



April 22, 2025

Castle Rock Water
175 Kellogg Court
Building 171
Castle Rock, CO 80109

RE: Pine Canyon Walker Parcels Concept Utility letter - PDP25-0003

Dear Castle Rock Water:

I. PROJECT INFORMATION

This Concept Utility Letter has been prepared in support of the annexation of the Walker Parcels into the Town of Castle Rock. The parcels are owned by the JRW Family Limited Partnership, and CORE Civil Consultants is the applicant's civil engineer.

II. PROJECT LOCATION AND DESCRIPTION

The Walker Parcels are located generally on both sides of I-25 between the Wolfensberger Road exit and the Founders Parkway exit, north of the downtown area. Parcels A, B, C, D, and E consist of approximately 417 acres and are located within portions of Sections 1, T8S, R67W and Sections 35 and 36, T7S, R67W. These five parcels are located on the east side of I-25, and are bounded by The Woodlands Filings 9 and 10 and Scott II – Filing 3 subdivisions on the south, Front Street on the west, Founders Parkway on the east, and unplatted agricultural land on the north. The estimated total number of SFE for the overall development at build-out for water demands is 2,227 SFE's and for wastewater demands is 2,043 SFE's, see **Appendix C and D**.

Parcels A1, B1, and C1 consist of approximately 117 acres and are located within portions of Sections 34 and 35, T7S, R67W. These three parcels are located on the west side of the interstate and are bounded by I-25 on the east, undeveloped land on the south, the Metzger Ranch Filing 2 subdivision on the north, and East Plum Creek and Prairie Hawk Drive on the west. Existing Liggett Road and two existing railroads cross the eastern parcels. Refer to the attached vicinity map and annexation map for additional location information. The total area of the Walker Parcels is approximately 535 acres, refer to the attached Utility Exhibit Map for additional information.

East Plum Creek traverses the western parcels and flows from south to north. The Walker Tributary #1 is a drainageway that flows from east to west across the parcels and discharges into East Plum Creek. No other major drainageways, existing irrigation ditches, or canals cross the parcels. Parcels A and E consist of the Castle Rock ridgeline in the eastern portion of the property, approximately 800' west of Founders Parkway. Areas east of the ridge drain to the east into the Cherry Creek Basin, areas west of the ridge drain to the west to the East Plum Creek Basin. No existing wells or ISDS exist onsite.

III. EXISTING WATER SYSTEM

Water service for the parcels will be to existing Town of Castle Rock water facilities. Existing water infrastructure adjacent to the annexation parcels include:

East Side of I-25:

- 1) Existing 16" waterline in Woodlands Boulevard, north side. (Blue Zone)
- 2) Existing 12" waterline in Woodlands Boulevard, south side. (Blue Zone)
- 3) Existing 12" waterline in Prairie Lane. (Blue Zone)
- 4) Existing 16" waterline in Front Street. (Yellow Zone)
- 5) Existing 20" water line in Founders Parkway (Red Zone)
- 6) Existing 12" waterline stub in Saddleback Drive (Red Zone)
- 7) Existing 10" raw waterline in Founders Parkway.

West side of I-25:

- 1) Existing 12" waterline in Liggett Road. (Yellow Zone)
- 2) Existing 6"/12" waterline in Kellogg Court. (Yellow Zone)
- 3) Existing 12" water line in Prairie Hawk Drive (Yellow Zone)
- 4) Existing 16" raw waterline in Prairie Hawk Drive.

The parcels are not included within the Town's 2023 Water Master Plan (Reference 3), unlike in the 2020 Water Master Plan Update. The site is served by the existing Red, Purple, Blue, and Yellow pressure zones and associated tanks. A portion of the Green Zone exists in the Southeast corner of the site, however, the actual need for Green Zone pressure zone service to this area will be analyzed with subsequent utility studies. The green zone may need a water main extension in Founders or private individual booster pumps through a variance. Coordination with the master plan developer CIP Project Map 4.1 shall take place when future hydraulic analysis is necessary. The PRV's shown on the preliminary utility map are preliminary placements and shall be determined if necessary with the future hydraulic analysis, see **Appendix G**.

IV. EXISTING SANITARY SEWER SYSTEM

Sanitary sewer service for the parcels will be to existing Town of Castle Rock sanitary sewer facilities. All sanitary sewer is anticipated to be gravity flow, no lift stations are proposed. The majority of the parcels are located within the East Plum Creek basin. A small portion of the eastern end of the site along Founders Parkway is within the Cherry Creek Basin. Existing sanitary sewer infrastructure adjacent to the annexation parcels include:

East Side of I-25:

- 1) Existing 8" sanitary sewers in Rising Sun Drive and Crimson Sky Drive, east of Founders Parkway. Flows to the east will outfall to the Castle Oaks Lift Station and will need capacity confirmation.

- 2) Existing 8" sanitary sewer in Prairie Lane.
- 3) Existing 8" sanitary sewer along south side of Hazen/Moore Filing 2 and Woodlands Boulevard.
- 4) Existing 12" sanitary sewer stubbed from Rawhide Circle in the southwest corner of Metzler Ranch Filing No. 1.
- 5) Existing 24" sanitary sewer in Front Street, south of Scott Boulevard.

West side of I-25:

- 1) Existing 12" sanitary sewer in Liggett Road, and across Parcel C & D.
- 2) Existing 18" sanitary sewer along east side of East Plum Creek.
- 3) Existing 8" sanitary sewer in Prairie Hawk Drive.

The parcels are not included within the Towns 2022 Wastewater Master Plan (Reference 4). Unlike in the 2020 Wastewater Master Plan Update. All sanitary connections will need a future capacity analysis.

V. PROPOSED WATER SYSTEM

Conceptual connection points, extensions and pressure zones are shown on the attached Preliminary Utility Plan and generally follow the Towns Master Plan (Reference 3). The parcels lie within several pressure zones and the final internal looping and pressure zones will be determined with the final design and will be in conformance with the Towns Master Plan. Conceptual water demands have been calculated for the annexation area and are attached to this letter. The calculated total proposed SFE's are 2,227.

The Town's Water Master Plan discusses that a new purple zone tank (Tank 11B) will be required to support future development including Pine Canyon, and a 16" to 20" transmission line. The Town of Castle Rock has indicated in the Water Master Plan that the town would pay for an upgrade to a 20" line.

