CONCEPT UTILITY REPORT

PDP21-0002

Auburn Heights

October 2026

PREPARED FOR:

Auburn Ventures II, LLC
15957 N. 81th Street, Suite 101
Scottsdale, AZ 85260

PREPARED BY: Westwood

Westwood

Final Utility Report

Auburn Heights

Town of Castle Rock, Douglas County, Colorado

Prepared For:

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Date: **October** 2026

Engineer's Statement:

The enclosed utility report, and exhibits, were prepared by me or under my direct supervision and is correct to the best of my knowledge and belief. Said utility report has been prepared in accordance with applicable Town of Castle Rock criteria and is in conformance with the master utility plans for the affected area. I accept responsibility for any liability caused by negligent acts, errors, or omissions on my part in preparing this report.

Signature: _____

Tom Odle
Registered Professional Engineer
State of Colorado No. 52802

Owner/Developer's Statement:

As Owner/Developer of Land(s) identified within this report; I agree to proceed, implement and comply with all recommendations and requirements outlined herein.

_____

Name of Developer

_____

Authorized Signature

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1.0 General Location and Description

A. Project Location

Auburn Heights is located in a portion of the south half of Section 3, Township 8 South, Ranch 67 West of the 6th Principle Meridian, Town of Castle Rock, County of Douglas. The site is Lot 2 of the platted development Auburn Ridge. The site is located west of Auburn Drive, south of East Wolfensberger Road and north of West Plum Creek Parkway. The northwest property line is bounded by Omni Gulch. The Auburn Ridge Apartments (Auburn Ridge, Lot 1) lies along the northeastern property line and Filing 2 of the Castle Highlands Development borders the southern portion of the property. See Appendix G for a vicinity map that depicts the project in context to the surrounding roadways and known developments.

B. Description of Property

The total area of the Auburn Heights development is approximately six (6) acres and is currently undeveloped. This site is proposed to be developed as an apartment complex with five (5) residential buildings with a total of 104 proposed units, a clubhouse, and nine (9) freestanding garages. See Appendix G for the general utilities plan for the proposed site displaying the locations and sizes of the existing utilities and proposed tie in locations to the existing facilities. Multi-family residential uses have a single-family equivalent 0.65 per dwelling unit. The clubhouse will be analyzed as a retail/office use which has a single-family equivalent of 0.0005 per square foot. At build out, a total single-family equivalent of seventy (70) is proposed for the development. The existing ground cover is open native grassland with the exception of an existing stockpile produced from the Auburn Ridge Lot 1 development. The site generally drains from the south to the north or northwest. A portion of the site sheet flows directly into Omni Gulch and to the existing pond constructed during the development of Lot 1 of Auburn Ridge. The southeastern portion of the site drains to Auburn Drive. The soils onsite are classified as NRCS hydraulic soils group C composed primarily of Bresser-Truckton Sandy Loams and Newlin Gravely Sandy Loam.

2.0 Water Distribution System

A. Existing Water System

1. Existing Distribution System

An existing twenty (20) inch diameter water main has been constructed in Auburn drive on the east side of the property. On the southwest portion of the site there is an existing twelve (12) inch water line which crosses Omni Gulch and cuts through the Castle Highlands Filing 2 development ultimately connecting to the existing twenty (20) inch waterline in Auburn Drive. Northeast of the project site is eight (8) inch water line that was constructed with the Auburn Ridge Lot 1 development. This water line also connects to the twenty (20) inch line in Auburn Drive. See Appendix G for the existing water distribution network. The project site is proposing one connection to each of the waterline mentioned above to provide a looped system. See Appendix G for the general utilities plan for locations and sizes of the existing water distribution network and proposed tie in locations. It expected that the pressure of the existing system is at approximately ninety-one (91) pounds per square inch when Tank 8 is at twenty (20) percent full based on analysis of the system with no demand. Tank 8 is further described

in Section 2.A.1 below. Analysis of the system before demands can be found in Appendix C and is further described in Section 2.D.

2. Existing Supply Facilities

This site is part of the **2017 Water Master Plan** prepared by Castle Rock Water Engineering staff, dated 2017. The site is proposed to utilize the nearest active tank, Tank 8, located at 1420 Coachline Road. Tank 8 has an operational storage volume of 3.13 mega gallons. This tank is within the West-Blue pressure zone which serves a top elevation 6399 feet and a low elevation of 6236 feet (NAVD 88). At one hundred (100) percent full, the tank overflow elevation is 6523.3 feet and at twenty (20) percent full, the tank elevation is at 6503.6.

B. Calculated Water Demands

The water demands for this development will be designed per the requirements of the **Town of Castle Rock Water System Design 2018 Criteria Manual.**

The following is a list of criteria used to develop the water demands for the proposed site:

- Multifamily Residential: 260 gallons per day per dwelling unit
- Retail/Offices: 0.2 gallons per day per square foot
- Maximum Day Demand: 2.5 x Average Day Demand
- Peak Hour Demand: 5.5 x Average Day Demand
- Irrigation: 1.99 gallons per minute.

The demand of the 104 residential units were calculated using the demand for a multifamily residential use. The Clubhouse, approximately 4,764 square feet, was calculated utilizing a demand for a retail/office use. The demand factors for maximum day and peak hour demands are not applied to the irrigation average day demands. The irrigation demand is determined by the Town of Castle Rock Composite Landscape Water Use Rating Chart. See Appendix A. In scenarios that analyze maximum day and peak hour demands, the irrigation average day demand is added to calculated maximum day demand and peak hour demand. See Table 1 below for a summary of the calculated demands.

TABLE 1 WATER DEMAND SUMMARY

	AVERAGE DAILY DEMAND (GPM)	MAXIMUM DAY DEMAND (GPM)	PEAK HOUR DEMAND (GPM)
DOMESTIC DEMAND	19.44	48.60	106.92

For more detailed water demand calculations refer to Appendix A.

C. Proposed Water System

1. Proposed Distribution System

The water system will be designed per the requirements of the **Town of Castle Rock Water System Design 2018 Criteria Manual**. Three (3) connections are proposed to the existing water distribution system. The first proposed connection is to the existing twenty (20) inch watermain in Auburn Drive

near the southeastern corner of the project site. The second connection is proposed is to connect to the watermain on the southwestern section of the project site. This watermain crosses Omni Gulch, the project site, and the Castle Highlands Filing 2 development, ultimately connecting to the twenty (20) inch main in Auburn Drive. The final connection is to the existing eight (8) inch waterline near the northeastern boundary of the site which was constructed with the development of Auburn Ridge Lot 1. Refer to Appendix A for the Water System Layout Plan of the proposed system. Any future development of the existing water infrastructure needed to serve this site is the responsibility of the developer.

2. Proposed Supply Facilities

The existing supply facility is adequate to serve this development. No new supply facilities are proposed.

3. Proposed Fire Flow

The required fire flow was evaluated by using effective International Fire Code (IFC), dated 2018. Table B105.1(2) of the IFC was utilized to determine the fire-flow of each building assuming a Type V-B build. A sprinkler system is proposed in each of the residential structures, therefore, a fifty (50) percent reduction to be applied to the required fire flow of these structures. The minimum fire flow of the water distribution system is 1,500 gallons per minute. At this point in time, a sprinkler system is not proposed in the clubhouse. See Appendix A for the required fire flow for each building.

4. Land Dedication Requirements

Public utility easements shall be dedicated with a minimum width of twenty (20) feet around any proposed public watermain. Easements for utilities will be provided by separate document at time of final design/construction CD submittal.

D. Proposed Water System Analysis and Modeling

1. Hydraulic Models

The network analysis for the proposed development was analyzed using WaterGEMS by Bentley. The layout of the distribution system for the proposed development is shown in Appendix A as well as the network analysis. Flows were allocated to each node (pipe junction of external demand) based on the usage needed for each lot. Demands were then determined by land use and unit flows. The water supply connections were modeled as reservoirs. The hydraulic grades for these reservoirs were determined based on the west blue pressure zone. At twenty (20) percent of the tank stage, the HGL utilized is 6503.6 and at one hundred (100) percent, the HGL utilized is 6523.

1. PRESSURES

The system was evaluated with the requirements below:

- Minimum static pressure with zero demand (20% tank storage) = 43 psi
- Maximum static pressure with zero demand (100% tank storage) = 125 psi
- Minimum dynamic pressure (20% tank storage)
    - Peak Hour Demand = 35 psi
    - Max Daily Demand plus fire flow = 20 psi

2. VELOCITY

The system was evaluated with the requirements below:

- Maximum velocity with Peak Hour Demands = 10 feet per second
- Maximum velocity with Max Day Demands = 5 feet per second
- Maximum velocity with Max Day + Fire Flow Demand = 15 feet per second

3. HEADLOSS

The system was evaluated with the requirements below:

- Maximum headloss through 16 inch (transmission): 2.0 feet/ 1000 feet
- Maximum headloss through 20 inch (transmission): 1.5 feet/ 1000 feet

2. Hydraulic Modeling Scenarios

Within the model, multiple scenarios were evaluated for conformance with the Town of Castle Rock standards.

- Twenty (20) percent tank stage with zero demand.
- One hundred (100) percent tank stage with zero demand
- Twenty (20) percent tank stage with maximum daily demand + fire flow
- Twenty (20) percent tank stage with peak hour demand

Each scenario was initially evaluated with all three (3) connections in service. Then, each scenario was reevaluated with one (1) critical distribution loop out of service. The model removed the westernmost connection to the existing system since the tie in point is at the highest elevation of the three (3) proposed connections.

3. Hydraulic Modeling Output and Required Schematics

The results of the WaterGEMS analysis for the proposed network are presented in Appendix C. This analysis represents the proposed water distribution system, including node locations, pipe locations, and pipe sizes that serve the project site. Based on analysis of the model, all pipes are proposed as eight (8) inch diameter PVC. The max daily demands plus fire flow were evaluated using the assigned fire flow from the fire department. See Fire Flow Confirmation Memo in Appendix B. The fire flow has been analyzed at the junction with the lowest pressure, Junction J-8, during the max day scenario. A fire flow of 3,500 gallons per minute is applied to Junction J-8 and is evaluated at twenty (20) percent tank storage at the maximum daily demand plus fire flow scenarios when the system is fully functioning and with a loop out of service. See Table 2 below for a summary of the WaterGEMS analysis.

TABLE 2 WATERGEMS RESULTS

SCENARIO	MINIMUM PRESSURE		MAX PRESSURE		MAX VELOCITY	
	(PSI)	NODE	(PSI)	NODE	(FPS)	PIPE
20% TANK STAGE WITH NO DEMANDS	91	J-1, J-2, J-5, J-8	98	J-7	-	-
100% TANK STAGE WITH NO DEMANDS	99	J-1	106	J-7	-	-

20% TANK STAGE WITH PEAK DEMANDS	91	J-1, J-2, J-5, J-8	98	J-7	0.32	P-5
20% TANK STAGE MAX DAY + FIRE FLOW	85	J-8	98	J-7	12.90	P-6
20% TANK STAGE WITH NO DEMANDS LOOP OUT OF SERVICE	91	J-1, J-2, J-5, J-8	98	J-7	-	-
100% TANK STAGE WITH NO DEMANDS LOOP OUT OF SERVICE	99	J-1	106	J-7	-	-
20% TANK STAGE WITH PEAK DEMANDS LOOP OUT OF SERVICE	91	J-1, J-2, J-5, J-8	98	J-7	0.41	P-5
20% TANK STAGE MAX DAY + FIRE FLOW LOOP OUT OF SERVICE	80	J-1, J-8	97	J-7	13.26	P-7

The results of the system analysis indicate that the proposed water system conforms to the **Town of Castle Rock Water System Design 2018 Criteria Manual**. Any subsequent changes to the proposed water distribution system as described within this report will require a reanalysis of the system.

4. Fire Flow Test Results

Based on the results of the WaterGEMS analysis, the proposed network satisfies the fire flow requirements. See Appendix C for Fire Flow test results.

3.0 Wastewater Collection Sewer System

A. Existing Wastewater System

An existing eight (8) inch diameter sanitary sewer main has been constructed in Auburn Drive on the east side of the property. This line flows north to Wolfensberger Road and is located in the East Plum Creek Red Hawk North 3 Sub-basin. Another existing eight (8) inch diameter sanitary sewer main was constructed as part of the Castle Highlands Filing 2 project near the southwest corner of the site and flows southeast to Auburn Drive. The most downstream manhole adjacent to the project site for this existing main has an invert elevation that is over fifteen (15) feet higher than the proposed connection to existing main in Auburn Dive. This project has proposed to connect to the existing main in Auburn Drive since the tie in point would be at a deeper elevation. The site has been included in the **Castle Highlands Final Utility Study**, prepared by JR Engineering. The area included in the study includes Castle Highlands Filing 2, Auburn Ridge Apartments (Lot 1, Auburn Ridge), Auburn Brook Apartments (Lot 3, Auburn Ridge), Reserve at Castle Highlands (Castle Highlands Filing 1), and the project site. The project site is the last remaining piece to be developed that was included in the utility study. The assumed number of maximum units of the study was compared to the actual constructed number of units. The number of units for each apartment complex was determined by the approved Site Development Plan (SDP) for each development (see Appendix G). Based on the total of single family and multifamily units constructed, the number of multifamily units assumed in the **Castle Highlands Final Utility Study** has already been exceeded without the addition of the units proposed by this project. The utility study assumed 320 multifamily residential units however 386 multifamily units have already been constructed. The calculated demand for all developments based on the **Town of Castle Rock Wastewater Collection Design 2018 Criteria Manual** can be viewed in Appendix F. To be conservative, flows from each development are assumed to connect to the existing eight (8) inch diameter sanitary sewer main in Auburn Drive.

Other utility reports completed in this area include the **Final Utility Report Auburn Glen, Castle Highlands Filing 2, Lot 1, Block 7**, prepared by Manhard Consulting LTD, and the **Final Utility Report Lot 2A, Block 7 Castle Highlands Filing No. 2 5th Amendment**, prepared by Vermilion Peak Engineering. These utility reports were completed for the apartments that are now known as the Auburn Brook Apartments and the Auburn Ridge Apartments respectively. However, both utility reports do not appear to consider this project site in any offsite calculations.

In the **2016 Wastewater Master Plan,** prepared by the Castle Rock Engineering staff, a capital improvement project (CIP) downstream of the project site has been identified. As part of the CIP, Malibu Street Upsize, an existing fifteen (15) inch pipe will be upsized to a twenty-four (24) inch diameter sewer main. At the time of developing this report, it is our understanding that the CIP are already underway. Since the proposed development relies on the Malibu Sewer Upsize project, the development will be required to pay a share based on the required capacity.

B. Calculated Wastewater Flows

The water system will be designed per the requirements of the **Town of Castle Rock Wastewater Collection Design 2018 Criteria Manual**.

The following is a list of criteria used to determine the wastewater demands for the proposed site:

- Multifamily Residential: 130 gallons per day per dwelling unit
- Retail/Offices: 0.1 gallons per day per square foot
- Peaking Factor (PF): $PF = 3.65\ x\ ADF^{-0.168}$ where F is the average Flow in MGD, and PF is no greater than 5.

The Peak Design Flow Rate is used to size any corresponding wastewater facilities. This is calculated by multiplying the peaking factor by the Average Daily Flow plus and an infiltration and Inflow allowance equal to ten (10) percent of the average daily flow. See table 3 below for a summary of the calculated demands. The average daily flow of the 104 residential units were calculated using the demand for a multifamily residential use. The Clubhouse average daily flow was calculated using the demand of a retail/office use. Any future development of the existing wastewater infrastructure needed to serve this site is the responsibility of the developer.

TABLE 3 WASTEWATER DEMAND SUMMARY

	AVERAGE DAILY FLOW (ADF)	INFILTRATION AND INFLOW (10% ADF)	PEAK DESIGN FLOW (PDF)
DEMAND (GPD)	13996.4	1399.64	71381.64

For a more detailed wastewater demand calculations, refer to Appendix D.

C. Proposed Wastewater System

1. Proposed Collection System

The wastewater system will be designed per the requirements of the **Town of Castle Rock Wastewater Design 2018 Criteria Manual.** A sanitary sewer main is proposed onsite that will ultimately connect to the eight (8) inch sanitary sewer main in Auburn Drive. This main will collect wastewater from buildings 1, 2, 3, and 5 and convey flows to the mainline. Separate services are proposed for building 4 and the clubhouse that will directly tie to the existing sanitary sewer line in Auburn Drive. The clubhouse will have a standard residential kitchen with no grease trap and no hood is required as there would be no range. A grease interceptor will not be required for the clubhouse sewer connection.

2. Proposed Wastewater Facilities

The capacity of the existing eight (8) inch sanitary sewer main in Auburn Drive was evaluated. To be conservative, flows from each development within the study area of **Castle Highlands Final Utility Study** are assumed to connect to the existing eight (8) inch diameter sanitary sewer main in Auburn Drive. The calculated demand for all developments based on the **Town of Castle Rock Wastewater Collection Design 2018 Criteria Manual** can be viewed in Appendix F. Using the hydraulic model discussed below, it was determined that the existing sanitary sewer has the capacity for all the needed demand from the developments mentioned in the study as well as the project site. To be conservative, the existing line was evaluated at the minimum and maximum allowable slope to convey that the standards have been met in both scenarios. In the scenario evaluating the system at the minimum slope, the pipe is at sixty-seven (67) percent full, which is lower than the maximum standard of

seventy-five (75) percent full. Also, in the scenario evaluating the system at the maximum slope, the pipe velocity is 8.51 feet per second which does not exceed the maximum ten (10) feet per second found in the standards. The existing facilities in Auburn Drive appear to be adequate to serve this development, therefore no new wastewater facilities are proposed. See Appendix F for the existing facilities analysis.

3. Land Dedication Requirements

Public utility easements shall be dedicated with a minimum width of twenty (20) feet around any proposed public sanitary sewer.

D. Proposed Wastewater System Analysis and Modeling

1. Hydraulic Model

The network analysis for the proposed development was analyzed using FlowMaster by Bentley. The routed peak flows were evaluated to ensure that the capacity of the proposed wastewater collection system is adequate. Flows were allocated to each design point based on the usage needed for each lot. Demands were then determined by land use and unit flows. The layout of the collection system for the proposed development is shown in Appendix D as well as the network analysis.

The following is a list of criteria used to develop the wastewater system design for the proposed site:

- Minimum velocity of two (2) feet per second.
- Maximum velocity shall not exceed ten (10) feet per second.
- Sanitary Sewer shall be sized to convey the Peak Design Flow within flowing no more than seventy-five (75) percent of maximum pipe flow capacity.
- The Manning Formula (n=0.011) was utilized.
- The minimum diameter of sanitary sewer mains shall be eight (8) inches.
- Pipes with a diameter of ten (10) inches shall have a minimum slope of 0.28% and a maximum slope of 5.5%.
- Six (6) inch service lines shall have a minimum grade of two (2) percent.

2. Hydraulic Modeling Scenarios

Each design point was evaluated at the minimum and maximum allowable slope to analyze the conformance with the Town of Castle Rock Standards.

