City of Sparks TMSA/FSA Conceptual Facility Master Plan

Volume 2 of 2

January 2008

Prepared for:

City of Sparks
910 Roberta Lane
Sparks, Nevada 89431

Regional Water Planning Commission
c/o Washoe County Department of Water Resources
4930 Energy Way
Reno, Nevada 89502

Project

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Project #180101085

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Section 1
Introduction

CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 1.1

Facility Plan Study Area and Priority Service Area Boundaries

Legend

- Study Area Boundary (127 sq. miles)
- Sparks Incorporated Boundary (34 sq. miles)
- Reno Incorporated Boundary (102 sq. miles)

Priority Service Area & Number

- 1
- 2
- 3
- 4
- 5
- 6

- Township
- Section Lines & Number
- Truckee River

Street Centerlines

- Freeway
- Highway
- Major Arterial

1:100,000

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CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 1.2

Regional TMSA Boundaries and Sparks FSA Area

Legend

- Sparks Incorporated Boundary (34 sq. miles)
- Reno Incorporated Boundary (102 sq. miles)
- Sparks TMSA (70 sq. miles)
- Reno TMSA (162 sq. miles)
- Washoe County TMSA (93 sq. miles)
- Sparks FSA (56 sq. miles)
- Truckee River

Street Centerlines

- Freeway
- Highway
- Major Arterial

0 0.5 1 2 3 Miles

1:100,000

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CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 1.3

Private and Publically Owned Land by Major Category

Legend

- Study Area Boundary
- Private Parcels

Publically Owned Parcels

- United States of America
- City of Sparks
- Other State, Federal and Local Entities

Street Centerlines

- Freeway
- Highway
- Major Arterial

0 0.5 1 2 3 Miles

1:100,000

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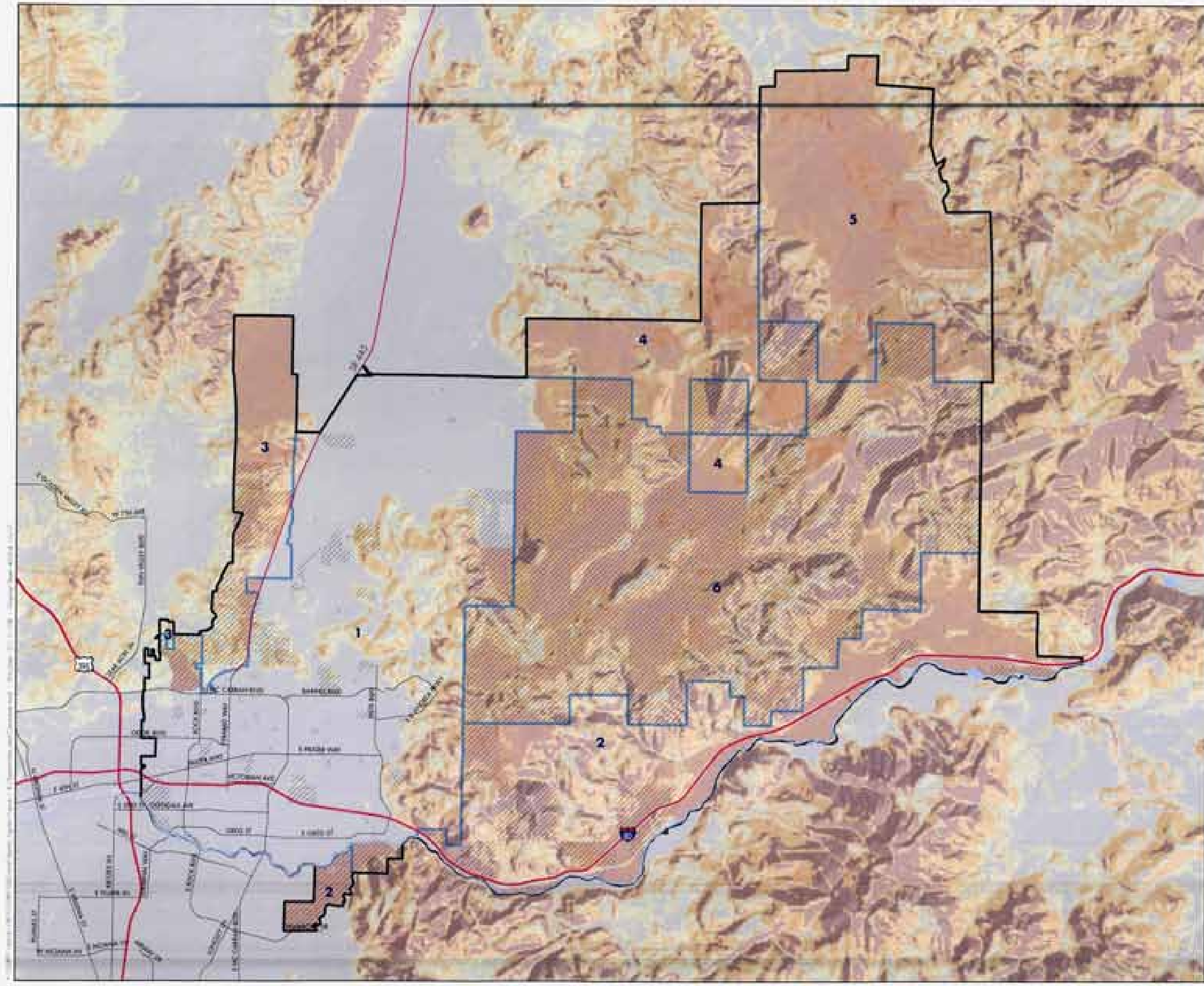

CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 1.4

Development Opportunities and Constraints

Legend

- Study Area Boundary
- Priority Service Area Boundary & Number

Percent Slope

- 0 - 7%
- 7.1 - 15%
- 15.1 - 30%
- Over 30%
- Developable Areas (<30% Slope)
- Publicly Owned Parcels
- Truckee River

Street Centerlines

- Freeway
- Highway
- Major Arterial

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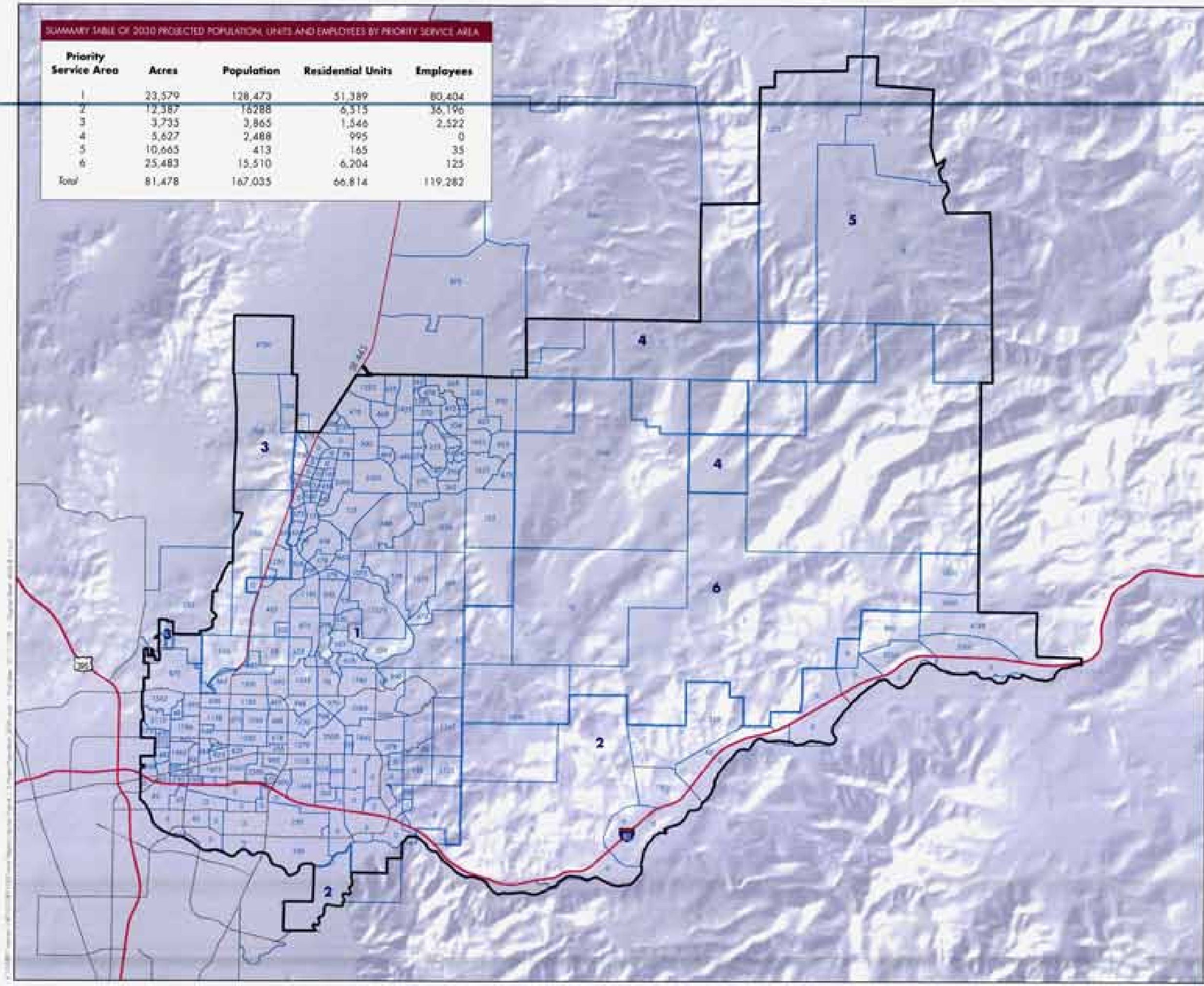
SUMMARY TABLE OF 2030 PROJECTED POPULATION, UNITS AND EMPLOYEES BY PRIORITY SERVICE AREA

Priority Service Area	Acres	Population	Residential Units	Employees
1	23,579	128,473	51,389	80,404
2	12,387	16288	6,515	35,196
3	3,735	3,865	1,546	2,522
4	5,627	2,488	995	0
5	10,665	413	165	35
6	25,483	15,510	6,204	125
Total	81,478	167,035	66,814	119,282



CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure 1.5

2030 Projected Population by Traffic Analysis Zone ("TAZ")

Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- TAZ Boundary with Population Projection

Street Centerlines

- Freeway
- Highway
- Major Arterial

Note: TAZs with '0' population reflect a planned employment center and no residential uses.

0 0.5 1 2 3 Miles

1:100,000

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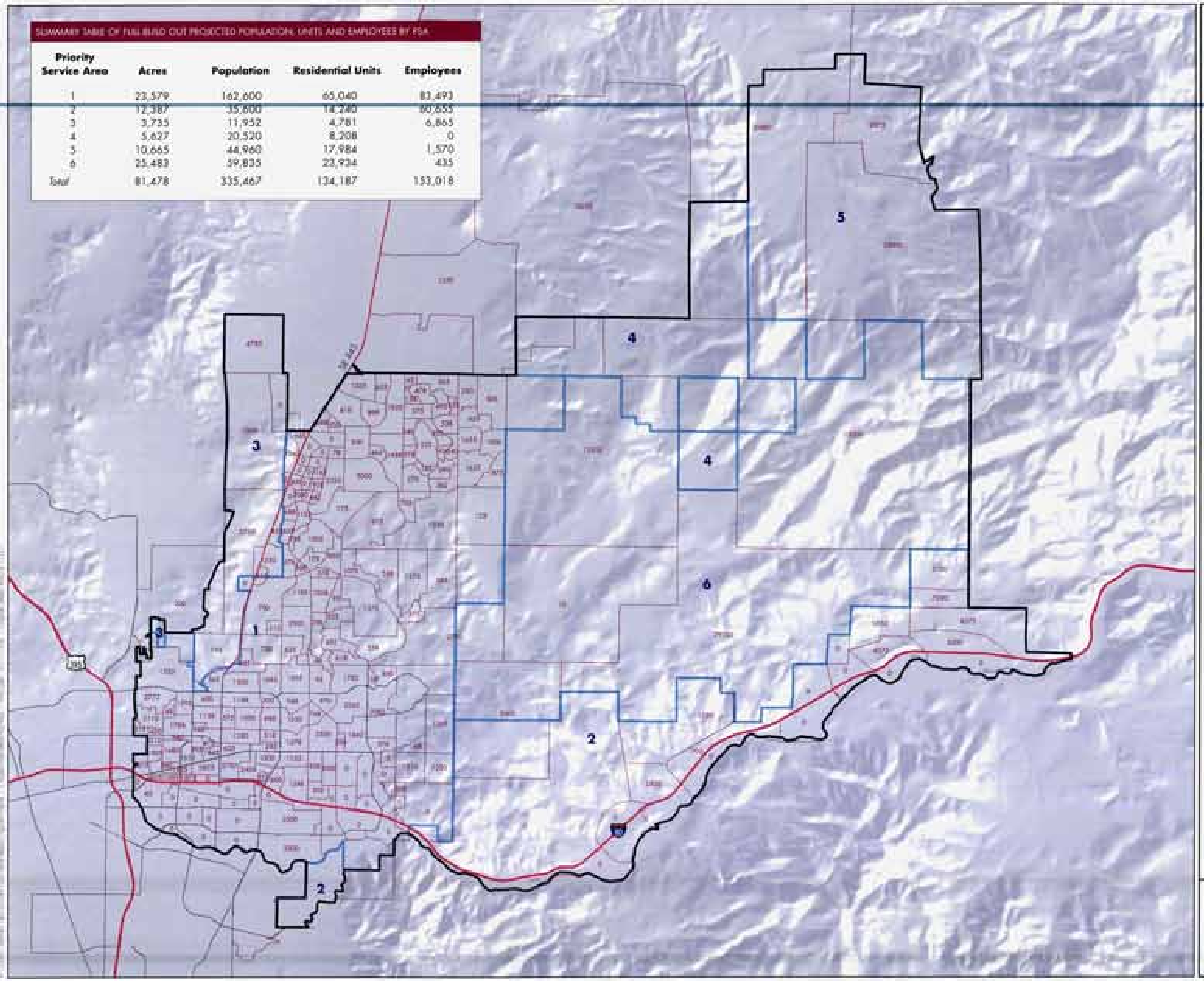
The City of Sparks

SUMMARY TABLE OF FULL BUILD OUT PROJECTED POPULATION, UNITS AND EMPLOYEES BY PSA

Priority Service Area	Acres	Population	Residential Units	Employees
1	23,579	162,600	65,040	83,493
2	12,387	35,600	14,280	60,655
3	3,735	11,952	4,781	6,865
4	5,627	20,520	8,208	0
5	10,665	44,960	17,984	1,570
6	25,483	59,835	22,934	435
Total	81,478	335,467	134,187	153,018



CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure 1.6

Full Build-Out Projected Population by Traffic Analysis Zone ("TAZ")

Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- TAZ Boundary with Population Projection

Street Centerlines

- Freeway
- Highway
- Major Arterial

Note: TAZs with '0' population reflect a planned employment center and no residential uses.

0 0.5 1 2 3 Miles

1:100,000

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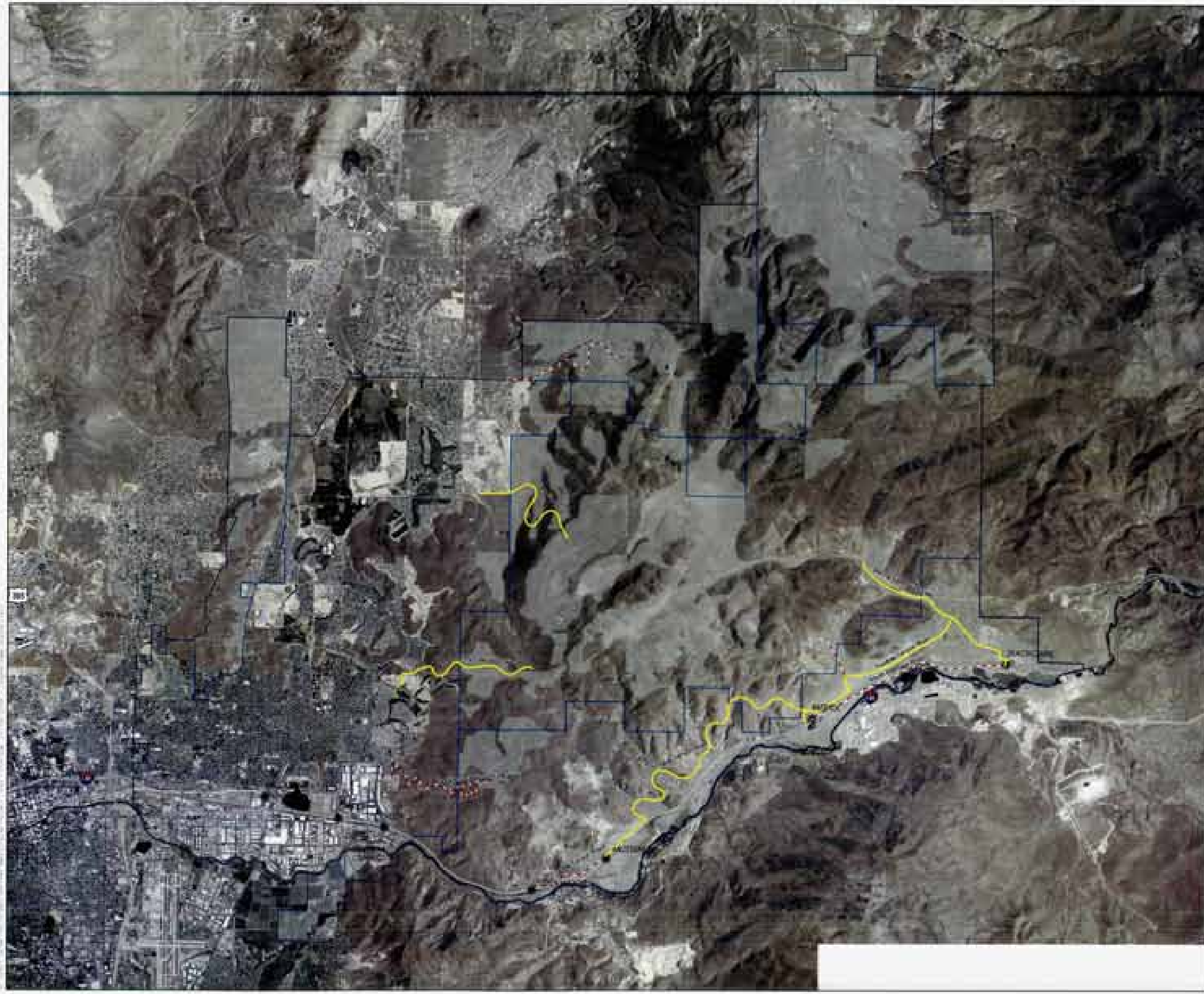
Section 2
Transportation



CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 2.1

Existing and Proposed Roadway Network and Traffic Assignments - 2030

Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope)
- Existing & Proposed Interchanges
- Arterial Road
- Collector/Local Road

0 0.5 1 2 3 Miles

1:100,000

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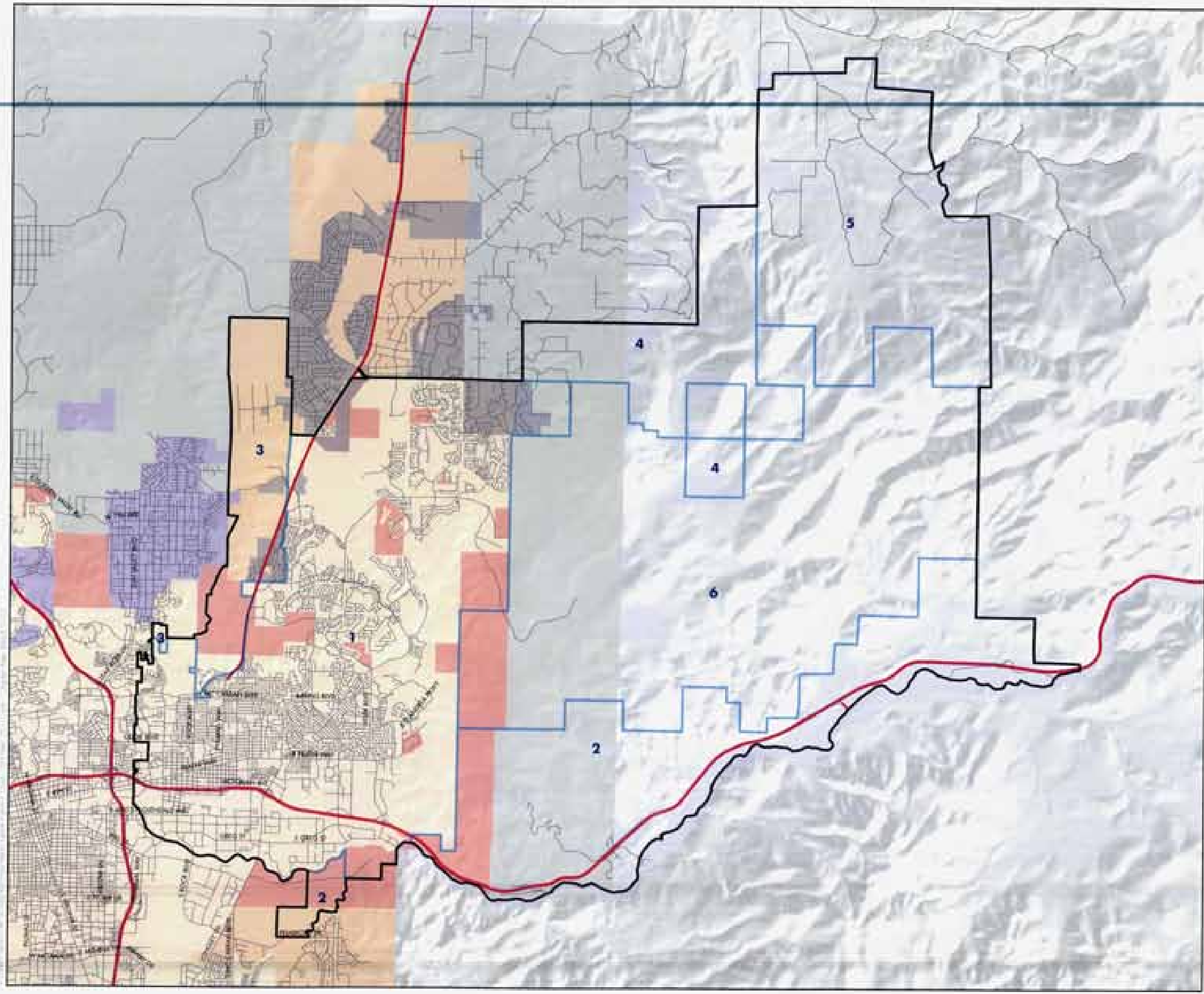
Section 3
Water

CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 3.1

Existing Water Service Providers and Service Territories



Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- WCDWV Service Area
- Washoe County Wholesale Area
- Washoe County Sphere of Influence
- Other Wholesale Areas
- TMWA Retail Area
- TMWA Sphere of Influence
- Highways
- Arterials

0 0.5 1 2 3 Miles

1:100,000

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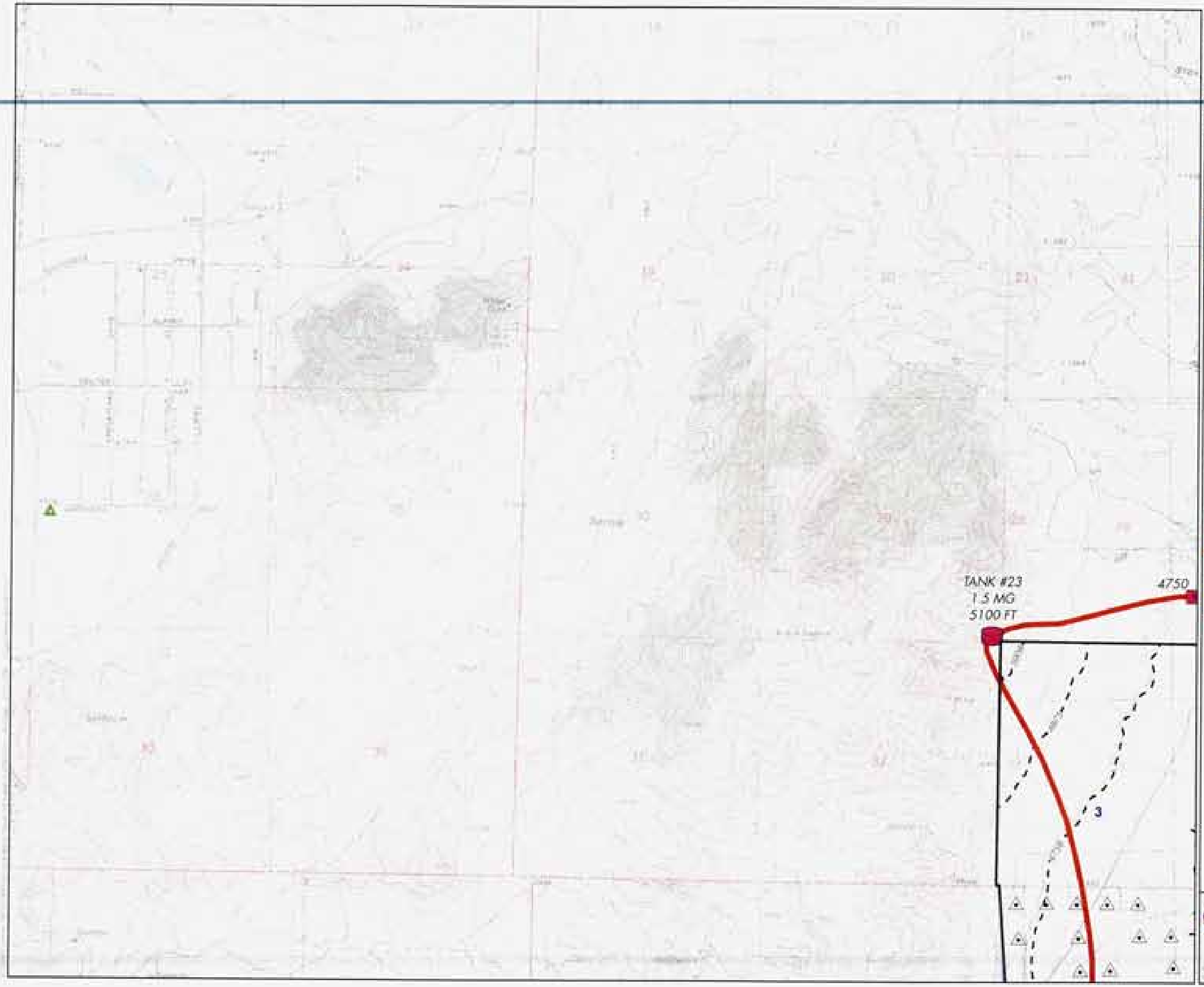
CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 3.2

Existing and Proposed Water Facilities - 2030 (C16)



Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
- Existing Private Wells
- TMWA Tank Locations
- TMWA Pump Stations
- TMWA Wells
- TMWA 8" Mains or greater
- WCDWR 8" Mains or greater
- WCDWR Well Locations
- Proposed Tank Locations
- Proposed Pump Stations

Proposed Water Mains

- 12"
- 16"
- Pressure Zone Boundaries & Elevation
- Arterial Road
- Collector/Local Road

KEY MAP (not to scale)

0 1,000 2,000 4,000 Feet

1:24,000

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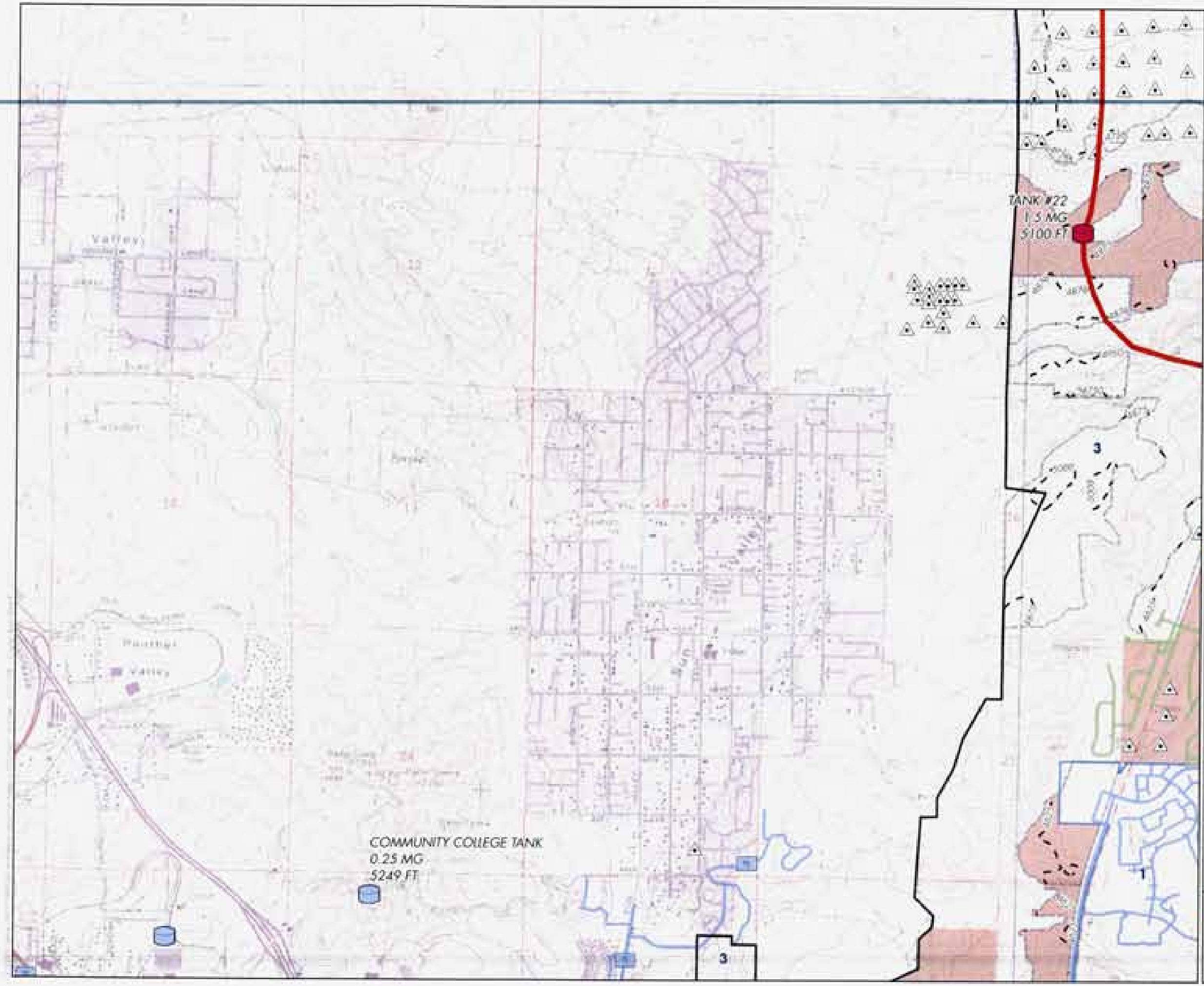
CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 3.3

Existing and Proposed Water Facilities - 2030 (C17)



Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
- Existing Private Wells
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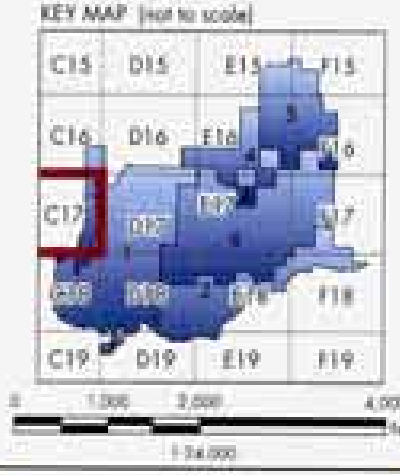
- TMWA Pump Stations
- TMWA Wells
- TMWA 8" Mains or greater
- WCDWR 8" Mains or greater
- WCDWR Well Locations
- Proposed Tank Locations
- Proposed Pump Stations

Proposed Water Mains

- 12"
- 10"
- Pressure Zone Boundaries & Elevation
- Arterial Road
- Collector/local Road

KEY MAP (not to scale)



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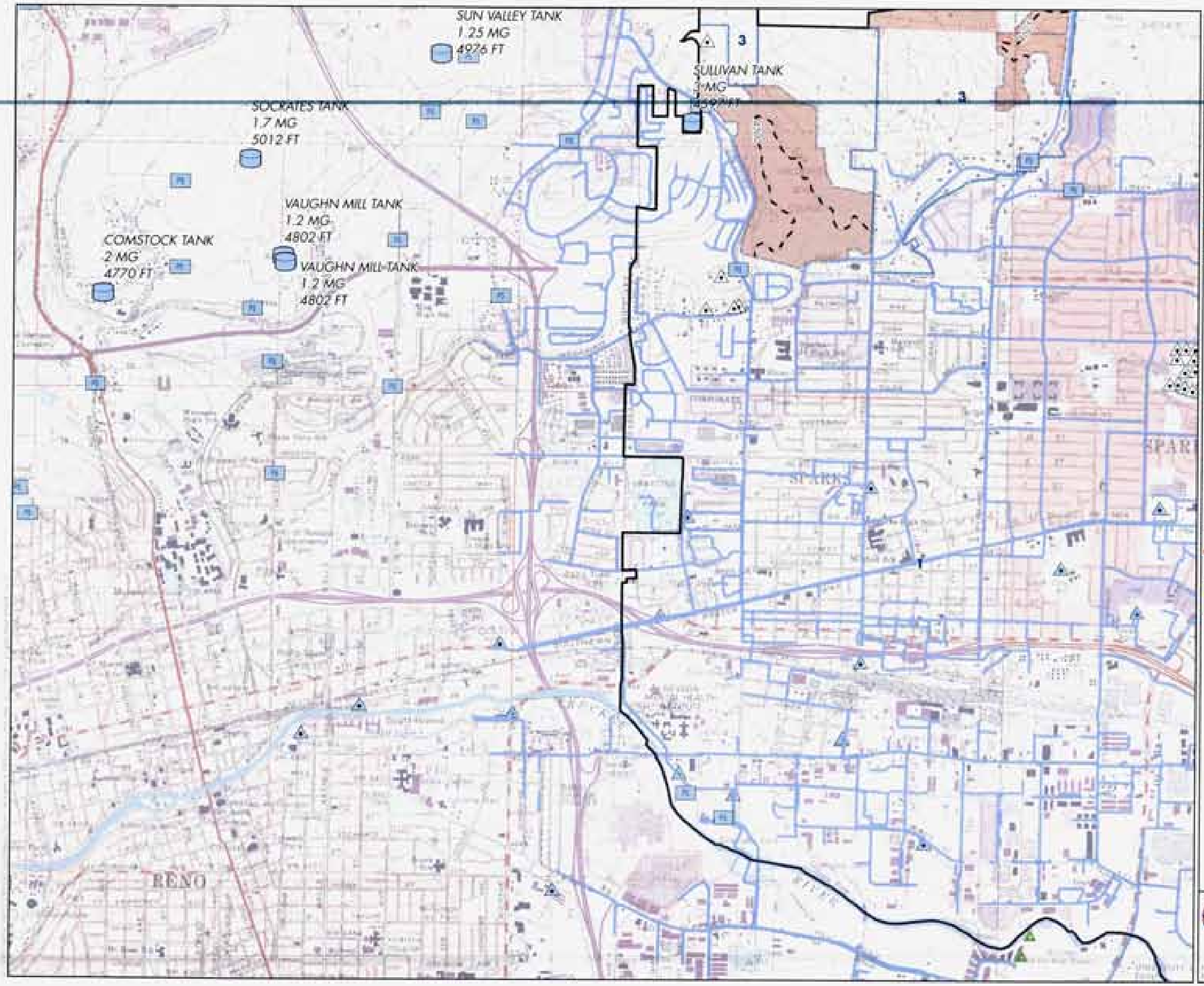


CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 3.4

Existing and Proposed Water Facilities - 2030 (C18)

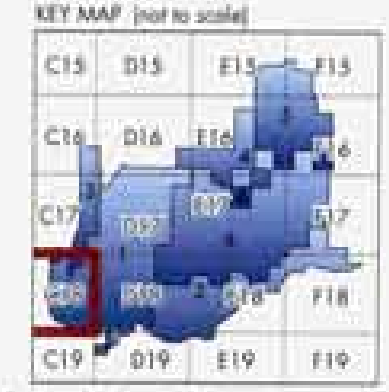
Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
- Existing Private Wells
- TMWA Tank Locations
- TMWA Pump Stations
- TMWA Wells
- TMWA 8" Mains or greater
- WCDWR 8" Mains or greater
- WCDWR Well Locations
- Proposed Tank Locations
- Proposed Pump Stations

Proposed Water Mains

- 12"
- 16"
- Pressure Zone Boundaries & Elevation
- Arterial Road
- Collector/Local Road

KEY MAP (not to scale)



0 1,000 2,000 4,000 Feet

1:24,000

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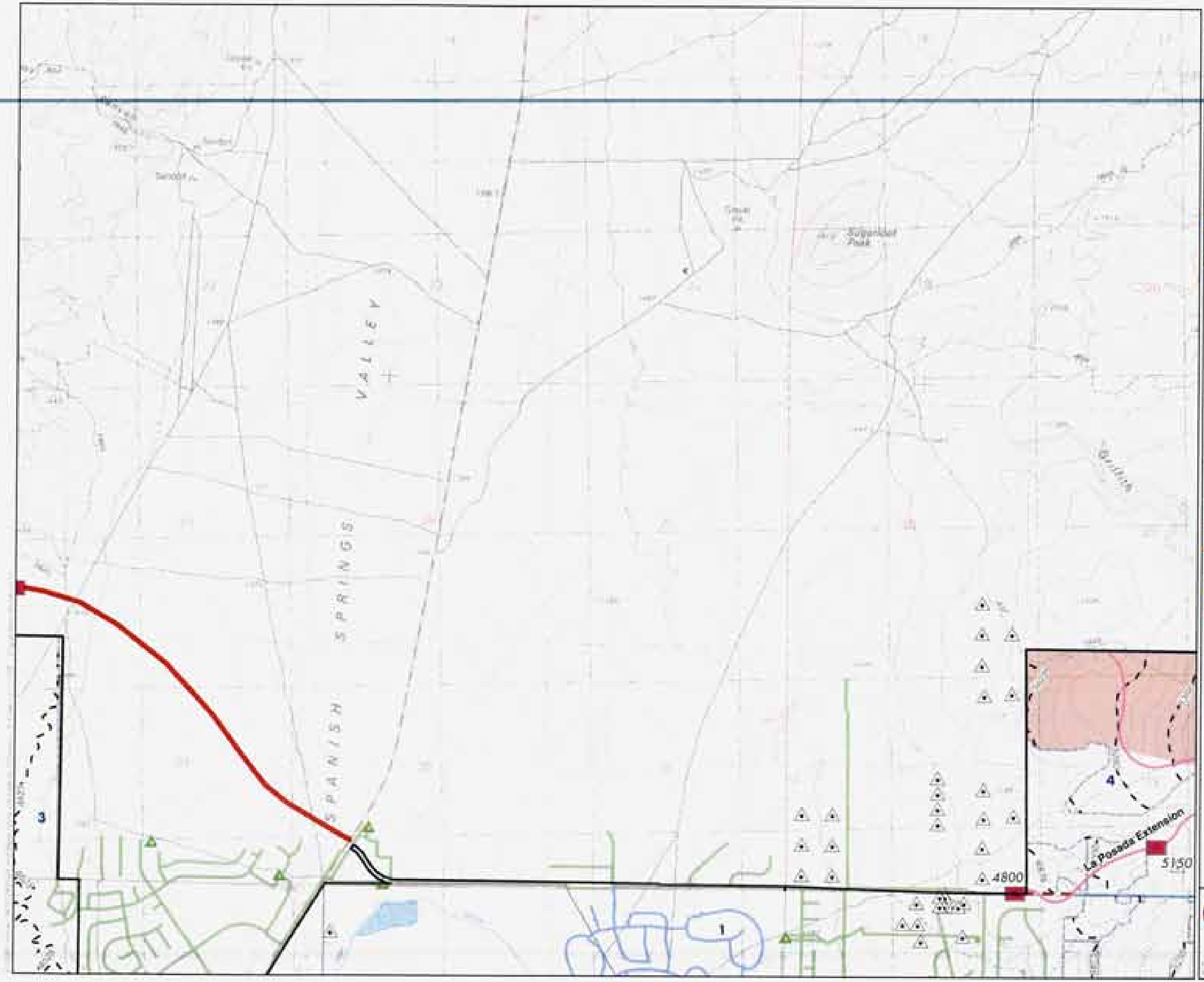
CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 3.5

Existing and Proposed Water Facilities - 2030 (D16)



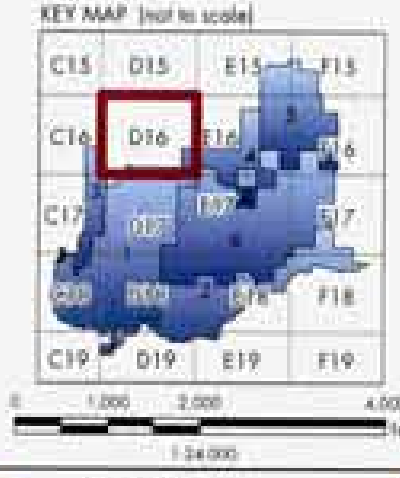
Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
- Existing Private Wells
- TMWA Tank Locations
- TMWA Pump Stations
- TMWA Wells
- TMWA 8" Mains or greater
- WCDWR 8" Mains or greater
- WCDWR Well Locations
- Proposed Tank Locations
- Proposed Pump Stations

Proposed Water Mains

- 12"
- 16"
- Pressure Zone Boundaries & Elevation
- Arterial Road
- Collector/Local Road

KEY MAP (not to scale)



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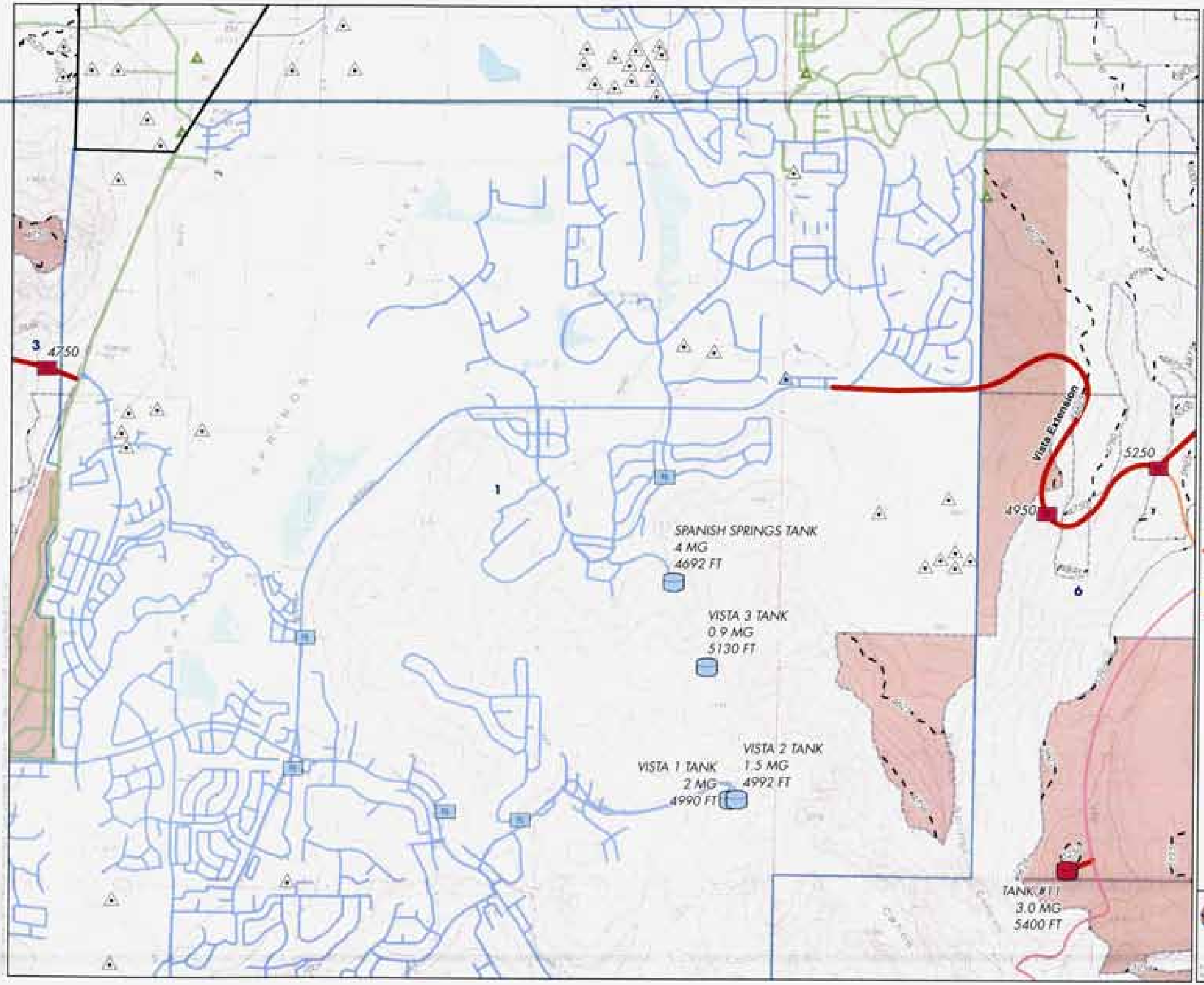
CONCEPTUAL FACILITY MASTER PLAN

Figure: 3.6

Existing and Proposed Water Facilities - 2030 (D17)



Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
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- TMWA Wells
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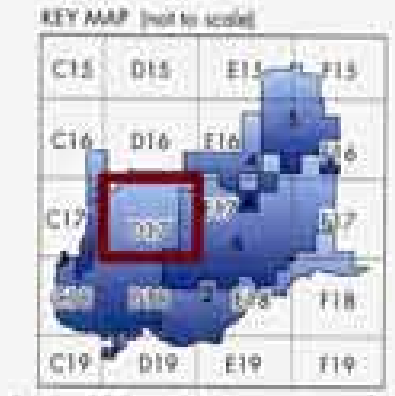
- WCDWR Well Locations
- Proposed Tank Locations
- Proposed Pump Stations

Proposed Water Mains

- 12"
- 16"
- Pressure Zone Boundaries & Elevation
- Arterial Road
- Collector/Local Road

KEY MAP (not to scale)



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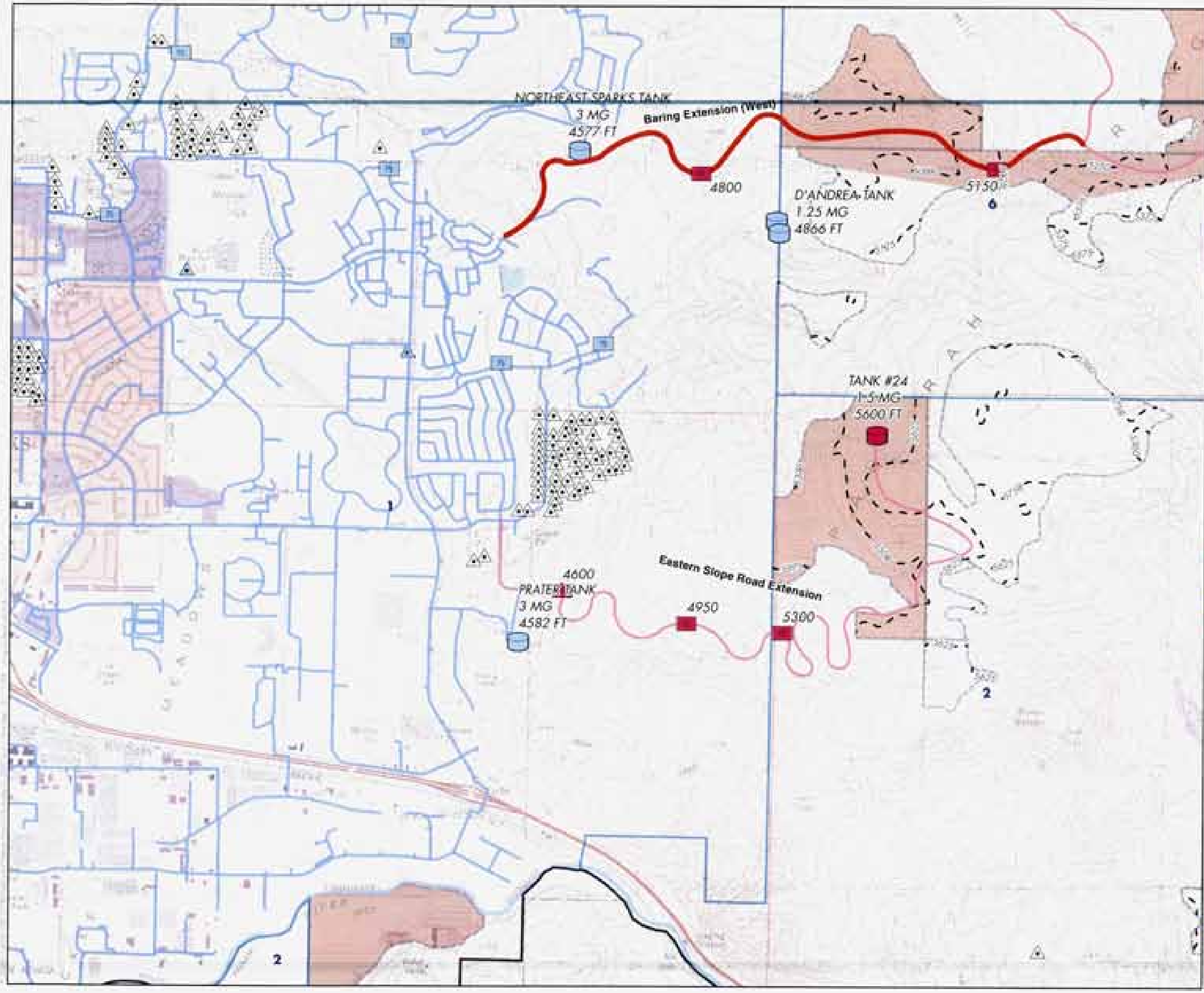
CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 3.7

Existing and Proposed Water Facilities - 2030 (D18)



Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
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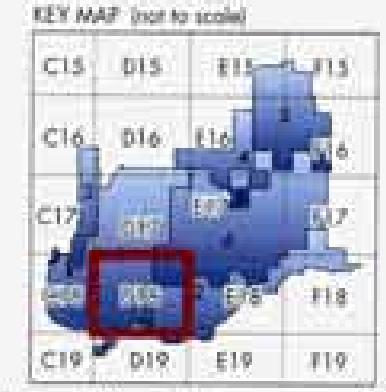
Proposed Water Mains

- 12"
- 16"
- Pressure Zone Boundaries & Elevation
- Arterial Road
- Collector/Local Road

KEY MAP (not to scale)



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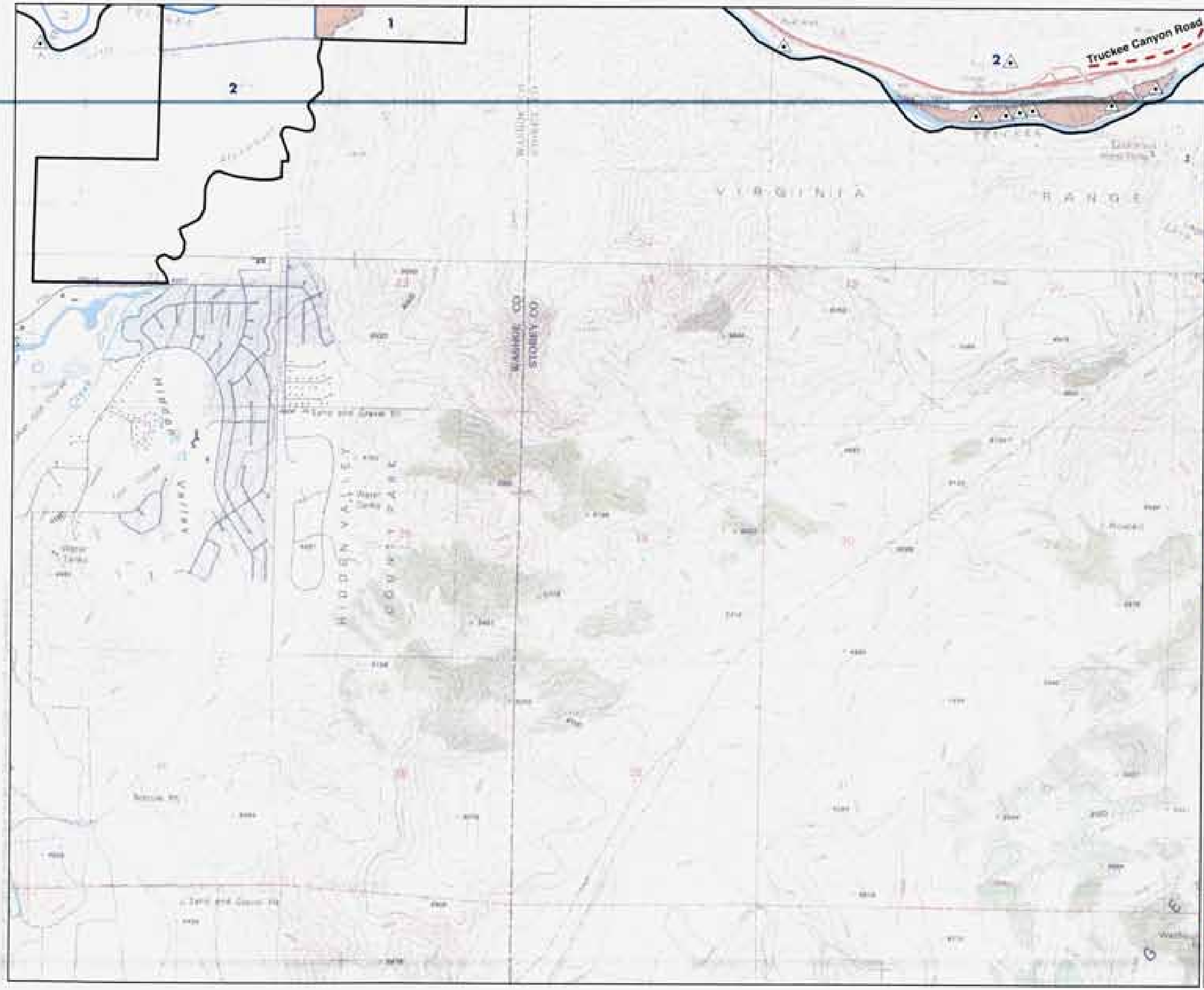

CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 3.8

Existing and Proposed Water Facilities - 2030 (D19)

legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
- Existing Private Wells
- TMWA Tank Locations
- TMWA Pump Stations
- TMWA Wells
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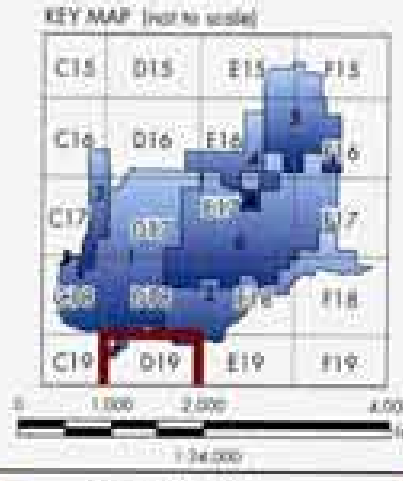
- WCDWR 8" Mains or greater
- WCDWR Well Locations
- Proposed Tank Locations
- Proposed Pump Stations

Proposed Water Mains

- 12"
- 16"
- Pressure Zone Boundaries & Elevation
- Arterial Road
- Collector/Local Road

KEY MAP (not to scale)



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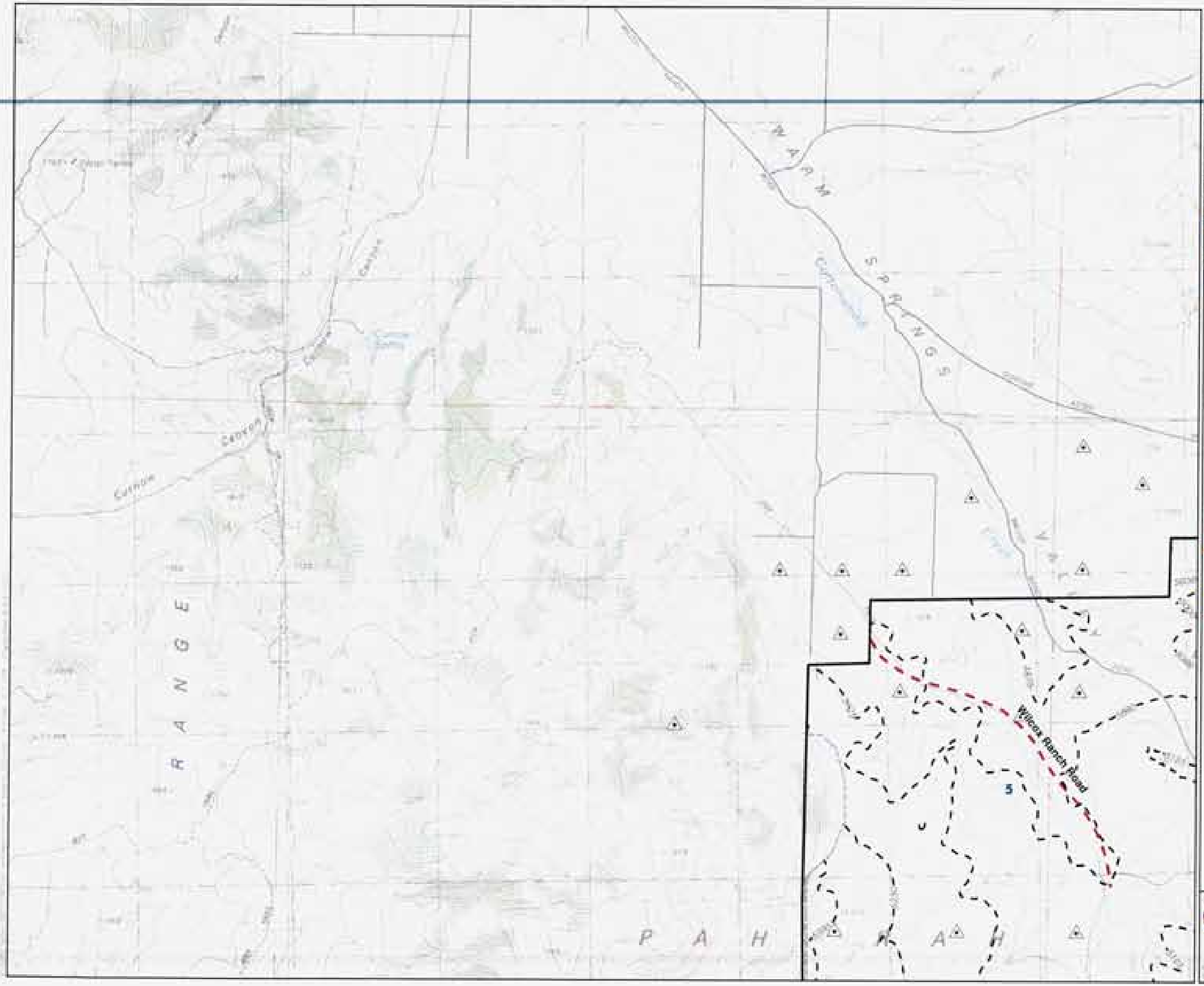
CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 3.9

Existing and Proposed Water Facilities - 2030 (E15)



Legend

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Proposed Water Mains

- 12"
- 16"
- Pressure Zone Boundaries & Elevation
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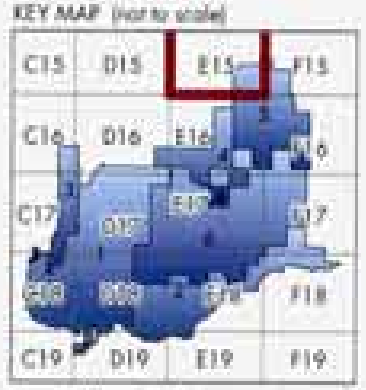
- Collector/Local Road

KEY MAP (not to scale)



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CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 3.10

Existing and Proposed Water Facilities - 2030 (E16)

Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
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Proposed Water Mains

- 12"
- 10"
- Pressure Zone Boundaries & Elevation
- Arterial Road
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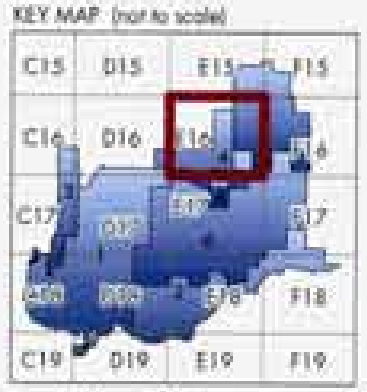
KEY MAP (not to scale)



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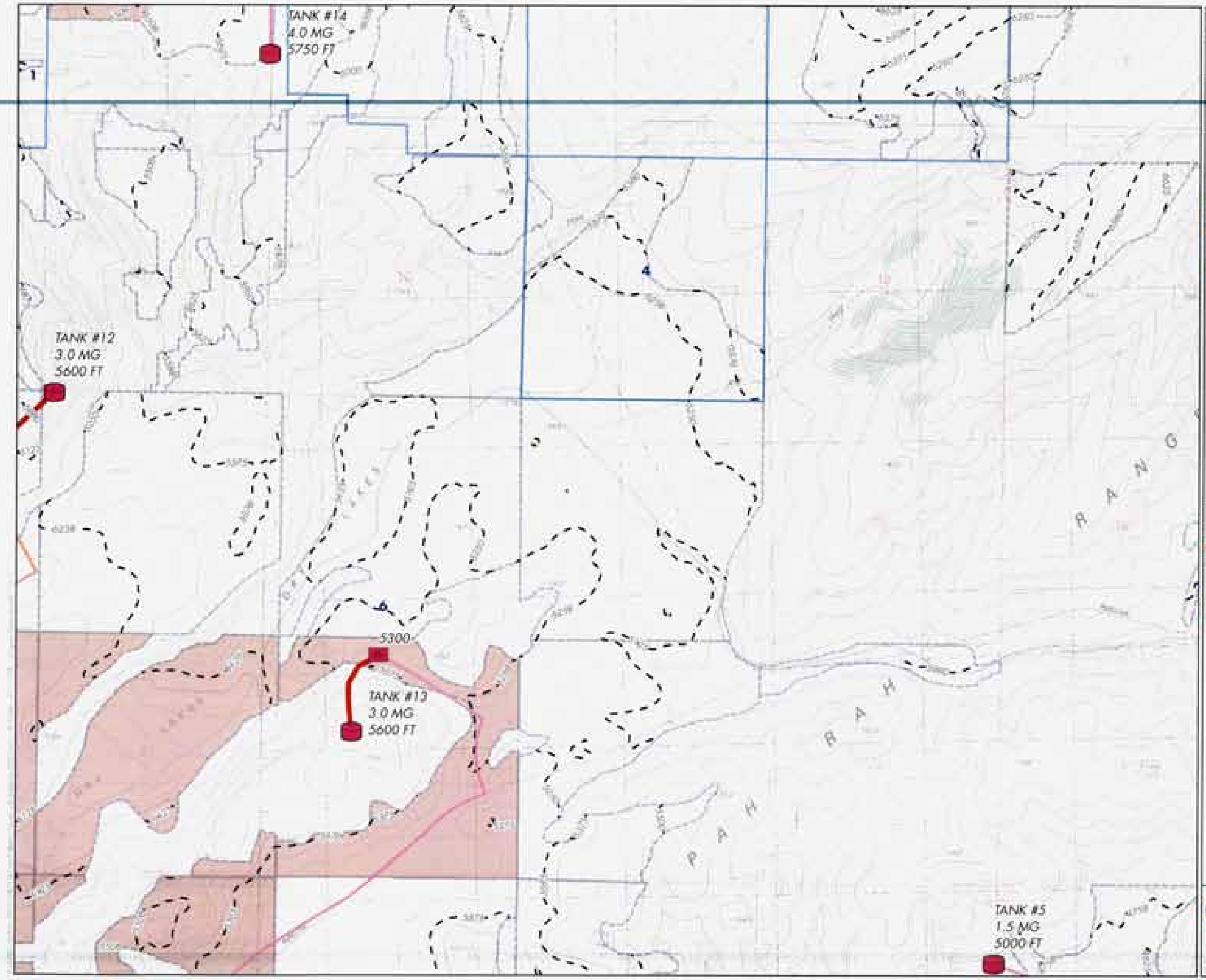
CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 3.11

Existing and Proposed Water Facilities - 2030 (E17)



Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
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- WCDWR Well Locations
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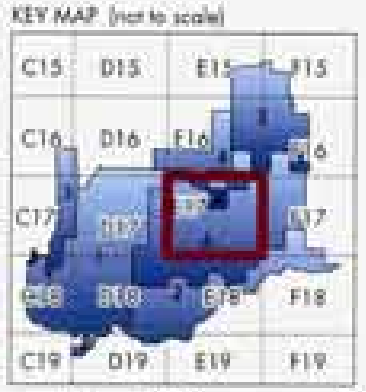
- Proposed Pump Stations

Proposed Water Mains

- 12"
- 16"
- Pressure Zone Boundaries & Elevation
- Arterial Road
- Collector/Local Road

KEY MAP (not to scale)



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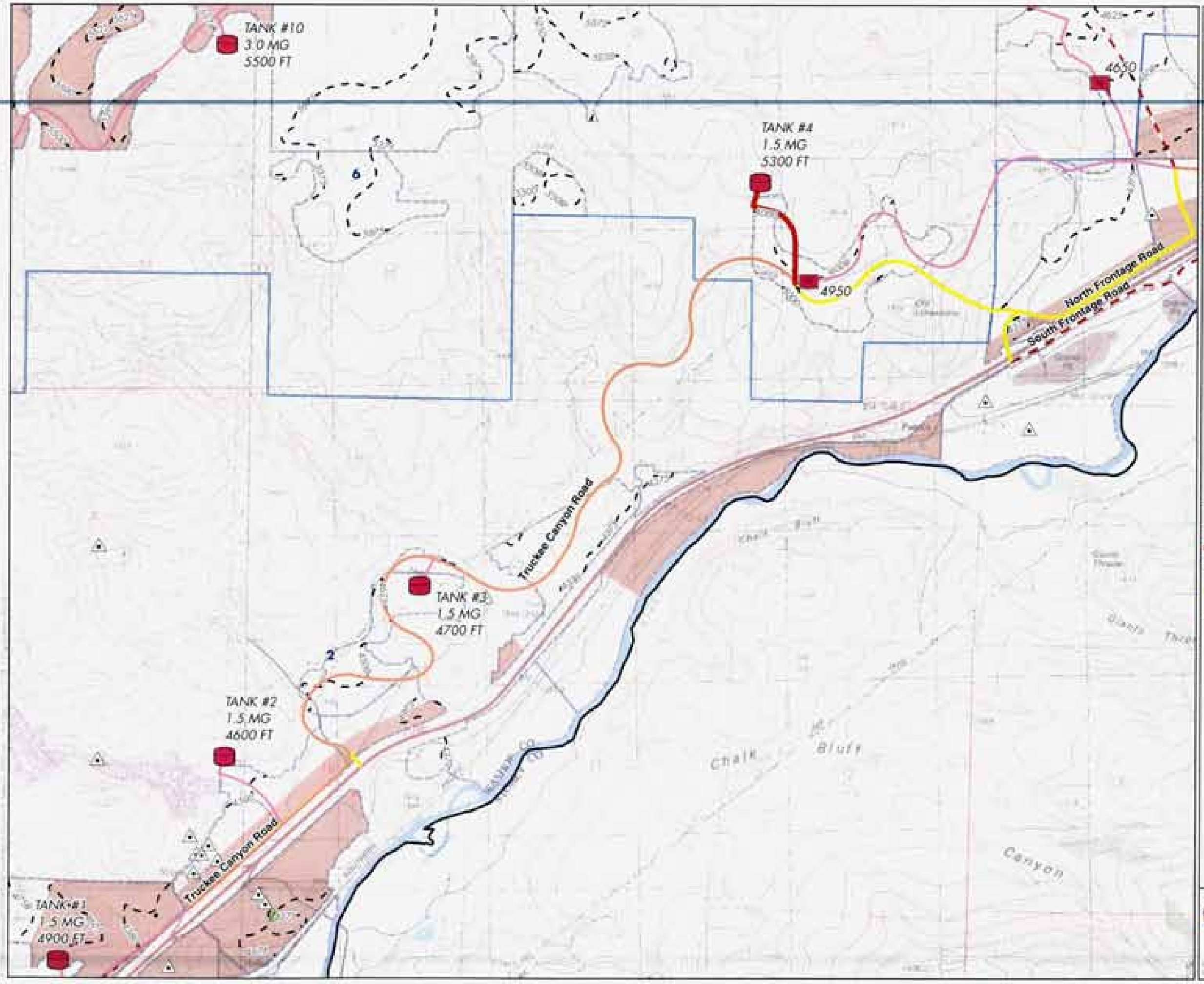
CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 3.12

Existing and Proposed Water Facilities - 2030 (E18)



Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
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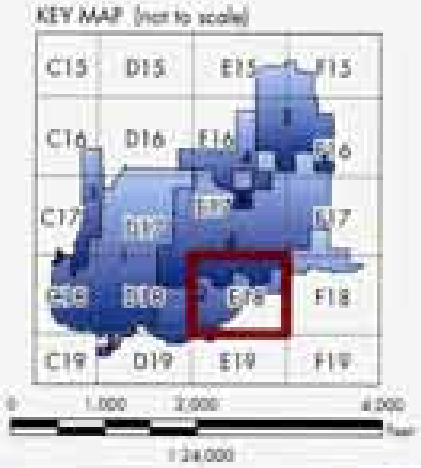
- Proposed Pump Stations

Proposed Water Mains

- 12"
- 16"
- Pressure Zone Boundaries & Elevation
- Arterial Road
- Collector/Local Road

KEY MAP (not to scale)



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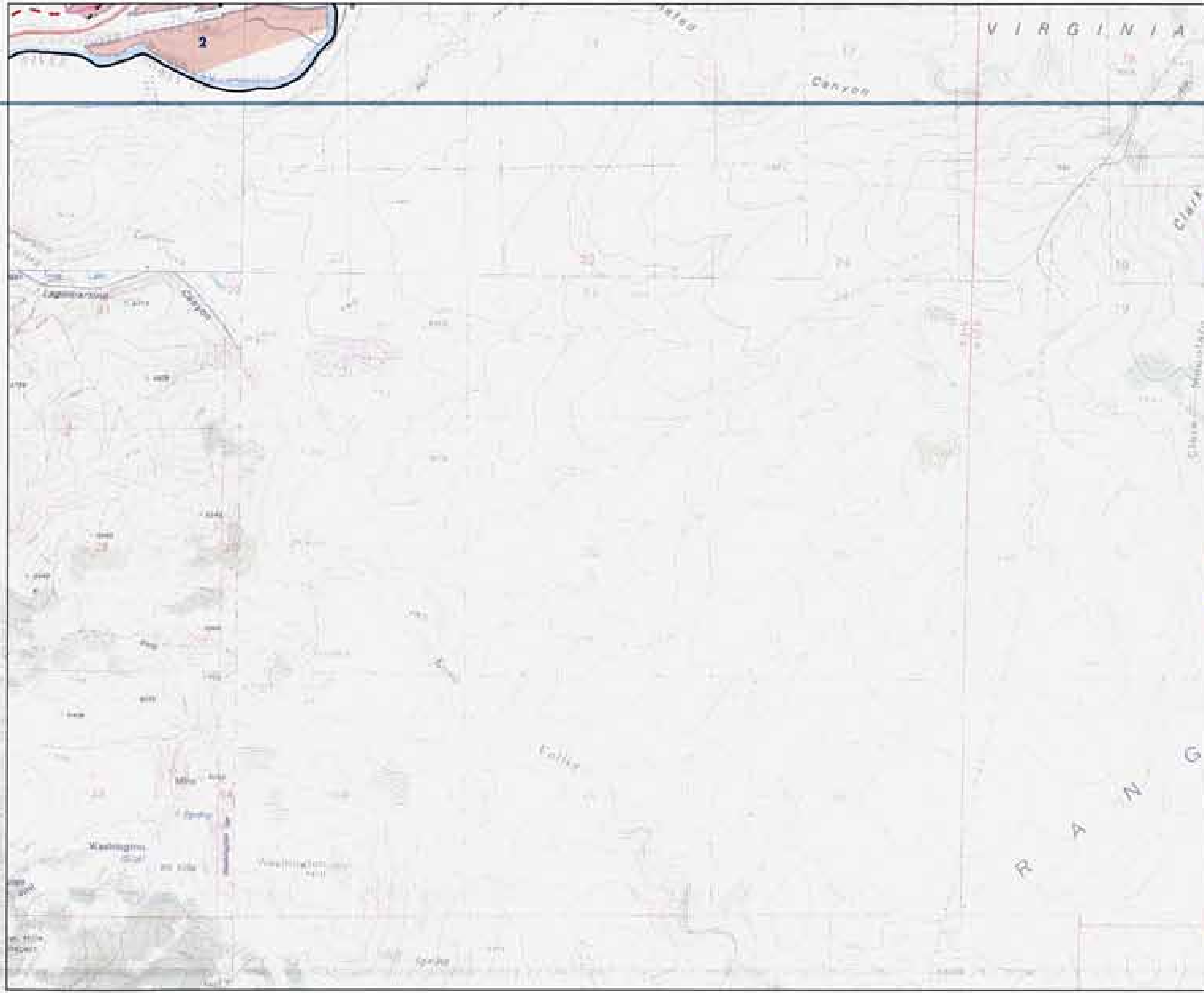


CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 3.13

Existing and Proposed Water Facilities - 2030 (E19)

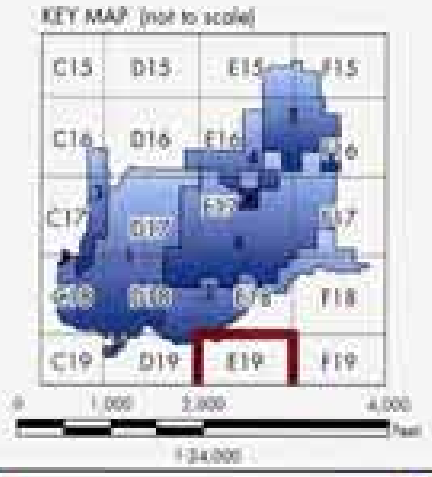
Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
- Existing Private Wells
- TMWA Tank Locations
- TMWA Pump Stations
- TMWA Wells
- TMWA 8" Mains or greater
- WCDWR 8" Mains or greater
- WCDWR Well Locations
- Proposed Tank Locations
- Proposed Pump Stations

Proposed Water Mains

- 12"
- 16"
- Pressure Zone Boundaries & Elevation
- Arterial Road
- Collector/Local Road

KEY MAP (not to scale)



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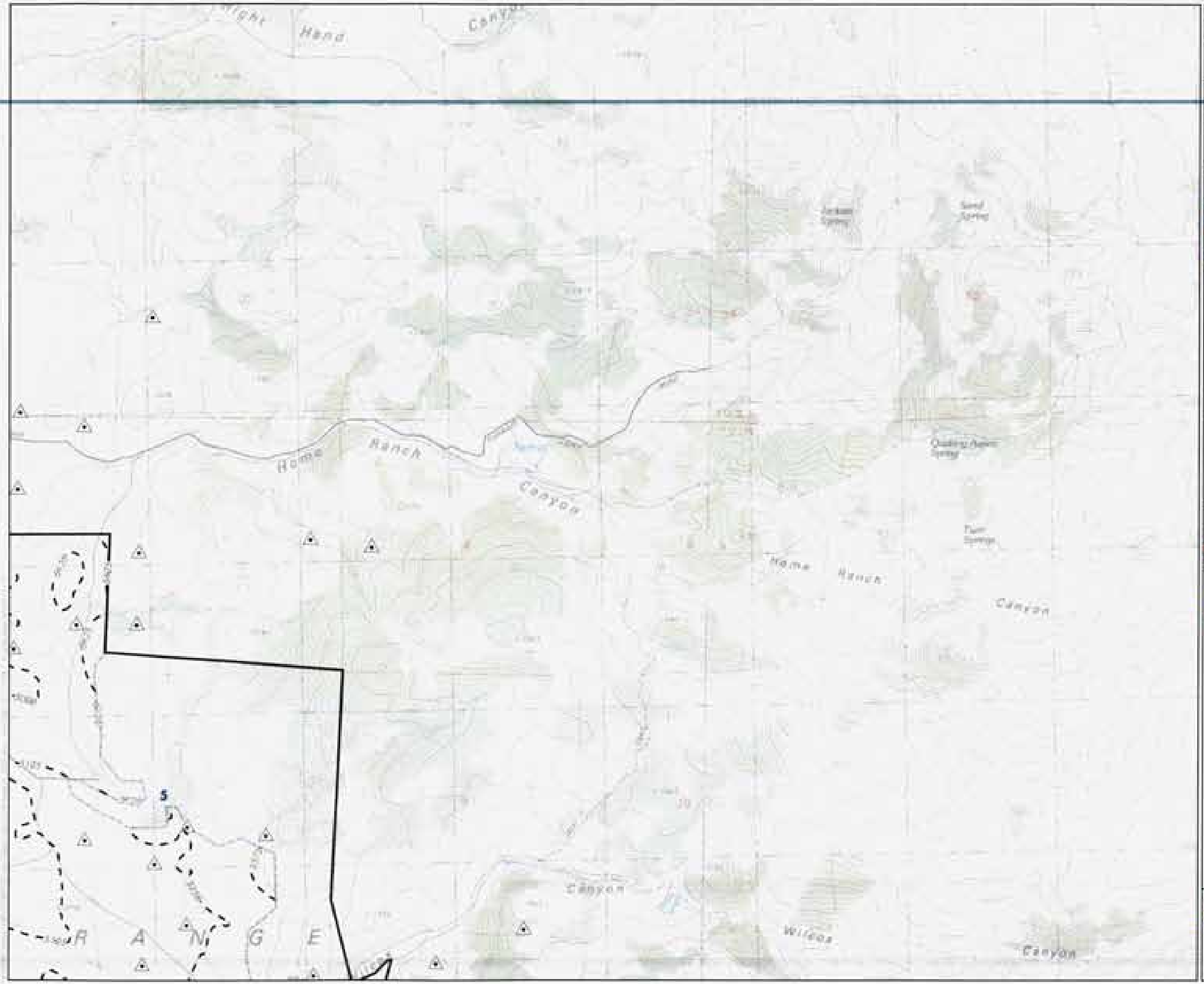


CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 3.14

Existing and Proposed Water Facilities - 2030 (F15)

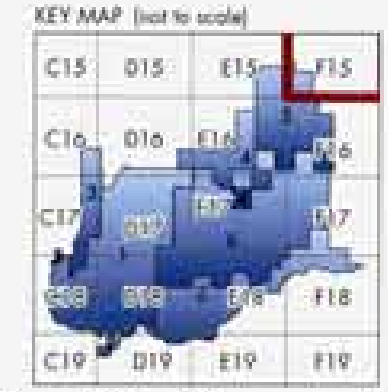
Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
- Existing Private Wells
- TMWA Tank Locations
- TMWA Pump Stations
- TMWA Wells
- TMWA 8" Mains or greater
- WCDWR 8" Mains or greater
- WCDWR Well Locations
- Proposed Tank Locations
- Proposed Pump Stations

Proposed Water Mains

- 12"
- 16"
- Pressure Zone Boundaries & Elevation
- Arterial Road
- Collector/Local Road

KEY MAP (not to scale)



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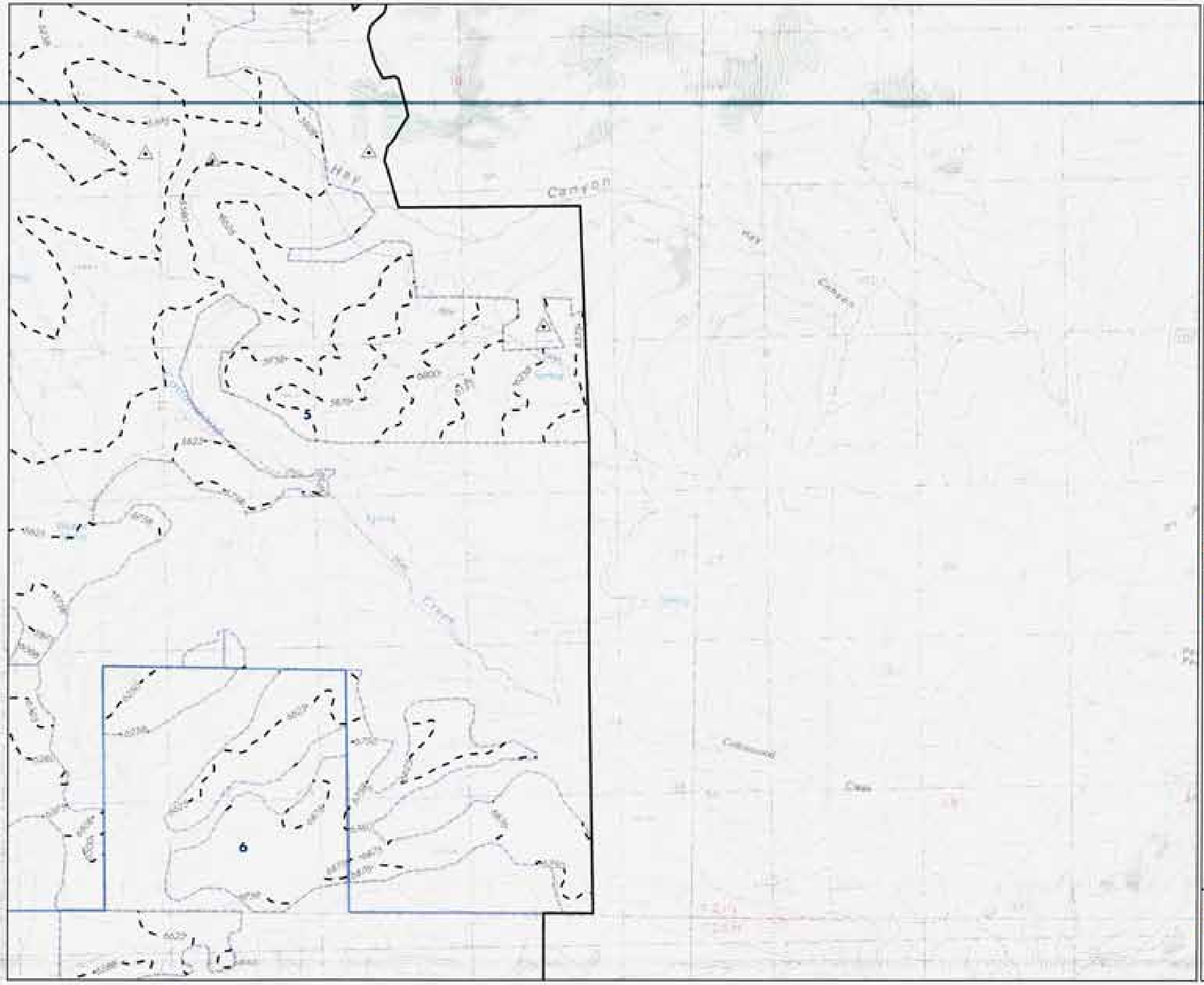
Stantec

Stantec Consulting



CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure 3.15

Existing and Proposed Water Facilities - 2030 (F16)

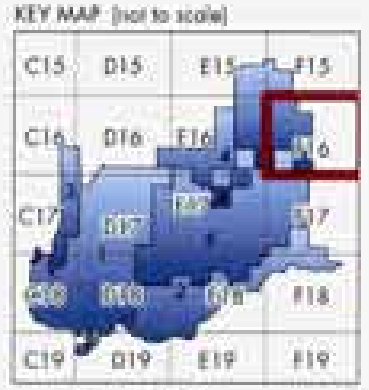
Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
- Existing Private Wells
- TMWA Tank Locations
- TMWA Pump Stations
- TMWA Wells
- TMWA 8" Mains or greater
- WCDWR 8" Mains or greater
- WCDWR Well Locations
- Proposed Tank Locations
- Proposed Pump Stations

Proposed Water Mains

- 12"
- 16"
- Pressure Zone Boundaries & Elevation
- Arterial Road
- Collector/Local Road

KEY MAP (not to scale)



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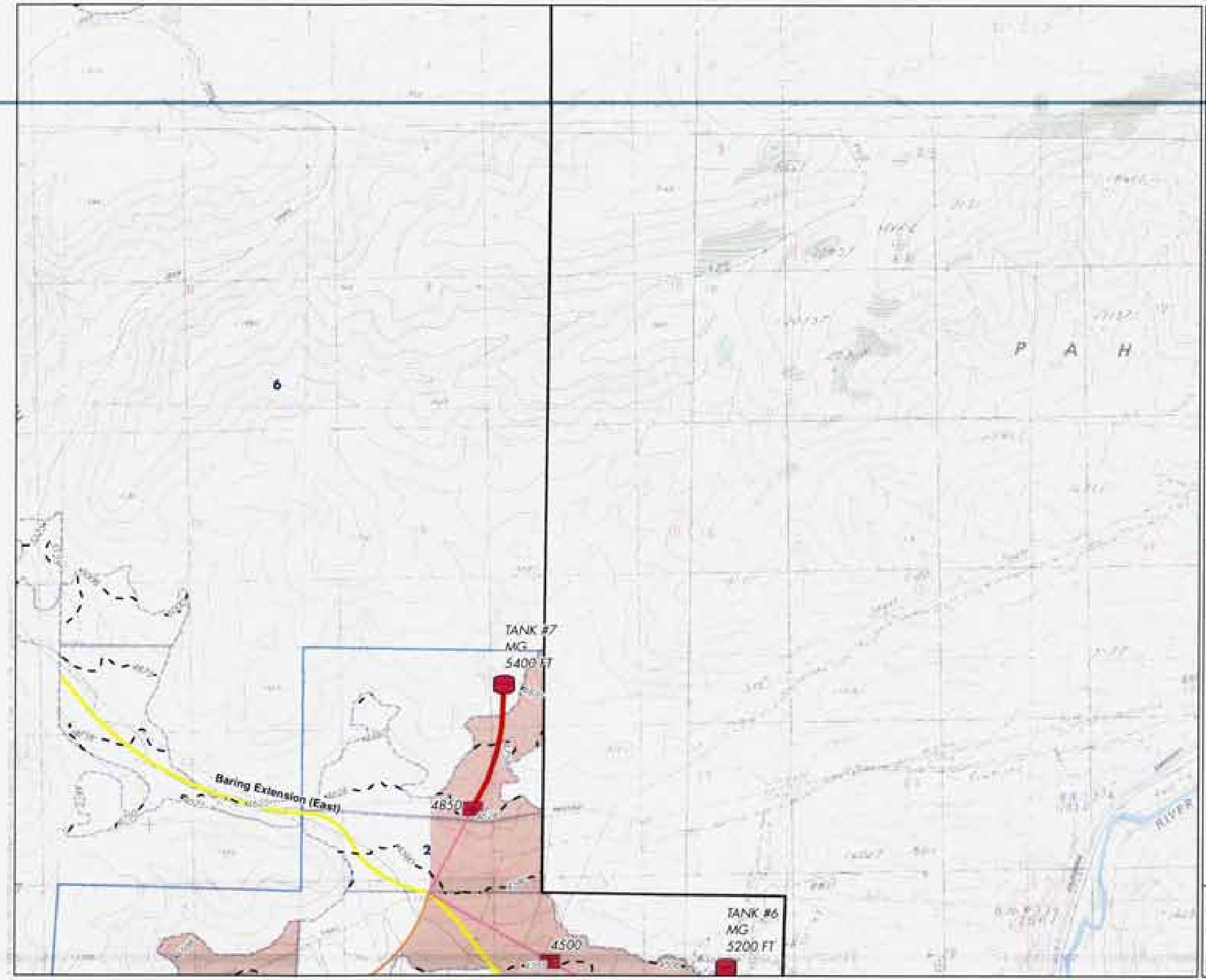
CONCEPTUAL FACILITY MASTER PLAN

Figure: 3.16

Existing and Proposed Water Facilities - 2030 (F17)



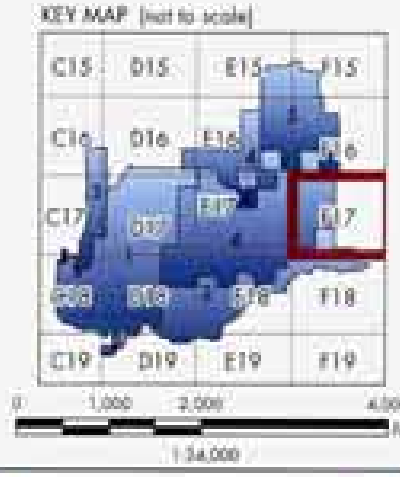
Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
- Existing Private Wells
- TMWA Tank Locations
- TMWA Pump Stations
- TMWA Wells
- TMWA 8" Mains or greater
- WCDWR 8" Mains or greater
- WCDWR Well Locations
- Proposed Tank Locations
- Proposed Pump Stations

Proposed Water Mains

- 12"
- 16"
- Pressure Zone Boundaries & Elevation
- Arterial Road
- Collector/Local Road

KEY MAP (not to scale)



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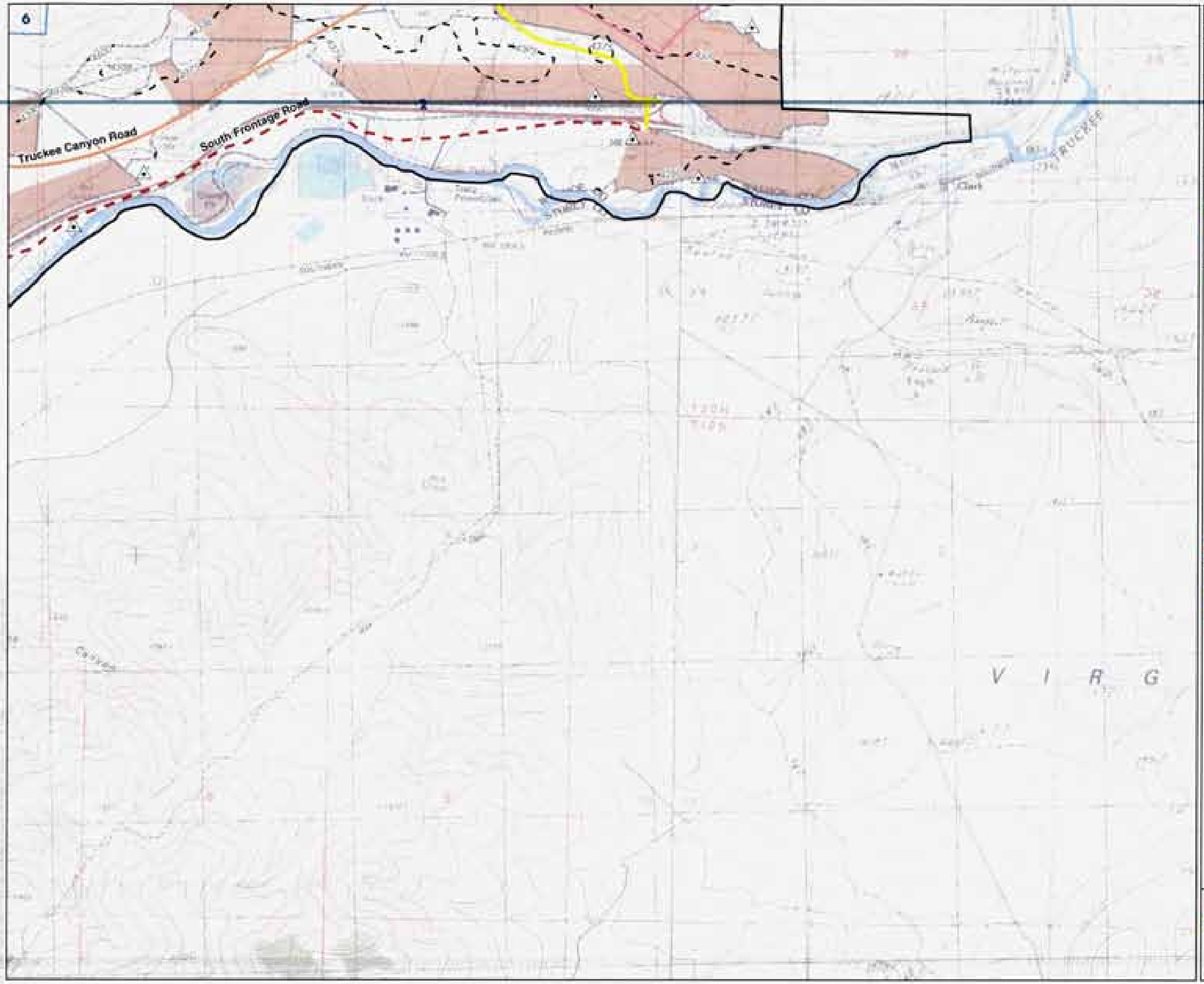


CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 3.17

Existing and Proposed Water Facilities - 2030 (F18)

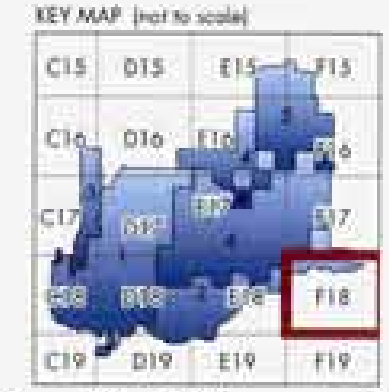
Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
- Existing Private Wells
- TMWA Tank Locations
- TMWA Pump Stations
- TMWA Wells
- TMWA 8" Mains or greater
- WCDWR 8" Mains or greater
- WCDWR Well Locations
- Proposed Tank Locations
- Proposed Pump Stations

Proposed Water Mains

- 12"
- 16"
- Pressure Zone Boundaries & Elevation
- Arterial Road
- Collector/Local Road

KEY MAP (not to scale)



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CONCEPTUAL FACILITY MASTER PLAN

Figure: 4.1

Existing and Proposed Wastewater Facilities - 2030 (C16)

Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
- Existing Sewer Lines
- Arterial Road
- Collector/Local Road
- WCDWR Effluent Storage
- City of Sparks Effluent Lines

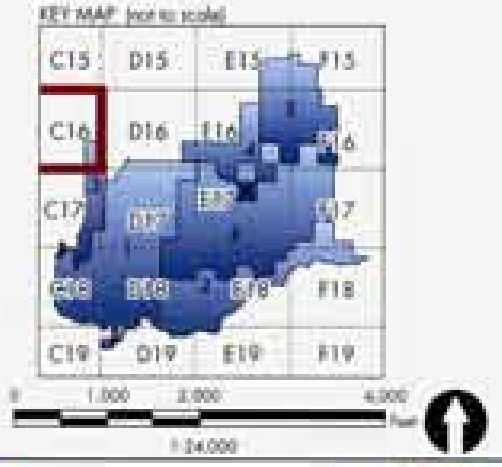
Proposed Wastewater Mains

- 8"
- 10"
- 12"
- 15"
- 18"
- 21"
- 24"
- 27"
- 36"
- Proposed Force Mains
- Proposed Effluent Mains

Proposed Wastewater Facilities

- Proposed Lift Station
- Proposed Recharge Area
- Proposed Effluent Water Storage
- Proposed Water Reclamation Facility

KEY MAP (not to scale)



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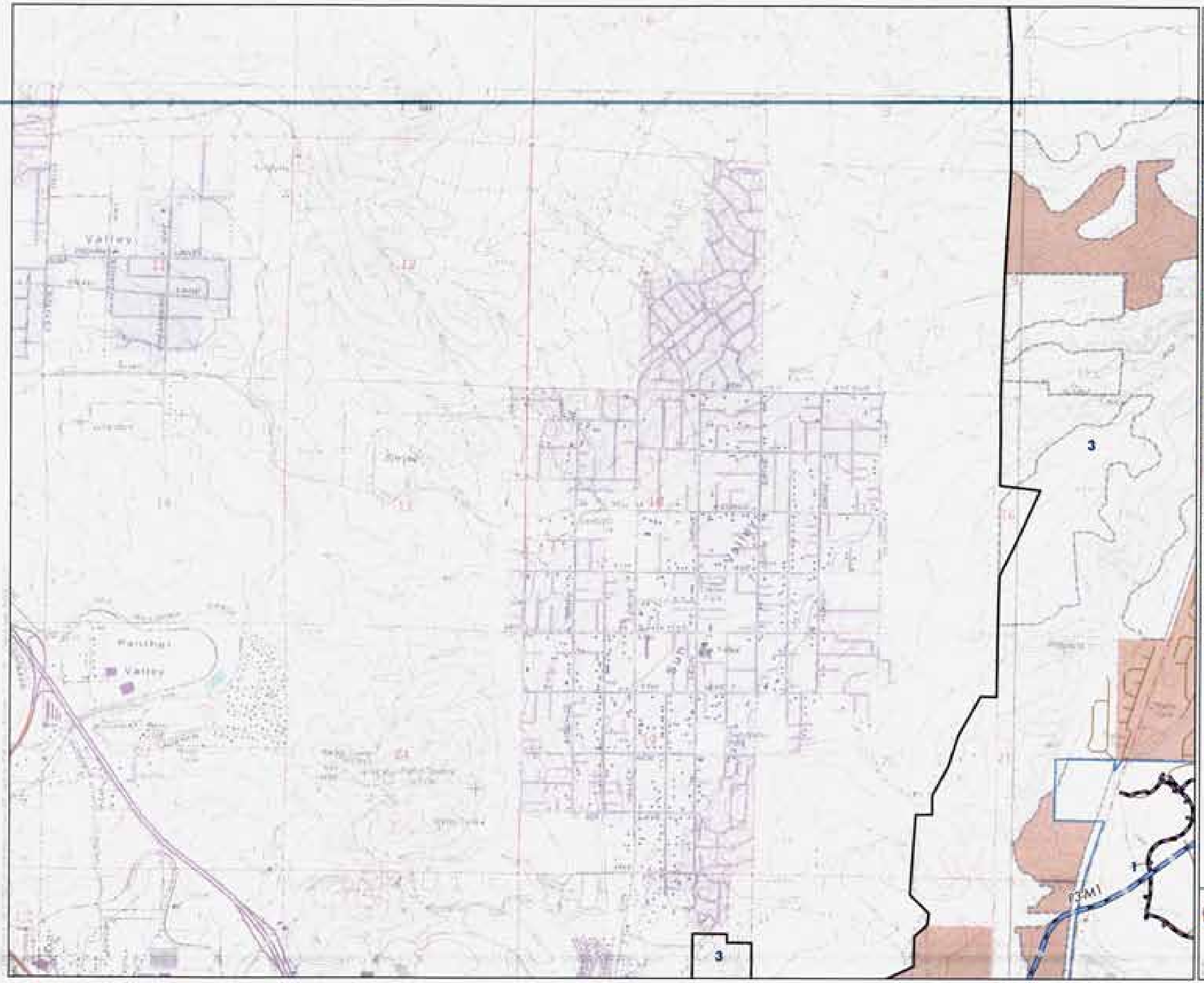
CONCEPTUAL FACILITY MASTER PLAN

Figure: 4.2

Existing and Proposed Wastewater Facilities - 2030 (C17)



Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
- Existing Sewer Lines
- Arterial Road
- Collector/Local Road
- WCDWR Effluent Storage
- City of Sparks Effluent Lines

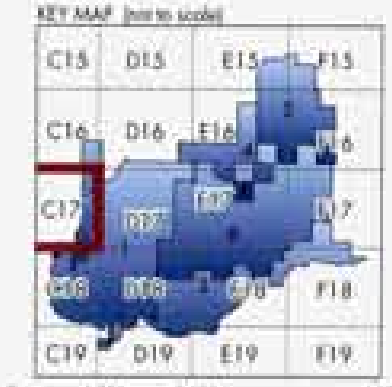
Proposed Wastewater Mains

- 8"
- 10"
- 12"
- 15"
- 18"
- 21"
- 24"
- 27"
- 30"
- Proposed Force Mains
- Proposed Effluent Mains

Proposed Wastewater Facilities

- Proposed Lift Station
- Proposed Recharge Area
- Proposed Effluent Water Storage
- WRF Proposed Water Reclamation Facility

KEY MAP (not to scale)



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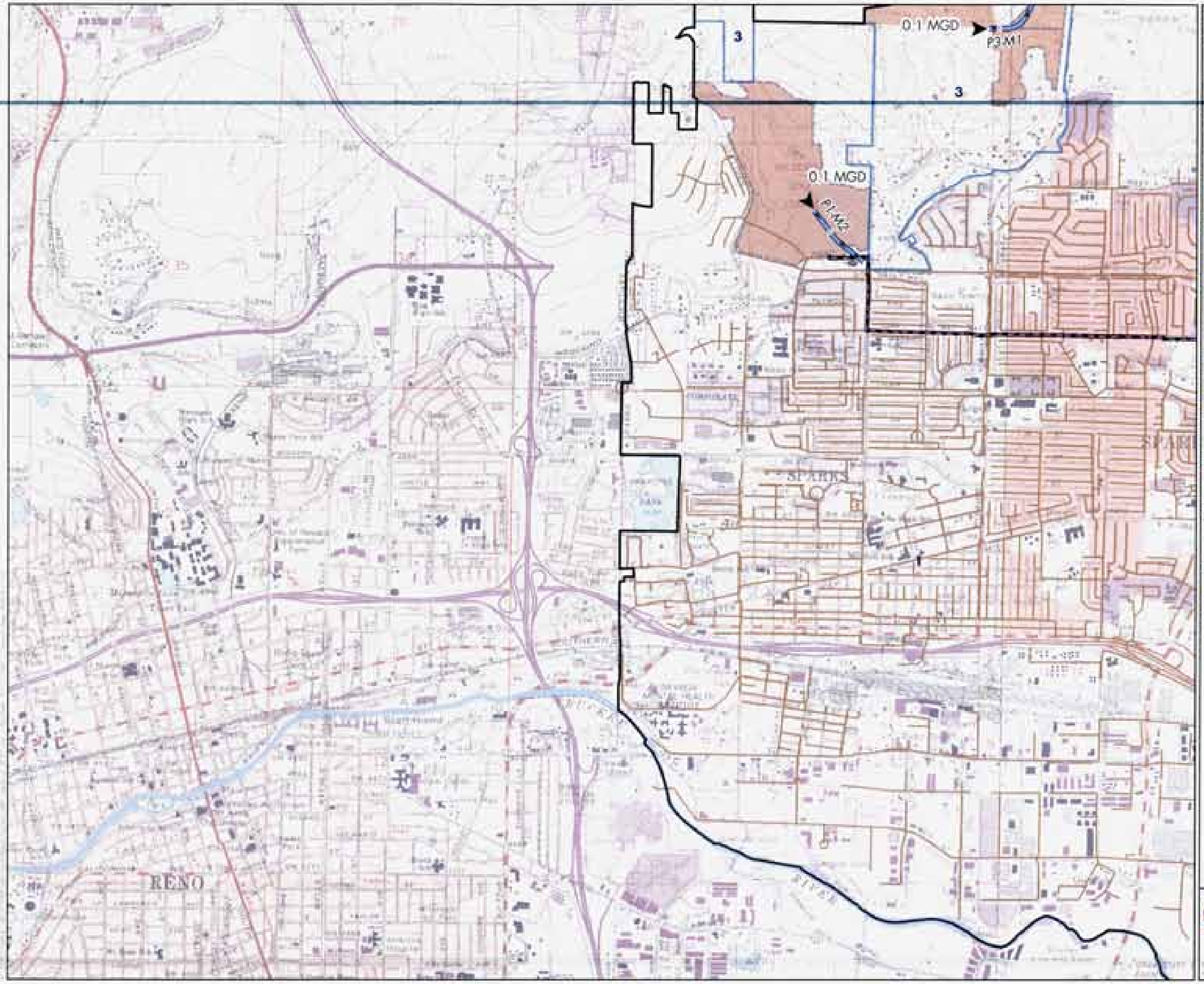
CONCEPTUAL FACILITY MASTER PLAN

Figure: 4.3

Existing and Proposed Wastewater Facilities - 2030 (C18)



Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
- Existing Sewer Lines
- Arterial Road
- Collector / Local Road
- WCCWR Effluent Storage
- City of Sparks Effluent Lines

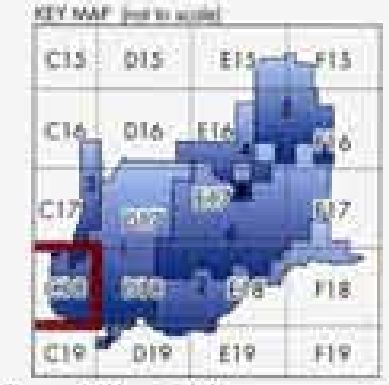
Proposed Wastewater Mains

- 8"
- 10"
- 12"
- 15"
- 18"
- 21"
- 24"
- 27"
- 30"
- Proposed Force Mains
- Proposed Effluent Mains

Proposed Wastewater Facilities

- Proposed Lift Station
- Proposed Recharge Area
- Proposed Effluent Water Storage
- Proposed Water Reclamation Facility

KEY MAP (not to scale)



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CONCEPTUAL FACILITY MASTER PLAN

Figure: 4.4

Existing and Proposed Wastewater Facilities - 2030 (D16)

Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (>30% Slope) - Buildout
- Truckee River
- Existing Sewer Lines
- Arterial Road
- Collector/Local Road
- WCDWR Effluent Storage
- City of Sparks Effluent Lines

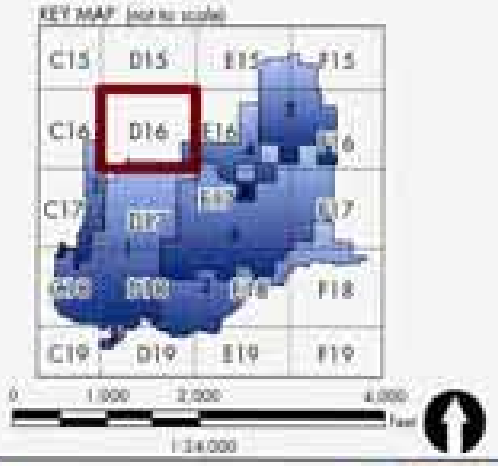
Proposed Wastewater Mains

- 8"
- 10"
- 12"
- 15"
- 18"
- 21"
- 24"
- 27"
- 36"
- Proposed Force Mains
- Proposed Effluent Mains

Proposed Wastewater Facilities

- Proposed Lift Station
- Proposed Recharge Area
- Proposed Effluent Water Storage
- Proposed Water Reclamation Facility

KEY MAP (not to scale)



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The Biggest Little City

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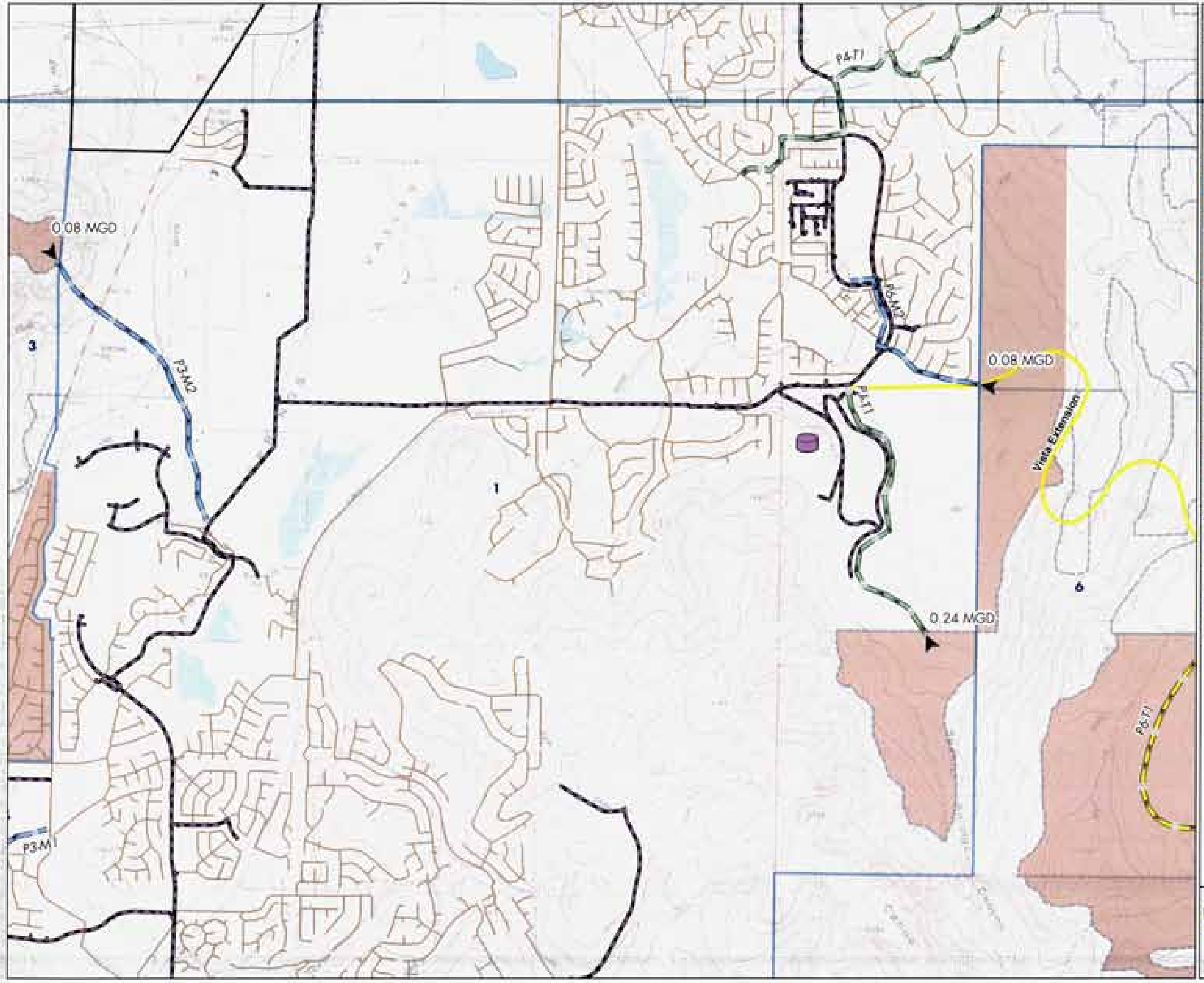
CONCEPTUAL FACILITY MASTER PLAN

Figure: 4.5

Existing and Proposed Wastewater Facilities - 2030 (D17)



legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
- Existing Sewer Lines
- Arterial Road
- Collector/Local Road
- WCDWR Effluent Storage
- City of Sparks Effluent Lines

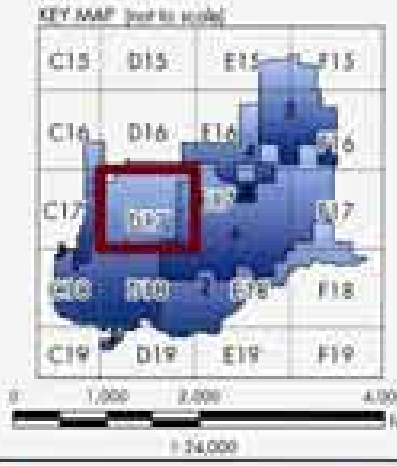
Proposed Wastewater Mains

- 8"
- 10"
- 12"
- 15"
- 18"
- 21"
- 24"
- 27"
- 36"
- Proposed Force Mains
- Proposed Effluent Mains