The development will meet the Town's water conservation standards, including the ColoradoScape requirements established in 2022 and the Water Efficiency Master Plan 2023. Water shall be conserved using water-wise principles, ColoradoScape design strategies, and current best management practices in landscaping. Irrigation water shall be allocated according to the specific needs of plant materials. Systems must be designed, installed, and maintained to prevent runoff, avoid water waste, and protect adjacent infrastructure, including streets, sidewalks, and utilities. Application of water to impervious surfaces is strictly prohibited. All non-residential customers are required to conduct annual irrigation system inspections to ensure compliance with water efficiency standards.

VI. PROPOSED SANITARY SEWER SYSTEM

Conceptual connection points and extensions are shown on the Master Utility Map. It is likely that the entire parcel will be designed to drain wastewater flows towards the west to the Plum Creek Basin and a portion flows east. Flows to the east will outfall at

the Castle Oaks Lift Stations. However, this concept will be discussed in subsequent utility reports for the site. Internal extensions are dependent on layout and will be determined with the final design.

Due to the lower elevations of the parcels adjacent to Front Street, it is anticipated that a sanitary main may need to be bored under I-25 to create a western outfall for the sanitary sewer to the existing Liggett Road sanitary sewer. The parcels along Front Street are below the inverts of the existing sanitary sewer mains located to the north and south of the site. The future Scott Parcel to the north of Pine Canyon will need this outfall also. An alternative to the I-25 bore would be a lift station to lift sewage to the existing sanitary mains to the north or south on the west side of I-25. This area will be further analyzed with subsequent utility reports to determine the best alternative. Land east of the area directly adjacent to Front Street can outfall sanitary sewer to the existing mains at Woodlands Boulevard and Prairie Lane, as shown on the Master Utility Map.

Conceptual sewer demands have been calculated for the annexation area and are attached to this letter. The calculated total proposed SFE's are 2,043. Any future development of the existing wastewater infrastructure needed to serve this site is the responsibility of the Developer.

VII. DRY UTILITIES

Electric, gas, telephone, and cable services will be provided by the typical Town utility providers. Dry utilities will be extended internally from existing facilities adjacent to the annexation parcels, as necessary.

VIII. STORMWATER DRAINAGE

Refer to the Phase 1 Drainage Report prepared by CORE Consultants (Reference 5) for information on stormwater drainage for the parcels.

IX. REFERENCES

- a. Town of Castle Rock Water System Design 2018 Criteria Manual, December 2018
- b. Town of Castle Rock Wastewater Collection Design 2018 Criteria Manual, December 2018
- c. Town of Castle Rock Water Master Plan 2023
- d. Town of Castle Rock Wastewater Master Plan 2022
- e. Phase 1 Drainage Report for Pine Canyon, CORE Consultants, February 2025.

X. APPENDICES

- a. Vicinity Map
- b. Parcel Designation Map
- c. Proposed Water Demands
- d. Proposed Wastewater Demands
- e. Water Demand Criteria
- f. Wastewater Demand Criteria
- g. Preliminary Utility Map

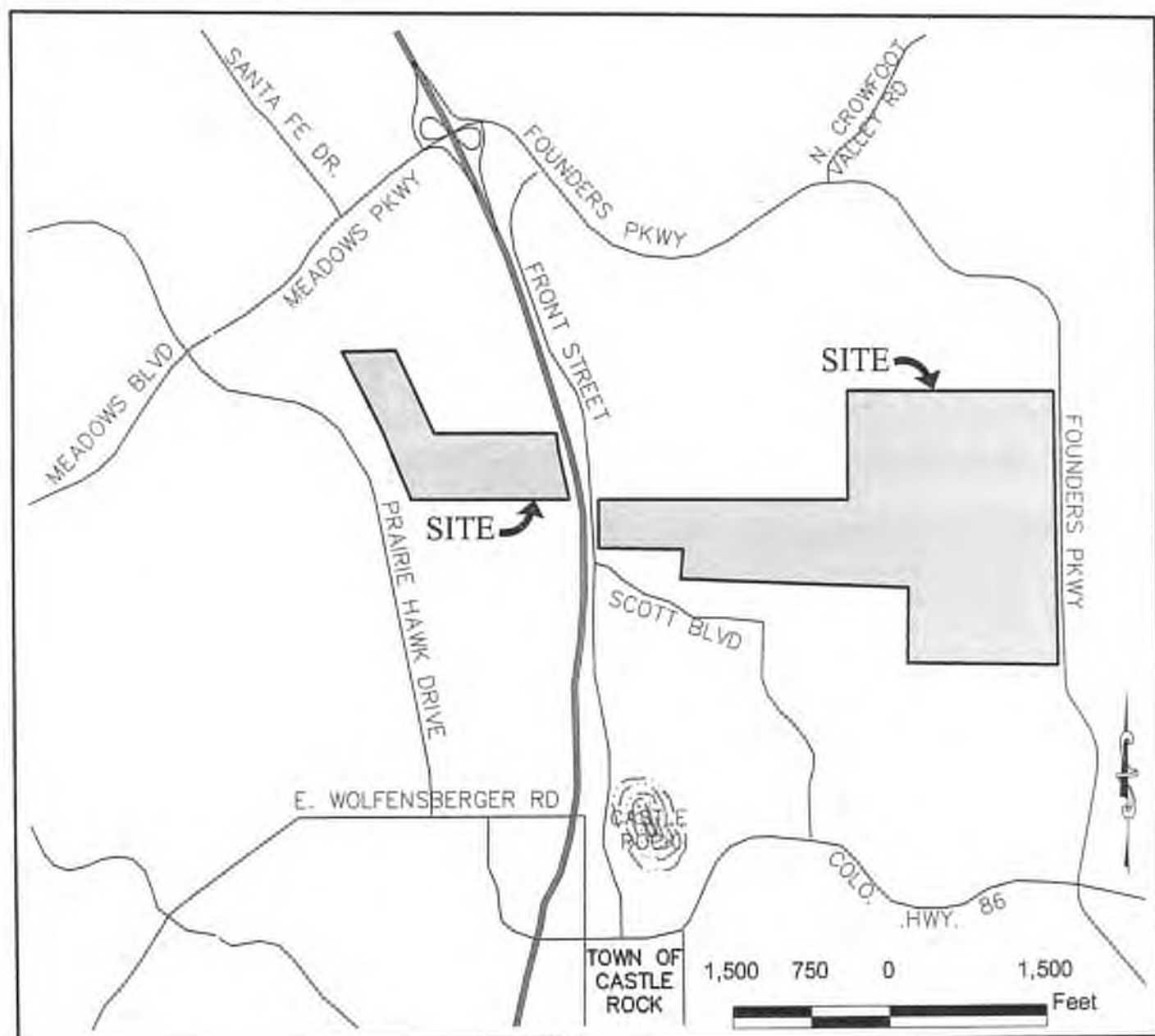
- h. Reference Excerpts from the Water Master Plan 2023 and Wastewater Master Plan 2022

Sincerely,
CORE Consultants, Inc.

Michael Goodhue, PE
Senior Project Manager

APPENDIX A

VICINITY MAP



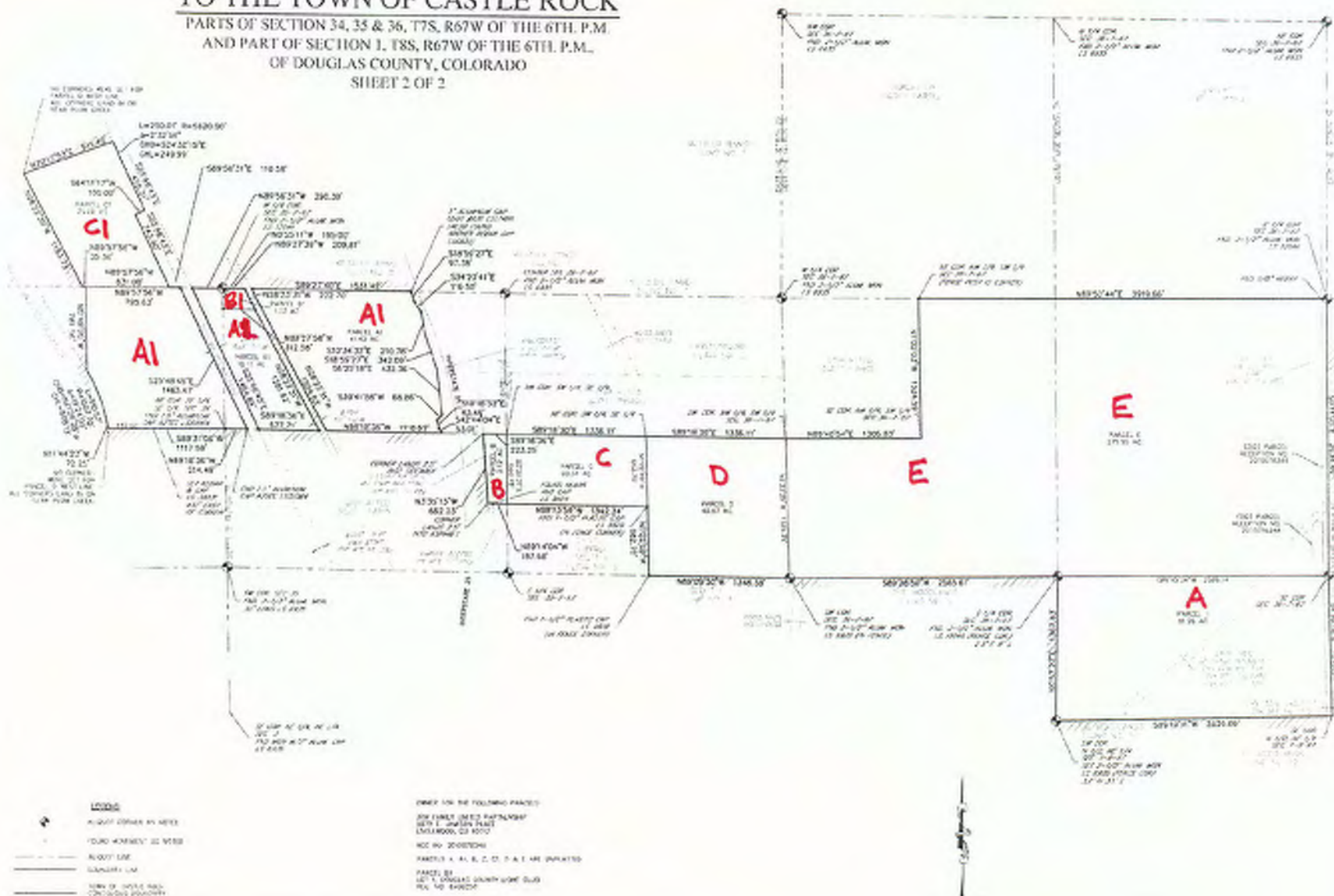
VICINITY MAP

1" = 1500'

APPENDIX B
PARCEL DESIGNATION MAP

PINE CANYON ANNEXATION TO THE TOWN OF CASTLE ROCK

PARTS OF SECTION 34, 35 & 36, T7S, R67W OF THE 6TH P.M.
AND PART OF SECTION 1, T8S, R67W OF THE 6TH P.M.,
OF DOUGLAS COUNTY, COLORADO
SHEET 2 OF 2



APPENDIX C
PROPOSED WATER DEMANDS



Proposed Water Demands

Core Consultants
3/28/2025

Planning Area	Type of Unit	Residential Units (or school)	SFE / Unit	Non-Residential Unit	SFE / Unit	Total SFE	Avg Flow per SFE (gpd)	Domestic Avg. Daily Flow (gpd)	Domestic Avg. Daily Flow (gpm)	Max. Day Peak Factor	Max. Day Flow (gpd)	Max Day Flow (gpm)	Peak Hour Factor	Peak Hour Flow (gpm)
<u>Eastern Parcels*</u>														
PA-1	Single Family	75	1			75	400	30,000	21	2.5	75,000	52	5.5	115
PA-2	Single Family	50	1			50	400	20,000	14	2.5	50,000	35	5.5	76
PA-3	Single Family	95	1			95	400	38,000	26	2.5	95,000	66	5.5	145
PA-4	Single Family	90	1			90	400	36,000	25	2.5	90,000	63	5.5	138
PA-5	Park			9	9.38	84	400	33,768	23	2.5	84,420	59	5.5	129
PA-6	Resort / Single Family	75	1			75	400	30,000	21	2.5	75,000	52	5.5	115
PA-7	Park			10.3	9.38	97	400	38,646	27	2.5	96,614	67	5.5	148
PA-8	Single Family	105	1			105	400	42,000	29	2.5	105,000	73	5.5	160
PA-9	Single Family	135	1			135	400	54,000	38	2.5	135,000	94	5.5	206
PA-10	Single Family	35	1			35	400	14,000	10	2.5	35,000	24	5.5	53
PA-11	Single Family	40	1			40	400	16,000	11	2.5	40,000	28	5.5	61
PA-12	Single Family	90	1			90	400	36,000	25	2.5	90,000	63	5.5	138
PA-13	Single Family	85	1			85	400	34,000	24	2.5	85,000	59	5.5	130
PA-14	School	1	21.25	12.7	13.1	188	400	75,048	52	2.5	187,620	130	5.5	287
PA-15	Park			3.6	9.38	34	400	13,507	9	2.5	33,768	23	5.5	52
PA-16	Multi Family	225	0.65			146	400	58,500	41	2.5	146,250	102	5.5	223
<u>Eastern Sub-total</u>						1,424		569,469	395		1,423,672	989		2,175
<u>Western Parcels</u>														
PA-17	Mixed Use / Multi Family	200	0.65	225000	0.0005	243	400	97,000	67	2.5	242,500	168	5.5	370
PA-18	Mixed Use / Multi Family	575	0.65	275000	0.0005	511	400	204,500	142	2.5	511,250	355	5.5	781
PA-19	Business / Light Industrial			100000	0.0005	50	400	20,000	14	2.5	50,000	35	5.5	76
<u>Western Sub-total</u>						804		321,500	223		803,750	558		1,228
TOTAL						2,227		890,969	619		2,227,422	1,547		3,403

* Includes parcel irrigation demands, Section 4.4.1.1 Reference 1

Peak Hour Demand includes peak hour factor applied to irrigation (conservative assumption)

APPENDIX D
PROPOSED WASTEWATER DEMANDS



Proposed Wastewater Demands

Core Consultants
3/28/2025

Planning Area	Type of Unit	Residential Units (or school)	SFE / Unit	Non-Residential Unit	SFE / Unit	Total SFE	Avg Flow per SFE (gpd)	Domestic Avg. Daily Flow (gpd)	Domestic Avg. Daily Flow (gpm)	Infiltration Allowance (gpd)	Peaking Factor	Peak Hour Flow (gpm)
<u>Eastern Parcels</u>												
PA-1	Single Family	75	1			75	200	15,000	10	1,500.0	5.0	53
PA-2	Single Family	50	1			50	200	10,000	7	1,000.0	5.0	35
PA-3	Single Family	95	1			95	200	19,000	13	1,900.0	5.0	67
PA-4	Single Family	90	1			90	200	18,000	13	1,800.0	5.0	64
PA-5	Park					-	200	-	-	-		-
PA-6	Resort / Single Family			225	0.375	84	200	16,875	12	1,687.5	5.0	60
PA-7	Park					-	200	-	-	-		-
PA-8	Single Family	105	1			105	200	21,000	15	2,100.0	5.0	74
PA-9	Single Family	135	1			135	200	27,000	19	2,700.0	5.0	96
PA-10	Single Family	35	1			35	200	7,000	5	700.0	5.0	25
PA-11	Single Family	40	1			40	200	8,000	6	800.0	5.0	28
PA-12	Single Family	90	1			90	200	18,000	13	1,800.0	5.0	64
PA-13	Single Family	85	1			85	200	17,000	12	1,700.0	5.0	60
PA-14	School	1	42.5	12.7	13.1	209	200	41,774	29	4,177.4	5.0	148
PA-15	Park					-	200	-	-	-		-
PA-16	Multi Family	225	0.65			146	200	29,250	20	2,925.0	5.0	104
<u>Eastern Sub-total</u>						1,239		247,899	172			878
<u>Western Parcels</u>												
PA-17	Mixed Use / Multi Family	200	0.65	225000	0.0005	243	200	48,500	34	4,850.0	5.0	168
PA-18	Mixed Use / Multi Family	575	0.65	275000	0.0005	511	200	102,250	71	10,225.0	5.0	355
PA-19	Business / Light Industrial			100000	0.0005	50	200	10,000	7	1,000.0	5.0	35
<u>Western Sub-total</u>						804		160,750	112			558
TOTAL						2,043		408,649	284			1,436

APPENDIX E
WATER DEMAND CRITERIA

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 Water System Average Daily Demands (ADD)

Notes:

- (1) All tabulated ADD rates include irrigation demands with the exception of multi-family residential, car washes, gyms/fitness centers, and schools.
- (2) Irrigation demands shall be in accordance with the Irrigation Plan approved by Castle Rock Water and hours of irrigation shall comply with the latest edition of the Town's Water Use Management Plan. Irrigation demands in this Table are for planning purposes only. Peak irrigation rates for 'Irrigated Land' and 'School Irrigation' categories tabulated above shall be in accordance with the approved Irrigation Plan, and shall not be based on the peaking factors identified in the section below.
- (3) The "Irrigated Land" rate identified above may be higher for active sports fields (e.g., irrigated fields within parks) as determined by the approved Irrigation Plan.
- (4) School sizes in this table are for planning purposes, per the Douglas County School District. 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 shown above shall be applied as appropriate, depending on the information provided by the School District.
- (5) Reasonable engineering judgment shall be used in determining the estimated ADD for commercial, industrial and institutional sites. Individual evaluation and justification, including fixture unit counts, shall be provided when the proposed use is not specifically represented in the table above, or when the proposed demands will be inconsistent with the tabulated values. For example, each car wash's unique operating plan, including recycling of wash water, shall be considered. Justification of all non-residential demands shall be addressed in the Utility Report.

4.4.1.2 Demand Factors

Once the ADD has been computed in accordance with the demand rates tabulated above, Maximum Day Demands (MDD) and Peak Hour Demands (PHD) shall be computed by multiplying the ADD by the following factors:

Maximum Day Demand/Average Day Demand:	2.5	MDD/ADD
Peak Hour Demand/Average Day Demand:	5.5	PHD/ADD

Peaking factors are not applied to irrigation ADD demands. Max Day Demand and Peak Hour Demand are calculated by multiplying the ADD demand by the demand factors. If the site's irrigation demands are calculated using the table in section 4.4.1, the irrigation ADD is added to the calculated MDD and PHD, computed as follows:

$$\text{MDD} = \text{Domestic ADD} \times \text{Maximum Day Factor} + \text{Irrigation ADD}$$
$$\text{PHD} = \text{Domestic ADD} \times \text{Peak Hour Factor} + \text{Irrigation ADD}$$

4.4.1.3 Fire Flows

Fire flows shall conform to the latest edition of the International Fire Code (IFC) and shall be confirmed by the Town's Fire Department, as described in section 3.6.XII of

APPENDIX F
WASTEWATER DEMAND CRITERIA

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

shown above shall be applied as appropriate, depending on the information provided by the School District. Reasonable engineering judgment shall be used in determining the estimated ADF for commercial, industrial and institutional sites. Individual evaluation and justification shall be provided when the proposed use is not specifically represented in the table above, or when the proposed flows will be inconsistent with the tabulated values. Justification of all non-residential flows shall be addressed in the Utility Report.

4.4.1.2 Peaking Factor

The portion of the Peak Design Flow calculation exclusive of I/I shall be determined by multiplying the ADF in the preceding section by a peaking factor (PF). The PF is a function of ADF, and shall be computed as follows: $PF = 3.65 \times [(ADF)^{-0.168}]$.

The maximum PF shall be 5.0, and ADF shall be expressed in units of million gallons per day (MGD).

4.4.1.3 Peak Design Flow Rate

The Peak Design Flow (PDF) shall be computed at all pertinent design points throughout the system, and used to size the corresponding wastewater facilities. The PDF shall be determined by multiplying the ADF by the calculated peaking factor (PF), plus an I/I allowance equal to ten percent of the ADF as expressed by the following formula:

$$PDF = \text{peak base flow} + \text{I/I allowance} = (ADF \times PF) + (0.1 \times ADF)$$

Once computed, the PDF shall be used to determine the sizes of the facilities in accordance with the criteria established below.

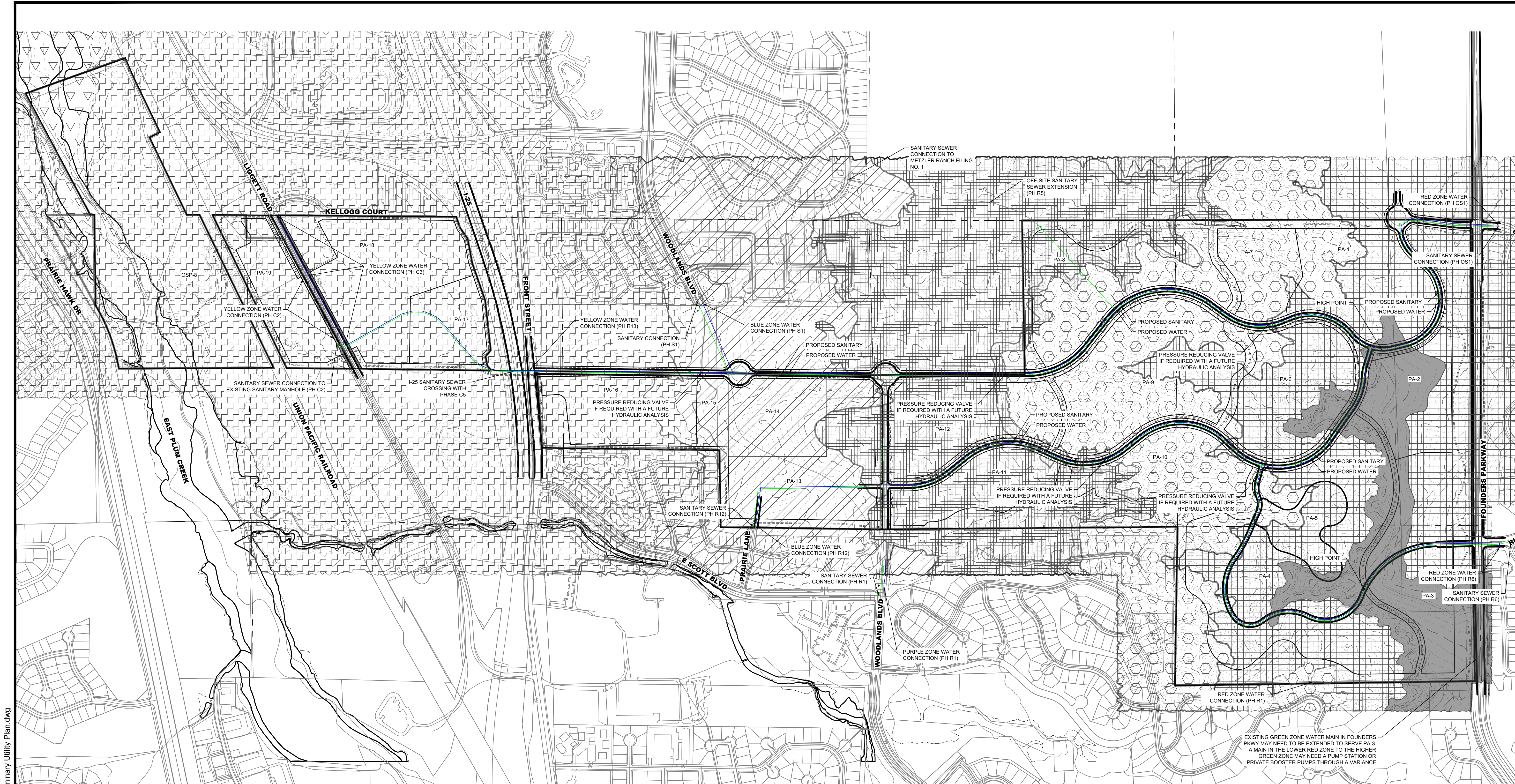
4.4.2 Hydraulic Design

Wastewater systems shall be designed to provide a minimum velocity of two feet per second at the Peak Design Flow. In situations where the minimum velocity of 2.0 feet per second cannot be met, an explanation and justification shall be included in the Final Utility Report. The maximum velocity shall not exceed ten feet per second. Drop manholes shall be provided to break steep slopes to limit the velocities in conformance with this criterion. Where drop manholes are impractical for velocity reduction, the sewer must be approved by variance and shall be of PVC or other abrasion resistant material approved by Castle Rock Water.

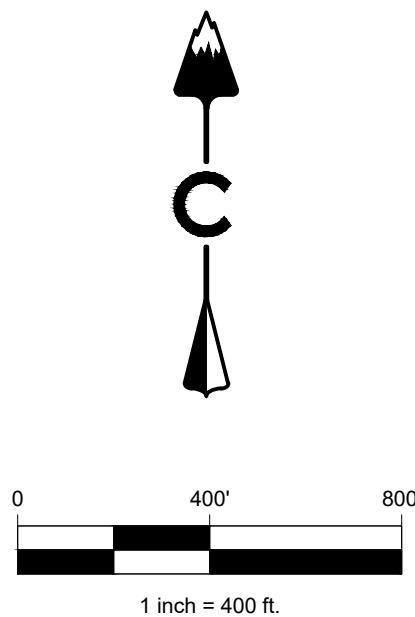
Where actual flow will be much below normal for several years, the minimum velocity shall be achieved by suitable grades at the partial design flow rate. Care shall be taken to design invert elevations at manholes in such a manner that the energy gradient is consistently falling in the direction of the flow. Sanitary sewers shall be sized to convey the Peak Design Flow while flowing no more than 75 percent of the maximum pipe flow capacity. Computation of velocity of flow shall be based on a coefficient of roughness "n" in the Manning formula of 0.011 for PVC. At all junctions where a smaller diameter main discharges into a larger one, the invert of the larger sanitary sewer shall be lowered so that the energy gradients of the sewers at the junction are at the same level. Generally, this condition will be met by placing the 0.80 depth point of both sewers at

APPENDIX G

PRELIMINARY UTILITY MAP



- LEGEND
- ORANGE PRESSURE ZONE 1 - 5915' TO 6072'
 - YELLOW PRESSURE ZONE 2 - 6065' TO 6230'
 - BLUE-EAST PRESSURE ZONE 3A - 6221' TO 6389'
 - BLUE-WEST PRESSURE ZONE 3B - 6236' TO 6399'
 - PURPLE PRESSURE ZONE 4 - 6308' TO 6474'
 - RED PRESSURE ZONE 5 - 6393' TO 6557'
 - GREEN PRESSURE ZONE 6 - 6537' TO 6700'
 - PROPOSED SANITARY
 - PROPOSED WATER
 - PROPOSED TRAIL
 - PROPOSED ROADWAY



EXISTING GREEN ZONE WATER MAIN IN FOUNDERS PKWY MAY NEED TO BE EXTENDED TO SERVE PA-3. A MAIN IN THE LOWER RED ZONE TO THE HIGHER GREEN ZONE MAY NEED A PUMP STATION OR PRIVATE BOOSTER PUMPS THROUGH A VARIANCE

PINE CANYON
CASTLE ROCK, CO

PRELIMINARY UTILITY PLAN

NOT FOR
CONSTRUCTION

DESIGNED BY: B/JZ
DRAWN BY: B/JZ
CHECKED BY: MG

JOB NO.
25-004
SHEET
1 OF 1

#	REVISION DESCRIPTION	DATE	BY
1	1ST SUBMITTAL	02/19/25	BJZ
2	2ND SUBMITTAL	04/02/25	BJZ
3	3RD SUBMITTAL	04/22/25	COT



CORE

CORE CONSULTANTS, INC.
3473 S. BROADWAY
DENVER, CO 80113
303.703.4444
LIVEYOURCORE.COM

LAND DEVELOPMENT
ENERGY
PUBLIC INFRASTRUCTURE

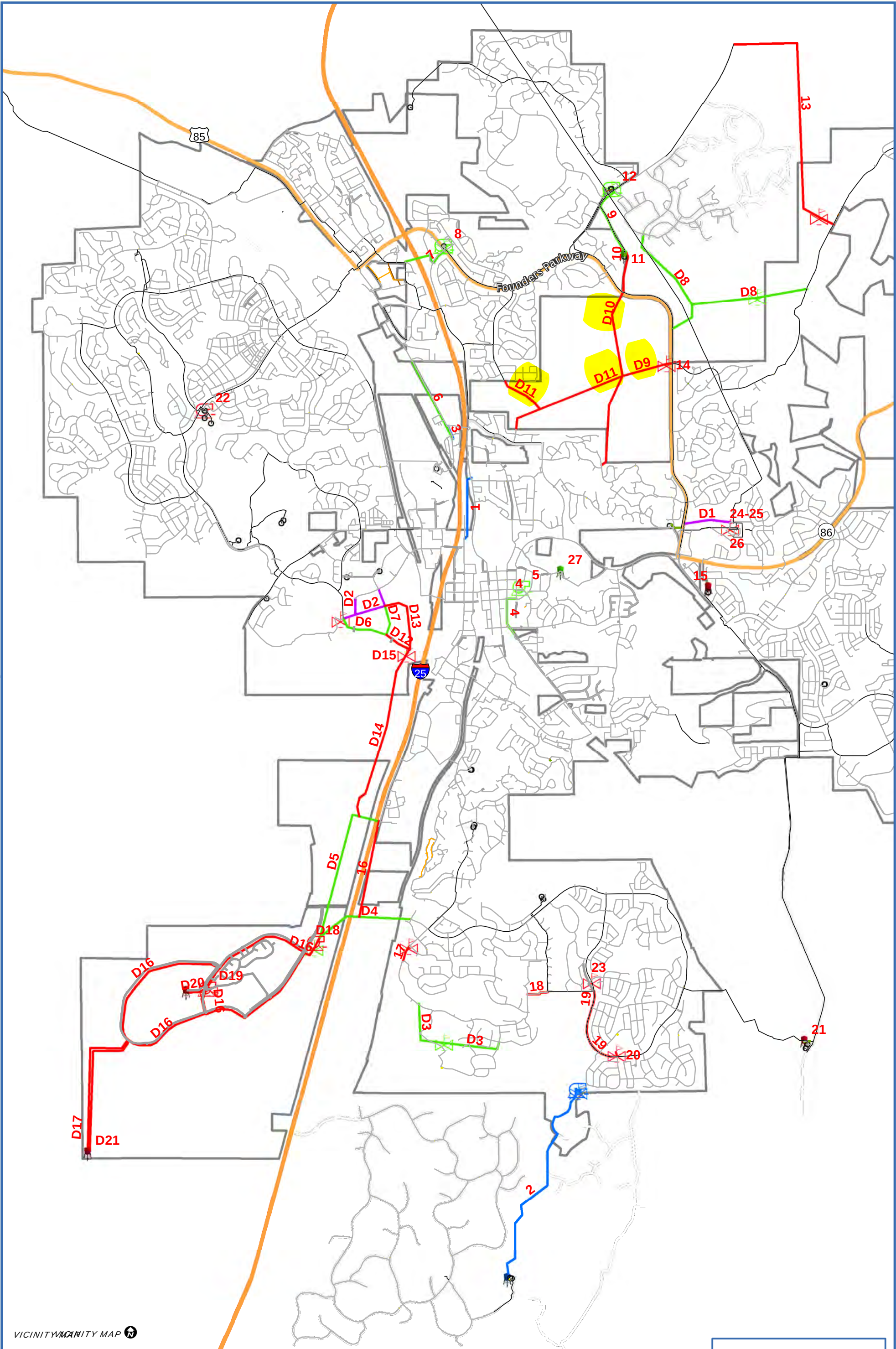
APPENDIX H

REFERENCE EXCERPTS FROM THE WATER MASTER PLAN 2023 AND WASTEWATER MASTER PLAN 2022

Table 4.1 CIP Project List

Phase	Project	Project Type	Project Name	Description
5	1	Pipe	Front St Downtown Connection	2600 feet of 12" transmission main to connect Front Street to Wilcox
5	2	Pump	Bell Mountain Infrastructure	Bell Mountain PS, Tank, and Transmission Main
5	3	Pipe	Liggett Road Upsize	Liggett Road bottleneck 600 feet of 16"
5	24	Pump	RWRWTC Red Zone Pump Upgrades	RW Red Zone Pumping Upgrades 4500 gpm
5	D1	Pipe	Echelon Distribution	Red zone connection and distribution pipes (underway)
5	D2	Pipe	Millers Landing Infrastructure	Red zone connection to 16" in PC Parkway, distribution pipes, PRVs
10	4	Pipe	Hillside Improvements	Hillside PS Transmission main 2100 feet of 12"
10	5	Pump	Hillside Pump Station Upgrades	Hillside PS 2600 gpm @ 450 feet
10	6	Pipe	Liggett Road Transmission	Liggett Road transmission 3500 feet of 16"
10	7	Pipe	Front St. Improvements	Castleton to Front 1300 feet of 16" and 1100 feet of 20" under I25
10	8	Pump	Milestone PS Upgrades	Milestone PS upgrade 4000 gpm
10	9	Pipe	Tank 11B Transmission	Tank 11B transmission main 2300 feet of 20"
10	10	Pipe	Crowfoot Purple Zone Upsize	Crowfoot Valley purple zone 200 feet of 16"
10	11	Tank	Tank 11B	second purple zone Tank 11 (Tank 11B)
10	12	Pump	Diamond Ridge Pump Station Upgrades	Diamond Ridge red zone 2800 gpm
10	D3	Pipe	Lanterns Pipelines	Lanterns distribution
10	D4	Pipe	Dawson Trails Infrastructure	Dawson Trail 16-inch transmission main
10	D5	Pipe	Dawson Trails Infrastructure	Dawson Trail 12-inch transmission main
10	D6	Pipe	Millers Landing Infrastructure	Millers Landing 16-inch transmission main extension
10	D7	Pipe	Millers Landing Infrastructure	Millers Landing distribution
10	D8	Pipe	Canyons Far South Infrastructure	Canyon Far South distribution
10	27	Tank	Tank 3B	new Tank 3B to replace oldest tank
BO	13	Pipe	Canyons South Infrastructure	Canyons South to Cobblestone loop 10,500 feet of 16"
BO	14	Valve	Pioneer Ranch FCV	Pioneer Ranch automated flow control valve
BO	15	Tank	Tank 16B	second red zone tank, Tank 16B
BO	16	Pipe	Frontage Road Transmission	I25 Frontage Road Loop 4000 feet of 12 inch
BO	17	Pipe	Plum Creek Transmission	Plum Creek Transmission 700 feet of 12" and PRV
BO	18	Pipe	Lanterns Inwood Place Upsize	Inwood Place upsize 1000 feet of 16 inch
BO	19	Pipe	CVR Loop Road Transmission Upsize	Loop Road upsize 3500 feet of 24"
BO	20	WTP	CVR Water Treatment Plant	Crystal Valley WTP
BO	21	Tank	Replacement Tank 6B	new Tank 6B
BO	22	Pump	Blue Zone Pump Station Upgrades	Blue Zone PS second high service pump
BO	23	Valve	West Loop Road PRV Upgrades	W. Loop Road PRV Upsize
BO	25	Pump	RWRWTC Red Zone Pump Upgrades	RW Red Zone Pumping Upgrades 6330 gpm
BO	26	Pump	RWRWTC Green Zone Pump Upgrades	RW Green Zone Pumping Upgrades 4200 gpm
BO	D10	Pipe	Pioneer Ranch Infrastructure	Pioneer Ranch T11 transmission 20 inch
BO	D11	Pipe	Pioneer Ranch Infrastructure	Pioneer Ranch Distribution
BO	D12	Pipe	Millers Landing Infrastructure	Millers Landing 16 inch transmission extension
BO	D13	Pipe	Millers Landing Infrastructure	Millers Landing distribution
BO	D14	Pipe	Dawson Trails Infrastructure	Dawson Trails Meadows connection 16" main
BO	D15	Valve	Dawson Trails Infrastructure	Dawson Trails Meadows connection PRV
BO	D16	Pipe	Dawson Trails Infrastructure	Dawson Trails distribution
BO	D17	Pipe	Dawson Trails Infrastructure	Dawson Trails Tank 21 fill and supplies transmission mains
BO	D18	Pump	Dawson Trails Infrastructure	Dawson Trails Red Zone Pump Station
BO	D19	Pump	Dawson Trails Infrastructure	Dawson Trails Green Zone Pump Station
BO	D20	Tank	Dawson Trails Infrastructure	Dawson Trails Tank 19 and transmission main
BO	D21	Tank	Dawson Trails Infrastructure	Dawson Trails Tank 21
BO	D9	Pipe	Pioneer Ranch Infrastructure	Pioneer Ranch transmission 20 inch

Highlight by
developer



VICINITY MAP



0 1,750 3,500 7,000 10,500 Feet

1 inch = 3,500 feet



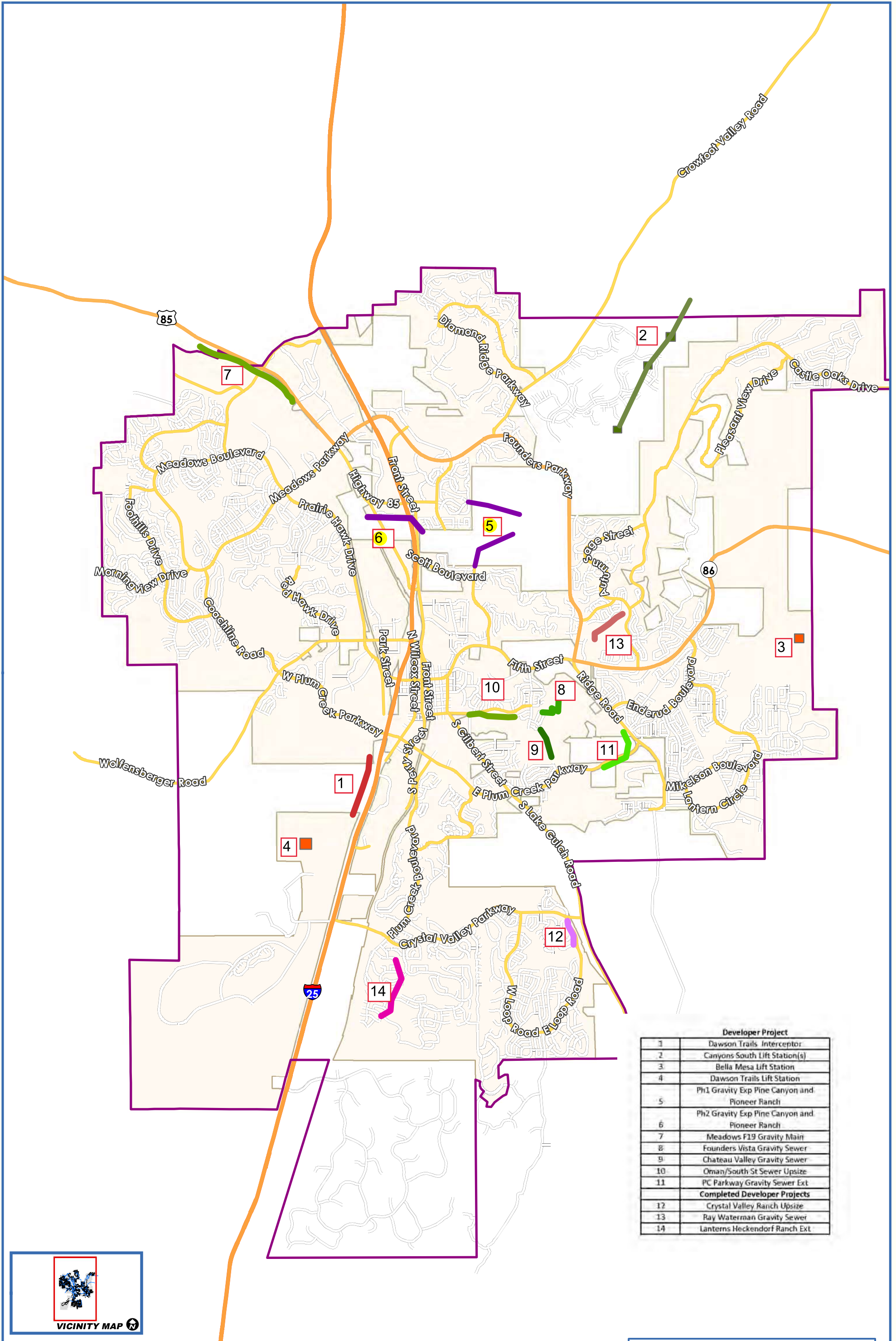
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**CASTLE ROCK WATER
CIP PROJECT MAP
FIGURE 4.1**

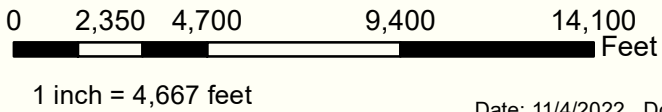
Wastewater Master Plan 2022 Update

Table 4-4
Future Developer Wastewater Projects: 2022-Future

CIP Name	Project Description
Meadows Filing 19 - Highway 85 Sewer Main	8" and larger gravity pipelines to PCWRA; originally identified in previous master plans as a lift station, force main and gravity mains to serve the area
Pine Canyon/Pioneer Ranch: Gravity Expansion at SMH261 – Phase I	4,270 LF of 8" gravity pipeline; dependent on approval of Pine Canyon and Pioneer Ranch
Pine Canyon/Pioneer Ranch: Gravity Expansion at SMH261 – Phase II	1,700 LF of 10" gravity pipeline; dependent on approval of Pine Canyon and Pioneer Ranch
Founders Filing No. 24: Bella Mesa Lift Station and Force Main	Proposed lift station and associated force mains/gravity mains are anticipated
Macanta (formerly known as Canyons South)	Two to three proposed lift stations and associated force and gravity mains
Lanterns Heckendorf Ranch Expansion	Additional gravity pipelines to serve the area as development progresses (underway).
Dawson Trails: Interceptor Upsize (formerly known as Dawson Ridge)	Modeling indicates that should Dawson Trails eventually develop to its fully anticipated density, 2,921 linear feet of 12-inch sewer will need to be upsized to 15-inch, and 3,133 linear feet of 15-inch will need to be upsized to 24-inch.
Dawson Trails: Lift Station and Force Main	Preliminary Utility Reports indicate that a future lift station(s) may be required to serve portions of the development.
Brisco/Fair St. Alley: sewer upsize	Redevelopment in the downtown central Castle Rock may warrant upsize of the sewer main in the alley; the condition of the sewer main is very poor and may be addressed with a sewer rehabilitation project despite the potential for future redevelopment.
Founders Vista: Gravity Sewer	Gravity sewer to connect to existing sewer mains in the Valley Drive/Oman Street area
Chateau Valley: Gravity Sewer	Gravity sewer to connect to existing sewer mains in the Valley Drive/Oman Street area
Founders Vista/Chateau Valley: Oman/South St. Sewer Upsize	Oman Street interceptor may require upsizing to support the Founders Vista and Chateau Valley projects
Villages at CR/Memmen parcels: PC Parkway Gravity Sewer Ext	Gravity sewer extension expected to be required to support future Memmen Parcels and Villages at Castle Rock development along Ridge Road; portions may need to be completed in advance of development due to the Plum Creek Parkway Roadway Widening Project



Developer Project	
1	Dawson Trails Interceptor
2	Canyons South Lift Station(s)
3	Bella Mesa Lift Station
4	Dawson Trails Lift Station
5	Ph1 Gravity Exp Pine Canyon and Pioneer Ranch
6	Ph2 Gravity Exp Pine Canyon and Pioneer Ranch
7	Meadows F19 Gravity Main
8	Founders Vista Gravity Sewer
9	Chateau Valley Gravity Sewer
10	Oman/South St Sewer Upsize
11	PC Parkway Gravity Sewer Ext
Completed Developer Projects	
12	Crystal Valley Ranch Upsize
13	Ray Waterman Gravity Sewer
14	Lanterns Heckendorf Ranch Ext



CASTLE ROCK
2022 WASTEWATER MASTER PLAN
DEVELOPER WASTEWATER PROJECTS
FIGURE 4.1