, the location of the releases in the upper region of the watershed, upstream of Coon Creek would change after the SMD1 WWTP effluent discharge ceases. Instead of conveying effluent and dilution water via Rock Creek and Dry Creek to the Camp Far West Diversion as is currently occurring, NID will instead make up this needed water at the Orr Creek Release. The release locations and conveyance paths are shown on Figures B-1, B-2 and B-3. The amount of water SMD1 discharges plus the NID dilution water delivered during both the irrigation and non-irrigation season to Coon Creek will, as a result of the Regional Sewer Project, be moved to Orr Creek and will not change the amount of flow in Coon Creek downstream of the Camp Far West Diversion.

Therefore, there is not expected to be any impact to Coon Creek except a possible improvement in water quality due to the elimination of the SMD-1 WWTP effluent from the system. No plans are in place to supplement flow in Rock and Dry Creeks to replace the dilution water and effluent. An assessment of impacts to those streams due to ceasing effluent discharge will be the subject of analysis in the Environmental Impact Report being prepared for the Regional Sewer Project.

With the foregoing as background, the SMD1 effluent, by virtue of being a part of the flow contribution at the Camp Far West Diversion, is, as part of NID's deliveries to customers, potentially being applied on lands within the service area of the canal. The Camp Far West canal service area is shown in Figure B-5.



The City intends to reuse recycled water produced from the treatment of SMD1 sewage at their wastewater treatment and reclamation facility (WWTRF) on lands covered by the Master Reclamation Permit regulating these operations and uses (Order No. R5-2005 0040). Figure B-5 illustrates potential use areas and existing use areas. The potential use areas are those lands within the green border shown in Figure B-6.

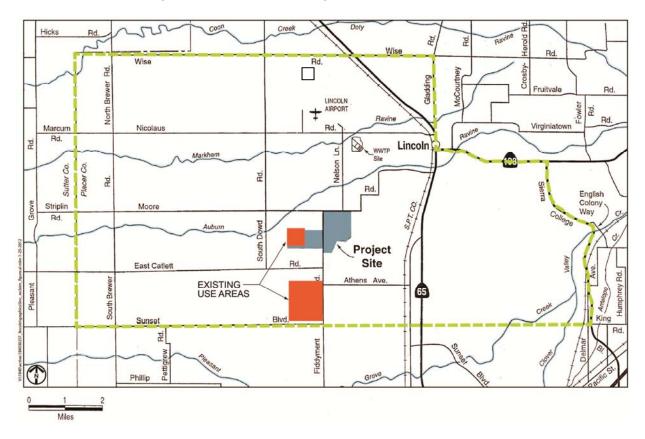


Figure B-6: Master Reclamation Permit Use Area (Assessed in the WWTRF EIR, J&S, 1999).

The recycled water produced from the treatment of SMD-1 sewage is initially intended to be reused to the extent possible for agricultural irrigation uses allowed under Title 22 of the California Code of Regulations for Recycled Water. Other uses within the Master Reclamation Permit Use Area allowed by Title 22 may be served in the future. By agreement, the City of Lincoln may release recycled water produced from the treatment of SMD-1 sewage back to Placer County for other uses, yet to be determined. Those uses may require subsequent petition and determination from the Division of Water Rights as well as authorization by the Regional Water Board.

As discussed in Attachment A, the City of Lincoln WWTRF effluent management plan relies on a combination of reclamation and surface water discharge to Auburn Ravine. This discharge occurs seasonally, in an intermittent fashion. When sufficient demand for recycled water exists, the City provides that water to the existing users. This may not eliminate the need or ability for the City to discharge to Auburn Ravine. The overall balance of storage, reuse and discharge of

effluent is critical. The operators at the WWTRF must balance their available storage, recycled water demand and assimilative capacity in Auburn Ravine in order to remain in compliance with their Orders.

In this context, SMD1 effluent treated at the WWTRF will be managed in exactly the same manner as the existing City of Lincoln effluent. When possible, reclamation demands will be served and when appropriate and possible, discharges will be made to Auburn Ravine. The overall balance of how much water is delivered to storage, reclamation or discharged is subject to a number of factors, many of which are outside of the City's control. Regardless, the operation of the WWTRF with SMD1 effluent will be conducted in compliance with the Orders applicable to the management method being utilized. Order No. R5-2008-0156 governs when effluent is discharging to Auburn Ravine, while Order No. R5-2005-0040-01 applies to reuse of treated effluent generated at the WWTRF.

Purpose of Use: Proposed Use

The reclamation facilities and activities associated with the Proposed Regional Project triggering this petition will be constructed and operated in accordance with Order Nos. R5-2005-0040 and R5-2008-0156.

Currently SMD1 produces approximately 2.6 cfs of effluent on an average dry weather basis at the WWTP. The amount currently discharged to Auburn Ravine from the WWTRF varies widely (see Figure C-1) due to discharge temperature limitations and beneficial use of the recycled water for agricultural irrigation. This petition is seeking approval to reuse up to all of the SMD1 effluent produced at the WWTRF. The City will maintain its right to discharge SMD1 effluent to Auburn Ravine as permitted by Order No. R5-2008-0156 adopted by the Regional Water Board. This surface water discharge is critical to the City's effluent management strategy as it allows for discharge of effluent to Auburn Ravine when it would otherwise be necessary to place it in storage. The amount of land required to store and reclaim all of the current WWTRF effluent would be prohibitively expensive and have a much greater impact than is required for current operations. For this reason, although this petition seeks approval for reuse of all of the SMD1 effluent, for practical purposes complete reuse is not expected to be achieved. Some amount of SMD1 effluent will likely always be intermittently discharged to Auburn Ravine.

The Regional Sewer Project initially will include agricultural irrigation within the Master Reclamation Permit use area (Figure B-6, Attachment B). However, over time, uses allowed in Title 22 of the California Code of Regulations for Recycled Water including, but not limited to: irrigation of parks, athletic fields, and roadway landscaping, and industrial uses may be served using SMD1 effluent. Over time, the City intends to reclaim more as conditions permit, up to the entire amount produced at the WWTRF. As a result, over time the amounts discharged to Auburn Ravine are likely to continue to vary. As treated water produced increases (due to population growth), discharges to Auburn Ravine may temporarily increase as new reclaimed water improvements are constructed and new reclaimed water uses are brought on-line within and near the City. When these new uses come on-line, discharges to Auburn Ravine may decrease accordingly. Future uses of SMD1 effluent may include any of those allowed for Secondary-23 Recycled Water and Disinfected Tertiary Recycled Water as defined by Title 22 of the California Code of Regulations

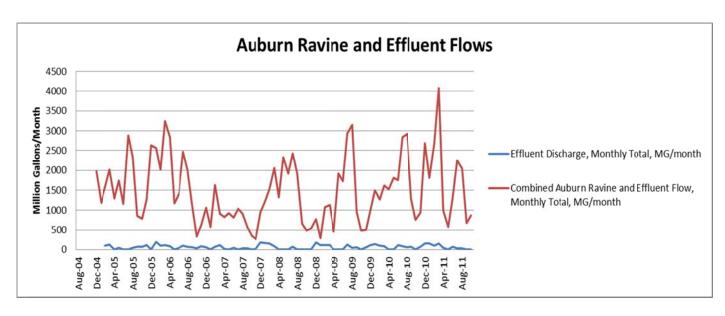


Figure C-1: Auburn Ravine Flow Downstream of Lincoln Effluent Outfall v. Effluent Flow, 1994 to 2011

Reduction of Effluent Quantity Discharged to Rock Creek

As described in Attachment B the Rock Creek effluent discharge from the SMD1 WWTP contributes to flow not just in that receiving water, but also in Dry Creek and Coon Creek downstream of the intersection of those two streams, and upstream of the Camp Far West diversion. As explained in Attachment B, there will be no impact to flows in Coon Creek as a result of the Regional Sewer Project downstream of the Camp Far West diversion. There will be impacts to flows in Rock and Dry Creeks downstream of the SMD1 WWTP.

Figure D-1 illustrates the estimated existing flow in Rock Creek downstream of SMD1 based on available data. Figure D-2 illustrates the estimated existing flow in Dry Creek downstream of Rock Creek.

The data used to estimate flow in Rock and Dry Creeks was provided by NID, PG&E and Placer County. The data used for Rock Creek includes measurements of stream flow upstream of the SMD1 effluent discharge at a gage referred to in the Monitoring and Reporting Program included in the SMD1 Order as the R1 gage. Placer County also provided records of their dilution water purchases from NID and their effluent discharge to Rock Creek. These three data sets were summed to come up with an estimate of flow in Rock Creek downstream of the SMD1 WWTP. It should be noted that the R1 gage is limited in that it cannot measure and record flow above 12.69 cfs. Therefore the model for Rock Creek has been modified to use data from PG&E's YB-86 meter which measures releases to Rock Creek from Rock Creek Reservoir. The YB-86 data is only used when flows measured at R1 are 12.69 cfs or more, as reported. The PG&E data is limited in that it does not account for any natural runoff seen in Rock Creek. The un-accounted for runoff likely results in under-estimating the actual flows in Rock Creek.

Data from a second gage operated by Placer County located on Dry Creek just prior to its confluence with Rock Creek, and referred to as the R3 gage, is used to estimate flow in Dry Creek. This gage has a similar limitation to that associated with R1. However, since the Proposed Regional Sewer Project will not change flow upstream of R3, it was not considered critical to attempt to correct for this limitation. Flow in Dry Creek downstream of Rock Creek is estimated by summing the estimated flow in Rock Creek calculated as described above and the R3 data.

Figure D-3 illustrates the estimated future flow in Rock Creek downstream of SMD1 based on the assumption that the SMD1 effluent and accompanying NID dilution water release will be eliminated with the Regional Sewer Project. Figure D-4 illustrates the estimated future flow in Dry Creek below Rock Creek after effluent discharge and dilution releases are ceased. The impact to Rock and Dry Creek flows as a result of the Regional Sewer Project will be limited to the sum of the effluent discharge and dilution release flows. As can be seen in the figures, flow in Rock Creek and Dry Creek currently fluctuates and would be expected to continue to do so after the effluent discharge is ceased.

The spikes in flow seen in Figures D-3 and D-4 represent a combination of storm and release events. Largely the higher flows occur in the wet season. However, occasional releases from

upstream facilities, such as Rock Creek Reservoir and/or the Halsey Afterbay do occur. The data shown in D-3 and D-4 represent actual flow data from the R1 and R3 gages. For the future condition, a simple subtraction for that historical effluent and dilution water data has been made and the results plotted.

The impact of this reduction in flow in Rock and Dry Creeks will be evaluated in the EIR for the Regional Sewer Project.

