

48 Hours
Before You Dig
Call
"MISS UTILITY"SM
Service Protection Center



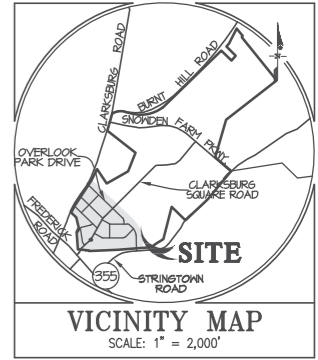
MEMBER
ONE CALL SYSTEMS INTERNATIONAL

CALL TOLL FREE
1-800-257-7777

EXISTING UTILITY NOTES

- For marking locations of existing utilities, notify "MISS UTILITY" at 1-800-257-7777, 48 hours prior to any excavation or construction.
- Information concerning underground utilities was obtained from available records. The contractor must determine the exact locations and elevations of the utilities by digging test pits by hand at all utility crossings well in advance of trenching. If clearances are less than specified on this plan or less than 12 inches when not specified, contact the Engineer, and the owner of the other involved utility before proceeding with construction.
- For field location of gas line services, notify Washington Gas Light Co., 703-750-1000, 48 hours prior to the start of any excavation or construction.
- Omissions and/or additions of utilities found during construction shall be the sole responsibility of any contractor engaged in excavation at this site. Gutschick, Little & Weber, P.A., shall be notified immediately of any and all utility information, omissions and additions found by any contractor.
- Due to the proximity of live underground and overhead utilities, we are not responsible for any damage or injury sustained during construction by any persons, trucks, trailers, or equipment used on or adjacent to the site.

CLARKSBURG TOWN CENTER WEST SIDE FINAL WATER QUALITY PLANS



GLW GUTSCHICK, LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
5009 NATIONAL DRIVE, SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MD 20886

Project: Clarksburg Town Center - West Side Date: 11/8/23
Job No: 22074 Prepared By: LMW

COMPUTE TARGETED RCN AND P_i
Chapter 5 - ESD, MTR 2007 Manual

Property Size/Site Area = 1,453,021 sf =	33.36 ac
Net Area within LOD = 1,453,021 sf =	33.36 ac
Total Site Impervious Area = 940,372 sf =	21.99 ac
Total Site Impervious % =	65% (Total Site Impervious / Site Area)

1) Check New Development vs. Re-Development:
Existing Impervious Area = 0 ac
% Existing Impervious Area = 0 % therefore **New Development**

2) Compute Targeted RCN (Woods in Good Conditions, p.5.2.1)

HSG	Target RCN (Woods in Good Cond.)	Area	% of total Site Area
A' Soils	18	0.00	0.0
F' Soils	55	0.00	0
C' Soils	70	33.36	100.0
D' Soils	77	0.00	0.0

RCN = [(380 Area in A') + (550 Area in F') + (300 Area in C') + (770 Area in D')] / (Net Area) = **70**

3) Compute Proposed RCN:

HSG	LAND USE	RCN	Area (Ac.)	RCN x A
C	Impervious	98	21.99	2,156
C	Open Space, Lawn, Good Condition	74	11.77	870
C	Woods, Good Condition	70	0.00	0.0
TOTALS =		33.36	2,986.5	
RCN =			90	

4) Compute P_i for Entire Site:
% P_i for Whole Site = 68%
P_i (C' Soils) = **2.0** (using 5.1 for determining P_i, p.5.2.1)

5) Compute Total ESD: Within LOD Required for This Project:
R₀ = 0.05 + (0.09 * P_i) = **0.64**
ESD₀ = (P_i * R₀ * V₀) / 12 = **153,778** cf
Target ESD₀ = **153,778**
Minimum ESD₀ = **76,889** (with MIN. P_i Provided)

6) Drainage Area Summary Table: P_i of 1.0 Minimum Provided for all increases shown below

DA #	Total Drainage Area	Impervious Area	Open Area	% of 1.00	Target ESD ₀ (cf)	Provided ESD ₀ (cf)	Max Volume That Can Be Captured *	Min Volume That Must Be Captured **	WQV - R ₀ by C _v	Notes
1	182,550	128,650	53,900	12.6	20,819	10,922	27,064	10,409	Provided in ESD ₀	As-Built / Constructed
2	106,350	57,950	48,400	7.3	9,570	6,434	12,452	4,789	Provided in ESD ₀	As-Built / Constructed
3	280,600	173,900	106,700	19.3	28,423	5,901	36,950	14,212	Provided in ESD ₀	As-Built / Constructed
4	244,650	150,440	94,210	16.8	24,605	9,013	31,986	12,302	Provided in ESD ₀	As-Built / Constructed
5	200,670	163,920	36,750	13.8	26,260	12,034	34,138	13,130	Provided in ESD ₀	As-Built / Constructed
6	258,750	205,460	53,290	17.8	32,075	28,905	42,608	16,488	Provided in ESD ₀	As-Built / Constructed
7	96,010	78,560	17,450	6.6	12,581	5,492	16,359	6,292	Provided in ESD ₀	As-Built / Constructed
8	150,800	32,900	117,900	10.1	10,815	-	-	-	DRAINS TO EX. POND #2 (NOT TREATED BY ESD PRACTICES)	
9	598,844	478,677	120,167	41.2	82,416	-	-	-	WQV	
Totals	2,119,224	1,470,457	648,767		161,988***			77,623		
48.65 ac		33.76 ac								
Total ESD ₀ Provided in Non-Structural Practices:										79,572

Target ESD₀ represents the ESD₀ required for a P_i of 2.0
* Max Volume that can be Captured, for a P_i = 1-yr, 24-hr storm event (i.e. 2.0 in)
** Min Volume that must be Captured, for a P_i = 1-yr, 24-hr storm event (i.e. 1.0 in)
*** Includes volume of MTR #2-15

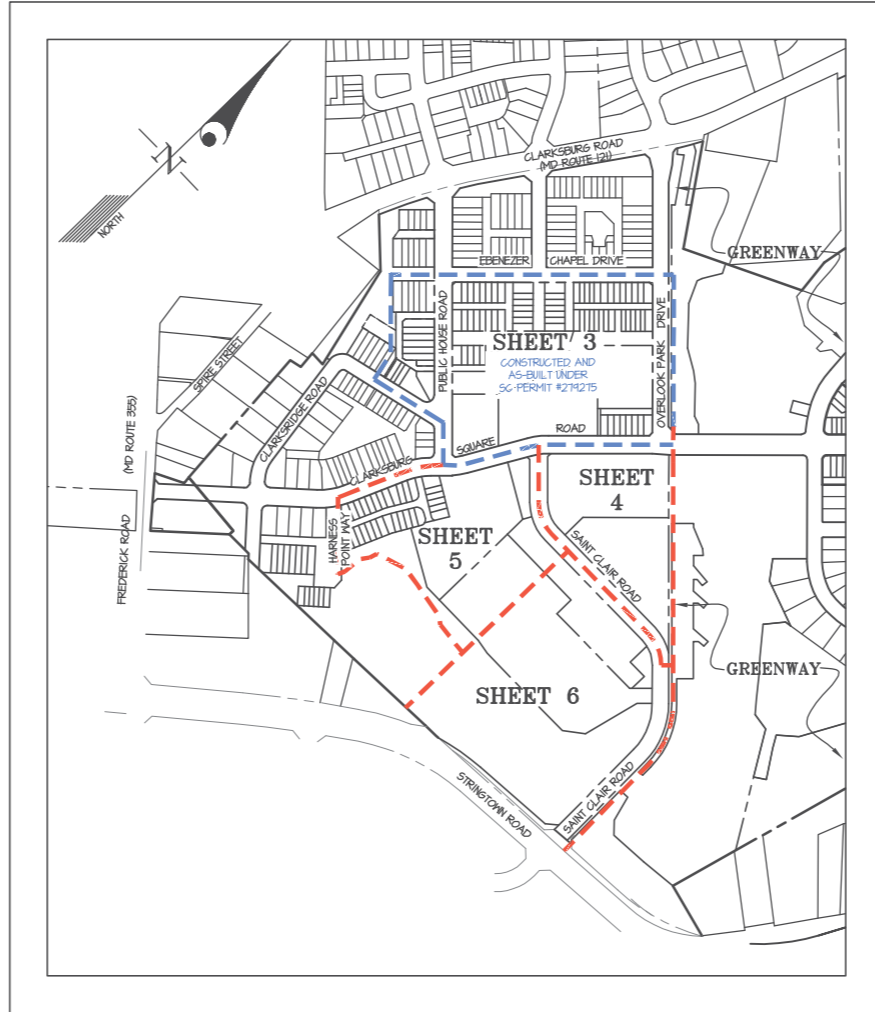
Phase 1 ESD₀ Required: 28,383 cf (includes MTR #2-15)
86,767 cf (2" requirement)