Proposed Wastewater Facilities

- Proposed LIF Station
- Proposed Recharge Area
- Proposed Effluent Water Storage
- Proposed Water Reclamation Facility

KEY MAP (not to scale)



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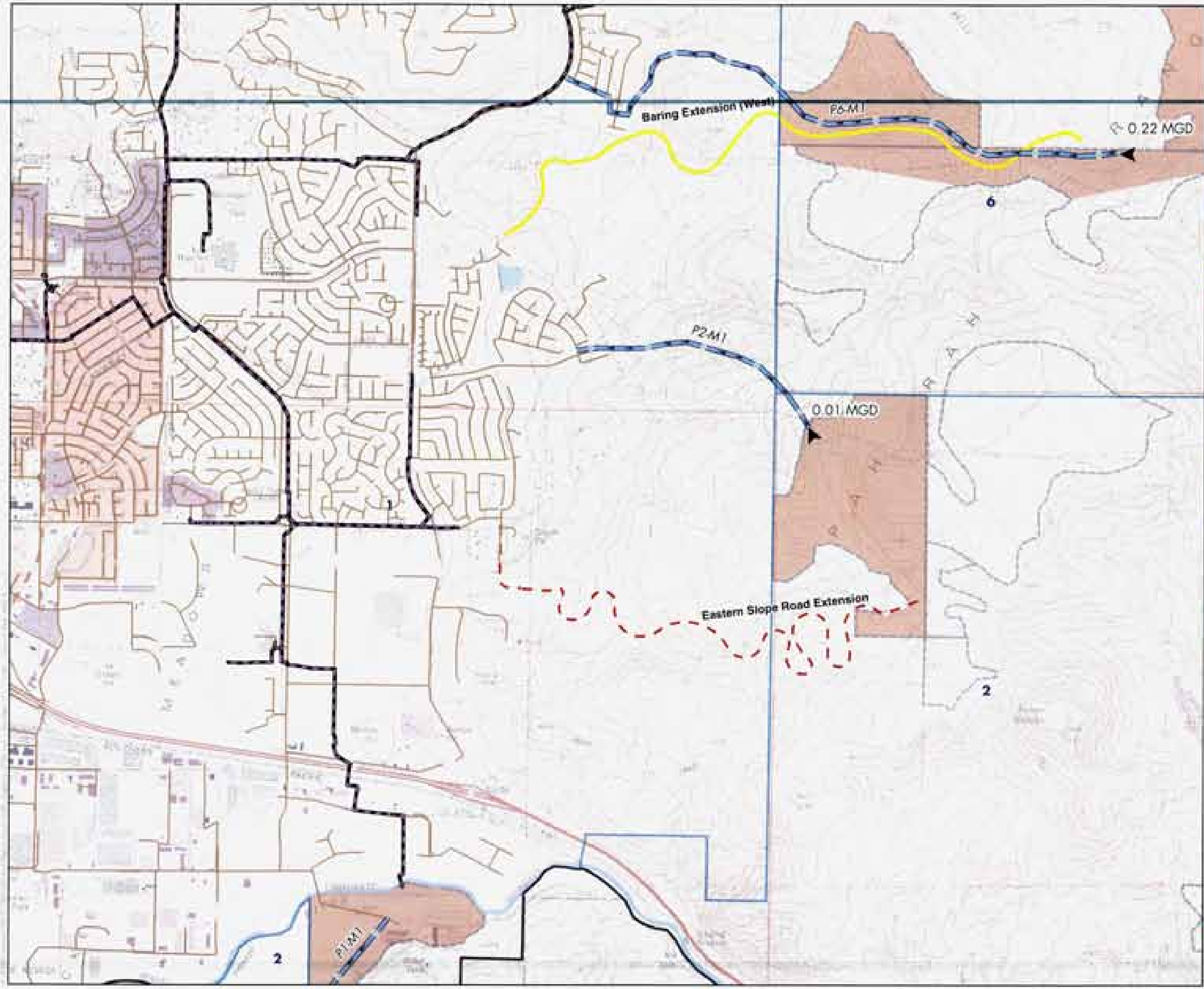
CONCEPTUAL FACILITY MASTER PLAN

Figure: 4.6

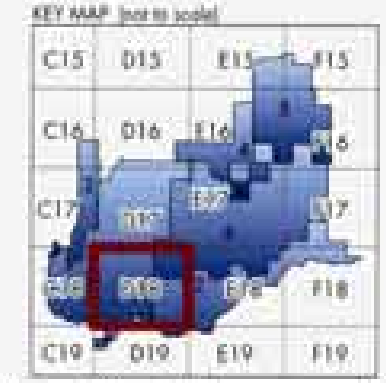
Existing and Proposed Wastewater Facilities - 2030 (D18)



Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas in 30% Slopes - 2030
- Developable Areas in 30% Slopes - Buildout
- Truckee River
- Existing Sewer Lines
- Arterial Road
- Collector/Local Road
- WCTSWF Effluent Storage
- City of Sparks Effluent Lines
- Proposed Wastewater Mains
  - 8"
  - 10"
  - 12"
  - 15"
  - 18"
  - 21"
  - 24"
  - 27"
  - 30"
- Proposed Force Mains
- Proposed Effluent Mains
- Proposed Wastewater Facilities
  - Proposed Lift Station
  - Proposed Recharge Area
  - Proposed Effluent Water Storage
  - Proposed Water Reclamation Facility

KEY MAP (not to scale)



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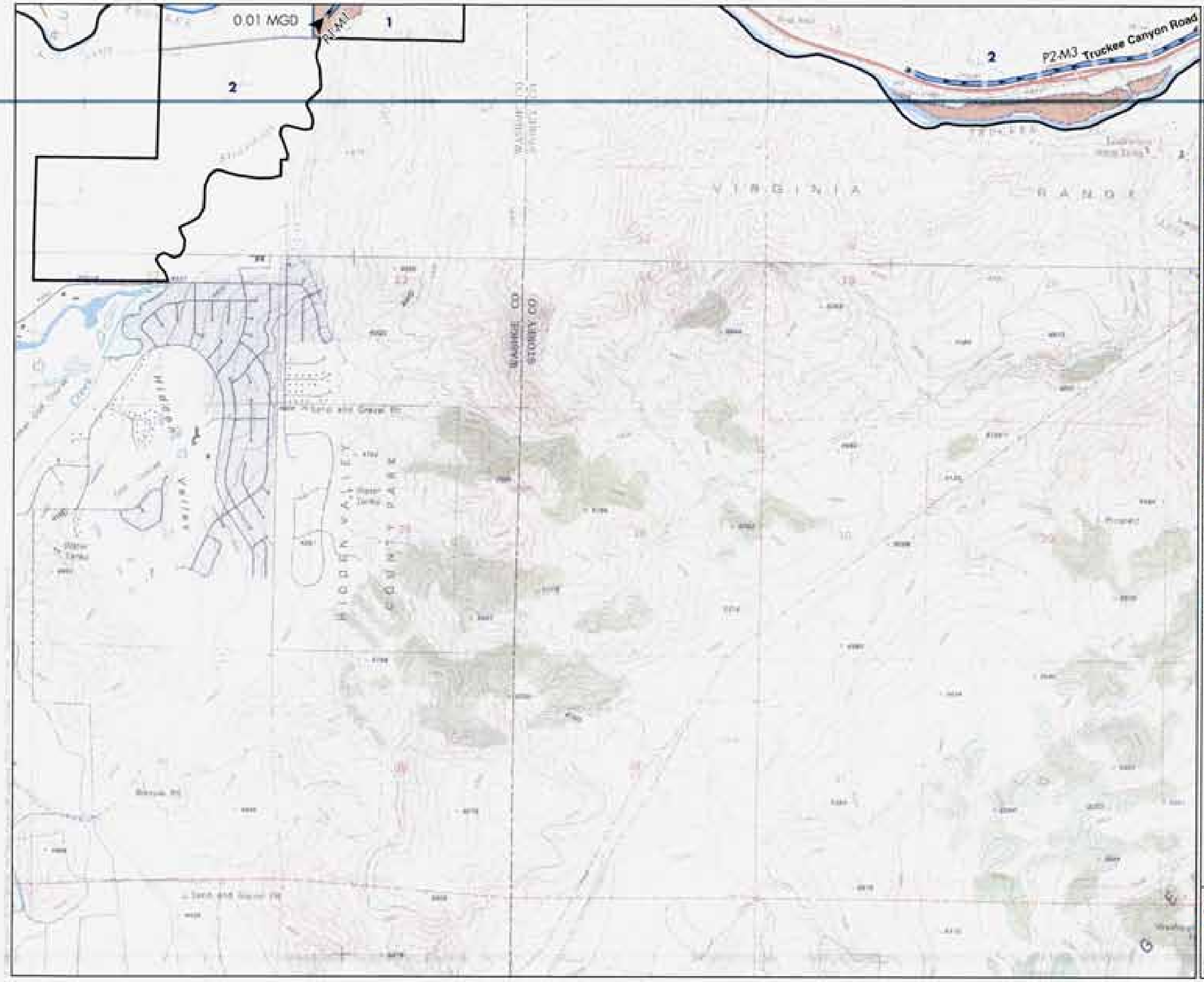

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CONCEPTUAL FACILITY MASTER PLAN

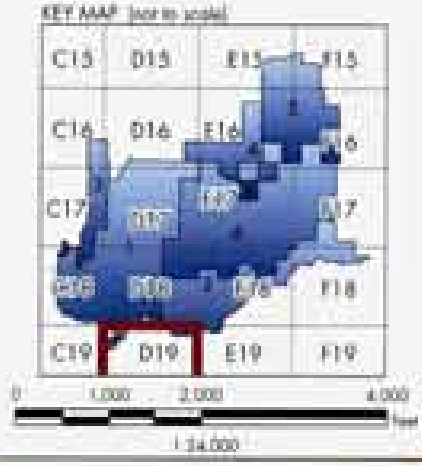
Figure: 4.7

Existing and Proposed Wastewater Facilities - 2030 (D19)

Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
- Existing Sewer Lines
- Arterial Road
- Collector/Local Road
- WCDWR Effluent Storage
- City of Sparks Effluent Lines
- Proposed Wastewater Mains
  - 8"
  - 10"
  - 12"
  - 15"
  - 18"
  - 21"
  - 24"
  - 27"
  - 30"
- Proposed Force Mains
- Proposed Effluent Mains
- Proposed Wastewater Facilities
  - Proposed Lift Station
  - Proposed Recharge Area
  - Proposed Effluent Water Storage
  - Proposed Water Reclamation Facility

KEY MAP (not to scale)



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CONCEPTUAL FACILITY MASTER PLAN

Figure: 4.8

Existing and Proposed Wastewater Facilities - 2030 (E15)

legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
- Existing Sewer Lines
- Arterial Road
- Collector/Local Road
- WCDWR Effluent Sewage
- City of Sparks Effluent Lines

Proposed Wastewater Mains

- 8"
- 10"
- 12"
- 15"
- 18"
- 21"
- 24"
- 27"
- 30"
- Proposed Force Mains
- Proposed Effluent Mains

Proposed Wastewater Facilities

- Proposed Lift Station
- Proposed Recharge Area
- Proposed Effluent Water Sewage
- Proposed Water Reclamation Facility

KEY MAP (not to scale)

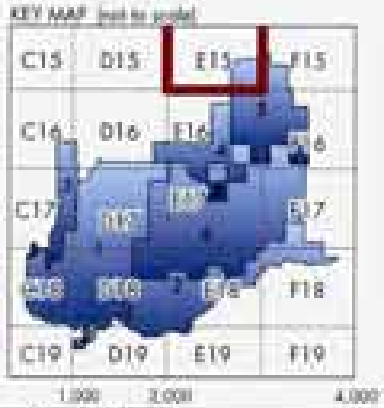

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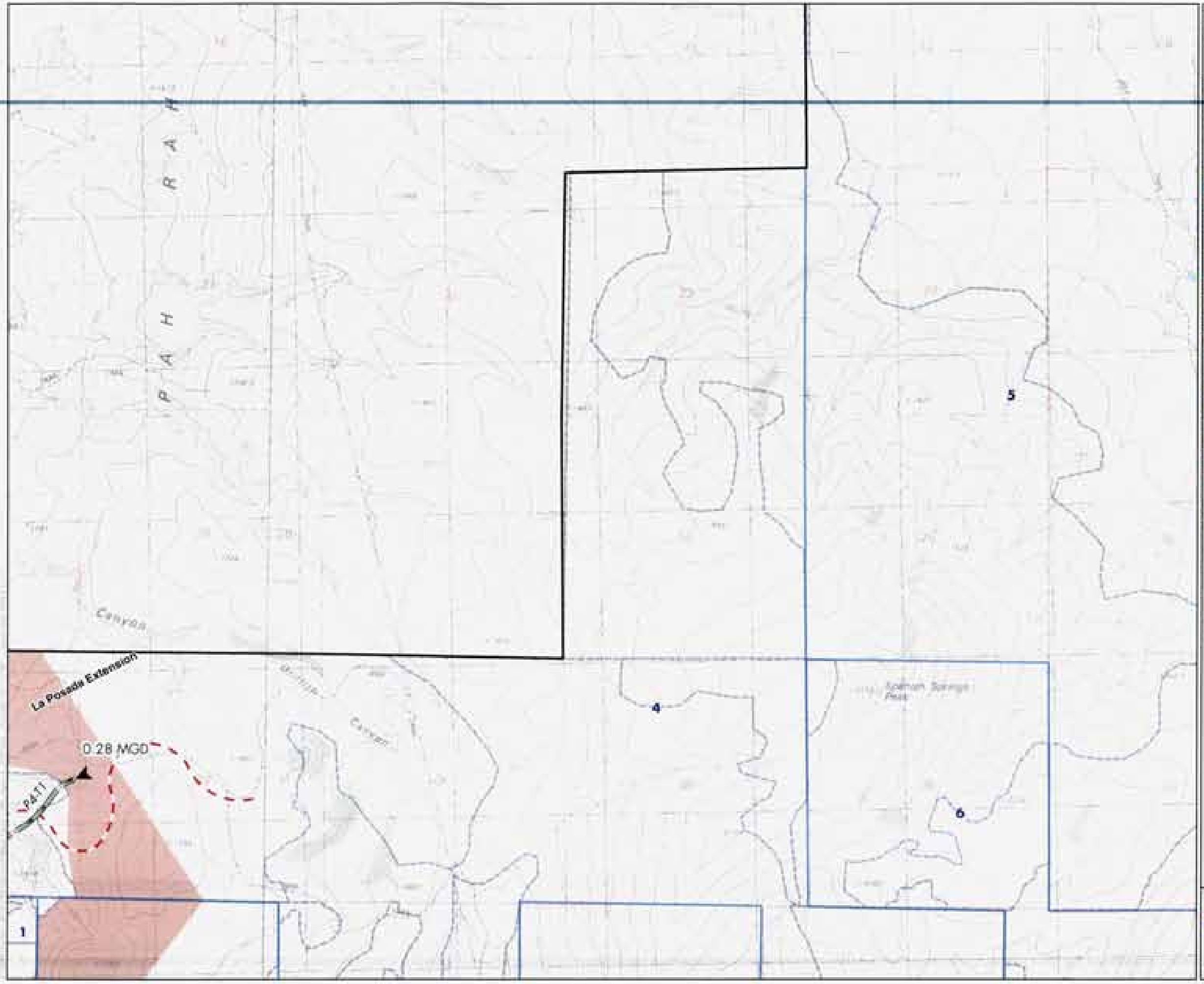
Figure: 4.9

Existing and Proposed Wastewater Facilities - 2030 (E16)



Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas in 30% Slopes - 2030
- Developable Areas in 30% Slopes - Buildout
- Truckee River
- Existing Sewer Lines
- Arterial Road
- Collector/Local Road
- WCDWR Effluent Storage
- City of Sparks Effluent Lines

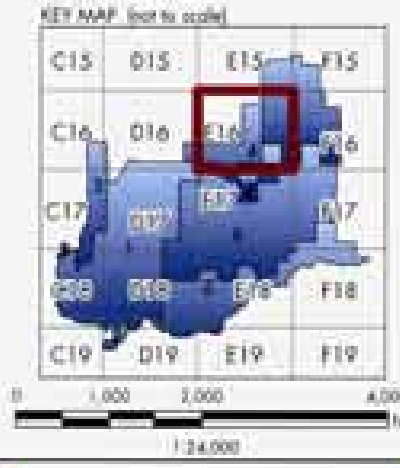
Proposed Wastewater Mains

- 8"
- 10"
- 12"
- 15"
- 18"
- 21"
- 24"
- 27"
- 36"
- Proposed Force Mains
- Proposed Effluent Mains

Proposed Wastewater Facilities

- Proposed Lift Station
- Proposed Recharge Area
- Proposed Effluent Water Storage
- Proposed Water Reclamation Facility

KEY MAP (not to scale)



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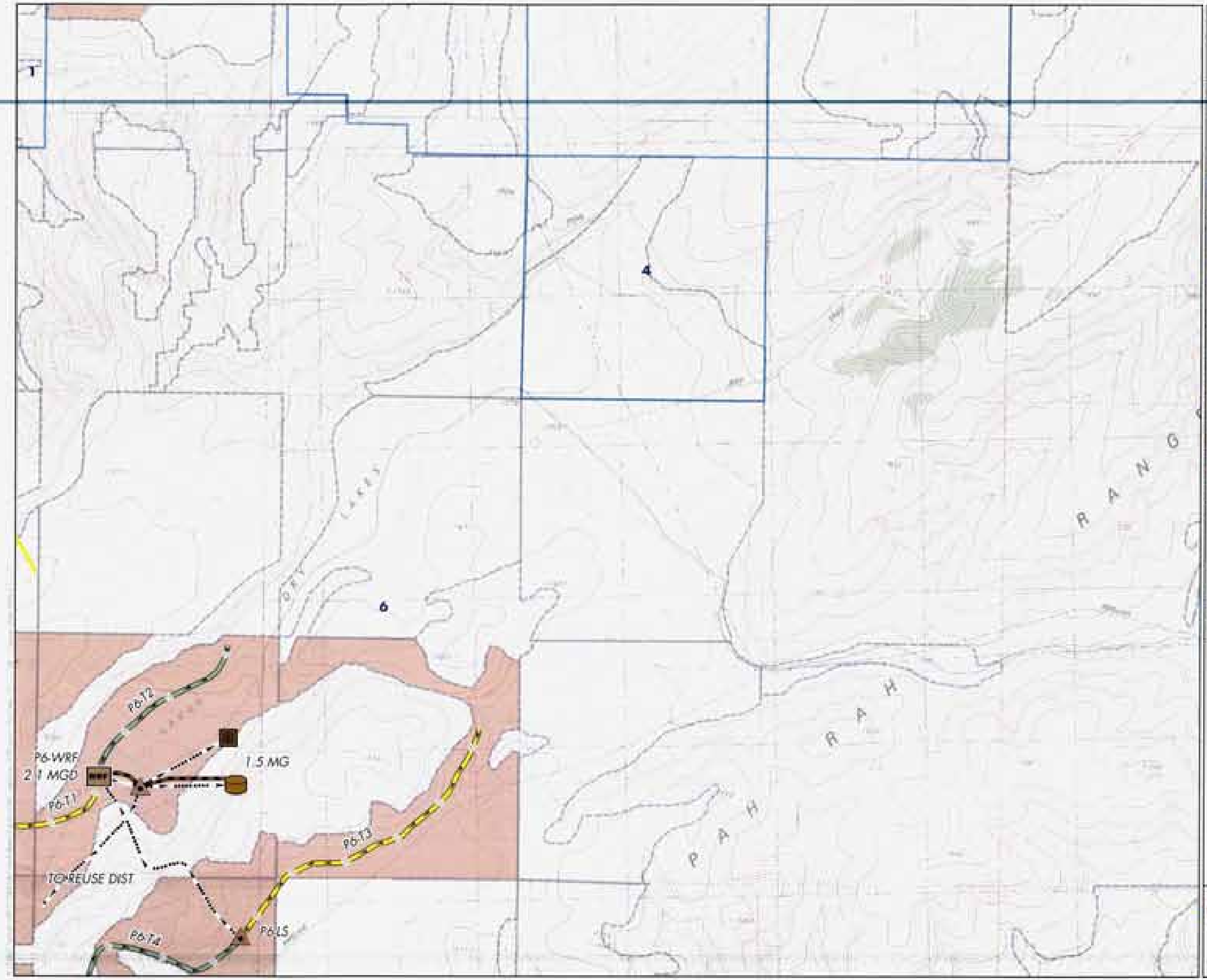
CONCEPTUAL FACILITY MASTER PLAN

Figure: 4.10

Existing and Proposed Wastewater Facilities - 2030 (E17)



Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<20% Slope) - 2030
- Developable Areas (<20% Slope) - Buildout
- Truckee River
- Existing Sewer Lines
- Arterial Road
- Collector/Local Road
- WCDWR Effluent Storage
- City of Sparks Effluent Lines

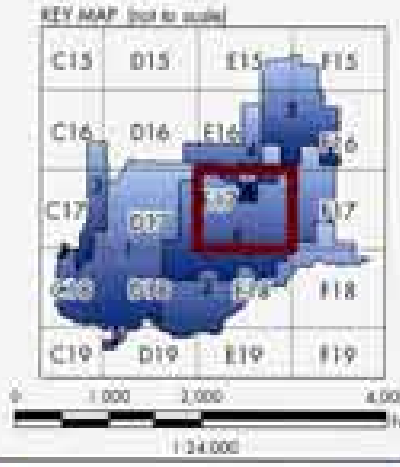
Proposed Wastewater Mains

- 8"
- 10"
- 12"
- 15"
- 18"
- 21"
- 24"
- 27"
- 36"
- Proposed Force Mains
- Proposed Effluent Mains

Proposed Wastewater Facilities

- Proposed Lift Station
- Proposed Recharge Area
- Proposed Effluent Water Storage
- WRF Proposed Water Reclamation Facility

KEY MAP (not to scale)



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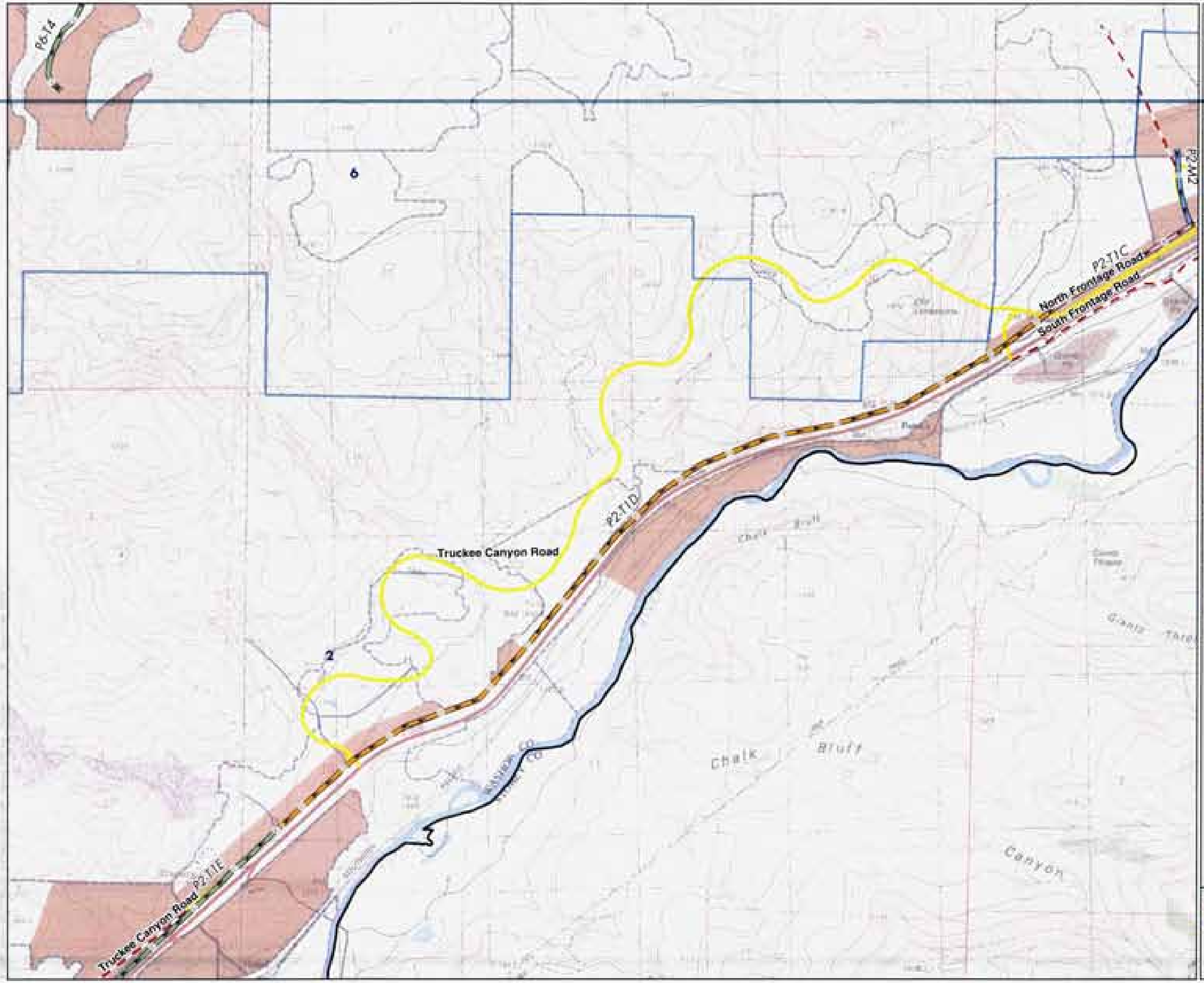
CONCEPTUAL FACILITY MASTER PLAN

Figure: 4.11

Existing and Proposed Wastewater Facilities - 2030 (E18)



Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
- Existing Sewer Lines
- Arterial Road
- Collector/Local Road
- WCDWR Effluent Storage
- City of Sparks Effluent Lines

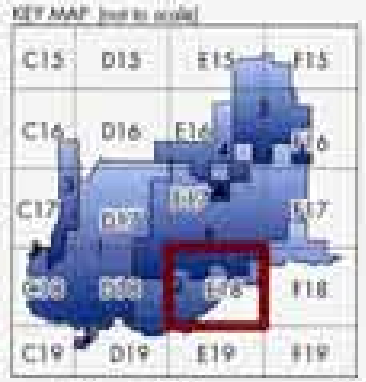
Proposed Wastewater Mains

- 8"
- 10"
- 12"
- 15"
- 18"
- 21"
- 24"
- 27"
- 36"
- Proposed Force Mains
- Proposed Effluent Mains

Proposed Wastewater Facilities

- Proposed LIA Station
- Proposed Recharge Area
- Proposed Effluent Water Storage
- WRF Proposed Water Reclamation Facility

KEY MAP (not to scale)



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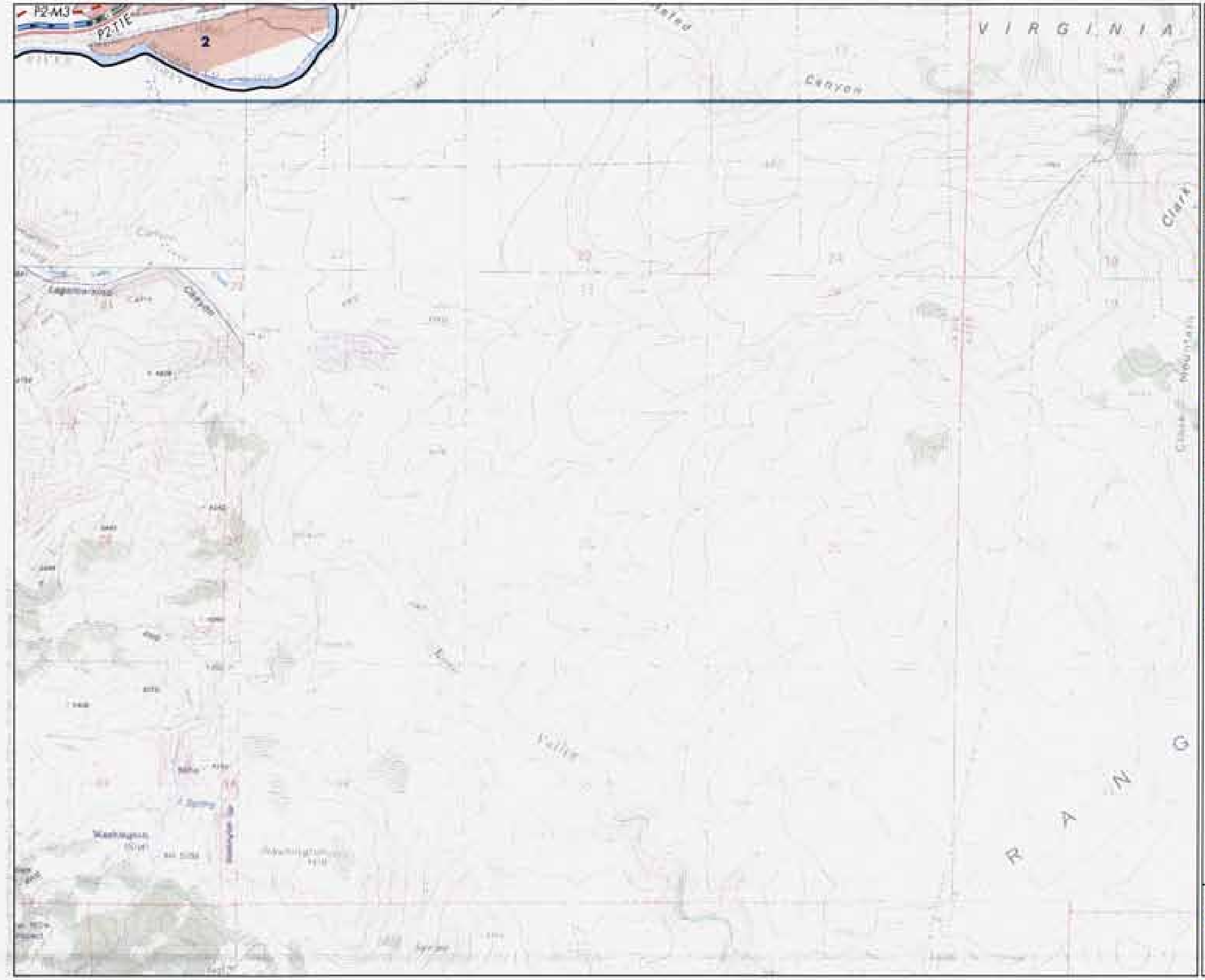


CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 4.12

Existing and Proposed Wastewater Facilities - 2030 (E19)

legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
- Existing Sewer Lines
- Arterial Road
- Collector/Local Road
- WCDWR Effluent Storage
- City of Sparks Effluent Lines

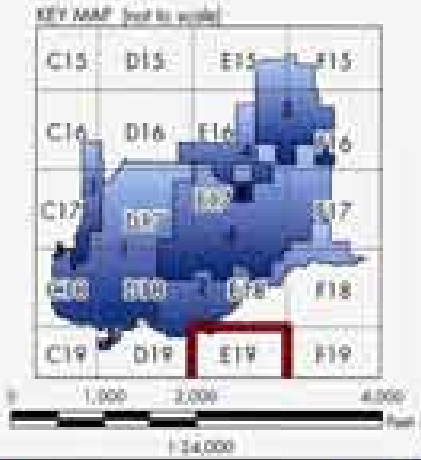
Proposed Wastewater Mains

- 8"
- 10"
- 12"
- 15"
- 18"
- 21"
- 24"
- 27"
- 30"
- Proposed Force Mains
- Proposed Effluent Mains

Proposed Wastewater Facilities

- Proposed LIF Station
- Proposed Recharge Area
- Proposed Effluent Water Storage
- Proposed Water Reclamation Facility

KEY MAP (not to scale)



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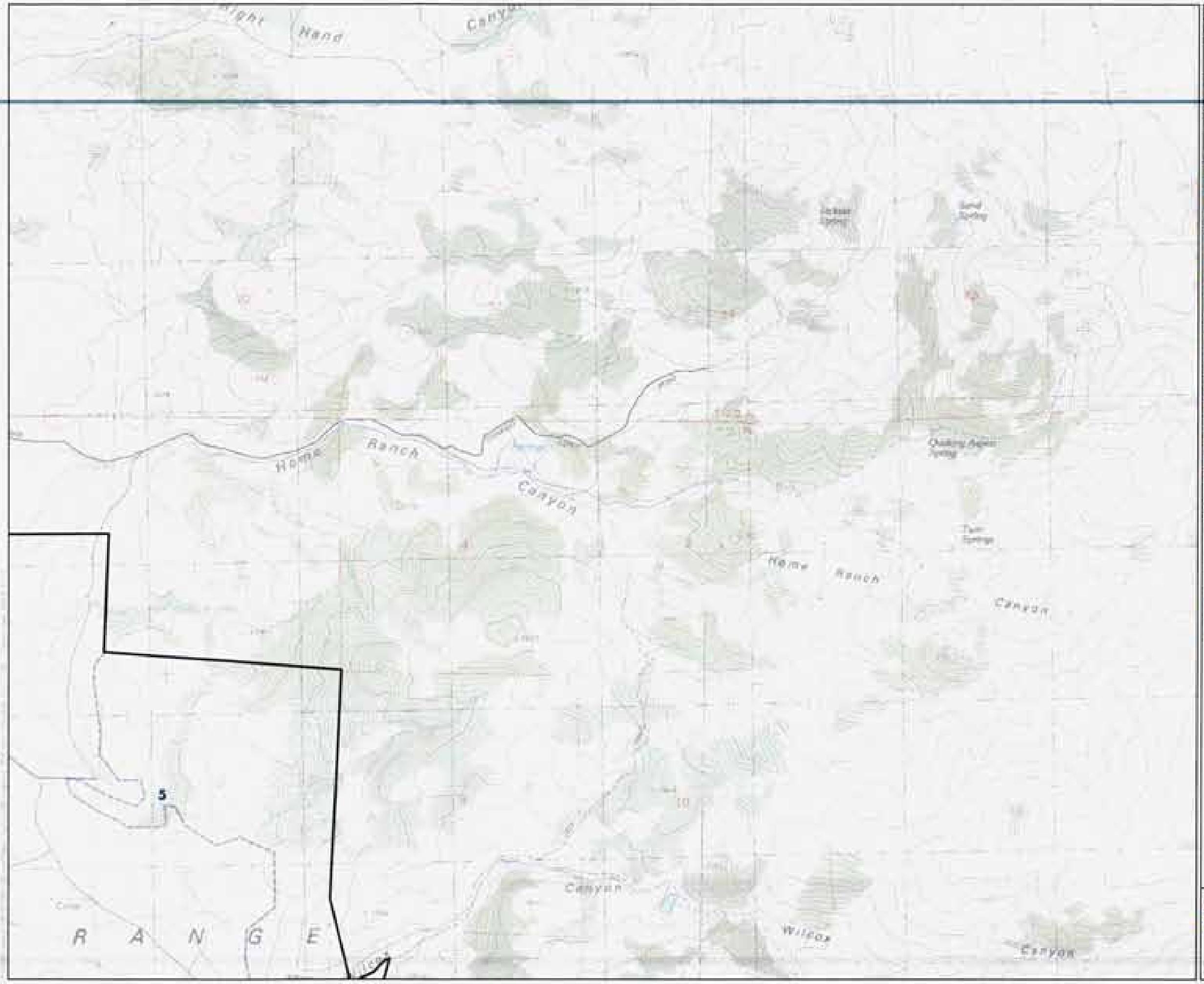


CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 4.13

Existing and Proposed Wastewater Facilities - 2030 (F15)

legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
- Existing Sewer Lines
- Arterial Road
- Collector/Local Road
- WCDWR Effluent Storage
- City of Sparks Effluent Lines

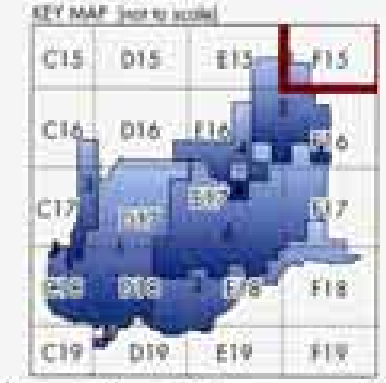
Proposed Wastewater Mains

- 8"
- 10"
- 12"
- 15"
- 18"
- 21"
- 24"
- 27"
- 36"
- Proposed Force Mains
- Proposed Effluent Mains

Proposed Wastewater Facilities

- Proposed Lift Station
- Proposed Recharge Area
- Proposed Effluent Water Storage
- Proposed Water Reclamation Facility

KEY MAP (not to scale)



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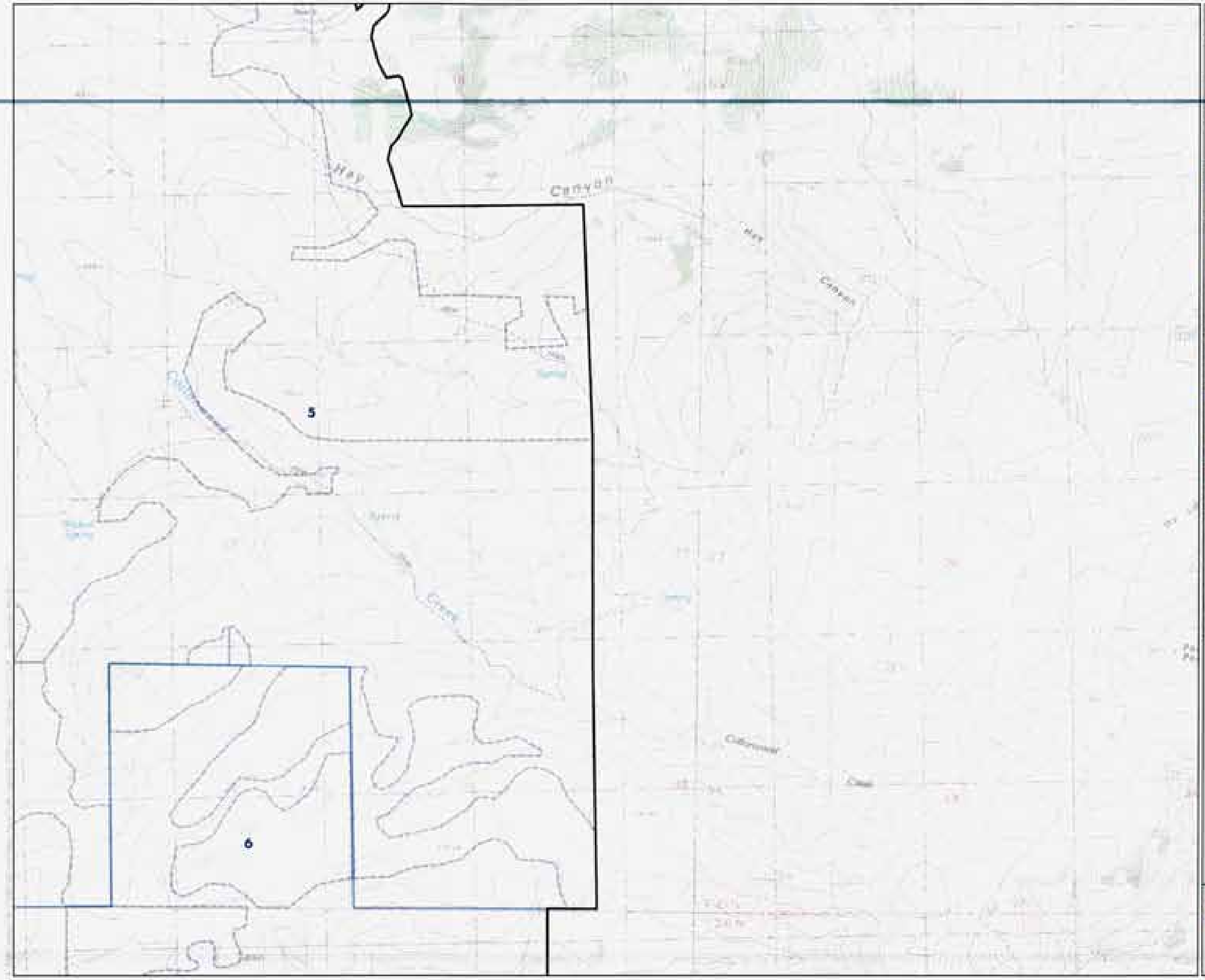


CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 4.14

Existing and Proposed Wastewater Facilities - 2030 (F16)

Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
- Existing Sewer Lines
- Arterial Road
- Collector/Local Road
- WCDWR Effluent Storage
- City of Sparks Effluent Lines

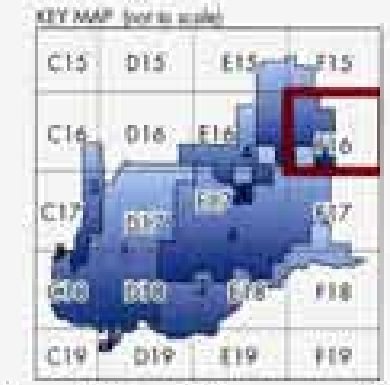
Proposed Wastewater Mains

- 8"
- 10"
- 12"
- 15"
- 18"
- 21"
- 24"
- 27"
- 30"
- Proposed Force Mains
- Proposed Effluent Mains

Proposed Wastewater Facilities

- Proposed Lift Station
- Proposed Recharge Area
- Proposed Effluent Water Storage
- WRF Proposed Water Reclamation Facility

KEY MAP (not to scale)



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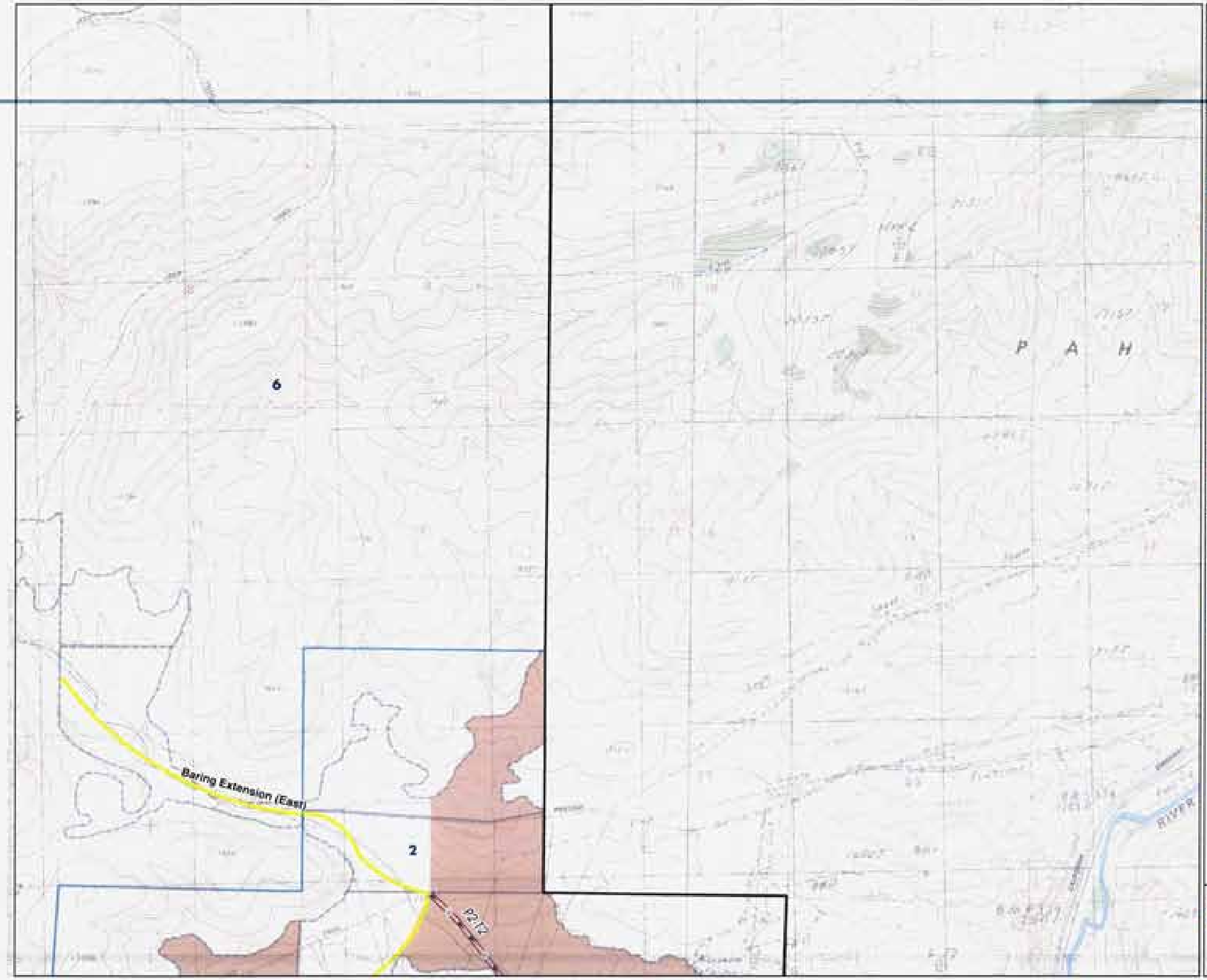
CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 4.15

Existing and Proposed Wastewater Facilities - 2030 (F17)



Legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
- Existing Sewer Lines
- Arterial Road
- Collector/Local Road
- WCDWR Effluent Storage
- City of Sparks Effluent Lines

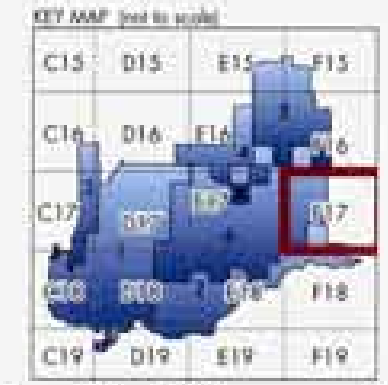
Proposed Wastewater Mains

- 8"
- 10"
- 12"
- 15"
- 18"
- 21"
- 24"
- 27"
- 30"
- Proposed Force Mains
- Proposed Effluent Mains

Proposed Wastewater Facilities

- Proposed Lift Station
- Proposed Recharge Area
- Proposed Effluent Water Storage
- Proposed Water Reclamation Facility

KEY MAP (not to scale)



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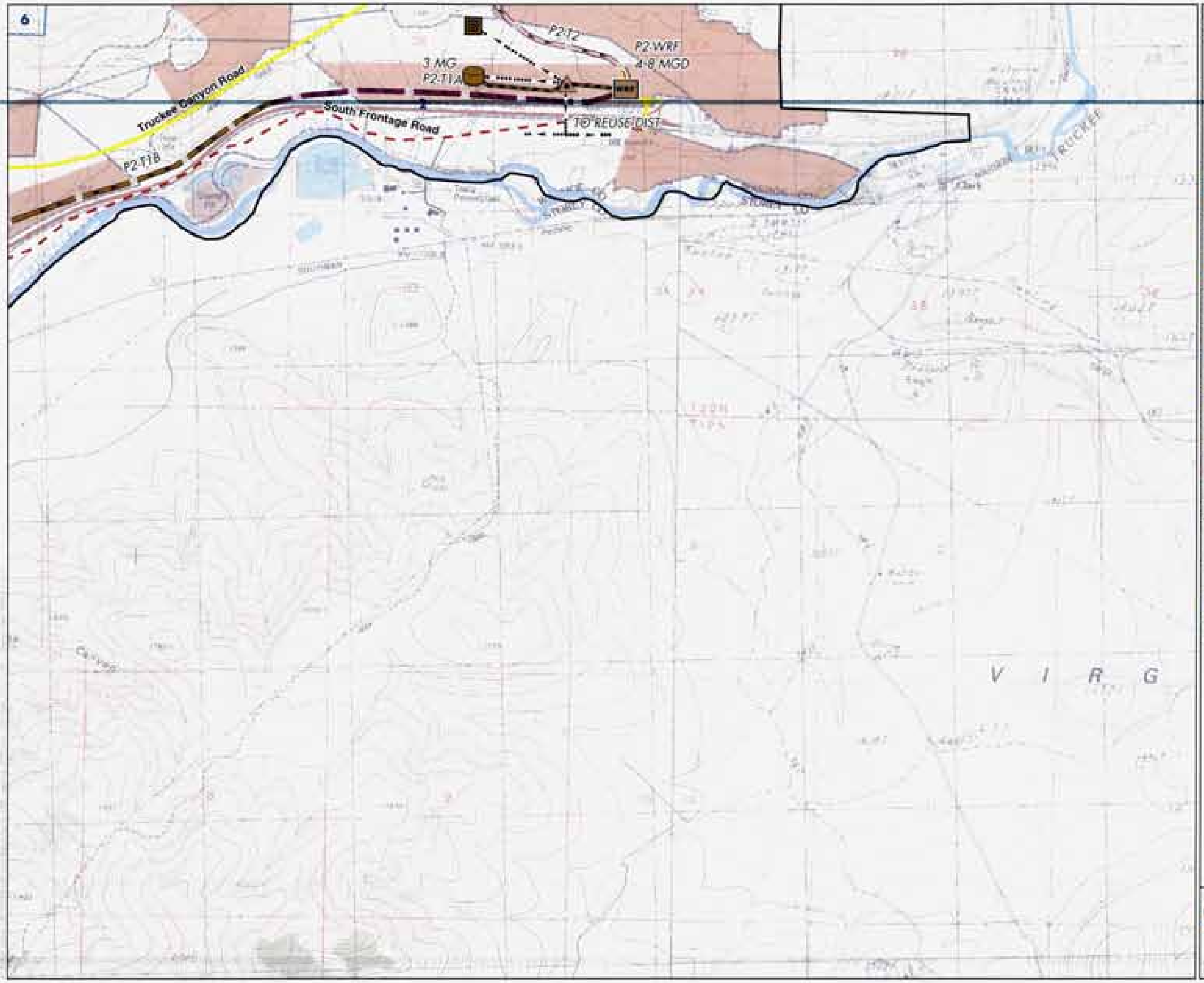


CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 4.16

Existing and Proposed Wastewater Facilities - 2030 (F18)

legend

- Study Area Boundary
- Priority Service Area Boundary & Number
- Developable Areas (<30% Slope) - 2030
- Developable Areas (<30% Slope) - Buildout
- Truckee River
- Existing Sewer Lines
- Arterial Road
- Collector/Local Road
- WCDWR Effluent Storage
- City of Sparks Effluent Lines

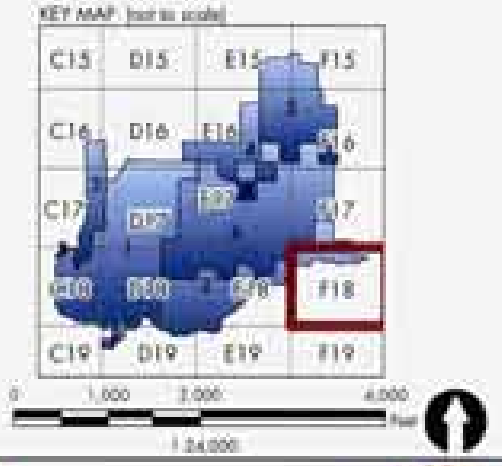
Proposed Wastewater Mains

- 8"
- 10"
- 12"
- 15"
- 18"
- 21"
- 24"
- 27"
- 36"
- Proposed Force Mains
- Proposed Effluent Mains

Proposed Wastewater Facilities

- Proposed Lift Station
- Proposed Recharge Area
- Proposed Effluent Water Storage
- Proposed Water Reclamation Facility

KEY MAP (not to scale)



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Section 5
Flood Control

CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 5.1

Existing and Proposed Flood Control Facilities - 2030 (C16)

Legend

- Priority Service Area Boundary
- Developable Areas (<30% Slope) - 2030
- Developable Areas (>30% Slope) - Buildout
- Arterial Road
- Collector/Local Road
- River
- Watershed Boundaries

FEMA Flood Zones

- Zone X (500yr)
- Zone A
- Zone AE
- Zone AH
- Zone AO

- Conceptual Hydraulic Floodplains
- Conceptual Hydraulic Cross Sections

Culverts & Bridges

- Existing
- Proposed
- Under Construction

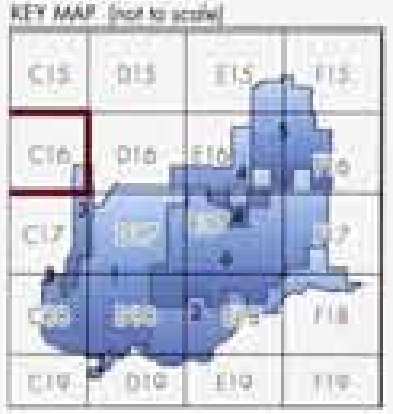
Channels & Enhancements

- Existing
- Proposed
- Under Construction

Detention Basins

- Existing
- Proposed

KEY MAP (not to scale)



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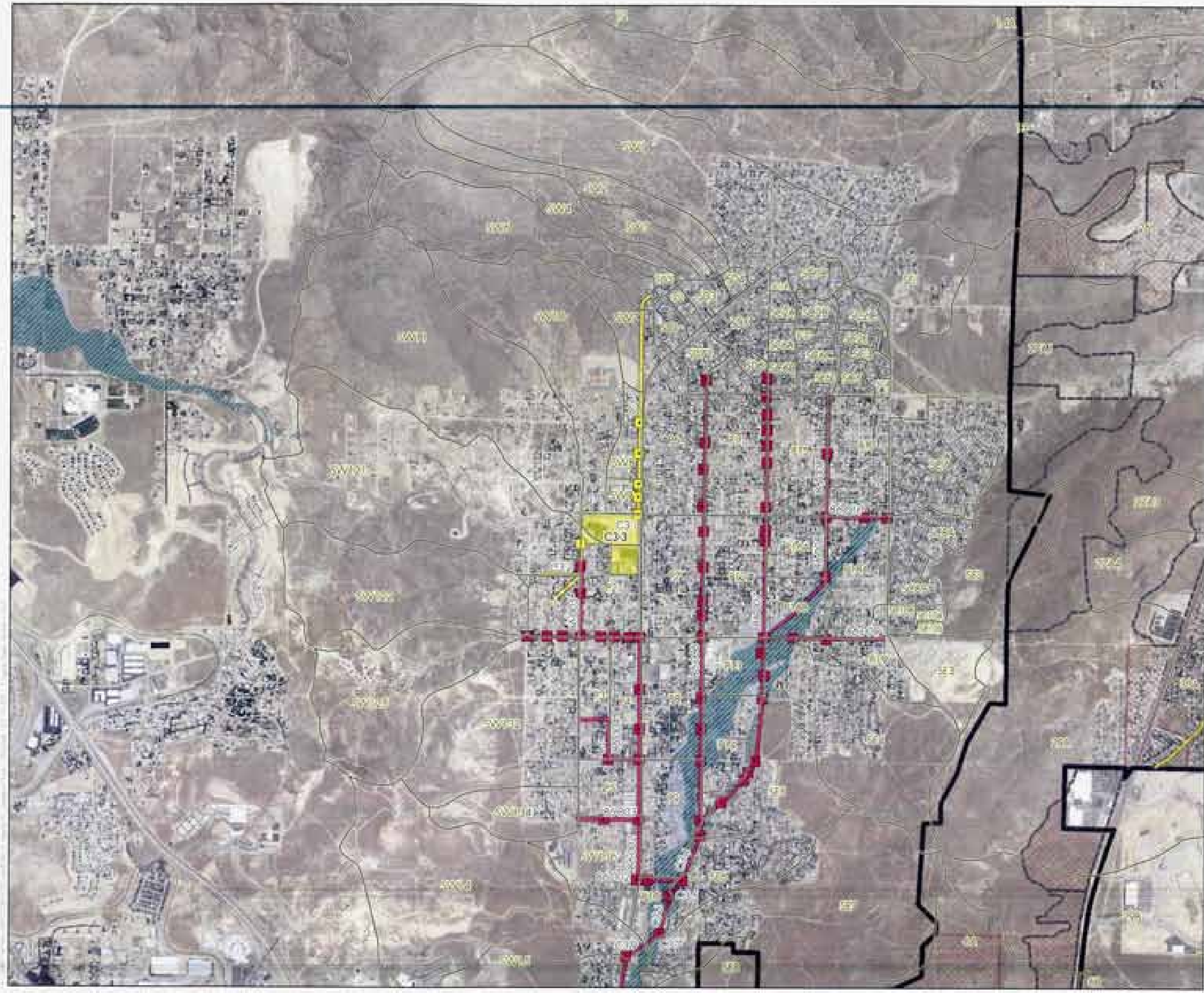
CONCEPTUAL FACILITY MASTER PLAN

Figure: 5.2

Existing and Proposed Flood Control Facilities - 2030 (C17)



legend

- Priority Service Area Boundary
- Developable Areas % 20% Slopes - 2030
- Developable Areas % 20% Slopes - Buildout
- Arterial Road
- Collector/Local Road
- River
- Watershed Boundaries

FEMA Flood Zones

- Zone X (500yr)
- Zone A
- Zone AE
- Zone AH
- Zone AO

- Conceptual Watershed Floodplains
- Conceptual Watershed Cross Sections

Culverts & Bridges

- Existing
- Proposed
- Under Construction

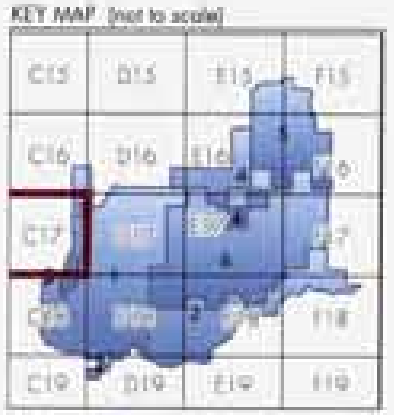
Channels & Embankments

- Existing
- Proposed
- Under Construction

Detention Basins

- Existing
- Proposed

KEY MAP (not to scale)



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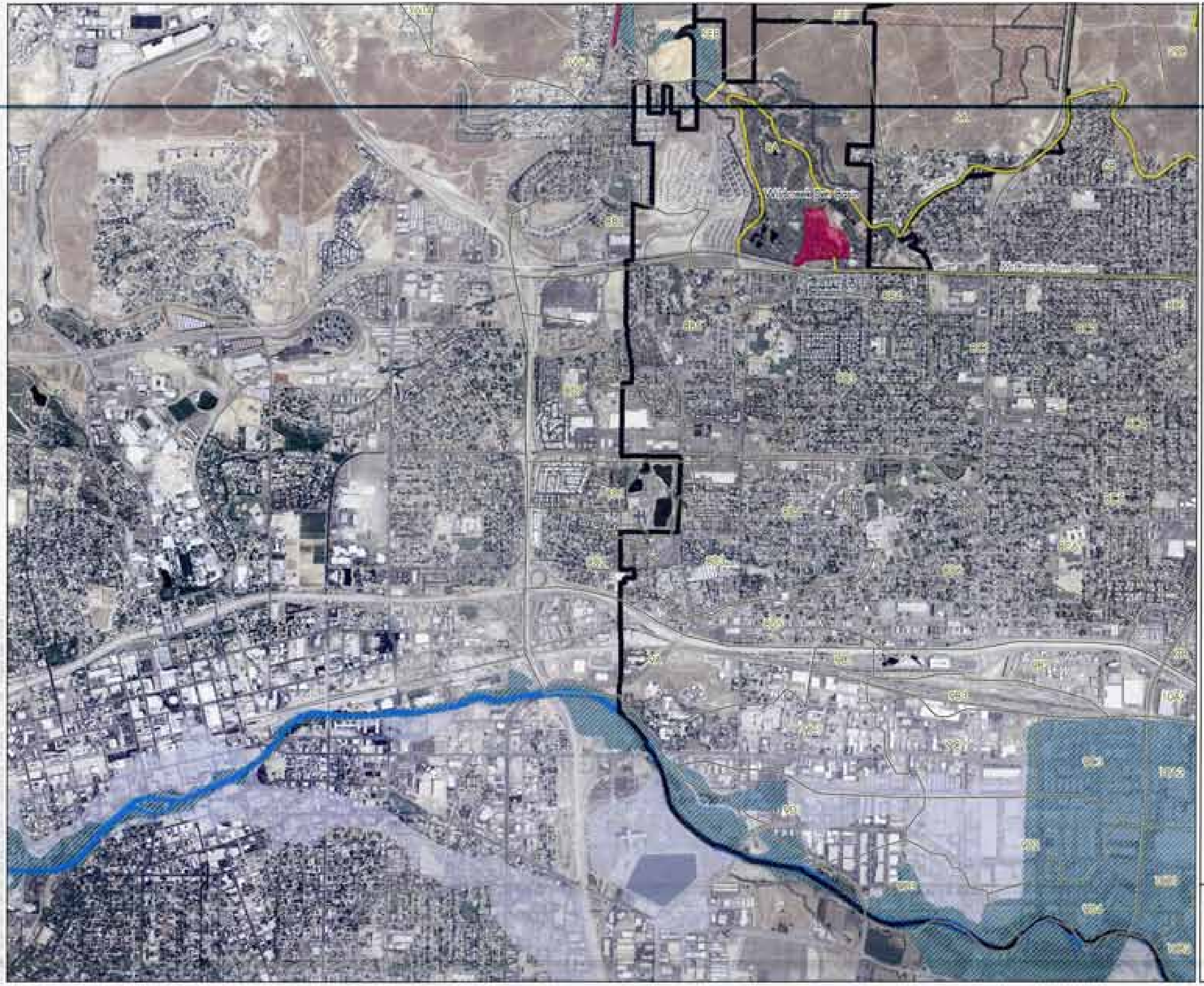
CONCEPTUAL FACILITY MASTER PLAN

Figure: 5.3

Existing and Proposed Flood Control Facilities - 2030 (C18)



Legend

Arterial Road

Collector/Local Road

River

Watershed Boundaries

FEMA Flood Zones

Zone A

Zone AE

Zone AH

Zone AO

Conceptual Mitigation Floodplains

Conceptual Mitigation Cross Sections

Culverts & Bridges

Existing

Proposed

Under Construction

Channels & Embankments

Existing

Proposed

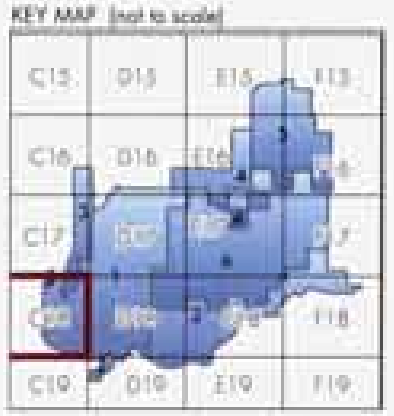
Under Construction

Diversion Basins

Existing

Proposed

KEY MAP (not to scale)



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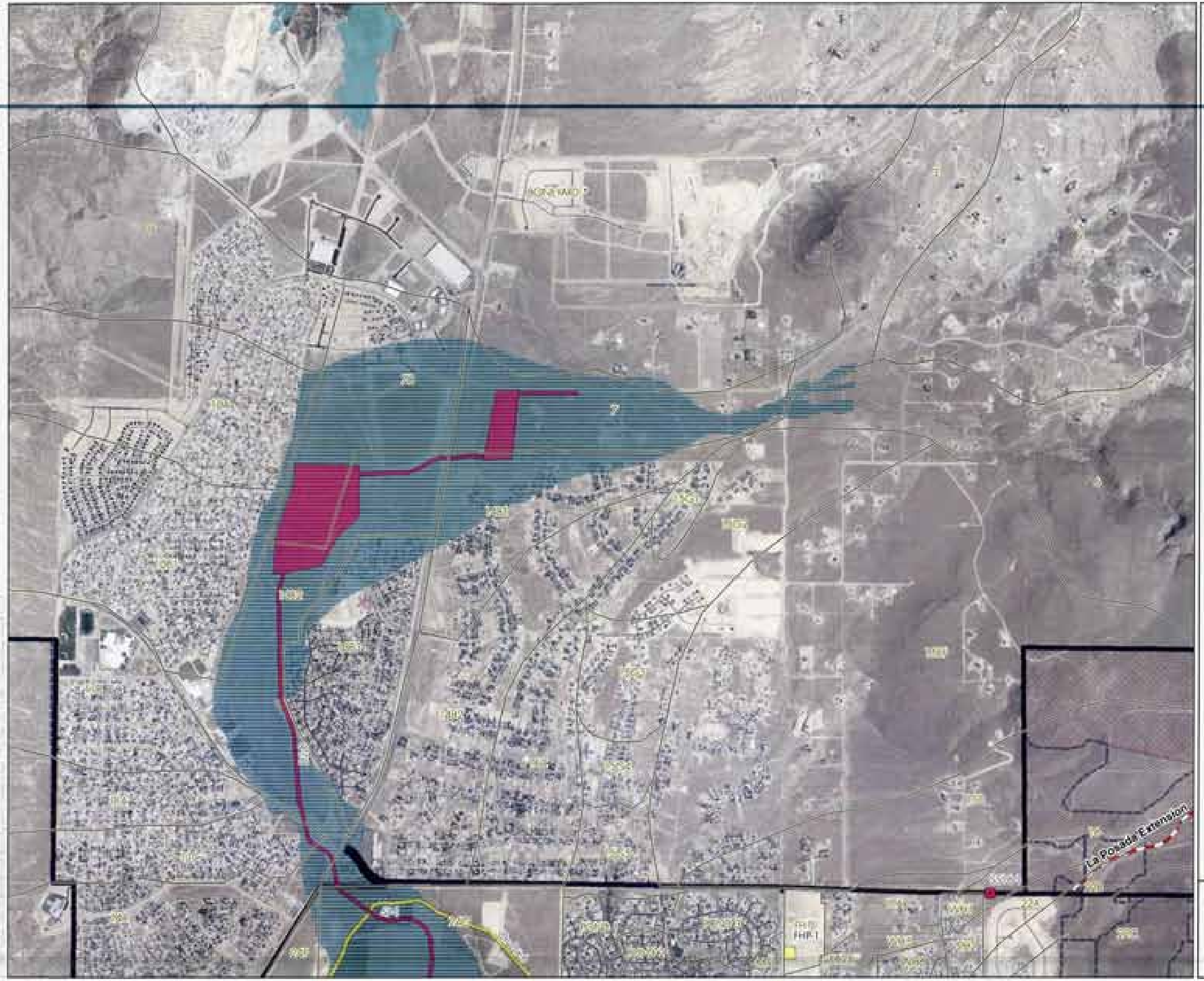
CONCEPTUAL FACILITY MASTER PLAN

Figure: 5.4

Existing and Proposed Flood Control Facilities - 2030 (D16)



legend

- Priority Service Area Boundary
- Developable Areas (<30% Slope) - 2030
- Developable Areas (>30% Slope) - Buildout
- Arterial Road
- Collector/Local Road
- River
- Watershed Boundaries

FEMA Flood Zones

- Zone X (500yr)
- Zone A
- Zone AE
- Zone AH
- Zone AO
- Conceptual Watershed Floodplains
- Conceptual Watershed Cross Sections

Culverts & Bridges

- Existing
- Proposed
- Under Construction

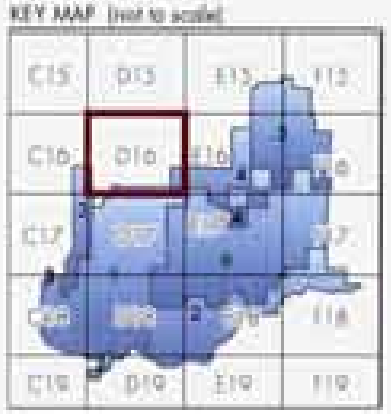
Channels & Embankments

- Existing
- Proposed
- Under Construction

Detention Basins

- Existing
- Proposed

KEY MAP (not to scale)



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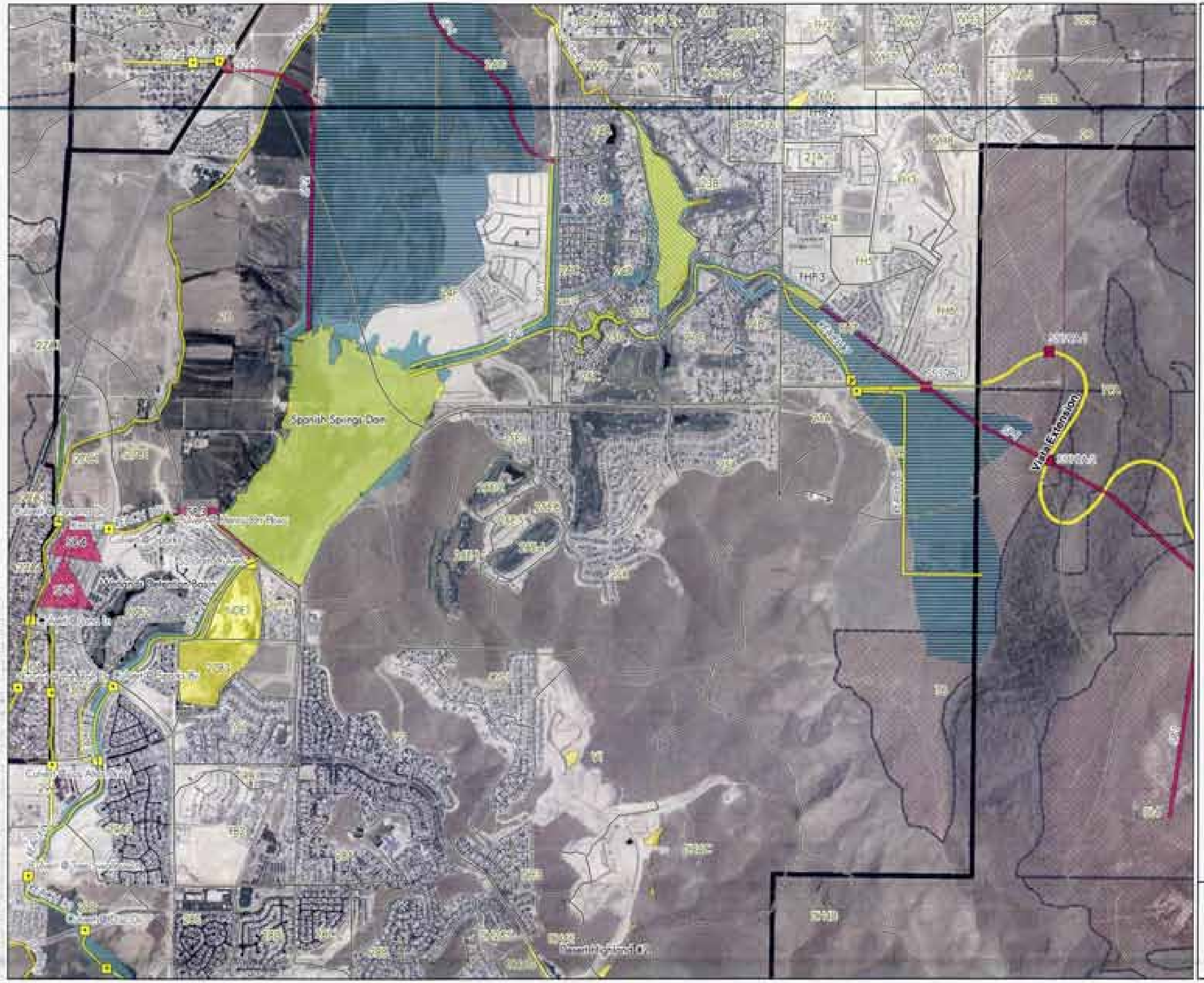
CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 5.5

Existing and Proposed Flood Control Facilities - 2030 (D17)



Legend

- Priority Service Area Boundary
- Developable Areas (<20% Slope) - 2030
- Developable Areas (>20% Slope) - Buildout
- Arterial Road
- Collector/Local Road
- River
- Watershed Boundaries

FEMA Flood Zones

- Zone X (100-yr)
- Zone A
- Zone AE
- Zone AH
- Zone AO

- Conceptual Masterplan Floodplains
- Conceptual Masterplan Cross Sections

Culverts & Bridges

- Existing
- Proposed
- Under Construction

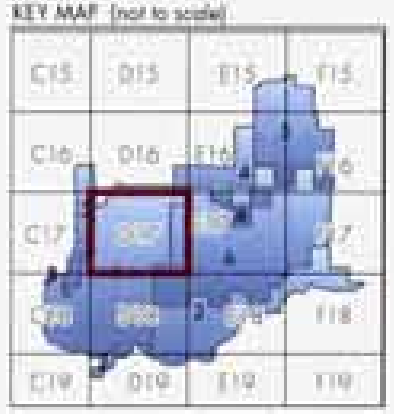
Channels & Embankments

- Existing
- Proposed
- Under Construction

Detention Basins

- Existing
- Proposed

KEY MAP (not to scale)



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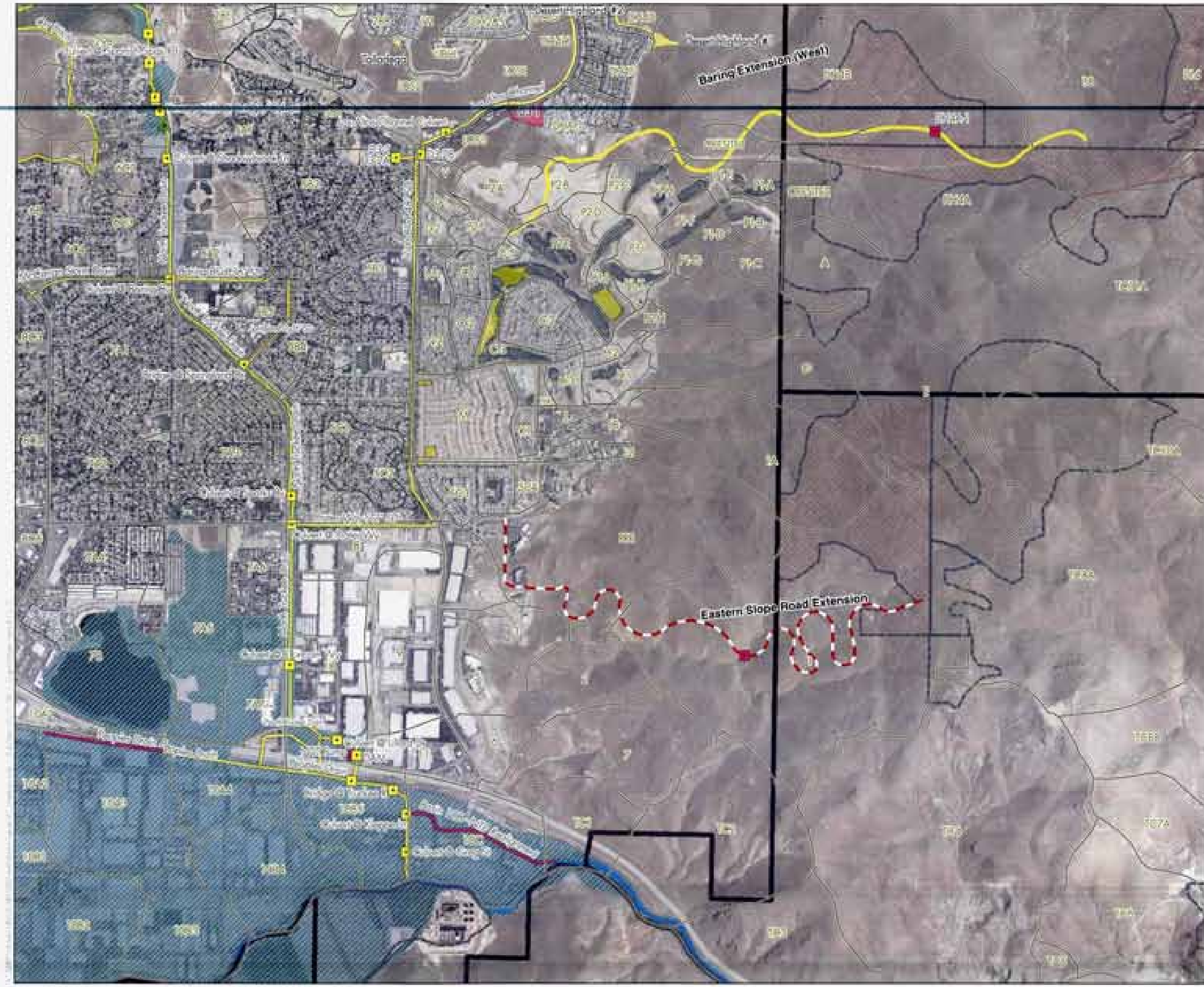


CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

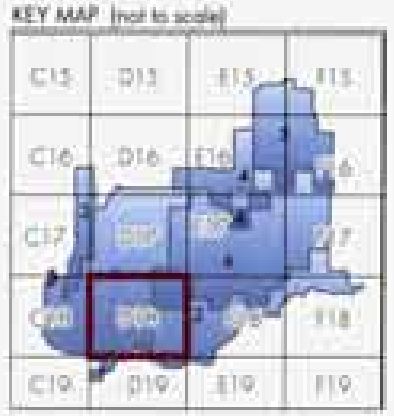
Figure: 5.6

Existing and Proposed Flood Control Facilities - 2030 (D18)

Legend

Priority Service Area Boundary
Developable Area (30% Slope) - 2030
Developable Area (30% Slope) - Buildout
Arterial Road
Collector/Local Road
River
Watershed Boundaries
FEMA Flood Zones
Zone X (500yr)
Zone A
Zone AE
Zone AH
Zone AO
Conceptual Waterplan Floodplains
Conceptual Waterplan Cross Sections
Culverts & Bridges
Existing
Proposed
Under Construction
Channels & Embankments
Existing
Proposed
Under Construction
Detention Basins
Existing
Proposed

KEY MAP (not to scale)



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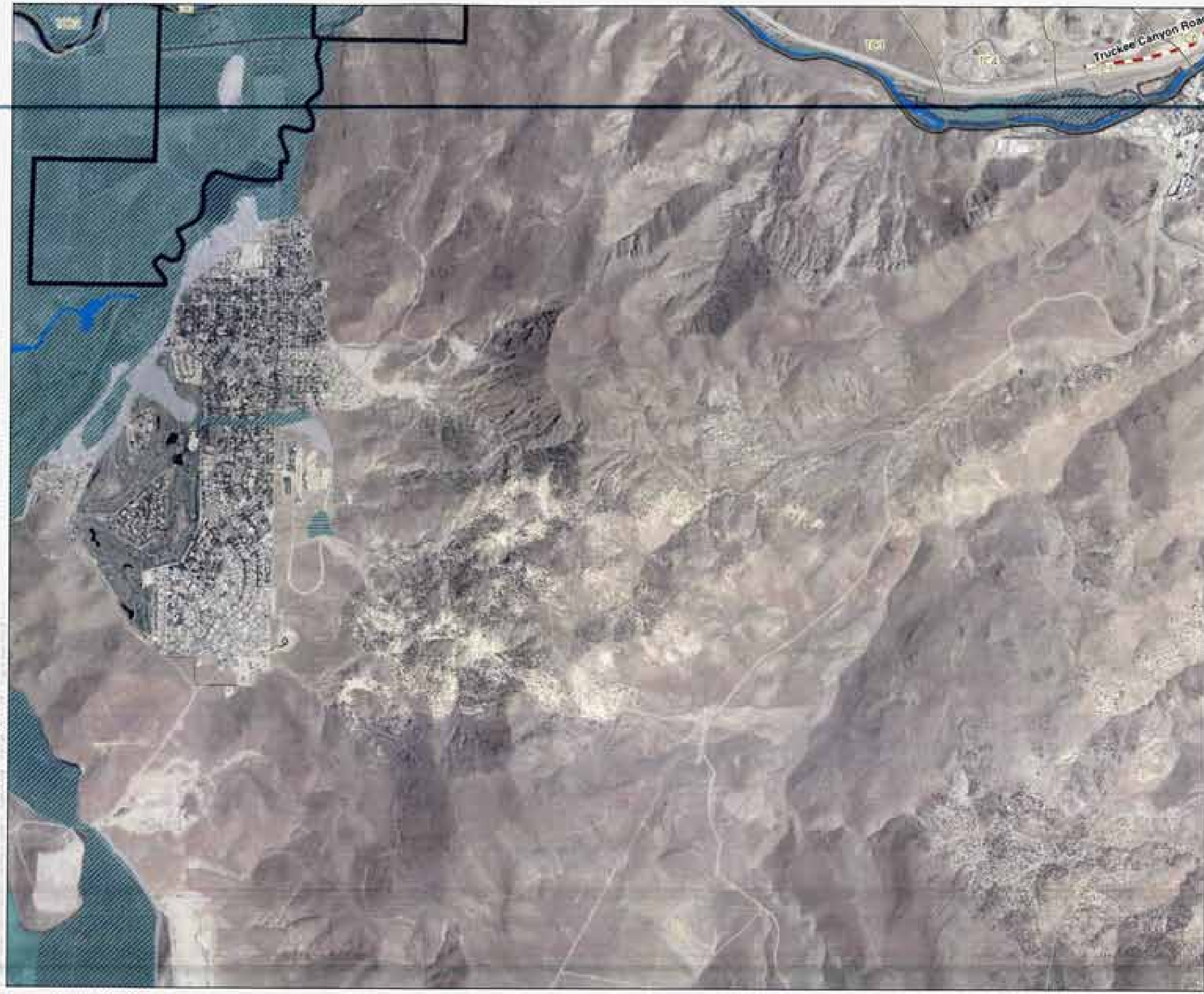


CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

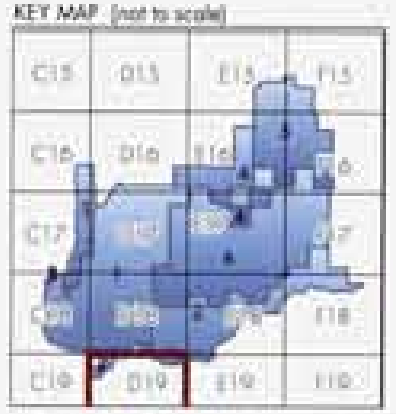
Figure: 5.7

Existing and Proposed Flood Control Facilities - 2030 (D19)

Legend

Priority Service Area Boundary
Developable Area (< 30% Slope) - 2030
Developable Area (> 30% Slope) - Buildout
Arterial Road
Collector/Local Road
River
Watershed Boundary
FEMA Flood Zones
Zone X (500yr)
Zone A
Zone AE
Zone AH
Zone AO
Conceptual Masterplan Floodplains
Conceptual Masterplan Cross Sections
Culverts & Bridges
Existing
Proposed
Under Construction
Channels & Embankments
Existing
Proposed
Under Construction
Detention Basins
Existing
Proposed

KEY MAP (not to scale)



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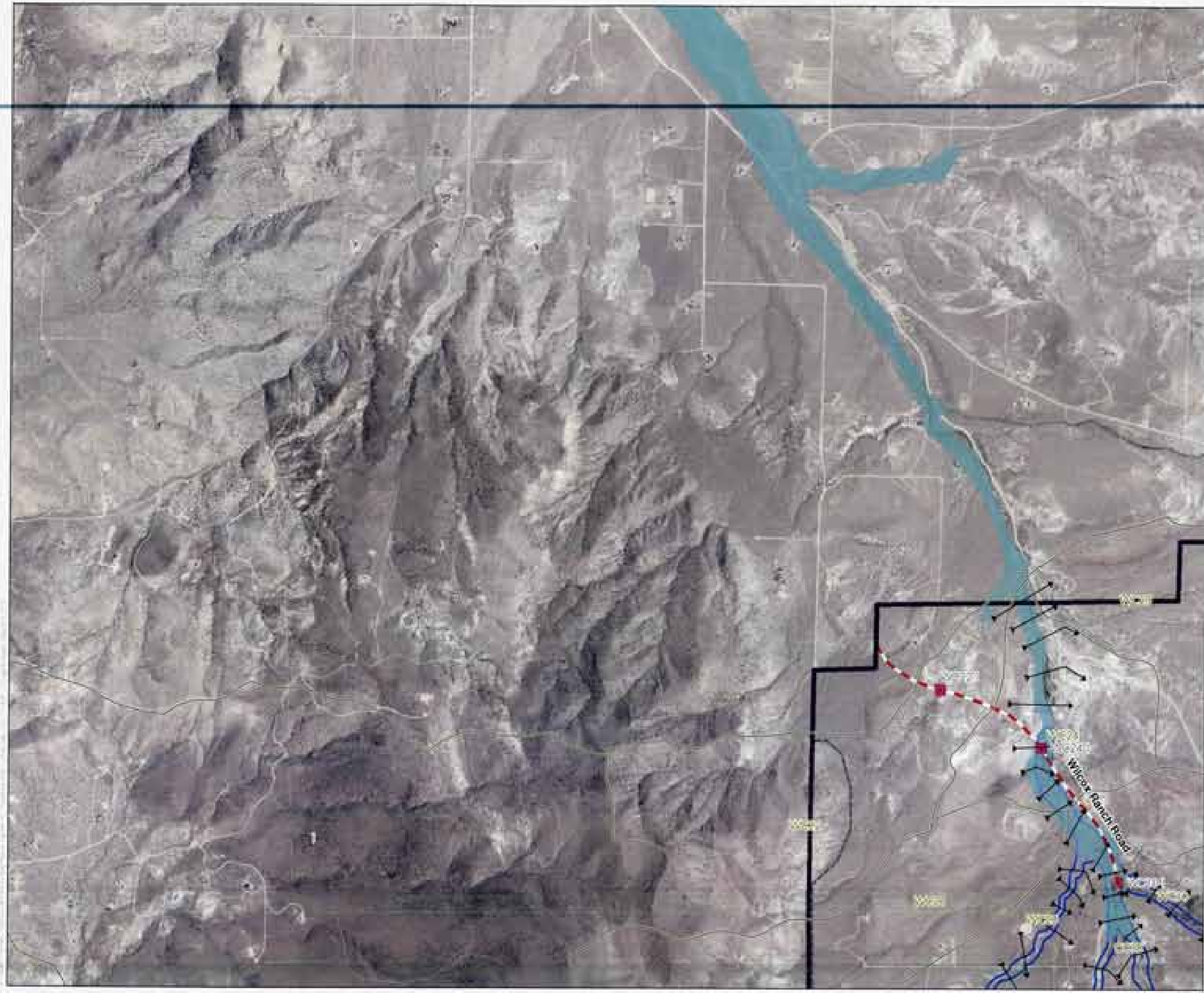
CONCEPTUAL FACILITY MASTER PLAN

Figure: 5.8

Existing and Proposed Flood Control Facilities - 2030 (E15)



Legend

- Priority Service Area Boundary
- Developable Areas (< 25% Slope) - 2030
- Developable Areas (< 25% Slope) - Buildout
- Arterial Road
- Collector/Local Road
- River
- Watershed Boundary

FEMA Flood Zones

- Zone X (500yr)
- Zone A
- Zone AE
- Zone AH
- Zone AO
- Conceptual Alleviation Floodplains
- Conceptual Alleviation Cross Sections

Culverts & Bridges

- Existing
- Proposed
- Under Construction

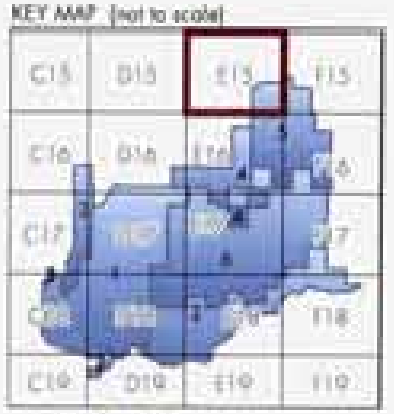
Channels & Embankments

- Existing
- Proposed
- Under Construction

Detention Basins

- Existing
- Proposed

KEY MAP (not to scale)



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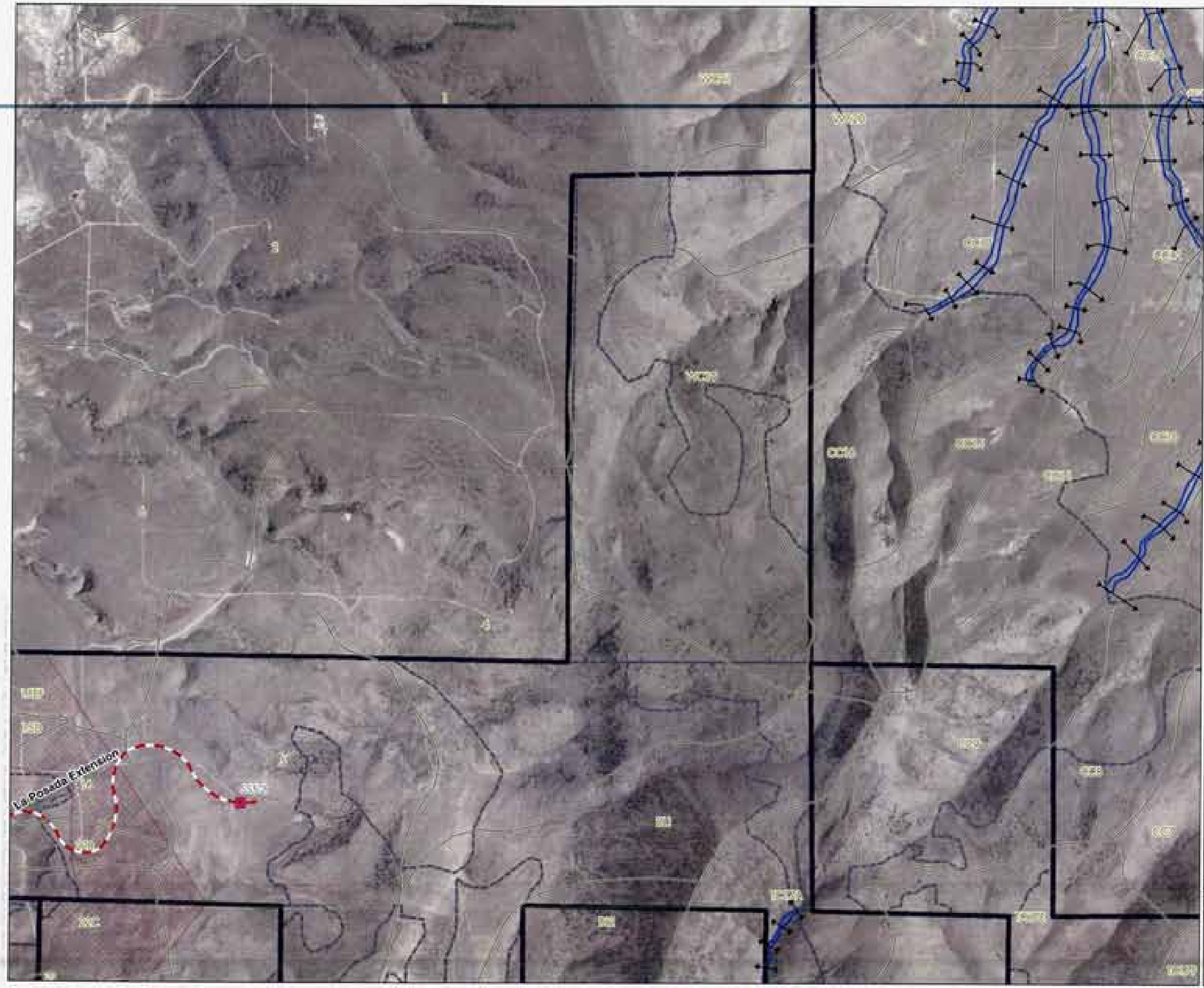
CONCEPTUAL FACILITY MASTER PLAN

Figure: 5.9

Existing and Proposed Flood Control Facilities - 2030 (E16)



Legend

- Sparks Service Area Boundary
- Developable Areas % 208 Stage - 2030
- Developable Areas % 208 Stage - Buildout
- Arterial Road
- Collector/Local Road
- River
- Watershed Boundary

FEMA Flood Zones

- Zone A (100yr)
- Zone A
- Zone AE
- Zone AH
- Zone AO
- Conceptual Floodplain Boundaries
- Conceptual Floodplain Cross Sections

Culverts & Bridges

- Existing
- Proposed
- Under Construction

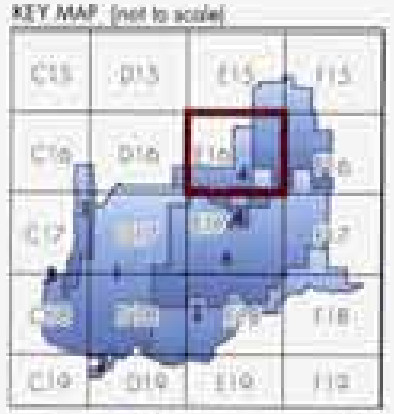
Channels & Embankments

- Existing
- Proposed
- Under Construction

Detention Basins

- Existing
- Proposed

KEY MAP (not to scale)



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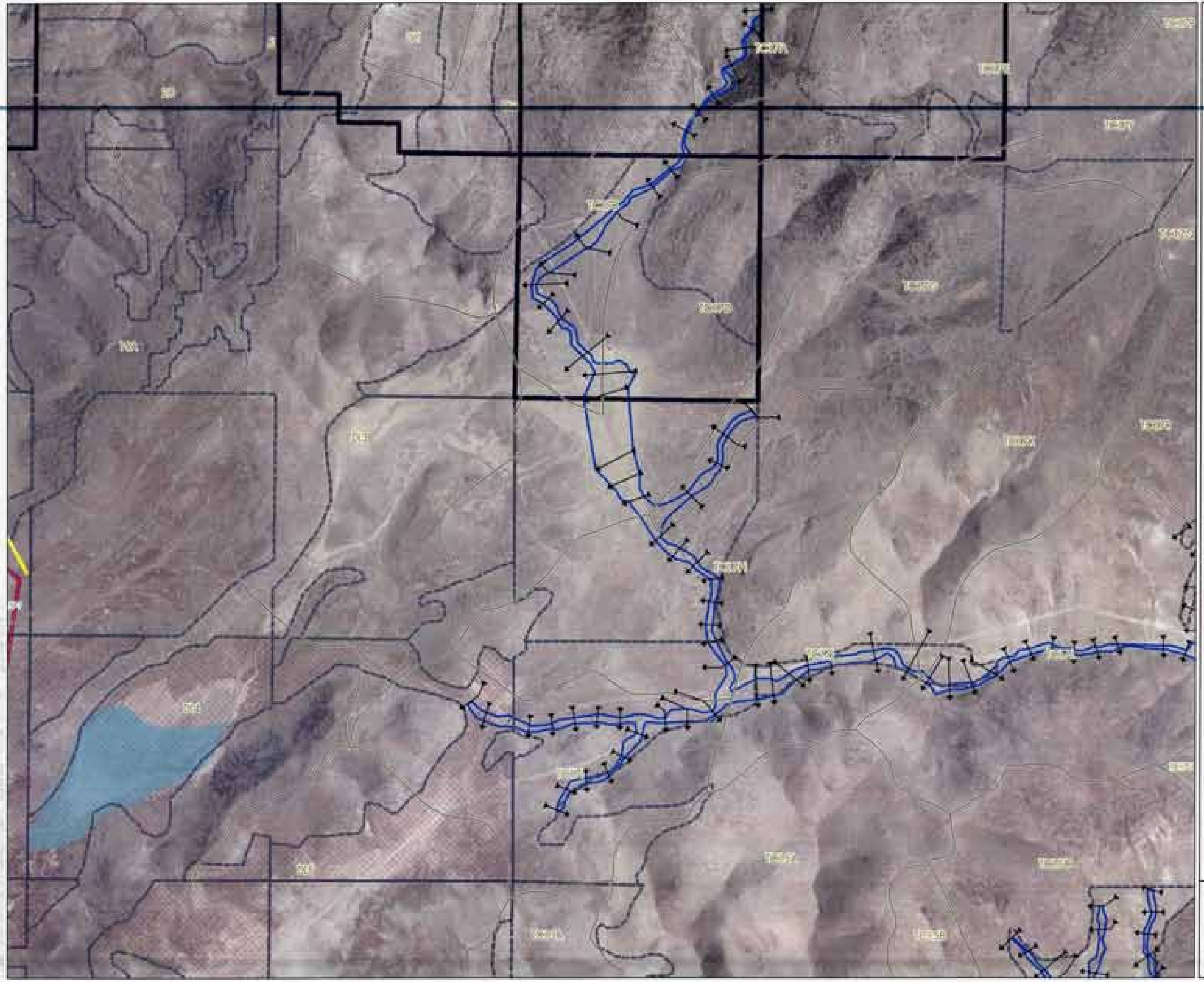
CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 5.10

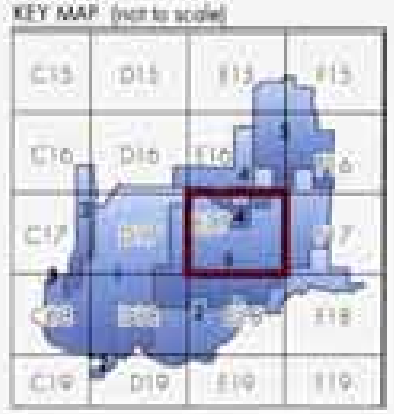
Existing and Proposed Flood Control Facilities - 2030 (E17)



Legend

Priority Service Area Boundary
Developable Area (< 30% Slope) - 2030
Developable Area (< 30% Slope) - Buildout
Arterial Road
Collector/local Road
River
Watershed Boundaries
FEMA Flood Zones
Zone X (500yr)
Zone A
Zone AE
Zone AH
Zone AO
Conceptual Waterplex Floodplains
Conceptual Waterplex Cross Sections
Culverts & Bridges
Existing
Proposed
Under Construction
Channels & Embankments
Existing
Proposed
Under Construction
Detention Basins
Existing
Proposed

KEY MAP (not to scale)



0 1,000 2,000 4,000 Feet
1:24,000

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stantec.com

Stantec

The City of Sparks

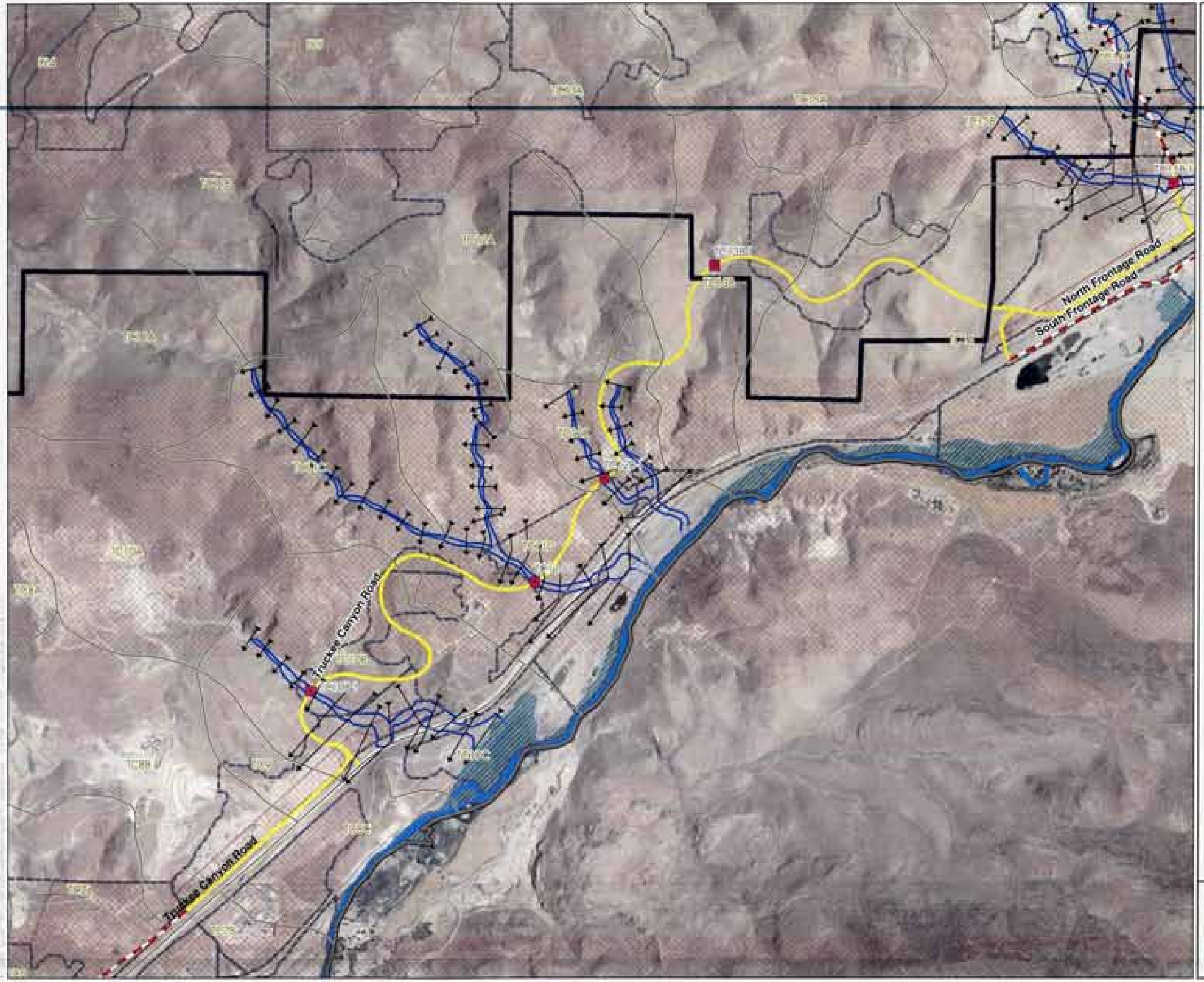
For questions or comments contact Stantec Consulting at the address above.
To the extent of the 2030 Commitment Report.

Date: January 11, 2008

CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 5.11

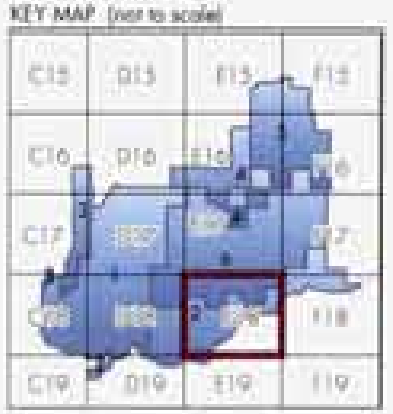
Existing and Proposed Flood Control Facilities - 2030 (E18)



Legend

- Priority Service Area Boundary
- Developable Area, 0-30% Slope - 2030
- Developable Area, 0-30% Slope - Buildout
- Arterial Road
- Collector/Local Road
- River
- Watershed Boundaries
- FEMA Flood Zones
  - Zone X (500yr)
  - Zone A
  - Zone AE
  - Zone AH
  - Zone AO
- Conceptual Masterplan Floodplains
- Conceptual Masterplan Cross Sections
- Culverts & Bridges
  - Existing
  - Proposed
  - Under Construction
- Channels & Embankments
  - Existing
  - Proposed
  - Under Construction
- Detention Basins
  - Existing
  - Proposed

KEY MAP (not to scale)



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The Biggest Little City

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CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

Figure: 5.12

Existing and Proposed Flood Control Facilities - 2030 (E19)

Legend

- Priority Service Area Boundary
- Developable Areas (<30% Slope) - 2030
- Developable Areas (>30% Slope) - Buildout
- Arterial Road
- Collector/Local Road
- River
- Watershed Boundary

FEMA Flood Zones

- Zone X (500yr)
- Zone A
- Zone AE
- Zone AH
- Zone AO
- Conceptual Masterplan Floodplains
- Conceptual Masterplan Cross Sections

Culverts & Bridges

- Existing
- Proposed
- Under Construction

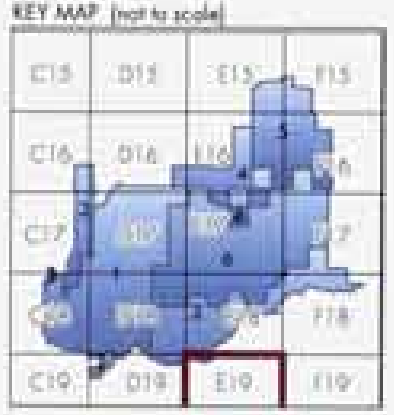
Channels & Embankments

- Existing
- Proposed
- Under Construction

Detention Basins

- Existing
- Proposed

KEY MAP (not to scale)



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CONCEPTUAL FACILITY MASTER PLAN

Figure: 5.13

Existing and Proposed Flood Control Facilities - 2030 (F15)

Legend

Priority Service Area Boundary

Developable Areas [illegible] Signal - 2030

Developable Areas [illegible] Signal - Buildout

Arterial Road

Collector/Local Road

River

Watershed Boundary

FEMA Flood Zones

Zone A [illegible]

Zone A

Zone AE

Zone AH

Zone AO

Conceptual Wastewater Pressure Pipe

Conceptual Wastewater Gravity Sanitary

Culverts & Bridges

Existing

Proposed

Under Construction

Channels & Embankments

Existing

Proposed

Under Construction

Detention Basins

Existing

Proposed

KEY MAP (not to scale)

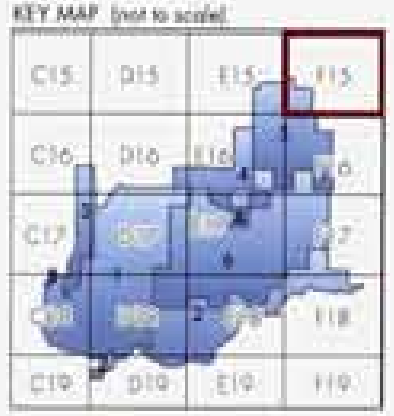

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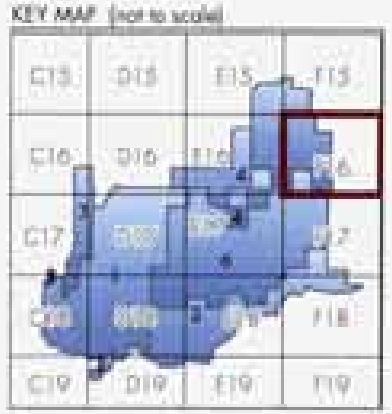
Figure: 5.14

Existing and Proposed Flood Control Facilities - 2030 (F16)

Legend

KEY MAP (not to scale)



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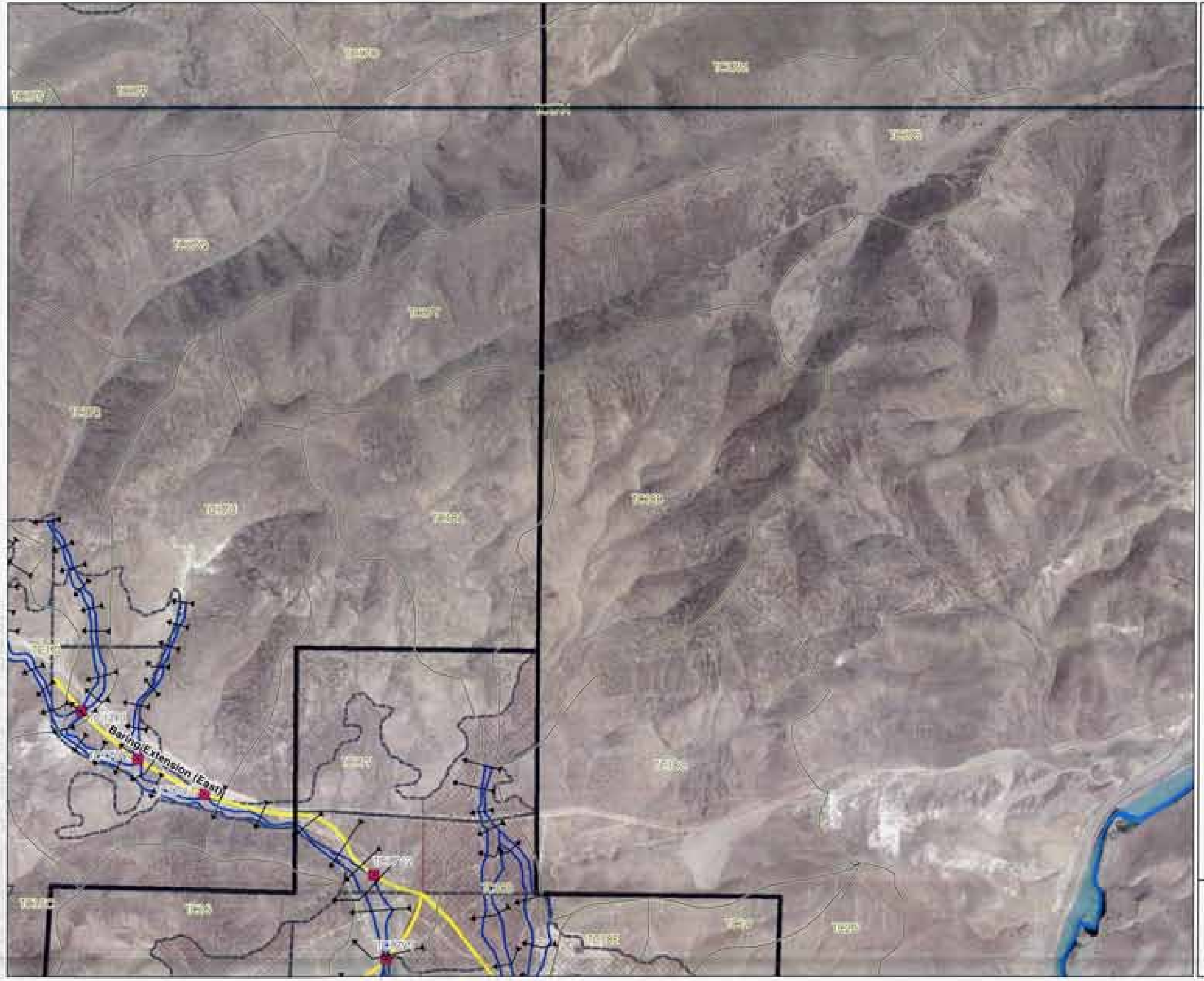


CITY OF SPARKS TMSA/FSA
CONCEPTUAL FACILITY MASTER PLAN

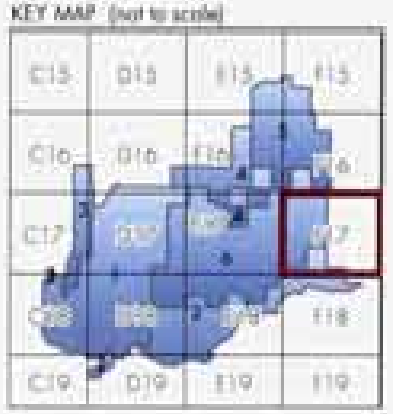
Figure: 5.15

Existing and Proposed
Flood Control Facilities - 2030 (F17)

Legend

Priority Service Area Boundary
Developable Areas (<30% Slope) - 2030
Developable Areas (<30% Slope) - Buildout
Arterial Road
Collector/local Road
River
Watershed Boundaries
FEMA Flood Zones
Zone X (500yr)
Zone A
Zone AE
Zone AH
Zone AO
Conceptual Wastewater Floodplains
Conceptual Wastewater Cross Sections
Culverts & Bridges
Existing
Proposed
Under Construction
Channels & Embankments
Existing
Proposed
Under Construction
Detention Basins
Existing
Proposed

KEY MAP (not to scale)



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CONCEPTUAL FACILITY MASTER PLAN

Figure: 5.16

Existing and Proposed Flood Control Facilities - 2030 (F18)

Legend

KEY MAP (not to scale)

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1:24,000

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