
Preliminary Utility Letter

Perry Street Social District

NEC of Fourth Ave and Perry St

September 29, 2023

SDP23-0019

Prepared For:

Perry Street Social District

425 N. Wilcox St., Suite 210A

Castle Rock, CO, 80104

Contact: Wes Brin

Email: wes@perrystreetsocial.com

Prepared By:



3801 E. Florida Avenue, Suite 425
Denver, CO 80210
303-572-7997 www.ees.us.com

Contact: Krysta Houtchens
Email: Krysta.houtchens@ees.us.com

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: _____
Registered Professional Engineer
State Of Colorado No. _____
(Affix Seal)

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

Contents

Project Location and Description	5
Calculated Water Demands	5
Existing Water System	6
Proposed water System	6
Calculated Wastewater Flows.....	7
Existing Wastewater System.....	7
Proposed Wastewater System	8
References.....	9
Appendices.....	11

PROJECT LOCATION AND DESCRIPTION

EES is pleased to provide a utility letter for the proposed site layout for Lot 4A, Block 11 of the town of Castle Rock, located in the Northeast Quarter of Section 11, Township 8 South, Range 67 West of the 6th Principal Meridian. The addresses on site are 414 and 404 North Perry Street, and 411 4th Street, Castle Rock, Colorado. The site is bound to the north by a residential single-family home, Perry Street to west, and 4th Street to the south and east.

The proposed project site is approximately 0.40 acres and will contain three restaurant/bars. The total SFEs proposed for the development are 51.54 based on Section 4.4.1 of the Town of Castle Rock Water System and Wastewater Collection Design 2018 Criteria Manuals.

At the time of this report it is unknown if easements will be required, however any easement or tracts necessary for utilities will be provided at time of either platting or at time of final design/construction documents, in accordance with Town standards regarding location and size of easements and tracts.

Based on FEMA Firm Map Number 08035C0301G, revised March 16, 2016, the project location lies within Zone X – Areas determined to be outside of the 0.2% annual chance floodplain. There are no navigable waterways, irrigation canals or ditches, on-site wastewater treatment systems, or existing water wells on site.

The site is generally flat throughout the development, with water running into the public right-of-way to the east, west, and south of the property. There are no major geologic features on-site that will affect the development of the proposed water or wastewater system.

CALCUALTED WATER DEMANDS

Land Use	Square Footage	Typical ADD/Unit*	ADD (gpm)	ADD (gpd)	ADD (af/yr)
Restaurant (1)	4,725	3.0 gpd/SF	10.0	14,175	16.1
Restaurant (2)	1,380	3.0 gpd/SF	2.9	4,140	4.7
Restaurant (3)	2,916	3.0 gpd/SF	6.1	8,748	9.9
Total			19.0	27,063	30.7

* - Based on Chapter 4 - Section 4.4.1 of the Town of Castle Rock Water System Design 2018 Criteria Manual

Land Use	Square Footage	Typical ADD/Unit*	MDD (gpm) (ADD * 2.5)	MDD (gpd) (ADD * 2.5)
Restaurant (1)	4,725	3.0 gpd/SF	25.0	35,438
Restaurant (2)	1,380	3.0 gpd/SF	7.25	10,350
Restaurant (3)	2,916	3.0 gpd/SF	15.25	21,870
Total			47.5	67,658

* - Based on Chapter 4 - Section 4.4.1 of the Town of Castle Rock Water System Design 2018 Criteria Manual

Based on the above tables, the required storage volume for the water generated by the proposed development will be 248,423 gallons (180,000 gallons from fire demand).

Land Use	Square Footage	Typical ADD/Unit*	PHD (gpm) (ADD * 5.5)	PHD (gpd) (ADD * 5.5)
Restaurant (1)	4,725	3.0 gpd/SF	55.0	77,963
Restaurant (2)	1,380	3.0 gpd/SF	16.0	22,770
Restaurant (3)	2,916	3.0 gpd/SF	33.7	48,114
Total			104.7	150,530

* - Based on Chapter 4 - Section 4.4.1 of the Town of Castle Rock Water System Design 2018 Criteria Manual

EXISTING WATER SYSTEM

The existing site is serviced by a 12" PVC water main located within N. Perry Street. Based on the utility mapping provided by the city, there are two water meter accounts associated with the existing development – 1239 at 414 Perry St. and 1243 at 404 Perry Street. The 1239 account is serviced by two ¾" lines, while the 1243 account is serviced by a single ¾" combined commercial and irrigation line. It is not anticipated any water mains will require extension to service the proposed development. During communication with the city, no bottlenecks or shortcomings were brought up in relation to the project. The additional fixtures for the proposed project (additional bathrooms, sinks, irrigation, etc.) will increase demand and may require the existing meter and service line to be upsized. Water meter sizes will be based on existing and new water supply fixture units at the time of building permitting.

The existing pressure zones at the time of this report are unknown but have been requested from the city. The site is within the Yellow Zone and has a pressure of approximately 55 psi. Per Castle Rock Water, there should be no issue meeting proposed demands, based on this submittal.

PROPOSED WATER SYSTEM

The proposed water system will connect using existing ¾" line and upsize the line to a 1" for the southwestern restaurant (Restaurant 2). For the southeastern restaurant (Restaurant 3), a 1" water service line will be proposed with a meter being placed within the building per Town standards. The northern restaurant (Restaurant 1) will require upsizing the existing ¾" pipe to utilize a 1" Type K Copper line connected into 12" PVC main within Perry Street. Restaurant #1 and Restaurant #3 will also required 4" fire service lines. Refer to the SDP set within Appendix A for general utility layout.

The required fire flow for the proposed project is 1,500 gpm @ 20 psi for a duration of 2 hours. Per Castle Rock Fire, with sprinklers the flow is 50% of the required flow. This drops the required flow to 750 gpm. This fire flow will be provided by 3 fire hydrants surrounding the property. These hydrants (per Castle Rock GIS) are FH227, FH228, and FH914.

The proposed water system layout will consist of only service lines and therefore no looping will be required. With a total proposed water demand of 27,081 gallons per day, the site will not negatively affect any water storage facilities within the town based on the 2017 Water Master Plan.

CALCULATED WASTEWATER FLOWS

Land Use	Square Footage	Typical ADF/Unit*	ADF (gpm)	ADF (gpd)	ADF (cfs)
Restaurant (1)	4,725	1.5 gpd/SF	5.0	7,088	0.011
Restaurant (2)	1,380	1.5 gpd/SF	1.0	2,070	0.002
Restaurant (3)	2,916	1.5 gpd/SF	3.0	4,374	0.006
Total			9.0	13,532	0.019

* - Based on Chapter 4 - Section 4.4.1 of the Town of Castle Rock Wastewater System Design 2018 Criteria Manual

Peaking Factor*:

$$PF = 3.65 * (ADF^{-0.168})$$

$$PF = 3.65 * (0.014^{-0.168})$$

$$PF = 7.48 \text{ (Per 4.4.1.2 – The Maximum PF is 5.0)}$$

$$ADF * PF = 13,685 * 5.0 = 68,425 \text{ gpd} = 0.068 \text{ MGD}$$

* - Based on Chapter 4 - Section 4.4.1.2 of the Town of Castle Rock Wastewater System Design 2018 Criteria Manual

Peak Design Flow Rate*:

$$PDF = \text{Peak Base Flow} + I \text{ and } I \text{ Allowance} = (ADF * PF) + (0.1 ADF)$$

$$PDF = (5.0 * 13,685) + (0.1 * 13,685)$$

$$PDF = 69,794 \text{ gpd} = 0.069 \text{ MGD}$$

* -Based on Chapter 4 - Section 4.4.1.3 of the Town of Castle Rock Wastewater System Design 2018 Criteria Manual

Therefore, based on the above calculations, the necessary capacity to handle the flow on site will be 0.069 MGD.

EXISTING WASTEWATER SYSTEM

The existing site is serviced by two sanitary laterals extending from an 8" VCP sanitary main within Perry Street. Based on the utility map provided by the city, these sizes are currently unknown. There are two manholes on 4th Street, where the wastewater flows to the west towards Perry Street, where the water flows north on Perry Street. The existing system falls within the downtown subbasin based on the 2016 Wastewater Master Plan and will flow into the Plum Creek Water Reclamation Authority treatment facility.

PROPOSED WASTEWATER SYSTEM

The proposed wastewater system will consist of sanitary laterals and grease interceptors (GI) at two of the restaurants, the third restaurant will not require an interceptor as it'll only be a charcuterie and wine bar. The GI for the northern restaurant will be located within the basement of the building with connection to the west within Perry Street, while the GI for the southeast building will be located in the southeast corner of the building, with connection line going south to the main within 4th street. The site's grease interceptors shall be in accordance with Plum Creek Water Reclamation Authority (PCWRA) Code of Rules and Regulations. No manholes or additional infrastructure will be proposed on site. Any future development of the existing wastewater infrastructure needed to serve this site is the responsibility of the developer. Refer to the SDP for the utility layout within Appendix A. There will be no variance required based on the Towns Wastewater Master Plan.

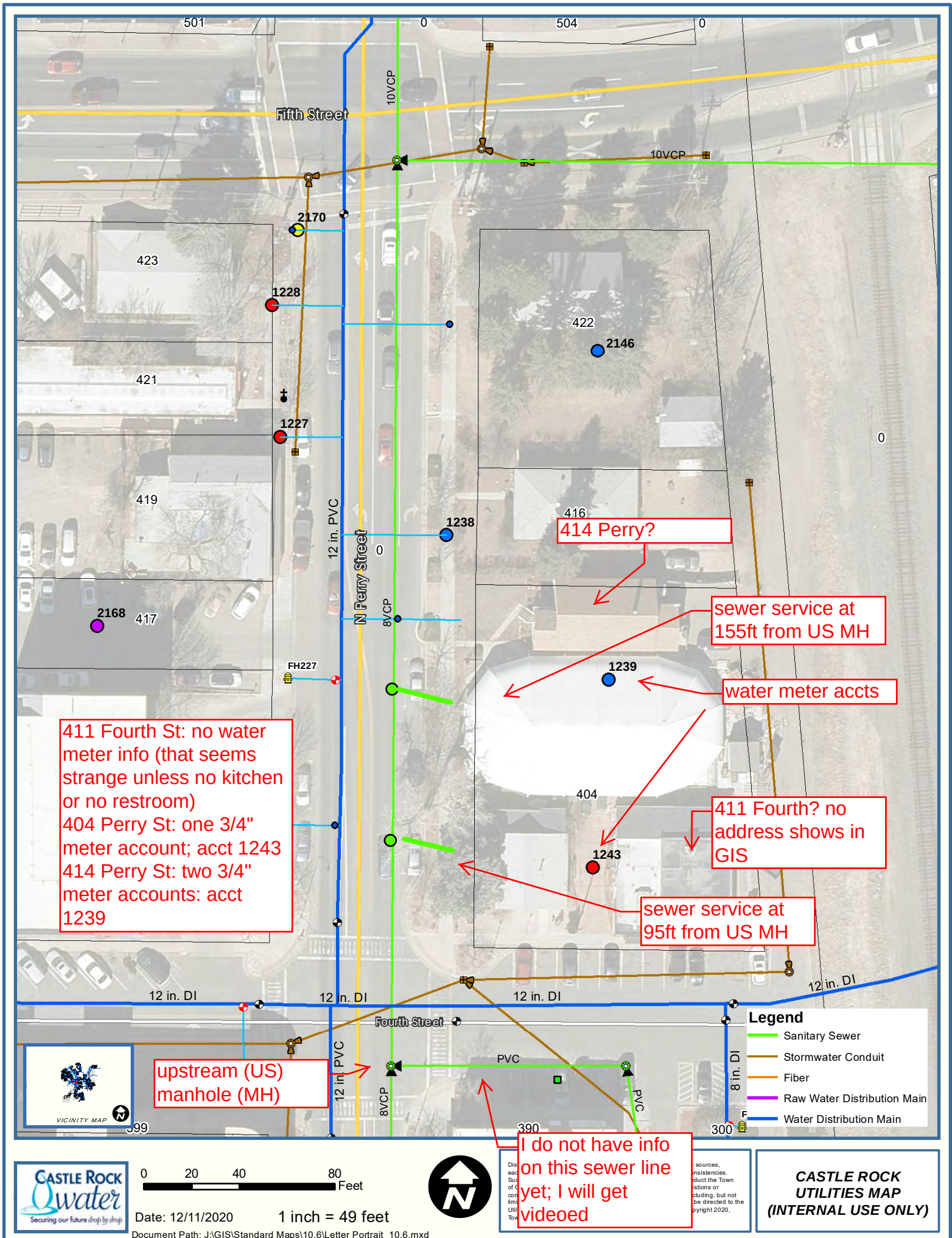
There will be no requirement to dedicate land as all wastewater facilities will be accessible by the responsible parties.

