



May 2021

Town of Castle Rock Development Services
Attn: Tina Close
100 North Wilcox Street
Castle Rock, CO 80104

**RE: Utility Concept Letter
Miller's Landing PDP Amendment #1
Project No. PDP20-00xx**

Dear Ms. Close:

This letter has been prepared in support of the Miller's Landing PDP Amendment #1 development, within the Town of Castle Rock, Colorado. This letter provides general concepts for providing water and sanitary sewer service for the subject property. Subsequent utility reports will be prepared during the design process to provide more detailed design information.

1. PROJECT INFORMATION

Developer Information:

CCD Miller's Landing, LLC
115 Wilcox Street, Suite 206
Castle Rock, CO 80104
Phone: 847-323-5277
Contact: Scott D. Springer

Engineer Information:

CORE Consultants, Inc.
3473 South Broadway,
Englewood, CO 80113
Phone: 303-703-4444
Contact: Robert D. Hansen, P.E.; 303-730-5986

2. PROJECT LOCATION AND DESCRIPTION

2.1. Site Location

The Miller's Landing project is located north of W. Plum Creek Parkway and approximately 1,300-feet west of Interstate 25 (I-25) in Castle Rock, Colorado. The site is primarily within the Northeast Quarter (NE $\frac{1}{4}$) of Section 10 with a small portion in the Southeast Quarter (SE $\frac{1}{4}$) of Section 10 in Township 8 South, Range 67 West of the 6th



P.M. in the Town of Castle Rock, Douglas County, Colorado. The project is bounded by the following:

- To the north by an existing drainageway known as the Industrial Tributary, further north by an existing industrial development.
- To the south and west by W. Plum Creek Parkway, further southwest by the Philip S. Miller Park and further south by an undeveloped parcel known as Castle Meadows Planned Development.
- To the east by the ACME brick plant properties, the brick plant operations are no longer active.
- To the east at the southern boundary by platted right-of-way dedicated as Prairie Hawk Drive, further east by an undeveloped parcel known as Castle Meadows Planned Development NE Parcel, an 18-acre undeveloped parcel.

Refer to the Vicinity Map located in the appendix.

2.2. Description of Property and Land Use

The Miller's Landing project includes approximately 48.2 acres of undeveloped land. Portions of the site were previously disturbed during the land fill cleanup process but have generally been revegetated. The site generally drains to the north and northeast toward the Industrial Tributary.

The property was rezoned in 2016 to zone IO, Interchange Overlay District (IOD), to support a Mixed Use Development with a restriction of no residential. This application is to remove that restriction and allow residential within the Miller's Landing boundary. The IOD in general allows residential development. The specific future uses, and site configuration have not specifically been determined at this time. It is likely the development will include, general office space, retail and food and beverage establishments, hotel uses, and residential housing. For purposes of this report, it is assumed the project will consist of 509,874 square feet of general office, retail and food and beverage space and 600 multifamily units. The provided uses and square footages are conceptual only, and do not necessarily reflect the actual future uses. The 2016 Concept Utility Letter, approved by the Town, estimated to require 915 water SFE's and 952 Wastewater SFE's. Using the assumed uses including residential the project will generate 1009.5 water SFEs and 1009.5 wastewater SFEs. The project will most likely be phased, the phasing and increase in SFE's will be addressed in future Preliminary Utility Reports.

The Miller's Landing developer had been proceeding with development process. The Town has reviewed and approved the Miller's Landing Phase 1 Construction Documents that included the water and wastewater systems for the phase 1 area of the project, to



include the 16" water transmission main in W. Plum Creek Parkway, and the outfall sanitary sewer system. The Phase 1 plans connected a 12" water line at the Topeka Way and Industrial Tributary location. This application is proposing the loop connection at the Atchison Way and Industrial Tributary location and will likely not use the previous location for looping the water system unless future analysis requires the third connection.

3. EXISTING WATER SYSTEM

3.1. Existing Distribution System

Near the Miller's Landing project there is an existing 12-inch water main in Topeka Way approximately 500LF from the project boundary. There is an existing 16-inch water main in W. Plum Creek Parkway that runs south from Auburn Drive to just north of the Industrial Tributary crossing at the northwest corner of the project boundary. North of the project at the intersection of Topeka Way and Atchison Way there is an existing 12-inch water main. Northeast of the project site there is a 12-inch water main in existing Prairie Hawk Drive; however, this water main is in the Yellow zone and is not anticipated to be used for this project. Refer to the existing utility map located in the appendix.

3.2. Existing Supply Facilities

The Miller's Landing property is located within the Town of Castle Rock's "Blue" Pressure Zone as directed by Town staff and will be served by Tank No. 8.

4. PROPOSED WATER SYSTEM

4.1. Proposed Distribution System

The Miller's Landing project will connect to the existing 16-inch water main in W. Plum Creek Parkway and to an existing 12-inch water main in Topeka Way at the intersection of Atchison Way to complete a looped system. A 12" water main and was part of the Philip S. Miller Park and Field House plans, signed by the Town on June 28, 2013, and appears not to have been constructed, it is shown as #10 on Figure 5.3 in the 2017 Water Master Plan-Future Developer Projects, it is not anticipated to be a point of connection at this time. If a detailed hydraulic analysis shows that Miller's Landing requires this third looping connection, it is understood that this main would need to be constructed by this Developer. Additionally, a 12-inch water main in W. Plum Creek Parkway along the frontage of the project site for approximately 2100LF is proposed per the Miller's Landing Development Agreement. This water line main is shown as #9 on Figure 5.3 2017 Water Master Plan-Future Developer Projects, being a 16-inch transmission line, which is a Town upsize for purposes of off-site development. The Miller's Landing Development Agreement stipulates that the Developer is responsible for design and construction of any Town requested upsizing of this water line main, the





upgrade expense would be the responsibility of the Town. The water main connection through the project site along Atchison Way extension (aka future Prairie Hawk Drive extension) from the intersection of Topeka Way and Atchison Way to W. Plum Creek Parkway will complete the water line main looping, it is anticipated this might be a 12-inch waterline, further detailed hydraulic studies will determine the final size. The entire project proposed water system will be analyzed in further detail as the design of the project progresses. Final waterline sizing should be confirmed with a detailed hydraulic analysis. The project is estimated to require 1009.5 water SFEs, which is higher than the current Miller's Landing PDP land use. The Castle Rock 2017 Water Master Plan did not indicate SFEs for Miller's Landing; however, the 2010 Water Master Plan Update indicates 228 SFEs were planned for the project site, excerpts included in the Appendix. It is anticipated the preliminary and final utility reports will address the increase in SFEs to determine water availability. Proposed and existing infrastructure serving the Miller's Landing project may need to be revised or up-sized to provide for the Miller's Landing development and/or adjacent developments, depending on further analysis of demands and existing infrastructure. Any costs related to upsizing in infrastructure due to adjacent development and/or Town requests will not be this developer's financial responsibility.

