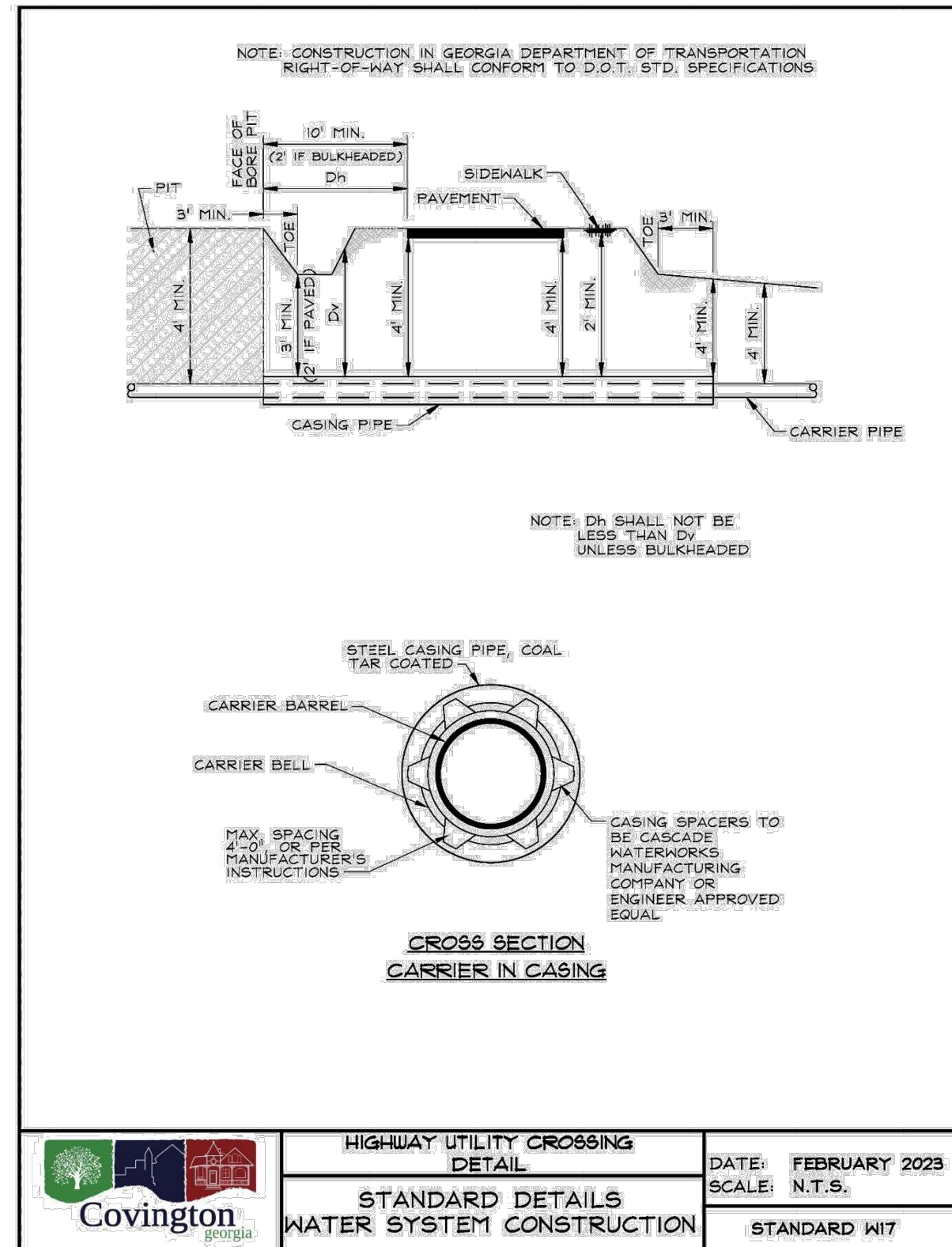
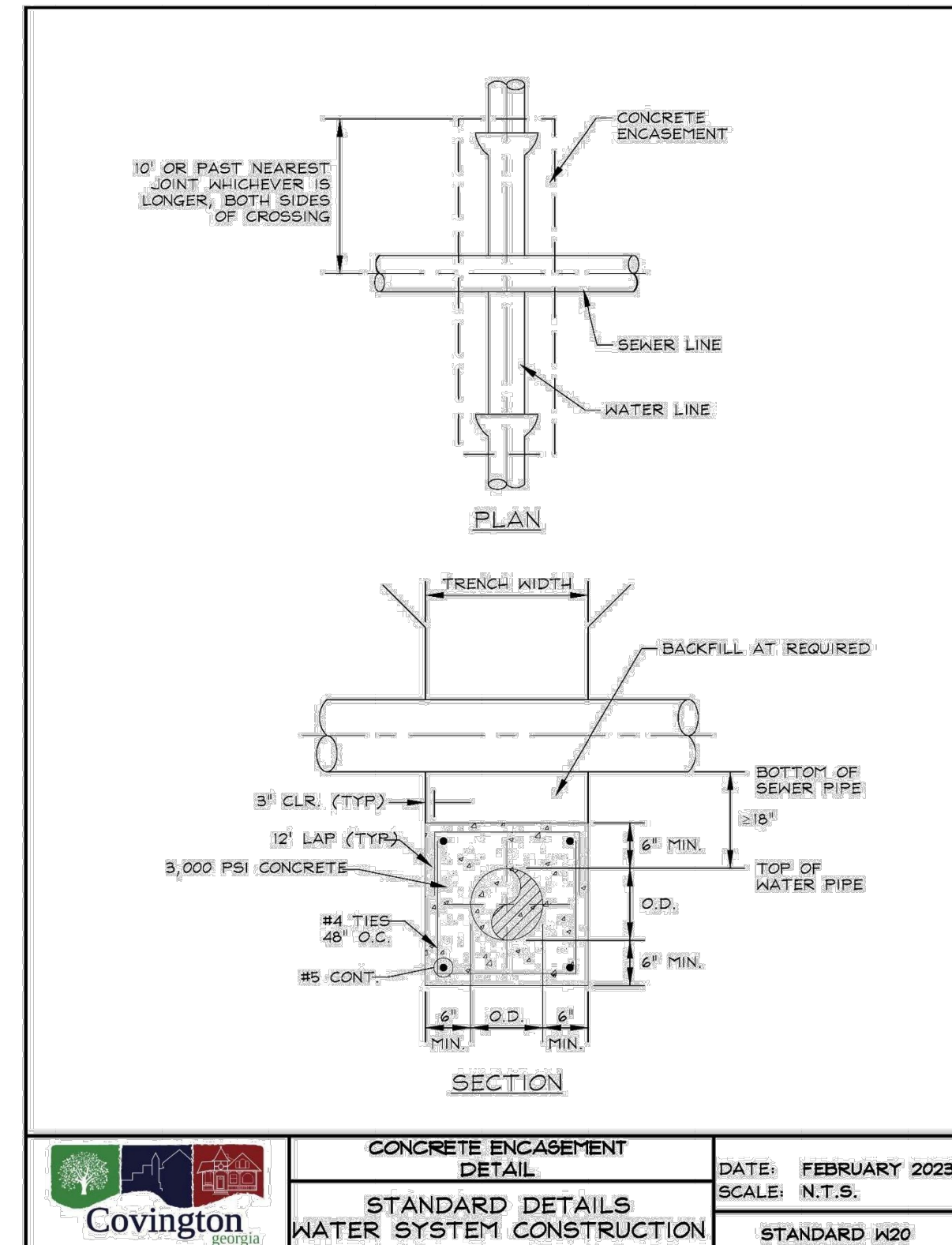


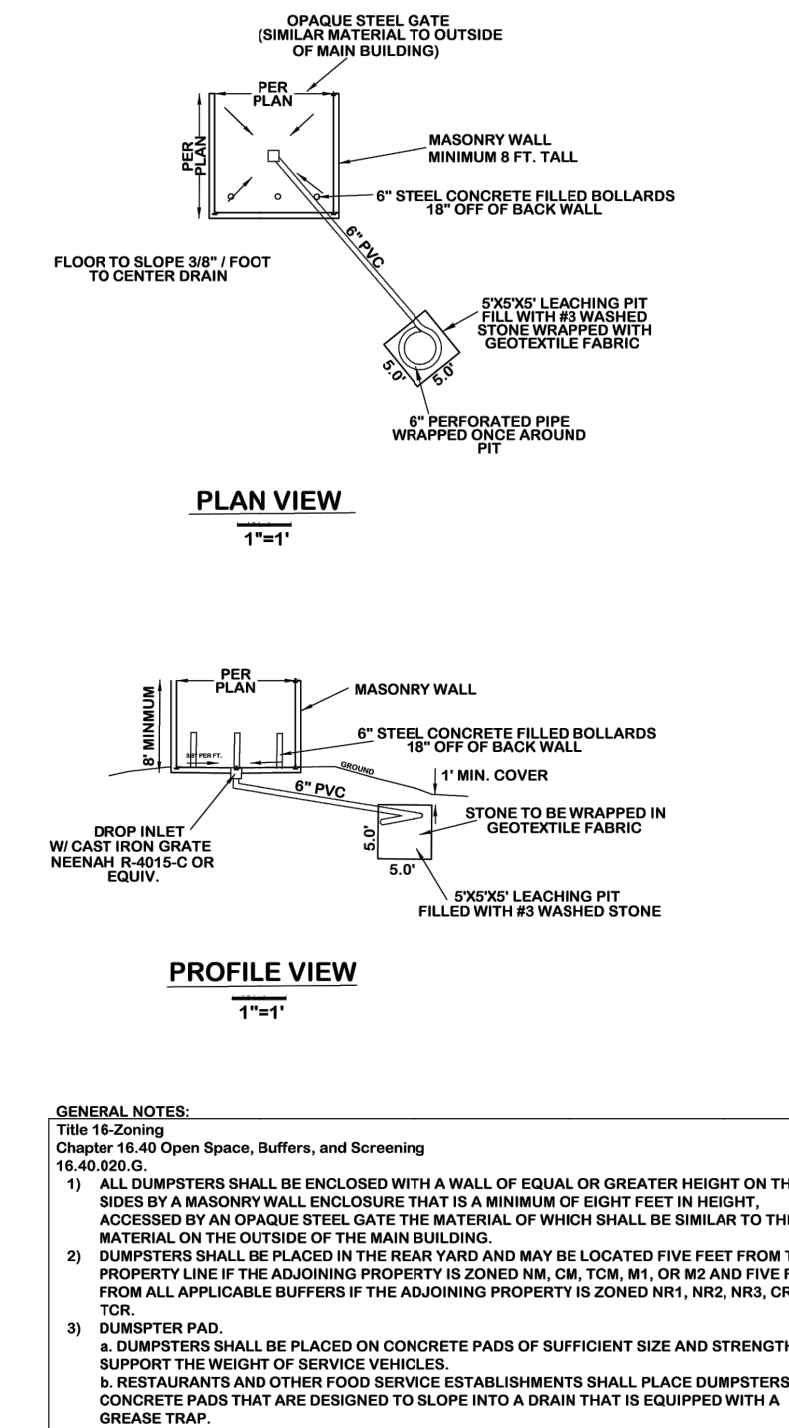
Page | 125



Page | 135



Page | 138



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Project Information

COVINGTON FIRE STATION #23
9155 HIGHWAY 36
COVINGTON, GA 30014
ZONING: CM - CORRIDOR MIXED USE

SEWER AND WATER DEMAND REPORT

Fire Station #23
City of Covington
Highway 36
Covington, Georgia 30014

Project Information	
Project Name	Fire Station #23
Owner	City of Covington / Covington Fire Department
Project Address	Highway 36, Covington, Georgia 30014
Architectural Job No.	25033
Drawing Set Used	SD Set dated 12/15/2025
Prepared For	City of Covington
Prepared By	Jeremy Keyser Total Engineers 169 New Street, Macon, Georgia 31201
Report Date	May 12, 2026

1. Executive Summary

This report summarizes the estimated sanitary sewer and domestic water demands for the proposed Fire Station #23. The calculations are based on the architectural SD set, the attached sewer and water demand criteria provided for this review, and a design people count of 22 persons for domestic water demand.

Demand Item	Calculated Demand	Notes
Average Daily Sanitary Sewer Flow	1,810 GPD	Based on Police/Fire Station rate of 100 GPD per 1,000 SF
Peak Daily Sanitary Sewer Flow	4,525 GPD	2.5 peaking factor applied to average daily sanitary flow
Average Daily Domestic Water Demand	660 GPD	Based on 22-person design count at 30 GPD/person
Maximum Daily Domestic Water Demand	1,320 GPD	2.0 maximum-day factor used as conservative planning value

2. Basis of Design

Source Item	Value Used	Basis / Reference	Use in Calculation
Building Area	18,100 GSF	Architectural life safety drawings list Level 1 = 11,860 GSF, Level 2 = 4,400 GSF, and Storage Building = 1,840 GSF.	Sewer demand
Design People Count	22 persons	Design people count provided for actual anticipated fire station staffing/use; architectural code occupant load is not	Water demand

Covington Fire Station #23 - Utility Demand Calculations

Sanitary Flow Rate	100 GPD / 1,000 SF	used for domestic water demand.	Average daily sewer flow
Sanitary Peaking Factor	2.5	Atlanta sanitary flow table lists Police/Fire Station at 100 GPD per 1,000 SF.	Peak daily sewer flow
Water Demand Rate	30 GPD/person	Georgia EPD water demand table lists Office Buildings at 15-30 GPD/person. The upper end is used for a conservative estimate.	Average daily domestic water demand
Maximum Day Factor	2.0	Georgia EPD water demand guidance states small systems may experience maximum day demand of 1.5 to 2.0 times average day. 2.0 is used as a conservative placeholder.	Maximum daily domestic water demand

3. Sanitary Sewer Demand Calculation

The sanitary sewer calculation uses the total building area and the Police/Fire Station sanitary generation rate from the attached sanitary flow table.

Step	Formula	Calculation	Result
Average Daily Flow	Area / 1,000 x rate	18,100 SF / 1,000 x 100 GPD	1,810 GPD
Peak Daily Flow	Average daily flow x 2.5	1,810 GPD x 2.5	4,525 GPD
Average Flow Rate	Average daily flow / 1,440 min/day	1,810 GPD / 1,440	1.26 GPM
Peak Daily Flow Rate	Peak daily flow / 1,440 min/day	4,525 GPD / 1,440	3.14 GPM

Recommended sanitary sewer demand for utility coordination: 1,810 GPD average daily sanitary flow and 4,525 GPD peak daily sanitary flow.

4. Domestic Water Demand Calculation

The domestic water calculation uses a design people count of 22 persons, as directed for this facility, and the conservative upper end of the Office Buildings demand range in the water demand guidance.

Step	Formula	Calculation	Result
Average Daily Domestic Demand	Occupants x rate	22 occupants x 30 GPD/person	660 GPD
Average Flow Rate	Average daily demand / 1,440 min/day	660 GPD / 1,440	0.46 GPM
Maximum Daily Domestic Demand	Average daily demand x 2.0	660 GPD x 2.0	1,320 GPD
Maximum Daily Flow Rate	Maximum daily demand / 1,440 min/day	1,320 GPD / 1,440	0.92 GPM

Covington Fire Station #23 - Utility Demand Calculations

Recommended domestic water demand for utility coordination: 660 GPD average daily domestic water demand and 1,320 GPD maximum daily domestic water demand.

5. Notes and Exclusions

- The sanitary sewer demand uses the full listed building area of 18,100 GSF. No credit was taken for existing flow removal or demolished prior use.
- Domestic water demand uses a 22-person design count in lieu of the architectural/code occupant load for this facility.
- The domestic water demand is for normal domestic/plumbing use only.
- Fire flow, fire sprinkler demand, irrigation, vehicle wash, hose-down, training water, process water, and other special water uses are not included in the domestic water demand values above.
- Final demand values should be coordinated with the serving utility, civil engineer, and local authority having jurisdiction if they require a specific local demand factor or alternate calculation method.

6. Suggested Calculation Narrative

Sanitary Sewer: Fire Station #23 total building area = 18,100 SF. Police/Fire Station sewer generation rate = 100 GPD per 1,000 SF. 18,100 SF / 1,000 x 100 GPD = 1,810 GPD average daily flow. 1,810 GPD x 2.5 peaking factor = 4,525 GPD peak daily flow.

Domestic Water: Design people count = 22 persons. Office building water demand = 30 GPD/person, which is the conservative upper end of the 15-30 GPD/person range. 22 persons x 30 GPD/person = 660 GPD average daily demand. 660 GPD x 2.0 = 1,320 GPD maximum daily demand.

7. Source Documents

- 25033_Covington Fire Station 23_SD Set 20251215.pdf - project name, owner, address, and building area.
- ATLANTA SEWER CALCULATION NUMBERS (just the number).pdf - sanitary flow contribution table and 2.5 peaking factor.
- atlanta water demand.pdf - Georgia EPD Minimum Standards for Public Water Systems, average daily water demand guidance.

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DRAWING DATE:	5/15/2026
DRAWN BY:	DLD
CHECKED BY:	JPB

REVISIONS	
DATE:	DESCRIPTION:
5/15/2026	ADD COMMENTS

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UTILITY DETAILS

Sheet Number

C-5.3