REFERENCES

- Town of Castle Rock Wastewater Collection Design 2018 Criteria Manual [PDF] (December 4, 2018). Town of Castle Rock Water Department
- Town of Castle Rock Waste System Design 2018 Criteria Manual [PDF] (December 4, 2018). Town of Castle Rock Water Department
- Town of Castle Rock Wastewater Master Plan 2016 [PDF] (2016). Town of Castle Rock Engineering Division
- Town of Castle Rock Water Master Plan 2017 [PDF] (2017). Town of Castle Rock Engineering Division



APPENDICIES

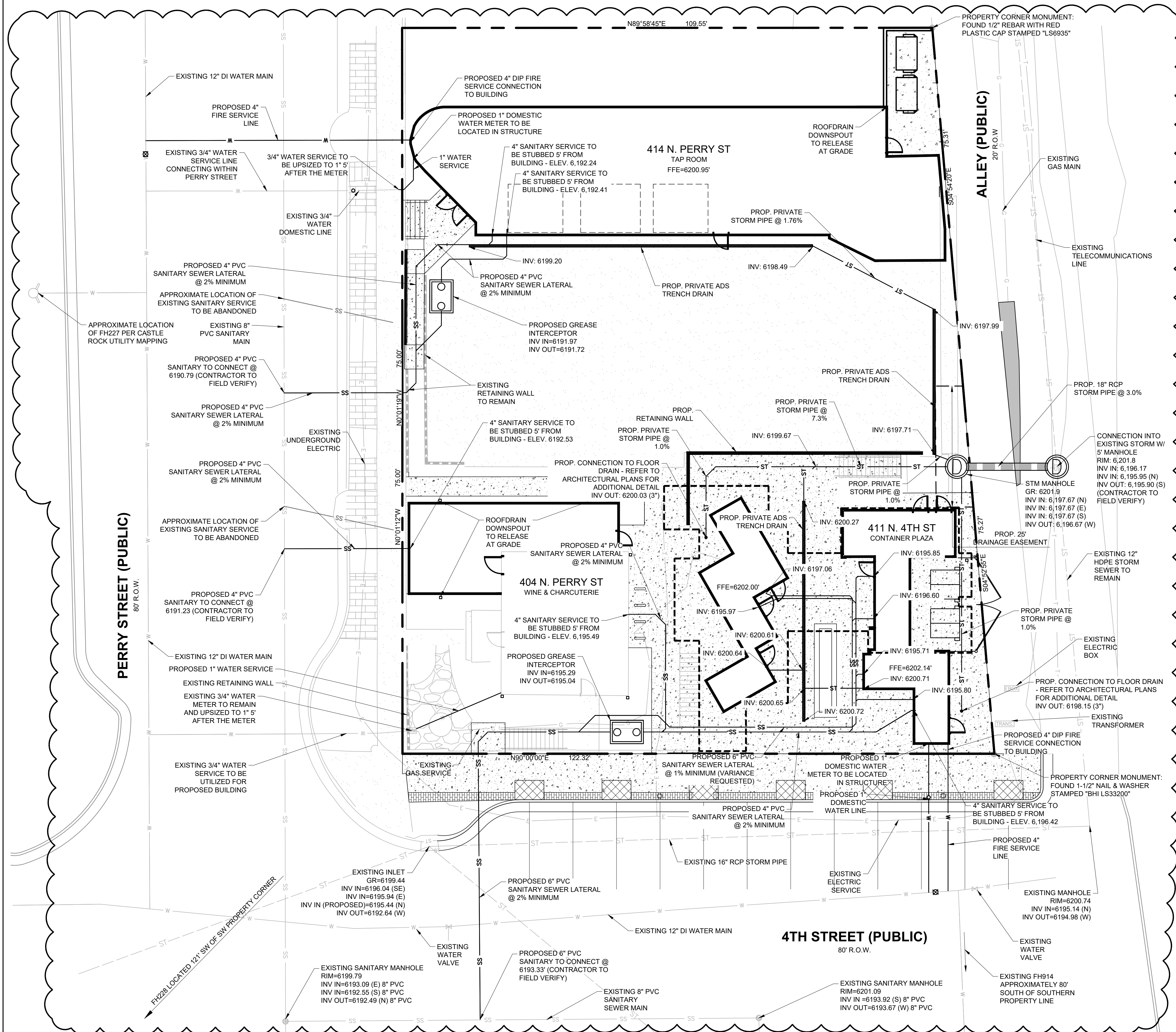


SITE DEVELOPMENT PLAN, AMENDMENT NO. 1

LOT 4A, BLOCK 11, TOWN OF CASTLE ROCK
LOCATED IN THE NORTHEAST QUARTER OF SECTION 11, TOWNSHIP 8 SOUTH, RANGE 67 WEST OF THE 6TH P.M.
TOWN OF CASTLE ROCK, COUNTY OF DOUGLAS, STATE OF COLORADO

© 2023. ALL RIGHTS RESERVED.

9/26/2023 11:31 AM P:\PERRY STREET SOCIAL DISTRICT\CO. CASTLE ROCK - PERRY STREET SOCIAL\4TH & PERRY\04 CAD\SDPP3.D UTILITY PLANDWG

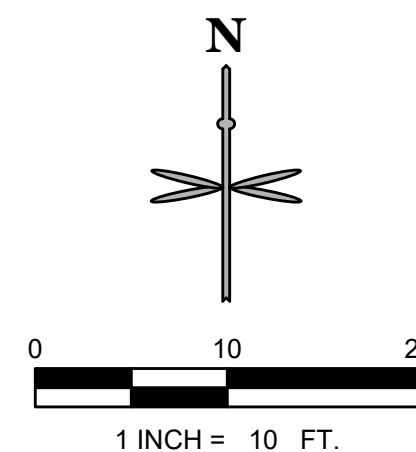


UTILITY PLAN LEGEND

	PROPOSED PROPERTY BOUNDARY
	PROPOSED EASEMENT
	PROPOSED BUILDING SETBACK
	PROPOSED BUILDING OUTLINE
	PROPOSED BUILDING OVERHANG
	PROPOSED CATCH CURB
	PROPOSED SPILL CURB
	PROPOSED WALL
	PROPOSED SIDEWALK
	PROPOSED STORM SEWER
	EXISTING STORM SEWER
	PROPOSED/EXISTING STORM MANHOLE
	PROPOSED/EXISTING STORM INLET
	PROPOSED/EXISTING SANITARY SEWER LINE
	PROPOSED/EXISTING WATER LINE
	PROPOSED/EXISTING ELECTRIC LINE
	PROPOSED/EXISTING TELECOM LINE
	PROPOSED/EXISTING GAS LINE
	PROPOSED/EXISTING RETAINING WALL

UTILITY NOTES

- ALL PROPOSED EASEMENT MUST BE RECORDED PRIOR TO ISSUANCE OF CONSTRUCTION PERMITS.
- THE MINIMUM SEPARATION BETWEEN WATERLINES, SANITARY SEWER AND STORM SEWER IS 10 FEET.
- THE MINIMUM SEPARATION BETWEEN WATER SERVICE LINES IS 5 FEET.
- THIS SITE IS LOCATED WITHIN THE TOWN OF CASTLE ROCK YELLOW WATER PRESSURE ZONE.
- ALL EXISTING UTILITIES AND SITE FEATURES TO REMAIN UNLESS NOTED OTHERWISE.



CALL UTILITY NOTIFICATION
CENTER OF COLORADO
1-800-922-1987 or 811

CALL 3-BUSINESS DAYS (NOT INCLUDING INITIAL DAY OF CONTACT) IN ADVANCE BEFORE YOU DIG. GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

SITE DEVELOPMENT PLAN, AMENDMENT NO. 1
LOT 4A, BLOCK 11, TOWN OF CASTLE ROCK
TOWN OF CASTLE ROCK PROJECT NO. SDP23-0019

DATE

BY

REVISION

No.

PRELIMINARY
NOT FOR
CONSTRUCTION

EES

ENTITLEMENT AND
ENGINEERING
SOLUTIONS, INC.