4.2. Supply Facilities

There are no additional water supply facilities required to adequately serve the development. The water system will be analyzed further as design of the project progresses.

5. EXISTING WASTEWATER SYSTEM

5.1. Existing Collection System

There is an existing 8-inch sanitary sewer main adjacent to the Industrial Tributary drainageway from W. Plum Creek Parkway to Topeka Way, continuing northeast in Topeka Way. Additionally, there is an existing 18-inch sewer main in existing Prairie Hawk Drive east of the project site. There does not appear to be any lift stations or force mains within the vicinity of the project. According to the Town of Castle Rock 2016 Wastewater Master Plan, Figure 5.2, #5, and the Town CIP Project List #25, the Town has the Prairie Hawk Interceptor CIP project as part of the Town's 2022 improvements. This interceptor project will replace the wastewater system with an 18-inch main within existing Prairie Hawk Drive from the Industrial Tributary crossing north to Atchison Way. The construction timing of a live wastewater system from the Miller's Landing project should occur at or after the Town's 2022 improvements to the system.

6. PROPOSED WASTEWATER SYSTEM

6.1. Proposed Collection System





A western portion of the Miller's Landing project could connect to the existing 8-inch sanitary sewer main in Topeka Way adjacent to the Industrial Tributary; however, it is not anticipated at this time. The project will connect to the existing 18-inch sewer main in existing Prairie Hawk Drive, which will require approximately 1,100LF of offsite sewer extending from the east boundary through the Castle Meadows NE Parcel, also a part of the same ownership. An easement will be granted to the Town for this off-site main.

The location, both horizontally and vertically, of the existing sanitary sewer system has been verified. The 2016 Wastewater Master Plan Figure 5.2, Developer Wastewater Projects, does not show any planned project near this project site. The future development of the existing downstream wastewater infrastructure serving this site is as shown on Figure 5.2 described previously, is part of the Town CIP development. This project is estimated to produce 1009.5 wastewater SFEs, which is higher than the current land use. The Castle Rock 2016 Wastewater Master Plan Update did not indicate SFEs for Miller's Landing; however, the 2010 Wastewater Master Plan Update indicates 228 SFEs were planned for the project site, excerpts included in the Appendix. Additional analysis will be required to ensure adequate capacity is available for the project due to the increase in SFEs. It is anticipated the preliminary and final utility reports will address the increase in SFEs and determine available downstream capacity. Proposed infrastructure serving the Miller's Landing project may need to be revised or up-sized to provide for the Miller's Landing development depending on further analysis of demands.

6.2. Proposed Wastewater Facilities

No additional wastewater facilities are anticipated to be required with the project.

If you have any questions, concerns, or require additional information, please feel free to contact me or Rob directly.

Sincerely,

CORE Consultants, Inc.

Robert Hansen, PE, CFM

Senior Project Manager

hansen@corecivil.com 303-730-5986





REFERENCES

Castle Rock 2016 Wastewater Master Plan Update, Castle Rock Water Engineering, 2016

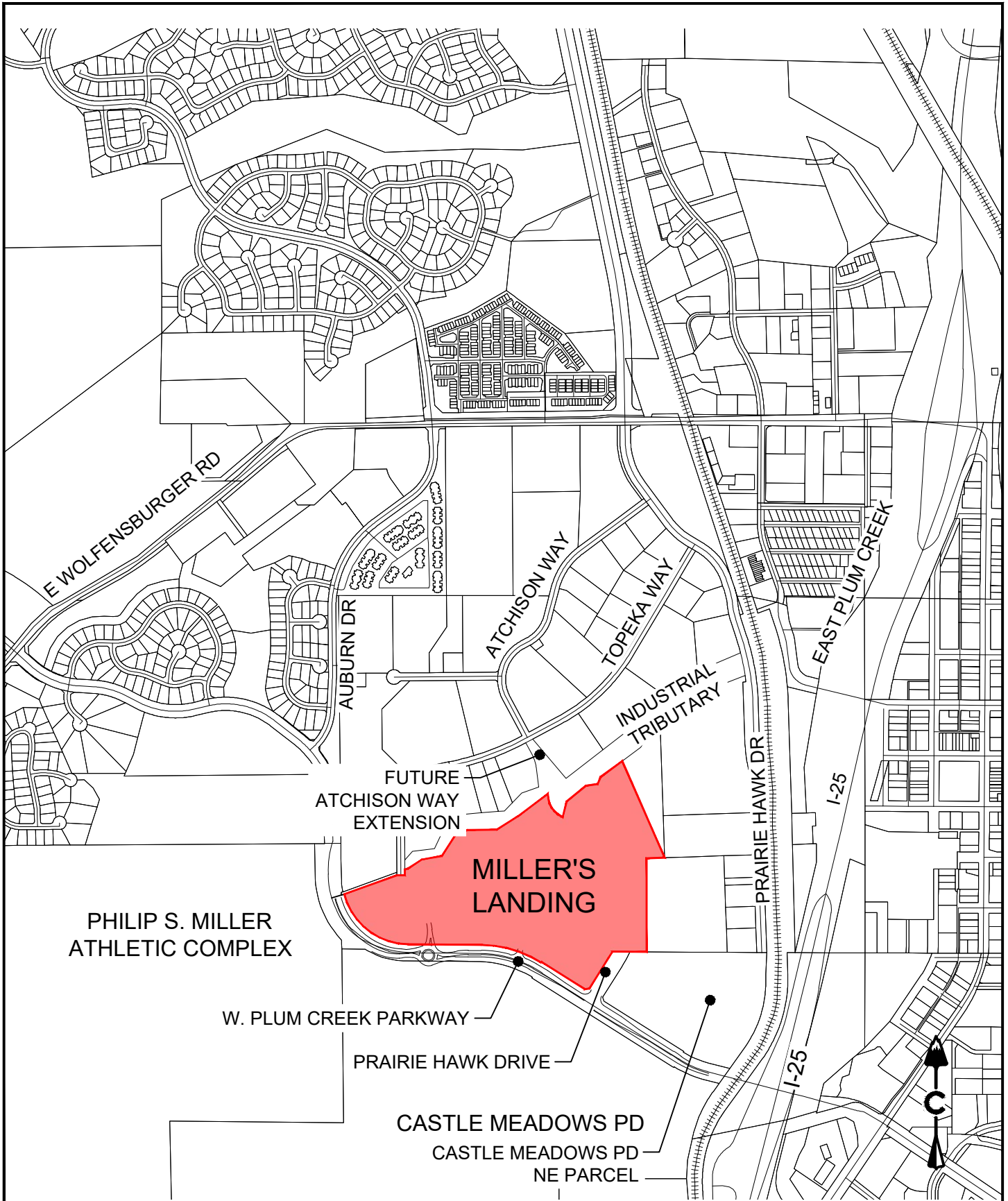
Castle Rock 2017 Water Master Plan, Castle Rock Water Engineering, December 2017





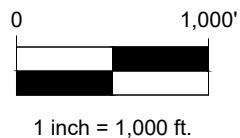
APPENDIX





S:\17021 17-069 MILLER'S LANDING\CAD\REF\VC MAP\VC MAP-AL.PDF AMEND 1.DWG

CORE
CORE CONSULTANTS, INC.
LIVEYOURCORE.COM

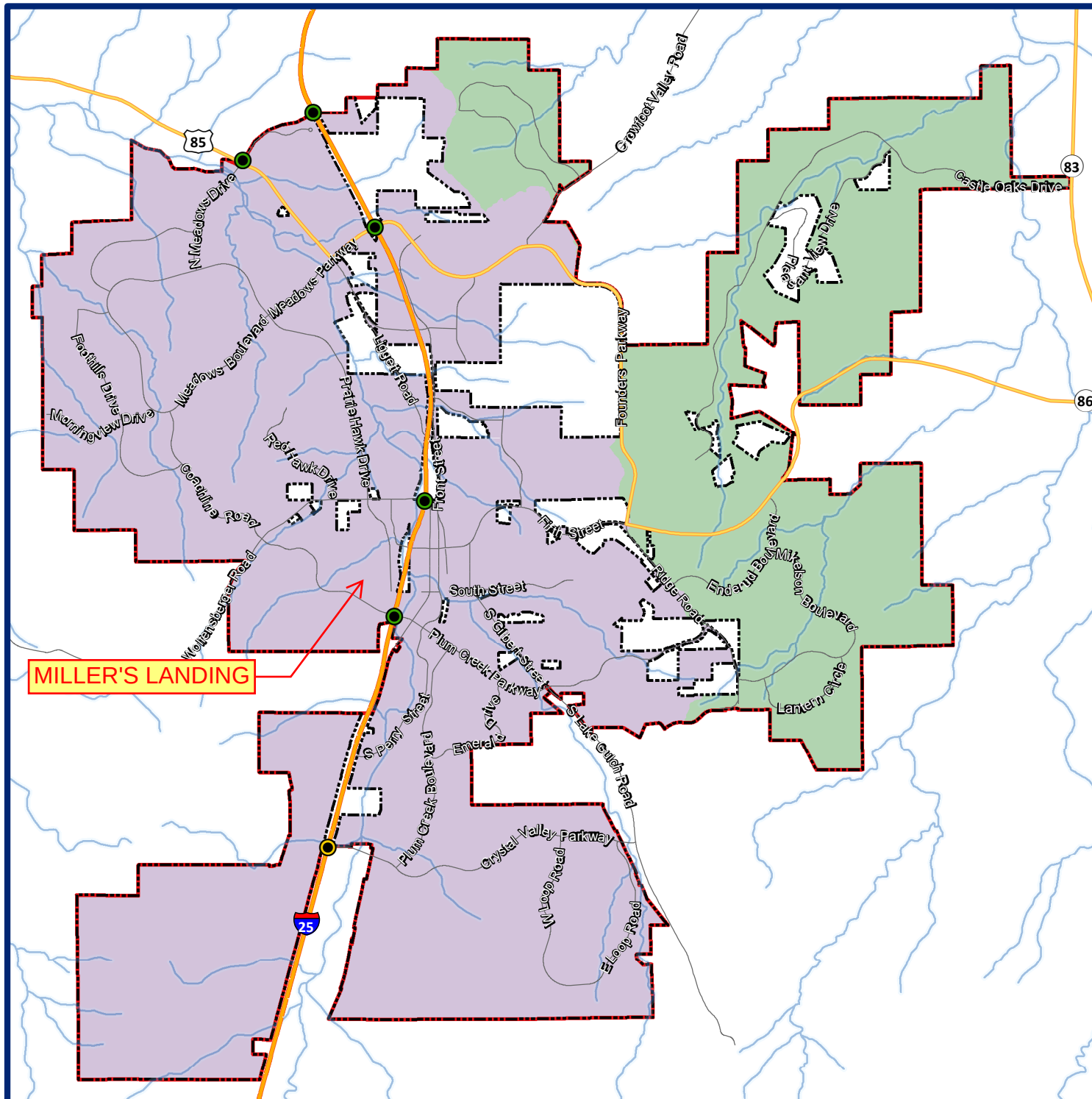


MILLER'S LANDING VICINITY MAP

CREATED BY: MJG

DATE: 05/17/21

SHEET NUMBER
1
OF 1 SHEETS
JOB NUMBER
17-069



Water Service Area

The Town of Castle Rock Utilities Department supports a total service area of 38.2 square miles.

Legend

- Town Limits
- Water/Sewer Service Area
- Plum Creek/Chatfield Basin
- Cherry Creek Basin
- Drainages
- Existing Interchange
- Future Interchange



Disclaimer: The data presented has been compiled from various sources, each of which introduces varying degrees of inaccuracies or inconsistencies. Such discrepancies in data are inherent and in supplying this product to the public the Town of Castle Rock assumes no liability for its use or accuracy. For questions or comments regarding omissions, corrections, or updates please visit CRgov.com/directory for contact information.

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Coordinate System: SPCS Colorado Central (0502)

Projection: Lambert Conformal Conic

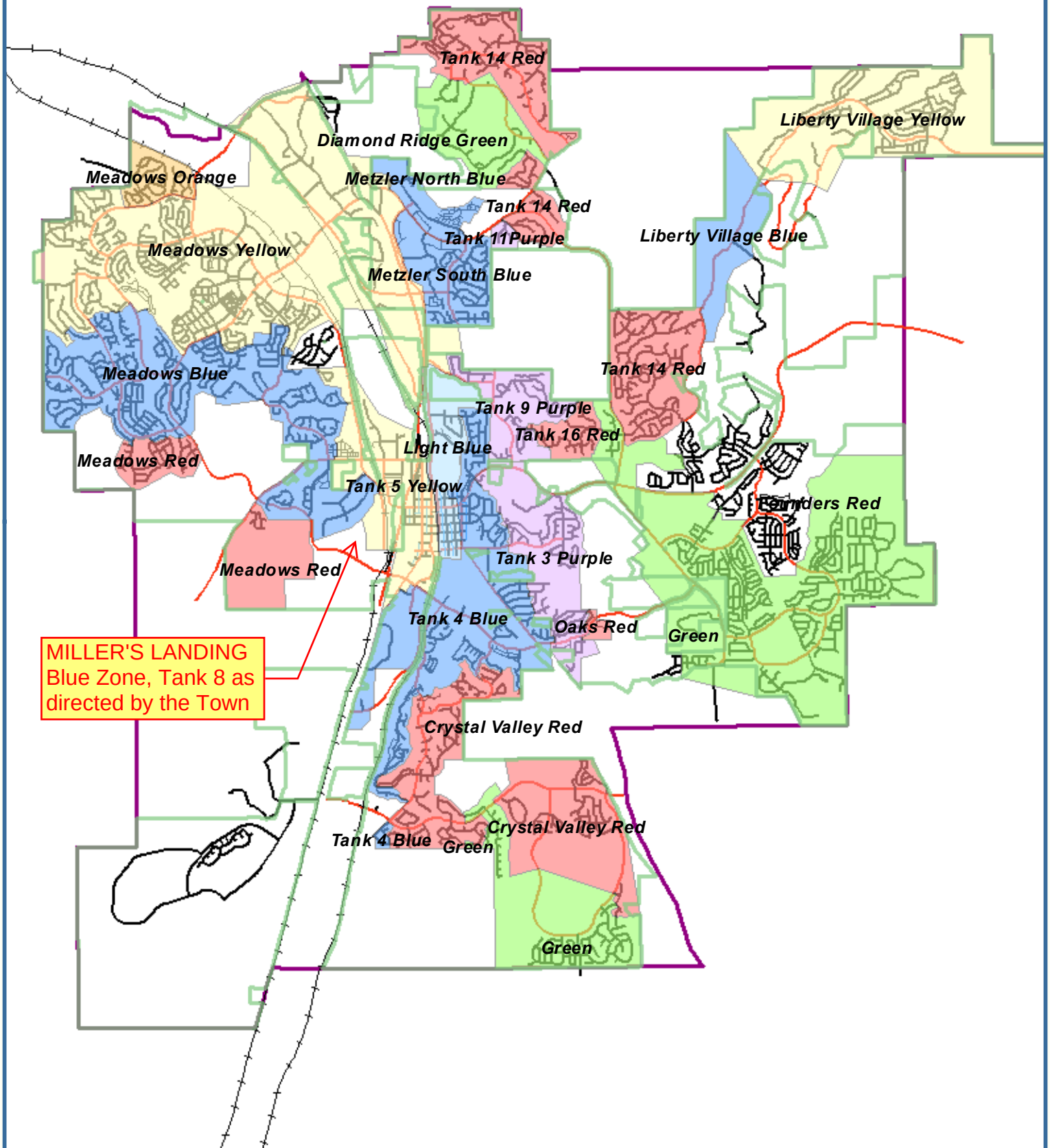
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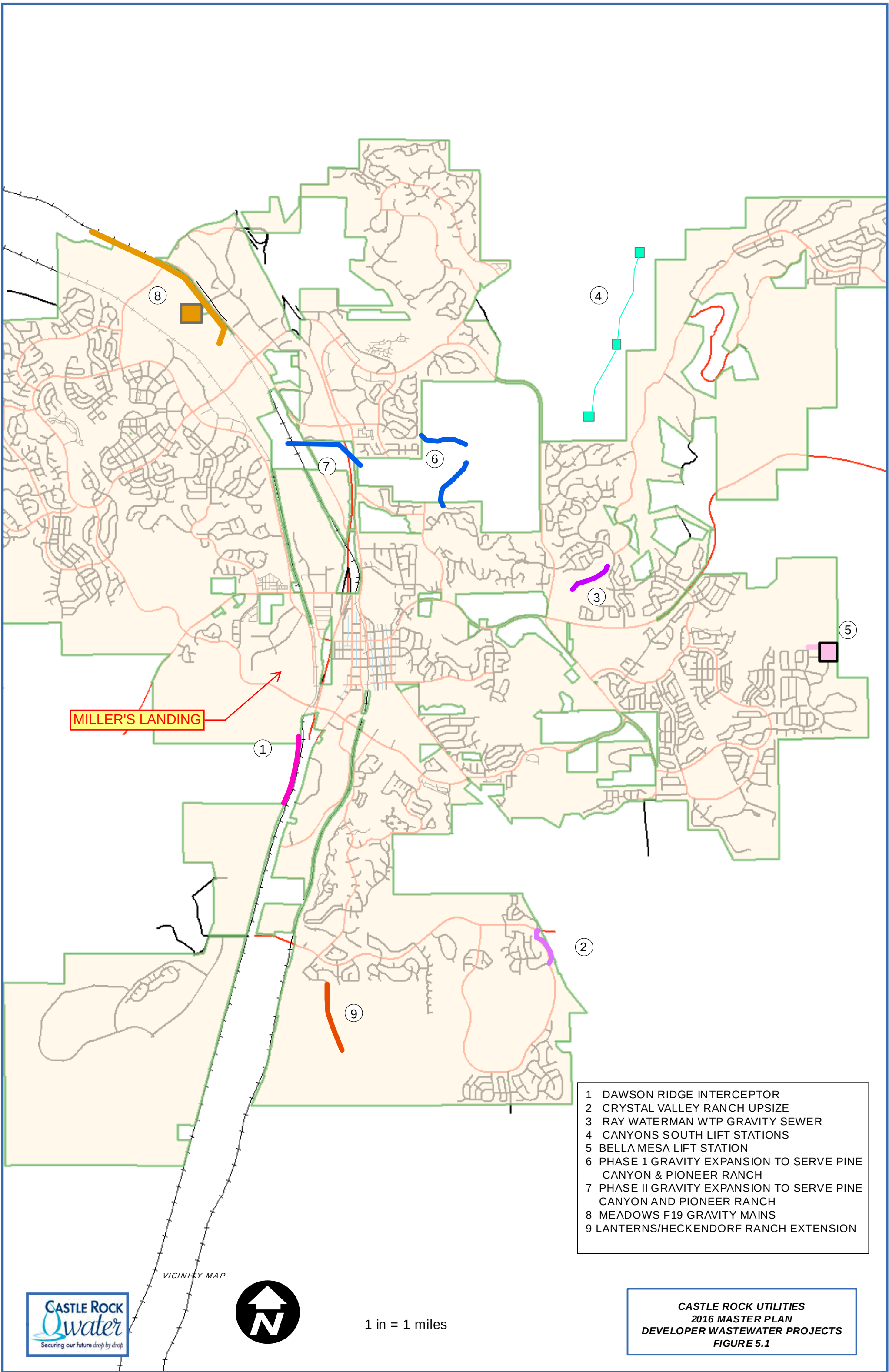
Creation Date: 9/20/2017

Pressure Zones

Figure 7.1



MILLER'S LANDING
Blue Zone, Tank 8 as
directed by the Town



Future Developer Projects

CIP Projects

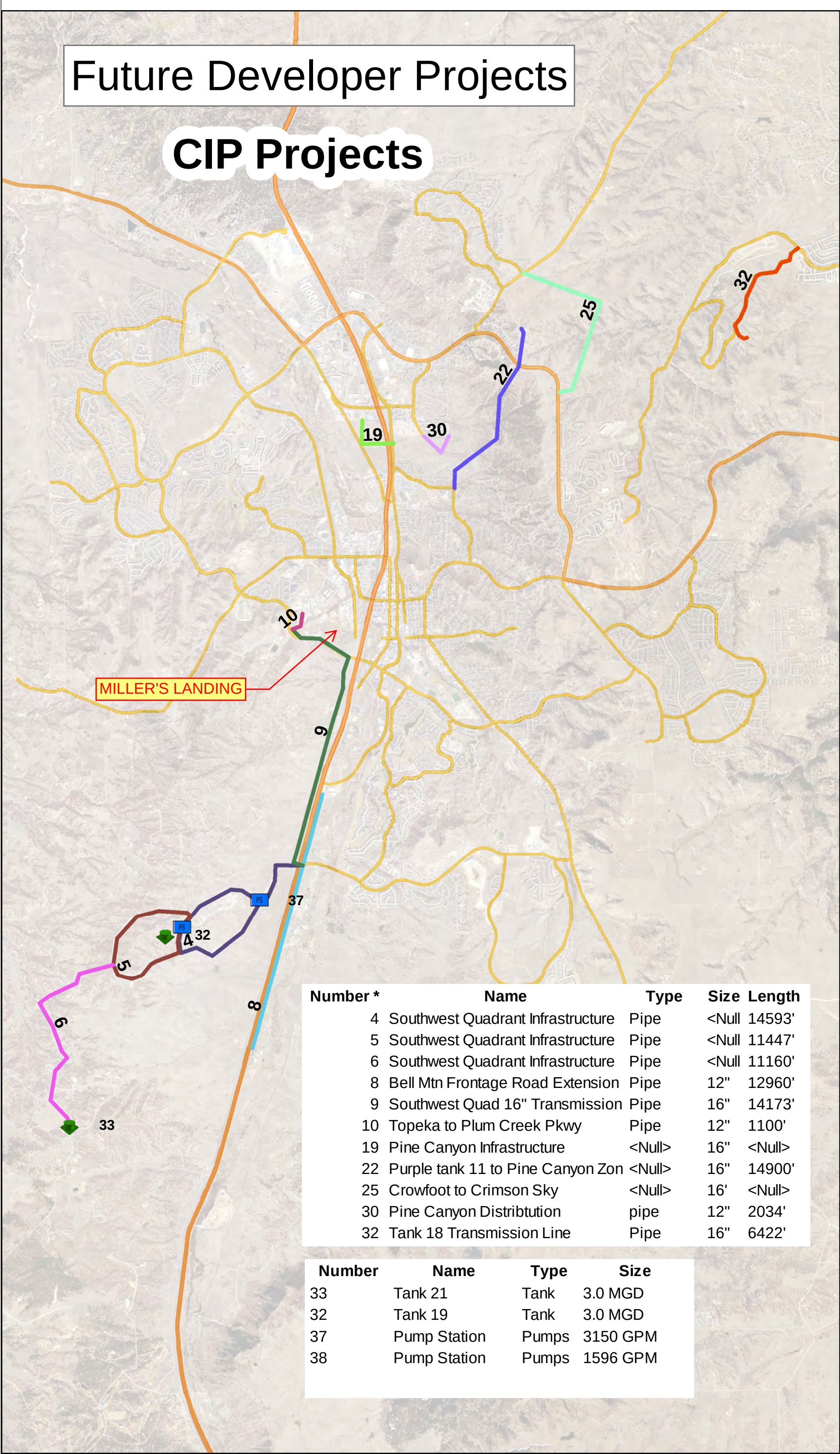
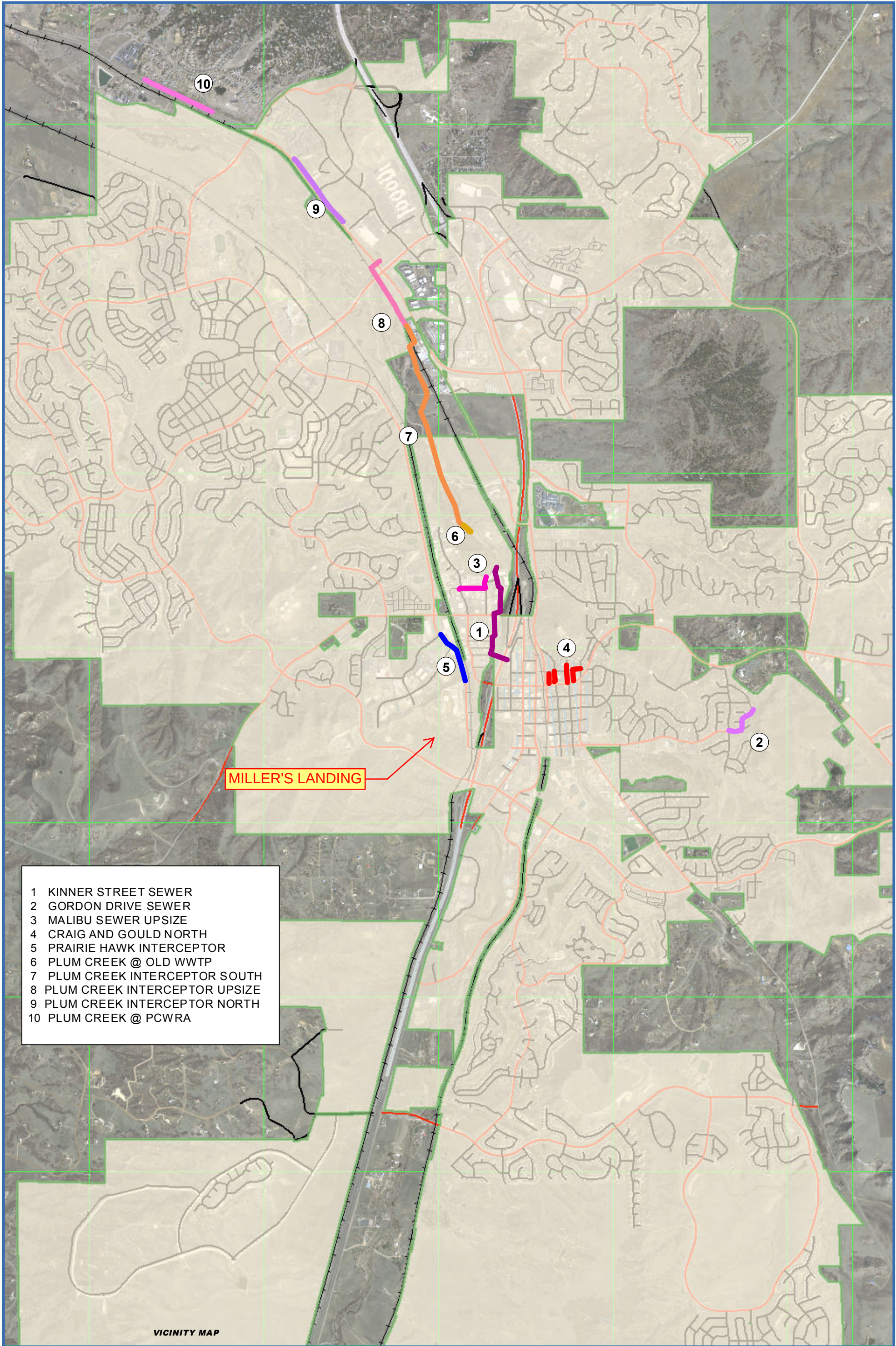


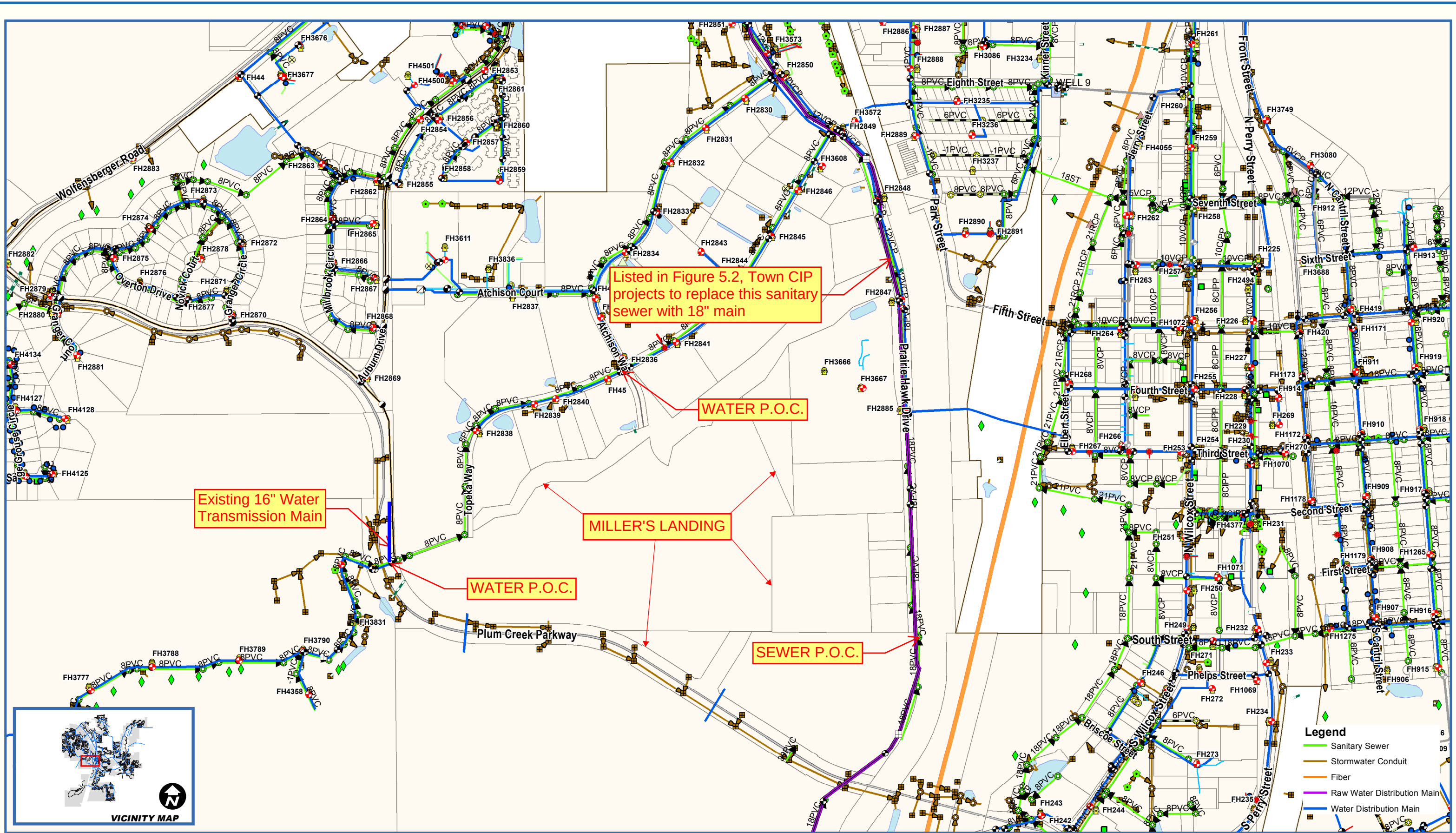
Figure 5.3



- 1 KINNER STREET SEWER
- 2 GORDON DRIVE SEWER
- 3 MALIBU SEWER UPSIZE
- 4 CRAIG AND GOULD NORTH
- 5 PRAIRIE HAWK INTERCEPTOR
- 6 PLUM CREEK @ OLD WWTP
- 7 PLUM CREEK INTERCEPTOR SOUTH
- 8 PLUM CREEK INTERCEPTOR UPSIZE
- 9 PLUM CREEK INTERCEPTOR NORTH
- 10 PLUM CREEK @ PCWRA

MILLER'S LANDING



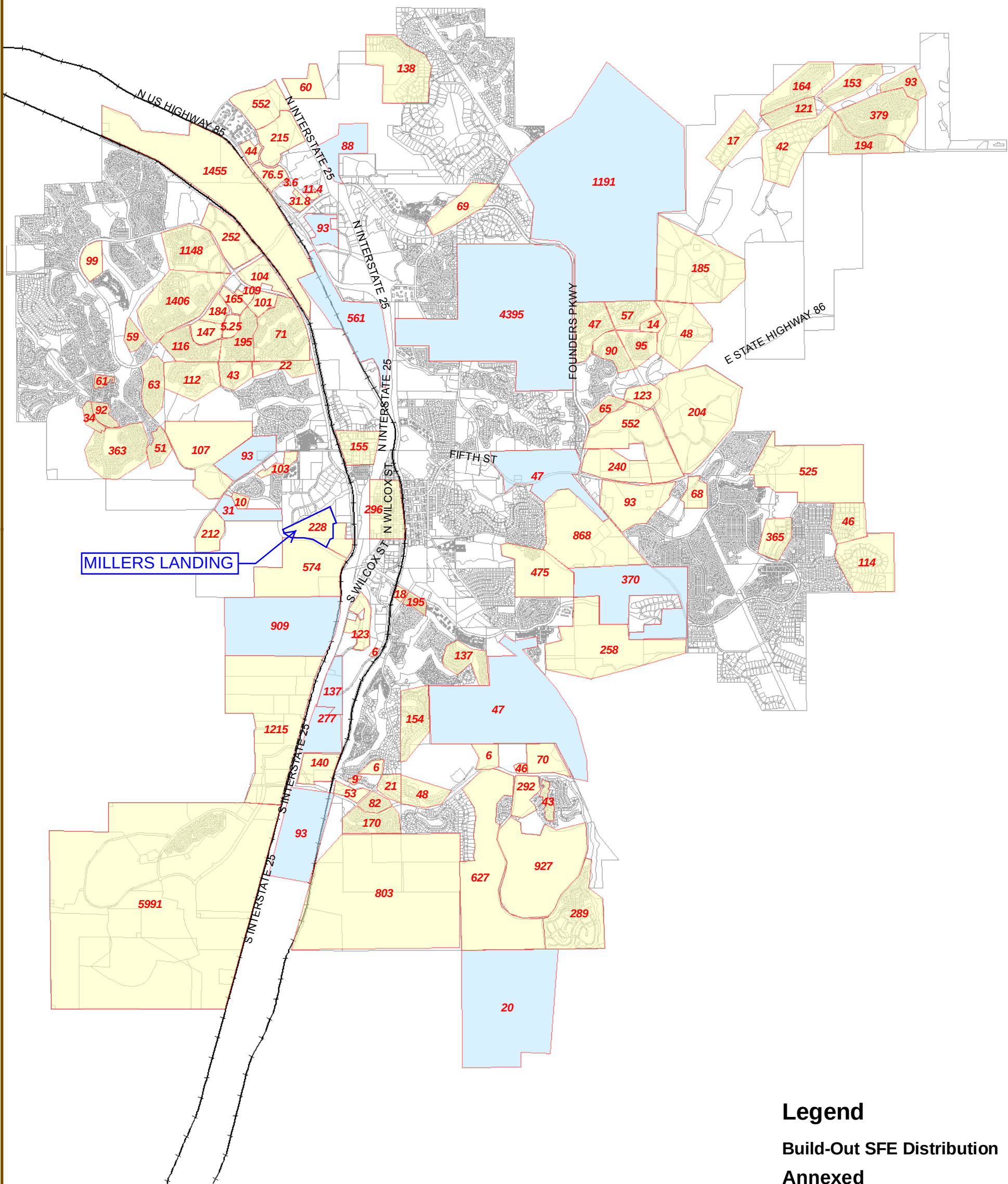




2010 Water Master Plan Update



Prepared by
Castle Rock Water Engineering
March 2011



Town Current SFE (14.5 mgd)
Town Planned SFE 26,509 (26.5 mgd)
Non-Annexed SFE 8,352 (8.35 mgd)

Legend

Build-Out SFE Distribution

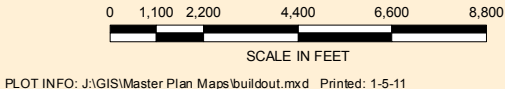
Annexed

20

No - # of SFEs

927

Yes - # of SFEs



PLOT INFO: J:\GIS\Master Plan Maps\buildout.mxd Printed: 1-5-11

Disclaimer: The data presented has been compiled from various sources, each of which introduces varying degrees of inaccuracies or inconsistencies. Such discrepancies in data are inherent and in supplying this product the Town of Castle Rock assumes no liability for its use or accuracy. Questions or comments regarding the cartographic composition of this map including, but not limited to, errors, omissions, corrections, and/or updates, should be directed to the Utilities Department, Town of Castle Rock, (720) 735-6087. Copyright 2010, Town of Castle Rock Utilities Mapping.

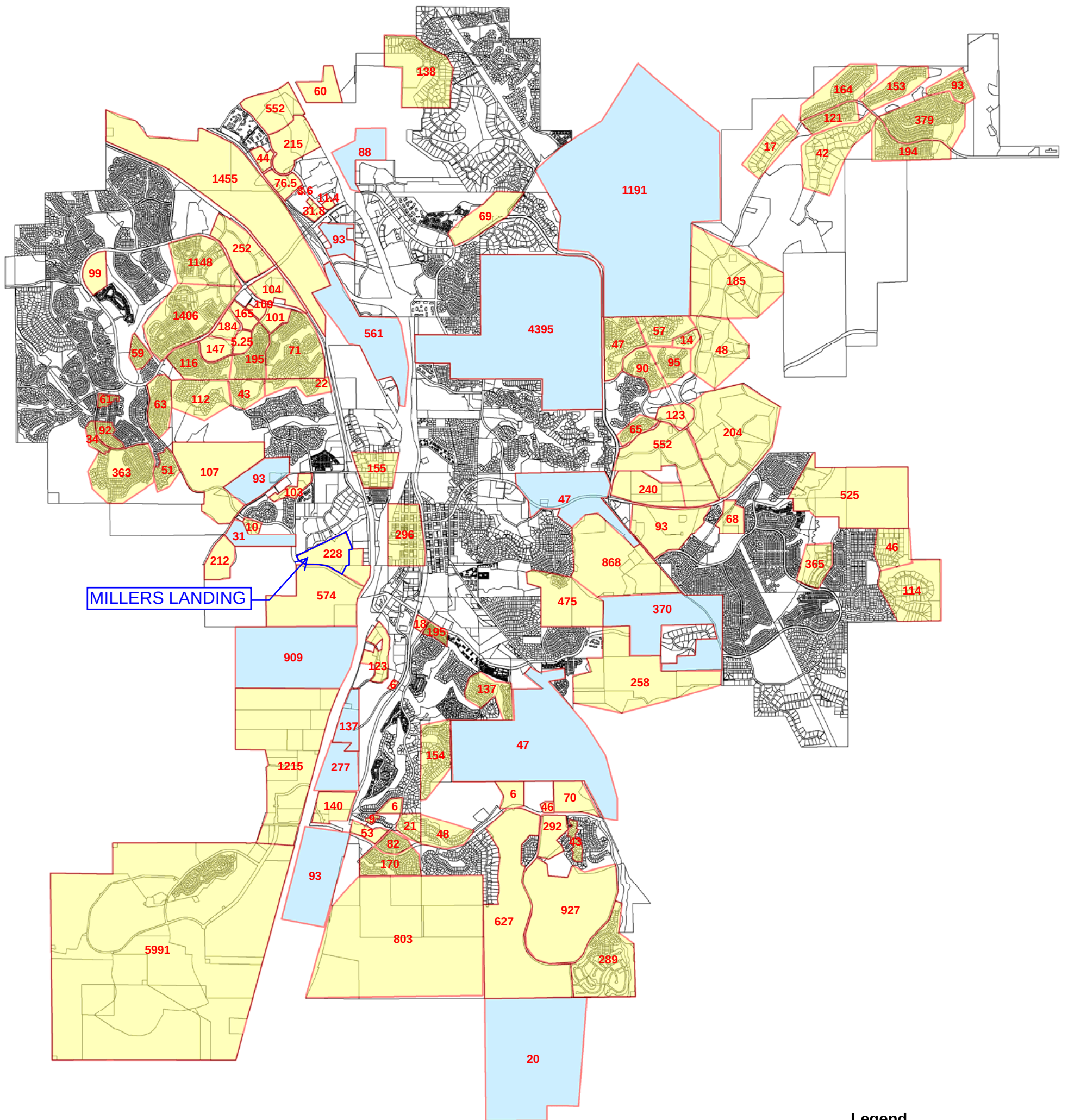
Figure 4-5
Build Out
Growth Model



2010 Wastewater Master Plan Update



Prepared by
Castle Rock Water Engineering
March 2011



MILLERS LANDING

Town Current SFE (14.5 mgd)
Town Planned SFE 26,509 (26.5 mgd)
Non-annexed SFE 8,352 (8.35 mgd)

Legend

Build-Out SFE Distribution

<all other values>

Annexed

No

Yes



Utilities Department
Planning Numbers
December 31, 2009



associated with the Town's Concept, Preliminary, and Final Development Packages are documented in Chapter 3 of these Criteria.

4.4.1. Design Demands

The tabulation below provides the Average Daily Demand (ADD) rates that shall be applied to compute the demands associated with the various types of land use within the development. Demands shall be computed for intermediate and full build-out phases of the development, and shall be assigned to the appropriate design points within the model to accurately reflect the geographical distribution of land use throughout the site.

Land Use	Typical ADD/Unit	Typical SFEs/Unit
Single Family Residential and Duplexes	400 gpd/dwelling unit	1.00/dwelling unit
Multi-Family Residential (Townhomes and	260 gpd/dwelling unit	0.65/dwelling unit
Retail/Offices	0.2 gpd/SF	0.0005/SF
Hotels/Motels	75 gpd/room	0.19/room
Restaurants	3.0 gpd/SF	0.0075/SF
Car Washes	5,000 gpd/facility	12.5/facility
Industrial / Other Commercial	1,200 gpd/acre	3.0/acre
Institutional	800 gpd/acre	2.0/acre
Rates for Typical Douglas County		
School Sizes:		
Elementary (10 ac, 675 students)	3,375 gpd/school	8.44/school
Middle (25 ac, 850 students)	8,500 gpd/school	21.25/school
High (50 ac, 1,700 students)	17,000 gpd/school	42.50/school
Rates for Alternate School Sizes:		
Elementary – Domestic	5 gpd/student	0.013/student
Middle – Domestic	10 gpd/student	0.025/student
High – Domestic	10 gpd/student	0.025/student
Elementary Schools – Irrigation	3,000 gpd/total acreage	7.5/total acreage
Middle Schools – Irrigation	5,250 gpd/total acreage	13.1/total acreage
High Schools – Irrigation	4,400 gpd/total acreage	11.0/total acreage
Churches	600 gpd/church	1.5/church
Gym/Fitness Center	0.5 gpd/SF	0.00125 SFE/SF
Irrigated Land (Sports Fields and School Sites Excluded)	3,750 gpd/ irrigated acre	9.38/acre

4.4.1.1 Wastewater System Average Daily Flow (ADF)

Land Use	Typical ADF/Unit	Typical SFEs/Unit
Single Family Residential and Duplexes	200 gpd/dwelling unit	1.00/dwelling unit
Multi-Family Residential (Townhomes and Condos)	130 gpd/dwelling unit	0.65/dwelling unit
Retail/Offices	0.1 gpd/SF	0.0005/SF
Hotels/Motels	75 gpd/room	0.375/room
Restaurants	1.5 gpd/SF	0.0075/SF
Car Washes	5,000 gpd/acre	25.0/acre
Industrial/Other Commercial	600 gpd/acre	3.0/acre
Institutional	400 gpd/acre	2.0/acre
Churches	300 gpd/church	1.5/church
Gym/Fitness Center	0.5 gpd/SF	0.00125 SFE/SF
Irrigated Land	0 gpd/acre	0.0/acre
<u>Rates for Typical Douglas County School Sizes:</u>		
Elementary (10 ac, 675 Students)	3,375 gpd/school	16.88/school
Middle (25 ac, 850 students)	8,500 gpd/school	42.50/school
High (50 ac, 1700 students)	17,000 gpd/school	85.00/school
<u>Rates for Alternate School Sizes:</u>		
Elementary	5 gpd/student	0.025/student
Middle	10 gpd/student	0.050/student
High	10 gpd/student	0.050/student

The demands noted in the table above represent the “winter time” or “dry weather” Average Daily Flow (ADF) with no allowance for infiltration and inflow (I/I). I/I shall be accounted for in accordance with the Peak Design Flow computation discussed in the sections to follow.

Regarding design flows for schools, planned school sizes shall be confirmed with the Douglas County School District and documented in the Utility Report. The tabulated rates

Miller's Landing PDP Amendment I ~ SFE Calculations

Proposed Configuration

		Water		%	Wastewater	
Use	Amount	SFEs /Unit	Total SFEs	Change	SFEs /Unit	Total SFEs
Retail/Offices	457,800 sf	0.0005 /sf	228.9	127.5%	0.0005 /SF	228.9
Restaurants	52,074 sf	0.0075 /sf	390.6	56.0%	0.0075 /SF	390.6
Multifamily	600 du	0.65 /du	390	100.0%	0.65 /DU	390
			1009.5	110.3%	Total	1009.5

Note: The provided uses and square footages are conceptual only, and do not necessarily reflect the actual future uses.