3. Hydraulic Modeling Output and Required Schematics

The results of the FlowMaster analysis for the proposed network are presented in Appendix E. This analysis represents the proposed wastewater collection system, including design points, pipe locations, and pipe sizes that serve the project site. Based on the analysis of the network, all sanitary sewer mains to be constructed with this development are proposed to be ten (10) inch diameter PVC pipes. By upsizing the proposed sanitary sewer onsite to ten (10) inches, this allows for a minimum grade of 0.28 percent rather than the minimum grade of 0.4 percent for an eight (8) inch line per the **Town of Castle Rock Wastewater Collection Design 2018 Criteria Manual**. Building 3 causes the most restrictive scenario where the lowest finished floor elevation is at an elevation of 6286.52 feet. When designing the sanitary sewer pipe at the minimum slope for a ten (10) inch pipe from the proposed tie in point to the existing line in Auburn Drive while maintaining a 0.3 foot drop between manholes,

the service of the building will tie into the main at an approximate elevation of 6280.50 feet. Utilizing the ten (10) inch main with a shallower minimum slope allows the main to be at a deeper elevation at Building 3 where additional depth is needed. Additionally, the services that are proposed to tie directly into the Auburn Drive are proposed to be six (6) inch services.

Per Section 4.2.2 if the Town of Castle Rock Wastewater standards, the wastewater system shall be designed to provide a minimum velocity of two (2) feet per second at the Peak Design Flow. Due to the minimal demand generated onsite, all pipes do not meet this requirement at the minimum slope. Even if the pipes are installed at the maximum slope, there will be sections of pipe that will not meet the required velocity.

The sanitary sewer system will connect to the existing eight (8) inch wastewater collection system in Auburn Drive. The results of the system analysis indicate that the proposed sanitary system conforms to the **Town of Castle Rock Wastewater Design 2018 Criteria Manual** with the exception of the requested deviation to Section 4.4.2 previously outlined.

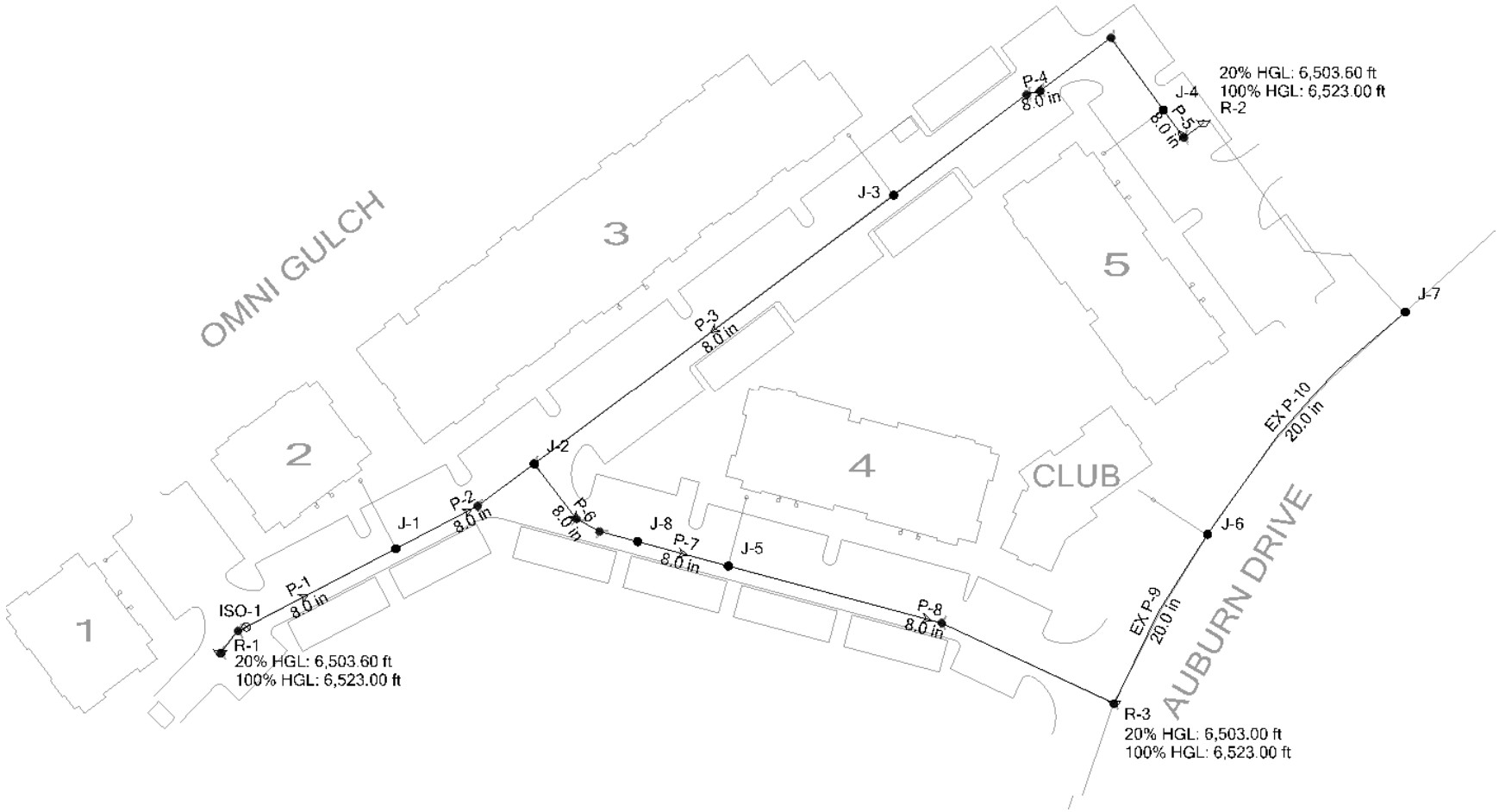
4.0 References

1. Town of Castle Rock, *Town of Castle Rock Water System Design 2018 Criteria Manual*, December 2018.
2. Town of Castle Rock, *2017 Water Master Plan*, 2017
3. Town of Castle Rock, *Town of Castle Rock Wastewater Collection Design 2018 Criteria Manual*, December 2018.
4. JR Engineering, LTC*, Castle Highlands Final Utility Study*, December 1999
5. Town of Castle Rock, *2016 Wastewater Master Plan*, 2016
6. Lot 1, Auburn Ridge Final PD Site Plan
7. Site Development Plan, Amendment No. 2, Lot 3, Auburn Ridge, Amendment No. 1
8. Final PD Site Plan Castle Highlands Filing 1, 1st Amendment
9. Manhard Consulting LTD, *Final Utility Report Auburn Glen Castle Highlands Filing 2, Lot 1, Block 7*, May 2017
10. Vermilion Peak Engineering, *Final Utility Report Lot 2A, Block 7, Castle Highlands Filing No. 2, 5th Amendment*, November 2012
11. Bentley FlowMaster V8i , 08.11.01.03
12. Bentley WaterGEMS V8i, 10.03.01.08

Appendix A

WATER DEMANDS

Auburn Heights
Water Distribution System



AUBURN HEIGHTS
WATER DEMAND CALCULATIONS
TOWN OF CASTLE ROCK

Building Number	Junction	Units	Square Footage (ft)	Average Daily Demand (ADD) (GPM)	Maximum Day Demand (MDD)(GPM)	Peak Hour Demand (PHD)(GPM)	Required Fire Flow	Max Day + Fire Flow
1	J-1	8	11019	1.44	3.61	7.94	1500.00	1503.61
2	J-1	8	11019	1.44	3.61	7.94	1500.00	1503.61
3	J-3	52	65061	9.39	23.47	51.64	3500.00	3523.47
4	J-5	16	21638	2.89	7.22	15.89	2000.00	2007.22
5	J-4	20	27126	3.61	9.03	19.86	2250.00	2259.03
Clubhouse	J-6	--	4764	0.66	1.65	3.64	1750.00	1751.65
Irrigated Land	J-8	--	--	1.99	--	--	--	--
Total		104	4764	21.43	50.59	108.91		1550.59

1. Multi-Family Residential demand assumed to be 260 gpd/dweeling unit
2. Clubhouse demand assumed to be 0.2 gpd/SF utilizing retail/office design demand.
3. Irrigated Land demand based on CLWUR provided in Appendix
4. Max Day Factor = 2.5 x average daily demand
5. Peak Hour Factor = 5.5 x average daily demand
6. Demand factors are not applied to irrigation average daily demands. Average daily demands are added to calculated maximum day and peak hour
7. The required fire flow for each building has been determined by the International Fire Code for a Type V-B structure
8. A sprinkler system will be installed in buildings 1-5, therefore, a 50% reduction in required fire flow has been applied as allowed by section 4.4.1.3 if the Town of Castle Rock Water System Design 2018 Criteria Manual

TOWN OF CASTLE ROCK COLORADO

CLWUR (Composite landscape water use rating) Chart								
Irrigation Type (Zone)	**Plant Name (Common)**	**Appl. Rate (inches/month)**	**Zone (VL,L,Mod,HW)**	**% of Irrigated Total Area**	**IA** **Irrigated area (in sq. ft. for each zone)**	**LWUR** **Landscape Water Use Rating**	**TA** **Total Area of all Irrigated Landscape Zones**	**CLWUR (LWUR x IA) /TA**
Spray Rotor	Irrigated Native grass seed	1.5	VL	2.7%	1,899	1.5	69,420	**0.04**
Point source drip	Shrub/Perennial	2	L	97.3%	67,521	2	69,420	**1.95**
						Total of the CLWUR		1.99

Reference Chapter 13.20 of the Castle Rock Municipal Code

boulder engineering
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7/12/2021

WATER FIXTURE COUNT

FIXTURE	USE	QUANT	COLD WATER F.U.	COLD WATER TOTAL	HOT WATER F.U.	HOT WATER TOTAL	COMB WATER F.U.	COMB WATER TOTAL
W.C. (TANK)	COMM	5.0	5	25.0		-	5	25.0
DISHWASH	RES	1.0		-	1.4	1.4	1.4	1.4
DRINK FNTN		1.0	0.25	0.3		-	0.25	0.3
EXAM SINK	COMM	-	1	-	1	-	1.5	-
LAVATORY	COMM	4.0	1.5	6.0	1.5	6.0	2	8.0
HANDSINK	COMM	-	1.5	-	1.5	-	2	-
KITCHEN SINK	RES	1.0	1	1.0	1	1.0	1.4	1.4
SERVICE/MOP SINK		2.0	2.25	4.5	2.25	4.5	3	6.0
URINAL 3/4" VALVE		1.0	5	5.0		-	5	5.0
HOSE BIBB		4.0	2.25	9.0		-	2.25	9.0
COFFEE/SODA		1.0	1.5	1.5		-	1.5	1.5
ICE MACHINE		-	1.5	-		-	1.5	-
TOTAL F.U.				**52.3**		**12.9**		**57.6**
TOTAL GPM				**30.0**		**16.0**		**31.2**

		Max GPM	Max Smaller
METER SIZE	**1 "**	41	25
PIPE SIZE (8FT/S)	**1 1/2"**	44	

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7/12/2021

SANITARY	
COMB WATER	
F.U.	TOTAL
4	20.0
2	2.0
0.5	0.5
1	-
1	4.0
1	-
2	2.0
2	4.0
2	2.0
0	-
0	-
0	-
	34.5
	4"

boulder engineering
1717 15th Street, Boulder CO 80302 p (303)444-6038 f (303)442-1172
7/12/2021

WATER FIXTURE COUNT

FIXTURE	USE	QUANT	COLD WATER F.U.	COLD WATER TOTAL	HOT WATER F.U.	HOT WATER TOTAL	COMB WATER F.U.	COMB WATER TOTAL
W.C. (VALVE)	COMM	2.0	10	20.0		-	10	20.0
DISHWASH	RES	-		-	1.4	-	1.4	-
DRINK FNTN		1.0	0.25	0.3		-	0.25	0.3
EXAM SINK	COMM	-	1	-	1	-	1.5	-
LAVATORY	COMM	2.0	1.5	3.0	1.5	3.0	2	4.0
HANDSINK	COMM	-	1.5	-	1.5	-	2	-
KITCHEN SINK	RES	-	1	-	1	-	1.4	-
SERVICE/MOP SINK		1.0	2.25	2.3	2.25	2.3	3	3.0
URINAL 3/4" VALVE		-	5	-		-	5	-
HOSE BIBB		2.0	2.25	4.5		-	2.25	4.5
COFFEE/SODA		-	1.5	-		-	1.5	-
ICE MACHINE		-	1.5	-		-	1.5	-
TOTAL F.U.				**30.0**		**5.3**		**31.8**
TOTAL GPM				**42.0**		**15.0**		**42.0**

		Max GPM	Max Smaller
METER SIZE	**1 1/2"**	81	41
PIPE SIZE (8FT/S)	**1 1/2"**	44	

1717 15th Street, Boulder CO 80302 p (303)444-6038 f (303)442-1172
7/12/2021

SANITARY	
COMB WATER	
F.U.	TOTAL
4	8.0
2	-
0.5	0.5
1	-
1	2.0
1	-
2	-
2	2.0
2	-
0	-
0	-
0	-
	12.5
	4"

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7/12/2021

Building #1 - 20 Unit Building											AWWA		IPC		IPC-SEWER	
Unit	Quantity	Bathroom Group	Toilets	Bathtub/ Shower	Shower	Lav	Kitchen Sink	Cloths Washer	Dish washer	Ref. Ice	Unit Total	Total Per Type	Unit Total	Total Per Type	Unit Total	Total Per Type
Unit B - Type A	2	1	0	0	0	0	1	1	1	1	26	52.0 FU	8.05	16.1 FU	11	22 FU
Unit B - Type B	4	2	0	0	0	1	1	1	1	1	42	168.0 FU	12.35	49.4 FU	17	68 FU
Unit E - Type B	4	2	0	0	0	1	1	1	1	1	42	168.0 FU	12.35	49.4 FU	17	68 FU
Unit F - Type A	1	2	0	0	0	0	1	1	1	1	41	40.5 FU	11.65	11.7 FU	16	16 FU
Unit F - Type A (Alt)	1	2	0	0	0	0	1	1	1	1	41	40.5 FU	11.65	11.7 FU	16	16 FU
Unit F - Type B	2	2	0	0	0	1	1	1	1	1	42	84.0 FU	12.35	24.7 FU	17	34 FU
Unit F - Type B (Alt)	2	2	0	0	0	1	1	1	1	1	42	84.0 FU	12.35	24.7 FU	17	34 FU
Unit G- Type B	2	2	0	0	0	1	1	1	1	1	42	84.0 FU	12.35	24.7 FU	17	34 FU
Unit H - Type B	2	2	0	0	0	1	1	1	1	1	42	84.0 FU	12.35	24.7 FU	17	34 FU
Total	20	38	0	0	0	16	20	20	20			805 FU		237.0 FU		326 FU
												58 GPM		72 GPM		
										Meter Size (Max)	(81 GPM)	**1 1/2"**	(81 GPM)	**1 1/2"**	(390 FU)	**5 "**
										Pipe Size(Max)	(76 GPM)	**2 "**	(76 GPM)	**2 "**		

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7/12/2021

Building #2 - 16 Unit Building											AWWA		IPC		IPC-SEWER	
Unit	Quantity	Bathroom Group	Toilets	Bathtub/ Shower	Shower	Lav	Kitchen Sink	Cloths Washer	Dish washer	Ref. Ice	Unit Total	Total Per Type	Unit Total	Total Per Type	Unit Total	Total Per Type
Unit B - Type A	2	2	0	0	0	0	1	1	1	1	41	81.0 FU	11.65	23.3 FU	16	32 FU
Unit B - Type B	2	2	0	0	0	1	1	1	1	1	42	84.0 FU	12.35	24.7 FU	17	34 FU
Unit E - Type A	2	2	0	0	0	0	1	1	1	1	41	81.0 FU	11.65	23.3 FU	16	32 FU
Unit E - Type B	2	2	0	0	0	1	1	1	1	1	42	84.0 FU	12.35	24.7 FU	17	34 FU
Unit F - Type A	1	2	0	0	0	0	1	1	1	1	41	40.5 FU	11.65	11.7 FU	16	16 FU
Unit F - Type A (Alt)	1	2	0	0	0	0	1	1	1	1	41	40.5 FU	11.65	11.7 FU	16	16 FU
Unit F - Type B	1	2	0	0	0	1	1	1	1	1	42	42.0 FU	12.35	12.4 FU	17	17 FU
Unit F - Type B (Alt)	1	2	0	0	0	1	1	1	1	1	42	42.0 FU	12.35	12.4 FU	17	17 FU
Unit G- Type A	1	2	0	0	0	0	1	1	1	1	41	40.5 FU	11.65	11.7 FU	16	16 FU
Unit G- Type B	1	2	0	0	0	1	1	1	1	1	42	42.0 FU	12.35	12.4 FU	17	17 FU
Unit H - Type A	1	2	0	0	0	0	1	1	1	1	41	40.5 FU	11.65	11.7 FU	16	16 FU
Unit H - Type B	1	2	0	0	0	1	1	1	1	1	42	42.0 FU	12.35	12.4 FU	17	17 FU
Total	16	32	0	0	0	8	16	16	16	16		660 FU		192.0 FU		264 FU
												53 GPM		62 GPM		
										Meter Size (Max)	(81 GPM)	**1 1/2"**	(81 GPM)	**1 1/2"**	(390 FU)	**5 "**
										Pipe Size(Max)	(76 GPM)	**2 "**	(76 GPM)	**2 "**		

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Building #3 - 52 Unit Building											AWWA		IPC		IPC-SEWER	
Unit	Quantity	Bathroom Group	Toilets	Bathtub/ Shower	Shower	Lav	Kitchen Sink	Cloths Washer	Dish washer	Ref. Ice	Unit Total	Total Per Type	Unit Total	Total Per Type	Unit Total	Total Per Type
Unit A - Type A	6	1	0	0	0	0	1	1	1	1	26	156.0 FU	8.05	48.3 FU	11	66 FU
Unit A - Type B (Alt)	2	1	0	0	0	0	1	1	1	1	26	52.0 FU	8.05	16.1 FU	11	22 FU
Unit A - Type B	20	1	0	0	0	0	1	1	1	1	26	520.0 FU	8.05	161.0 FU	11	220 FU
Unit C - Type A	2	2	0	0	0	0	1	1	1	1	41	81.0 FU	11.65	23.3 FU	16	32 FU
Unit C - Type B	12	2	0	0	0	1	1	1	1	1	42	504.0 FU	12.35	148.2 FU	17	204 FU
Unit D - Type A	2	2	0	0	0	0	1	1	1	1	41	81.0 FU	11.65	23.3 FU	16	32 FU
Unit D - Type B	8	2	0	0	0	1	1	1	1	1	42	336.0 FU	12.35	98.8 FU	17	136 FU
Total	52	76	0	0	0	20	52	52	52	52		1730 FU		519.0 FU		712 FU
												68 GPM		128 GPM		
										Meter Size (Max)	(81 GPM)	**1 1/2"**	(129 GPM)	**2 "**	(1600 FU)	**8 "**
										Pipe Size(Max)	(76 GPM)	**2 "**	(170 GPM)	**3 "**		