3801 E. Florida Avenue, Suite 425
Denver, CO 80210
303-572-7997 www.ees.us.com

SITE DEVELOPMENT PLAN

PERRY STREET SOCIAL DISTRICT

410 PERRY STREET, CASTLE ROCK, CO 80104

UTILITY PLAN

PROJECT NO.: PER001.01

DESIGNED BY: KMH

DRAWN BY: KMH

DATE: 10/25/2022

5

SHEET 5 OF 18



Preliminary Utility Report Checklist

The Preliminary 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 Preliminary Utility Report, information contained in the Concept Utility Letter shall be updated to reflect the latest projections for land use and densities. Hydraulic modeling shall only be required for the site proposed in the Site Development Plan (SDP). This modeling may be waived on a case-by-case basis at the discretion of the Utilities Department if it is adequately demonstrated that the SDP is already consistent with the Town's Water/Wastewater Master Plans and that the existing adjacent water/wastewater infrastructure is adequate to support the development without modifications or if the SDP is for a commercial structure on a single lot. The modeling shall accurately reflect the sizes and locations of all proposed water mains associated with the SDP layout. In addition to providing updated land use and density information, the following items shall be specifically addressed:

- Further analysis of any concerns raised in the Concept Utility Letter regarding the Town's ability to serve the development.
- Updated discussion of appurtenant water/wastewater facilities other than distribution mains that will be necessary to serve the development, and the principal design parameters that will be utilized in the final design of such facilities.
- Status of any variances that have been obtained, or will be pursued.
- Updated discussion of maintenance access and any associated concerns.
- Updated status of permitting requirements.
- Updated appendices.

The following outline sets forth the **required minimum** content to be provided in the Preliminary Utility Report that shall be submitted with the SDP. 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 Preliminary 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	
		TITLE SHEET
✓		A. Name of Project, including legal name of development
✓		B. Address
✓		C. Owner
✓		D. Developer
✓		E. Engineer
✓		F. Submittal date and revision dates as applicable

Preliminary Utility Report – Formatting Checklist

Included	N/A	
✓		APPROVAL BLOCK SHEET (Available on Town's website)
✓		TABLE OF CONTENTS
		PROJECT LOCATION AND DESCRIPTION
✓		A. Site Location
✓		B. Description of Property and Land Use
		CALCULATED WATER DEMANDS
✓		A. Average Day Demands (ADD)
✓		B. Max Day Demands (MDD)
✓		C. Peak Hour Demands (PHD)
		EXISTING WATER SYSTEM
✓		A. Existing Distribution System
✓		B. Existing Supply Facilities
		PROPOSED WATER SYSTEM
✓		A. Proposed Distribution System
✓		B. Proposed Supply Facilities
✓		C. Land Dedication Requirements
		PROPOSED WATER SYSTEM ANALYSIS AND MODELING
		A. Hydraulic Models
		B. Hydraulic Modeling Scenarios
		C. Hydraulic Modeling Output and Required Schematics
		CALCULATED WASTEWATER FLOWS
✓		A. Average Day Wastewater Flows (ADF)
✓		B. Peaking Factor
✓		C. Peak Design Flows (PDF)
		EXISTING WASTEWATER SYSTEM
✓		A. Existing Collection System
		PROPOSED WASTEWATER SYSTEM
✓		A. Proposed Collection System
✓		B. Proposed Wastewater Facilities
✓		C. Land Dedication Requirements
		PROPOSED WASTEWATER SYSTEM ANALYSIS AND MODELING
		A. Hydraulic Models
		B. Hydraulic Modeling Scenarios
		C. Hydraulic Modeling Output and Required Schematics

Preliminary Utility Report – Formatting Checklist

Included	N/A	
		POTENTIAL PERMITTING REQUIREMENTS
		REFERENCES
		APPENDICES
		Appendix A — Water Demands
		Appendix B — Water Storage
		Appendix C — Water Hydraulic Analysis and Modeling
		Appendix D — Wastewater Flows
		Appendix E — Wastewater Hydraulic Modeling
		Appendix F — Maps and Plans
✓		A. Vicinity Map
✓		B. Utility Map(s) provided by the Utilities Department
✓		C. Site Development Plan
✓		D. Water/Wastewater Utility Plan(s)

Notes/Comments: