

3.0 PROJECT DESCRIPTION

3.1 INTRODUCTION

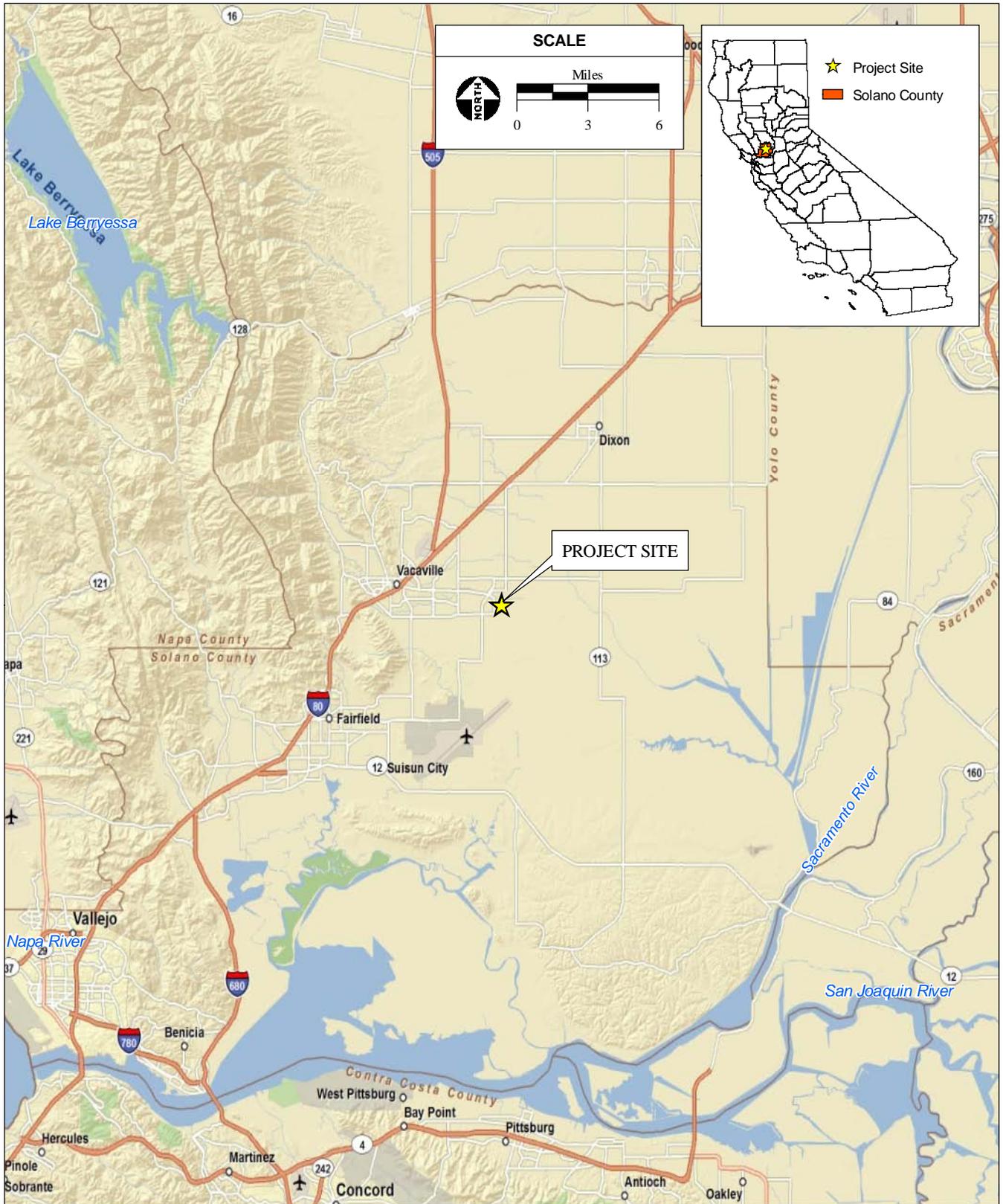
The Easterly Wastewater Treatment Plant (EWWTP) Tertiary Treatment Project (Proposed Project) would construct necessary facility upgrades to the City of Vacaville's (City's) existing EWWTP that will be required to comply with Waste Discharge Order No. R5-2008-0055, NPDES Permit No. CA007769 and Time Schedule Order R-5-2008-0056 adopted by the Central Valley Regional Water Quality Control Board (CVRWQCB) on April 25, 2008 (**Appendix C**). The project location, objectives, and components are described in more detail below.

3.2 PROJECT LOCATION

The project site is located within the City limits, in the County of Solano, 4.5 miles east of central Vacaville and immediately southeast of the unincorporated community of Elmira. The regional location of the project site is shown in **Figure 3-1**. The existing EWWTP is situated in the northwestern portion of a 182.62-acre City owned site which is bounded on the north by Alamo creek, on the south by Fry Road, on the west by Vaca Station Road, and on the east by Lewis Road (**Figure 3-2a**). The study area for this Environmental Impact Report (EIR), shown in **Figure 3-2b**, consists of 113.2 acres and only includes areas of the City's property with the potential to be impacted by the Proposed Project. Approximately 30 acres of the site is currently developed with EWWTP facilities. Regional access to the project site is provided by I-80. Vehicular and pedestrian access points to the project site are provided via three driveways off of Vaca Station Road and a fourth driveway off of Fry Road.

The city owned property consists of three parcels with corresponding assessor's parcel numbers (APN) 142-110-050, 142-110-040, 142-200-040. The City's General Plan land use designation for the project site is Public/Waste Disposal (City of Vacaville, 1990). The site is zoned for Commercial Facilities (CF), which permits water and wastewater treatment facilities so long as a conditional use permit is granted (City of Vacaville, 2008; City of Vacaville, 2009a).

Properties immediately surrounding the City property are not within the city limits of Vacaville. Solano County land use designations surrounding the project site consist of agriculture to the immediate north, south, east, and west; traditional community-mixed use to the northeast; and public/quasi-public use approximately 0.22 miles to the north, which includes the Sierra School of Solano County.. Parcels immediately adjacent to the project site are zoned for Exclusive Agriculture (A-40). The community of Elmira contains areas zoned for Rural Residential (RR-2.5), Estate Residential (RE-1/3), Neighborhood Commercial (CN), and General Manufacturing (MG-3). The Union Pacific Railroad (UPRR) runs through the community of Elmira approximately 0.3 miles northeast of the project site.



SOURCE: StreetMap World, 2009; AES 2009

Vacaville EWWTP Tertiary Project DEIR / 209508 ■

Figure 3-1
Regional Location

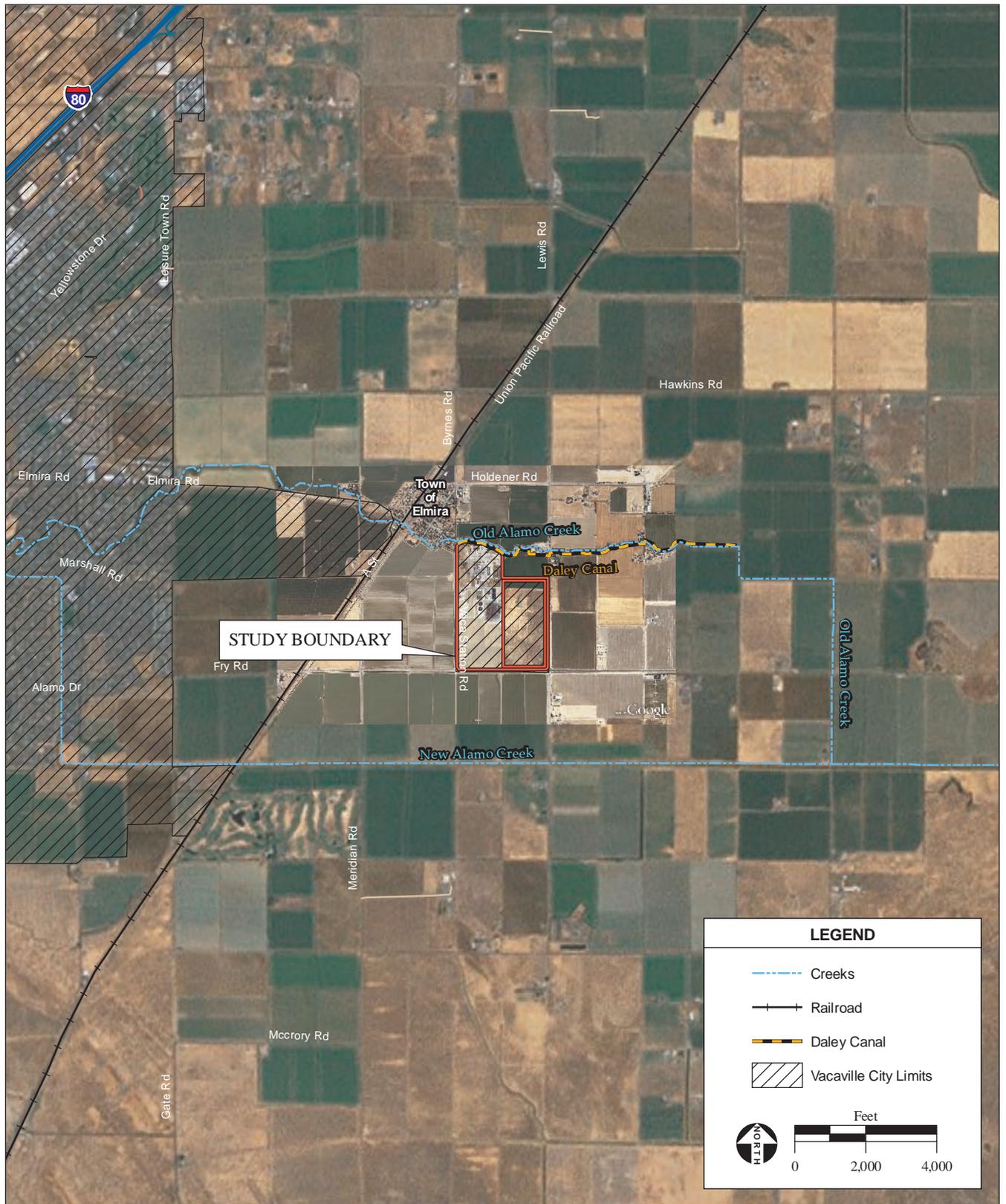


Figure 3-2a
Aerial Site and Vicinity



Figure 3-2b
Aerial Site and Vicinity

3.3 PROJECT BACKGROUND

3.3.1 EWWTP SERVICE AREA AND TREATMENT CAPACITY

The EWWTP was initially constructed in 1959 to provide service to the developed areas within the City limits and the unincorporated community of Elmira. The EWWTP has undergone four subsequent expansions since that time, including the 2004 expansion which responded to the growth projections of the City's General Plan. The expansion increased the average dry weather flow (ADWF) capacity of the EWWTP from 6 million gallons per day (mgd) to 15 mgd. The ADWF to the EWWTP is approximately 8 mgd (City of Vacaville, 2009b). Primary flow contributors include residences, commercial users, industrial users, and two state correctional facilities (City of Vacaville, 1998).

3.3.2 OVERVIEW OF EXISTING FACILITIES

The existing EWWTP is commonly referred to as having two components: 1) the pre-expansion components of the North Plant, constructed in 1959 and periodically expanded up until 1990, and 2) the expansion project completed in 2004, referred to as the South Plant. Both the North and South Plant work simultaneously to treat incoming flows with a combined ADWF capacity of 15.0 mgd and a peak wet weather flow capacity of 55.1 mgd. The existing process flow schematic is shown in **Figure 3-3**. The treatment process and its corresponding facilities can be categorized into three groups: liquid stream treatment facilities, solid handling facilities, and ancillary support facilities. The location and nature of these facilities are explained below.

Liquid Stream Treatment Facilities

Headworks/Preliminary Treatment: Influent screw pumps lift raw wastewater into the treatment process. Preliminary treatment removes the coarse material from the wastewater using influent screens and aerated grit tanks. Both the North and South plants are equipped with screw lift pumps and preliminary treatment facilities. The South Plant's facilities are used continuously while the North Plant's preliminary facilities are only used during peak wet weather flow events.

Primary Treatment: The primary treatment uses primary clarifiers to separate heavy material (sludge) and light material (scum) from the influent. The sludge and scum removed is directed to the solid handling facilities, described below. As with the preliminary treatment facilities, both the North and South Plants are equipped with primary treatment facilities, however, the North Plant facilities are only used during peak wet weather flow events.

Secondary Treatment: The secondary treatment is a two-step biological process. The first step uses an aeration basin where dissolved oxygen is added to encourage existing micro-organisms to break down suspended material and to absorb dissolved organic material from the influent. The second step allows the micro-organisms to settle to the bottom of secondary clarifiers as secondary sludge. This sludge is either returned to the aeration basins or directed to the solid handling facilities. Secondary treatment

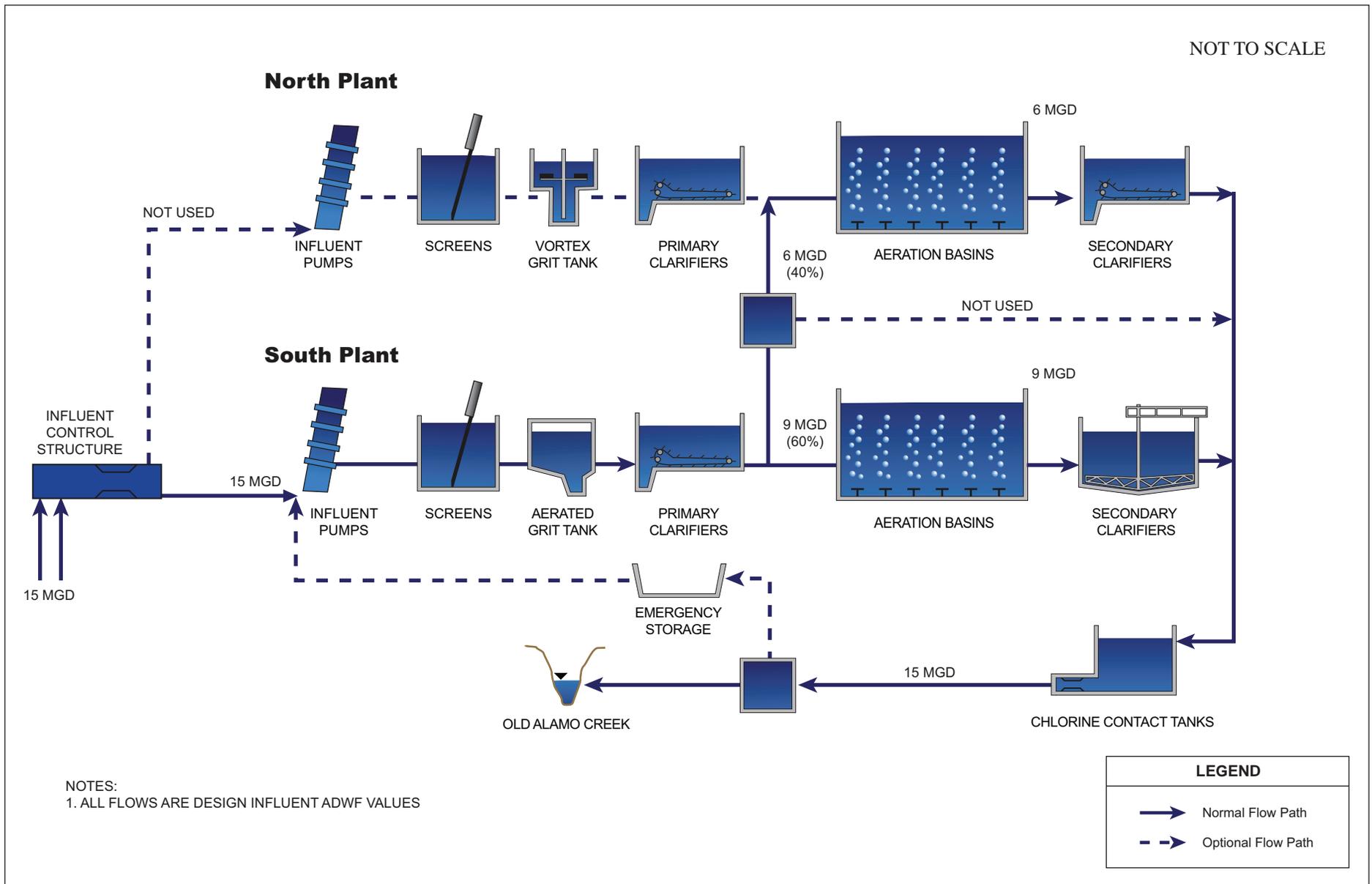


Figure 3-3
Existing WWTP Flow Schematic

facilities are located in both the North and South Plants. The North Plant currently treats approximately 40 percent of the plant flow and the South Plant treats the remaining 60 percent.

Disinfection: Secondary effluent from both plants is disinfected and dechlorinated at a single disinfection facility. The disinfection process includes sodium hypochlorite storage and injection facilities, chlorine contact basins, and sodium bisulfate storage and injection facilities. Dechlorinated final effluent is discharged through an outfall pipe into Old Alamo Creek adjacent to the EWWTP.

Emergency Storage Basin: In the event of an anticipated problem with any upstream process, the final effluent can be diverted into a five million gallon (Mgal) emergency storage basin. Effluent diverted to the emergency storage basin is pumped back to the headworks for treatment.

Solid Handling Facilities

Dissolved Air Flotation Thickeners (DAFTs): DAFTs thicken the secondary sludge prior to its introduction into the anaerobic digesters. Liquid removed during this process is recirculated back to the headworks for treatment.

Anaerobic Digesters: Anaerobic digesters break down organic material and pathogens and create a product that is safer, easier to dewater, and reduced in mass by 50 percent.

Belt Press Thickeners/Biosolids Dewatering: The digested solids are dewatered using large porous belts and high-pressure rollers. Water removed during this process is recirculated back to the headworks for treatment.

Biosolids Lagoons and Biosolids Drying Beds: Biosolid lagoons store anaerobically digested solids prior to dewatering. Dewatered biosolids are spread and further dried on paved drying beds prior to their export off site for use as landfill cover.

Ancillary Support Facilities

Odor-Control Systems: Odor-control systems currently in place at the EWWTP include foul-air recovery on the South Plant's influent control structure, influent pump station, aerated grit tanks, and primary clarifiers. The North Plant has no odor controls. The collected foul-air is treated through mixed-media bio filter which reduces the potential for odor.

Plant Water System: Four plant water systems are located at the EWWTP. Two of the systems are supplied by potable water wells located on the site; the other two water systems obtain reclaimed water from the final plant effluent. The first two systems are used for potable water, mechanical system service water and fire sprinklers in the Administration Building. The second two systems are utilized for process water, sprays, washdown water, and to irrigate the landscaping at the EWWTP.

Administration/Laboratory Building and Maintenance Building: The administration building contains the process compliance, monitoring, and source control analytical laboratories; the main plant control

room; and administration, engineering and water quality offices. The maintenance building houses the mechanical and electrical maintenance shops, parts storage, and associated personnel office space.

Stormwater Detention Basins: The stormwater detention basin, or “west pond”, is used to store on-site stormwater runoff. Water stored in the stormwater detention basin is pumped to the headworks for treatment.

3.3.3 APRIL 2008 NPDES PERMIT

Since the beginning of its operation, treated effluent from the EWWTP has been discharged through an outfall pipe into Old Alamo Creek, which flows in a southeasterly direction along the northern border of the EWWTP site. Old Alamo Creek is a remnant channel that was cut off from its upstream watershed in the early 1960's when New Alamo Creek, a man made conveyance channel, was constructed. At that time, Old Alamo Creek was also realigned to flow into New Alamo Creek (**Figure 3-2a**). This confluence of Old Alamo Creek and New Alamo Creek is approximately 3 miles downstream of the EWWTP outfall. As described in detail in **Section 4.7**, New Alamo Creek joins Ulatis Creek which eventually flows into the Sacramento-San Joaquin River Delta (Delta).

The level of water quality requirements for any given water body is based on the beneficial uses assigned to that body. For example, the beneficial use of freshwater habitat for cold species would have a more stringent temperature requirement than the municipal supply beneficial use. The beneficial uses of a water body are assigned by its respective water quality control board. Because Old Alamo Creek is considered a tributary to the Delta, it originally shared the beneficial uses assigned to the Delta. However, on April 28, 2005, following completion of a Use Attainability Analysis (UAA) of Old Alamo Creek, the California Regional Water Quality Control Board – Central Valley Region (CVRWQCB) amended the Water Quality Control Plan for the Sacramento and San Joaquin River Basins (Basin Plan) to remove the following beneficial uses from those assigned to Old Alamo Creek:

- municipal and domestic supply;
- freshwater habitat for cold species;
- migration of aquatic organisms; and
- spawning, reproduction, and/or early development.

On February 1, 2006, the State Water Resources Control Board (SWRCB) declared that Old Alamo Creek was an exception to the Sources of Drinking Water Policy. This exception did not modify the beneficial uses of New Alamo Creek and Ulatis Creek. As a result, the flow in Old Alamo Creek must meet or exceed the water quality requirements of New Alamo Creek at the confluence of Old Alamo Creek and New Alamo Creek. As the EWWTP discharge dominates the flow in Old Alamo Creek downstream of the outfall during most periods, its effluent must meet requirements similar to those that apply to New Alamo Creek. To this end, the CVRWQCB issued Waste Discharge Order No. R5-2008-0055, NPDES Permit No. CA007769 and Time Schedule Order R5-2008-0056 in April 2008 (2008 NPDES Permit) in which provisions were included that require significant upgrades to the existing EWWTP treatment process. These provisions include:

- **Ammonia Limits** - Ammonia limit compliance must be assured at full design flows. The plant's secondary treatment system must be upgraded as needed to meet the specific numeric limitations for effluent ammonia at full design flows.
- **Nitrate Limits** - Denitrification of secondary effluent must occur by 2013. The plant's secondary treatment system must be upgraded as needed to meet the specific numeric limitations for effluent nitrate.
- **Elimination of Blending** - Primary and secondary effluent blending must be eliminated by 2015. The plant's wet weather flow handling capability must be increased such that blending of effluents in the final discharge during peak storm events is no longer necessary.
- **Filtration/Title 22 Reclamation Compliance** - Filtration and advanced disinfection of effluent during the dry season (May 1 through October 31) consistent with Title 22 reclamation requirements must occur by 2015. A tertiary filtration system is required to comply with Title 22 reclamation requirements.

3.4 DESCRIPTION OF PROPOSED PROJECT

3.4.1 PROJECT OBJECTIVES

The Proposed Project is designed to meet the following primary objectives:

- Upgrade the quality of the plant's treated effluent as required by the 2008 NPDES permit within the timeframe established in the permit;
- Protect water quality and public health through compliance with applicable regulations for the treatment, disposal and reuse of wastewater and wastewater residuals (biosolids);
- Improve the general operability and maintainability of the City's wastewater treatment facilities;
- Maximize operational flexibility, reliability, efficiency, and safety;
- Be compatible with future Master Planned Facilities for the site;
- Maximize energy efficiency;
- Reduce impacts of the EWWTP on area residents by reducing odors, noise, glare and aesthetic impacts generated onsite;
- Site and operate new facilities to minimize adverse environmental effects;
- Achieve the above objectives in a cost-effective manner that limits system capital costs, operations and maintenance costs, and user rates to the extent possible; and
- Avoid the significant fiscal impact of fines if the improvements are not completed within the time limits specified by the Central Valley Regional Water Quality Control Board.

3.4.2 PROJECT COMPONENTS

The Proposed Project components consist of upgrades to the EWWTP that are required to comply with the April 2008 NPDES Permit. A site plan showing the existing and proposed facilities and modifications proposed with the Tertiary Project is presented in **Figure 3-4**. The proposed process flow schematic is presented in **Figure 3-5**. The modifications are grouped into the following categories and described in more detail below.

- North Plant Modifications
- South Plant Preliminary and Primary Treatment Improvements
- South Plant Secondary Treatment Improvements
- Tertiary Filtration and Disinfection Improvements
- Equalization Basin Facilities
- Miscellaneous Improvements

North Plant Modifications

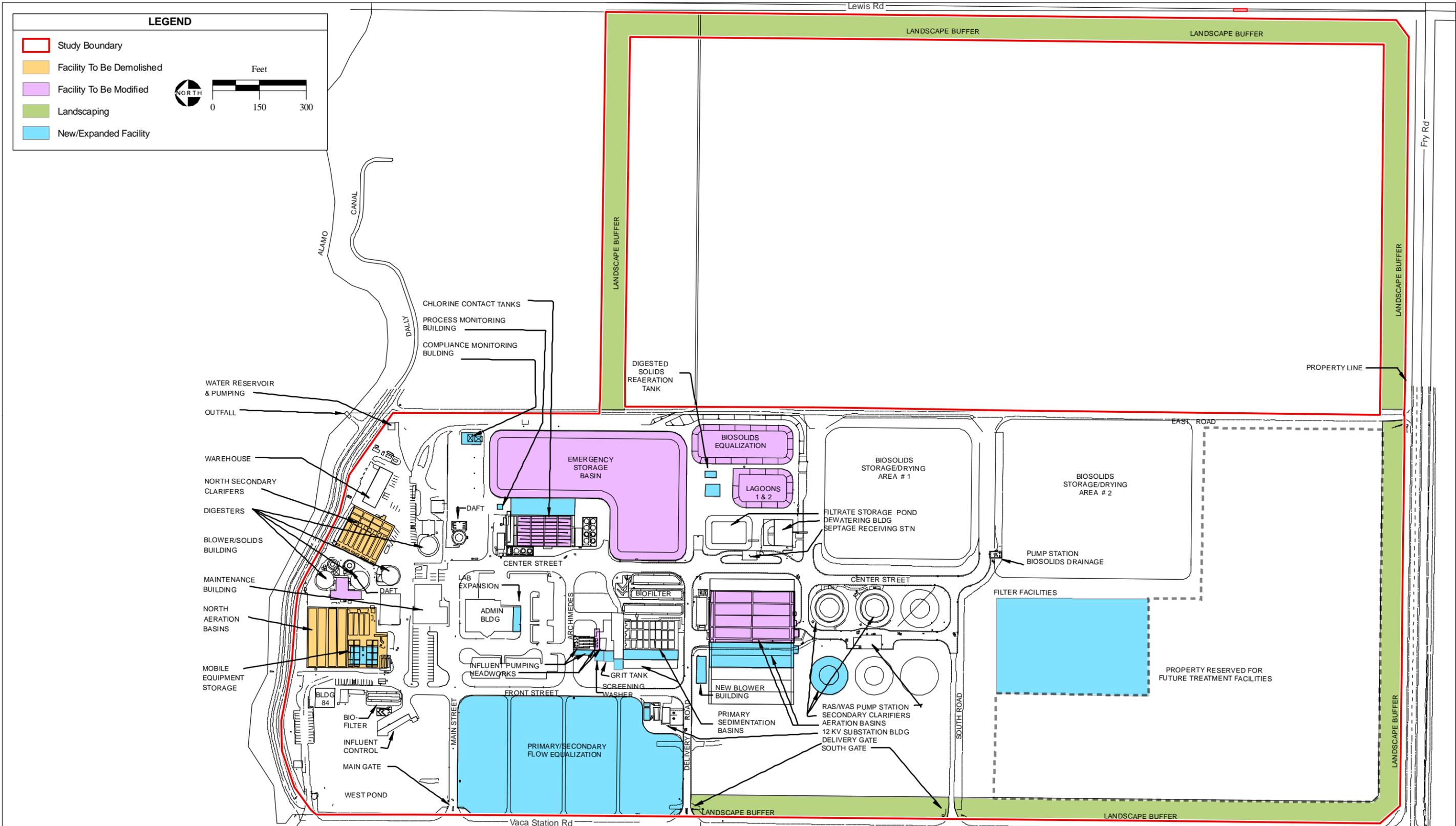
The Proposed Project includes the following modifications to the North Plant.

- **North Plant Preliminary, Primary, and Secondary Treatment Facilities** – These facilities will be demolished.
- **North Plant Blower/Solids Building** – Equipment and piping that is used to support the demolished treatment units, listed above, will be removed. The vacated space will be retained for use in the future. One identified use is to locate new water heaters for anaerobic digesters into the current blower room. The remaining equipment and piping in the building that supports the solids handling processes will be retained.
- **North Plant Solids Handling Building** – Dissolved air flotation thickener (DAFT) No. 1 will be demolished. DAFT No. 2 will be modified and rehabilitated and continue to be utilized. No modifications will be made to the anaerobic digesters currently at the plant.

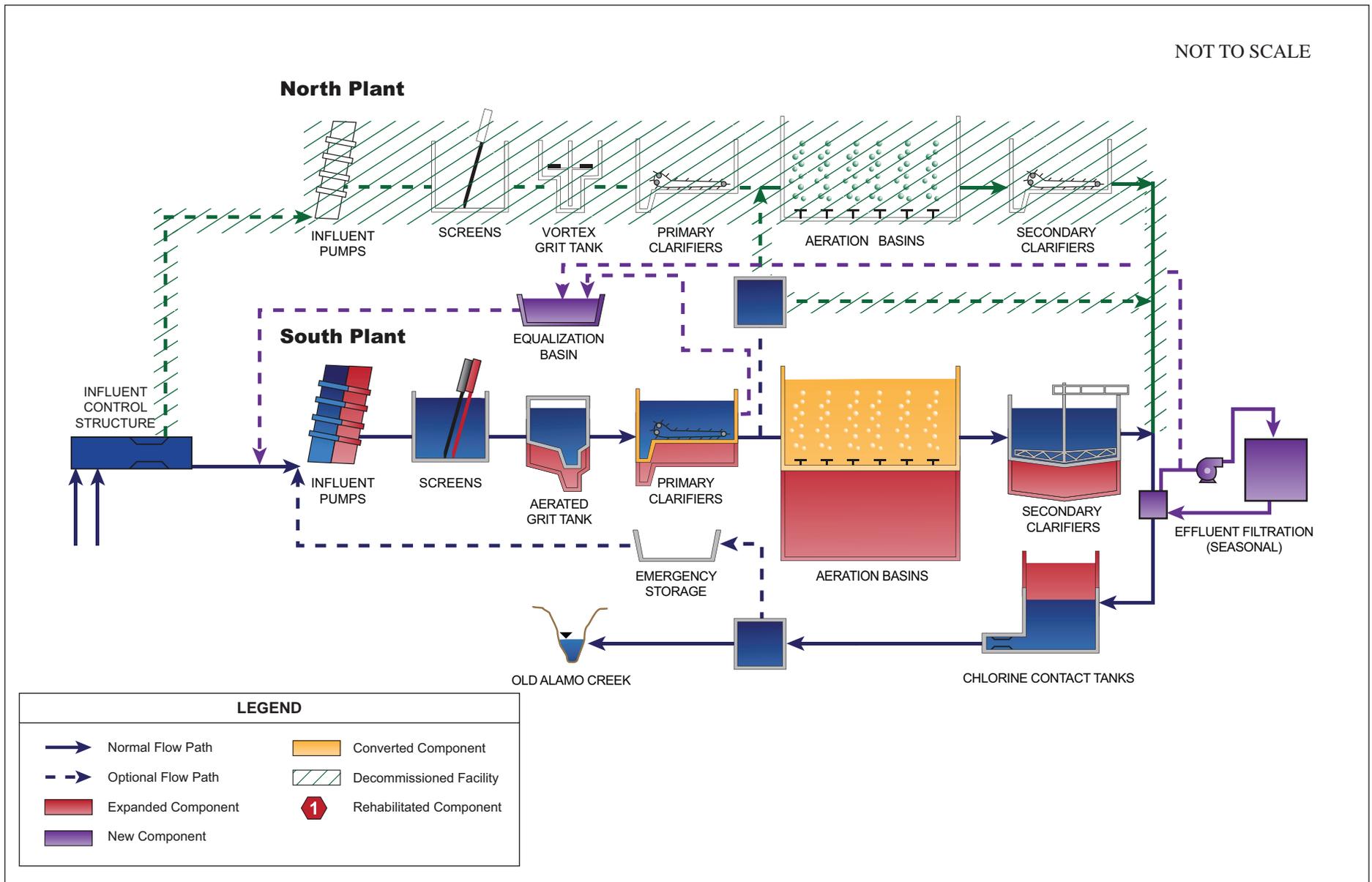
South Plant Preliminary and Primary Treatment Modifications

The Proposed Project includes the following modifications to the South Plant's preliminary and primary treatment facilities.

- **Influent Pump Station (Headworks)** – The station will be expanded to accommodate an additional influent pump, thereby giving the facility sufficient pumping capacity to handle peak wet weather flow of 55.1 mgd. The additional pump replaces the capacity handled by the facilities proposed for removal at the North Plant.



NOT TO SCALE



SOURCE: West Yost Associates, 2009; AES, 2009

Vacaville EWWTP Tertiary Project DEIR / 209508 ■

Figure 3-5
Proposed WWTP Flow Schematic

- **Influent Screening System** - A mechanically-cleaned screen will be installed in an existing channel currently provided with a manually cleaned screen, giving the South Plant a total of three mechanically-cleaned screens. The firm and total capacity of the mechanically-cleaned screens would be 70 and 105 mgd, respectively.
- **Influent Screenings Handling System** - The existing mechanical screenings conveyor will be replaced with a more reliable screenings conveyor system. A second screenings washer/compactor will be provided for process reliability.
- **Grit and Screenings Storage** - The existing open-dumpster storage facilities for the dewatered grit and screenings may be modified to increase the onsite storage and handling capacity for these materials.
- **Influent Grit Tanks** - A fourth grit tank may be constructed, together with the associated grit pumping equipment, enabling the plant to provide at least three minutes of detention time under all flow conditions.
- **Primary Sedimentation Basins** - A fourth primary sedimentation basin may be constructed together with associated sludge and scum pumping facilities.
- **Odor Control Facilities** - The existing foul air recovery system provided for this portion of the plant would be extended to collect foul air from the new grit tank and primary sedimentation basin.

South Plant Secondary Treatment Modifications

The proposed project includes the following modifications to the South Plant's secondary treatment facilities.

- **Aeration Basins** – Additional baffling within the existing tankage will be provided along with recycling pumps to modify the process to denitrify the wastewater. Two additional aeration basins will be constructed on the west site of the existing four basins. One of the additional basins would need to be configured with two anoxic selector sub-basins in order to achieve required levels of denitrification under the new flow configuration.
- **Aeration Blower System** – Additional blowers would be provided in the space available in the existing blower building to increase the air supply resulting from the need to accommodate the loads previously handled in the North Plant.
- **Secondary Clarifiers and Return Sludge Pumping Systems** – One additional secondary clarifier and the associated return sludge pumping systems will be provided to replace the capacity currently provided in the North Plant and to increase the peak wet weather flow handling capability of the process. The existing RAS pump station will be enclosed.

Tertiary Filtration and Disinfection Improvements

The following tertiary filtration and disinfection improvements shall be made so that the EWWTP shall comply with Title 22 of the California Code of Regulations.

- **Tertiary Filter Feed Pump Station** – A low lift pump station will be provided to lift the secondary effluent to an elevation that will be sufficient for the water to flow by gravity through the tertiary filters and the rest of the plant. The filtration pumping facility would be designed to handle the peak flow condition with one unit out of service.
- **Tertiary Filtration System** – A granular-media effluent filtration system compliant with Title 22 standards will be concentrated with sufficient capacity to match the hydraulic capacity of chlorine contact tanks. The filtration facilities will include concrete lined backwash storage basins. This filtration system would filter the flows during the dry season, when tertiary treatment is required by the 2008 NPDES Permit.
- **Chlorine Contact Tanks** – Two additional chlorine contact tanks will be constructed to provide a minimum contact time of 90 minutes, as required by the Title 22 regulations, during the months when filtration is required. Modifications to the existing tanks will be made to improve their hydraulic performance and minimize the amount of chlorine required for disinfection.

Equalization Basin Facilities Improvement

A concrete lined equalization basin facility will be constructed within the existing West Pond Area. The basin will be used to store excess primary or secondary effluent during times when flows exceed the capacity of the plant's treatment facilities, and provide for operational storage during times where the shutdown of treatment process is needed. There is a one-in-five-year probability that the basin would be used to hold primary effluent. Secondary effluent would typically be diverted to the basin in May and/or during a month when one contact tank is taken out of service. Secondary effluent would be stored within the basin an estimated five times per year (City of Vacaville, 2009b). The frequency of the basin being used for operational storage is unknown at this time. The modifications would consist of the following:

- Regrading of the pond to create up to four separate compartments.
- Concrete Lining of each compartment to facilitate drainage and cleanup following their use.
- Drainage modifications to return any water in the basins to the South Plant headworks for treatments.
- Washdown facilities for cleanup and maintenance of the basins.

Miscellaneous Improvements

The following project components are proposed to improve the operability and maintainability of the EWWTP:

- **Analytical Laboratory Expansion** – An addition to the Administration Building will be constructed. The existing analytical laboratory within the Administration Building will be expanded to accommodate the additional analyses required for the control of the new denitrification and tertiary processes and increased monitoring requirements required by the 2008 NPDES permit.
- **Effluent Analyzer Buildings** - Two permanent effluent analyzer buildings would be constructed to house sampling and analytical equipment. The first building would be located along the outfall, and would contain the systems associated with the permit compliance monitoring of the effluent. The second building would be located near the northeast corner of the chlorine contact tanks, and would contain sulfite residual monitoring equipment needed to properly control the dechlorination system at the plant.
- **Mobile Equipment Storage** - A covered structure for the storage of vehicles and mobile equipment would be constructed in the North Plant site following demolition of facilities.
- **Perimeter Landscaping** - The EWWTP's existing perimeter landscaping will be extended to encompass the remaining boundaries of the City's property. The purpose of the visual screen would be to reduce the visibility of the EWWTP's buildings and structures from surrounding residential areas and the dissemination of night-time lighting. The perimeter landscaping would continue along the plant's western boundary adjacent to Vaca Station Road, the southern boundary adjacent to Fry Road, and the eastern boundary of the City's property along Lewis Road. Perimeter landscaping will also be provided along the northeastern boundary of the City's property, adjacent and south of the existing farm just north of the City property and south of Alamo Creek. The 70-foot wide buffer area would be planted with a landscape screen of mixed evergreen plant types expected to achieve a variable screening height from 50 to 100 feet. The staggered layering of plant materials of different heights and widths is intended to reduce gaps and provide screening when viewed from all angles along frontage roadways. There will be gaps in the landscape buffer as needed to accommodate driveways and utility lines.
- **Biosolids Lagoons and Filter Improvements** – One of the existing biosolid lagoons would be re-configured and systems added to improve efficiency of operation and cleaning practices in this area in an effort to reduce odor.
- **Emergency Storage Pond** - A concrete liner for the existing Emergency Storage Pond will be provided to: 1) reduce the potential for infiltration of treated effluent into the groundwater; 2) facilitate drainage of the pond after use; and 3) to control the growth of vegetation and improve maintenance efficiency.
- **Standby Power System Expansion**- The existing standby power system would be expanded to serve the additional equipment being added in the South Plant.
- **North Plan Electrical Systems Rehabilitation** – The electrical systems that would continue to serve the facilities that remain in service following the completion of the Tertiary Project would be replaced to remove old and/or deteriorated equipment and bring the system up to current codes.

- **Lighting** - New lighting for proposed facilities as a result of the Proposed Project will be shielded to reduce upward glow and spillage off site and will also be designed to allow manual switching in areas where light is only needed when work is being done.

3.4.3 CONSTRUCTION

Construction and Phasing Schedule

Construction of the Proposed Project is driven by the following compliance dates established in the April 2008 NPDES Permit:

- 1) Denitrification improvements must be constructed and fully operational by May 1, 2013; and
- 2) The final effluent must meet Title 22 filtration and disinfection requirements by May 1, 2015.

In order to meet these deadlines in a cost efficient and manageable manner, construction of project components may be completed over three phases, and divided between four contracts. Construction contracts and phasing shown in this EIR may change due to project design details and the availability of funding. The preliminary proposal for phasing and construction contracts is shown below and provides a basis for analysis of duration and timing of potential impacts. **Figure 3-6** shows graphically which facilities would be constructed during each phase.

Phase 1 (Contract 1 and 2): Phase 1 would include construction of facilities that are needed to meet the denitrification requirements by May 2013. Phase 1 construction activities are projected to begin the first quarter of 2011 and be complete by the third quarter in 2012. This schedule would allow the operations staff time to optimize the new process before the May 2013 deadline established in the 2008 NPDES permit. The following components of the project would be constructed in Phase 1:

- Compliance and Maintenance Buildings;
- Laboratory Expansion;
- Grit Handling;
- Screenings Handling;
- Primary/Secondary Flow Equalization;
- Digested Solids Reaeration Tank;
- Aeration Basin Expansion;
- Biosolids Equalization Storage;
- 12kV Substation Building and Standby Power; and
- Perimeter Landscaping.

Phase 2 (Contract 3): The remaining project components that are necessary to meet the 2008 NPDES permit's Title 22 requirement by May 2015 would be constructed in Phase 2. Other elements have been included in this contract because they require longer design and /or construction process. Construction of

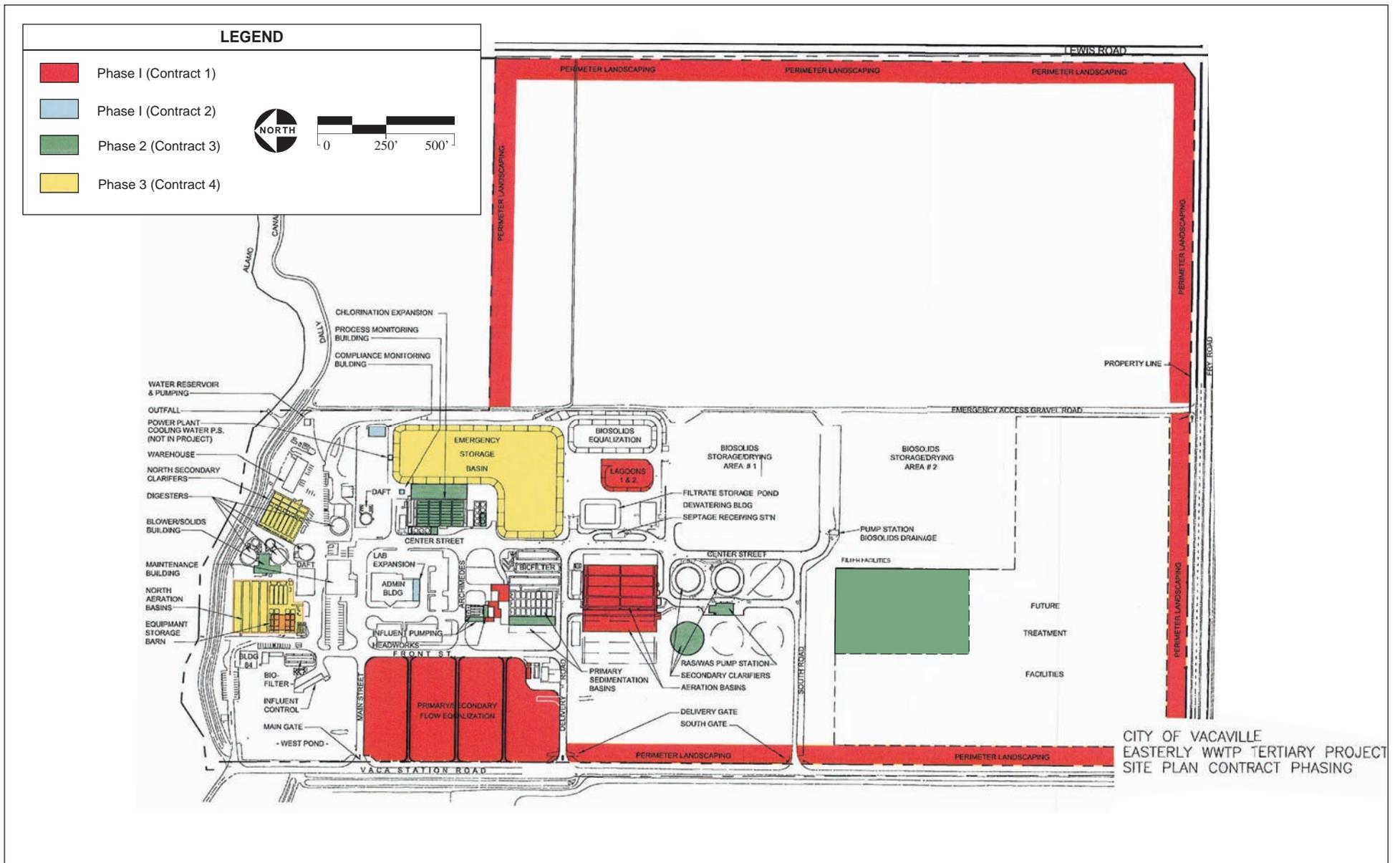


Figure 3-6
Construction Phasing

Phase 2 elements would begin near the completion of Phase 1 and would be completed in the fourth quarter of 2014. The following project components are included in Phase 2:

- North Plant Electrical Upgrade;
- Chlorine Contact Tanks and Chlorine Storage and Feed;
- Influent Pump Station/Screen
- Primary Sedimentation Tanks;
- Blower System Expansion;
- Secondary Clarifiers;
- RAS/WAS Pump Station;
- Filter Influent Pumps; and
- Effluent Filters.

Phase 3 (Contract 4): Project components which are not required for either compliance date established in the 2008 NPDES permit would be constructed during Phase 3. Construction of Phase 3 elements would be initiated contingent on the availability of a funding source. It is anticipated construction would begin in the third quarter of 2013 and reach completion by the second quarter of 2015; however, if funding is obtained earlier, Phase 3 may occur simultaneously with Phase 1. The following project components are included in Phase 3:

- North Plant Demolition (Headworks and Primary and Secondary treatment);
- Mobile Equipment Storage; and
- Emergency Storage Basin Concrete Lining.

Construction Activities and Equipment

As described above, construction of the Proposed Project could occur over three phases. Construction activities would be limited to daytime hours between 7:00 a.m. and 7:00 p.m. The following types of construction activities would occur at different intervals throughout construction:

- Structure Demolition;
- Earthwork – grading, excavation, backfill;
- Concrete – forming, rebar placement, concrete delivery and placement;
- Structural steel work – assembly, welding;
- Masonry construction;
- Landscaping;
- Electrical/instrumentation work; and
- Installation of mechanical equipment and piping.

Equipment used during construction may include, but is not limited to, the following:

- Track mounted excavators
- Backhoes
- Cranes
- Compactors

- Paving equipment
- Flat-bed delivery trucks
- Scrapers
- Graders
- End and bottom dump trucks
- Front-end loaders
- Ten-wheel dump trucks
- Water trucks
- Forklifts
- Concrete trucks
- Compressors/jack hammers
- Dozers

Construction of the Proposed Project would require an average of 20 workers per day; however, this number would vary depending on time of year and construction phase.

Staging Areas

By staggering the construction schedule of the Proposed Project, the City will be able to provide adequate staging areas for each of the three phases within the project site boundaries. Access to these areas will be via Delivery Road, off of Vaca Station Road.

Import and Export of Materials

Throughout construction, approximately 3,000 cubic yards (cy) of crushed concrete would be exported from the project site to Hay Road Landfill, while approximately 33,000 cy of fill would be imported to the EWWTP. Fill could originate from either project excavation spoil, from the southern portion of the site, or from construction projects occurring from development in the western areas of the City. Transport of cut and fill material would require an estimated 2,250 16-cy truck deliveries, at approximately 14 one-way trips per day for 160 days (approximately 2 one-way trips per hour).

In the event that fill material is imported from Vacaville and surrounding area, it is anticipated that soil and materials hauled from I-80 would take one of the following routes:

- South on Leisure Town Road, east on Fry Road , and north on Vaca Station Road or
- East on Midway Road, south on Lewis Road, west on Fry Road, and north on Vaca Station Road.

The haul route for material being exported to Hay Road Landfill would be south on Vaca Station Road, east on Fry Road, south on Lewis Road, and east on Hay Road.

3.4.4 OPERATION

Staffing

The City of Vacaville would continue to operate the EWWTP. Staffing at the EWWTP varies depending on the operating season and the number of temporary employees. Currently, the staff consists of operators, clerical staff, maintenance staff, and water quality specialists. The Tertiary Project could require up to 5 additional full time employees at the EWWTP to staff the expansion of the laboratory and meet analytical requirements of the 2008 NPDES Permit and to operate the new facilities.

Chemical Usage and Storage

No additional chemical storage capacity will be added to the EWWTP as a result of the Tertiary Project. Polymer and Sodium Hypochlorite will occasionally be used with the proposed granular-media filtration system to achieve Title 22 treatment objectives. As with other chemicals used at the EWWTP, these chemicals will be stored on site in compliance with regulatory standards.

Old Alamo Creek Discharge

Discharge of treated effluent to the Old Alamo Creek would continue to occur as authorized by the April 2008 NPDES Permit. The Proposed Project would solely increase the quality of the effluent discharged, while the discharge rates would remain consistent with historical amounts.

3.5 REGULATORY REQUIREMENTS

Permits and approvals that may be necessary for construction and operation of the Proposed Project are identified below.

City of Vacaville Approvals

- Certification of this EIR for the Tertiary Project under the requirements of the California Environmental Quality Act (CEQA), as amended.
- Approval of a Use Permit from the City's Planning Commission for construction of the Proposed Project.
- Approval of Design Review by the City's Community Development Department of constructed components as phases are designed.
- Adoption of a Mitigation Monitoring Plan for the Proposed Project with each approval, that incorporates the mitigation measures identified in this EIR.

Central Valley Regional Water Quality Control Board

- General Construction Storm Water NPDES Permit: Because the project would disturb more than five acres of land, a NPDES Permit for Discharges of Storm Water Runoff Associated with Construction Activity must be obtained from the CVRWQCB.
- 2008 NPDES Permit – Waste Discharge Requirements: The CVRWQCB has the authority to enforce the waste discharge requirements of the 2008 NPDES Permit for the discharge of effluent treated at the EWWTP to Old Alamo Creek. The City must submit various reports to the CVRWQCB to demonstrate that operation of the Proposed Project would be in compliance with the 2008 NPDES Permit.

- General Storm Water NPDES Permit: The CVRWQCB has the authority to ensure compliance with the EWWTP's General Storm Water Permit (Water Quality Order No. 91-13-DWQ) for discharge of storm water associated with industrial activities. The EWWTP renews this permit annually and has historically implemented best management practices contained in its stormwater pollution prevention plan.

U.S. Army Corps of Engineers

- Section 404 Permit under the Federal Clean Water Act should the U.S. Army Corps of Engineers determine that potentially jurisdictional waters of the U.S. and/or wetlands be located within the project site.

CEQA PLUS Requirements

Because the City has applied for the State Revolving Funds (SRF) Loan Program, which is administered by the State Water Resources Control Board and partially funded by the U.S. Environmental Protection Agency (USEPA), the Proposed Project is subject to federal environmental regulations, including regulations guiding the General Conformity Rule for the Clean Air Act (CAA), the Federal Endangered Species Act (ESA), and the National Historic Preservation Act (NHPA). USEPA has allowed a modified CEQA document, called CEQA-PLUS, to be the compliance base for projects applying for SRF monies. The additional regulatory components in compliance with CEQA-PLUS are addressed in **Sections 4.2, 4.3 and 4.4** of this EIR, respectively. To meet CEQA-PLUS requirements, the SWRCB may determine that the following tasks are necessary:

- Consultation with the State Historic Preservation Office under Section 106 of the NHPA regarding potential effects to special status species
- Consultation with the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the ESA regarding potential effects to federally listed special status species