City Of Merced Wastewater Collection System Master Plan

DRAFT ENVIRONMENTAL IMPACT REPORT

APPENDIX E
September 2020

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Appendix E ALTERNATIVE DEVELOPMENT BACKGROUND

ALTERNATIVE DEVELOPMENT BACKGROUND

The following section describes the alternatives identified, selected, and eliminated during the 2017 Wastewater Collection System Master Plan (WCSMP) process.

2017 WCSMP DEVELOPMENT ALTERNATIVES CONSIDERED

The alternatives ultimately selected for the 2017 WCSMP were the by-product of multiple iterations of alternative development since 2014. Table 1 below presents a summary of the key alternatives considered and illustrates evolution of alternative concepts and naming throughout the planning process.

Table 1 2017 WCSMP Alternative Development Summary

WCSMP Planning Process Alternative Name	Associated Alternatives / Previous Naming	Alternative Further Considered or Eliminated from Consideration for CEQA analysis
2014 Conceptual Sewer Master Plan Alternatives		
Eastern Trunk Servicing Concept	• Early concept for the 2015 Alternative 3 – Combination Western/Eastern Trunk Alignment, Campus Community included, after the fact • Early concept for the 2016 Alternative 2 – Combination Western/Eastern Trunk Alignment, Campus Community included, after the fact • Early concept for the Campus Parkway/Lake Road Alternative	Eliminated from the master planning process as a standalone concept after 2014. Evaluated here as an alternative pursuant to the California Environmental Quality Act (CEQA) requirements as the Campus Parkway/Lake Road Alternative.
Western Trunk Servicing Concept	• Early concept for the 2015 Alternative 1 – Western Trunk Alignment • Early concept for the 2016 Alternative 1 – Western Trunk Alignment • Early concept for the 2017 WCSMP Plan Preferred Alternative	Refined from this 2014 version, this alternative has been proposed as the preferred WCSMP alternative and is presented in detail in Section 2.0 of the Draft EIR.
Western Trunk Servicing Concept Variation – Campus Community	• Early concept for the 2015 Alternative 2 – Western Trunk Alignment, without the Campus Community • Early concept for the 2016 Alternative 2 – Combination Western/Eastern Trunk Alignment, Campus Community included, after the fact	Eliminated from the master planning process as a standalone concept after 2015. It was determined that the Campus Community would be included within the WCSMP service area as well as within the City of Merced (City) Vision 2030 General Plan (2030 General Plan) Specific Urban Development Plan (SUDP)/Sphere of Influence (SOI).
2015 Administrative Draft Sewer Master Plan		
2015 Alternative 1 – Western Trunk Alignment	• Revised from the 2014 Western Trunk Servicing Concept • Early concept for the 2016 Alternative 1 – Western Trunk Alignment • Early concept for the 2017 WCSMP Plan A Preferred Alternative	Refined from this 2014 version, this alternative has been proposed as the preferred WCSMP alternative and is presented in detail in Section 2.0 of the Draft EIR.

WCSMP Planning Process Alternative Name	Associated Alternatives / Previous Naming	Alternative Further Considered or Eliminated from Consideration for CEQA analysis
2015 Alternative 2 – Western Trunk Alignment, without the Campus Community	• Revised from the 2014 Western Trunk Servicing Concept Variation – Campus Community • Early concept for the 2016 Alternative 2 – Combination Western/Eastern Trunk Alignment, Campus Community included, after the fact	Eliminated from the master planning process as a standalone concept after 2015. It was determined that the Campus Community would be included within the WCSMP service area as well as within the 2030 General Plan SUDP/SOI.
2015 Alternative 3 – Combination Western/Eastern Trunk Alignment, Campus Community included, after the fact	• Revised from the 2014 Eastern Trunk Servicing Concept • Revised from the 2014 Western Trunk Servicing Concept Variation – Campus Community • Early concept for the 2016 Alternative 2 – Combination Western/Eastern Trunk Alignment, Campus Community included, after the fact • Partial concept for the Campus Parkway/Lake Road Alternative	Eliminated from the master planning process as a standalone concept after 2015. It was determined that the Campus Community would be included within the WCSMP service area as well as within the 2030 General Plan SUDP/SOI. Revised concept for the Campus Parkway/Lake Road Alternative.
2016 Administrative Draft Sewer Master Plan		
2016 Alternative 1 – Western Trunk Alignment	• Revised from the 2014 Western Trunk Servicing Concept • Revised from the 2015 Alternative 1 – Western Trunk Alignment • Early concept for the 2017 WCSMP Plan A Preferred Alternative	Refined from this 2015 version, this alternative has been proposed as the preferred WCSMP alternative and is presented in detail in Section 2.0 of the Draft EIR.
2016 Alternative 3 – Combination Western/Eastern Trunk Alignment, Campus Community included, after the fact	• Revised from the 2014 Eastern Trunk Servicing Concept • Revised from the 2014 Western Trunk Servicing Concept Variation – Campus Community • Revised from the 2015 Alternative 3 – Combination Western/Eastern Trunk Alignment, Campus Community included, after the fact • Partial concept for the Campus Parkway/Lake Road Alternative	Eliminated from the master planning process as a standalone concept after 2015. It was determined that the Campus Community would be included within the WCSMP service area as well as within the 2030 General Plan SUDP/SOI. Revised concept for the Campus Parkway/Lake Road Alternative.
2016 Satellite Treatment Facility	• Feasibility review of WCSMP Plan B Alternative – North Merced Wastewater Reclamation Treatment Facility	Refined from this 2016 feasibility assessment this alternative is considered within the Draft EIR as the WCSMP Plan B alternative.
2017 Wastewater Collection System Master Plan		
2017 WCSMP Plan A – "Proposed Program"	• Revised from the 2014 Western Trunk Servicing Concept • Revised from the 2015 Alternative 1 – Western Trunk Alignment • Revised from the 2016 Alternative 1 – Western Trunk Alignment	This alternative has been proposed as the preferred WCSMP alternative and is presented in detail in Section 2.0 of the Draft EIR.
2017 WCSMP Plan B Alternative	• 2016 Satellite Treatment Facility	This alternative is considered for further evaluation in this alternatives

WCSMP Planning Process Alternative Name	Associated Alternatives / Previous Naming	Alternative Further Considered or Eliminated from Consideration for CEQA analysis
– North Merced Wastewater Reclamation Treatment Facility		analysis consistent with CEQA requirements.
Notice of Preparation Scoping and Public Input		
Development-Based Decentralized Treatment Facilities Alternative	• Based on public input	Evaluated for feasibility and ability to meet WCSMP Objectives. Alternative doesn't meet objectives and is not feasible due to cost, potential to result in a substantial impact to water quality, burdensome National Pollution Discharge Elimination System (NPDES)/waste discharge permitting.
Campus Parkway/Lake Road Trunk Alternative	• Revised from the 2014 Eastern Trunk Servicing Concept • Evolved from part of the 2015 Alternative 3 – Combination Western/Eastern Trunk Alignment, Campus Community included, after the fact • Evolved from part of the 2016 Alternative 3 – Combination Western/Eastern Trunk Alignment, Campus Community included, after the fact	This alternative is considered for further evaluation in this alternatives analysis consistent with CEQA requirements.
No Project Alternative	• Based on CEQA requirement for a 'do nothing' alternative	Pursuant to CEQA requirements, this alternative is considered for further evaluation.

Wastewater Collection System Master Planning Alternatives

Alternative Concepts Development and Considerations 2014

In the early stages of the WCSMP update process (2013 and 2014), the City evaluated a number of different concepts for servicing the SUDP/SOI and meeting the needs of the future development identified in the (2030 General Plan. Similar to previous master planning documents, early WCSMP planning efforts determined that due to the capacity limitations of the existing wastewater collection system, new large trunk sewers are required to accommodate future development within the SUDP/SOI. Avoiding the impact of upsizing or paralleling existing trunk sewer which run through the existing City, generally along State Route (SR) 59 and through downtown Merced. City Public Works and Planning staff worked with consultants as well as University of California (UC) Merced and Campus Community representatives and other stakeholders within the SUDP/SOI to develop conceptual alternatives. The alternative development process involved evaluating a number of configurations for pump stations, force mains, and gravity sewers to establish the backbone conveyance infrastructure. Additional considerations for the concepts evaluated various scenarios of engineering and modeling assumptions to assess different service boundaries, sizing, and configuration concepts. At the time, specific emphasis was placed on the planning effort in the North Merced area, which included consideration of a number of approaches to servicing the area, including scenarios which involve:

- Alternative pipe alignments;
- Different assumptions on density of development;
- Inclusion of existing septic areas in servicing plans;

- Exclusion of existing septic areas from servicing plans;
- Inclusion of the Campus Community lands in servicing plans; and
- Exclusion of the Campus Community lands from servicing plans.

These scenarios were modeled in early 2014 to illustrate and assess what these conceptual ideas would look like. The resulting SUDP/SOI alternative servicing concepts generally identified two areas for large diameter trunk pipelines to transport new sewer flows in a north-south direction from north Merced to the existing Wastewater Treatment and Reclamation Facility (WWTRF). To serve full 2030 build-out conditions the City considered trunk alignments either 1) on the eastern side of the SUDP/SOI or 2) on the western side of the SUDP/SOI, referenced generally as the Western Trunk Servicing Concept and the Eastern Trunk Servicing Concept. With the two general alignment concepts established, system capacity was then evaluated to identify sizing requirements by considering different scenarios under which the SUDP/SOI would be served. These variations in the sizing and alignment of the Western and Eastern Trunk Concepts considered inclusion/exclusion of the UC Merced, Campus Community Area, and Septic Areas. Specifically, these considerations included:

- **Reduced UC Merced Contribution and Campus Community Removed** – this variation would be sized to receive a limited amount of flow received from UC Merced and no flow from the Campus Community.

- **Campus Community Removed** – this variation would be sized to receive all flow from UC Merced but no flow from the Campus Community.

- **UC Merced and Campus Community Removed** - this variation would not be sized to include flows from UC Merced or the Campus Community area. This assumed the UC Merced and Campus Community areas were served by separate collection and treatment systems.

- **Septic Area Removed**- this variation would exclude the areas of the SUDP/SOI with existing homes (currently in the County, but within the SUDP/SOI) in the eastern portion of the SUDP/SOI, on either side (north and south) of Bear Creek served by on-site sewer systems such as septic.

- **UC Merced, Campus Community, and Septic Removed** – this variation excludes both UC Merced and Campus Community as well as the areas in the eastern portion of the SUDP/SOI served by on-site systems.

After presentation to the City Council and stakeholders, City staff was directed to proceed with the two full build-out variations (i.e. servicing the entire SUDP/SOI) as well as a variation on the Western Trunk Servicing Concept that excluded the Campus Community. These selected primary alternative concepts as they were identified in 2014 include:

Eastern Trunk Servicing Concept

The Eastern Trunk Servicing Concept included new trunk sewers to accommodate future build-out development of the entire SUDP/SOI. The concept recommended that sewers be aligned to generally flow west to east and collect in a new large diameter trunk sewer in the eastern SUDP/SOI that would convey flows generally from north to south. North of Bear Creek sewer flows would trend from west to east to a large diameter trunk sewer running north-south on the eastern side of the SUDP/SOI. South of Bear Creek, recommended trunk sewers would flow generally north to south then east to west approximately following the alignment of Mission Avenue and Vassar Avenue. The existing system as well as the entire SUDP/SOI as the ultimate service area were considered with this concept consistent with the 2030 General Plan. This alternative is depicted in Figure 1.

Western Trunk Servicing Concept

The Western Trunk Servicing Concept included new trunk sewers to accommodate future build-out development of the entire SUDP/SOI. The concept recommended that sewers be aligned to generally flow east to west and collect in a new large diameter trunk sewer in the western SUDP/SOI that would convey flows from north to south. For the area north of Bear Creek the large diameter trunk line would primarily follow the alignment of Bellevue Road and Cardella Road east to west and Thornton Road north to south. In the southern portion of the SUDP/SOI a trunk sewer would flow generally north to south from Bear Creek then east to west approximately following the alignment of Mission Avenue and Vassar Avenue. The existing system as well as the entire SUDP/SOI as the ultimate service area were considered with this concept consistent with the 20130 General Plan. This alternative is depicted in Figure 2.

Western Trunk Servicing Concept Variation – Campus Community

In 2014, inclusion of the Campus Community lands was subject to development interests and whether these lands would receive wastewater service from the City was in question. To weigh the impact of this option, variations on the Western Trunk Servicing Concept that excluded the Campus Community or connected the Campus Community at a later date were considered. The concepts are identical to the Wester Trunk Servicing Concept at full build-out but would have reduced pipe sizing due to lower build-out sewer flows (due to the exclusion of the Campus Community from the ultimate service area) or would include an alignment for the Campus Community to connect to the system after the Western Trunk Servicing Concept is built. The latter required additional conveyance facilities which would have been the sole responsibility of the Campus Community. This alternative is depicted in Figure 3.

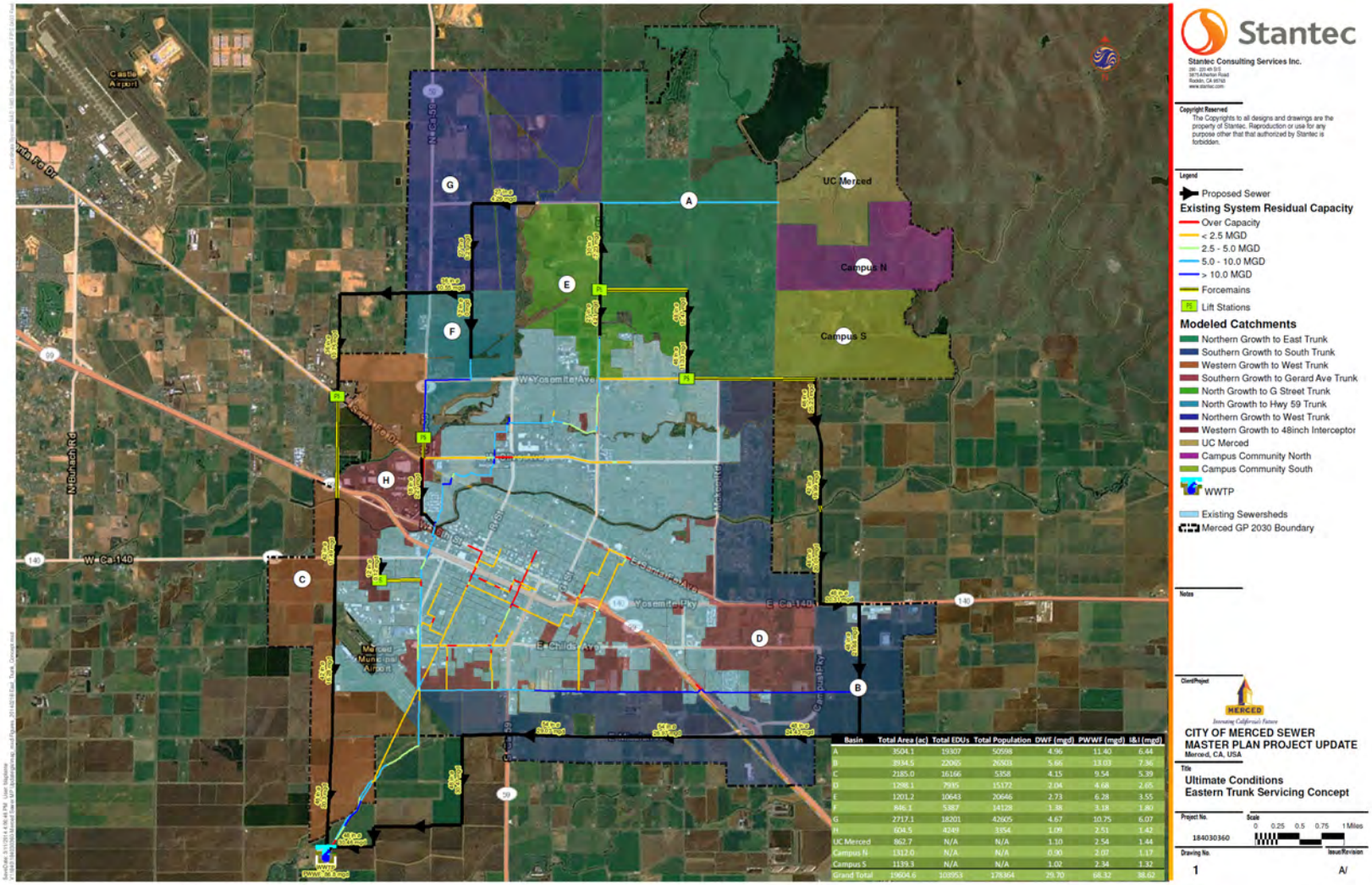


Figure 1 Eastern Trunk Servicing Concept

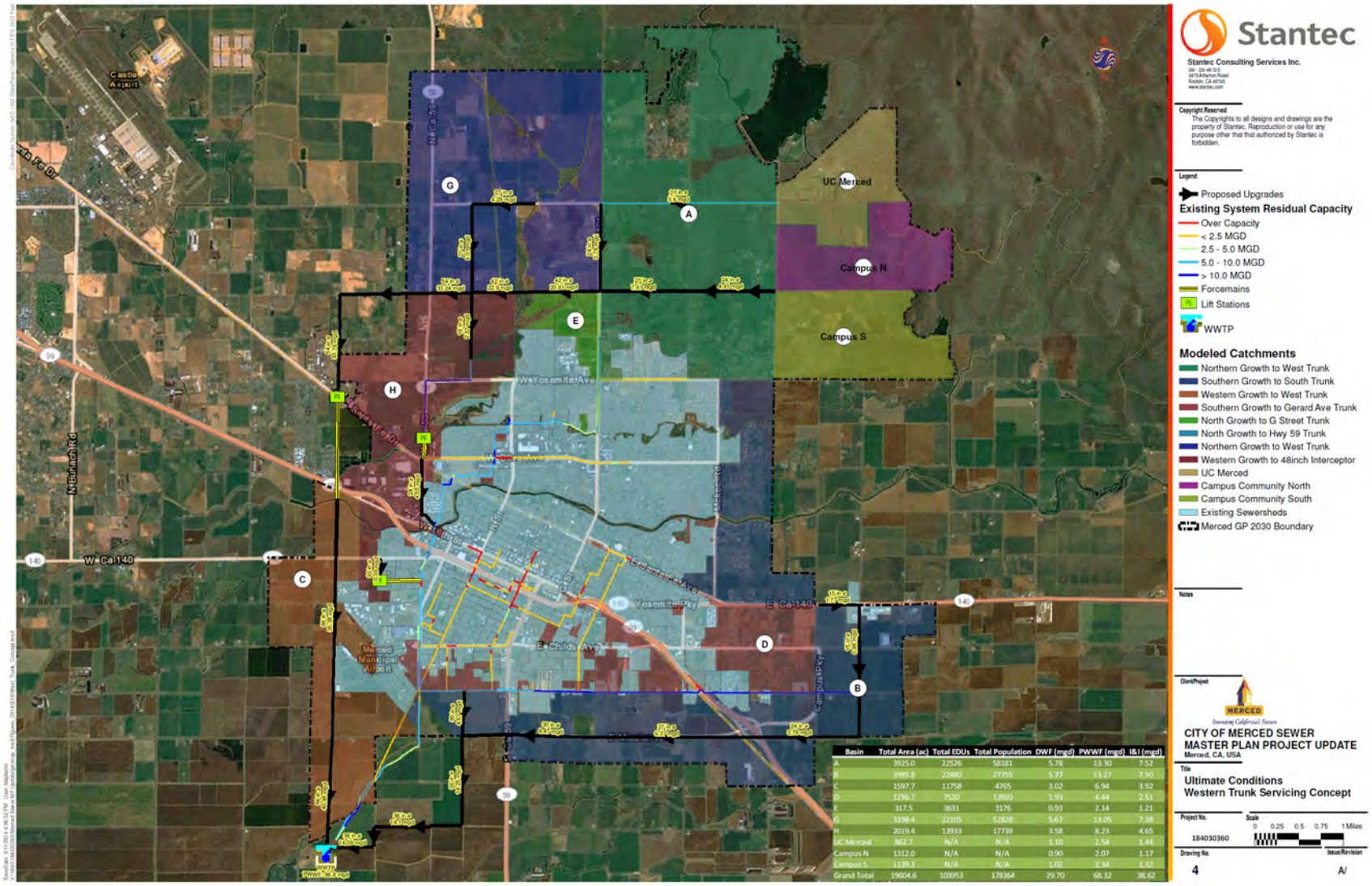


Figure 2 Western Trunk Servicing Concept

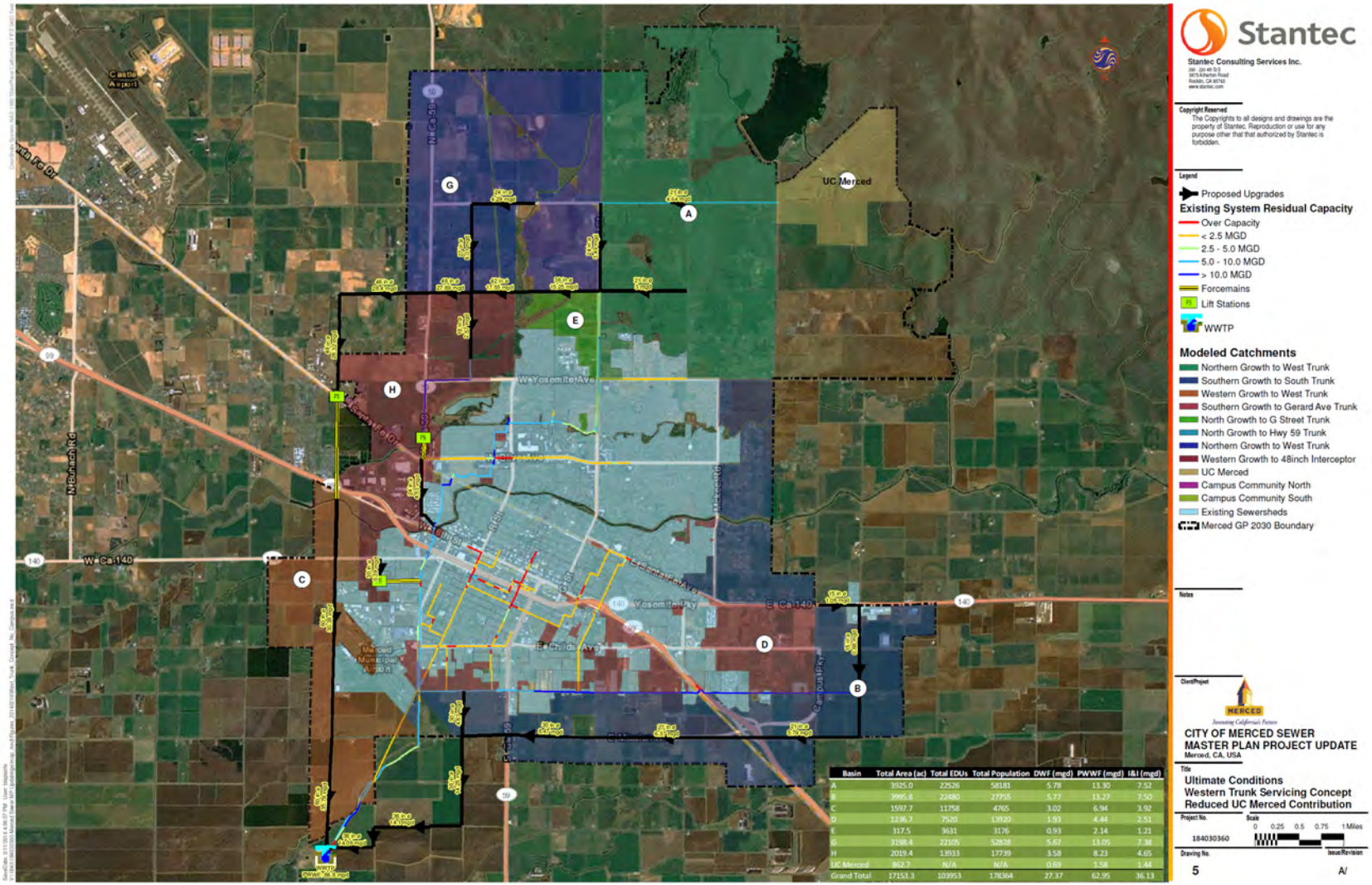


Figure 3 Western Trunk Servicing Concept – Excluding Campus Community

Alternatives Considered in the 2015 Administrative Draft Sewer Master Plan

The 2015 Administrative Draft Sewer Master Plan (2015 Admin Draft) (City of Merced 2015) presented three alternatives to meet long-term system needs that were carried through based on City Council's direction in 2014. The alternatives included:

2015 Alternative 1 – Western Trunk Alignment

This alternative, a refinement of the 2014 Western Trunk Servicing Concept would serve the entire SUDP/SOI, UC Merced and the Campus Community assuming build-out flow estimates (with density assumptions as described in Chapter 3 of the 2015 Admin Draft). Servicing the North Merced area via a large new trunk starting in the vicinity of the western boundary of the Campus Community properties, running east to west along Cardella Avenue, then south along Thornton Road to a pump station just north of Black Rascal Creek. A force main discharging from the new pump station north of Santa Fe Drive would extend to just south of CA 140, then transition to a new 60-inch gravity trunk from that point south to the WWTRF. Additionally, flow from the existing Highway 59 Pump Station would be diverted to the new pump station along Thornton Road, eliminating the long-term need to upgrade the existing forcemain and sewer along Highway 59 south of W Olive Avenue. Servicing in South Merced would be via a new trunk running east to west along E Mission Avenue which would intersect with a new trunk sewer running north to south along Tyler Road. The Tyler Road trunk would then turn west on Reilly Road and continue westward to the WWTRF. This alternative is depicted in Figure 4.

2015 Alternative 2 – Western Trunk Alignment, without the Campus Community

This alternative, a refinement to the Western Trunk Servicing Concept Variation for the Campus Community, was similar to the 2015 Alternative 1, with the exception being the North Merced area (area north of Bear Creek) would be served by a reduced capacity trunk sewer. As a result of excluding the Campus Community from participation in the new sewers and model demand due to uncertainty of whether the Campus Community area of the SUDP/SOI (located directly south of the UC Merced campus) would proceed with sewer service provided by the City. This alternative is depicted in Figure 5.

2015 Alternative 3 – Combination Western/Eastern Trunk Alignment, Campus Community included, after the fact

This alternative, an iteration of the Western Trunk Servicing Concept Variation combined with the Eastern Trunk Servicing Concept, planned for possible servicing of the Campus Community area if the area might require servicing after planning and constructing trunk sewers to serve the remainder of the SUDP/SOI had proceeded. This third and final alternative considered in the 2015 Admin Draft includes a new North Merced trunk sewer similar to Alternative 2 and the Western Trunk Servicing Concept, but as outlined in the Western Trunk Servicing Concept Variation would require construction of a separate trunk to accommodate the Campus Community area. In this case, the assumption is the Campus Community would require City sewer service but would not provide financing until after the 2015 Alternative 2 is planned and constructed. Rather than upsize the new Western trunk sewers to be equivalent to 2015 Alternative 1 sizing, a new trunk dedicated to the Campus Community would be constructed parallel to the new South Merced trunk. In addition, a trunk would be extended from the southern Campus Community boundary similar to the alignment in the concept for the Eastern Trunk Alignment Concept eliminated in 2014 to the SUDP/SOI where it would connect with the new parallel trunk. This alternative is depicted in Figure 6.

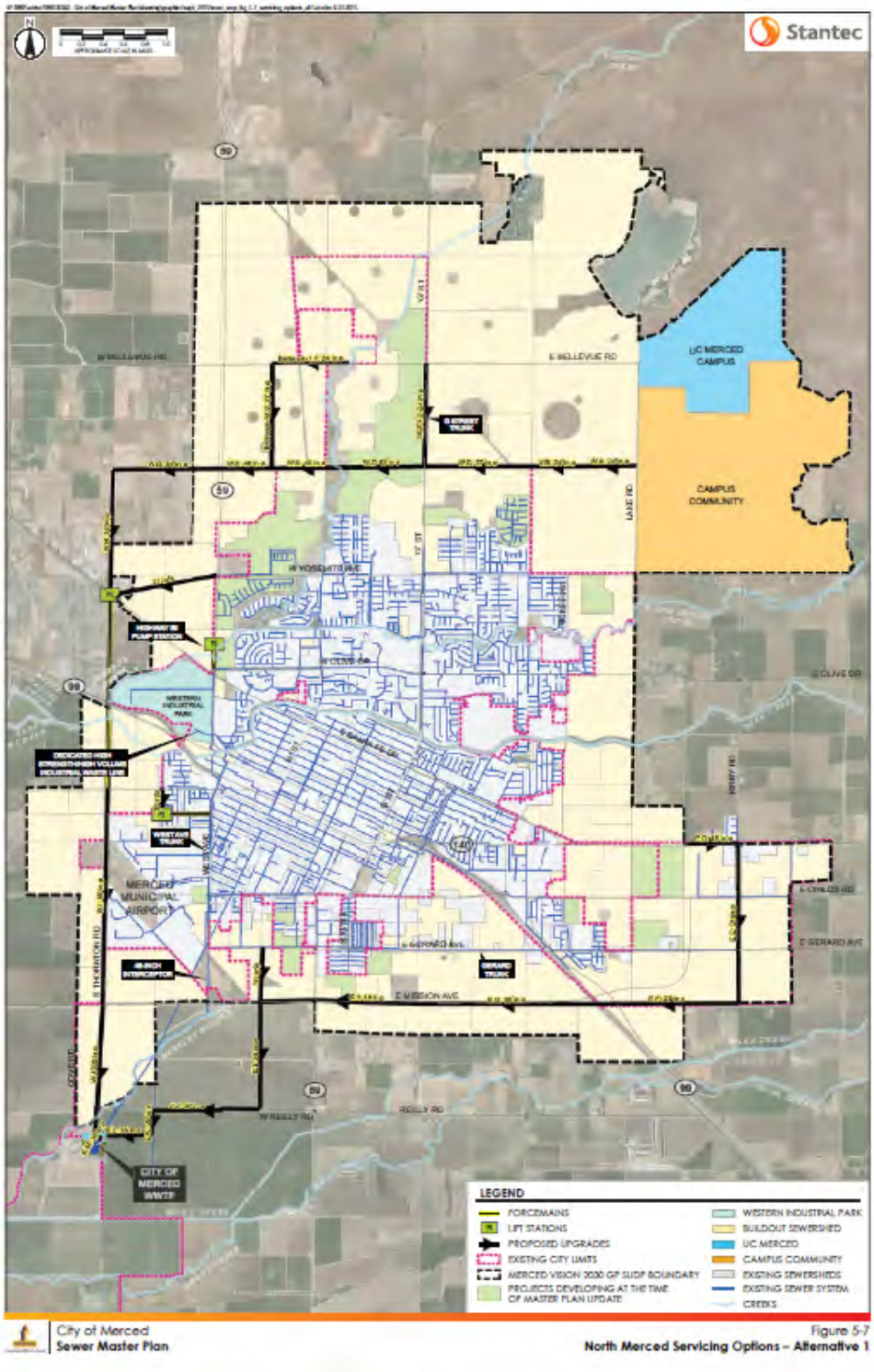


Figure 4 2015 Alternative 1 – Western Trunk Alignment

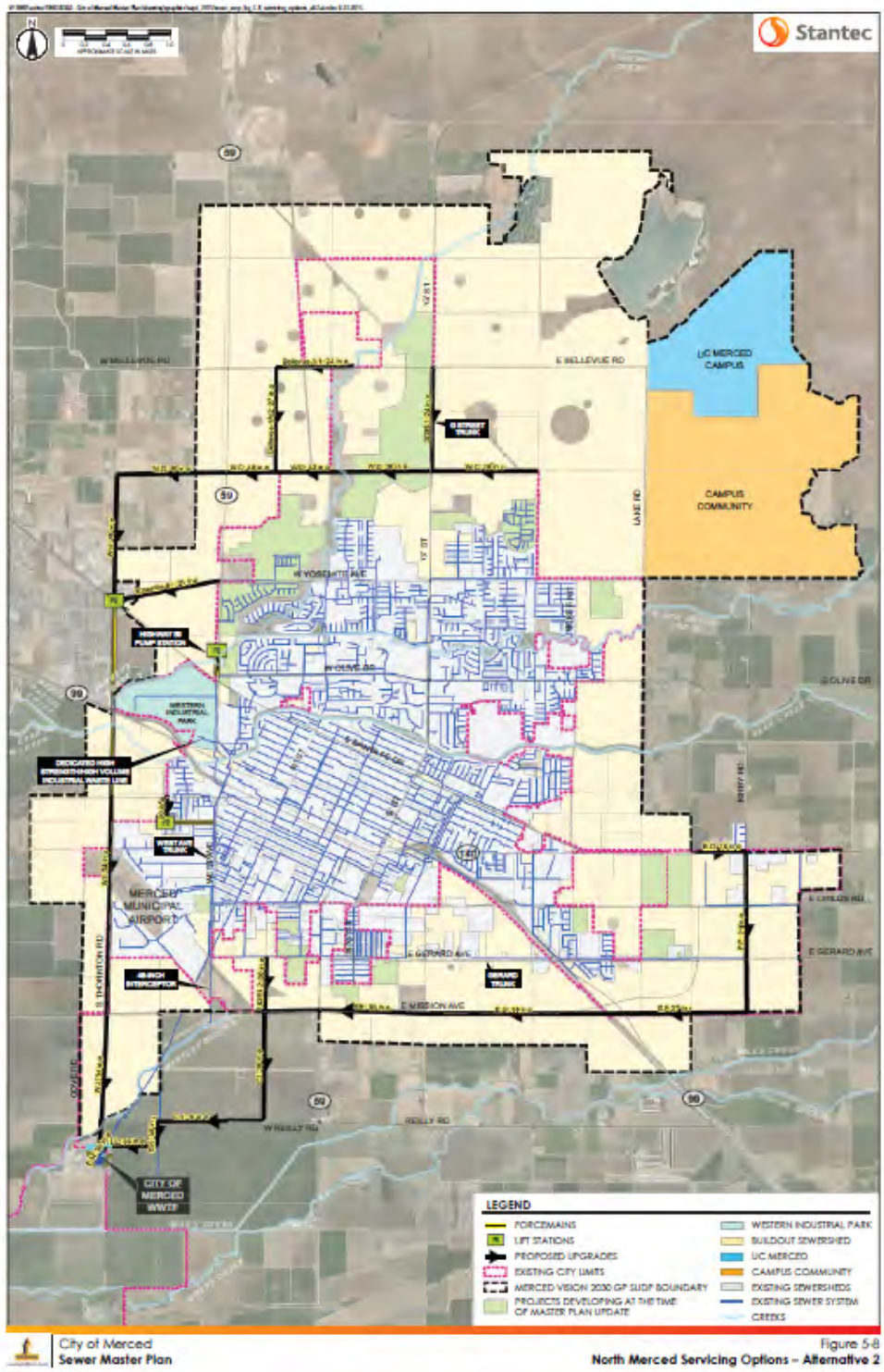


Figure 5 2015 Alternative 2 – Western Trunk Alignment without the Campus Community

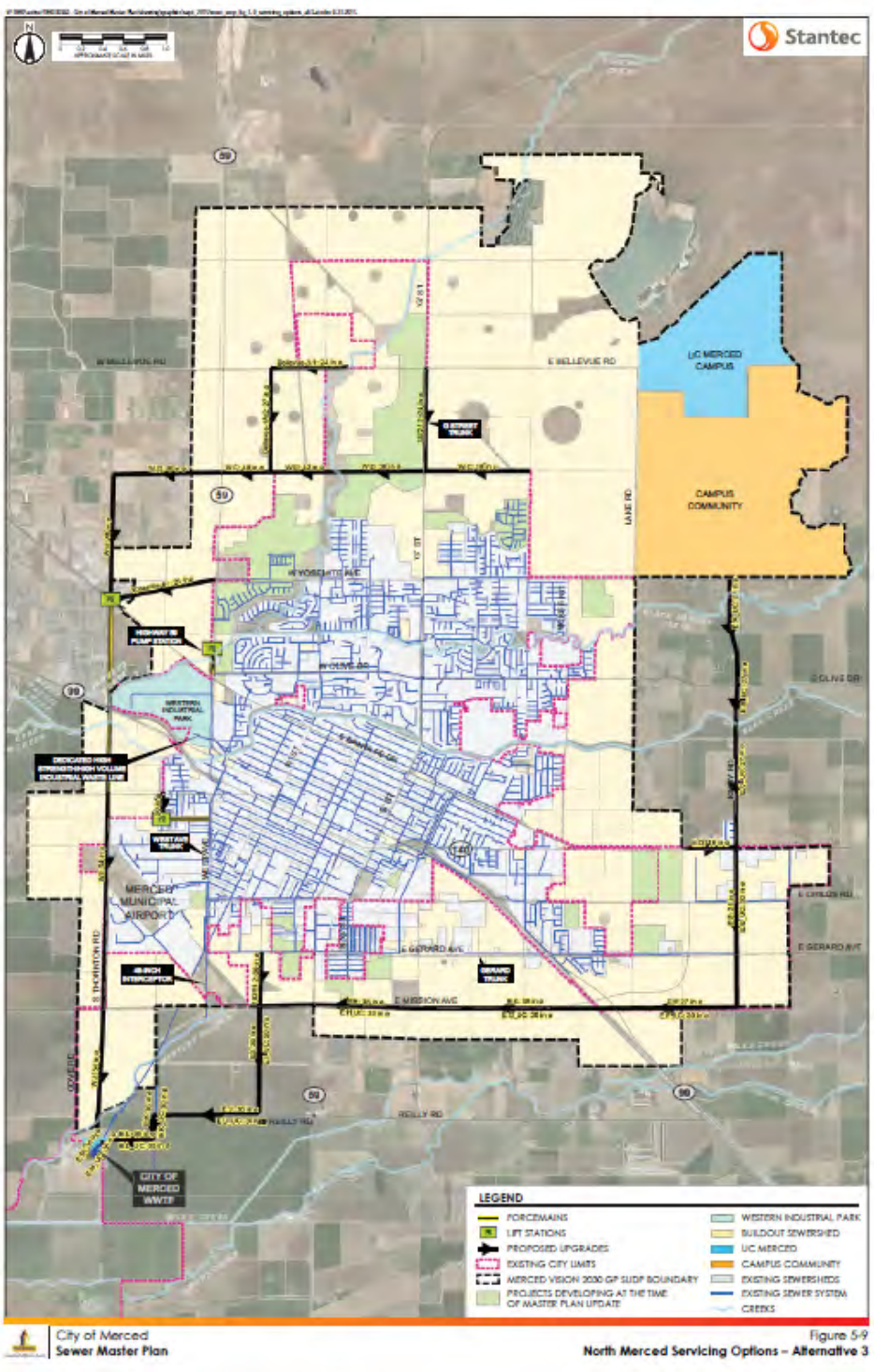


Figure 6 2015 Alternative 3 – Combination Western/Eastern Trunk Alignment, Campus Community included, after the fact

Alternatives Considered in the 2016 Administrative Draft Sewer Master Plan

As the updated WCSMP was being developed and stakeholder input received, suggestions were made to revise the alternatives outlined in the 2015 Admin Draft. The 2016 Administrative Draft Sewer Master Plan (2016 Admin Draft) (City of Merced 2016) incorporated stakeholder input and suggestions and included the introduction of satellite treatment alternatives as well as layout and refinements to the alternatives included in the 2015 Admin Draft. The conclusions of the 2016 Admin Draft are similar to those presented in previous planning documents, reducing the list of alternative alignments and configurations to two primary options centered around whether the Campus Community connects to the City's system. These options are consistent with the 2015 Admin Draft Alternative 1 – Western Trunk Alignment and Alternative 3 – Combination Western/Eastern Trunk Alignment, Campus Community included, after the fact. It should be noted, presentations of alternatives presented in the 2015 Admin Draft to stakeholders and the City Council resulted in the decision to eliminate the Western Trunk Alignment, without the Campus Community option (formerly Alternative 2) from further consideration.

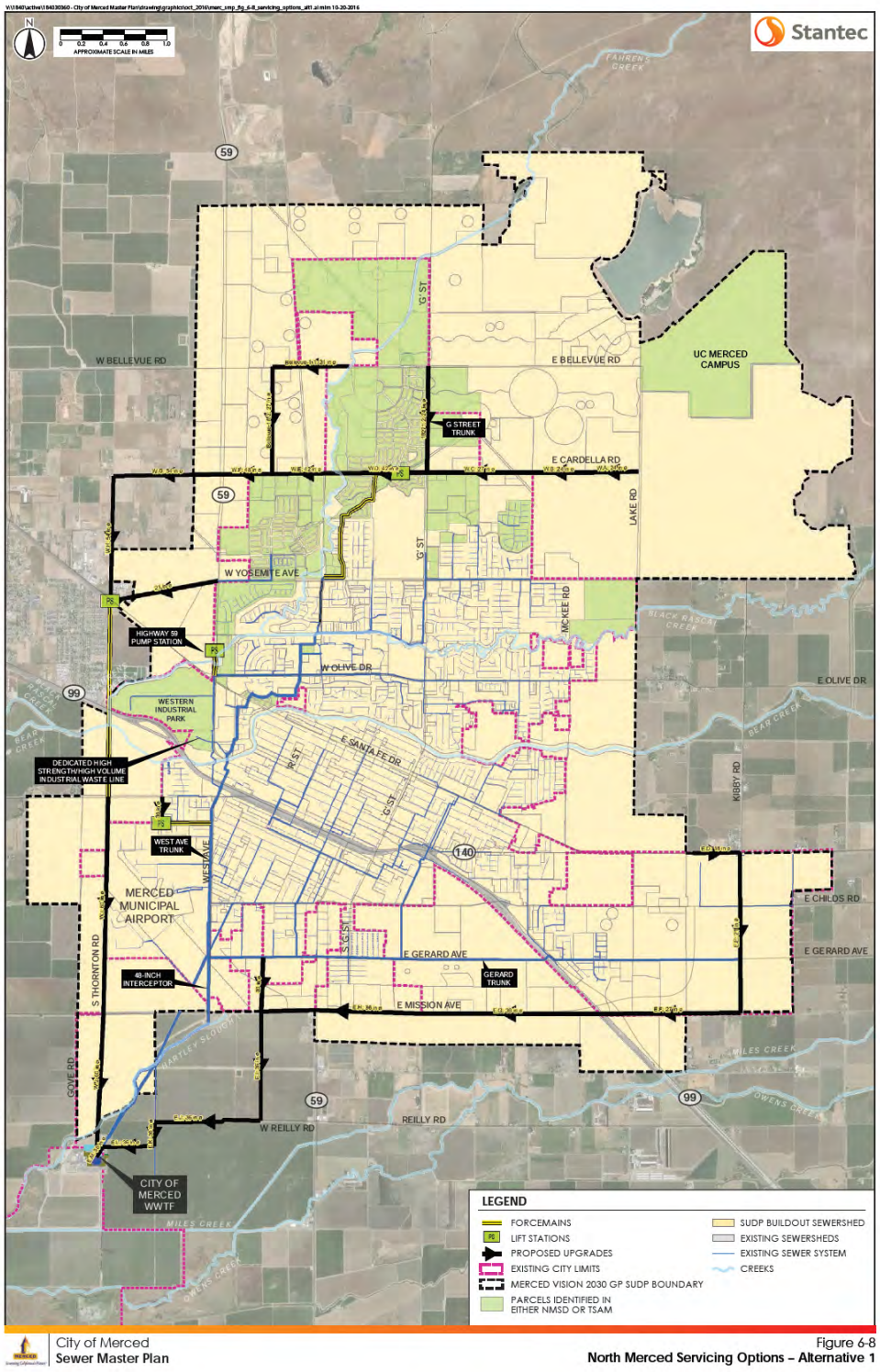
The two alternatives presented in the 2016 Admin Draft are summarized below, along with a description of the satellite treatment option:

2016 Alternative 1 – Western Trunk Alignment

Similar to the Western Trunk Servicing Concept presented in 2014 and the Western Trunk Alignment presented as Alternative 1 in 2015, this alternative is refined from those options and would serve the entire SUDP/SOI at current build-out flow estimates (with density assumptions as described in Chapter 3 of the 2016 Admin Draft). Servicing the North Merced area would occur via a large new trunk starting in the vicinity of the intersection of Cardella Road and Lake Road, running east to west along Cardella Road, then south along Thornton Road to a pump station just north of Black Rascal Creek. A force main discharging from the new pump station north of Santa Fe Drive would extend to just south of SR 140, then transition to a new 60-inch gravity trunk from that point south to the WWTRF. Additionally, flow from the existing Highway 59 Pump Station would be diverted to the new pump station along Thornton Road, eliminating the long-term need to upgrade the existing forcemain and sewer along SR 59 south of W Olive Avenue. Servicing in South Merced would be via a new trunk running east to west along E Mission Avenue which would intersect with a new trunk sewer running north to south west of SR 59. This trunk would then turn west on Reilly Road and continue westward to the WWTRF. This alternative is depicted in Figure 7.

2016 Alternative 2 – Combination Western/Eastern Trunk Alignment, Campus Community included, after the fact

Similar to Alternative 3 in the 2015 Admin Draft, the second primary alternative considered in 2016 assumed the Campus Community would develop at a later date which would preclude participation in the new Cardella and Thornton trunks described in 2016 Alternative 1. The Campus Community would be served in this alternative by a trunk line to the south from this special development area instead of to the west (the Cardella trunk) as shown in Alternative 1. Due to the uncertainty of when their share of the financing would be available under this scenario, a dedicated trunk would be constructed parallel to the new Alternative 1 South Merced trunk running along Mission Avenue which would be sized according to estimates of flow from the balance of the SUDP/SOI south of Bear Creek, and consistent with the sizing described in Alternative 1 for this trunk (as shown in the 2016 Admin Draft). A trunk would be extended from the southern Campus Community boundary to along the proposed Campus Parkway road alignment and back into the City's SUDP/SOI where it would connect with the new east-west trunk parallel to the trunk in E Mission Avenue. This alternative is depicted in Figure 8.



City of Merced
Sewer Master Plan

Figure 6-8
North Merced Servicing Options – Alternative 1

Figure 7 2016 Alternative 1 – Western Trunk Alignment

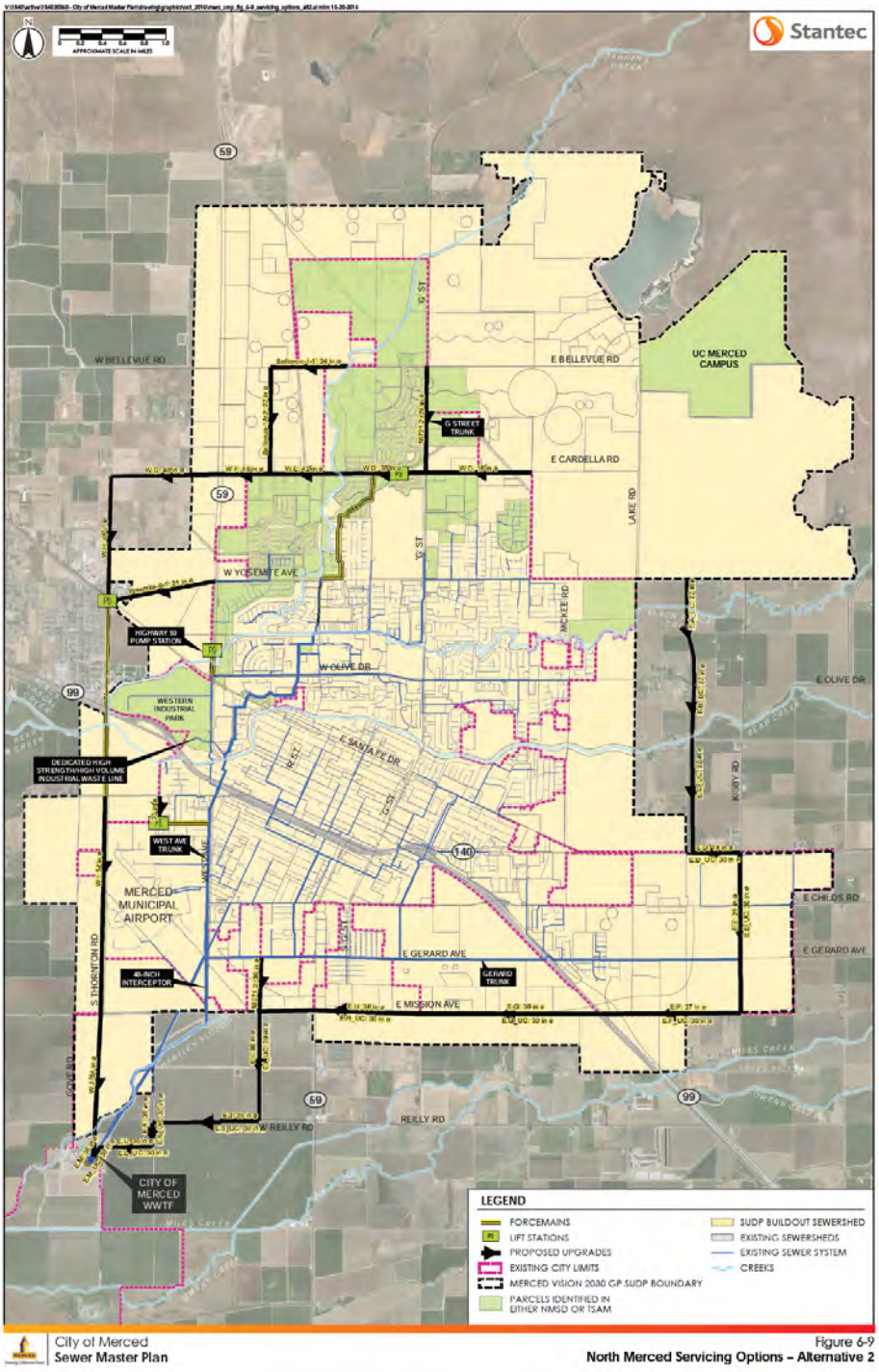


Figure 8 2016 Alternative 2 – Combination Western/Eastern Trunk Alignment, Campus Community Included, After the Fact

2016 Satellite Treatment Facility

The 2016 Admin Draft evaluated the feasibility of using satellite treatment facilities in North Merced in lieu of conveyance and treatment to the City's WWTRF. The location, size, and costs associated with satellite treatment are detailed in Section 5.5 of the 2016 Admin Draft.

In summary, the 2016 Admin Draft identified a satellite facility to be sited at a location farthest from the existing WWTRF, or near the area southwest of Lake Yosemite, on the intersection of a main sewer trunk near Cardella Road between the UC Merced campus and the western corner of the SUDP/SOI close to potential service areas and reclamation areas. To be cost effective, satellite facilities would need to be located where the wastewater is both generated and reclaimed. Since the UC Merced Campus has considered the use of reclaimed water, effluent piping would need to discharge into the campus as discussed in the 2002 North Merced Master Plan. The 2016 Admin Draft concluded locating the satellite facility within the SUDP/SOI would require some adjustment to land uses identified in the City's 2030 Vision General Plan because most of the area has specific plans for development or is designated as residential or commercial land use. Consistency with the General Plan is an important consideration and alterations to the Plan may be difficult to accomplish. The satellite facility and conveyance capacity were assumed to require the same build-out service as the equivalent at the City's WWTRF for North Merced build-out of the SUDP/SOI.

Alternatives Considered in the December 2017 WCSMP

In the December 2017, the administrative draft Sewer Master Plans were revised into the current WCSMP. In the 2017 WCSMP, as described in Section 1.0 and Section 2.0 of the Draft EIR, the Western Trunk Concept/Alignment (Alternative 1) was presented as Alternative Plan A, or the preferred option/proposed WCSMP Program, and a satellite treatment option refined from the evaluation in the 2016 Admin Draft was presented as Alternative Plan B.

WCSMP Plan A Alternative– Proposed WCSMP Program/Projects

WCSMP Plan A Alternative was presented within the 2017 WCSMP as the preferred option and is an iteration of the 2014 Western Trunk Servicing Concept and the 2015/2016 Alternative 1 Western Trunk Alignment. Further discussion of Alternative Plan A (Proposed WCSMP) is presented in the other sections of the Draft EIR and described in detail in the EIR Project Description (in Section 2.0).

WCSMP Plan B Alternative – North Merced Satellite Treatment Facility

The WCSMP Plan B Alternative, from the 2017 WCSMP, would consist of the collection system taking most of the municipal wastewater generated by build-out of the SUDP/SOI in North Merced to a new North Merced Wastewater Treatment and Reclamation Facility (NMWWTRF) located on industrially zoned land west of the intersection of West Yosemite Avenue and SR 59. The NMWWTRF site would be planned for initial and 2030 General Plan build-out capacities of approximately 4 to 5 million gallons per day (Mgal/d), and 14 to 15 Mgal/d, respectively. The existing WWTRF would serve the remainder of the City's SUDP/SOI and its growth and would have approximate planned capacity increases for the 2030 General Plan build-out conditions of 16 Mgal/d and 20 Mgal/d, respectively. Both the new NMWWTRF and existing WWTRF would be built and expanded in stages, as needed to accommodate new growth. The NMWWTRF would also need new effluent disposal and reuse facilities master planned and permitted to serve initial and expected 2030 General Plan build-out conditions. This is because there are not existing effluent facilities or related effluent discharge permits for the NMWWTRF site, at this time, whereas they do exist at the WWTRF site. New and upgraded pipelines would be placed within the City flowing from east to west towards the NMWWTRF and north to south to the existing WWTRF, where applicable, to utilize gravity sewers where possible and minimize pumping and lift station requirements where feasible. This alternative is depicted in Figure 9.

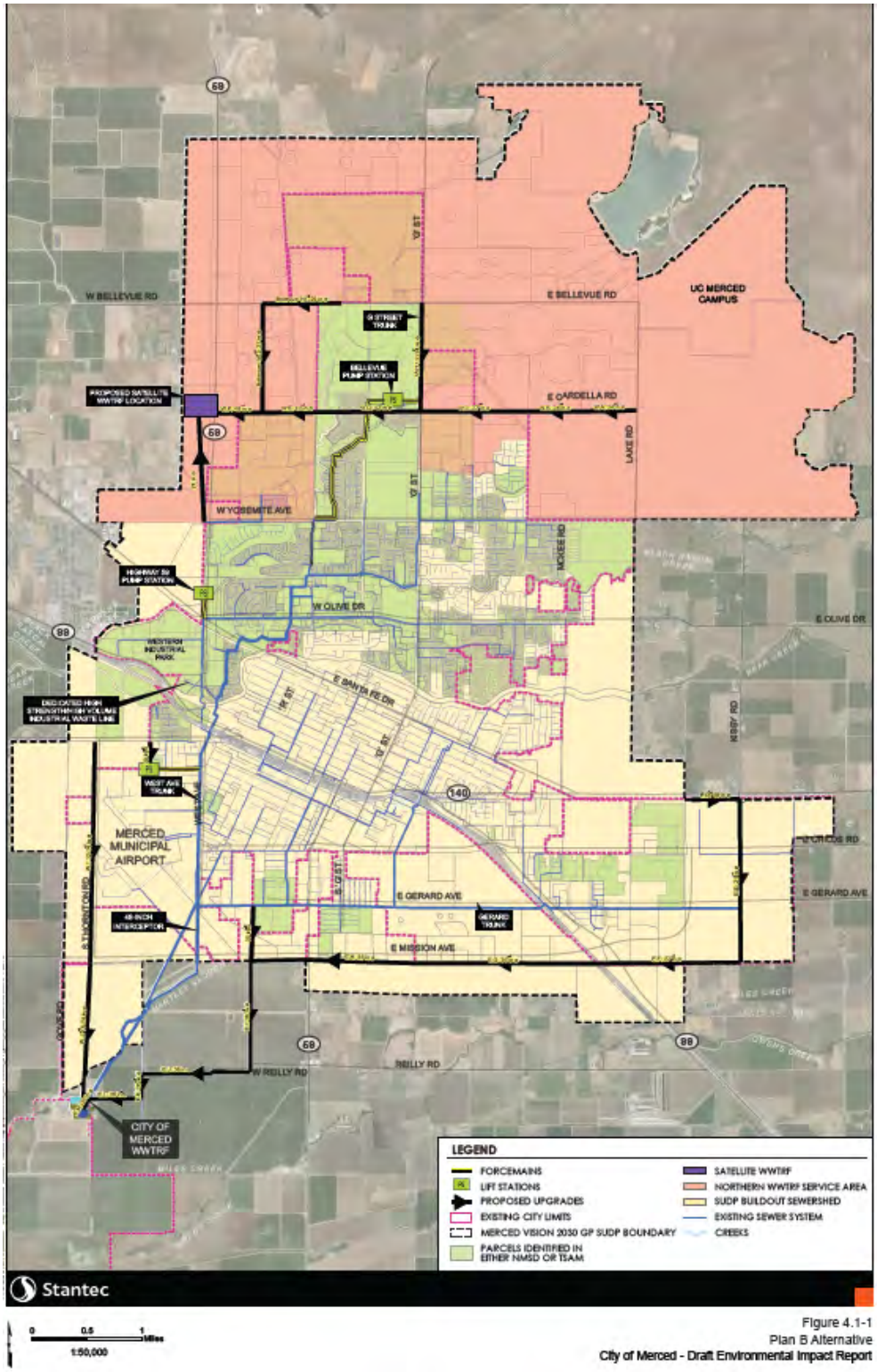


Figure 9 Plan B Alternative

Notice of Preparation Scoping and Public Input

During the planning and development of the Sewer Master Plan and subsequently the proposed WCSMP, stakeholder involvement and input was critical to the City's WCSMP alternative development process. In addition to the alternatives raised through iterations of the administrate drafts of the WCSMP, the following alternatives were identified by the public and/or stakeholders in the WCSMP planning process. These alternatives were presented in many varying ways since 2013 among which include: during communications with City staff, during City Council meetings, during stakeholder meetings, and during the CEQA Notice of Preparation scoping process for the EIR as described in Section 1.0 of the Draft EIR.

Development-Based Decentralized Treatment Facilities Alternative

The concept of multiple WWTRFs in the North Merced area was raised by stakeholders as a potential means to reduce the initial size, cost, and time delays associated with conveying City sewage to the existing WWTRF. This would be a decentralized system with multiple WWTRF's (decentralized facilities) that would be built as needed within the City as growth occurs. These new WWTRFs would be built in new development areas and would treat the wastewater associated with each new development, as they occur. This alternative would require the placement of pipelines, utilizing gravity fed systems to the maximum extent feasible, to channel flows to the new decentralized Facilities as well as to the existing WWTRF throughout the City's SUDP/SOI. This alternative would require the individual treatment and permitted disposal of effluent at each new site as well as operations and maintenance associated with each new facility added. Each facility would require a treatment train sufficient to treat the wastewater generated within a particular development area and would be required to meet waste discharge permitting requirements and maintain an individual NPDES permit, or provide reclamation lands on which to reuse treated effluent, as well appropriate discharge permits issued by the Regional Water Board.

Campus Parkway/Lake Road Trunk Alternative

The Campus Parkway/Lake Road Trunk Alternative (Campus Parkway Alternative) is a variation on the Eastern Trunk Servicing Concept that would require an additional trunk sewer to be placed outside of the City's SUDP/SOI from the UC Merced Campus to Campus Parkway where it would connect with the existing sewer collection system. This alternative would involve two phases in order to reach adequate build-out capacity needed and analyzed in the 2030 General Plan.

Phase 1 of the Campus Parkway Alternative would involve conveyance of wastewater within the Campus Community area, and possibly additional portions of the service area to flow down through this system and eventually flow to the City's existing WWTRF near the southwest portion of the City's SUDP/SOI. Trunk sewers in the north would be reduced in size as flow from the northwestern portion of the service area would be conveyed via this expansion of the existing WWTRF. Expansion of the existing WWTRF would be required to 35 Mgal/d, similar to the WCSMP in order to meet the projected growth identified in the 2030 General Plan.

Phase 2 of this alternative would require additional wastewater infrastructure for the new development in the far north and northwestern portions of the City (partially outside of the City's SUDP/SOI). These additional alternative features would require the installation of pipelines with sufficient capacity to serve the new growth in the area, as well as associated appurtenances and possible pump and lift stations in order to achieve adequate flow to the existing WWTRF. This alternative is depicted in Figure 10.

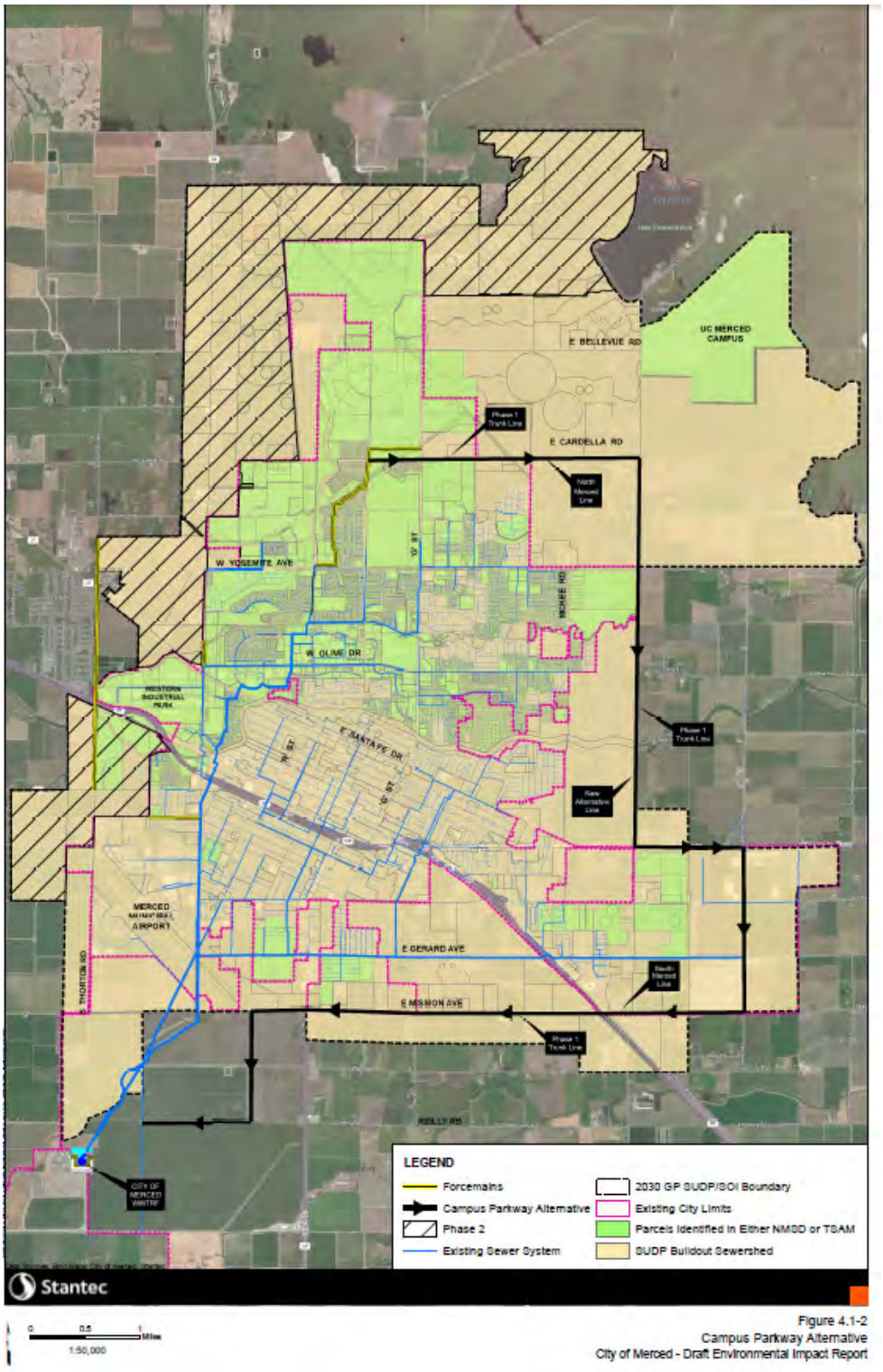


Figure 4.1-2
Campus Parkway Alternative
City of Merced - Draft Environmental Impact Report

Figure 10 Campus Parkway Alternative Trunk Alignment/ Lake Road Alternative