Phase 1 ESD₀ Provided:
In ESD₀ practices = 22,337 cf (volume taken from SWM as-builts)
In structural practices = 59,200 cf
Total = 81,537 cf

Phase 2 ESD₀ Required: 49,259 cf (includes MTR #2-15)
98,478 cf (2" requirement)

Phase 2 ESD₀ Provided:
In ESD₀ practices = 57,215 cf (includes MTR #2-15)
In structural practices = 25,216 cf
Total = 80,431 cf

Totals:
ESD₀ Required (P_i) = 77,623 cf
ESD₀ Provided = 79,572 cf
WQV Required (Q₂) = 155,245 cf
WQV Provided = 161,988 cf



KEY MAP
SCALE: 1" = 250'

NOTE: WITH FUTURE DEVELOPMENT IN THE GROCERY STORE PARKING LOT ON SHEET 6, THE MINIMUM ESD₀ TREATMENT REQUIRED (P_i) INCREASES TO 70,400 CF AND THE TOTAL WQV REQUIRED (Q₂) INCREASES TO 156,016 CF. THESE VALUES ARE BELOW PROVIDED AMOUNTS AND NO NEW SWM WILL BE REQUIRED OR PROVIDED.

Approved Revision of the FWQP.
Andrew Kohler
1/17/2024

SHEET SCHEDULE

SHEET No.	TITLE
1	COVER SHEET
2	COMPOSITE FINAL WATER QUALITY SITE PLAN
3-6	FINAL WATER QUALITY PLAN

SM FILE # 204464

5009 NATIONAL DRIVE | SUITE 250 | BURTONSVILLE, MD 20886 | GLW/PALCOM
PHONE: 301-461-4024 | FAX: 301-461-4188

DESIGNED BY	DRAWN BY	CHECKED BY	DATE	REVISION
LMW	LMW	LMW	11/8/2023	REVISED LAYOUT OF COMMERCIAL AREA

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 22814
EXPIRATION DATE: JANUARY 20, 2024

PREPARED FOR: OTC RETAIL, L.C. 1355 BEVERLY ROAD, SUITE 240 MCLEAN, VIRGINIA 22101 ATTN: KATHRYN L. KUBIT TEL: 703-734-9730	SCALE: AS SHOWN	ZONING: RMX-2	COVER SHEET CLARKSBURG TOWN CENTER WEST SIDE BLOCK A - PARCELS Q-R BLOCK BB - PARCELS A-H, AA, DD, J-M, LOTS 1-88 BLOCK CC - PARCELS E, G, H BLOCK GG - PARCELS P-V	G. L. W. FILE No. 22074 SHEET 1 OF 6
	DATE: NOV., 2023	TAX MAP - GRID: EW-42	CLARKSBURG ELECTION DISTRICT No. 02 MONTGOMERY COUNTY, MARYLAND	