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7/12/2021

Building #4 - 8 Unit Building											AWWA		IPC		IPC-SEWER	
Unit	Quantity	Bathroom Group	Toilets	Bathtub/ Shower	Shower	Lav	Kitchen Sink	Cloths Washer	Dish washer	Ref. Ice	Unit Total	Total Per Type	Unit Total	Total Per Type	Unit Total	Total Per Type
Unit B - Type B	4	1	0	0	0	0	1	1	1	1	26	104.0 FU	8.05	32.2 FU	11	44 FU
Unit E - Type B	4	1	0	0	0	0	1	1	1	1	26	104.0 FU	8.05	32.2 FU	11	44 FU
Total	8	8	0	0	0	0	8	8	8	8		208 FU		64.4 FU		88 FU
												31 GPM		33 GPM		
										Meter Size (Max)	(41 GPM)	**1 "**	(41 GPM)	**1 "**	(180 FU)	**4 "**
										Pipe Size(Max)	(44 GPM)	**1 1/2"**	(44 GPM)	**1 1/2"**		

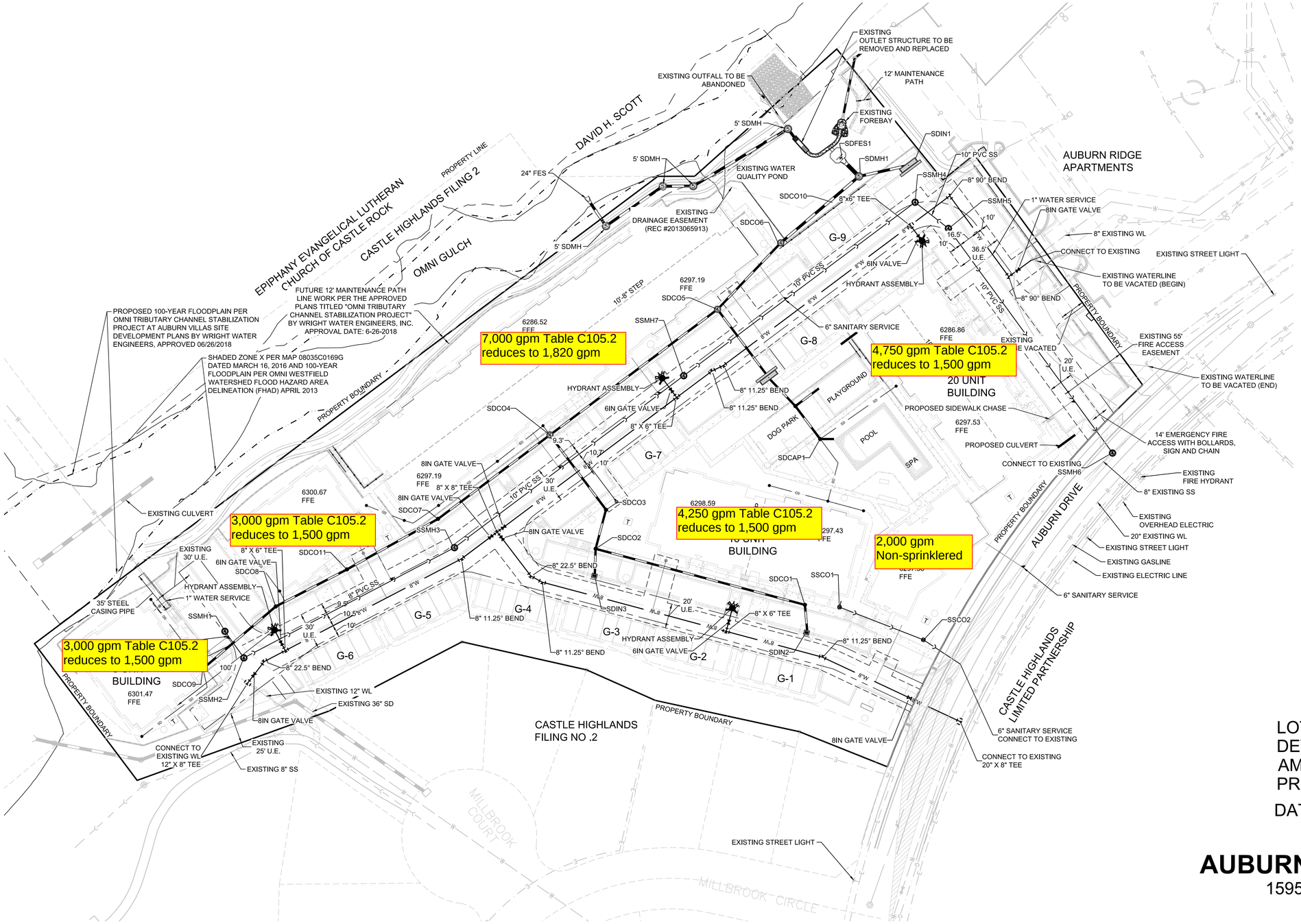
Appendix B

WATER STORAGE

SITE DEVELOPMENT PLAN, AMENDMENT NO. 2

AUBURN HEIGHTS APARTMENTS

LOT 2, A PORTION OF SECTION 3, TOWNSHIP 08 SOUTH, RANGE 67 WEST OF THE 6TH P.M.
TOWN OF CASTLE ROCK, COUNTY OF DOUGLAS, STATE OF COLORADO
CONTAINING 6.1347 ACRES



40 20 0 40 80

SCALE: 1" = 40'

LEGEND

PROPOSED CAP WITH END OF LINE BLOWOFF	CENTERLINE
PROPOSED REDUCER	RIGHT-OF-WAY
PROPOSED VALVE	PROPERTY LINE
PROPOSED FIRE HYDRANT	EDGE OF PAVEMENT
PROPOSED WL FITTING WITH THRUST BLOCK	PROPOSED DIRECTION OF FLOW
PROPOSED FLARED END SECTION	PROPOSED SLOPE & DIRECTION
PROPOSED LOW POINT BLOW-OFF	EXISTING 5' CONTOUR
PROPOSED AIR VALVE	EXISTING 1' CONTOUR
EXISTING BLOW OFF VALVE	PROPOSED 5' CONTOUR
EXISTING VALVE	PROPOSED 1' CONTOUR
EXISTING FIRE HYDRANT	BASE FLOOD ELEVATION
PROPOSED LIGHT POLE	PROPOSED STORM DRAIN
PROPOSED SIDEWALK	PROPOSED SEWER LINE WITH MANHOLE
PROPOSED SIDEWALK RAMP	PROPOSED SEWER LATERAL
EXISTING ELEVATION	PROPOSED WATER LINE
PROPOSED DESIGN ELEVATION	PROPOSED WATER LATERAL W/ METER
PROPOSED STORM DRAIN INLET	SECTION LINE
PROPOSED STORM DRAIN MANHOLE	EXISTING FIBER OPTIC LINE
PROPOSED RETAINING WALL	EXISTING OVERHEAD HIGH VOLTAGE LINE
PROPOSED BUILDING STEP	EXISTING WATER LINE
TURN DOWN EDGE SIDEWALK	EXISTING ELECTRIC LINE
	EXISTING SANITARY SEWER LINE
	PROPOSED PEDESTRIAN RAIL
	PROPOSED EXPOSED FOUNDATION

NOTE:
1. DIMENSIONS ARE CENTERLINE OF PIPE, UNLESS OTHERWISE STATED.
2. ALL SANITARY SEWER MAIN SHALL BE 8 (INCH) DIAMETER PVC UNLESS OTHERWISE STATED
3. ALL WATER MAINS SHALL BE 8 (INCH) DIAMETER PVC UNLESS OTHERWISE STATED.
4. ALL PROPOSED EASEMENTS MUST BE RECORDED PRIOR TO ISSUANCE OF CONSTRUCTION PERMITS.
5. THE MINIMUM SEPARATION BETWEEN WATERLINES, SANITARY SEWER AND STORM SEWER LINES IS 10 FEET.
6. THE MINIMUM SEPARATION BETWEEN WATER SERVICE LINES IS 5 FEET.
7. THIS SITE IS LOCATED WITHIN THE TOWN OF CASTLE ROCK WEST BLUE PRESSURE ZONE.

GENERAL UTILITIES PLAN
LOT 2 AUBURN RIDGE SITE DEVELOPMENT PLAN
AMENDMENT NO 2
PROJECT NO. SDP21-0037

DATE PREPARED: JULY 2026

PLANS PREPARED FOR:

AUBURN VENTURES II, LP
15957 N 81ST STREET, STE 101
SCOTTSDALE, AZ 58260

SHEET
4 of 17

INTERGROUP ARCHITECTS
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PLAN REVIEW #
11841

Castle Rock Fire and Rescue Department

300 Perry Street - Castle Rock, CO 80104
(303) 660-1066

PLAN REVIEW

PROJECT LOCATION	PROJECT #
SDP14-0002 - AUBURN HEIGHTS - 1101 Auburn Drive - PREVIOUS "Auburn Vil	758
PROJECT DESCRIPTION	**OCCUPANCY ID**
SDP14-0002 - AUBURN HEIGHTS - 1101 Auburn Drive - Auburn Villas Lot 2 Site Dev P	
AREA INVOLVED IN ENTIRE PROJECT	**ALTERNATE ID**
SDP14-0002 - AUBRUN HEIGHTS - 1101 Auburn Drive - Auburn Villas Lot 2 Site Dev P	

PERMIT #	PERMIT DESCRIPTION		
11841	Fire Flow Evaluation		
AREA AFFECTED BY THIS PERMIT		**SQUARE FEET**	**VALUE OF WORK**
FIRE FLOW EVAL - Auburn Heights - W of Auburn Ridge - Auburn Drive - Rl			
CONTACT NAME	**NOTIFY BY**	**NOTIFY AT**	
REASON FOR SUBMITTAL	**PLAN REVIEWER**	**SUBMITTED**	**COMPLETED**
Review Only	bdimock	10/21/2021	11/10/2021

CONTRACTOR	BUSINESS PHONE	FAX NUMBER
N/A (ID 3373)		
STREET ADDRESS	**CITY, STATE, ZIP**	
E-MAIL ADDRESS	**STATE LICENSE NUMBER**	

CASTLE ROCK FIRE AND RESCUE DEPARTMENT

**** PLAN REVIEW LETTER ****

<< PLEASE READ THE FOLLOWING CAREFULLY >>

On 11/10/2021 a review was conducted on the submitted FIRE FLOW requirements for the Auburn Heights - Multi-family Development, located at Proposed Address 1101 Auburn Drive.

The following comments pertain to the project:

CODE USED IN REVIEW:
The submitted plans have been reviewed for compliance to the 2018 edition of the International Fire Code.

REVIEW COMMENTS:
INFORMATION ON THE PROJECT:
The project consists of new multi-family residential unit with a clubhouse. From the information currently known to the fire department the following comments pertain to the required fire flows:

- This is a multi-family residence development being built to serve our growing community, in close proximity to other multi-family and single family developments;
- Currently the planned development is five multi-story buildings that house residential units as well as the clubhouse area and private garage units as well;
- With the limited information presented the required fire-flow calculation for this project is 7,000 gallons per minute (gpm) from at least six (7) hydrants for a duration of 4 hours and one hydrant not more than 150 feet from the structure.

- Based on information from the architect and the requirements from the code, this building will be fully fire sprinkler protected and alarmed, which would then allow a reduction of 50% of the fire flow to: 3,500 gpm from a minimum of four (4) hydrants for a duration of three (3) hours. This first hydrant can be no further than 100 feet from the fire department connection, nor can others be further than 210 feet from the structure, with hydrant spacing no greater than 350 feet;
- This fire flow is calculated based on the largest hazard we have within this complex and does not relate to all the other buildings within the complex. If this fire flow is met all other buildings will have sufficient fire flow based on these calculations;
- The reduction of 50% is based on the close proximity of all the other structures within this development;
- This fire flow letter is based on unknown information regarding building and civil improvements designed for this lot. If new information is presented this may affect the fire flow requirements for this building ;

BUILDING INFORMATION:

Type of Construction: V-B

Occupancy Classification: The proposed occupancy classification for this project has been reviewed for compliance with the 2018 IFC and IRC. The occupancy classification of the project is shown as being R-2.

ACTION TAKEN BY THE FIRE DEPARTMENT:

Approval of the above fire flow is based on the information known to the fire department as of the date of this review, as the result of additional information or inspections if the fire flow changes, corrective action may be required.

Should you have any questions please feel free to contact me.

Brian Dimock - Fire Marshal - bdimock@crgov.com

DATE RECEIVED	BY:		
DATE FEE PAID	PLAN REVIEW FEE	CHECK #	RECEIPT #
11/10/2021	0.00		

PICKED UP BY	COMPANY	DATE

Westwood

10333 E. Dry Creek Road, Suite 240
Englewood, CO 80112

main (720) 482-9526

MEMO

Date: October 21, 2021

To: Castle Rock Fire and Rescue

From: Westwood Professional Service, Melinda Lundquist, P.E.

RE: Auburn Heights, SDP21-0037

This memo is intended to outline and determine the required fire flow of the Auburn Heights Development.

The Auburn Heights development is approximately six (6) acres and is currently undeveloped. This site is proposed to be developed as an apartment complex with five (5) residential buildings with a total of 104 proposed units, a clubhouse, and nine (9) freestanding garages. The site is located west of Auburn Drive, south of East Wolfensberger Road and north of West Plum Creek Parkway. The northwest property line is bounded by Omni Gulch. The Auburn Ridge Apartments (Auburn Ridge, Lot 1) lies along the northeastern property line and Filing 2 of the Castle Highlands Development borders the southern portion of the property.

All buildings are assumed to be a type V-B build. A sprinkler system is proposed in each of the residential structures, therefore, a fifty (50) percent reduction to be applied to the required fire flow of these structures. The minimum fire flow of the water distribution system is 1,500 gallons per minute. At this point in time, a sprinkler system is not proposed in the clubhouse. The table below shows a summary of the square footages of each of the proposed building.

BUILDING SQUARE FOOTAGE SUMMARY		
Building Number	Units	Square Footage (ft)
1	8	11,019
2	8	11,019
3	52	65,061
4	16	21,638
5	20	27,126
Clubhouse	N/A	4,764

Required Fire Flow: 3,500 gallons per minute

Required Duration: 3-hours

Castle Rock Fire and Rescue Department Signature:

AUBURN HEIGHTS
WATER STORAGE CALCULATIONS
TOWN OF CASTLE ROCK

Storage Requirements

Capacity of Tank 8	3.13	MG			
Maximum Day Demand	50.59	gpm	=	0.07	MG
Fire Flow Demand	3500	gpm for 3 hours	=	0.63	MG
			Total	0.70	MG

1. Assumes building with the highest required fire flow, building 3, plus the total maximum day demand for all units

Appendix C

WATER HYDRAULIC ANALYSIS AND MODELING

Auburn Heights
FlexTable: Reservoir Table
Active Scenario: No Demand

Label	Elevation (ft)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
R-1	6,503.60	0.00	6,503.60
R-2	6,503.60	0.00	6,503.60
R-3	6,503.60	0.01	6,503.60

Auburn Heights
FlexTable: Junction Table
Active Scenario: No Demand

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-2	6,292.54	0.00	6,503.60	91
J-3	6,284.45	0.00	6,503.60	95
J-4	6,280.10	0.00	6,503.60	97
J-5	6,292.28	0.00	6,503.60	91
J-1	6,294.20	0.00	6,503.60	91
J-6	6,287.88	0.00	6,503.60	93
J-7	6,278.11	0.00	6,503.60	98
J-8	6,292.39	0.00	6,503.60	91

Auburn Heights
FlexTable: Pipe Table
Active Scenario: No Demand

Label	Length (Scaled) (ft)	Start Node	Stop Node	Material	Hazen-Williams C	Diameter (in)	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)	Headloss (ft)
P-3	292	J-2	J-3	PVC	120.0	8.0	0.00	0.00	0.000	0.00
P-4	232	J-3	J-4	PVC	120.0	8.0	0.00	0.00	0.000	0.00
P-5	38	J-4	R-2	PVC	120.0	8.0	0.00	0.00	0.000	0.00
P-8	267	R-3	J-5	PVC	120.0	8.0	0.00	0.00	0.000	0.00
P-2	106	J-1	J-2	PVC	120.0	8.0	0.00	0.00	0.000	0.00
EX P-9	126	R-3	J-6	Ductile Iron	120.0	20.0	0.00	0.00	0.000	0.00
EX P-10	195	J-6	J-7	Ductile Iron	120.0	20.0	0.00	0.00	0.000	0.00
P-7	61	J-5	J-8	PVC	120.0	8.0	0.00	0.00	0.000	0.00
P-6	88	J-8	J-2	PVC	120.0	8.0	0.00	0.00	0.000	0.00
P-1	134	R-1	J-1	PVC	120.0	8.0	0.00	0.00	0.000	0.00

Auburn Heights

FlexTable: Reservoir Table

Active Scenario: No Demand - Loop Out of Service

Label	Elevation (ft)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
R-1	6,503.60	0.00	6,503.60
R-2	6,503.60	0.00	6,503.60
R-3	6,503.60	0.01	6,503.60

Auburn Heights

FlexTable: Isolation Valve Table

Active Scenario: No Demand - Loop Out of Service

ID	Label	Is Operable?	Diameter (Valve) (in)	Elevation (ft)	Referenced Pipe	Flow (gpm)	Is Closed?
89	ISO-1	True	8.0	6,295.56	P-1	0.00	True

Auburn Heights

FlexTable: Junction Table

Active Scenario: No Demand - Loop Out of Service

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-2	6,292.54	0.00	6,503.60	91
J-3	6,284.45	0.00	6,503.60	95
J-4	6,280.10	0.00	6,503.60	97
J-5	6,292.28	0.00	6,503.60	91
J-1	6,294.20	0.00	6,503.60	91
J-6	6,287.88	0.00	6,503.60	93
J-7	6,278.11	0.00	6,503.60	98
J-8	6,292.39	0.00	6,503.60	91

Auburn Heights

FlexTable: Pipe Table

Active Scenario: No Demand - Loop Out of Service

Label	Length (Scaled) (ft)	Start Node	Stop Node	Material	Hazen-Williams C	Diameter (in)	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)	Headloss (ft)
P-3	292	J-2	J-3	PVC	120.0	8.0	0.00	0.00	0.000	0.00
P-4	232	J-3	J-4	PVC	120.0	8.0	0.00	0.00	0.000	0.00
P-5	38	J-4	R-2	PVC	120.0	8.0	0.00	0.00	0.000	0.00
P-8	267	R-3	J-5	PVC	120.0	8.0	0.00	0.00	0.000	0.00
P-2	106	J-1	J-2	PVC	120.0	8.0	0.00	0.00	0.000	0.00
EX P-9	126	R-3	J-6	Ductile Iron	120.0	20.0	0.00	0.00	0.000	0.00
EX P-10	195	J-6	J-7	Ductile Iron	120.0	20.0	0.00	0.00	0.000	0.00
P-7	61	J-5	J-8	PVC	120.0	8.0	0.00	0.00	0.000	0.00
P-6	88	J-8	J-2	PVC	120.0	8.0	0.00	0.00	0.000	0.00
P-1	134	R-1	J-1	PVC	120.0	8.0	0.00	0.00	0.000	0.00

Auburn Heights
FlexTable: Reservoir Table
Active Scenario: No Demand

Label	Elevation (ft)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
R-1	6,523.00	0.00	6,523.00
R-2	6,523.00	0.00	6,523.00
R-3	6,523.00	0.01	6,523.00

Auburn Heights
FlexTable: Junction Table
Active Scenario: No Demand

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-2	6,292.54	0.00	6,523.00	100
J-3	6,284.45	0.00	6,523.00	103
J-4	6,280.10	0.00	6,523.00	105
J-5	6,292.28	0.00	6,523.00	100
J-1	6,294.20	0.00	6,523.00	99
J-6	6,287.88	0.00	6,523.00	102
J-7	6,278.11	0.00	6,523.00	106
J-8	6,292.39	0.00	6,523.00	100

Auburn Heights
FlexTable: Pipe Table
Active Scenario: No Demand

Label	Length (Scaled) (ft)	Start Node	Stop Node	Material	Hazen-Williams C	Diameter (in)	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)	Headloss (ft)
P-3	292	J-2	J-3	PVC	120.0	8.0	0.00	0.00	0.000	0.00
P-4	232	J-3	J-4	PVC	120.0	8.0	0.00	0.00	0.000	0.00
P-5	38	J-4	R-2	PVC	120.0	8.0	0.00	0.00	0.000	0.00
P-8	267	R-3	J-5	PVC	120.0	8.0	0.00	0.00	0.000	0.00
P-2	106	J-1	J-2	PVC	120.0	8.0	0.00	0.00	0.000	0.00
EX P-9	126	R-3	J-6	Ductile Iron	120.0	20.0	0.00	0.00	0.000	0.00
EX P-10	195	J-6	J-7	Ductile Iron	120.0	20.0	0.00	0.00	0.000	0.00
P-7	61	J-5	J-8	PVC	120.0	8.0	0.00	0.00	0.000	0.00
P-6	88	J-8	J-2	PVC	120.0	8.0	0.00	0.00	0.000	0.00
P-1	134	R-1	J-1	PVC	120.0	8.0	0.00	0.00	0.000	0.00

Auburn Heights

FlexTable: Reservoir Table

Active Scenario: No Demand - Loop Out of Service

Label	Elevation (ft)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
R-1	6,523.00	0.00	6,523.00
R-2	6,523.00	-0.01	6,523.00
R-3	6,523.00	0.01	6,523.00

Auburn Heights

FlexTable: Isolation Valve Table

Active Scenario: No Demand - Loop Out of Service

ID	Label	Is Operable?	Diameter (Valve) (in)	Elevation (ft)	Referenced Pipe	Flow (gpm)	Is Closed?
89	ISO-1	True	8.0	6,295.56	P-1	0.00	True

Auburn Heights

FlexTable: Junction Table

Active Scenario: No Demand - Loop Out of Service

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-2	6,292.54	0.00	6,523.00	100
J-3	6,284.45	0.00	6,523.00	103
J-4	6,280.10	0.00	6,523.00	105
J-5	6,292.28	0.00	6,523.00	100
J-1	6,294.20	0.00	6,523.00	99
J-6	6,287.88	0.00	6,523.00	102
J-7	6,278.11	0.00	6,523.00	106
J-8	6,292.39	0.00	6,523.00	100

Auburn Heights

FlexTable: Pipe Table

Active Scenario: No Demand - Loop Out of Service

Label	Length (Scaled) (ft)	Start Node	Stop Node	Material	Hazen-Williams C	Diameter (in)	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)	Headloss (ft)
P-3	292	J-2	J-3	PVC	120.0	8.0	0.01	0.00	0.000	0.00
P-4	232	J-3	J-4	PVC	120.0	8.0	0.01	0.00	0.000	0.00
P-5	38	J-4	R-2	PVC	120.0	8.0	0.01	0.00	0.000	0.00
P-8	267	R-3	J-5	PVC	120.0	8.0	0.01	0.00	0.000	0.00
P-2	106	J-1	J-2	PVC	120.0	8.0	0.00	0.00	0.000	0.00
EX P-9	126	R-3	J-6	Ductile Iron	120.0	20.0	0.00	0.00	0.000	0.00
EX P-10	195	J-6	J-7	Ductile Iron	120.0	20.0	0.00	0.00	0.000	0.00
P-7	61	J-5	J-8	PVC	120.0	8.0	0.01	0.00	0.000	0.00
P-6	88	J-8	J-2	PVC	120.0	8.0	0.01	0.00	0.000	0.00
P-1	134	R-1	J-1	PVC	120.0	8.0	0.00	0.00	0.000	0.00

Auburn Heights
FlexTable: Reservoir Table
Active Scenario: Average Day

Label	Elevation (ft)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
R-1	6,503.60	6.44	6,503.60
R-2	6,503.60	9.40	6,503.60
R-3	6,503.60	5.58	6,503.60

Auburn Heights
FlexTable: Junction Table
Active Scenario: Average Day

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-2	6,292.54	0.00	6,503.60	91
J-3	6,284.45	9.39	6,503.60	95
J-4	6,280.10	3.61	6,503.60	97
J-5	6,292.28	2.89	6,503.60	91
J-1	6,294.20	2.88	6,503.60	91
J-6	6,287.88	0.66	6,503.60	93
J-7	6,278.11	0.00	6,503.60	98
J-8	6,292.39	1.99	6,503.60	91

Auburn Heights
FlexTable: Pipe Table
Active Scenario: Average Day

Label	Length (Scaled) (ft)	Start Node	Stop Node	Material	Hazen-Williams C	Diameter (in)	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)	Headloss (ft)
P-3	292	J-2	J-3	PVC	120.0	8.0	3.60	0.02	0.000	0.00
P-4	232	J-3	J-4	PVC	120.0	8.0	-5.79	0.04	0.000	0.00
P-5	38	J-4	R-2	PVC	120.0	8.0	-9.40	0.06	0.000	0.00
P-8	267	R-3	J-5	PVC	120.0	8.0	4.92	0.03	0.000	0.00
P-2	106	J-1	J-2	PVC	120.0	8.0	3.56	0.02	0.000	0.00
EX P-9	126	R-3	J-6	Ductile Iron	120.0	20.0	0.66	0.00	0.000	0.00
EX P-10	195	J-6	J-7	Ductile Iron	120.0	20.0	0.00	0.00	0.000	0.00
P-7	61	J-5	J-8	PVC	120.0	8.0	2.03	0.01	0.000	0.00
P-6	88	J-8	J-2	PVC	120.0	8.0	0.04	0.00	0.000	0.00
P-1	134	R-1	J-1	PVC	120.0	8.0	6.44	0.04	0.000	0.00

Auburn Heights
FlexTable: Reservoir Table
Active Scenario: Max Day

Label	Elevation (ft)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
R-1	6,503.60	14.81	6,503.60
R-2	6,503.60	22.96	6,503.60
R-3	6,503.60	12.79	6,503.60

Auburn Heights
FlexTable: Junction Table
Active Scenario: Max Day

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-2	6,292.54	0.00	6,503.60	91
J-3	6,284.45	23.48	6,503.60	95
J-4	6,280.10	9.02	6,503.60	97
J-5	6,292.28	7.22	6,503.60	91
J-1	6,294.20	7.20	6,503.60	91
J-6	6,287.88	1.65	6,503.60	93
J-7	6,278.11	0.00	6,503.60	98
J-8	6,292.39	1.99	6,503.60	91

Auburn Heights
FlexTable: Pipe Table
Active Scenario: Max Day

Label	Length (Scaled) (ft)	Start Node	Stop Node	Material	Hazen-Williams C	Diameter (in)	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)	Headloss (ft)
P-3	292	J-2	J-3	PVC	120.0	8.0	9.54	0.06	0.000	0.00
P-4	232	J-3	J-4	PVC	120.0	8.0	-13.94	0.09	0.000	0.00
P-5	38	J-4	R-2	PVC	120.0	8.0	-22.96	0.15	0.000	0.00
P-8	267	R-3	J-5	PVC	120.0	8.0	11.14	0.07	0.000	0.00
P-2	106	J-1	J-2	PVC	120.0	8.0	7.61	0.05	0.000	0.00
EX P-9	126	R-3	J-6	Ductile Iron	120.0	20.0	1.65	0.00	0.000	0.00
EX P-10	195	J-6	J-7	Ductile Iron	120.0	20.0	0.00	0.00	0.000	0.00
P-7	61	J-5	J-8	PVC	120.0	8.0	3.92	0.02	0.000	0.00
P-6	88	J-8	J-2	PVC	120.0	8.0	1.93	0.01	0.000	0.00
P-1	134	R-1	J-1	PVC	120.0	8.0	14.81	0.09	0.000	0.00

Auburn Heights
FlexTable: Reservoir Table
Active Scenario: Peak Hour

Label	Elevation (ft)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
R-1	6,503.60	31.57	6,503.60
R-2	6,503.60	50.11	6,503.60
R-3	6,503.60	27.18	6,503.60

Auburn Heights
FlexTable: Junction Table
Active Scenario: Peak Hour

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-2	6,292.54	0.00	6,503.59	91
J-3	6,284.45	51.65	6,503.59	95
J-4	6,280.10	19.85	6,503.60	97
J-5	6,292.28	15.89	6,503.59	91
J-1	6,294.20	15.84	6,503.60	91
J-6	6,287.88	3.63	6,503.60	93
J-7	6,278.11	0.00	6,503.60	98
J-8	6,292.39	1.99	6,503.59	91

Auburn Heights
FlexTable: Pipe Table
Active Scenario: Peak Hour

Label	Length (Scaled) (ft)	Start Node	Stop Node	Material	Hazen-Williams C	Diameter (in)	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)	Headloss (ft)
P-3	292	J-2	J-3	PVC	120.0	8.0	21.39	0.14	0.000	0.00
P-4	232	J-3	J-4	PVC	120.0	8.0	-30.26	0.19	0.000	0.01
P-5	38	J-4	R-2	PVC	120.0	8.0	-50.11	0.32	0.000	0.00
P-8	267	R-3	J-5	PVC	120.0	8.0	23.54	0.15	0.000	0.01
P-2	106	J-1	J-2	PVC	120.0	8.0	15.73	0.10	0.000	0.00
EX P-9	126	R-3	J-6	Ductile Iron	120.0	20.0	3.64	0.00	0.000	0.00
EX P-10	195	J-6	J-7	Ductile Iron	120.0	20.0	0.00	0.00	0.000	0.00
P-7	61	J-5	J-8	PVC	120.0	8.0	7.65	0.05	0.000	0.00
P-6	88	J-8	J-2	PVC	120.0	8.0	5.66	0.04	0.000	0.00
P-1	134	R-1	J-1	PVC	120.0	8.0	31.57	0.20	0.000	0.00

Auburn Heights

FlexTable: Reservoir Table

Active Scenario: Peak Hour - Loop Out of Service

Label	Elevation (ft)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
R-1	6,503.60	0.00	6,503.60
R-2	6,503.60	63.53	6,503.60
R-3	6,503.60	45.32	6,503.60

Auburn Heights

FlexTable: Isolation Valve Table

Active Scenario: Peak Hour - Loop Out of Service

ID	Label	Is Operable?	Diameter (Valve) (in)	Elevation (ft)	Referenced Pipe	Flow (gpm)	Is Closed?
89	ISO-1	True	8.0	6,295.56	P-1	0.00	True

Auburn Heights

FlexTable: Junction Table

Active Scenario: Peak Hour - Loop Out of Service

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-2	6,292.54	0.00	6,503.58	91
J-3	6,284.45	51.65	6,503.58	95
J-4	6,280.10	19.85	6,503.60	97
J-5	6,292.28	15.89	6,503.58	91
J-1	6,294.20	15.84	6,503.58	91
J-6	6,287.88	3.63	6,503.60	93
J-7	6,278.11	0.00	6,503.60	98
J-8	6,292.39	1.99	6,503.58	91

Auburn Heights

FlexTable: Pipe Table

Active Scenario: Peak Hour - Loop Out of Service

Label	Length (Scaled) (ft)	Start Node	Stop Node	Material	Hazen-Williams C	Diameter (in)	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)	Headloss (ft)
P-3	292	J-2	J-3	PVC	120.0	8.0	7.97	0.05	0.000	0.00
P-4	232	J-3	J-4	PVC	120.0	8.0	-43.68	0.28	0.000	0.02
P-5	38	J-4	R-2	PVC	120.0	8.0	-63.53	0.41	0.000	0.00
P-8	267	R-3	J-5	PVC	120.0	8.0	41.69	0.27	0.000	0.02
P-2	106	J-1	J-2	PVC	120.0	8.0	-15.84	0.10	0.000	0.00
EX P-9	126	R-3	J-6	Ductile Iron	120.0	20.0	3.63	0.00	0.000	0.00
EX P-10	195	J-6	J-7	Ductile Iron	120.0	20.0	0.00	0.00	0.000	0.00
P-7	61	J-5	J-8	PVC	120.0	8.0	25.80	0.16	0.000	0.00
P-6	88	J-8	J-2	PVC	120.0	8.0	23.81	0.15	0.000	0.00
P-1	134	R-1	J-1	PVC	120.0	8.0	0.00	0.00	0.000	0.00

Auburn Heights
FlexTable: Reservoir Table
Active Scenario: Max Day + Fire Flow

Label	Elevation (ft)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
R-1	6,503.60	1,252.00	6,503.60
R-2	6,503.60	808.43	6,503.60
R-3	6,503.60	1,490.13	6,503.60

Auburn Heights
FlexTable: Junction Table
Active Scenario: Max Day + Fire Flow

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-2	6,292.54	0.00	6,495.94	88
J-3	6,284.45	23.48	6,499.80	93
J-4	6,280.10	9.02	6,503.05	96
J-5	6,292.28	7.22	6,491.78	86
J-1	6,294.20	7.20	6,499.30	89
J-6	6,287.88	1.65	6,503.60	93
J-7	6,278.11	0.00	6,503.60	98
J-8	6,292.39	3,501.99	6,489.11	85

Auburn Heights

FlexTable: Pipe Table

Active Scenario: Max Day + Fire Flow

Label	Length (Scaled) (ft)	Start Node	Stop Node	Material	Hazen-Williams C	Diameter (in)	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)	Headloss (ft)
P-3	292	J-2	J-3	PVC	120.0	8.0	-775.93	4.95	0.013	3.86
P-4	232	J-3	J-4	PVC	120.0	8.0	-799.40	5.10	0.014	3.25
P-5	38	J-4	R-2	PVC	120.0	8.0	-808.43	5.16	0.014	0.55
P-8	267	R-3	J-5	PVC	120.0	8.0	1,488.48	9.50	0.044	11.82
P-2	106	J-1	J-2	PVC	120.0	8.0	1,244.80	7.95	0.032	3.36
EX P-9	126	R-3	J-6	Ductile Iron	120.0	20.0	1.65	0.00	0.000	0.00
EX P-10	195	J-6	J-7	Ductile Iron	120.0	20.0	0.00	0.00	0.000	0.00
P-7	61	J-5	J-8	PVC	120.0	8.0	1,481.26	9.45	0.044	2.67
P-6	88	J-8	J-2	PVC	120.0	8.0	-2,020.73	12.90	0.078	6.83
P-1	134	R-1	J-1	PVC	120.0	8.0	1,252.00	7.99	0.032	4.30

Auburn Heights

FlexTable: Reservoir Table

Active Scenario: Max Day + Fire Flow - Loop Out of Service

Label	Elevation (ft)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
R-1	6,503.60	0.00	6,503.60
R-2	6,503.60	1,463.66	6,503.60
R-3	6,503.60	2,086.90	6,503.60

Auburn Heights

FlexTable: Isolation Valve Table

Active Scenario: Max Day + Fire Flow - Loop Out of Service

ID	Label	Is Operable?	Diameter (Valve) (in)	Elevation (ft)	Referenced Pipe	Flow (gpm)	Is Closed?
89	ISO-1	True	8.0	6,295.56	P-1	0.00	True

Auburn Heights

FlexTable: Junction Table

Active Scenario: Max Day + Fire Flow - Loop Out of Service

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-2	6,292.54	0.00	6,480.10	81
J-3	6,284.45	23.48	6,492.10	90
J-4	6,280.10	9.02	6,501.96	96
J-5	6,292.28	7.22	6,481.54	82
J-1	6,294.20	7.20	6,480.10	80
J-6	6,287.88	1.65	6,503.60	93
J-7	6,278.11	0.00	6,503.60	98
J-8	6,292.39	3,501.99	6,476.53	80

Auburn Heights

FlexTable: Pipe Table

Active Scenario: Max Day + Fire Flow - Loop Out of Service

Label	Length (Scaled) (ft)	Start Node	Stop Node	Material	Hazen-Williams C	Diameter (in)	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)	Headloss (ft)
P-3	292	J-2	J-3	PVC	120.0	8.0	-1,431.16	9.13	0.041	12.00
P-4	232	J-3	J-4	PVC	120.0	8.0	-1,454.64	9.28	0.042	9.86
P-5	38	J-4	R-2	PVC	120.0	8.0	-1,463.66	9.34	0.043	1.64
P-8	267	R-3	J-5	PVC	120.0	8.0	2,085.25	13.31	0.083	22.06
P-2	106	J-1	J-2	PVC	120.0	8.0	-7.20	0.05	0.000	0.00
EX P-9	126	R-3	J-6	Ductile Iron	120.0	20.0	1.65	0.00	0.000	0.00
EX P-10	195	J-6	J-7	Ductile Iron	120.0	20.0	0.00	0.00	0.000	0.00
P-7	61	J-5	J-8	PVC	120.0	8.0	2,078.03	13.26	0.082	5.01
P-6	88	J-8	J-2	PVC	120.0	8.0	-1,423.96	9.09	0.041	3.57
P-1	134	R-1	J-1	PVC	120.0	8.0	0.00	0.00	0.000	0.00

Appendix D

WASTEWATER FLOWS

30 15 0 30 60

SCALE: 1" = 30'

OMNI GULCH

PROPERTY BOUNDARY

AUBURN RIDGE APARTMENTS

PROPERTY BOUNDARY

BUILDING 3
UNITS: 52
SFE: 33.8

DP 3

BUILDING 5
UNITS: 20
SFE: 13

DP 4

TIE TO EXISTING

BUILDING 2
UNITS: 8
SFE: 5.2

DP 2

BUILDING 4
UNITS: 16
SFE: 10.4

CLUBHOUSE
4764 SQFT
SFE: 2.38

DP 5

PROPERTY BOUNDARY

PROPOSED 6" SS SERVICE
TIE TO EXISTING

EXISTING 8" SS

DP 1

BUILDING 1
UNITS: 8
SFE: 5.2

PROPERTY BOUNDARY

PROPOSED 6" SS SERVICE
TIE TO EXISTING

DP 6

CASTLE HIGHLANDS
FILING 2

TRACT J

BLOCK 5

MILLBROOK COURT

AUBURN DRIVE

LEGEND

- DESIGN POINT
- DESIGN AREA BOUNDARY
- PROPOSED SANITARY SEWER (SS) WITH MANHOLE
- PROPOSED SEWER SERVICE
- 5615 EXISTING 5' CONTOUR
- 5616 EXISTING 1' CONTOUR
- 5620 PROPOSED 5' CONTOUR
- 5607 PROPOSED 1' CONTOUR

Routing Design Point	Incldued Upstream Routing DP's	Design Point Loading (GPD)	Cumilative Loading (GPD)	Pipe Diamter (in)	Min Slope (%)	Max Slope	Min Velocity (ft/s)	Percent Full (%)
DP1	--	5304.00	5304.00	10	0.28	5.5	0.69	5.6
DP2	DP1	5304.00	10608.00	10	0.28	5.5	0.85	7.7
DP3	DP1-DP2	34476.00	45084.00	10	0.28	5.5	1.32	15.3
DP4	DP1-DP3	13260.00	58344.00	10	0.28	5.5	1.42	17.4
DP5	--	2429.64	2429.64	6	2.0	2.0	1.16	4.6
DP6	--	10608.00	10608.00	6	2.0	2.0	1.81	9.2

CALL 811
TWO WORKING DAYS
BEFORE YOU DIG
1-800-922-1987
UNCC UTILITY NOTIFICATION CENTER OF COLORADO

N:\PROJECTS\31207 AUBURN HTS\DOCS\ENGINEERING\WATER & SEWER\SEWER\SEWER DESIGN POINTS.DWG, KMGRAY, 9/16/21

No.	Revisions	Date	Init.	Appr.	Date

Westwood
10333 E DRY CREEK RD.
SUITE 240
ENGLEWOOD, CO 80112
TEL: 720.482.9526
Westwoodps.com
Westwood Professional Services, Inc.

AUBURN VENTURES II, LP
ATTN: JOHN CICHON
15957 N 81TH STREET
SUITE 101
SCOTTSDALE, ARIZONA, 85260

AUBURN HEIGHTS
SANITARY SEWER LAYOUT

SCALE: AS SHOWN
FILE NO: R0031207.00
DRAWN BY: KMG
CHECKED BY: MEL
DATE: SEPT 2021
SHEET NUMBER: SS1

AUBURN HEIGHTS
WASTEWATER DEMAND CALCULATIONS
TOWN OF CASTLE ROCK

Building Number	Units	Square Footage (ft)	Average Daily Flow (ADF) (gpd)	Peaking Factor	Infiltration and Inflow (10% ADF)	Peak Design Flow (PDF) (gpd)
1	8	11019	1040	5	104	5304
2	8	11019	1040	5	104	5304
3	52	65061	6760	5	676	34476
4	16	21638	2080	5	208	10608
5	20	27126	2600	5	260	13260
Clubhouse	--	4764	476.4	5	47.64	2429.64
Total	104	140627	13996.4	-	1399.64	71381.64

1. Multi-Family Residential demand assumed to be 130 gpd/dwelling unit
2. Clubhouse demand assumed to be 0.1 gpd/SF utilizing retail/office design demand.
3. Peaking Factor shall be a maximum of 5

AUBURN HEIGHTS
WASTEWATER ROUTING CALCULATIONS
TOWN OF CASTLE ROCK

Routing Design Point	Incldued Upstream Routing DP's	Design Point Loading (GPD)	Cumilative Loading (GPD)	Pipe Diamter (in)	Min Slope (%)	Max Slope	Min Velocity (ft/s)	Percent Full (%)
DP1	--	5304.00	5304.00	10	0.28	5.5	0.69	5.6
DP2	DP1	5304.00	10608.00	10	0.28	5.5	0.85	7.7
DP3	DP1-DP2	34476.00	45084.00	10	0.28	5.5	1.32	15.3
DP4	DP1-DP3	13260.00	58344.00	10	0.28	5.5	1.42	17.4
DP5	--	2429.64	2429.64	6	2.0	2.0	1.16	4.6
DP6	--	10608.00	10608.00	6	2.0	2.0	1.81	9.2

1. DP5 and DP6 are designed as 6 inch services.

Commercial Business Building Permit

Grease Interceptor Requirement

All Commercial Business Building Permits for new business and construction of new buildings, remodels, or tenant improvement permits will be required to comply with Town Code 13.05, Grease Interceptors Required. Applicant will be required to submit an Industry Information Questionnaire through Plum Creek Water Reclamation Authority (PCWRA) to verify if the business will require an oil/grease interceptor. Please go to the PCWRA website at:

https://www.pcwracolorado.org/pretreatment/commercial_businesses/index.php

CONSTRUCTION DRAWINGS

Please note PCWRA requires all new commercial buildings to provide a stub-out for a separate waste line for future interceptor installation, if not proposed with the project. All drainage fixtures and grease waste lines that are tied to the oil/grease must be shown in the construction drawings as well as the location of the oil/grease.

ACKNOWLEDGEMENT

The applicant must sign and date this form to acknowledge that the applicant has read and understands the Town's Code requirement regarding Grease Interceptors, PCWRA's requirement to complete an Industry Information Questionnaire and Food Service Application, and the Town's requirement that a letter from PCWRA must be provided with the Town of Castle Rock Building Permit. This signed form is required to be included in the Utility Report with the Predevelopment Plan (PDP), Site Development Plan (SDP) and Construction Document (CD) submittals.

AUBURN HEIGHTS APARTMENTS

Name of Project

1001 AUBURN DR. CASTLE ROCK, CO 80109

Address of property, if known

Patrick W. Nook

Signature

12/02/2021

Date

Appendix E

WASTEWATER HYDRAULIC MODELING

Design Point 1

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data		
Roughness Coefficient	0.011	
Channel Slope	0.280	%
Diameter	10.0	in
Discharge	5,304.00	gpd

Results		
Normal Depth	0.6	in
Flow Area	0.0	ft²
Wetted Perimeter	0.4	ft
Hydraulic Radius	0.4	in
Top Width	0.38	ft
Critical Depth	0.5	in
Percent Full	5.6	%
Critical Slope	0.614	%
Velocity	0.69	ft/s
Velocity Head	0.01	ft
Specific Energy	0.05	ft
Froude Number	0.686	
Maximum Discharge	952,548.42	gpd
Discharge Full	885,510.11	gpd
Slope Full	0.000	%
Flow Type	Subcritical	

GVF Input Data		
Downstream Depth	0.0	in
Length	0.0	ft
Number Of Steps	0	

GVF Output Data		
Upstream Depth	0.0	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.0	%
Normal Depth Over Rise	6.8	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.6	in
Critical Depth	0.5	in
Channel Slope	0.280	%
Critical Slope	0.614	%

Design Point 2

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data		
Roughness Coefficient	0.011	
Channel Slope	0.280	%
Diameter	10.0	in
Discharge	10,608.00	gpd

Results		
Normal Depth	0.8	in
Flow Area	0.0	ft²
Wetted Perimeter	0.5	ft
Hydraulic Radius	0.5	in
Top Width	0.44	ft
Critical Depth	0.7	in
Percent Full	7.7	%
Critical Slope	0.560	%
Velocity	0.85	ft/s
Velocity Head	0.01	ft
Specific Energy	0.08	ft
Froude Number	0.718	
Maximum Discharge	952,548.42	gpd
Discharge Full	885,510.11	gpd
Slope Full	0.000	%
Flow Type	Subcritical	

GVF Input Data		
Downstream Depth	0.0	in
Length	0.0	ft
Number Of Steps	0	

GVF Output Data		
Upstream Depth	0.0	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.0	%
Normal Depth Over Rise	9.4	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.8	in
Critical Depth	0.7	in
Channel Slope	0.280	%
Critical Slope	0.560	%

Design Point 3

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data		
Roughness Coefficient	0.011	
Channel Slope	0.280	%
Diameter	10.0	in
Discharge	45,084.00	gpd

Results		
Normal Depth	1.5	in
Flow Area	0.1	ft²
Wetted Perimeter	0.7	ft
Hydraulic Radius	0.9	in
Top Width	0.60	ft
Critical Depth	1.4	in
Percent Full	15.3	%
Critical Slope	0.467	%
Velocity	1.32	ft/s
Velocity Head	0.03	ft
Specific Energy	0.15	ft
Froude Number	0.781	
Maximum Discharge	952,548.42	gpd
Discharge Full	885,510.11	gpd
Slope Full	0.001	%
Flow Type	Subcritical	

GVF Input Data		
Downstream Depth	0.0	in
Length	0.0	ft
Number Of Steps	0	

GVF Output Data		
Upstream Depth	0.0	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.0	%
Normal Depth Over Rise	18.8	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	1.5	in
Critical Depth	1.4	in
Channel Slope	0.280	%
Critical Slope	0.467	%

Design Point 4

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data		
Roughness Coefficient	0.011	
Channel Slope	0.280	%
Diameter	10.0	in
Discharge	58,344.00	gpd

Results		
Normal Depth	1.7	in
Flow Area	0.1	ft²
Wetted Perimeter	0.7	ft
Hydraulic Radius	1.1	in
Top Width	0.63	ft
Critical Depth	1.5	in
Percent Full	17.4	%
Critical Slope	0.456	%
Velocity	1.42	ft/s
Velocity Head	0.03	ft
Specific Energy	0.18	ft
Froude Number	0.790	
Maximum Discharge	952,548.42	gpd
Discharge Full	885,510.11	gpd
Slope Full	0.001	%
Flow Type	Subcritical	

GVF Input Data		
Downstream Depth	0.0	in
Length	0.0	ft
Number Of Steps	0	

GVF Output Data		
Upstream Depth	0.0	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.0	%
Normal Depth Over Rise	21.3	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	1.7	in
Critical Depth	1.5	in
Channel Slope	0.280	%
Critical Slope	0.456	%

Worksheet for Design Point 5

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data		
Roughness Coefficient	0.011	
Channel Slope	2.000	%
Diameter	6.0	in
Discharge	2,429.64	gpd

Results		
Normal Depth	0.3	in
Flow Area	0.0	ft²
Wetted Perimeter	0.2	ft
Hydraulic Radius	0.2	in
Top Width	0.21	ft
Critical Depth	0.4	in
Percent Full	4.6	%
Critical Slope	0.671	%
Velocity	1.16	ft/s
Velocity Head	0.02	ft
Specific Energy	0.04	ft
Froude Number	1.650	
Maximum Discharge	651,968.15	gpd
Discharge Full	606,084.03	gpd
Slope Full	0.000	%
Flow Type	Supercritical	

GVF Input Data		
Downstream Depth	0.0	in
Length	0.0	ft
Number Of Steps	0	

GVF Output Data		
Upstream Depth	0.0	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.0	%
Normal Depth Over Rise	4.6	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.3	in
Critical Depth	0.4	in
Channel Slope	2.000	%
Critical Slope	0.671	%

Worksheet for Design Point 6

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data		
Roughness Coefficient	0.011	
Channel Slope	2.000	%
Diameter	6.0	in
Discharge	10,608.00	gpd

Results		
Normal Depth	0.6	in
Flow Area	0.0	ft²
Wetted Perimeter	0.3	ft
Hydraulic Radius	0.4	in
Top Width	0.29	ft
Critical Depth	0.8	in
Percent Full	9.2	%
Critical Slope	0.550	%
Velocity	1.81	ft/s
Velocity Head	0.05	ft
Specific Energy	0.10	ft
Froude Number	1.798	
Maximum Discharge	651,968.15	gpd
Discharge Full	606,084.03	gpd
Slope Full	0.001	%
Flow Type	Supercritical	

GVF Input Data		
Downstream Depth	0.0	in
Length	0.0	ft
Number Of Steps	0	

GVF Output Data		
Upstream Depth	0.0	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.0	%
Normal Depth Over Rise	9.2	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.6	in
Critical Depth	0.8	in
Channel Slope	2.000	%
Critical Slope	0.550	%

Appendix F

EXISTING WASTEWATER SYSTEM ANALYSIS

AUBURN HEIGHTS
WASTEWATER OFFSITE DEMAND CALCULATIONS
TOWN OF CASTLE ROCK

Development	Units	Use	Average Daily Flow (ADF) (gpd)	Peaking Factor	Infiltration and Inflow (10% ADF)	Peak Design Flow (PDF) (gpd)
Auburn Brook Apartments	96	RMF	12480	5	1248	63648
Auburn Ridge Apartments	90	RMF	11700	5	1170	59670
Reserve at Castle Highlands	200	RMF	26000	5	2600	132600
Castle Highlands Filing 2	131	RSF	26200	5	2620	133620
Total	517		76380		7638	389538
Auburn Heights (Project Site)			13996.4	5	1399.64	71381.64
Total			90376.4		9037.64	460919.64

1. Residential Multi-Family (RMF) demand assumed to be 130 gpd/dwelling unit
2. Residential Single-Family (RSF) demand assumed to be 200 gpd/dwelling unit
3. Number of units for the Auburn Brook Apartments was determined using the Site Development Plan, Amendment No. 2, Lot 3, Auburn Ridge, Amendment No. 1.
4. Number of units for the Auburn Ridge Apartments was determined using the Lot 1, Auburn Ridge Final PD Site Plan.
5. Number of units for the Reserve at Castle Highlands was determined using Final PD Site Plan Castle Highlands Filing 1, 1st Amendment.
3. Peaking Factor shall be a maximum of 5

Worksheet for Existing Auburn Drive SS - MAX SLOPE

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data		
Roughness Coefficient	0.011	
Channel Slope	7.500	%
Diameter	8.0	in
Discharge	460,919.00	gpd

Results		
Normal Depth	2.3	in
Flow Area	0.1	ft²
Wetted Perimeter	0.8	ft
Hydraulic Radius	1.3	in
Top Width	0.60	ft
Critical Depth	4.8	in
Percent Full	29.0	%
Critical Slope	0.558	%
Velocity	8.51	ft/s
Velocity Head	1.12	ft
Specific Energy	1.32	ft
Froude Number	4.028	
Maximum Discharge	2,719,017.33	gpd
Discharge Full	2,527,658.74	gpd
Slope Full	0.249	%
Flow Type	Supercritical	

GVF Input Data		
Downstream Depth	0.0	in
Length	0.0	ft
Number Of Steps	0	

GVF Output Data		
Upstream Depth	0.0	in
Profile Description	N/A	
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.0	%
Normal Depth Over Rise	29.0	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	2.3	in
Critical Depth	4.8	in
Channel Slope	7.500	%
Critical Slope	0.558	%

Worksheet for Existing Auburn Drive SS - MIN SLOPE

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data		
Roughness Coefficient	0.011	
Channel Slope	0.400	%
Diameter	8.0	in
Discharge	460,919.00	gpd

Results		
Normal Depth	5.4	in
Flow Area	0.2	ft²
Wetted Perimeter	1.3	ft
Hydraulic Radius	2.3	in
Top Width	0.63	ft
Critical Depth	4.8	in
Percent Full	67.0	%
Critical Slope	0.557	%
Velocity	2.87	ft/s
Velocity Head	0.13	ft
Specific Energy	0.57	ft
Froude Number	0.802	
Maximum Discharge	627,930.16	gpd
Discharge Full	583,737.78	gpd
Slope Full	0.249	%
Flow Type	Subcritical	

GVF Input Data		
Downstream Depth	0.0	in
Length	0.0	ft
Number Of Steps	0	

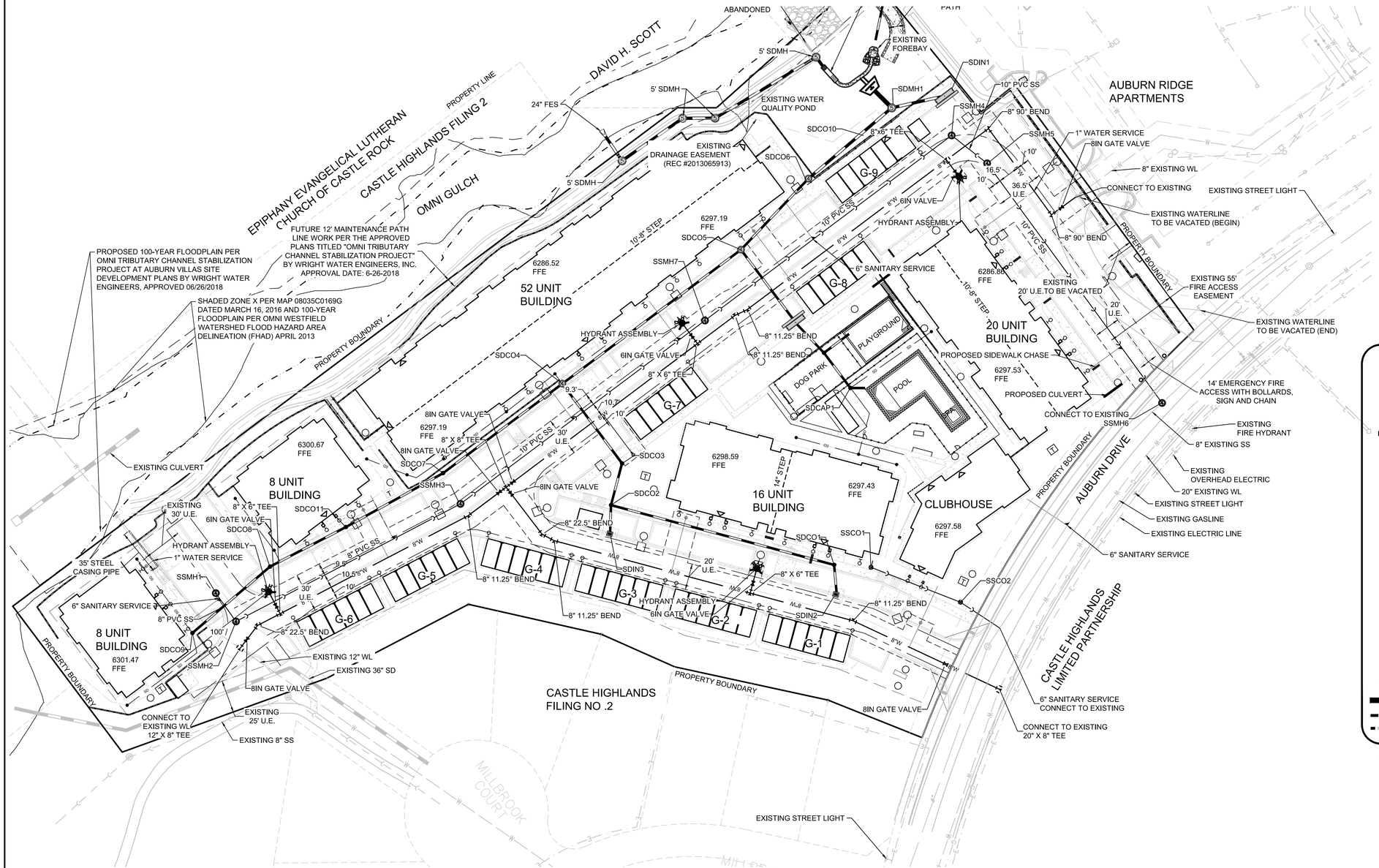
GVF Output Data		
Upstream Depth	0.0	in
Profile Description	N/A	
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.0	%
Normal Depth Over Rise	29.0	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	5.4	in
Critical Depth	4.8	in
Channel Slope	0.400	%
Critical Slope	0.557	%

Appendix G

MAPS AND PLANS

DOUGLAS COUNTY CONTROL MONUMENT, 3010030, BEING A 3" DIAMETER BRASS CAP SET IN CONCRETE ATOP OF A STORM INLET, 650', MORE OR LESS, NE OF THE INTERSECTION OF W WOLFENSBERGER RD AND COACHLINE RD, LOCATED ON THE NORTH SIDE OF COACHLINE RD, HAVING A PUBLISHED ELEVATION OF 6394.91, NAVID 1988 DATUM

BASIS OF BEARING:
THE EAST LINE, NE 1/4, NW 1/4, SEC 10 BEARS N0°35'11"E PER THE FINAL PLAT FOR CASTLE HIGHLANDS FILING NO. 2. IT IS MONUMENTED AT THE NORTH 1/4 CORNER SECTION 10 BY A 2-1/2" ALUMINUM CAP STAMPED "HANNIGAN AND ASSOCIATES 1/4 COR S3S10 T8S, R67 W 1995 PLS 25629" AND AT THE SE CORNER, N 1/2, NW 1/4, SECTION 10 BY A 3-1/2" ALUMINUM CAP STAMPED "TST T8S R76W CN 1/16 S10 LS 12046 1984".



40 20 0 40 80

SCALE: 1" = 40'

LEGEND

PROPOSED CAP WITH END OF LINE BLOWOFF	CENTERLINE
PROPOSED REDUCER	RIGHT-OF-WAY
PROPOSED VALVE	PROPERTY LINE
PROPOSED FIRE HYDRANT	EDGE OF PAVEMENT
PROPOSED WL FITTING WITH THRUST BLOCK	PROPOSED DIRECTION OF FLOW
PROPOSED FLARED END SECTION	1.0% PROPOSED SLOPE & DIRECTION
PROPOSED LOW POINT BLOW-OFF	5615 EXISTING 5' CONTOUR
PROPOSED AIR VALVE	5616 EXISTING 1' CONTOUR
EXISTING BLOW OFF VALVE	5620 PROPOSED 5' CONTOUR
EXISTING VALVE	5607 PROPOSED 1' CONTOUR
EXISTING FIRE HYDRANT	5620 BASE FLOOD ELEVATION
PROPOSED LIGHT POLE	PROPOSED STORM DRAIN
PROPOSED SIDEWALK	PROPOSED SEWER LINE WITH MANHOLE
PROPOSED SIDEWALK RAMP	PROPOSED SEWER LATERAL
10.00 EXISTING ELEVATION	8"W PROPOSED WATER LINE
10.00 PROPOSED DESIGN ELEVATION	PROPOSED WATER LATERAL W/ METER
PROPOSED STORM DRAIN INLET	SECTION LINE
PROPOSED STORM DRAIN MANHOLE	FO EXISTING FIBER OPTIC LINE
PROPOSED RETAINING WALL	HV EXISTING OVERHEAD HIGH VOLTAGE LINE
PROPOSED BUILDING STEP	W EXISTING WATER LINE
TURN DOWN EDGE SIDEWALK	E EXISTING ELECTRIC LINE
	EXISTING SANITARY SEWER LINE
	PROPOSED PEDESTRIAN RAIL
	PROPOSED EXPOSED FOUNDATION

NOTE:
1. DIMENSIONS ARE CENTERLINE OF PIPE, UNLESS OTHERWISE STATED.
2. ALL SANITARY SEWER MAIN SHALL BE 8 (INCH) DIAMETER PVC UNLESS OTHERWISE STATED
3. ALL WATER MAINS SHALL BE 8 (INCH) DIAMETER PVC UNLESS OTHERWISE STATED.

PROFESSIONAL ENGINEER CERTIFICATION

I HEREBY AFFIRM THAT THESE FINAL CONSTRUCTION PLANS WERE PREPARED UNDER MY DIRECT SUPERVISION, IN ACCORDANCE WITH ALL APPLICABLE TOWN OF CASTLE ROCK AND STATE OF COLORADO STANDARDS AND STATUTES, RESPECTIVELY; AND THAT I AM FULLY RESPONSIBLE FOR ALL DESIGN AND REVISIONS RELATIVE TO SAID PLANS.

MELINDA E LUNDQUIST DATE
REGISTERED PROFESSIONAL ENGINEER
COLORADO PE NO. 38413
WESTWOOD PROFESSIONAL SERVICES

TOWN APPROVAL BLOCK

TOWN OF CASTLE ROCK APPROVAL
PLANS ARE HEREBY APPROVED FOR ONE YEAR FROM DATE OF DEVELOPMENT SERVICES APPROVAL

Approved By:

DEVELOPMENT SERVICES Date

CALL 811
TWO WORKING DAYS
BEFORE YOU DIG
1-800-922-1987
UNCC UTILITY NOTIFICATION CENTER OF COLORADO

N:\0073995.0106 CAD\ENGINEERING\SHEET SETS\CDS\UTILITY PLAN.DWG CSLOCKHART, 10/22/26

No.	Revisions	Date	Init.	Appr.	Date

Westwood
10333 E DRY CREEK RD.
SUITE 240
ENGLEWOOD, CO 80112
TEL: 720.482.9526
Westwoodps.com
Westwood Professional Services, Inc.

AUBURN VENTURES II, LP
ATTN: JOHN CICHON
15957 N 81TH STREET
SUITE 101
SCOTTSDALE, ARIZONA, 85260

AUBURN HEIGHTS
CONSTRUCTION DRAWINGS
GENERAL UTILITY PLAN

SCALE:	FILE NO:
AS SHOWN	R0031207.00

DRAWN BY:	CHECKED BY:	DATE:
KMG	MEL	JANUARY 2022

SHEET NUMBER 4

AUBURN HEIGHTS VICINITY MAP





CASTLE ROCK Water
Securing our future drop by drop

0 50 100 200 Feet

Date: 3/11/2021

1 inch = 100 feet

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 it's 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) 733-6087. Copyright 2020, Town of Castle Rock Utilities Mapping.

Document Path: J:\GIS\Map Requests\2021\External_Requests\3_10_2021_Auburn\Auburn.mxd

Ref #2019018072, Date: 4/8/2019 12:21 PM, Pages: 1 of 10 ,RECORDING $103.00
Douglas County, CO. Merlin Klotz, Clerk and Recorder

SITE DEVELOPMENT PLAN, AMENDMENT NO. 2

LOT 3, AUBURN RIDGE, AMENDMENT NO. 1

4.78 ACRES

LOCATED IN THE SOUTHEAST QUARTER OF SECTION 3, TOWNSHIP 8 SOUTH, RANGE 67 WEST OF THE 6TH PRINCIPAL MERIDIAN TOWN OF CASTLE ROCK, COUNTY OF DOUGLAS, STATE OF COLORADO

OWNERSHIP CERTIFICATION:

THE UNDERSIGNED ARE ALL OF THE OWNERS OF THE PROPERTY DESCRIBED HEREIN IN THE TOWN OF CASTLE ROCK, COUNTY OF DOUGLAS AND STATE OF COLORADO.

Mark Breen
AUBURN DEVELOPERS III, LLC, A COLORADO LIMITED LIABILITY COMPANY

SIGNED THIS 29th DAY OF March 20 19

NOTARY BLOCK

SUBSCRIBED AND SWORN TO BEFORE ME THIS 29th DAY OF March 20 19

BY Mark Breen AS Manager OF AUBURN DEVELOPERS III, LLC.

WITNESS MY HAND AND OFFICAL SEAL.

JANET MALEFORS
Notary Public - State of Arizona
MARICOPA COUNTY
My Commission Expires
February 19, 2022

Janet Malefors
NOTARY PUBLIC

MY COMMISSION EXPIRES February 19, 2022

TITLE CERTIFICATION:

I, Brenda Beckner, AN AUTHORIZED REPRESENTATIVE OF Land Title Guarantee Company A TITLE INSURANCE COMPANY LICENSED TO DO BUSINESS IN THE STATE OF COLORADO, HAVE MADE AN EXAMINATION OF THE PUBLIC RECORDS AND STATE THAT ALL OWNERS, MORTGAGEES AND LIENHOLDERS OF THE PROPERTY ARE LISTED IN THE CERTIFICATE OF OWNERSHIP AND LIENHOLDER SUBORDINATION CERTIFICATE

Brenda Beckner
AUTHORIZED REPRESENTATIVE

Land Title Guarantee Company
TITLE INSURANCE COMPANY

SIGNED THIS 3rd DAY OF April, 2019

NOTARY BLOCK
SUBSCRIBED AND SWORN TO BEFORE ME THIS 3rd DAY OF April, 2019 BY Brenda Beckner AS AUTHORIZED REPRESENTATIVE

WITNESS MY HAND AND OFFICAL SEAL.

Nicole Ludwig
NOTARY PUBLIC

NICOLE LUDWIG
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20164045661
My Commission Expires December 8, 2020

MY COMMISSION EXPIRES 12/8/20

STATEMENT OF DIRECTOR OF DEVELOPMENT SERVICES APPROVAL:

THIS SITE DEVELOPMENT PLAN AMENDMENT WAS APPROVED BY THE DIRECTOR OF DEVELOPMENT SERVICES OF THE TOWN OF CASTLE ROCK, COLORADO ON THE 5th DAY of April, 2019.

for Bill Detweiler

DIRECTOR OF DEVELOPMENT SERVICES

CIVIL ENGINEER'S STATEMENT:

I, Paul Murphy, BEING A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF COLORADO, HEREBY ATTEST THAT ALL GRADING, UTILITY AND DRAINAGE IMPROVEMENTS IDENTIFIED ON THIS SITE DEVELOPMENT PLAN HAVE BEEN DESIGNATED AND ENGINEERED IN CONFORMANCE WITH ALL TOWN OF CASTLE ROCK PUBLIC WORKS CONSTRUCTION STANDARDS.

Paul Murphy
REGISTERED PROFESSIONAL ENGINEER

4/4/2019
DATE

COLORADO REGISTERED DANIEL J. MADISON 50253 PROFESSIONAL ENGINEER

DOUGLAS COUNTY CLERK AND RECORDER'S CERTIFICATE:

THIS SITE DEVELOPMENT PLAN WAS FILED FOR RECORD IN THE OFFICE OF THE COUNTY CLERK AND RECORDER OF DOUGLAS COUNTY AT 12:26p.m. ON THE 8th DAY OF April, 2019 AT

RECEPTION NO. 2019018072.

DOUGLAS COUNTY CLERK AND RECORDER

BY: Kristy Mann
DEPUTY

DOUGLAS COUNTY CLERK AND RECORDER SEAL

GENERAL NOTES

WATER RIGHTS DEDICATION STATEMENT

THE PROVISION OF MUNICIPAL WATER TO THIS SUBDIVISION IS SUBJECT TO THE TERMS AND CONDITIONS OF THE AUBURN RIDGE ANNEXATION AND DEVELOPMENT AGREEMENT RECORDED UNDER RECEPTION NO. 2013004871 DATED JANUARY 18, 2013, AND ACCORDINGLY 29.65 SFE ARE DEBITED FROM THE WATER BANK.

1. The Town of Castle Rock requires that maintenance access be provided to all storm drainage facilities to assure continuous operational capability of the system. The Property Owner, subsequent owners, heirs, successors and assigns shall be responsible for the maintenance of all drainage facilities including, but not limited to, inlets, pipes, culverts, channels, ditches, hydraulic structures, and detention basins located on this property, unless modified by the Subdivision Improvements Agreement. Should the Owner fail to adequately maintain said facilities, the Town shall have the right to enter said property for the purposes of operation and maintenance. All such maintenance costs will be assessed to the Property Owner, subsequent owners, heirs, successors and assigns. The maintenance costs shall include all actual costs for labor, equipment and materials and a 25% fee.

2. Pursuant to Section 4.3E and 8.2.3A of the Town of Castle Rock Landscape Regulations the Property Owner, subsequent owners, heirs, successors and assigns shall be responsible for the proper maintenance of the area subject to the approved Site Development Plan. Landscaping within public rights-of-way is to be maintained by the adjacent private property owner or the Homeowner/Property Owner Association, as applicable. Landscaping shall be continuously maintained including necessary watering, weeding, pruning, mowing, pest control, and replacement of dead or diseased plant material. Upon written notice by the Town, the Owner will have 45 days to cure or replace damaged or dead landscape material. In the case of diseased landscape material, a shorter compliance period may be specified in said notice. The Town of Castle Rock Water Conservation Ordinance regulates times of seasonal irrigation and prohibits the wasting of potable water through improper irrigation.

3. The landscape and irrigation plans contained in the Site Development Plan are conceptual only and subject to change with review of the Construction Documents.

4. According to FEMA Preliminary Flood Insurance Rate Map Number 08035C0169G, Dated July 11, 2014, a portion of the site lies within a Shaded Zone X Floodplain.

5. Any street signs, striping, street lights and curb ramps are conceptual only and subject to Town review with the Construction Documents . These items shall comply with the Town of Castle Rock's regulations, standards and requirements.

6. The Developer shall conform to the Town of Castle Rock "Water Use Management Program Implementation Policy", as amended from time to time, for this project.

7. Approval of this conceptual Site Development Plan does not constitute approval of any deviations from Town of Castle Rock regulations and standards. All deviations from Town regulations and standards are subject to the appropriate procedures for approval.

8. No solid object (excluding fire hydrants, traffic control devices and traffic signs) exceeding thirty (30) inches in height above the flowline elevations of the adjacent street, including but not limited to buildings, utility cabinets, walls, fences, landscape plantings, crops, cut slopes, and berms shall be placed within sight distance lines and sight distance easements.

9. The purpose/use of all tracts and the dedication of all "tracts", to whom the tracts will be dedicated with the Plat and who will be responsible for "maintenance".

10. All Utility, Drainage, Emergency Access, Sight Distance and Public Access/Trail Easements as shown on the Site Development Plan shall be granted to the Town of Castle Rock with the Plat.

11. This Property is zoned planned development under the Auburn Ridge PD recorded under Reception No. 2019018071.

12. All emergency access roads, emergency access gates and signage shall comply with the Town of Castle Rock Fire Department requirements and shall be maintained by Auburn Ridge Ventures II and/or Celtic Property Management, LLC.

13. Unless otherwise noted, all lots shall have a 10-foot Utility Easement along the front and rear lot lines and along all public rights-of-way and shall have 5-foot Utility Easements along each side lot line. These Utility Easements are for the installation, maintenance and operation of utilities and drainage facilities including, but not limited to street lights, electric lines, gas lines, cable television lines, fiber optic lines and telephone lines, as well as perpetual right for ingress and egress for installation, maintenance and replacement of such lines.

14. Retaining walls , sections of retaining walls 4-feet in height or higher or tiered walls must be designed by a Structural Engineer licensed in the State of Colorado and must receive a Building Permit from the Town of Castle Rock prior to the issuance of the Public Works Permit. Retaining wall color and design will match Lot 1 - Auburn Ridge Senior Apartments.

15. A sign permit for each sign must be obtained from the Town of Castle Rock Building Division prior to placing any signs on the property. All signs must comply with the provisions of Title 19 (sign code regulations) of the municipal code.

16. Proposed tap sizes:
Building 1, 2, 3, 4, 5 and 6 - 1-1/2" Tap/Meter with a 2" service line to the building, 6" Sanitary, 6" Fire
Building 7 and 8 - 3/4" Tap/Meter with 1" Service line to the building, 4" Sanitary, 6 " Fire
Clubhouse - 1-1/2" Tap/Meter with a 3" Service line to the building, 6" Sanitary, 6" Fire
Irrigation - 3/4" Tap

FIRE NOTES

1. If fire apparatus access roads or water supply for fire protection is required to be installed, such protection shall be installed and made serviceable prior to vertical construction.

2. Fire hydrant(s) are required to be installed and made serviceable prior to and during the time of construction.

3. Approved fire apparatus access roads shall be provided for every facility, building or portion of a building constructed or moved into, or within the jurisdiction. The fire apparatus access road shall extend to within 150 feet of all portions of the facility and all portions of the exterior walls of the first story of the buildingas measured by an approved route around the exterior of the building or facility.

4. Dead-end fire access roads in excess of 150 feet shall provide an approved area for turning around fire apparatus.

5. Fire apparatus access roads shall have an unobstructed width of not less than 20 feet, exclusive of shoulders, except for approved security gates and an unobstructed vertical clearance of not less than 13 feet, 6 inches.

6. Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus weighing at least 75,000 pounds, and shall be surfaced so as to provide all-weather driving capabilities. The term all-weather driving capabilities has been interpreted to mean either concrete or asphalt, or other approved driving surface designed by an engineer and approved by the Fire Department.

7. "No Parking Fire Lane" signs are required in areas that meet the following criteria and in areas designated by the Fire Prevention Bureau. Signs shall be posted on both sides of fire access roadways,public or private roadways and driveways less than 26 feet wide. Signs shall be posted on one side of fire access roadways, public or private roadways or driveways between 26 feet wide and 32 feet wide. No signage is required for fire access roadways, public or private roadways or driveways greater than or equal to 32 feet wide.

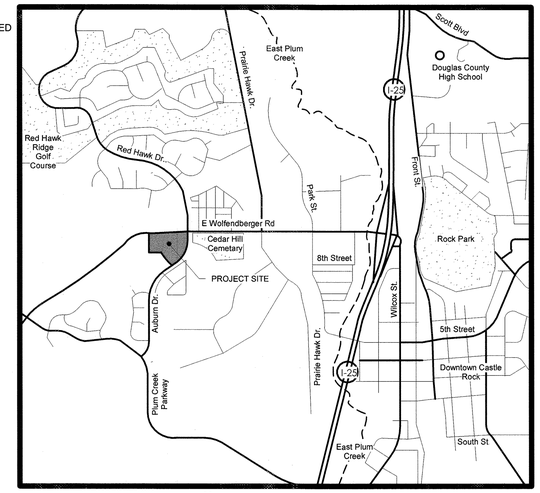
8. It is the responsibility of the property owner to maintain drive lanes for emergency vehicle ingress and egress, including snow removal.

BASIS OF BEARINGS:

Bearings used herein are based on the east line of the Northeast 1/4 of Section 10, Township 8 South, Range 67 West of the 6th Principal Meridian, as shown on the Castle Highlands Filing No. 2, County of Douglas, State of Colorado, being N 00°35'11" E, as monumented and occupied.

BENCKMARK:

Douglas County Monument 3.011025 witnessed by a brown, carsonite post located 230 feet west from the west end of Atchison Court along a dirt access road. Elevation = 6351.35 (NAVD 88)



VICINITY MAP
SCALE: N.T.S.

Unofficial Copy

LEGAL DESCRIPTION

LOT 3, AUBURN RIDGE, AMENDMENT NO. 1, ACCORDING TO THE RECORDED PLAT THEREOF, COUNTY OF DOUGLAS, STATE OF COLORADO.

SHEET INDEX

1 COVER SHEET
2 ARCHITECTURAL SITE PLAN
3 LANDSCAPE PLANS AND SCHEDULES
4 BUILDING 2 & 3 ELEVATIONS
5 BUILDING 6 ELEVATIONS
6 BUILDING 7 ELEVATIONS
7 BUILDING 8 ELEVATIONS
8 CLUBHOUSE ELEVATIONS
9 ACCESSORY STRUCTURE ELEVATIONS
10 LIGHTING PLAN

PURPOSE STATEMENT

The purpose of this Amendment # 2 is to add a new archway entry sign to the property and address comments from TCO site inspection dated November 2nd, 2018

SITE DATA:

SITE BREAKDOWN:

TOTAL NET SITE AREA:	208,217 S.F.	4.78 AC	100%
DRIVE, WALKS & PARKING:	96,625 S.F.	2.22 AC	46.40%
BUILDING COVERAGE:	64,651 S.F.	1.48 AC	31.05%
LANDSCAPE:	46,941 S.F.	1.08 AC	22.55%
TOTAL:	**208,217 S.F.**	**4.78 AC**	**100.00%**

DENSITY CALCULATION:

AREA A DWELLING UNITS:	24 UNITS ON 1.56 ACRES	15.4 UNITS/ACRE
AREA B DWELLING UNITS:	72 UNITS ON 3.22 ACRES	22.4 UNITS/ACRE
TOTAL NUMBER OF DWELLING UNITS:	**96 UNITS ON 4.78 ACRES**	**20.1 UNITS/ACRE**

BUILDING COVERAGE:

BUILDING		FOOTPRINT AREA	GROSS FLOOR AREA	SFE
BLDG 1 :		**11,212 S.F.**	**28,167 S.F.**	**3.33**
BLDG 2 & 3 :		**20,000 S.F.**	**60,000 S.F.**	**6.66**
BLDG 4, 5 & 6 :		**17,433 S.F.**	**34,866 S.F.**	**9.99**
BLDG 7 :		**2,278 S.F.**	**4,556 S.F.**	**1.00**
BLDG 8 :		**2,435 S.F.**	**4,870 S.F.**	**1.00**
CLUBHOUSE :		**4,283 S.F.**	**4,283 S.F.**	**6.67**
GARAGE TYPE 1	**(1)**	**1,470 S.F**	**1,470 S.F.**	**NA**
GARAGE TYPE 2	**(1)**	**2,750 S.F**	**2,750 S.F.**	**NA**
GARAGE TYPE 3	**(3)**	**2,790 S.F.**	**2,790 S.F.**	**NA**
IRRIGATION		**NA**	**NA**	**1.00**
TOTAL:		**64,651 S.F.**	**143,752 S.F.**	**29.65**

MAXIMUM ALLOWED BUILDING AREA : 40% = 83,286.80 S.F.

PARKING REQUIRED:

PD REQUIRED PARKING	(28) 1 BEDROOM (1.5) = 42 CARS (68) 2/3 BEDROOM (2) = 136 CARS VISITOR (1/4 UNITS) = 24 CARS	
HANDICAP PARKING	201-300 (TOTAL PARKING SPACES IN LOT)	= 7 SPACES REQUIRED OF TOTAL (1 VAN, 6 STANDARD REQUIRED)
TOTAL REQUIRED		**= 202 TOTAL SPACES**

PARKING PROVIDED:

STANDARD SURFACE PARKING STALLS: *(9'-0" x 16'-0" with a 2' overhang)*	131	
STANDARD SURFACE PARKING STALLS: *(9'-0" x 18'-0")*	20	
STANDARD SURFACE PARALLEL PARKING STALLS: *(9'-0" x 24'-0")*	3	
STANDARD GARAGE PARKING: *(10'-4" x 20'-0", 10'-4" x 23'-0")*	41	
TOTAL STANDARD PARKING:	**(195)**	
HANDICAP PARKING STALLS:		
GARAGE PARKING (14'-2" X 20'-0")	1	
STANDARD SURFACE: *(9'-0" x 16'-0" with a 2' overhang)*	5	
VAN ACCESSIBLE: *(9'-0" x 16'-0" with a 2' overhang)*	1	
TOTAL HANDICAP STALLS	**(7)**	
TOTAL PARKING PROVIDED:	**202 TOTAL SPACES ON SITE**	

PROPOSED BUILDING HEIGHTS:

BUILDING 1	44' - 0.25" MAX. RIDGE HEIGHT
BUILDING 2 & 3	43' - 4.5" MAX. RIDGE HEIGHT
BUILDING 4,5 & 6	34' - 8" MAX. RIDGE HEIGHT
BUILDING 7	25' - 3" MAX. RIDHE HEIGHT
BUILDING 8	26' - 10" MAX. RIDGE HEIGHT
CLUBHOUSE	20' - 8" MAX RIDGE HEIGHT
DETACHED GARAGE	17' - 8"" MAX. RIDGE HEIGHT

SETBACK DATA:

15'-0" SIDE TO AUBURN DRIVE
15'-0" SIDE TO WOLFENSBERGER ROAD
10'-0" SIDE TO AUBURN RIDGE PHASE I
10'-0" TO WEST SIDE (INTERIOR LOT)

20'-0" AUBURN RIDGE PHASE I SET BACK
TOTAL BETWEEN PHASE I AND III = 30'-0"
4'-11" MINIMUM BUILDING SEPERATION

LIST OF CONTACTS:

ARCHITECT:
PWN ARCHITECTS AND PLANNERS, INC.
4949 S. SYRACUSE ST., SUITE 320
DENVER, CO 80237

CIVIL ENGINEER / SURVEYOR:
MANHARD CONSULTING
10835 DOVER STREET, SUITE 700
WESTMINSTER, CO 80021

WATER AND SANITATION SEWER:
TOWN OF CASTLE ROCK
UTILITIES DEPARTMENT
175 KELLOGG COURT
CASTLE ROCK, CO 80109

PHONE, INTERNET, & CABLE:
COMCAST
8222 S YOSEMITE ST, SUITE 110
CENTENNIAL, CO 80112

CENTURY LINK
4400 FRONT STREET
CASTLE ROCK, CO 80104

OWNER:
AUBURN DEVELOPERS III, LLC
15957 N 81ST STREET, SUITE 101
SCOTTSDALE, AZ 58260

LANDSCAPE ARCHITECT:
GROUNDED BY DESIGN
P.O. BOX 1953
WHEAT RIDGE, CO 80034

GAS AND ELECTRIC:
INTERMOUNTAIN RURAL ELECTRIC ASSOC.
SEDALIA HEADQUARTERS
5496 NORTH US HWY 85
P.O. DRAWER A
SEDALIA, CO 80135

COVER SHEET

SITE DEVELOPMENT PLAN, AMENDMENT NO.2
LOT 3, AUBURN RIDGE, AMENDMENT NO. 1
SDP 19-0002

PLANS PREPARED FOR:

AUBURN DEVELOPERS III, LLC.

15957 N 81ST STREET, SUITE 101
SCOTTSDALE, AZ 58260

SHEET 1 OF 10

PWN Architects and Planners, Inc.
4949 S. Syracuse St. | Suite 320
Denver, CO 80237
voice.303.649.9880 fax.303.649.9870
pwnarchitects.com

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#2013065915, 08/07/2013 at 09:00:01 AM, 1 OF 19,Rec Fee $191.00 Douglas County
CO Jack Arrowsmith, Clerk & Recorder

LOT 1, AUBURN RIDGE
FINAL PD SITE PLAN

3.23 ACRES

A PORTION OF SECTION 3, TOWNSHIP 8 SOUTH, RANGE 67 WEST OF THE 6TH P.M.
TOWN OF CASTLE ROCK, COUNTY OF DOUGLAS, STATE OF COLORADO

SURVEYOR'S CERTIFICATE:

I, Brian Krombein A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THE SURVEY AND LEGAL DESCRIPTION REPRESENTED BY LOT 1, AUBURN RIDGE WAS MADE UNDER MY SUPERVISION AND THE MONUMENTS SHOWN THEREON ACTUALLY EXIST AND THIS SITE PLAN ACCURATELY REPRESENTS THAT SURVEY.

REGISTERED LAND SURVEYOR

COLORADO REGISTERED BRIAN KROMBEIN 34294 P.E. & P.L.S.

OWNERSHIP CERTIFICATION:
THE UNDERSIGNED ARE ALL OF THE OWNERS OF CERTAIN LANDS KNOWN HERIN AS LOT 1, AUBURN RIDGE IN THE TOWN OF CASTLE ROCK.

Jessica Breen
AUBURN VENTURES, LP, A COLORADO LIMITED PARTNERSHIP

SIGNED THIS 12th DAY OF March, 2013
NOTARY BLOCK
SUBSCRIBED AND SWORN TO BEFORE ME THIS 12th DAY OF March, 2013.
BY Jessica Breen

WITNESS MY HAND AND OFFICAL SEAL

OFFICIAL SEAL ADAM JAFFE Notary Public • State of Arizona MARICOPA COUNTY My Comm. Expires Oct. 25, 2013

Adam Jaffe
NOTARY PUBLIC
MY COMMISSION EXPIRES 10/25/2013

TITLE CERTIFICATION:

I, Brad Beard AN AUTHORIZED REPRESENTIATIVE OF LandTitle, A TITLE INSURANCE COMPANY LICENSED TO DO BUSINESS IN THE STATE OF COLORADO, HAVE MADE AN EXAMINATION OF THE PUBLIC RECORDS AND STATE THAT ALL OWNERS, MORTGAGEES AND LIENHOLDERS OF THE PROPERTY ARE LISTED IN THE CERTIFICATE OF OWNERSHIP AND LIENHOLDER SUBORDINATION CERTIFICATE.
SIGNED THIS 2nd DAY OF March, 2013

AUTHORIZED REPRESENTATIVE

LandTitle Guarantee Company
TITLE INSURANCE COMPANY

NOTARY BLOCK
SUBSCRIBED AND SWORN TO BEFORE ME THIS 2nd DAY OF March, 2013
BY

WITNESS MY HAND AND OFFICAL SEAL

PAMELLA S. MORRISSEY NOTARY PUBLIC STATE OF COLORADO NOTARY ID 20034001619 My Commission Expires January 15, 2015

NOTARY PUBLIC
MY COMMISSION EXPIRES 1-15-15

TOWN CERTIFICATION:

THIS FINAL PD SITE PLAN WAS APPROVED BY THE TOWN OF CASTLE ROCK, COLORADO, ON THE 22nd DAY OF April, 2013

DIRECTOR OF DEVELOPMENT SERVICES DATE 4/22/13

DOUGLAS COUNTY CLERK AND RECORDER'S CERTIFICATE:

THIS FINAL PD SITE PLAN WAS FILED FOR RECORD IN THE OFFICE OF THE COUNTY CLERK AND RECORDER OF DOUGLAS COUNTY AT (TIME) ON THE 7 DAY OF Aug, 2013 AT RECEPTION NO. 2013065915
DOUGLAS COUNTY CLERK AND RECORDER

DOUGLAS COUNTY, COLORADO SEAL 1861 1874

BY: Tulsey Lee
DEPUTY

Planning Commission Recommendation

This Final PD Site Plan was recommended for approval by the Planning Commission of the Town of Castle Rock, Colorado on the 8th day of November, 2012.

Chair Date 4/25/13

Director of Development Services Date 4/22/13

Town Council Approval

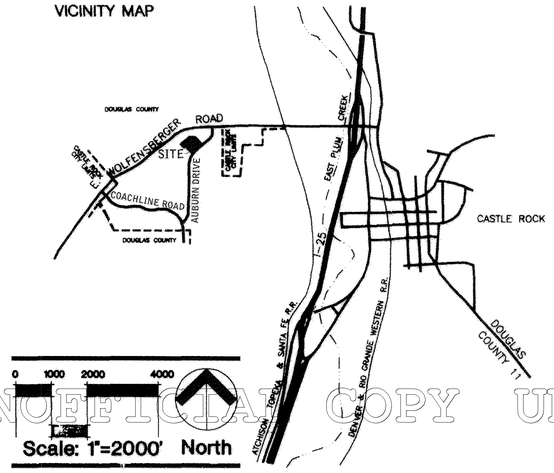
This Final PD Site Plan was approved by the Town Council of Castle Rock, Colorado, on the 15th day of January, 2013.

Paul Donahue Mayor 6-4-13 Date

Attest: Sally Misner Town Clerk 6-4-13 Date

CASTLE ROCK COLORADO SEAL 1874

VICINITY MAP



SHEET NUMBER	SHEET NAME
1	COVER SHEET
2	SITE PLAN
3	PHASING PLAN
4	GRADING PLAN
5	UTILITY PLAN
6	LANDSCAPE PLAN
7	LANDSCAPE SCHEDULES
8	LANDSCAPE DETAILS
9	PRELIMINARY IRRIGATION PLAN
10	PRELIMINARY IRRIGATION SCHEDULE
11	PRELIMINARY IRRIGATION SCHEDULE
12	PRELIMINARY IRRIGATION DETAILS
13	PRELIMINARY IRRIGATION DETAILS
14	PRELIMINARY IRRIGATION DETAILS
15	BUILDING ELEVATIONS
16	BUILDING ELEVATIONS
17	BUILDING ELEVATIONS
18	PHOTOMETRIC PLAN
19	PHOTOMETRIC DATA

LEGAL DESCRIPTION

LOT 1, AUBURN RIDGE, ACCORDING TO THE RECORDED PLAT THEREOF, COUNTY OF DOUGLAS, STATE OF COLORADO.

UNOFFICIAL COPY UNOFFICIAL COPY UNOFFICIAL COPY UNOFFICIAL COPY

GENERAL NOTES

1. The Town of Castle Rock requires that maintenance access be provided to all storm drainage facilities to assure continuous operational capability of the system. The Property Owner, subsequent owners, heirs, successors and assigns shall be responsible for the maintenance of all drainage facilities including, but not limited to, inlets, pipes, culverts, channels, ditches, hydraulic structures, and detention basins located on this property unless modified by the Subdivision Improvements Agreement. Should the Owner fail to adequately maintain said facilities, the Town shall have the right to enter said property for the purposes of operation and maintenance. All such maintenance costs will be assessed to the Property Owner, subsequent owners, heirs, successors and assigns. The maintenance costs shall include all actual costs for labor, equipment and materials and a 15% fee.

2. Pursuant to Section 3.3.4E5-7 and 4.2.5 of the Town of Castle Rock Landscape Regulations., the Owner of the property, subsequent owners, heirs, successors and assigns shall be responsible for the proper maintenance of the area subject to the approved Final PD Site Plan. Landscaping within public rights-of-way is to be maintained by the adjacent private property owner or the Homeowners Association, if applicable. Landscaping shall be continuously maintained including necessary watering, weeding, pruning, mowing, pest control, and replacement of dead or diseased plant material. Upon written notice by the Town, the Owner will have six (6) months to cure or replace damaged or dead landscape material. In the case of diseased landscape material, a shorter compliance period may be specified in said notice. The Town of Castle Rock Water Conservation Ordinance regulates times of seasonal irrigation and prohibits the wasting of potable water through improper irrigation.

3. No FEMA regulated floodplains or wetlands exist on the site.

4. Any street signs, striping and street lights are conceptual only and subject to Town review with the CDs. These items shall comply with the Town of Castle Rock's regulations, standards and requirements.

5. The Developer shall conform to the Town of Castle Rock 'Water Use Management Program Implementation Policy', as amended from time to time, for this project.

6. Approval of the Final PD Site Plan does not constitute approval of any deviations from Town of Castle Rock regulations and standards. All deviations from Town regulations and standards are subject to the appropriate procedures for approval.

7. No solid object exceeding 30" in height above the flowline elevation of the adjacent street, including but not limited to buildings, utility cabinets, walls, fences, trees, landscape plantings, cut slopes and berms, shall be placed in Sight Distance Easements as shown on this Plan.

WATER RIGHTS DEDICATION STATEMENT
THE PROVISION OF MUNICIPAL WATER TO THIS SUBDIVISION IS SUBJECT TO THE TERMS AND CONDITIONS OF THE AUBURN RIDGE ANNEXATION AND DEVELOPMENT AGREEMENT RECORDED SIMULTANEOUSLY HEREWITH, AND ACCORDINGLY 7.34 SFE ARE DEBITED HEREWITH.

LIST OF CONTACTS:

ARCHITECT:
PWN ARCHITECTS
9250 E. COSTILLA AVE., SUITE 620
GREENWOOD VILLAGE, CO 80111

CIVIL ENGINEER / SURVEYOR:
JONES ENGINEERING ASSOCIATES
2120 W. LITTLETON BLVD., SUITE 205
LITTLETON, CO 80120LANDSCAPE

OWNER:
AUBURN VENTURES LP
15957 N 81ST STREET, SUITE 101
SCOTTSDALE, AZ 58260

LANDSCAPE ARCHITECT:
GROUNDED BY DESIGN
P.O. BOX 1953
WHEAT RIDGE, CO 80034

SITE DATA:

SITE BREAKDOWN:

PHASE I:

TOTAL NET SITE AREA:	140,700 S.F	3.23 AC	100%
DRIVE, WALKS & PARKING:	61,858 S.F.	1.42 AC	43.96%
BUILDING COVERAGE:	34,282 S.F.	0.79 AC	24.46%
HARDSCAPE TOTAL:	96,140 S.F.	2.21 AC	68.42%
OPEN SPACE/LANDSCAPE:	44,560 S.F.	1.02 AC	31.58%

PHASE II:

TOTAL NET SITE AREA:	263,538 S.F	6.05 AC	100%
ALLOWABLE BUILDING COVERAGE:			40%

DENSITY CALCULATION:

PHASE I:

TOTAL NUMBER OF DWELLING UNITS: 90
90 UNITS ON 3.23 ACRES: 28 UNITS/ACRE

PHASE II:

TOTAL NUMBER OF DWELLING UNITS: 103
103 UNITS ON 6.05 ACRES: 17 UNITS/ACRE

BUILDING COVERAGE:

	GROUND	1ST FLOOR	2ND FLOOR	
BLDG 1 - MAIN BUILDING:	31,575 S.F.	31,173 S.F.	31,173 S.F.	= 93,928 G.S.F.
BLDG 2 - STORAGE UNITS:	898 S.F.			
BLDG 3 - DETACHED GARAGE:	1,809 S.F.			
TOTAL:	34,282 S.F.			

PARKING REQUIRED:

UNIT A (1 BEDROOM)	54 UNITS			
UNIT B (2 BEDROOMS)	24 UNITS			
UNIT C (2 BEDROOMS)	12 UNITS			
PUD REQUIRED PARKING	90 UNITS	x	1.20	= 108
HANDICAP PARKING	101-150	=	5 SPACES REQUIRED OF TOTAL (1 VAN, 4 STANDARD REQUIRED)	
TOTAL REQUIRED	108 TOTAL SPACES			

PARKING PROVIDED:

STANDARD SURFACE PARKING STALLS:	100
STANDARD GARAGE PARKING:	7
TOTAL STANDARD PARKING	107
HANDICAP PARKING STALLS:	
STANDARD SURFACE:	4
VAN ACCESSIBLE:	1
GARAGE:	1
TOTAL HANDICAP STALLS	6
TOTAL PARKING PROVIDED:	**113 TOTAL SPACES ON SITE**

PROPOSED BUILDING HEIGHTS:

MAIN BUILDING	45' - 0" MAX. RIDGE HEIGHT
MAIN BUILDING - TOWER FEATURE	60' - 0" MAX. HEIGHT
STORAGE UNITS	15' - 6" MAX. RIDGE HEIGHT
DETACHED GARAGE	15' - 6" MAX. RIDGE HEIGHT

SETBACK DATA:

15'-0" FRONT SETBACK
20'-0" REAR SETBACK
10'-0" SIDE SETBACK

LOT 1, AUBURN RIDGE
FINAL PD SITE PLAN

FPD 12-0006

PLANS PREPARED FOR:
AUBURN VENTURES LP
159577 N 81ST STREET, SUITE 101
SCOTTSDALE, AZ 58260

SHEET 1 OF 19

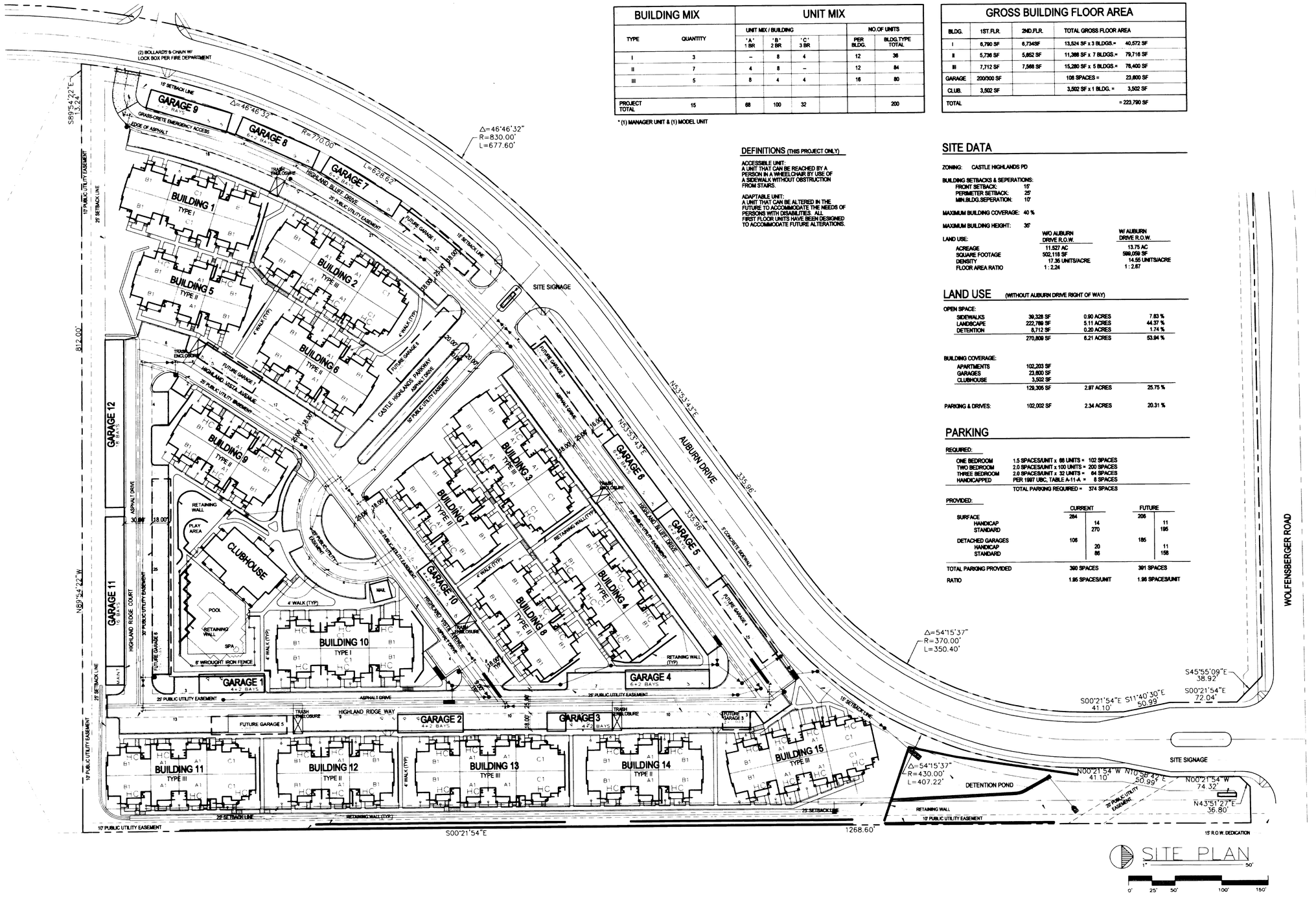
PWN Architects and Planners, Inc.
9250 E Costilla Avenue | Suite 620
Greenwood Village, CO 80112
voice.303.649.9680 fax.303.649.9870
pwnarchitects.com

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FINAL PD SITE PLAN

CASTLE HIGHLANDS FILING NO.1, 1ST AMENDMENT

A PART OF THE S 1/2 OF SECTION 3 AND THE N 1/2 OF SECTION 10, T.8S., R.67W., 6TH P.M.
TOWN OF CASTLE ROCK, COUNTY OF DOUGLAS, STATE OF COLORADO



BUILDING MIX

TYPE	QUANTITY
I	3
II	7
III	5
PROJECT TOTAL	15

UNIT MIX

UNIT MIX / BUILDING 'A' 1 BR	'B' 2 BR	'C' 3 BR		NO.OF UNITS PER BLDG.	BLDG.TYPE TOTAL
–	8	4		12	36
4	8	–		12	84
8	4	4		16	80
68	100	32			200

* (1) MANAGER UNIT & (1) MODEL UNIT

GROSS BUILDING FLOOR AREA

BLDG.	1ST.FLR.	2ND.FLR.	TOTAL GROSS FLOOR AREA	
I	6,790 SF	6,734SF	13,524 SF x 3 BLDGS.=	40,572 SF
II	5,736 SF	5,852 SF	11,588 SF x 7 BLDGS.=	79,716 SF
III	7,712 SF	7,568 SF	15,280 SF x 5 BLDGS.=	76,400 SF
GARAGE	200/300 SF		106 SPACES =	23,800 SF
CLUB.	3,502 SF		3,502 SF x 1 BLDG. =	3,502 SF
TOTAL				= 223,790 SF

DEFINITIONS (THIS PROJECT ONLY)

ACCESSIBLE UNIT:
A UNIT THAT CAN BE REACHED BY A PERSON IN A WHEELCHAIR BY USE OF A SIDEWALK WITHOUT OBSTRUCTION FROM STAIRS.

ADAPTABLE UNIT:
A UNIT THAT CAN BE ALTERED IN THE FUTURE TO ACCOMMODATE THE NEEDS OF PERSONS WITH DISABILITIES. ALL FIRST FLOOR UNITS HAVE BEEN DESIGNED TO ACCOMMODATE FUTURE ALTERATIONS.

SITE DATA

ZONING: CASTLE HIGHLANDS PD

BUILDING SETBACKS & SEPERATIONS:
- FRONT SETBACK: 15'
- PERIMETER SETBACK: 25'
- MIN.BLDG.SEPERATION: 10'

MAXIMUM BUILDING COVERAGE: 40 %

MAXIMUM BUILDING HEIGHT: 35'

LAND USE:	W/O AUBURN DRIVE R.O.W.	W/ AUBURN DRIVE R.O.W.
ACREAGE	11.527 AC	13.75 AC
SQUARE FOOTAGE	502,118 SF	599,059 SF
DENSITY	17.35 UNITS/ACRE	14.55 UNITS/ACRE
FLOOR AREA RATIO	1 : 2.24	1 : 2.67

LAND USE (WITHOUT AUBURN DRIVE RIGHT OF WAY)

OPEN SPACE:			
SIDEWALKS	39,328 SF	0.90 ACRES	7.83 %
LANDSCAPE	222,780 SF	5.11 ACRES	44.37 %
DETENTION	8,712 SF	0.20 ACRES	1.74 %
	270,809 SF	6.21 ACRES	53.94 %
BUILDING COVERAGE:			
APARTMENTS	102,203 SF		
GARAGES	23,800 SF		
CLUBHOUSE	3,502 SF		
	129,305 SF	2.97 ACRES	25.75 %
PARKING & DRIVES:	102,002 SF	2.34 ACRES	20.31 %

PARKING

REQUIRED:

ONE BEDROOM	1.5 SPACES/UNIT x 68 UNITS = 102 SPACES
TWO BEDROOM	2.0 SPACES/UNIT x 100 UNITS = 200 SPACES
THREE BEDROOM	2.0 SPACES/UNIT x 32 UNITS = 64 SPACES
HANDICAPPED	PER 1997 UBC, TABLE A-11.A = 8 SPACES
	TOTAL PARKING REQUIRED = 374 SPACES

PROVIDED:

	CURRENT		FUTURE	
SURFACE	284		206	
HANDICAP		14		11
STANDARD		270		195
DETACHED GARAGES	106		185	
HANDICAP		20		11
STANDARD		86		198
TOTAL PARKING PROVIDED	390 SPACES		391 SPACES	
RATIO	1.95 SPACES/UNIT		1.96 SPACES/UNIT	

SITE PLAN
1" = 50'
0' 25' 50' 100' 150'

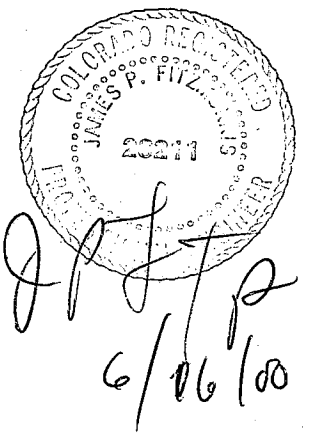
FINAL PD SITE PLAN
CASTLE HIGHLANDS
FILING NO.1
1ST AMENDMENT
2 OF 14

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CASTLE HIGHLANDS
FINAL UTILITY STUDY

Prepared for:

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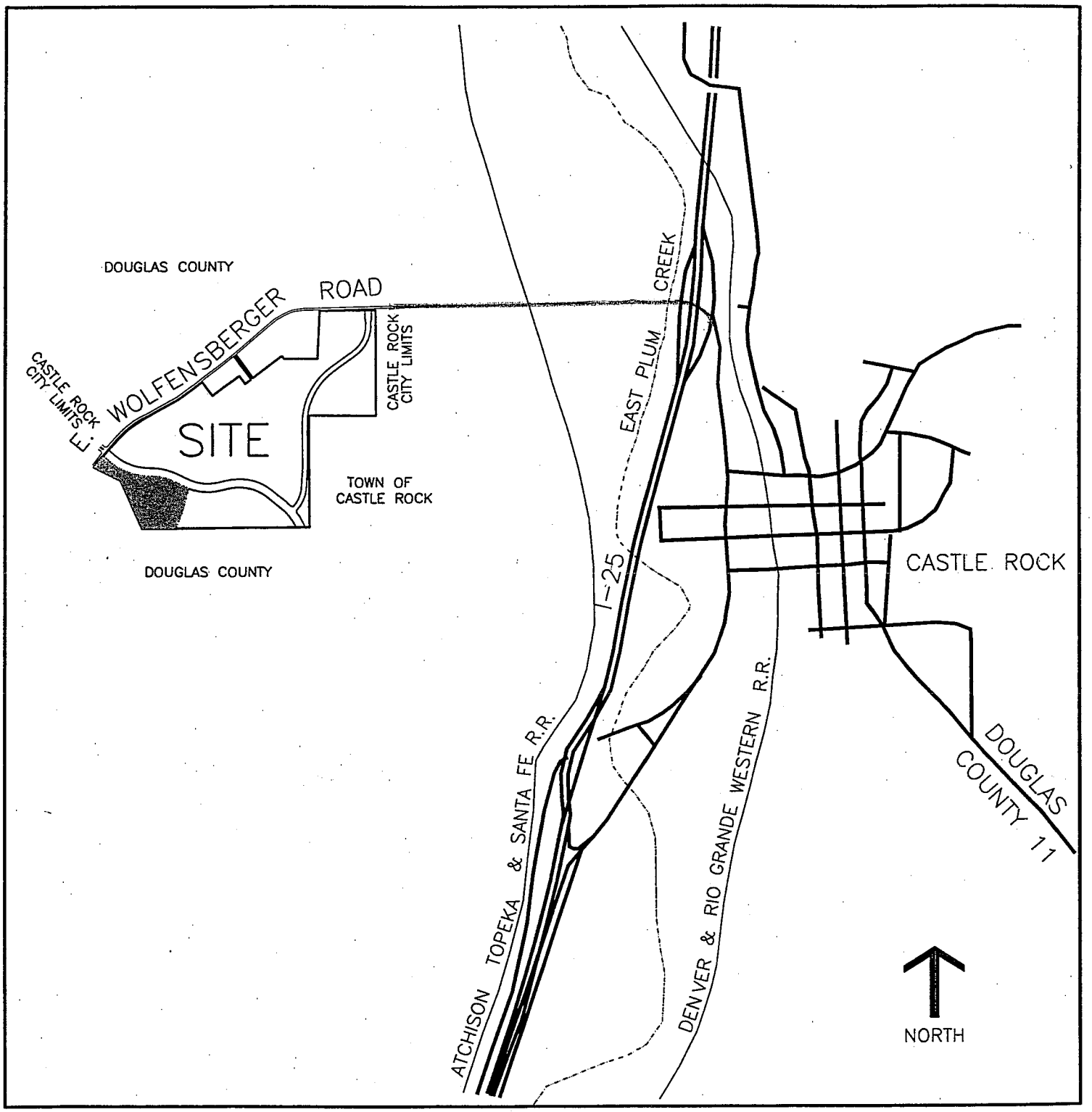


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June 23, 1999
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Project Number 2316.05



VICINTY MAP

FIGURE 1

UTILITY ANALYSIS

Sanitary Sewer System

The site is located in the East Plum Creek Red Hawk North Basin, and more specifically, the East Plum Creek Red Hawk North 3 sub-basin. This basin is mostly undeveloped. Its collection system is an 8" sanitary sewer line that runs up Park Street (Town of Castle Rock Sanitary Sewer Facility Plan Final Report (July 1998)-Section 7). The proposed system will connect to the existing sewer line at the intersection of Santa Fe and Wolfsenberger Road. It is approximately 1500 feet east from the site. The flows from the site are within the capacity of an 8" sewer line, and thus the proposed sewer will be of 8" diameter.

The Town of Castle Rock has four metering devices located throughout the sewer collection system. Each device has a study area. Castle Highlands is found in the TCR Main Study Area. This area involves the Downtown, Citadel Business, and Wolfensberger Business areas. Since this is the oldest part of town, infiltration and inflow (I/I) greatly effect this study area. (Town of Castle Rock Sanitary Sewer Facility Plan Final Report (July 1998)-Section 4).

Section 4, of the Town of Castle Rock Sanitary Sewer Facility Plan Final Report (July 1998), shows the I/I value for old sewer lines is 50 gpd/SFE and 25 gpd/SFE for new sewer lines. Since Castle Highlands is a new subdivision, 25 gpd/SFE was used for this report. Criteria used for these calculations were found in the Town of Castle Rock Public Works Regulations (October 1, 1998). Table 2 summarizes the calculations (see Appendix A for criteria and Appendix B for calculations).

Table 2: Summary of Final Sanitary Sewer Demands, Castle Highlands, Colorado.
Single Family-Residential: RSF
Multi-Family-Residential: RMF
Commercial/Retail/Office: COM

Type	Approximate Area (AC)	Max. Units	Rate	Avg. Daily Sewer Flow +I/I (GPD)	Peak Sewer Flow +I/I (GPD)	Minimum Connector Sewer Size
RSF	31.89	131 du	200/du	29,450	68,750	8"
RMF	20.05	320 du	130/du	46,800	109,200	8"
COM	4.49	13.5 SFE	600/ac	3,031	7,072	8"

Castle Rock Water
175 Kellogg Court, Castle Rock CO 80109
720-733-6000

Final Utility Report Checklist

The Final Utility Report must be in conformance with the latest Town of Castle Rock Water and Wastewater System Design Criteria Manuals, available on the Town's website.

For the Final Utility Report, the Preliminary Utility Report and associated hydraulic modeling shall be thoroughly updated to reflect the final design and layout of all water/wastewater system facilities and mains since the approval of the Site Development Plan (SDP), and as now shown on the Construction Drawings (CDs). The Final Utility Report shall describe adherence to the Preliminary Utility Report or describe deviations, and shall resolve any outstanding issues regarding the Town's ability to serve the development. As applicable, hydraulic modeling shall be provided for both the initial phase of development represented on the CDs, and for full build-out of the overall site. The Final Utility Report shall include a discussion of applicable SCADA requirements.

The following outline sets forth the **required minimum** content to be provided in the Final Utility Report that shall be submitted with the CDs. This report must be prepared by, or the report preparation supervised by a registered Professional Engineer licensed in Colorado. A copy of this checklist must be submitted with the Final Utility Report.

Please check off the following items to assure your report is complete. Appropriate notations shall be provided with the checklist. For example, if a specific item is not addressed or not applicable, an explanation needs to be provided.

Included	N/A	
X		**TITLE SHEET**
X		A. Name of Project, including legal name of development
X		B. Address
X		C. Owner
X		D. Developer
X		E. Engineer
X		F. Submittal date and revision dates as applicable
X		**APPROVAL BLOCK SHEET** (Available on Town's website)
X		**TABLE OF CONTENTS**
X		**PROJECT LOCATION AND DESCRIPTION**
X		A. Site Location
X		B. Description of Property and Land Use
X		**CALCULATED WATER DEMANDS**
X		A. Average Day Demands (ADD)
X		B. Max Day Demands (MDD)

Final Utility Report – Formatting Checklist

Included	N/A	
X		**CALCULATED WATER DEMANDS (CONT.)**
X		C. Peak Hour Demands (PHD)
X		D. Irrigation Demands
X		**EXISTING WATER SYSTEM**
X		A. Existing Distribution System
X		B. Existing Supply Facilities
X		**PROPOSED WATER SYSTEM**
X		A. Proposed Distribution System
X		B. Proposed Supply Facilities
X		C. Required Fire Flows
X		D. Land Dedication Requirements
X		**PROPOSED WATER SYSTEM ANALYSIS AND MODELING**
X		A. Hydraulic Models
X		B. Hydraulic Modeling Scenarios
X		C. Hydraulic Modeling Output and Required Schematics
X		D. Fire Flow Test Results
X		**CALCULATED WASTEWATER FLOWS**
X		A. Average Day Wastewater Flows (ADF)
X		B. Peaking Factor (PF)
X		C. Peak Design Flows (PDF)
X		**EXISTING WASTEWATER SYSTEM**
X		A. Existing Collection System
X		**PROPOSED WASTEWATER SYSTEM**
X		A. Proposed Collection System
X		B. Proposed Wastewater Facilities
X		C. Land Dedication Requirements
X		**PROPOSED WASTEWATER SYSTEM ANALYSIS AND MODELING**
X		A. Hydraulic Models
X		B. Hydraulic Modeling Scenarios
X		C. Hydraulic Modeling Output and Required Schematics
	X	**POTENTIAL SUBDIVISION IMPROVEMENTS AGREEMENT (SIA) ITEMS**
	X	**POTENTIAL PERMITTING REQUIREMENTS**
X		**REFERENCES**

Final Utility Report – Formatting Checklist

Included	N/A	
X		**APPENDICES**
X		Appendix A — Water Demands
X		Water Fixture Unit Counts and Tap/Meter Sizing Calculations
X		Irrigation Demands
X		Hydraulic Worksheet(s) and Irrigation Chart(s)
X		Appendix B — Water Storage
X		Confirmation Memo for Required Fire Flow
X		Appendix C — Water Hydraulic Analysis and Modeling
X		Fire Flow Test Results
X		Appendix D — Wastewater Flows
X		Appendix E — Wastewater Hydraulic Modeling
X		Appendix F — Maps and Plans
X		A. Vicinity Map
X		B. Utility Map(s) provided by the Utilities Department
X		C. Overall Utility Plan from the CDs
X		D. Water/Wastewater Utility Plan(s)

Notes/Comments: