

# City of Merced Wastewater Collection System Master Plan

Stakeholder Meeting

November 13, 2017

# Purpose of Meeting

- Describe work completed since March 2017 – last stakeholder meeting
- Solicit input on:
  - Updates to draft master plan
  - Next steps and schedule

# Stakeholder Involvement

- This Meeting, February 2016, January & March 2017 Meetings
- October 2016 Draft Sewer Master Plan Review
- Incorporated Stakeholder Input into Updated draft – ES available now – Full Report November 2017
- Final Master Plan Timing

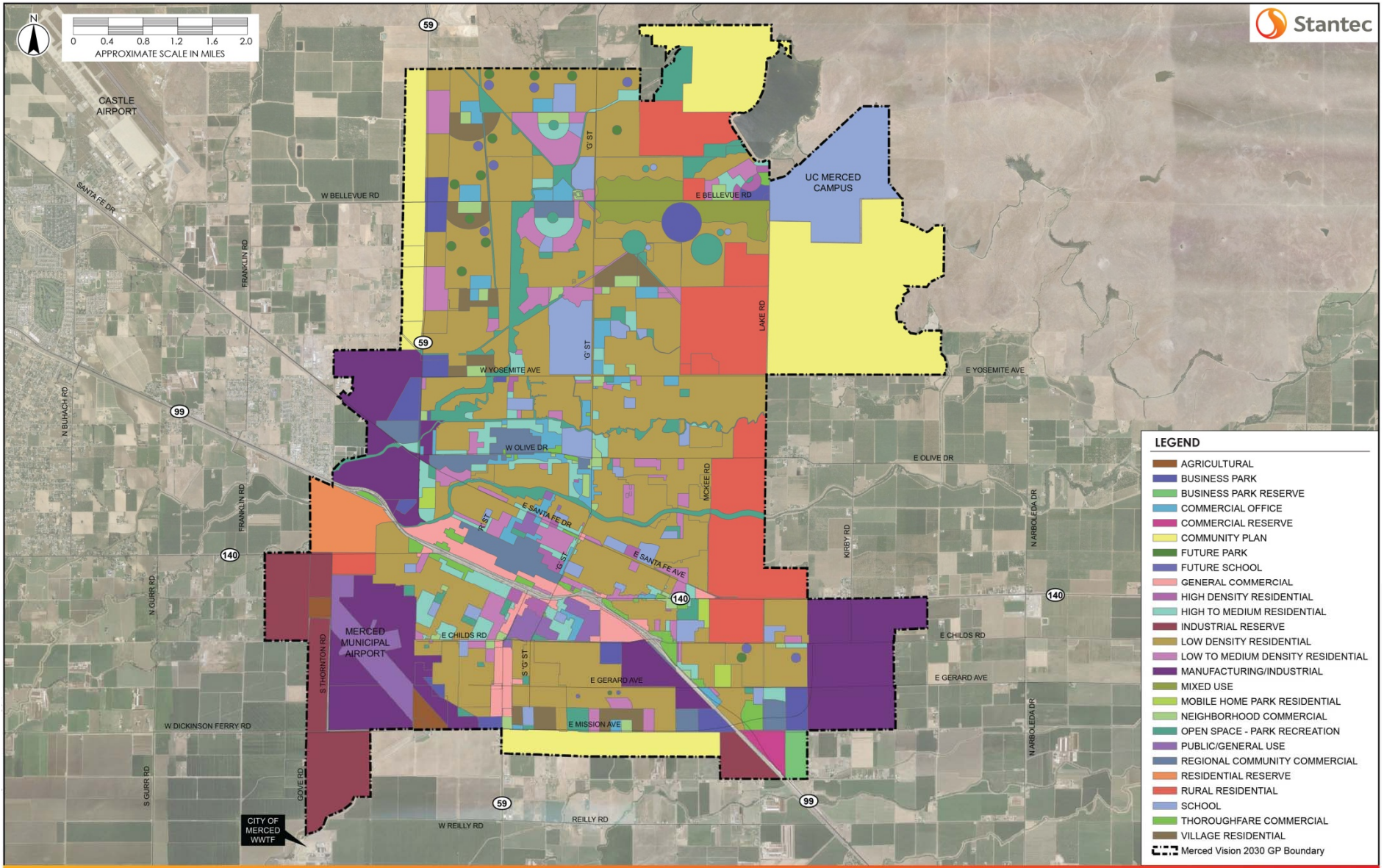
# Background & New Information

- January & March 2017 Stakeholder Meetings
- Input & Changes
  - Clarification of conflicting population and EDU data
  - Response to specific comments
  - Minor changes to model catchments and assumptions
  - Minor update of Interim Condition scenario – Entitled properties North Merced

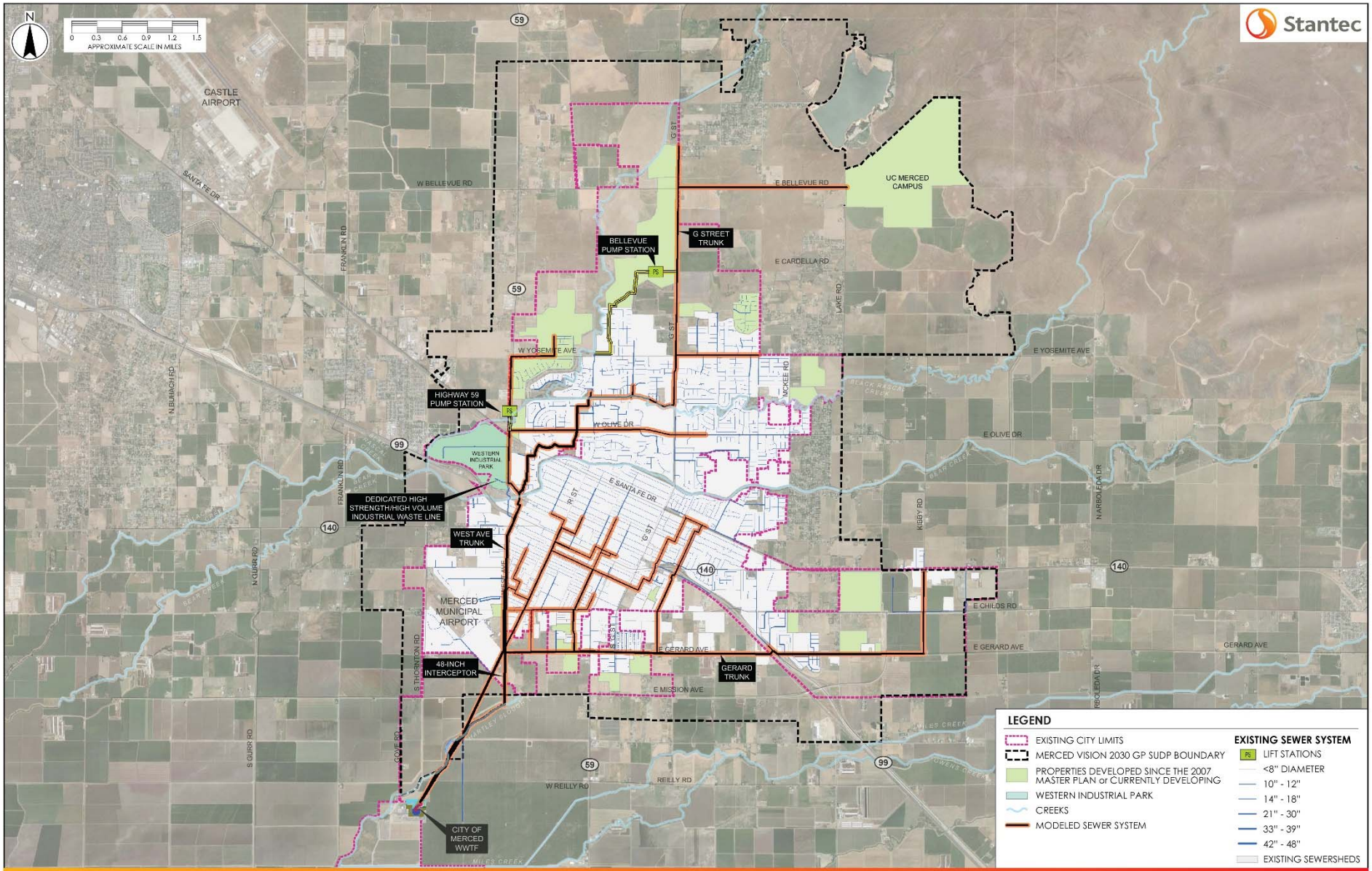
# Background & New Information

- Input & Changes, cont'd.
  - New chapters & executive summary
  - Assessment District parcel evaluation and cost estimate updates

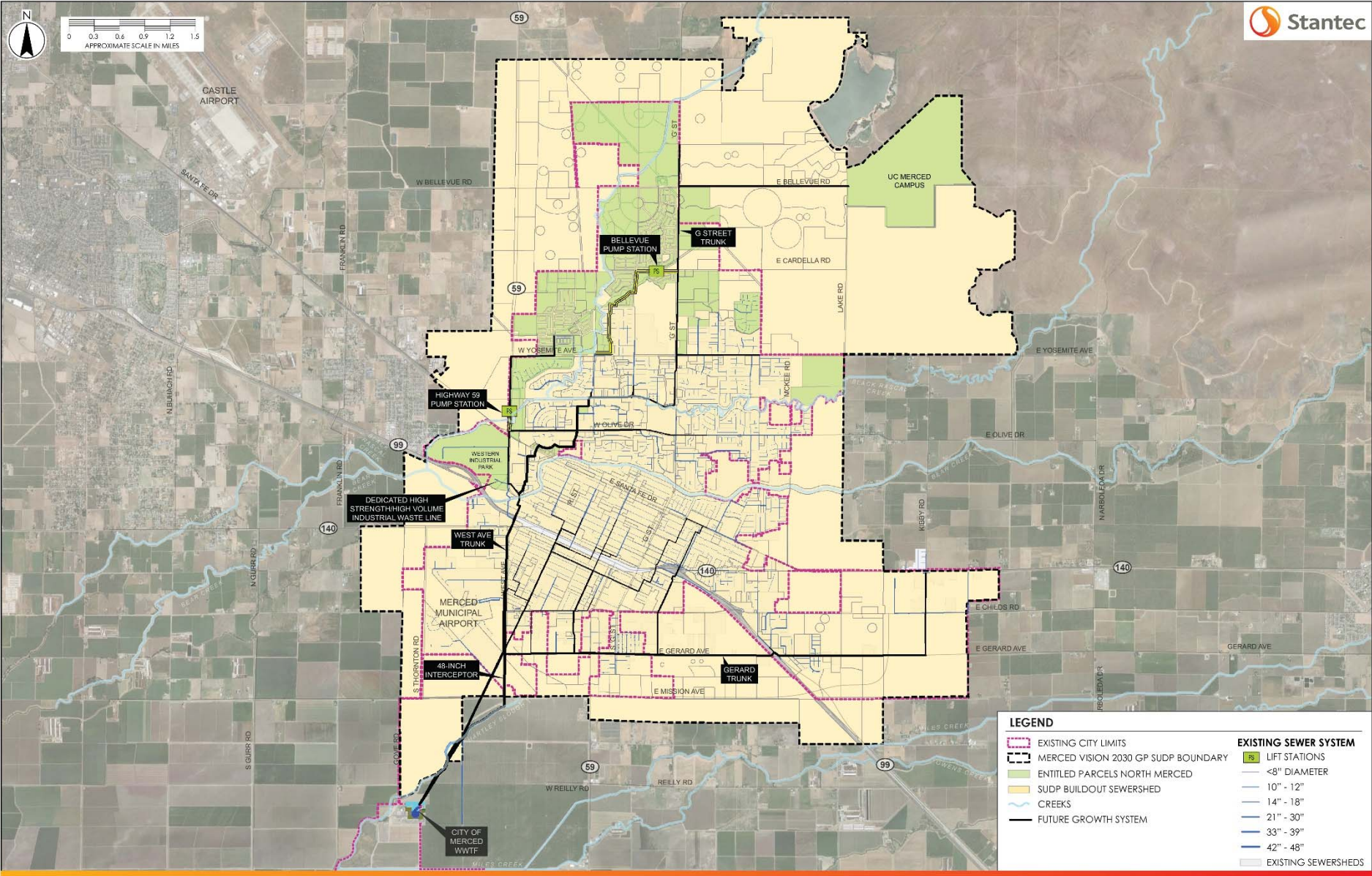
# General Plan Vision 2030



# Modeled Sewer System



# Sewer Service Area Build-out Extents





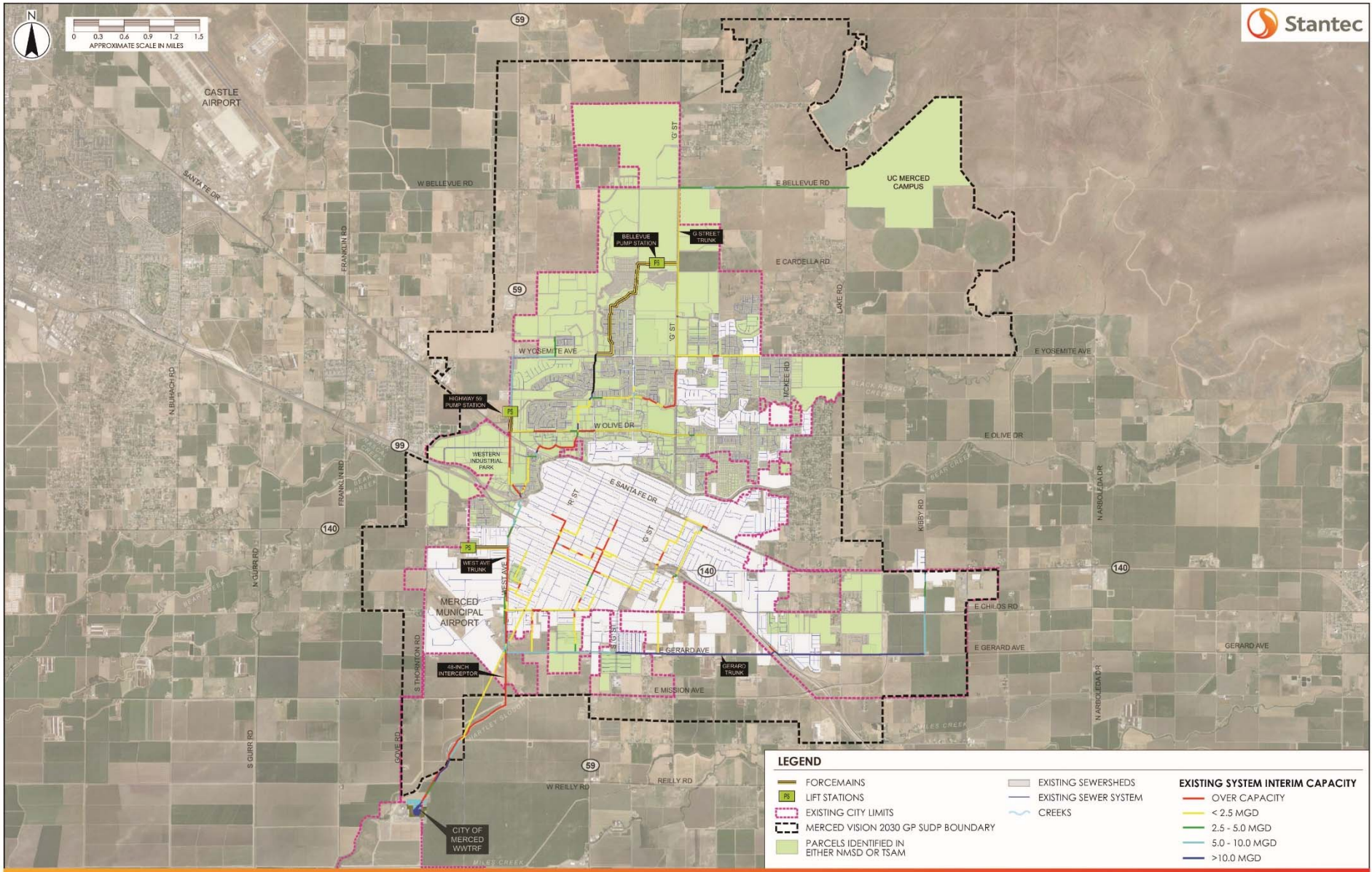
# Objectives of Current Wastewater Planning Effort

- Assess remaining capacity in collection system
- Develop alternatives to provide sewer service to planned growth within SUDP
  - Long-term Servicing Plan
  - Interim Servicing Plan
- Develop sewerage plan that minimizes lifecycle costs (capital and operating costs)

# Interim Conditions – North Merced

- Entitled Properties – North Merced
  - Approved Entitlements within City Limits
  - Properties within North Merced Sewer Assessment District
- Full Build-out of UC Merced

# Interim Conditions – North Merced



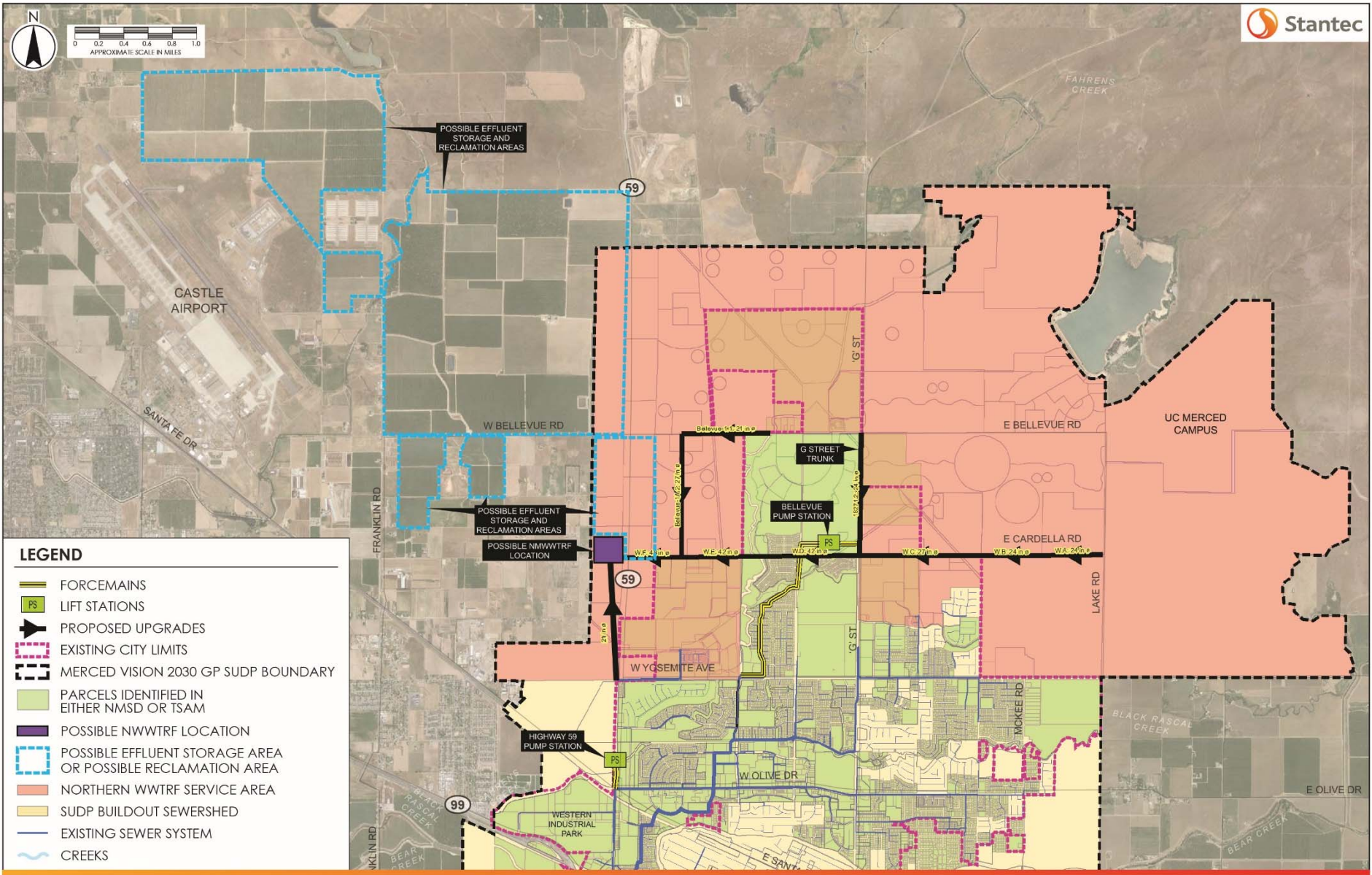
# Interim Conditions – North Merced

- Existing Trunk Sewers
- Recent Discussions – UC Merced
- What does this mean?

# NMWWTRF Evaluation

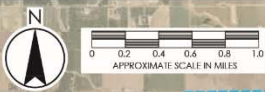
- Service area – North Merced – 14 Mgal/d, ADWF
- Offset facility needs at existing WWTRF
- Assumes agricultural reclamation in North Merced at build-out
- Significant acreage needed within and likely outside SUDP at build-out

# NMWWTRF Evaluation



**LEGEND**

- FORCEMAINS
- LIFT STATIONS
- PROPOSED UPGRADES
- EXISTING CITY LIMITS
- MERCED VISION 2030 GP SUDP BOUNDARY
- PARCELS IDENTIFIED IN EITHER NMSD OR TSAM
- POSSIBLE NWWTRF LOCATION
- POSSIBLE EFFLUENT STORAGE AREA OR POSSIBLE RECLAMATION AREA
- NORTHERN WWTRF SERVICE AREA
- SUDP BUILDOUT SEWERSHED
- EXISTING SEWER SYSTEM
- CREEKS



# NMWWTRF Evaluation

- Includes significant seasonal storage (9,600 AF at build-out)
- Assumes reclamation on existing ag lands (~3,500 acres) near NW portion of SUDP, no surface water discharge
- Assumes significant acreage of SUDP area north of Cardella eventually utilized for plant, effluent storage and reclamation
- Prior (October 2016) evaluation made significant simplifying assumptions
  - ability to obtain NPDES permit for wet season discharge to Fahren's Creek – flooding issues
  - Ignored the cost of any reclamation and storage and focused solely on the cost of treatment
  - Ignored savings on trunk sewer costs

# NMWWTRF Evaluation

- Prior (October 2016) evaluation made significant simplifying assumptions
  - Assumed ability to obtain NPDES permit for wet season discharge to Fahren's Creek – flooding issues
  - Ignored the cost of any reclamation and storage and focused solely on the cost of treatment
  - Ignored savings on trunk sewer costs
  - Ignored cost to obtain all Regional Board permissions and CEQA, resource permitting costs



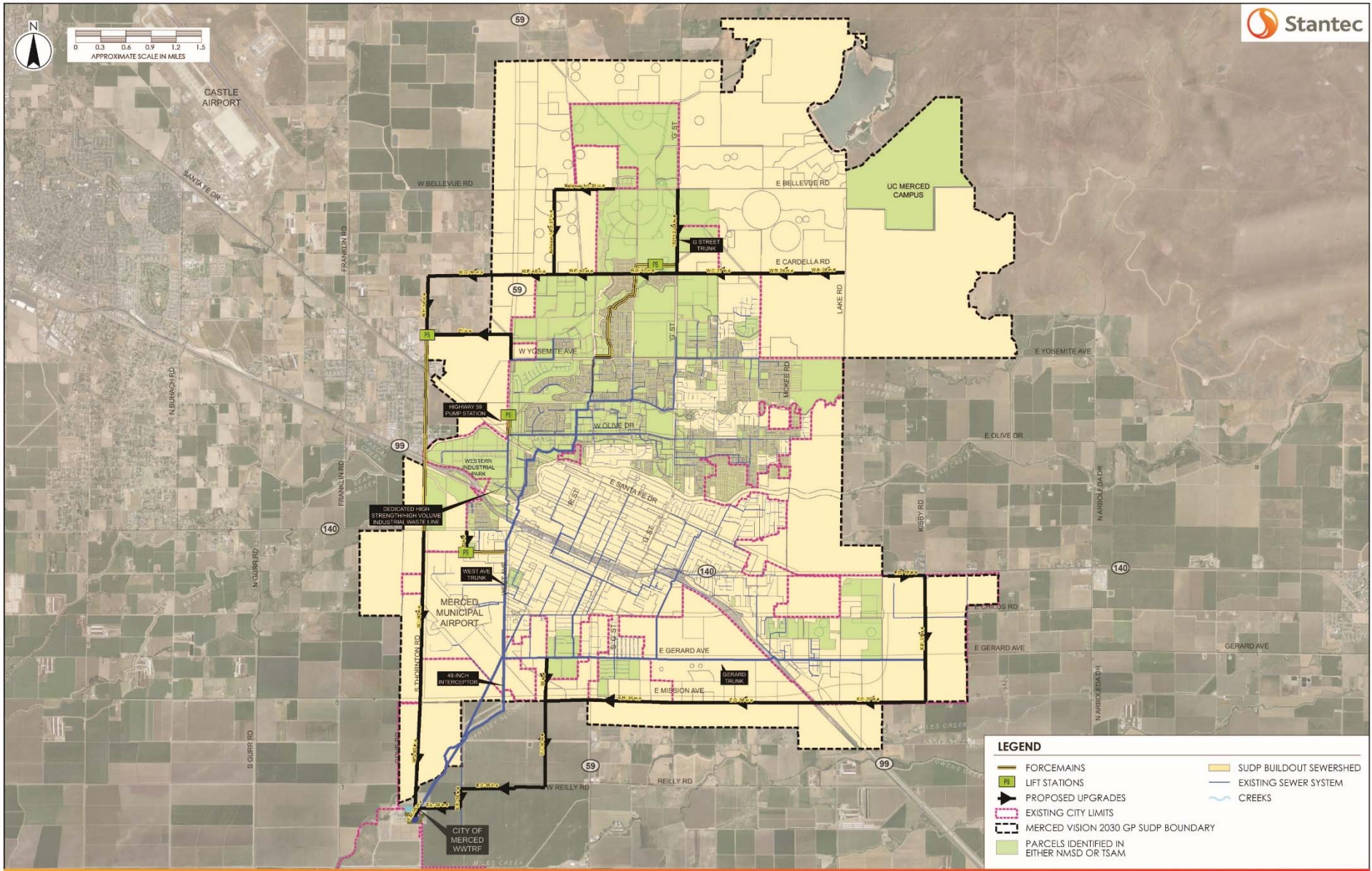
# NMWWTRF Evaluation

- Probable total NMWWTRF project cost – >\$600 M – includes trunk sewers
- Probable total project cost to manage at existing WWTRF - <\$520 M – includes trunk sewers
- Total 30-year life cycle cost for separate plants greater than centralized WWTF – but not considered in this draft

# Conclusion – Centralized WWTRF

- Construct trunk sewers to existing WWTRF
- Trunk sewers designed for ultimate build-out as discussed previously (~34 Mgal/d)
- WWTRF to be expanded in phases as discussed previously – keep pace with development
- City wishes to provide flexibility to the development community

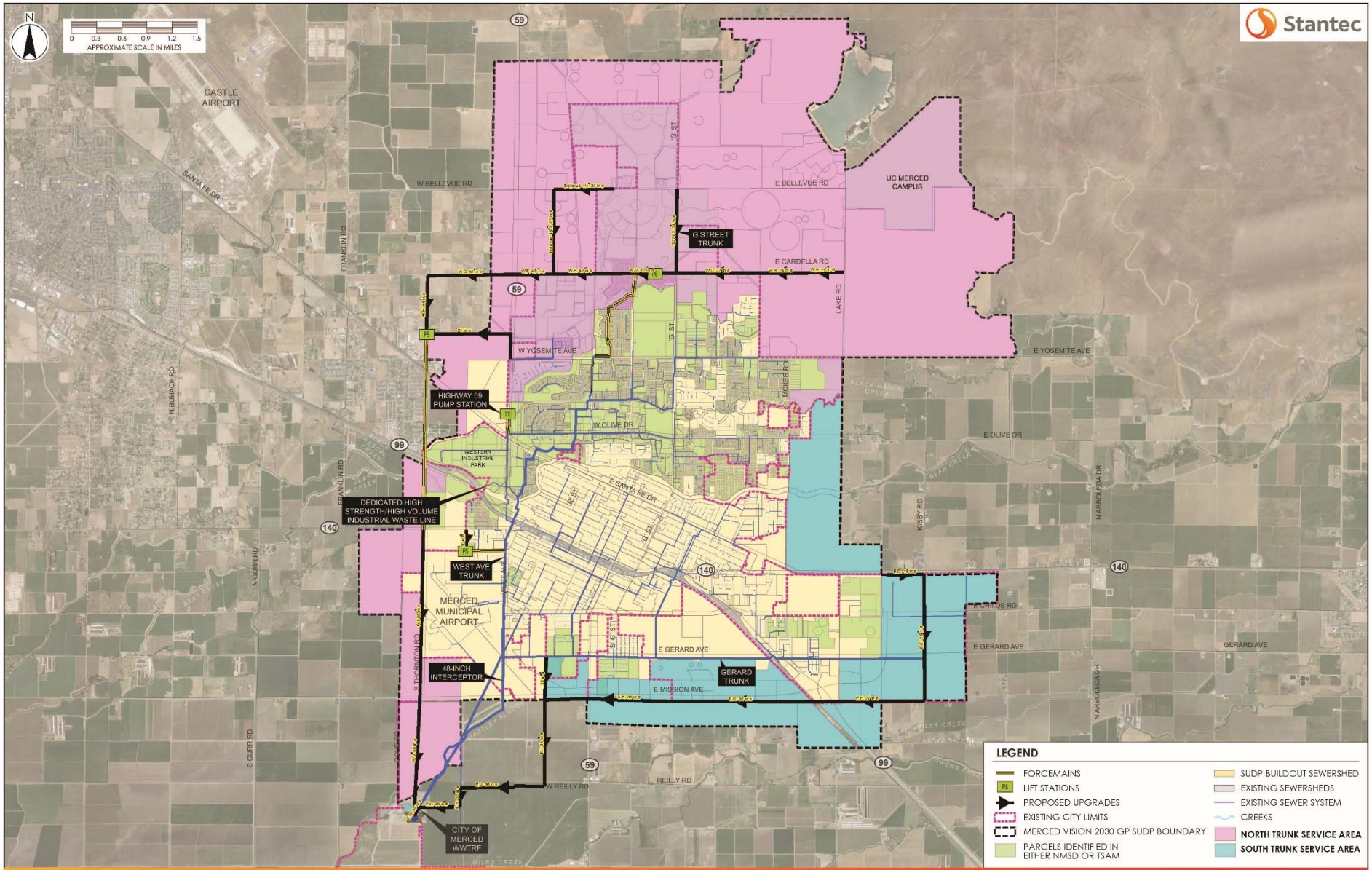
# Recommended Facilities



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- Probable Capital Cost for new trunks – ~\$142 M
- Costs updated for trunk sewers
- North Merced trunk sewers - ~\$110 M
- South Merced trunk sewers - ~\$31.5 M
- Costs adjusted for recent work in City publicly bid
- Costs adjusted for specific conditions observed along alignments including: surface conditions, existing facilities, utilities and crossing (streams, canals, transportation corridors)

# North Trunk Service Area



LEGEND	
	FORCEMAINS
	LIFT STATIONS
	PROPOSED UPGRADES
	EXISTING CITY LIMITS
	MERCED VISION 2030 GP SUDP BOUNDARY
	PARCELS IDENTIFIED IN EITHER NMSD OR TSAM
	NORTH TRUNK SERVICE AREA
	SOUTH TRUNK SERVICE AREA
	SUDP BUILDOUT SEWERSHED
	EXISTING SEWERSHEDS
	EXISTING SEWER SYSTEM
	CREEKS

# Recommended Facilities

- Probable Capital Cost for WWTRF to serve 2030 population identified in General Plan – ~\$122 M (20 Mgal/d, ADWF)
- WWTRF capacity can be phased
- 16 Mgal/d (4 Mgal/d added to existing) - ~\$78 M
- 20 Mgal/d (4 Mgal/d added to 16 Mgal/d expansion - ~\$48 M
- City open to options relative to phasing

# Next Steps

1. Finalize Master Plan with stakeholder input
2. Review concepts with City Council and community
3. Prepare programmatic CEQA document to cover Master Plan CIP
4. Prepare and adopt the Final Sewer Master Plan
5. Establish financing for CIP elements – assessment district