DM ROMA
CONSULTING ENGINEERS

August 4, 2026

Natalie Thomsen, Town Planner
Town of Windham
8 School Road
Windham, ME 04062

Re: Response to Review Comments - Major Subdivision Preliminary Plan Application
Legacy Village Retirement Community on Webb Road
Robie Holdings, LLC - Applicant

Dear Natalie:

Attached are revised plans and supplemental information for the above referenced project in response to review comments received from the Town Staff, Planning Board, Portland Water District and the Town's Engineering Consultant. The following is a summary of the enclosed documents:

Wastewater Disposal System for Retirement Community

Enclosed is the design for the Engineered Wastewater Disposal System to accommodate a design flow of 6,750 gallons per day (up to 75 bedrooms). We have included a complete copy of the application submitted to the Maine Department of Health and Human Services (DHHS), and a copy of the Approval Letter from DHHS.

Portland Water District Coordination

The Portland Water District has reviewed the project plans and provided comments. The enclosed plans have been revised to address the review comments from PWD and these plans have been provided to PWD for approval. An Ability to Serve Approval Letter, including approval of the off-site water main extension, will be included with the Final Plan application.

Traffic Engineering

Enclosed is a Vehicle Traffic Analysis Report prepared by Barton & Loguidice.

Landscaping Plan and Buffer Yards

The plans have been revised to designate retained natural buffer yard and supplemental landscaping in the perimeter buffer and street buffer as required in §120-511. A table has been added to the Site & Landscaping Plans to designate the species and size of street trees and buffer yard plantings. We are not proposing to specify landscaping around the individual home foundations because each homeowner will have a

preference as to the amount and type of landscaping that they would prefer to maintain in direct vicinity to their unit.

Basement Entry

Based on the current proposed grading, we anticipate that Units 7, 8 and 9 will be constructed with a basement that would require a bulkhead or doghouse entry. We have added bulkheads to those units on the project plans. The remaining units we anticipate will be constructed on a slab with no basement, or built with a full walk-out basement. This information will be further detailed on the Condominium Plat that will be submitted with the Final Plan.

Maine Historic Preservation Commission

Enclosed is a letter from the MHPC indicating that the project will not impact any properties of historical significance.

Exterior Lighting

Exterior light fixtures will be installed over the garage doors on each of the dwelling units, and on the porches adjacent to the driveways. These building-mounted lights will provide sufficient ambient lighting for the adjacent parking areas. A light pole has been proposed at the project entrance. The light pole will be metered privately by the Condominium Association. We have included photometrics and spec sheets for the proposed light fixture mounted on a pole.

Multifamily Development Standards and Open Space

We are proposing to install a network of walking trails through the woods that will extend off the end of the paved sidewalk and follow the utility line where the sewer force main will convey wastewater to the proposed leach field area, and then loop back through the woods. We are proposing to cut the trees on a high knoll at the end of the road and run the walking trail through this area, and install two picnic tables for sitting/congregating. The project is a Condominium, so all land outside of the Limited Common Elements and Units will be Common Land. The limits of the Common Land will be delineated on the Condominium Plat that will be submitted with the Final Plan.

MDEP Stormwater Permit Review Comments

The following is a list of the review comments contained in the Delegated Review Stormwater Application Checklist prepared by LJB Engineering dated June 15, 2026 followed by our response.

Comment #1 – Provide a construction schedule/sequence within the Erosion and Sediment Control Notes within the Plan Set.

Response #1 – The Construction Sequencing notes associated with the Stormwater BMPs are shown on Plan Sheet 10 (Stormwater Ponds Plan) as part of the Section Detail.

Comment #2 – A Class-A High Intensity Soil Survey of the site was completed by Mark Hampton Associates, Inc. and included in the application. Test pit logs were provided, however we could not determine the locations of these test pits to see if they aligned with the proposed UDSFs. Provide soil test pit symbols on the plans. All UDSFs propose to use a 30 mil HDPE liner, and no infiltration is proposed. Provide a test pit summary table within the detail sheets of the plan set for all test pits associated with a stormwater BMP.

Response #2 – We have added the Test Pit symbols to the plans, with notes on the Pond Plan indicating the test pit number for each test pit that is located near the UDSFs. Test Pits SS-6 and SS-8 are in the vicinity of FB-1&2, and Test Pit SS-20 is located in the vicinity of FB-3. All three test pits were excavated to a depth of at least 36" and all three encountered groundwater at a depth of 16" below existing grade. Based on the encountered depth to groundwater we are proposing a liner in all of the filter basins. If ledge is encountered during the construction of the filter basins, we will remove the ledge to a depth that will allow at least 4 inches of sand to be installed between the ledge and the pond liner.

Comment #3 – For FB-2 and FB-3 provide 20 feet of horizontal separation between the principal outlet pipe of the UDSFs and the emergency spillways in accordance with Chapter 500, Appendix E, 3.B – Emergency Spillways.

Response #3 – The emergency spillway was moved to provide the required separation distance.

Comment #4 – Provide a note on the Subdivision Plan requiring roof drip edges along rooflines as stated in the Stormwater Treatment Table.

Response #4 – The requested note was added as Note 17 to the Subdivision Plan.

Comment #5 – The Stormwater Treatment Table references a wetpond in the table's footnotes. Revise to only refer to the proposed BMPs.

Response #5 – A revised Stormwater Treatment Table is attached which removes the reference to a Wet Pond.

Comment #6 – Provide a detail for the 24-inch wide diversion berm.

Response #6 – A section detail has been added to sheet D-3 for the diversion berm and associated riprap swale.

Comment #7 – It appears that an underdrain outlet orifice is modeled in HydroCAD for FB 1 & 2 and FB 3. Provide details of the underdrain outlet orifice on the Stormwater Ponds Plan (Sheet P-1).

Response #7 – There is a note and leader on the Outlet Control Structure Detail which reads "INSTALL SOLID CAP AND CORE A HOLE AT PIPE INVERT, CORE HOLE DIAM=D" with a corresponding hole diameter in the Structure Data table for each of the Outlet Control Structures 1 & 2.

Comment #8 – The emergency spillway of UDSF's FB-1&2 is activated during the 25-year, 24-hour storm event. The 2-, 10- and 25-year, 24-hour storm events shall be directed through the principal outlet without activating the emergency spillway per Appendix E.3.(a) – Principal Spillways.

Response #8 – The elevation of the emergency spillway crest was raised from 235.0 to 235.10 so that the 25-year storm is directed through the principal outlet without activating the emergency spillway. We have enclosed an updated HydroCAD node printout for the Filter Basin 1&2 for review.

Upon your review of the enclosed documents, please let us know if you have any questions or require any additional information.

Sincerely,

DM ROMA CONSULTING ENGINEERS

Dustin Roma

Dustin M. Roma, P.E.
President

DM ROMA
CONSULTING ENGINEERS

RECEIVED
APR 03 2025
By 0626-25

April 2, 2025

Mr. Kirk F. Mohney, Director
Maine Historic Preservation Commission
55 Capitol Street
65 State House Station
Augusta, ME 04333-0065

Re: Review of Project Area
Residential Subdivision, Webb Road, Windham
Robie Holdings, LLC, Applicant

Dear Mr. Mohney:

On behalf of our client Robie Holdings, LLC, DM Roma Consulting Engineers is submitting a request to have a proposed residential development off Webb Road in Windham be reviewed by the Maine Historic Preservation Commission for potential impacts to resources of historical significance.

The 28± acre property is identified as being Lot 33 on the Town of Windham Assessors Map 6 and is located in the Farm (F) zoning district. The applicant intends to develop a residential subdivision and will also include a roadway, private and public utility connections and stormwater infrastructure. The property is generally bounded by residential properties, utility corridor (CMP), and undeveloped woodland.

Based on available property information, there appears to be 4 houses in the vicinity of the project site that are over 50 years old. Photographs of each of the properties with structures older than 50 years and a map indicating locations of these structures have been included for review.

Enclosed is a vicinity map depicting the subject parcel and photographs and a location map for each abutting property over 50 years old. Upon your review of the material, please provide a letter indicating the findings of your initial screening and do not hesitate to contact us with any questions.

Sincerely,

DM Roma Consulting Engineers

J.P. Connolly
Senior Project Engineer

Cc: Robie Holdings, LLC, Applicant
Town of Windham
Maine Department of Environmental Protection
US Army Corps of Engineers

Based on the information submitted, I have concluded that there will be no historic properties affected by the proposed undertaking, as defined by Section 106 of the National Historic Preservation Act. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.

Kirk F. Mohney 4/23/25
State Historic Preservation Officer Date
Maine Historic Preservation Commission

Barton & Loguidice

Traffic Assessment

Date: August 4, 2026

To: **Dustin M. Roma, P.E.**
DM Roma Consulting Engineers

From:
Jacob W. Sirois, P.E.
Project Engineer
Barton & Loguidice, LLC

John Q. Adams, P.E., PTOE
Senior Associate
Barton & Loguidice, LLC

Re: **Legacy Village**
Webb Road, Windham, Maine

1 Introduction

The applicant is proposing the development of 30 age-restricted (55+) single-family homes on Webb Road in the town of Windham. Refer to Image 1 for the approximate location of the development. Access to the site will be provided by a proposed driveway entrance that intersects with the southwest side of Webb Road, approximately 325 feet southeast of the Read Road intersection,

Image 1 – Site Location

The purpose of this traffic assessment is to evaluate and measure the level of impact on traffic operations and safety resulting with the development of the proposed project. Site generated trip projections are provided for "key" peak hour time periods throughout a typical week; road safety conditions were determined based upon a review of MaineDOT's latest crash data, and intersection sight distance was field reviewed and measured to ensure safe and acceptable sight distance is provided at the proposed driveway entrance.

2 Trip Generation

Daily and peak hour site trip generation estimates have been prepared for the 30 proposed age-restricted single-family homes based on the trip generation tables presented in the 12th Edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. The ITE Manual provides numerous land use codes (LUCs) and the volume of site-generated trips produced by each category.

Trip generation estimates for the subdivision have been prepared using LUC #251 – Senior Adult Housing-Single Family, described by ITE as "*independent living developments that are called by various names including retirement communities, age-restricted housing, and active adult communities. The development has a specific age restriction for its residents, typically a minimum of 55 years of age for at least one resident of the household.*"

In the Trip Generation Manual, for LUC #251, ITE provides the "Average" trip generation rate and the "Fitted Curve" trip generation rates. MaineDOT guidelines state that when $R^2 \geq 0.80$, the "Fitted Curve" trip generation rate shall be used. For the PM peak hour of the generator, and the Saturday peak hour, the y-intercept in the fitted curve equation (+44.56 and +42.98) artificially inflates the peak hour trip generation. Accordingly, the average rates were used for these hours. The trip generation calculations are provided below:

Table 1.1
ITE Trip Generation Calculations

Land Use	Multifamily Housing (Low-Rise) Not Close to Rail Transit - LUC 220						
Time Period	**Dwelling Units (X)**	**R^2**	**Fitted Curve Equation/Avg. Rate**	**Trips Generated (T)**	**Distribution Entering / Exiting**	**Enter**	**Exit**
Weekday	30	0.88	Ln(T) = 0.80 Ln(X) + 2.71	228	50% / 50%	114	114
AM Weekday Peak Hour (Street)	30	0.85	Ln(T) = 0.71 Ln(X) + 0.40	17	34% / 66%	6	11
PM Weekday Peak Hour (Street)	30	0.86	Ln(T) = 0.79 Ln(X) + 0.15	17	61% / 39%	10	7
AM Weekday Peak Hour (Generator)*	30	0.82	0.35	11	43% / 57%	5	6
PM Weekday Peak Hour (Generator)	30	0.81	Ln(T) = 0.78 Ln(X) + 0.39	21	55% / 45%	12	9
Saturday Peak Hour*	30	0.98	0.22	7	53% / 47%	4	3
Sunday Peak Hour	30	0.99	Ln(T) = 0.80 Ln(X) - 0.05	16	58% / 42%	9	7

*The average rate has been used instead of the fitted curve equation. Due to the relatively small size of the development, the y-intercepts (+44.56) and (+42.98) overestimate the peak hour trip generation for these hours.

Table 1 shows that the proposed development is expected to generate 17 trips during the AM and PM peak hours of the street (a.k.a. the commuter peak hour). During the AM and PM peak hours of the generator, the site is expected to produce 11 trips and 21 trips, respectively. On the weekend, the trip generation calculations show that the site will produce 7 trips during the Saturday peak hour and 16 trips during the Sunday peak hour.

3 Intersection Sight Distance

Intersection sight distances were recorded at the site's proposed intersection with Webb Road in accordance with the criteria established within the MaineDOT's *Highway Driveway and Entrance Rules* publication, which requires the following minimum sight distance for non-mobility roadways based on the posted speed limit:

MaineDOT Sight Distance Standards	
Posted Speed Limit	**Minimum Sight Distance**
25 mph	200 ft.
30 mph	250 ft.
35 mph	305 ft.
40 mph	**360 ft.**
45 mph	425 ft.
50 mph	495 ft.

The section of Webb Road fronting the development site is posted at 40 mph, requiring a minimum sight distance of 360 feet. MaineDOT's Rules and Regulations require sight distance to be measured in accordance with the following procedures: *"Sight distance is measured to and from the point on the centerline of the proposed access that is located 10 feet from the edge of traveled way. The height of the hypothetical person's view is considered to be 3½ feet above the pavement and the height of the object being viewed is considered to be 4¼ feet above the pavement."*

Our field measurements, looking left and right along Webb Road from the site approach, indicate that the existing sight distances exceed the requirements for the 40 mph speed limit. Looking left, we recorded a measurement in excess of 400 feet. Looking right, we recorded a measurement in excess of 600 feet. Refer to Image 2 and Image 3, attached below:

Image 2 - Sight Distance – Looking Left

Image 3 - Sight Distance – Looking Right

4 Existing Road Safety Conditions

Crash data for the latest three-year time period (2023-2025) was provided by MaineDOT's Crash Records Section for sections of Webb Road, Gray Road, River Road, Chute Road, and Read Road, within the vicinity of the site. A summary of crash data is provided below in Table 2. Intersections and sections with no recorded crashes were omitted from the table.

Table 2
2023 - 2025 Crash Summary

#	Location		Total Crashes	Critical Rate Factor
1	Main St @	Newhall Rd	3	0.93
2	Main St @	River Rd	14	0.79
3	**River Rd @**	**Chute Rd/Depot St**	**16**	**4.74**
4	River Rd @	Victoria Ln	2	0.68
5	Chute Rd @	Montgomery Rd/Webb Rd	2	1.57
6	Main St btw.	River Rd and Gate Wy	1	0.17
7	Main St btw.	Gate Wy and Barnes Rd	2	0.37
8	Main St btw.	Barnes Rd and Node 13830 (non-intersection on Main St)	3	0.50
9	Main St btw.	Node 13830 (non-intersection on Main St) and Newhall Rd	1	0.19
10	Main St btw.	Newhall Rd and Neighborly Wy	3	1.31
11	Gray Rd btw.	Neighborly Wy and Read Rd	4	0.38
12	Gray Rd btw.	Read Rd and Fall Ridge Rd	6	0.77
13	Gray Rd btw.	Fall Ridge Rd and Webb Rd	1	0.22
14	River Rd btw.	Median south of Main St and Victoria Ln	7	0.86
15	River Rd btw.	Victoria Ln and Chute Rd/Depot St	3	0.45
16	Chute Rd btw.	River Rd and Montgomery Rd/Webb Rd	4	0.31
17	Webb Rd btw.	Chute Rd and Read Rd	4	0.72

MaineDOT considers any roadway intersection or segment a high crash location (HCL) if both of the following criteria are met:

- ***8 or more crashes in the latest three-year period, and***
- ***A Critical Rate Factor (CRF) greater than or equal to 1.00***

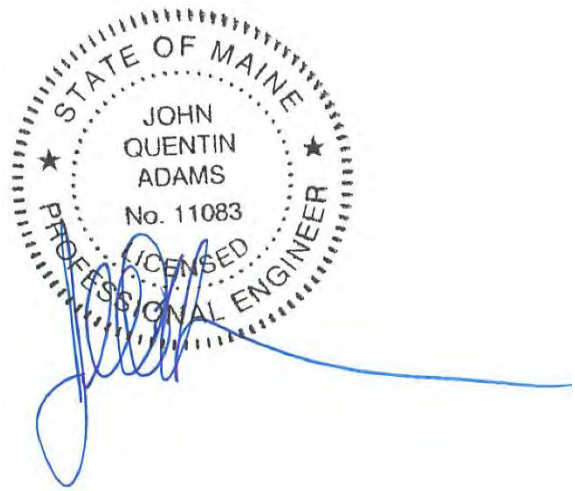
As the data presented in the table shows, Location #3, River Road at Chute Road and Depot Street, meets MaineDOT's dual HCL criteria with 16 total crashes and a CRF of 4.74. This HCL is located more than 2 miles from the site.

5 Summary

The proposed age-restricted residential development is expected to generate 17 trips during the AM and PM peak hours of the street (a.k.a. the commuter peak hour). During the AM and PM peak hours of the generator, the site is expected to produce 11 trips and 21 trips, respectively. On the weekend, the trip generation calculations show that the site will produce 7 trips during the Saturday peak hour and 16 trips during the Sunday peak hour. Overall, the project will remain well below the 100-trip threshold required to trigger a MaineDOT Traffic Movement Permit.

- Vehicle sight distance measurements were field recorded from the proposed site entrance, looking left and right directionally onto Webb Road. Our field measurements showed that the existing sightlines exceed MaineDOT's minimum requirement for a 40 mph roadway (360 feet)

- Crash data for the latest 3-year time period (2023 to 2025) was provided by MaineDOT's Crash Records Section for Webb Road, Gray Road, River Road, and Chute Road around the site. Our review of the crash data showed that there are no high crash locations on Webb Road or within the general vicinity of the site. There is a high crash location at the intersection of River Road, Chute Road, and Depot Street, over 2 miles away from the site.



John Q. Adams, P.E., PTOE
Date: 8/4/2026

APPENDIX

- **MAINEDOT CRASH DATA**


WINDHAM
Fall Ridge Rd
Reed Hill
Gray Rd
Timmons Hill
Albion Rd
Roosevelt Trl
Jones Hill
Sweet Rd
Pope Rd
Webb Rd
Chute Rd
Colley Wright Brook
Highland Cliff Rd
Land Of Nod Rd
River Rd
Newhall
Black Brook
Main St
Presumpscot River
Canada Hill
Small Hill
Ishlom Brook
Small Brook
Scale: 1:22492
0.3mi
15728
11033
59515
10186
15727
59516
0234
0300
6386
74435
16906
59523
59522
11038
11031
11030
16905
74442
74441
74445
11032
74447
11028
11027
19552
19553
15726
11019
13830
19541
59476
19540
59475
15961
74431
15725
11026
19557
19556
59505
59504
59501
74438
202
59506
66693
15724
66697
66694
65412
74437
6243
62683
15723
0233
11025
4
72416
1060473
15960
11018
12472
Windham

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ **Crash Summary I** ☐ **Section Detail** ☑ **Crash Summary II** ☐ **1320 Public** ☐ **1320 Private** ☐ **1320 Summary**

REPORT DESCRIPTION

Windham
Webb Rd-Chute Rd-Gray Rd-Main St-Read Rd-River Rd area

REPORT PARAMETERS

Year 2023, Start Month 1 through Year 2025 End Month: 12

Route: **0202X**	Start Node: **15724**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **15728**	End Offset: **0**	☐ **Exclude Last Node**
Route: **3209658**	Start Node: **66694**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **15724**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0500782**	Start Node: **15724**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **15960**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0500711**	Start Node: **11026**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **15960**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0500708**	Start Node: **11026**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **15728**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0501175**	Start Node: **11033**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **15727**	End Offset: **0**	☑ **Exclude Last Node**

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
15728	0202X - 46.47	Int of GRAY RD WEBB RD	2	0	0	0	0	0	0	0.0	2.463	0.00	0.45	0.00
												Statewide Crash Rate:	0.15	
13830	0202X - 45.52	Non-Int MAIN ST	2	0	0	0	0	0	0	0.0	2.112	0.00	0.47	0.00
												Statewide Crash Rate:	0.15	
15726	0202X - 45.68	Int of MAIN ST NEWHALL RD	2	3	0	0	1	0	2	33.3	2.300	0.43	0.46	0.00
												Statewide Crash Rate:	0.15	
15727	0202X - 46.10	Int of GRAY RD READ RD	2	0	0	0	0	0	0	0.0	2.358	0.00	0.45	0.00
												Statewide Crash Rate:	0.15	
P15724	0202X - 44.92	Int of MAIN ST RIVER RD	9	14	0	0	0	2	12	14.3	4.844	0.96	1.22	0.79
												Statewide Crash Rate:	0.69	
19552	0202X - 45.73	Int of GRAY RD MAIN ST NEIGHBORLY WY	2	0	0	0	0	0	0	0.0	2.326	0.00	0.46	0.00
												Statewide Crash Rate:	0.15	
59501	0202X - 45.14	Int of GATE WY MAIN ST	2	0	0	0	0	0	0	0.0	1.972	0.00	0.48	0.00
												Statewide Crash Rate:	0.15	
59515	0202X - 46.35	Int of FALL RIDGE RD GRAY RD	2	0	0	0	0	0	0	0.0	2.395	0.00	0.45	0.00
												Statewide Crash Rate:	0.15	
15725	0202X - 45.32	Int of BARNES RD MAIN ST	2	0	0	0	0	0	0	0.0	2.098	0.00	0.47	0.00
												Statewide Crash Rate:	0.15	
15960	0500782 - 6.60	Int of CHUTE RD DEPOT ST RIVER RD	2	16	0	0	2	3	11	31.3	2.904	1.84	0.39	4.74
												Statewide Crash Rate:	0.13	
62683	0500782 - 6.35	Int of RIVER RD VICTORIA LN	2	2	0	0	0	0	2	0.0	2.369	0.28	0.41	0.00
												Statewide Crash Rate:	0.13	
A66694	0500782 - 6.02	Int of RD INV 3142105 RIVER RD	2	0	0	0	0	0	0	0.0	0.000	0.00	0.00	0.00
												Statewide Crash Rate:	0.15	
11026	0500711 - 1.33	Int of CHUTE RD MONTGOMERY RD WEBB RD	2	2	0	0	0	0	2	0.0	0.762	0.88	0.56	1.57
												Statewide Crash Rate:	0.14	
11033	0500708 - 2.14	Int of READ RD WEBB RD	2	0	0	0	0	0	0	0.0	0.181	0.00	0.53	0.00
												Statewide Crash Rate:	0.14	
10186	0501175 - 0.15	Non Int READ RD	2	0	0	0	0	0	0	0.0	0.017	0.00	-5.33	0.00
												Statewide Crash Rate:	0.14	
Study Years:	3.00	**NODE TOTALS:**		37	0	0	3	5	29	21.6	29.101	0.42	0.36	1.16

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
15724	59501	3142036	0 - 0.22	0202X - 44.92	0.22	2	1	0	0	0	0	1	0.0	0.00422	79.07	477.51	0.00
Int of MAIN ST RIVER RD				US 202											Statewide Crash Rate: 196.20		
59501	15725	3115029	0 - 0.18	0202X - 45.14	0.18	2	2	0	0	0	1	1	50.0	0.00360	185.17	497.09	0.00
Int of GATE WY MAIN ST				US 202											Statewide Crash Rate: 196.20		
13830	15725	3106320	0 - 0.20	0202X - 45.32	0.20	2	3	0	0	0	1	2	33.3	0.00417	239.95	478.90	0.00
Non-Int MAIN ST				US 202											Statewide Crash Rate: 196.20		
13830	15726	3106321	0 - 0.16	0202X - 45.52	0.16	2	1	0	0	0	0	1	0.0	0.00342	97.35	503.54	0.00
Non-Int MAIN ST				US 202											Statewide Crash Rate: 196.20		
15726	19552	3122251	0 - 0.05	0202X - 45.68	0.05	2	3	0	0	1	2	0	100.0	0.00115	871.14	665.87	1.31
Int of MAIN ST NEWHALL RD				US 202											Statewide Crash Rate: 196.20		
15727	19552	3105844	0 - 0.37	0202X - 45.73	0.37	2	4	0	0	1	0	3	25.0	0.00869	153.50	400.53	0.00
Int of GRAY RD READ RD				US 202											Statewide Crash Rate: 196.20		
15727	59515	3138986	0 - 0.25	0202X - 46.10	0.25	2	6	0	0	0	0	6	0.0	0.00588	340.34	439.59	0.00
Int of GRAY RD READ RD				US 202											Statewide Crash Rate: 196.20		
59515	15728	3115030	0 - 0.12	0202X - 46.35	0.12	2	1	0	0	0	0	1	0.0	0.00286	116.56	527.48	0.00
Int of FALL RIDGE RD GRAY RD				US 202											Statewide Crash Rate: 196.20		
66694	15724	3142048	0 - 0.03	3209658 - 0	0.03	2	0	0	0	0	0	0	0.0	0.00029	0.00	695.55	0.00
Int of RD INV 3142105 RIVER RD				RD INV 3209658											Statewide Crash Rate: 161.30		
15724	66694	3142046	0 - 0.02	0500782 - 6	0.02	2	0	0	0	0	0	0	0.0	0.00025	0.00	689.10	0.00
Int of MAIN ST RIVER RD				RD INV 05 00782											Statewide Crash Rate: 161.30		
62683	66694	3939595	0 - 0.33	0500782 - 6.02	0.33	2	7	0	0	1	1	5	28.6	0.00768	303.63	355.08	0.86
Int of RIVER RD VICTORIA LN				RD INV 05 00782											Statewide Crash Rate: 161.30		
15960	62683	3139268	0 - 0.25	0500782 - 6.35	0.25	2	3	0	0	0	0	3	0.0	0.00590	169.38	378.90	0.00
Int of CHUTE RD DEPOT ST RIVER RD				RD INV 05 00782											Statewide Crash Rate: 161.30		
11026	15960	5087745	0 - 1.11	0500711 - 1.33	1.11	2	4	0	0	0	2	2	50.0	0.00652	204.41	665.16	0.00
Int of CHUTE RD MONTGOMERY RD WEBB RD				RD INV 05 00711											Statewide Crash Rate: 347.46		
11026	11033	5087742	0 - 1.21	0500708 - 0.93	1.21	2	4	0	0	0	0	4	0.0	0.00212	628.95	870.95	0.00
Int of CHUTE RD MONTGOMERY RD WEBB RD				RD INV 05 00708											Statewide Crash Rate: 347.46		
11033	15728	5087743	0 - 0.15	0500708 - 2.14	0.15	2	0	0	0	0	0	0	0.0	0.00025	0.00	1430.74	0.00
Int of READ RD WEBB RD				RD INV 05 00708											Statewide Crash Rate: 347.46		
10186	11033	5096588	0 - 0.15	0501175 - 0	0.15	2	0	0	0	0	0	0	0.0	0.00003	0.00	-664.35	0.00
Non Int READ RD				RD INV 05 01175											Statewide Crash Rate: 347.46		
10186	15727	5096587	0 - 0.16	0501175 - 0.15	0.16	2	0	0	0	0	0	0	0.0	0.00003	0.00	-433.09	0.00
Non Int READ RD				RD INV 05 01175											Statewide Crash Rate: 347.46		
Study Years: 3.00				**Section Totals:**	4.96		39	0	0	3	7	29	25.6	0.05705	227.86	298.87	0.76
				Grand Totals:	4.96		76	0	0	6	12	58	23.7	0.05705	444.03	412.39	1.08

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
15724	59501	3142036	0 - 0.22	0202X - 44.92	1	0	0	0	0	1	2024-26474	09/25/2024	45.01	PD
59501	15725	3115029	0 - 0.18	0202X - 45.14	2	0	0	0	1	1	2025-24455	08/26/2025	45.24	C
											2025-26602	09/16/2025	45.30	PD
13830	15725	3106320	0 - 0.20	0202X - 45.32	3	0	0	0	1	2	2025-2114	01/21/2025	45.33	PD
											2024-5864	02/26/2024	45.42	PD
											2023-7063	03/02/2023	45.47	C
13830	15726	3106321	0 - 0.16	0202X - 45.52	1	0	0	0	0	1	2025-38089	12/16/2025	45.67	PD
15726	19552	3122251	0 - 0.05	0202X - 45.68	3	0	0	1	2	0	2023-28965	10/06/2023	45.72	B
											2025-32585	11/07/2025	45.72	C
											2025-27544	09/26/2025	45.72	C
15727	19552	3105844	0 - 0.37	0202X - 45.73	4	0	0	1	0	3	2025-6396	02/25/2025	45.79	B
											2023-35746	11/30/2023	45.84	PD
											2025-33096	11/13/2025	45.94	PD
											2024-5923	02/26/2024	46.07	PD
15727	59515	3138986	0 - 0.25	0202X - 46.10	6	0	0	0	0	6	2025-37735	12/15/2025	46.11	PD
											2024-11552	03/21/2024	46.16	PD
											2023-23	01/02/2023	46.23	PD
											2024-31262	11/06/2024	46.25	PD
											2023-30303	10/17/2023	46.26	PD
											2024-34007	11/30/2024	46.29	PD
59515	15728	3115030	0 - 0.12	0202X - 46.35	1	0	0	0	0	1	2023-29725	10/14/2023	46.40	PD
66694	15724	3142048	0 - 0.03	3209658 - 0	0	0	0	0	0	0				
15724	66694	3142046	0 - 0.02	0500782 - 6	0	0	0	0	0	0				
62683	66694	3939595	0 - 0.33	0500782 - 6.02	7	0	0	1	1	5	2025-37176	12/11/2025	6.04	B
											2023-30283	10/18/2023	6.07	PD
											2025-13321	05/13/2025	6.14	PD
											2025-9218	03/24/2025	6.16	PD
											2023-16747	06/09/2023	6.17	C
											2024-31543	11/10/2024	6.24	PD
											2025-14521	05/27/2025	6.24	PD
15960	62683	3139268	0 - 0.25	0500782 - 6.35	3	0	0	0	0	3	2023-37025	12/09/2023	6.43	PD
											2025-2012	01/19/2025	6.49	PD
											2023-34720	11/24/2023	6.51	PD

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
11026	15960	5087745	0 - 1.11	0500711 - 1.33	4	0	0	0	2	2	2025-27235	09/24/2025	1.83	PD
											2023-10696	04/08/2023	1.86	C
											2024-11533	03/04/2024	1.97	C
											2024-28262	10/13/2024	2.22	PD
11026	11033	5087742	0 - 1.21	0500708 - 0.93	4	0	0	0	0	4	2024-11536	03/05/2024	1.15	PD
											2023-28860	10/05/2023	1.69	PD
											2023-10205	04/03/2023	1.77	PD
											2024-24589	09/03/2024	1.95	PD
11033	15728	5087743	0 - 0.15	0500708 - 2.14	0	0	0	0	0	0				
10186	11033	5096588	0 - 0.15	0501175 - 0	0	0	0	0	0	0				
10186	15727	5096587	0 - 0.16	0501175 - 0.15	0	0	0	0	0	0				
				Totals:	39	0	0	3	7	29				

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												Hour of Day PM													
Day Of Week	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**Un**	**Tot**
SUNDAY	0	0	0	0	0	0	0	1	1	0	0	1	0	1	0	1	0	1	0	1	0	0	0	0	0	7
MONDAY	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	3	0	0	2	0	0	0	1	0	9
TUESDAY	0	1	0	0	0	0	0	2	0	0	0	1	0	3	2	1	0	1	1	1	2	0	0	0	0	15
WEDNESDAY	0	1	0	0	0	0	0	2	0	1	0	1	1	0	1	1	0	3	1	0	0	0	1	0	0	13
THURSDAY	0	0	0	0	0	2	1	0	0	1	0	0	1	0	0	1	0	1	1	1	0	0	0	1	0	10
FRIDAY	0	0	0	0	0	0	0	1	0	0	2	0	0	1	1	0	1	2	0	1	0	0	0	0	0	9
SATURDAY	1	0	0	0	0	1	1	0	0	0	0	0	2	1	1	1	0	1	2	1	0	0	1	0	0	13
Totals	1	2	0	0	0	4	2	6	1	2	2	3	4	6	6	6	4	9	5	7	2	0	2	2	0	**76**

Vehicle Counts by Type

Unit Type	Total
1-Passenger Car	42
2-(Sport) Utility Vehicle	51
3-Passenger Van	1
4-Cargo Van (10K lbs or Less)	1
5-Pickup	27
6-Motor Home	0
7-School Bus	0
8-Transit Bus	0
9-Motor Coach	0
10-Other Bus	0
11-Motorcycle	0
12-Moped	0
13-Low Speed Vehicle	0
14-Autocycle	0
15-Experimental	0
16-Other Light Trucks (10,000 lbs or Less)	1
17-Medium/Heavy Trucks (More than 10,000 lbs)	1
18-ATV - (4 wheel)	0
20-ATV - (2 wheel)	0
21-Snowmobile	0
22-Pedestrian	0
23-Bicyclist	0
24-Witness	9
25-Other	0
26-Construction	0
27-Farm Vehicle	0
28-Horse and Buggy	0
Total	**133**

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	31	32	2	1	0	0	66
Ran Off Roadway	4	0	0	0	0	0	4
Failed to Yield Right-of-Way	13	6	0	0	0	0	19
Ran Red Light	3	0	0	0	0	0	3
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	0	0	0	0	0	0	0
Improper Turn	2	0	0	0	0	0	2
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	13	1	0	0	0	0	14
Failed to Keep in Proper Lane	0	1	0	0	0	0	1
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	0	0	0	0	0	0	0
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	2	0	0	0	0	0	2
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	4	1	0	0	0	0	5
Unknown	3	2	0	0	0	0	5
Total	**75**	**43**	**2**	**1**	**0**	**0**	**121**

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	71	43	2	1	0	0	117
Physically Impaired	1	0	0	0	0	0	1
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	1	0	0	0	0	0	1
Under the Influence of Medications/Drugs/Alcohol	1	0	0	0	0	0	1
Other	1	0	0	0	0	0	1
Total	**75**	**43**	**2**	**1**	**0**	**0**	**121**

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	16	0	0	0	0	16
20-24	17	0	0	0	0	17
25-29	12	0	0	0	0	12
30-39	22	0	0	0	0	22
40-49	16	0	0	0	0	16
50-59	18	0	0	0	0	18
60-69	13	0	0	0	0	13
70-79	7	0	0	0	0	7
80-Over	2	0	0	0	0	2
Unknown	1	0	0	0	0	1
Total	**124**	**0**	**0**	**0**	**0**	**124**

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	0	38-Other Fixed Object (wall, building, tunnel, etc.)	0
2-Fire / Explosion	0	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	0	**Total**	**123**
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	0		
10-Pedalcycle	0		
11-Railway Vehicle - Train, Engine	0		
12-Animal	19		
13-Motor Vehicle in Transport	96		
14-Parked Motor Vehicle	1		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	0		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	0		
25-Ditch	3		
26-Embankment	0		
27-Guardrail Face	0		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	2		
32-Utility Pole / Light Support	2		
33-Traffic Sign Support	0		
34-Traffic Signal Support	0		
35-Fence	0		
36-Mailbox	0		
37-Other Post, Pole, or Support	0		

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	16
2-Traffic Signals (Flashing)	4
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	1
5-Stop Signs - Other	10
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	1
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	0
13-None	43
14-Other	1
Total	**76**

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	0	0
B	6	6
C	12	14
PD	58	0
Total	**76**	**20**

Road Character

Road Grade	Total
1-Level	64
2-On Grade	9
3-Top of Hill	2
4-Bottom of Hill	1
5-Other	0
Total	**76**

Light

Light Condition	Total
1-Daylight	44
2-Dawn	1
3-Dusk	3
4-Dark - Lighted	9
5-Dark - Not Lighted	19
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	**76**

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2023	2024	2025	Total
JANUARY	2	0	3	5
FEBRUARY	3	5	5	13
MARCH	1	4	2	7
APRIL	3	0	1	4
MAY	0	0	3	3
JUNE	2	1	1	4
JULY	1	0	1	2
AUGUST	0	4	1	5
SEPTEMBER	0	2	3	5
OCTOBER	5	3	1	9
NOVEMBER	2	5	3	10
DECEMBER	3	0	6	9
Total	**22**	**24**	**30**	**76**

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	3	0	1	12	0	6	0	0	0	0	0	0	0	0	22
Head-on - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Movement	0	0	2	19	0	1	0	0	0	0	0	0	0	0	22
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	7	1	2	0	0	0	0	0	0	0	0	0	0	0	10
All Other Animal	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	19	1	0	0	0	0	0	0	0	0	0	0	0	0	20
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**30**	**2**	**5**	**32**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**76**

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	7	0	0	0	0	0	0	0	0	0	0	7
Dark - Not Lighted	14	0	0	0	0	0	0	0	0	0	1	15
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	26	2	0	0	0	0	0	0	0	0	2	30
Dusk	3	0	0	0	0	0	0	0	0	0	0	3
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	1	0	0	0	0	0	0	0	0	0	0	1
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	7	0	0	0	0	0	0	0	0	0	1	8
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	2	0	0	0	0	0	0	0	0	0	0	2
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	1	1
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	1	1
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	3	3
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	1	1
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	1	0	0	0	1
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	2	0	0	1	3
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**60**	**2**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**11**	**76**

H. C. L.
CRASH COLLISION DIAGRAM
DATA PACKAGE

COUNTY: **CUMBERLAND** TOWN: **WINDHAM**

LOW NODE: **15960** HIGH NODE: **0000** REGION: **1** U/R: **URBAN**

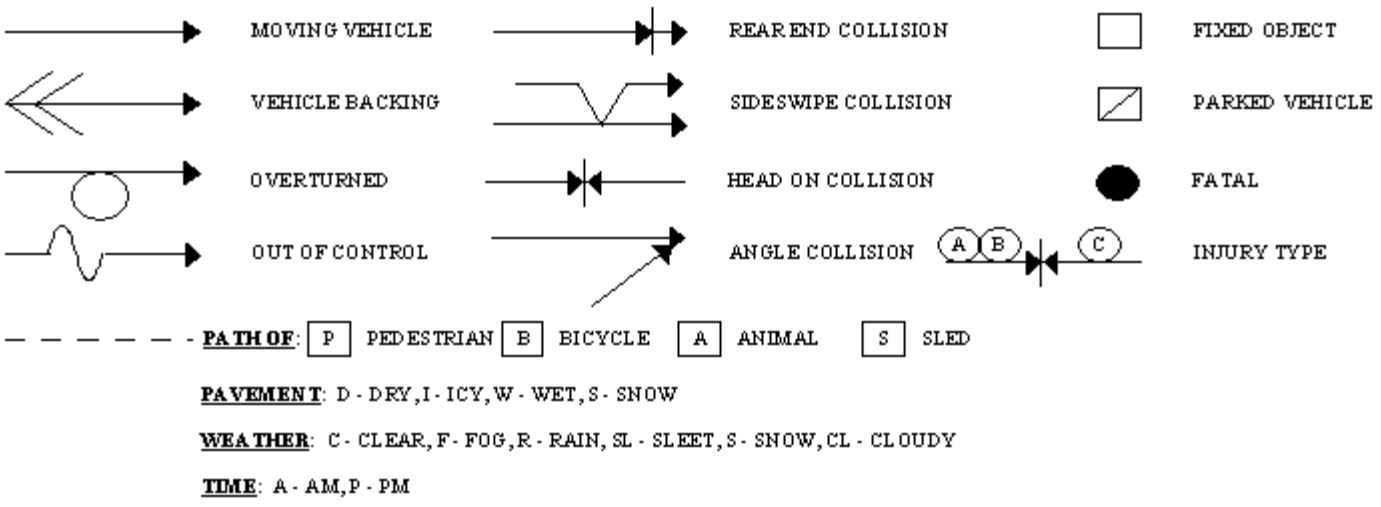
DESCRIPTION: **Int of River Rd, Chute Rd, and Depot St**

RTE # / RD #: **0500711** DATE DRAWN: **7/22/2026** DRAWN BY: **Duncan**

STUDY FROM: **1/1/2023** STUDY TO: **12/31/2025**

CRASH RATE: **1.84** CRF: **4.75** % INJURY: **31.3** TOTAL CRASHES: **16**

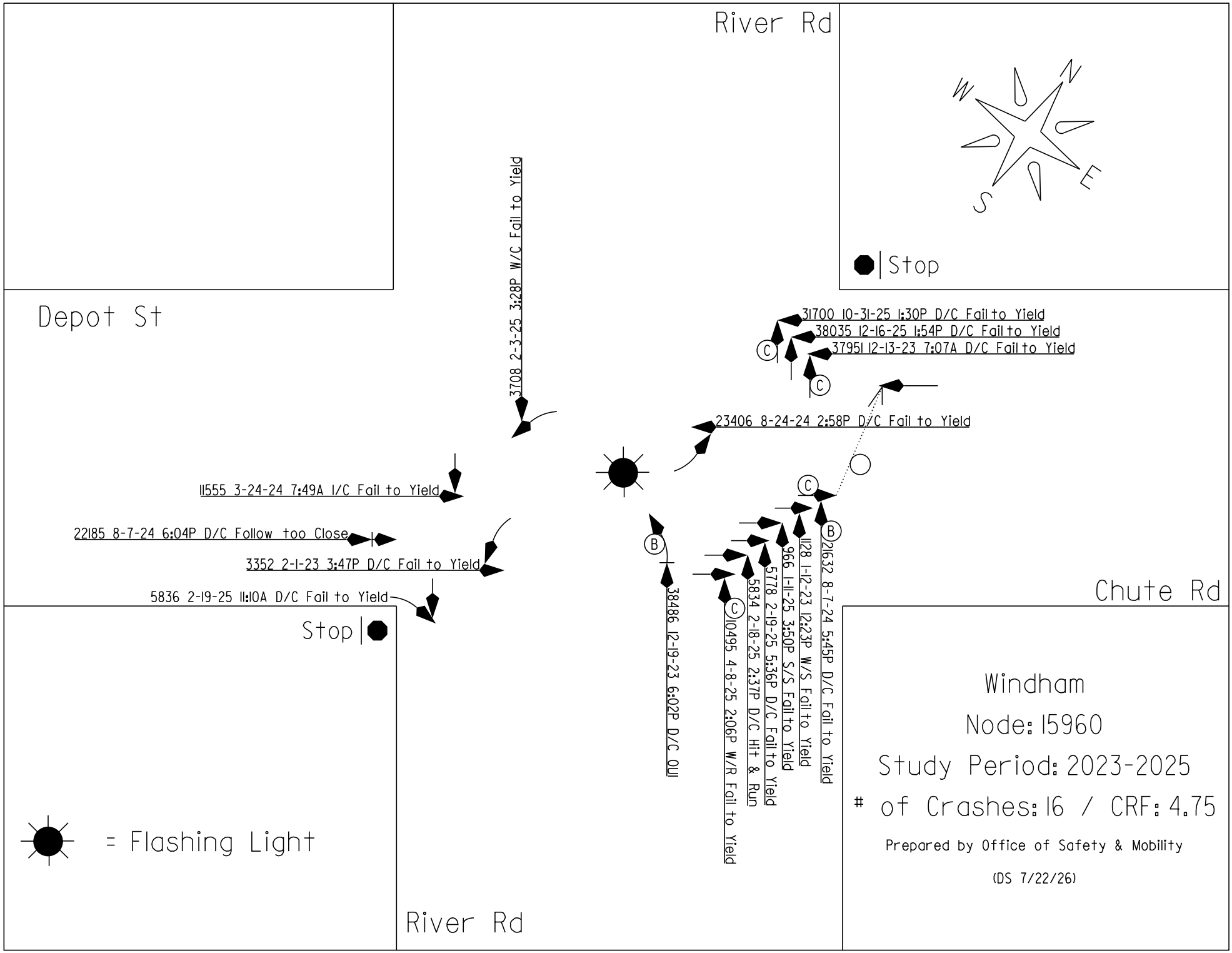
LEGEND



PAVEMENT: D - DRY, I - ICY, W - WET, S - SNOW

WEATHER: C - CLEAR, F - FOG, R - RAIN, SL - SLEET, S - SNOW, CL - CLOUDY

TIME: A - AM, P - PM


River Rd
Depot St
Stop
3708 2-3-25 3:28P W/C Fail to Yield
31700 10-31-25 1:30P D/C Fail to Yield
38035 12-16-25 1:54P D/C Fail to Yield
37951 12-13-23 7:07A D/C Fail to Yield
23406 8-24-24 2:58P D/C Fail to Yield
11555 3-24-24 7:49A I/C Fail to Yield
22185 8-7-24 6:04P D/C Follow too Close
3352 2-1-23 3:47P D/C Fail to Yield
5836 2-19-25 11:10A D/C Fail to Yield
Stop
38486 12-19-23 6:02P D/C OUI
10495 4-8-25 2:06P W/R Fail to Yield
5834 2-18-25 2:37P D/C Hit & Run
5778 2-19-25 5:36P D/C Fail to Yield
966 1-11-25 3:50P S/S Fail to Yield
1128 1-12-23 12:23P W/S Fail to Yield
21632 8-7-24 5:45P D/C Fail to Yield
Chute Rd
= Flashing Light
River Rd
Windham
Node: 15960
Study Period: 2023-2025
# of Crashes: 16 / CRF: 4.75
Prepared by Office of Safety & Mobility
(DS 7/22/26)


Search...
River Rd
Chute Rd
15960
WINDHAM
Depot St
River Rd
Scale: 1:826
60ft

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ Crash Summary I - Single Node	☐ Section Detail	☑ Crash Summary II	☐ 1320 Public	☐ 1320 Private	☐ 1320 Summary

REPORT DESCRIPTION

Windham

Int of River Rd, Chute Rd, and Depot St

REPORT PARAMETERS

Year 2023, Start Month 1 through Year 2025 End Month: 12

Route: 0500711	Start Node: 15960	Start Offset: 0	☐ Exclude First Node
	End Node: 15960	End Offset: 0	☐ Exclude Last Node

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
15960	0500711 - 2.44	Int of CHUTE RD DEPOT ST RIVER RD	2	16	0	0	2	3	11	31.3	2.904	1.84	0.39	4.74
												Statewide Crash Rate:	0.13	
Study Years:	3.00	NODE TOTALS:		16	0	0	2	3	11	31.3	2.904	1.84	0.39	4.75

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												PM												
	Hour of Day																								
Day Of Week	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	Un	Tot
SUNDAY	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
MONDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
TUESDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	1	0	0	0	0	0	0	4
WEDNESDAY	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	2	1	0	0	0	0	0	0	6
THURSDAY	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
FRIDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
SATURDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
Totals	0	0	0	0	0	0	0	2	0	0	0	1	1	2	3	3	0	2	2	0	0	0	0	0	0	16

Vehicle Counts by Type

Unit Type	Total
1-Passenger Car	9
2-(Sport) Utility Vehicle	12
3-Passenger Van	1
4-Cargo Van (10K lbs or Less)	0
5-Pickup	11
6-Motor Home	0
7-School Bus	0
8-Transit Bus	0
9-Motor Coach	0
10-Other Bus	0
11-Motorcycle	0
12-Moped	0
13-Low Speed Vehicle	0
14-Autocycle	0
15-Experimental	0
16-Other Light Trucks (10,000 lbs or Less)	0
17-Medium/Heavy Trucks (More than 10,000 lbs)	0
18-ATV - (4 wheel)	0
20-ATV - (2 wheel)	0
21-Snowmobile	0
22-Pedestrian	0

Unit Type	Total
23-Bicyclist	0
24-Witness	5
25-Other	0
26-Construction	0
27-Farm Vehicle	0
28-Horse and Buggy	0
Total	38

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	2	12	1	0	0	0	15
Ran Off Roadway	0	0	0	0	0	0	0
Failed to Yield Right-of-Way	11	4	0	0	0	0	15
Ran Red Light	0	0	0	0	0	0	0
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	0	0	0	0	0	0	0
Improper Turn	0	0	0	0	0	0	0
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	1	0	0	0	0	0	1
Failed to Keep in Proper Lane	0	0	0	0	0	0	0
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	0	0	0	0	0	0	0
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	0	0	0	0	0	0	0
Unknown	1	0	0	0	0	0	1
Total	15	16	1	0	0	0	32

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	14	16	1	0	0	0	31
Physically Impaired	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	0	0	0	0	0	0	0
Under the Influence of Medications/Drugs/Alcohol	1	0	0	0	0	0	1
Other	0	0	0	0	0	0	0
Total	15	16	1	0	0	0	32

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	3	0	0	0	0	3
20-24	2	0	0	0	0	2
25-29	3	0	0	0	0	3
30-39	8	0	0	0	0	8
40-49	4	0	0	0	0	4
50-59	5	0	0	0	0	5
60-69	4	0	0	0	0	4
70-79	2	0	0	0	0	2
80-Over	1	0	0	0	0	1
Unknown	1	0	0	0	0	1
Total	33	0	0	0	0	33

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	0	38-Other Fixed Object (wall, building, tunnel, etc.)	0
2-Fire / Explosion	0	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	0	Total	32
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	0		
10-Pedalcycle	0		
11-Railway Vehicle - Train, Engine	0		
12-Animal	0		
13-Motor Vehicle in Transport	32		
14-Parked Motor Vehicle	0		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	0		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	0		
25-Ditch	0		
26-Embankment	0		
27-Guardrail Face	0		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	0		
32-Utility Pole / Light Support	0		
33-Traffic Sign Support	0		
34-Traffic Signal Support	0		
35-Fence	0		
36-Mailbox	0		
37-Other Post, Pole, or Support	0		

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	0	0
B	2	2
C	3	4
PD	11	0
Total	16	6

Road Character

Road Grade	Total
1-Level	14
2-On Grade	2
3-Top of Hill	0
4-Bottom of Hill	0
5-Other	0
Total	16

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	2
2-Traffic Signals (Flashing)	4
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	0
5-Stop Signs - Other	7
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	1
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	0
13-None	1
14-Other	1
Total	16

Light

Light Condition	Total
1-Daylight	13
2-Dawn	0
3-Dusk	0
4-Dark - Lighted	1
5-Dark - Not Lighted	2
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	16

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2023	2024	2025	Total
JANUARY	1	0	1	2
FEBRUARY	1	0	4	5
MARCH	0	1	0	1
APRIL	0	0	1	1
MAY	0	0	0	0
JUNE	0	0	0	0
JULY	0	0	0	0
AUGUST	0	3	0	3
SEPTEMBER	0	0	0	0
OCTOBER	0	0	1	1
NOVEMBER	0	0	0	0
DECEMBER	2	0	1	3
Total	4	4	8	16

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Head-on - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Movement	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	16	0	0	0	0	0	0	0	0	0	0	16

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	2	0	0	0	0	0	0	0	0	0	0	2
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	9	1	0	0	0	0	0	0	0	0	1	11
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	1	1
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	1	0	0	0	1
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	1	1
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	11	1	0	0	0	0	0	1	0	0	3	16

Janet T. Mills
Governor

Sara Gagné-Holmes
Commissioner

Maine Department of Health and Human Services
Maine Center for Disease Control and Prevention
11 State House Station
286 Water Street
Augusta, Maine 04333-0011
Tel; (207) 287-8016; Fax (207) 287-2887
TTY: Dial 711 (Maine Relay)

July 22, 2026

Robie Holdings
PO Box 1508
Windham, ME 04062
c/o Mr. Jayson Haskell, P.E.

Subject: Approval, proposed SWW for Legacy Village Retirement Community, Webb Road, Windham, ME

Dear Mr. Haskell:

The Division of Environmental and Community Health has completed a review of a design for an engineered subsurface wastewater disposal system design, to serve this proposed 75-bedroom retirement facility. The HHE-200 Form dated July 13, 2026, was prepared by Scott Dixon, S.E. The system was designed by Main Land Development Consultants, Inc., with plans signed and stamped by Scott Dixon, P.E.

Hereinafter, the term "design engineer" shall refer collectively to Main Land Development Consultants, Inc., its staff, and its representatives unless otherwise specified; and the term "owner" shall refer collectively to Robie Holdings, its staff, and its representatives unless otherwise specified.

Design Flow

The design flow is 6,750 gallons per day (gpd), based upon Table 5C of the Maine State Plumbing Code, Subsurface Wastewater Disposal Rules (Rules). The design flow of 6,750 gpd is approved with the notation that the suitability of the design flow is the responsibility of the design engineer.

Treatment Tank(s)

Wastewater from the residences is collected in two tank-treatment locations. At one location near the northern end of the line of cottages, two 1,500-gallon septic tanks in series feed two FujiClean CEN 14 Advanced Wastewater Treatment Units in parallel before the pump station and force main pumps the effluent to the disposal area. At the southern end of the row of cottages, two 2,000-gallon septic tanks in series feed three FujiClean CEN 14 Advanced Wastewater Treatment Units in parallel before the pump station and force main transports the effluent to the disposal area.

Disposal Areas

A 1,000-gallon septic tank stills the flow from the force main. The water then distributed between two beds of 70 4-foot by 8-foot concrete chambers (140 chambers total). The chambered portion of each bed is 40 feet wide by 56 feet long. The fill extension is reported to be 38 feet long and the lower third is designed to be composed of a loamy material.

Soils

The soils have been identified as 4C per the Rules by Scott Dixon, S.E. Reduced conditions were observed near the base of the thin ablation till layer. Seasonal high groundwater was therefore assumed to occur within the weathered bedrock.

Mounding Analysis

The proposed system has been designed such that the calculated groundwater mounding will not result in a compromise of the separation specified in Table 5F of the Rules, according to the report dated July 15, 2026, by Scott Dixon, L.G.

Site Transmission Analysis

The proposed system design demonstrates that the native soil and/or fill material will have sufficient capacity to prevent wastewater from surfacing downgradient of the disposal field, according to the report dated July 15, 2026, by Scott Dixon, L.G.

Well Setback

There are no potable water supply wells reported within 300 feet of the proposal. The HHE-200 reports that the project is served by public water.

Interagency Review

This project was reviewed by The Maine Department of Environmental Protection (MDEP) pursuant to the Site Memorandum of Understanding between DHHS and DEP, dated in May 2023. Review of the proposed on-site engineered subsurface wastewater disposal system included: (1) the geology of the project area and vicinity, (2) effects of the project on groundwater and surface water quality, and (3) public and private uses of groundwater and surface water resources in the project area and vicinity. The review found no reason to believe that normal operation of the proposed engineered subsurface wastewater disposal system will result in unreasonable adverse impact on the natural environment or other uses of groundwater and surface water, and provided that the system is properly constructed and maintained.

The DEP reviewer made the following comments:

- The project site is *not* located on a significant sand and gravel aquifer (MGS), in a watershed of a waterbody most at risk from development (Chapter 502, DEP Regulations), *or* within a flood zone as mapped by FEMA.
- The nearest wetlands are more than 500 feet to the southwest of the proposed disposal field as mapped by the National Wetlands Inventory (NWI).

Miscellaneous

No variance to the Subsurface Wastewater Rules is required.

The design engineer and the Division met and discussed the proposal on October 9, 2025, pursuant to Section 11.2.a of the Rules.

Findings

The system meets the Rules, unless otherwise noted. Therefore, the design is approved with the following conditions and comments:

1. The owner must retain the design engineer to oversee construction. The constructed system may not be used unless all pertinent requirements of the Rules have been met.

2. Construction must not commence until the owner has obtained the necessary plumbing permit from the Local Plumbing Inspector (LPI).

3. The design engineer must provide sufficient supervision to assure that the system is constructed as designed and in accordance with the code and other regulations. Attention must be given to site preparation, fill selection and placement, installation of pipes, mechanical and electrical systems.

4. The design engineer must provide the owner and this office with a brief report on the construction including any unexpected conditions encountered and any changes made to the approved drawings. The LPI must not issue the Certificate of Approval until the LPI has received the aforementioned report from the design engineer.

5. The design engineer must test all systems prior to acceptance by the owner. The testing must determine whether the components were correctly installed and whether they function as designed. This includes confirmation that flow dividing devices or configurations function as intended.

6. The design engineer, with the concurrence of the LPI must determine when the site conditions are suitable for construction.

7. Construction must cease whenever the design engineer determines that the site conditions, or workmanship, or materials are unacceptable.

8. The owner and design engineer must inform the LPI of the proposed construction schedule and must also inform the LPI of the progress of construction. They must cooperate fully with the LPI in scheduling any inspections and providing any equipment necessary for the inspection.

9. The design engineer must provide the owner with an Operations and Maintenance Manual containing written recommendations for the operation and maintenance of the system including inspection and pumping schedules and record keeping procedures.

10. The owner must operate the system within the requirements of the Rules and the limitations of this design.

11. The owner must inform the LPI and the design engineer of any operational problem and/or malfunction.

12. The Local Plumbing Inspector must inspect the engineered disposal system in accordance with Section 11 Letter I of the Rules. In addition, the property owner must retain the design engineer to inspect the construction of the system. The inspection must be sufficient for the design engineer to determine that the system was installed as designed.

13. The five FujiClean CEN 14 Advanced Treatment Units are to be installed and maintained by the appropriate professionals according to the manufacturer's recommendations. Biannual inspections of these units are to include laboratory analysis of the effluent for at least Nitrate Nitrogen, TKN, BOD and TSS. These concentrations are to be compared with the manufacturer's claims of performance. Both the Department of Health and Human Services and the Department of Environmental Protection must be notified within five business days if any effluent quality data fail to meet a wastewater strength of 30 mg/l, or if either the nitrate-nitrogen or TKN concentrations in the effluent exceed 15 mg/L. All records of the sampling and all effluent quality data must be maintained on site and must be provided to the Town of Winham, the Department of Health and Human Services and the Department of Environmental Protection on demand. This requirement should be added to the Operations and Maintenance Manual for the System. A revised copy of the manual including the effluent sampling, data retention and notification requirements should be sent in PDF form to the Department and used by the maintenance staff.

14. This approval is only for the rules administered by this office, and it does not consider other federal, state or local regulations. The owner is responsible for compliance with any other pertinent regulations.

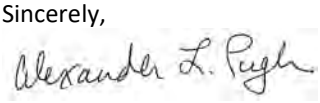
15. By accepting this approval and the associated plumbing permit, the owner agrees to comply fully with the conditions of approval and the Subsurface Wastewater Disposal Rules.

Based upon this approval of the design, the LPI may issue the permit required for an engineered system.

Because installation and owner maintenance have a significant effect on the working order of onsite sewage disposal systems, including their components, the Division makes no representation or guarantee as to the efficiency and/or operation of the system.

Should you have any questions, please feel free to contact me at (207) 592-2086, or by e-mail at alex.l.pugh@maine.gov.

Sincerely,



Alexander L. Pugh
Senior Environmental Hydrogeologist
Division of Environmental and Community Health
Drinking Water Program

Electronic copies to:

Jon Rioux, L.P.I.
Scott Dixon, P.E.
William Noble, MDEP

Application for Engineered Septic System

Serving The Proposed Legacy Village Retirement Community Webb Road, Windham, Maine

Prepared for: Robie Holdings, LLC

MAIN-LAND DEVELOPMENT CONSULTANTS, INC.
PO BOX Q, 69 MAIN STREET, LIVERMORE FALLS, MAINE 04254
367 U.S. ROUTE 1, N. BUILDING, FALMOUTH, MAINE 04105
182A MOOSEHEAD TRAIL, NEWPORT, ME 04953
(207) 897-6752

MAIN-LAND
DEVELOPMENT
CONSULTANTS, INC.

ENGINEERS, SURVEYORS, SCIENTISTS

P.O. BOX Q LIVERMORE FALLS, ME 04254
367 US ROUTE 1, N. BUILDING, FALMOUTH, ME 04105
182A MOOSEHEAD TRAIL, NEWPORT, ME 04953
TEL: (207) 897-6752/FAX: (207) 897-5404
WWW.MAIN-LANDDCI.COM

July 13, 2026

Division of Environmental and Community Health
286 Water Street, 3rd Floor
11 State House Station
Augusta, Maine 04333-0011

SUBJECT: Engineered Wastewater Disposal System Design
Serving the Proposed Legacy Village Retirement Community
Webb Road, Windham, Maine

Dear Engineering and Water Resources Team,

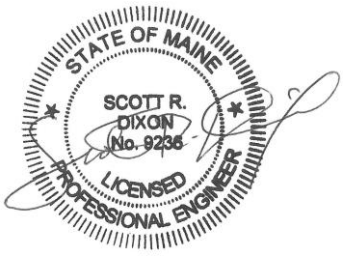
Enclosed please find one copy of the application package for the proposed Engineered Leachfield serving the proposed Woodlands residential development in Standish, Maine. The $100 application fee has been sent via regular mail along with two copies of the full-size project drawings.

The package follows the requirements of the HHE-220 form, which is also enclosed as part of this application. Please do not hesitate to contact Main-Land if we can provide additional information relevant to your review of this application.

As discussed during our Pre-Application meeting on 10/9/25, the Owner, Site Civil Engineer, and Main-Land appreciate your review of this submittal. Please note that the design flow for the current project (6,750 gpd) is lower than the design flow discussed during our 10/9/25 pre-app meeting (9,810 gpd).

Sincerely,

Main-Land Development Consultants, Inc.



Scott R. Dixon, P.E., C.G., L.S.E.
Senior Chief Environmental Scientist

Attachment: Application

DATE: July 13, 2026
PROJECT:

Application for Engineered Subsurface Wastewater Disposal System
Serving the Proposed Legacy Village Retirement Community
Webb Road, Windham, Maine

TABLE OF CONTENTS

Janet T. Mills
Governor

Jeanne M. Lambrew, Ph.D.
Commissioner

Maine Department of Health and Human Services
Maine Center for Disease Control and Prevention
11 State House Station
286 Water Street
Augusta, Maine 04333-0011
Tel; (207) 287-8016; Fax (207) 287-9058
TTY: Dial 711 (Maine Relay)

APPLICATION FOR ENGINEERED SUBSURFACE WASTEWATER DISPOSAL SYSTEM

Please complete the following Sections. Please print or type.

Applicant/Owner

Company Name: Robie Holdings
Contact Person: c/o Mr. Jayson Haskell, P.E. (DM Roma Engineers)
Address: (Robie Holdings) P.O. Box 1508
Town/City: Windham State/Province: ME Zip/Postal Code: 04062
Country: U.S.
Telephone: c/o Mr. Haskell 207-591-5055 Fax:
e-mail: jayson@dmroma.com

Design Engineer

Company Name: Main-Land Development Consultants, Inc.
Contact Person: Scott R. Dixon
Address: P.O. Box Q
Town/City: Livermore Falls State: ME Zip Code: 04254
Telephone: 207-897-6752 Fax:
e-mail: scott@main-landdci.com

1. Property Location

Town/City: Windham, ME County: Cumberland

Tax Map and Lot Number: Map 6 Lot 33 (21.4+/- acres)

Attach as "Exhibit A" a copy of the relevant section of the USGS 7.5' topographic map, if available, or 15' topographic map showing the location of the proposed engineered disposal system.

2. Project Description

Provide a brief written description of the proposal. Use a separate sheet if necessary.

The proposed engineered leachfield will serve up to 75 bedrooms within the development. The leachfield will consist of two separate beds of 70 concrete chambers each, for140 total units. Five FujiClean CEN 14 Advanced Treatment Units will be employed to allow a 50% reduction in the leachfield size/number of chamber units.

3. Design Flow

The design flow for this project is: 6,750 gpd gallons per day. Provide design flow calculations and assumptions used in the calculations. Use a separate sheet if necessary.

75 bedrooms x 90 gpd/bedroom = 6,750 gpd

4. Mounding Analysis

Submit as "Exhibit B" an analysis of the proposed system design showing that there is adequate vertical separation between the bottom of the disposal field and any mounded water table. Include all calculations and assumptions used.

5. Transmissivity Analysis

Submit as "Exhibit C" an analysis of the proposed system design showing that there are sufficient suitable soils down-gradient to prevent the effluent from surfacing within 50 feet of the disposal field. Include all calculations and assumptions used.

6. HHE-200 and Variance Form(s)

Submit as "Exhibit D" a complete HHE-200 Form, and variance forms if applicable, signed by a Professional Engineer. The design engineer may reference associated plans and soil test pit logs on pages 2 and 3 of the HHE-200 Form.

This project requires:

- ☐ a First Time System Variance to the Maine Subsurface Wastewater Disposal Rules.
- ☐ a Replacement System Variance to the Maine Subsurface Wastewater Disposal Rules.
- ☑ no variance to the Maine Subsurface Wastewater Disposal Rules.

7. Operations and Maintenance Manual

Submit as "Exhibit E" an operations and maintenance manual for the owner with written recommendations for the operation and maintenance of the system, including inspection schedules, pumping schedules, and record keeping procedures.

8. Soil and Site Conditions

Submit as "Exhibit F" soil test pit logs prepared by a licensed Site Evaluator. The test pits shall be of sufficient number to accurately describe the site conditions under the proposed disposal area and the down gradient fill extension.

9. Plans

Submit as "Exhibit G" plans for the proposed engineered disposal system meeting provisions of Section 1102 of the Maine Subsurface Wastewater Disposal Rules. Two sets of plans are required, or one set of plans and one set of copies no larger than 11" x 17". Plans may be submitted for review purposes in digital format.

The plans must specify the latitude and longitude of the center of the disposal area(s), expressed as degrees, minutes, and seconds. If this data is obtained from an electronic GIS device, provide the device's margin of error.

10. Review Fee

Submit a check or money order in the amount of $100.00 U.S. made payable to the Treasurer of the State of Maine.

I, Scott R. Dixon, am the design engineer for the subject design.
(print name)

I state that the information submitted is correct to the best of my knowledge and understand that any falsification is reason for the Department to deny the project.

Signature of Design Engineer

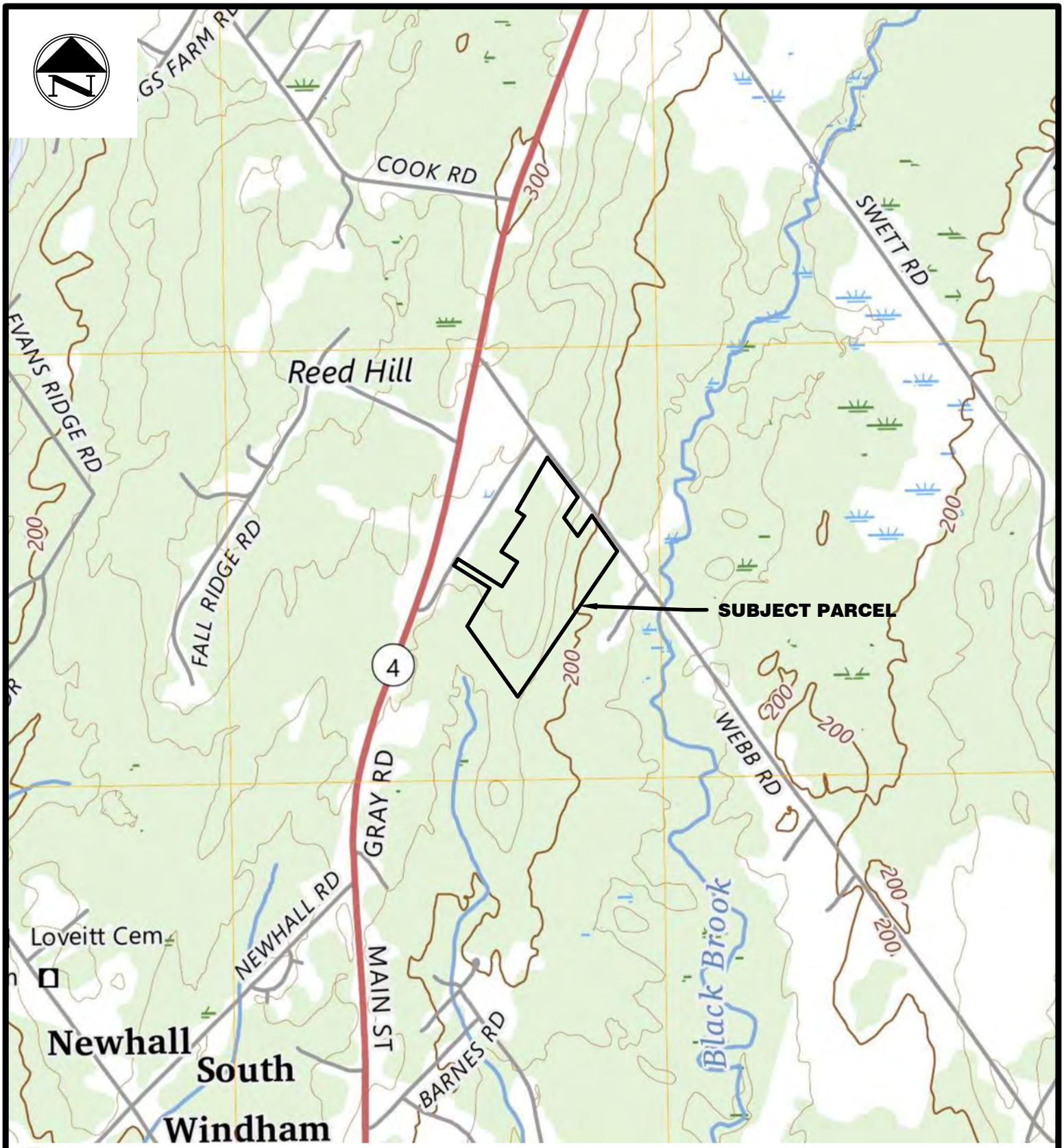
PE 9236
P.E. License Number

7 /13/26
Date

Phone: (207) 287-2070 TYY Users: Dial 711 (Maine Relay) Fax: (207) 287-4172

EXHIBIT A

USGS Site Plan



NOTES

1. TOWN OF WINDHAM: TAX MAP 6, LOT 33.
2. TOPOGRAPHY SHOWN IS BASED ON MAP DOWNLOADED FROM USGS "TOPOVIEW" AND DEPICTS MAP ENTITLED "NORTH WINDHAM, ME" DATED 2024.

NOT FOR CONSTRUCTION

PROJECT:

ENGINEERED SYSTEM
WEBB ROAD, WINDHAM, ME

DRAWING:

USGS SITE MAP

SCALE: 1" =1000'

MLDC NO.	25-328
PROJ. MGR:	SRD
DRAWN BY:	HRD
CHECKED BY:	SRD
REVISION NO.	N/A
ISSUE DATE:	2026-07-13
ISSUED FOR:	APPLICATION

MAIN-LAND
DEVELOPMENT
CONSULTANTS, INC.
69 MAIN ST. LIVERMORE FALLS, MAINE
367 US ROUTE 1 FALMOUTH, MAINE
PH: (207) 897-6752 FAX: (207) 897-5404
WWW.MAIN-LANDDCI.COM

EXHIBIT B and C

Combined Mounding and Transmissivity Report

MAIN-LAND
DEVELOPMENT
CONSULTANTS, INC.

ENGINEERS, SURVEYORS, SCIENTISTS

P.O. BOX Q LIVERMORE FALLS, ME 04254
367 US ROUTE 1, N. BUILDING, FALMOUTH, ME 04105
182A MOOSEHEAD TRAIL, NEWPORT, ME 04953
TEL: (207) 897-6752/FAX: (207) 897-5404
WWW.MAIN-LANDDCI.COM

July 13, 2026

Robie Holdings, LLC
c/o Mr. Jayson Haskell, P.E.
D.M. Roma Consulting Engineers
P.O. Box 1116, Windham, ME 04062

SUBJECT: Mounding and Transmissivity Analyses
Engineered Wastewater Disposal System Design
Serving the Proposed Legacy Village Retirement Community
Webb Road, Windham, Maine

Dear Jayson,

As part of the application for Engineered Subsurface Wastewater Disposal System permitting for the subject project, Main-Land Development Consultants, Inc. (Main-Land) is pleased to provide the following analyses of wastewater Mounding and Transmissivity. These analyses are for the proposed new Engineered Leachfield to serve the proposed Legacy Village Retirement Community development located off Webb Road in Windham, Maine. These analyses are provided as combined Exhibits B and C of the Engineered System permit application.

INTRODUCTION

The proposed Engineered Leachfield is to serve up to 75 bedrooms within the single-family housing development. Per the Maine Subsurface Wastewater Disposal Rules, updated 9/23/23 (i.e., the *Rules*), the design flow is:

90 gpd/bedroom x 75 bedrooms = 6,750 gpd

The site will be served by private water supply wells; site civil and infrastructure design is by DM Roma Consulting Engineers.

Based on the above design flow, the proposed system design must meet current engineered system design and permitting standards. Main-Land provides the following evaluation of site hydrogeology, as well as mounding and transmissivity analyses, in support of engineered system design and permitting.

SITE AND LOCAL HYDROGEOLOGY

Characteristics of the groundwater aquifer underlying the project site are based on Main-Land's evaluation of project test pits and other site observations, and laboratory grain size analysis. Main-Land performed laboratory grain size analysis by ASTM D422 on a representative sample of native ablation glacial till soils collected from Test Pit TP-3 on the project site. The grain size analysis sheet and

permeability estimate are attached (see Attachment B). The grain size distributions were evaluated using the Kozeny-Carmen approach to estimate soil permeability, as summarized in the following table:

Soil sample	Estimated permeability, k
TP-3, 2'-3' depth	20 feet/day

The project site is located in a moderately sloping area off the southeastern side of Webb Road. The ablation glacial till soils observed in the test pits suggest the general upland character of the geographic setting. Weathered bedrock was encountered underlying ablation till soils at depths of about 3 to 4 feet. Owing to the shallower bedrock and the location along the crest of a gentle ridge (at the top of the local watershed), free groundwater was not observed in the test pits at the time of the explorations (8/27/25). Reduced conditions were observed near the base of the till layer and extending down into the underlying weathered rock zone. Therefore, seasonal high groundwater was taken as occurring within the weathered rock zone near below the base of the ablation till soil layer.

Based on site observations and available data, Main-Land estimated the aquifer thickness beneath the leachfield area as about 3.5-feet thick, which includes soil deposits and the upper zone of fractured and permeable weathered rock above the harder bedrock surface. Reduced conditions were typically observed in the bottom 6 inches of this profile above the harder bedrock. Therefore, seasonal high groundwater has been taken as occurring at 3 feet deep in the soil/weathered rock profile underlying the leachfield bed footprints.

GROUNDWATER MOUNDING AND TRANSMISSIVITY ANALYSIS

Based on the underlying 4 soil profile (ablation glacial till with about 36% gravel, 42% sand, and 22% silt – 2.6 ft^2/gpd sizing factor) identified by Main-Land's Licensed Site Evaluator, the leachfield would need to be a minimum of 2.6 x 6,750 effective gpd = 17,550 ft^2 in total treatment area needed.

To reduce the footprint size and reduce nitrates for property line considerations, five FujiClean Tertiary Advanced Treatment Units (CEN 14 ATUs) are proposed to treat the domestic wastewater and allow a 50% reduction in leachfield treatment area. Therefore, this results in:

17,550 ft^2 total treatment area/2 for 50% ATU reduction = 8,775 ft^2 treatment area

18,775 ft^2 total treatment area/64 ft^2 per concrete chamber in cluster = 137 chambers, minimum (use 140 units)

The chambers will be arranged in two beds (Bed 1 and Bed 2) of 70 units each, with a configuration of 40-feet wide by 56-feet long per bed; this results in 5 rows of 14 side-feed chambers per bed (i.e., 70 units per bed x 2 beds = 140 units). It is noted that, without pretreatment, the 4 profile soils/AIII bedrock condition requires a minimum of 24 inches vertical separation between base of leachfield and predicted groundwater mound. Per FujiClean Modified Approval for General Use, CEN Series (dated 10/12/16), with the FujiClean pretreatment the minimum separation distance above bedrock can be reduced to 12 inches.

Mounding - Wastewater mounding analysis was performed for the proposed Engineered Leachfield. The purpose of the mounding analysis is to determine the potential rise in the groundwater level due to

wastewater infiltration through the unsaturated zone to the groundwater surface or base of aquifer below the leachfield.

The mounding analysis used was developed by M.S. Hantush in 1967 to predict rises in groundwater from external recharge sources. The model incorporates assumptions including infinite aquifer area with homogeneous and isotropic conditions over a horizontal impermeable base, constant formation coefficients, and constant recharge rate and uniform distribution over the leachfield footprint, to simplify the model. Required input includes leachfield area, recharge rate, time of interest, and aquifer characteristics (hydraulic conductivity and specific yield). Main-Land used a mounding calculator for the Hantush equation created by Glenn M. Duffield and found on Hydrosolve, Inc.'s website.

Based on review of available hydrogeologic data, Main-Land selected the following input to model conditions for the analysis of mounding beneath each bed:

h_i = 0.5 feet* = initial height of water surface above base of aquifer (based on review of Main-Land test pit information)
*equivalent to 6" of seasonal high groundwater occurring in the reduced soil/weathered rock zone above harder bedrock; note that the groundwater height is low due to leachfield's location near top of local watershed.

W = recharge rate = ((3,375 gpd/bed)/7.48 ft^3 per gallon)/((40 x 56) = 451.2 ft^3/2,240 ft^2 = 0.201 ft./day/bed

S_y = Specific Yield = 0.25*
*Value derived for coarse to fine sand soil from Domenico & Schwartz, 1990.

K, composite hydraulic conductivity = 35 ft/day*
*composite of 20 ft/day for native soil from Kozeny-Carmen analysis and estimated 60 ft/day for clean gravelly sand backfill constituting fill below and around chambers

*$K_{composite}$ = ([20 ft/day x 3.5'stratum thickness] + [60 ft/day x 2' backfill average thickness])/5.5 feet total thickness of transmitting medium = 35 ft/day

For an individual leachfield bed with base dimensions: x = 40', leachfield width and y = 56', leachfield length

Time = days of interest (modeled 365 days)

The estimated mound height calculated below the center of the leachfield beds is on the order of 3.5 feet (see Attachment B). The estimated base of aquifer/top of hard bedrock beneath the centers of each leachfield is about El. 237 feet existing grade – 3.5 feet thick aquifer = El. 233.5 feet. With an estimated seasonal high groundwater height of 6" above top of hard bedrock based on reduced conditions observed, the seasonal high groundwater would then occur near El. 234 feet. With this, the mound is estimated to occur up to about El. 234 + 3.5 = El. 237.5 feet beneath the centers of the beds, or about 0.5 foot above existing grade of El. 237 feet at the centers of the beds. The bottom of the 3-inch thick stone layer elevation

is designed as El. 239 feet and bottom of chamber as El. 239.3 feet (Note: Bottom of stone El. 239 – Existing Grade El. 237 = 2 feet of fill beneath center of bed, which is the average fill thickness in the $K_{composite}$ calculation above). The bottom of stone elevation is roughly:

El. 239 feet bottom of stone – El 237.5 feet top of mound = 1.5 feet or

18" above the estimated mound, which meets the minimum 12" vertical separation for a 4-profile soil and/or an AIII bedrock condition with pretreatment. The estimated mounding is depicted on Drawing E1.1, attached to the overall application package.

Because the top of bedrock slopes gently southwestward with the ground surface, and the clustered chambers are placed flat, the elevation of the seasonal high groundwater limiting factor becomes deeper in the downgradient direction. The separation between the limiting factor and the bottom of the flat chamber layout also increases, which in turn increases the depth and subsequent infiltration/treatment time for the wastewater to the limiting factor. In addition, the wastewater is being pre-treated by the tertiary FujiClean ATUs, and impacts to groundwater are anticipated to be minimal due to the near runoff quality of the ATU effluent.

Transmissivity - The estimated mound elevation beneath the center of the leachfield beds is on the order of 0.5 foot above existing grade, and in the general direction of groundwater flow southwestward. Based on the mounding data, approximately 40 feet from the centers of the beds and southwestward in the direction of groundwater flow, the mound degrades in height to about 3.5 feet above the limiting factor. Since the soil/weathered rock zone is on the order of 3.5 feet thick, then the mound is anticipated to be at or below ground surface about 40 feet from the centers of the beds; this distance equates to about 20 feet beyond the downslope edges of the beds. Since the downslope fill extensions are on the order of 38 feet long, then break out above ground surface within the 50 feet of interest downgradient of the leachfield is not anticipated, i.e., the mound is anticipated to be below ground surface beneath the fill extension length of approximately 38 feet.

ATUs AND SEPTIC TANK VOLUME

It has been indicated by the FujiClean ATU design and distribution team that the volume of septic tanks upstream of the ATUs should not exceed the equivalent of 1-day of liquid retention time. In other words, for this project, the septic tank volume should not exceed 7,000 gallons for the 6,750 gpd design flow. This design requirement is based on FujiClean not wanting excessive liquid retention time whereby ammonization can begin to take place in the wastewater with longer retention; excess ammonization of nitrates impacts the effectiveness of treatment within the ATUs.

This ATU Manufacturer's tank volume requirement differs from what the *Rules* would call for, which is a minimum total tank volume of 1.5 times the daily design flow. For this project, that would equate to about 10,000 gallons of septic tanks. Main-Land and the State have discussed and addressed this Manufacturer's requirement on previous engineered system projects requiring FujiClean ATUs. Main-Land's design for the subject project includes 7,000 gallons of septic tank volume upstream of the ATUs, as depicted conceptually on attached Drawing E1.1.

SUMMARY

Based on aquifer characteristics evaluated from field observations and laboratory grain size analysis, Main-Land selected representative values to model groundwater mounding and transmissivity beneath the proposed replacement engineered leachfield. Groundwater mounding is anticipated to meet the minimum 1-foot vertical separation from the proposed base of leachfield, and our review of transmissivity characteristics indicates that effluent will not surface within 50 feet downgradient of the leachfield.

Please do not hesitate to contact Main-Land if we can provide additional information relevant to mounding and transmissivity for the proposed engineered leachfield.

Sincerely,

Main-Land Development Consultants, Inc.

Scott R. Dixon, P.E., C.G., L.S.E.
Senior Chief Environmental Scientist

Attachments: Attachment A. Grain Size Analysis for TP-3 sample of native ablation glacial till and Kozeny-Carmen Hydraulic Conductivity Estimate

Attachment B. Mounding Results

REFERENCES

Department of Health and Human Services, et al., *State of Maine Subsurface Wastewater Disposal Rules*, 1-144, Chapter 241 (Effective Date 9/23/23).

Domenico, P., and Schwartz, F., *Physical and Chemical Hydrogeology*, John Wiley & Sons, 1990, page 118.

ATTACHMENT A

Grain Size Analysis for test pit sample of native ablation glacial till
and Kozeny-Carmen Hydraulic Conductivity Estimate

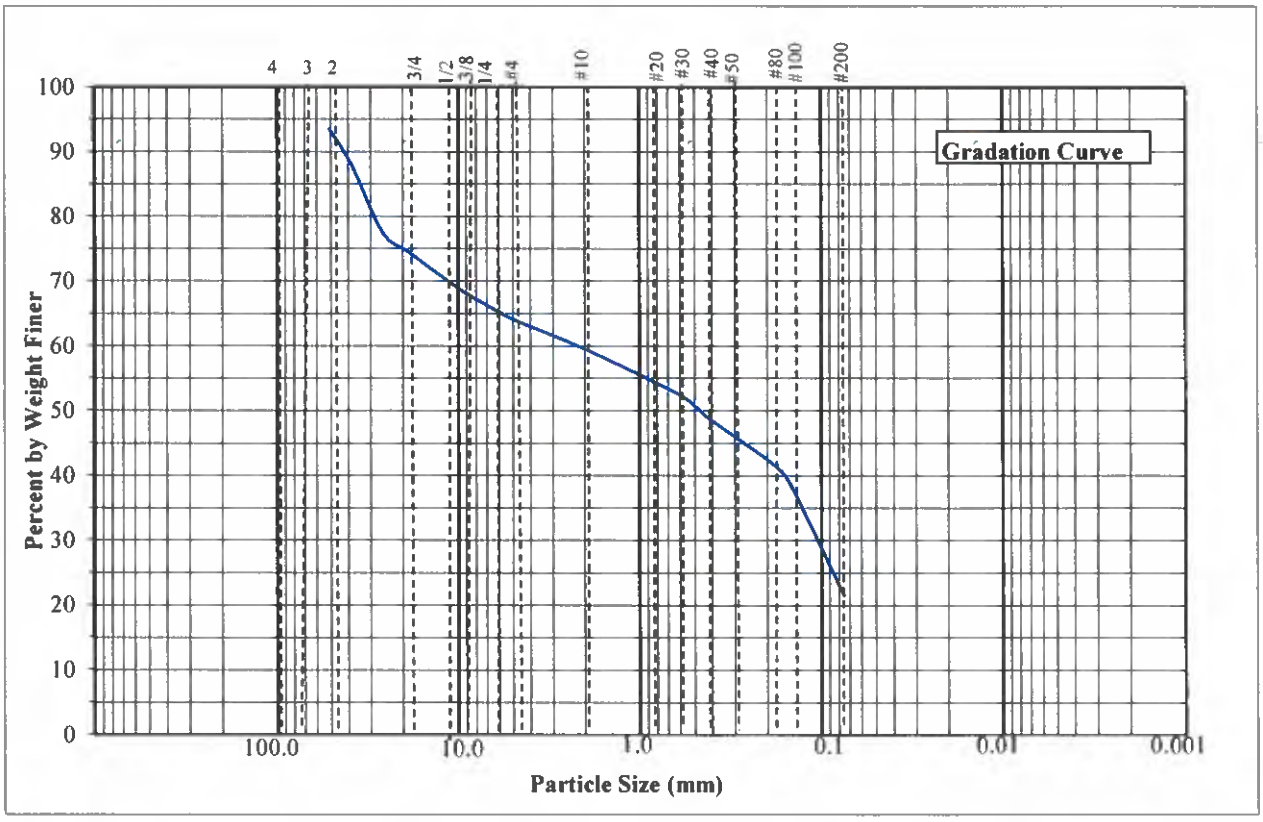
Main-Land Development Consultants, INC.
P.O. BOX Q LIVERMORE FALLS, ME 04254
TEL: (207) 897-6752/FAX: (207) 897-5404
WWW.MAIN-LANDDCI.COM

GRAIN SIZE ANALYSIS - ASTM D422

PROJECT NAME:	Windham Eng. System	PROJECT #:	25-320
CLIENT:	DM Roma	MAIN LAND SAMPLE	N/A
M-L SOIL DES:		INTENDED USE:	Gradation
SOURCE:	TP-3, 2'-3'	SPECIFICATION:	N/A
DATE:	September 3, 2025	TECHNICIAN:	TLB

DATA

PARTICLE SIZE mm		% BY WT FINER	STRUCTURAL FILL SPECIFICATION	COMMENTS
50.80	(2 in)	93.6	N/A	N/A
38.10	(1-1/2 in)	88		
25.40	(1 in)	77.3		
19.05	(3/4 in)	74.8		
12.70	(1/2 in)	71.1		
9.53	(3/8 in)	68.6		
6.35	(1/4 in)	65.7		
4.75	(No. 4)	63.9		
2.00	(No. 10)	59.6		
0.60	(No. 30)	52.5		
0.43	(No. 40)	49.2		
0.30	(No. 50)	46.1		
0.18	(No. 80)	41.6		
0.15	(No. 100)	39.1		
0.075	(No. 200)	21.6		



REMARKS:

Reviewed Scott R Dixon, P E
Date 9/3/25

For TP3 at Webb Rd./Windham

Sieve Sizes			Gradation Results		
Sieve size metric	U.S. Standar Sieve No.	D_{ave} cm	% Pass	Fi	Fi/D_{ave}
10	4		100		
7.5	3	8.407395	100	0	0
5	2	5.880468	93.6	6.4	1.088349
3.75	1.5	4.206612	88	5.6	1.331237
2.5	1	2.942273	77.3	10.7	3.636644
1.9	3/4	2.121418	74.8	2.5	1.178457
1.25	1/2	1.480055	71.1	3.7	2.499907
0.95	3/8	1.061444	68.6	2.5	2.355281
0.63	1/4	0.74406	65.7	2.9	3.897535
0.475	#4	0.532803	63.9	1.8	3.378362
0.2	#10	0.284117	59.6	4.3	15.13462
0.085	#20	0.120398	54.5	5.1	42.3594
0.0425	#40	0.056413	49.2	5.3	93.95052
0.018	#80	0.025572	42	7.2	281.5634
0.0106	#140	0.013188	29	13	985.7261
0.0075	#200	0.008667	21.6	7.4	853.7814
0.00325	hyd #1	0.004582	0	21.6	4713.662
0.00207	Hyd#2	0.002499		0	0
0.0012	Hyd#3	0.001506		0	0
0.00085	hyd#4	0.000984		0	0
0.0006	hyd#5	0.000696		0	0
0.0003	hyd#6	0.0004		0	0
0.00012	hyd#7	0.000175	0	21.6	3272.872

D_o est (cm)
0.006

Sum= 10278.41
porosity, n= 0.39
void ratio, e= 0.639344

Shape Factor							
Shape	SF						
Spherical	6	k=	0.008325	cm/sec	k=	23.59703	feet/day
Rounded	6.1	k=	0.008054	cm/sec	k=	22.8297	feet/day
Worn	6.4	k=	0.007316	cm/sec	k=	20.73958	feet/day
Sharp	7.4	k=	0.005473	cm/sec	k=	15.51302	feet/day
Angular	7.7	k=	0.005055	cm/sec	k=	14.32776	feet/day

use 20 ft/day

Backfill K at Webb Rd./Windham

Sieve Sizes			Gradation Results		
Sieve size metric	U.S. Standar Sieve No.	D_{ave} cm	% Pass	Fi	Fi/D_{ave}
10	4		100		
7.5	3	8.407395	100	0	0
5	2	5.880468	100	0	0
3.75	1.5	4.206612	98	2	0.475442
2.5	1	2.942273	96	2	0.679747
1.9	3/4	2.121418	95	1	0.471383
1.25	1/2	1.480055	94	1	0.67565
0.95	3/8	1.061444	92	2	1.884225
0.63	1/4	0.74406	89	3	4.031933
0.475	#4	0.532803	87	2	3.753736
0.2	#10	0.284117	75	12	42.23614
0.085	#20	0.120398	55	20	166.1153
0.0425	#40	0.056413	29	26	460.8894
0.018	#80	0.025572	13	16	625.6965
0.0106	#140	0.013188	7	6	454.9505
0.0075	#200	0.008667	5	2	230.7517
0.00325	hyd #1	0.004582	0	5	1091.125
0.00207	Hyd#2	0.002499		0	0
0.0012	Hyd#3	0.001506		0	0
0.00085	hyd#4	0.000984		0	0
0.0006	hyd#5	0.000696		0	0
0.0003	hyd#6	0.0004		0	0
0.00012	hyd#7	0.000175	0	5	1144.348

D_o est (cm)
0.003

Sum= 4228.085
porosity, n= 0.38
void ratio, e= 0.612903

Shape Factor							
Shape	SF						
Spherical	6	k=	0.044051	cm/sec	k=	124.8693	feet/day
Rounded	6.1	k=	0.042619	cm/sec	k=	120.8087	feet/day
Worn	6.4	k=	0.038717	cm/sec	k=	109.7484	feet/day
Sharp	7.4	k=	0.02896	cm/sec	k=	82.09082	feet/day
Angular	7.7	k=	0.026747	cm/sec	k=	75.81874	feet/day

use 110 ft/day

(used 60 ft/d in Kcomposite)

ATTACHMENT B

Mounding Results

This spreadsheet will calculate the height of a groundwater mound beneath a stormwater infiltration basin. More information can be found in the U.S. Geological Survey Scientific Investigations Report 2010-5102 "Simulation of groundwater mounding beneath hypothetical stormwater infiltration basins".

The user must specify infiltration rate (R), specific yield (Sy), horizontal hydraulic conductivity (Kh), basin dimensions (x, y), duration of infiltration period (t), and the initial thickness of the saturated zone (hi(0), height of the water table if the bottom of the aquifer is the datum). For a square basin the half width equals the half length (x = y). For a rectangular basin, if the user wants the water-table changes perpendicular to the long side, specify x as the short dimension and y as the long dimension. Conversely, if the user wants the values perpendicular to the short side, specify y as the short dimension, x as the long dimension. All distances are from the center of the basin. Users can change the distances from the center of the basin at which water-table aquifer thickness are calculated.

Cells highlighted in yellow are values that can be changed by the user. Cells highlighted in red are output values based on user-specified inputs. The user MUST click the blue "Re-Calculate Now" button each time ANY of the user specified inputs are changed otherwise necessary iterations to converge on the correct solution will not be done and values shown will be incorrect. Use consistent units for all input values (for example, feet and days)

use consistent units (e.g. feet & days or inches & hours)

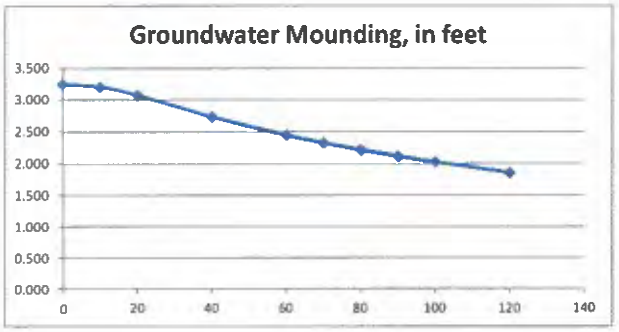
Input Values		
0.2010	*R*	Recharge (infiltration) rate (feet/day)
0.250	Sy	Specific yield, Sy (dimensionless, between 0 and 1)
35.00	K	Horizontal hydraulic conductivity, Kh (feet/day)*
20.000	x	1/2 length of basin (x direction, in feet)
28.000	y	1/2 width of basin (y direction, in feet)
365.000	t	duration of infiltration period (days)
0.500	hi(0)	initial thickness of saturated zone (feet)
[illegible]	h(max)	maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
[illegible]	Δh(max)	maximum groundwater mounding (beneath center of basin at end of infiltration period)

Conversion Table		
Inch/hour	Feet/day	
0.67	1.33	
2.00	4.00	
hours	days	
36	1.50	

In the report accompanying this spreadsheet (USGS SIR 2010-5102), vertical soil permeability (ft/d) is assumed to be one-tenth horizontal hydraulic conductivity (ft/d).

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
[illegible]	0
[illegible]	10
[illegible]	20
[illegible]	40
[illegible]	60
[illegible]	70
[illegible]	80
[illegible]	90
[illegible]	100
[illegible]	120

Re-Calculate Now



Disclaimer

This spreadsheet solving the Hantush (1967) equation for ground-water mounding beneath an infiltration basin is made available to the general public as a convenience for those wishing to replicate values documented in the USGS Scientific Investigations Report 2010-5102 "Groundwater mounding beneath hypothetical stormwater infiltration basins" or to calculate values based on user-specified site conditions. Any changes made to the spreadsheet (other than values identified as user-specified) after transmission from the USGS could have unintended, undesirable consequences. These consequences could include, but may not be limited to: erroneous output, numerical instabilities, and violations of underlying assumptions that are inherent in results presented in the accompanying USGS published report. The USGS assumes no responsibility for the consequences of any changes made to the spreadsheet. If changes are made to the spreadsheet, the user is responsible for documenting the changes and justifying the results and conclusions.

EXHIBIT D

HHE 200 Form

SUBSURFACE WASTEWATER DISPOSAL APPLICATION

Maine Dept. Health & Human Services
Div. Environmental Health, HSIS
(207) 287-2070 Fax (207) 287-4172

PROPERTY LOCATION

City, Town, or Plantation	Windham, Maine
Street or Road	Webb Road
Subdivision, Lot #	"Webb Road Property"

OWNER/APPLICANT INFORMATION

Name (last, first, MI)	Roble Holdings, LLC
Owner ☑ / Applicant ☐	
Mailing Address of Owner/Applicant	P.O. Box 1508 Windham, ME 04062
Daytime Tel. #	c/o DM Roma Engineers 207-591-5055

OWNER OR APPLICANT STATEMENT
I state and acknowledge that the information submitted is correct to the best of my knowledge and understand that any falsification is reason for the Department and/or Local Plumbing Inspector to deny a permit.

Jason Hall — Agent — 7-10-2026
Signature of Owner or Applicant — Date

>> CAUTION: LPI APPROVAL REQUIRED <<

Town/City _____ Permit # _____
Date Permit Issued ___/___/___ Fee. $_____ Double Fee Charged ☐
_____ L.P.I. # _____
Local Plumbing Inspector Signature
Fee: $_____ state min fee $_____ Locally adopted fee
Copy: ☐ Owner ☐ Town ☐ State

The Subsurface Wastewater Disposal System shall not be installed until a Permit is issued by the Local Plumbing Inspector. The Permit shall authorize the owner or installer to install the disposal system in accordance with this application and the Maine Subsurface Wastewater Disposal Rules

Municipal Tax Map # _____ Lot # _____

CAUTION: INSPECTION REQUIRED
I have inspected the installation authorized above and found it to be in compliance with the Subsurface Wastewater Disposal Rules Application. _____ (1st) date approved
_____ Local Plumbing Inspector Signature _____ (2nd) date approved

PERMIT INFORMATION

TYPE OF APPLICATION
- ☑ 1. First Time System
- ☐ 2. Replacement System
  - Type replaced. _____
  - Year installed _____
- ☐ 3. Expanded System
  - ☐ a. <25% Expansion
  - ☐ b. ≥25% Expansion
- ☐ 4. Experimental System
- ☐ 5. Seasonal Conversion

THIS APPLICATION REQUIRES
- ☑ 1. No Rule Variance
- ☐ 2. First Time System Variance
  - ☐ a. Local Plumbing Inspector Approval
  - ☐ b. State & Local Plumbing Inspector Approval
- ☐ 3. Replacement System Variance
  - ☐ a. Local Plumbing Inspector Approval
  - ☐ b. State & Local Plumbing Inspector Approval
- ☐ 4. Minimum Lot Size Variance
- ☐ 5. Seasonal Conversion Permit

DISPOSAL SYSTEM COMPONENTS
- ○ 1. Complete Non-engineered System
- ○ 2. Primitive System (graywater & alt. toilet)
- ○ 3. Alternative Toilet, specify: _____
- ○ 4. Non-engineered Treatment Tank (only)
- ○ 5. Holding Tank, _____ gallons
- ○ 6. Non-engineered Disposal Field (only)
- ○ 7. Separated Laundry System
- ☑ 8. Complete Engineered System (2000 gpd or more)
- ○ 9. Engineered Treatment Tank (only)
- ○ 10. Engineered Disposal Field (only)
- ☑ 11. Pre-treatment, specify: (5) Fuji Clean CEN 14ATUs
- ○ 12. Miscellaneous Components

SIZE OF PROPERTY
21.4± ☐ SQ. FT. ☑ ACRES

SHORELAND ZONING
☐ Yes ☑ No

DISPOSAL SYSTEM TO SERVE
- ☐ 1. Single Family Dwelling Unit, No. of Bedrooms: ___
- ☐ 2. Multiple Family Dwelling, No. of Units. ___
- ☑ 3. Other. Multiple Dwellings – 75 BR total (specify)

Current Use ☐ Seasonal ☑ Year Round ☑ Undeveloped

TYPE OF WATER SUPPLY
☐ 1. Drilled Well ☐ 2. Dug Well ☐ 3. Private
☑ 4. Public ☐ 5. Other

DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3)

TREATMENT TANK
- ☑ 1. Concrete
  - ☑ a. Regular
  - ☐ b. Low Profile
- ☐ 2. Plastic
- ☑ 3. Others See Dr. El.1
  - CAPACITY 7,000* GAL
  - *1-day retention time

DISPOSAL FIELD TYPE & SIZE
- ☐ 1. Stone Bed ☐ 2. Stone Trench
- ☑ 3. Proprietary Device
  - ☑ a. cluster array ☐ c. Linear
  - ☑ b. regular load ☐ d. H-20 load
- ☐ 4. Other: _____
  - SIZE: _____ ☐ sq. ft. ☐ lin. ft.

GARBAGE DISPOSAL UNIT
☐ 1. No ☐ 2 Yes ☑ 3. Maybe
If Yes or Maybe, specify one below:
- ☐ a. multi-compartment tank
- ☐ b. ___ tanks in series
- ☐ c. increase in tank capacity
- ☐ d. Filter on Tank Outlet

DESIGN FLOW
6,750 gallons per day *
BASED ON:
- ☑ 1. Table 5A (dwelling unit(s))
- ☐ 2. Table 5C(other facilities)
  - SHOW CALCULATIONS for other facilites
  - *75 BR x 90 gpd/BR = 6,750 gpd
- ☐ 3. Section 5G (meter readings)
  - ATTACH WATER METER DATA

SOIL DATA & DESIGN CLASS
PROFILE 4 CONDITION C
at Observation Hole # TP-4 TP-6
Depth varies
of Most Limiting Soil Factor

DISPOSAL FIELD SIZING
- ☑ 1. Medium---2 6 sq. ft. / gpd
- ☐ 2 Medium---Large 3.3 sq. f.t / gpd
- ☐ 3. Large---4.1 sq ft / gpd
- ☐ 4. Extra Large---5.0 sq ft. / gpd

EFFLUENT/EJECTOR PUMP
- ☐ 1. Not Required
- ☐ 2. May Be Required
- ☑ 3. Required

Specify only for engineered systems
DOSE _____ gallons

LATITUDE AND LONGITUDE
at center of disposal area
Lat. 43 d 45 m 37.52 s N
Lon. 70 d 25 m 16.02 s W
if g.p.s. state margin of error: _____

SITE EVALUATOR STATEMENT

I certify that on 8/27/25 (date) I completed a site evaluation on this property and state that the data reported are accurate and that the proposed system is in compliance with the State of Maine Subsurface Wastewater Disposal Rules (10-144A CMR 241)

Scott R. Dixon — 406 — 7/13/26
Site Evaluator Signature — SE # — Date

Scott R. Dixon — 207-899-6752 — scott@main-landdci.com
Site Evaluator Name Printed — Telephone Number — E-mail Address

STATE OF MAINE · SCOTT R. DIXON · LSE 406 · SITE EVALUATOR

Note : Changes to or deviations from the design should be communicated with the Site Evaluator.

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Health & Human Services
Division of Environmental Health
(207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation: Windham, ME

Street, Road, Subdivision: Webb Road

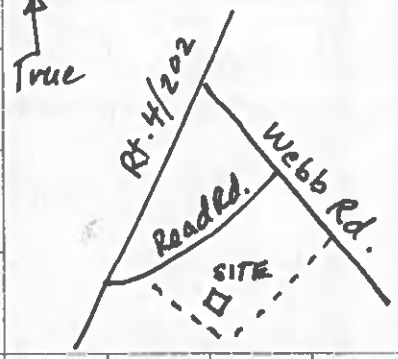
Owner's Name: Robie Holdings, LLC

SITE PLAN

Scale 1" = _____ ft. or as shown

See Drawing E1.1 attached for Site Plan

SITE LOCATION PLAN

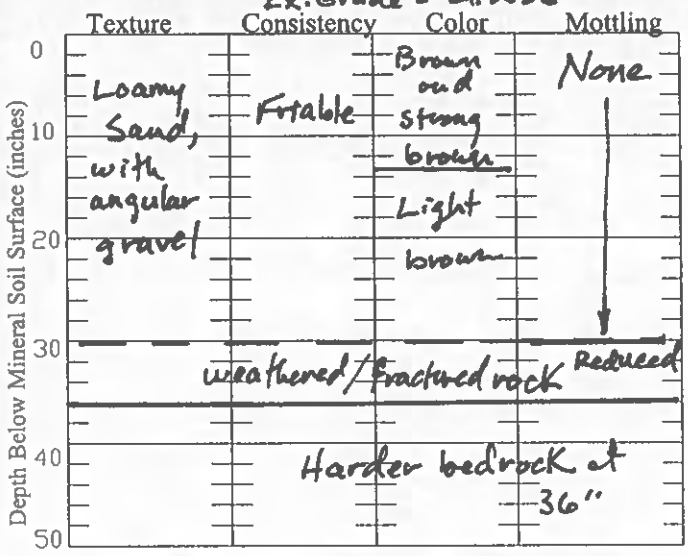


SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-1 ☑ Test Pit ☐ Boring

3 " Depth of Organic Horizon Above Mineral Soil

Ex. Grade ≈ El. 236

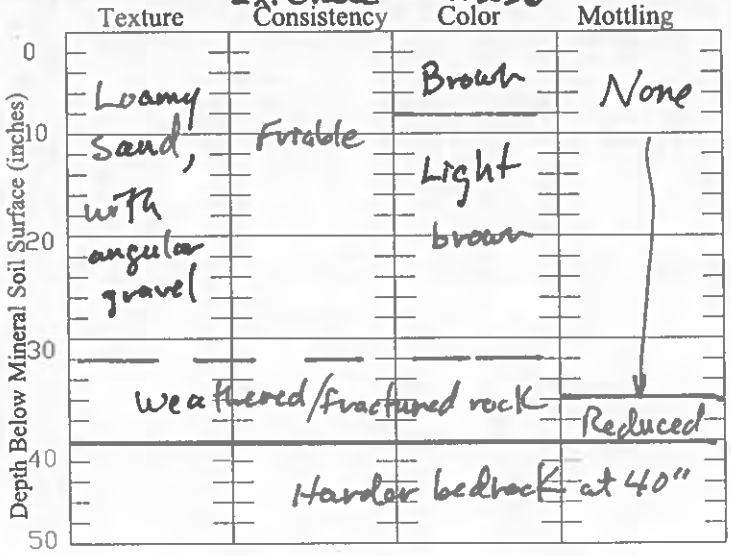


Soil Classification	Slope	Limiting Factor	
4C Profile / AIII Condition	4-6 %	30 "	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Observation Hole TP-2 ☑ Test Pit ☐ Boring

3 " Depth of Organic Horizon Above Mineral Soil

Ex. Grade ≈ El. 236'



Soil Classification	Slope	Limiting Factor	
4C Profile / AIII Condition	3-5 %	36 "	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Scott R. — 406 — 7/13/26

Site Evaluator Signature — SE # — Date

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Dept.Health & Human Services
Division of Environmental Health
(207) 287-5672 Fax: (207) 287-3165

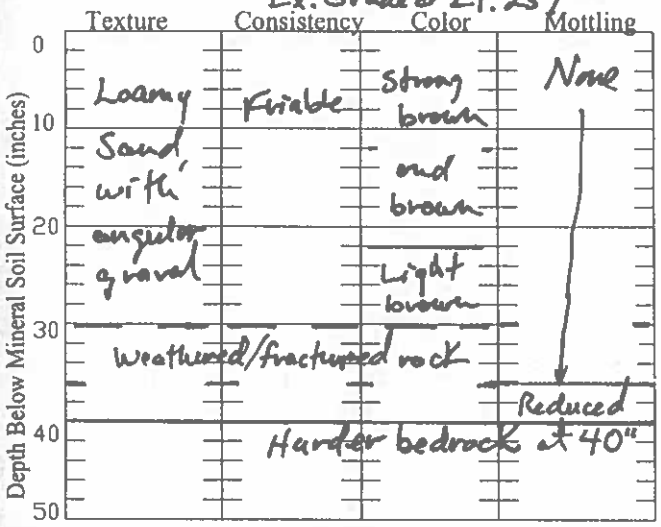
Town, City, Plantation	Street, Road, Subdivision	Owner's Name
Windham, ME	Webb Road	Robie Holdings, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-3 ☑ Test Pit ☐ Boring

____ " Depth of Organic Horizon Above Mineral Soil

Ex. Grade @ El. 237'

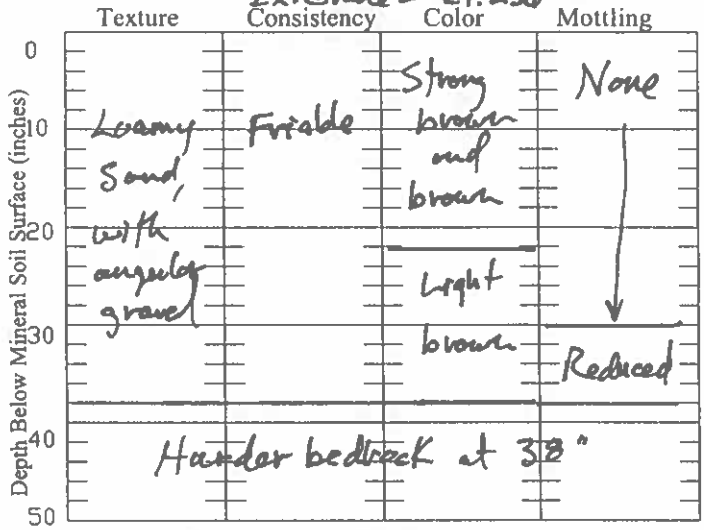


Soil Classification	Slope	Limiting Factor	
4C Profile / A III Condition	3-5 %	36 "	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Observation Hole TP-4 ☑ Test Pit ☐ Boring

3 " Depth of Organic Horizon Above Mineral Soil

Ex. Grade @ El. 236'



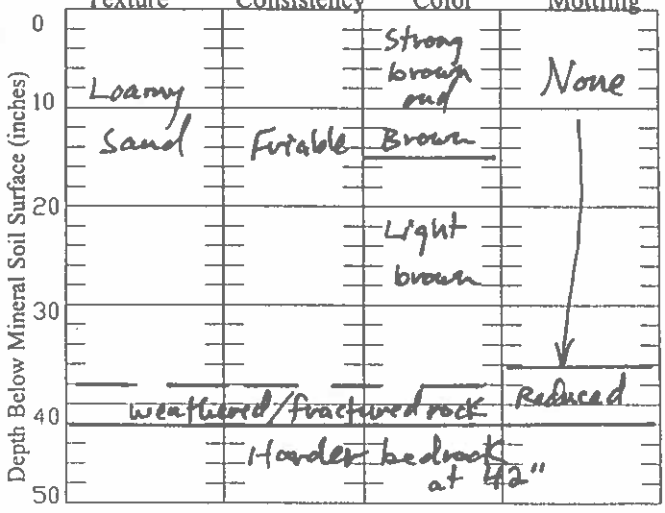
Soil Classification	Slope	Limiting Factor	
4C Profile / A III Condition	2-4 %	30 "	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-5 ☑ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

Ex. Grade @ El. 236.5'

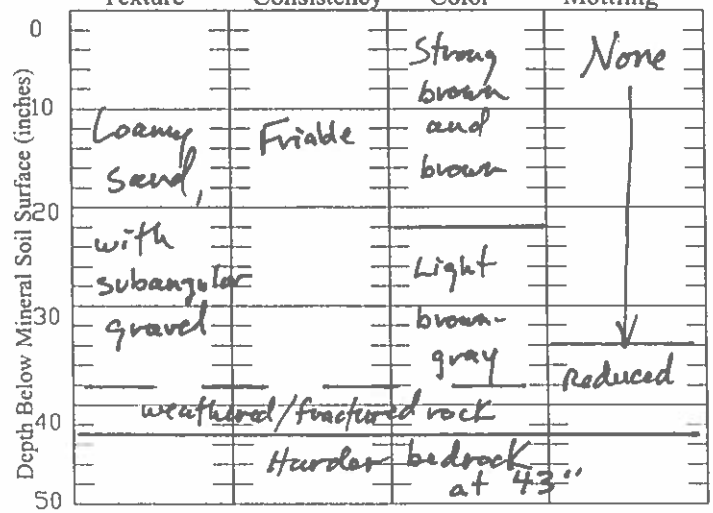


Soil Classification	Slope	Limiting Factor	
4C Profile / A III Condition	3-5 %	36 "	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Observation Hole TP-6 ☑ Test Pit ☐ Boring

3 " Depth of Organic Horizon Above Mineral Soil

Ex. Grade @ El. 238'



Soil Classification	Slope	Limiting Factor	
4C Profile / A III Condition	4-6 %	34 "	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Scott R. D. — Site Evaluator Signature

406 — SE #

7/13/24 — Date

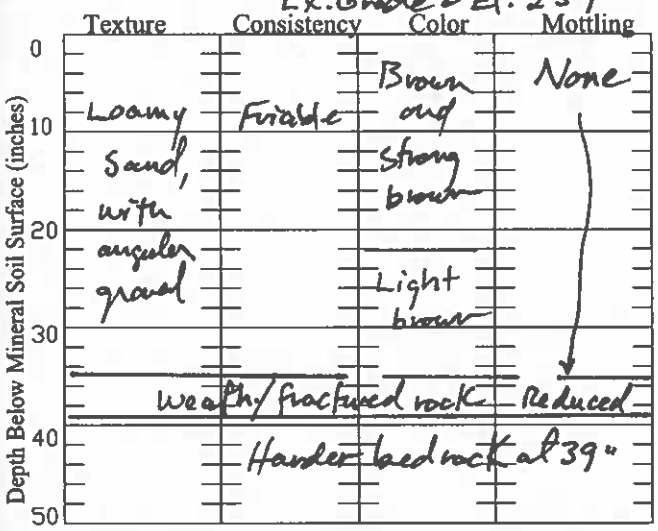
SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Dept.Health & Human Services
Division of Environmental Health
(207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation	Street, Road, Subdivision	Owner's Name
Windham, ME	Webb Road	Robie Holdings, LLC

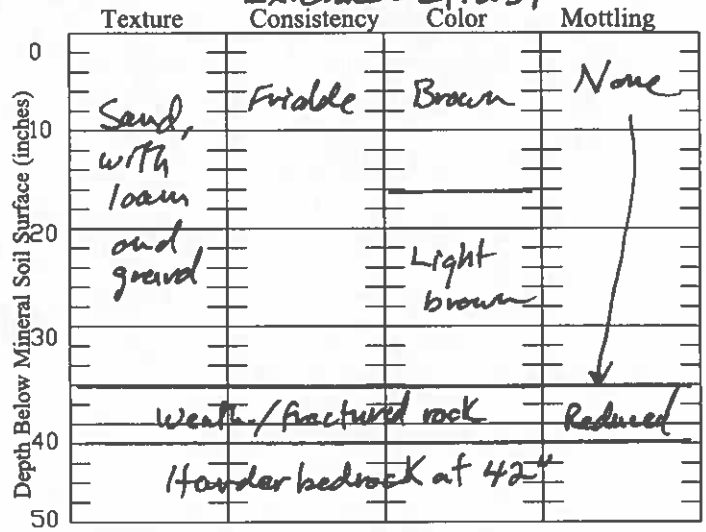
SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-7 ☑ Test Pit ☐ Boring
3 " Depth of Organic Horizon Above Mineral Soil
Ex. Grade El. 237



Soil Classification	Slope	Limiting Factor	
4C / A III (Profile / Condition)	3-5 %	35 "	[☑] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

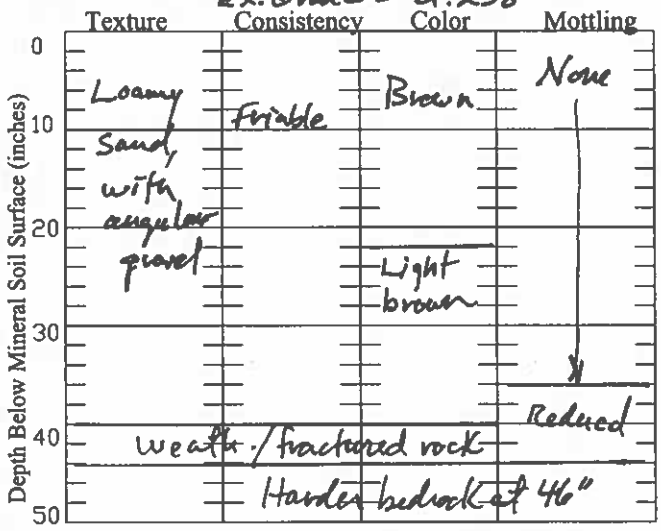
Observation Hole TP-8 ☑ Test Pit ☐ Boring
2 " Depth of Organic Horizon Above Mineral Soil
Ex. Grade El. 237



Soil Classification	Slope	Limiting Factor	
4C / A III (Profile / Condition)	4-6 %	36 "	[ ] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

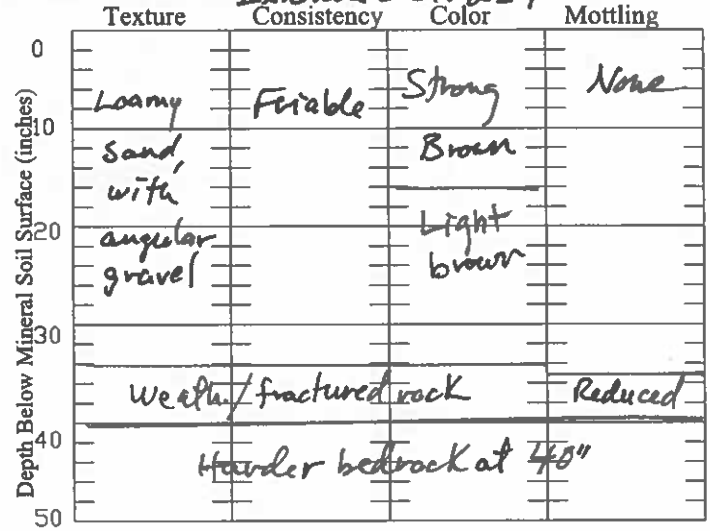
SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-9 ☑ Test Pit ☐ Boring
3 " Depth of Organic Horizon Above Mineral Soil
Ex. Grade El. 238



Soil Classification	Slope	Limiting Factor	
4C / A III (Profile / Condition)	3-5 %	36 "	[☑] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Observation Hole TP-10 ☑ Test Pit ☐ Boring
3 " Depth of Organic Horizon Above Mineral Soil
Ex. Grade El. 237



Soil Classification	Slope	Limiting Factor	
4C / A III (Profile / Condition)	3-5 %	35 "	[☑] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Site Evaluator Signature | SE # | 7/13/26 Date

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Health & Human Services
Division of Environmental Health
(207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation: Windham, ME

Street, Road, Subdivision: Webb Road

Owner's Name: Robie Holdings, LLC

SUBSURFACE WASTEWATER DISPOSAL PLAN

SCALE: 1" = _____ FT.

See Drawing E1.1 attached for Disposal Plan

FILL REQUIREMENTS

Depth of Fill (Upslope) _____

Depth of Fill (Downslope) _____

CONSTRUCTION ELEVATIONS (SEE DRAWING E1.1)

Finished Grade Elevation _____

Top of Distribution Pipe or Proprietary Device _____

Bottom of Disposal Area _____

ELEVATION REFERENCE POINT

Location & Description:

Reference Elevation: _____

DISPOSAL AREA CROSS SECTION

Scale

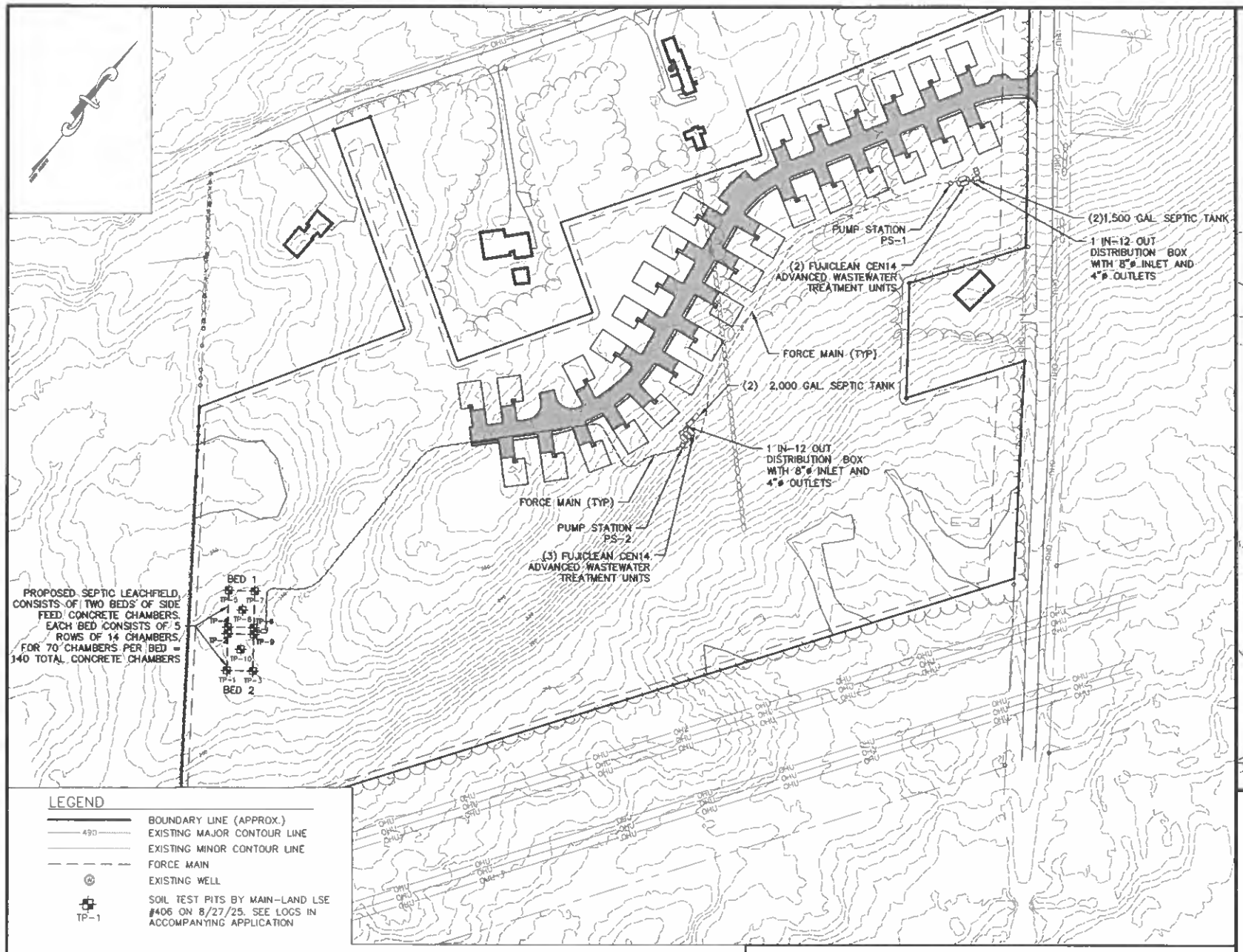
Horizontal 1" = _____ ft.

Vertical 1" = _____ ft.

See Drawing E1.1 attached for Cross Section

Scott R. [signature] 4006 7/13/26

Site Evaluator Signature SE # Date



SITE PLAN

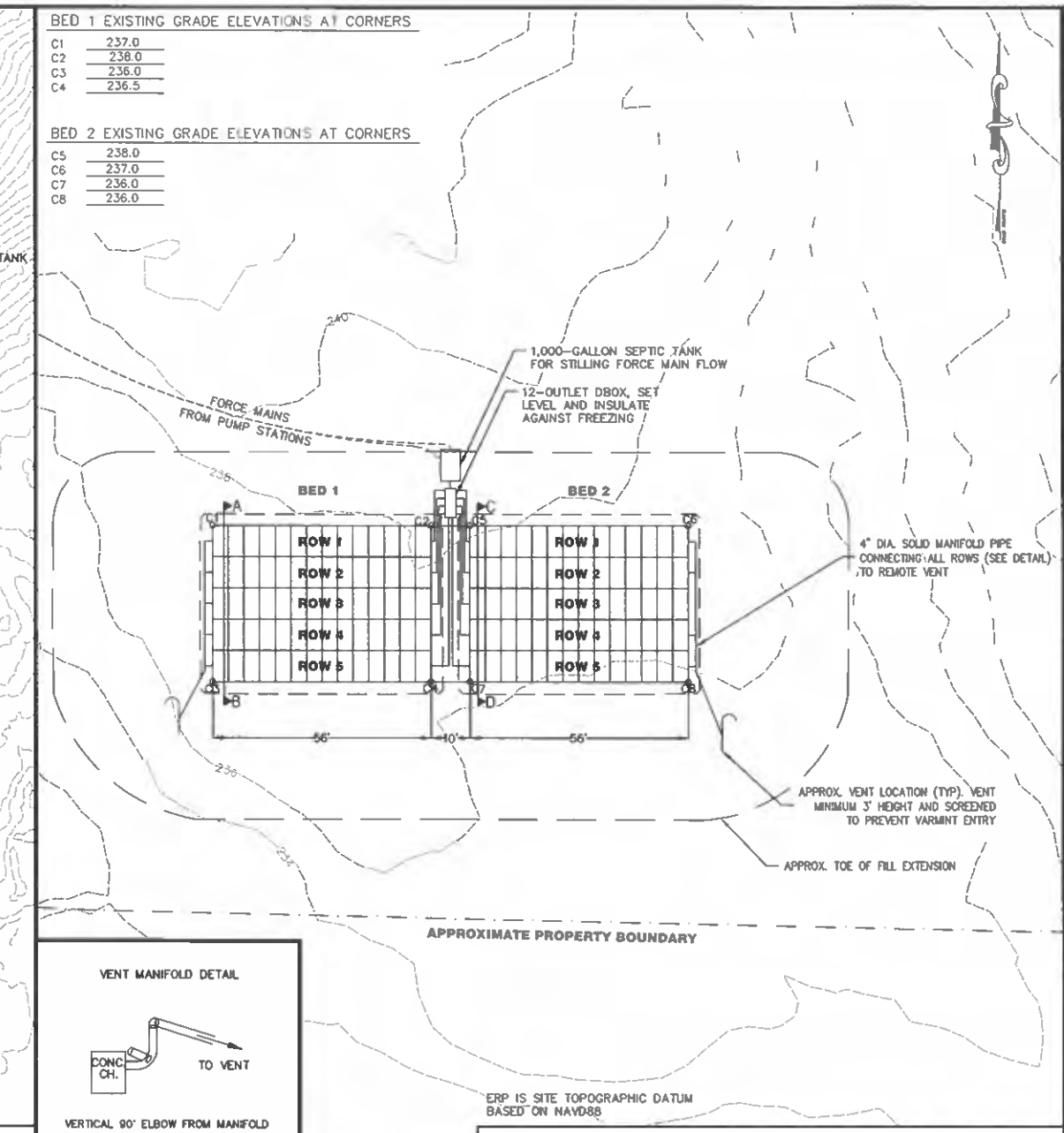
SCALE: 1" = 100'

BED 1 EXISTING GRADE ELEVATIONS AT CORNERS

C1	237.0
C2	238.0
C3	236.0
C4	236.5

BED 2 EXISTING GRADE ELEVATIONS AT CORNERS

C5	238.0
C6	237.0
C7	236.0
C8	236.0

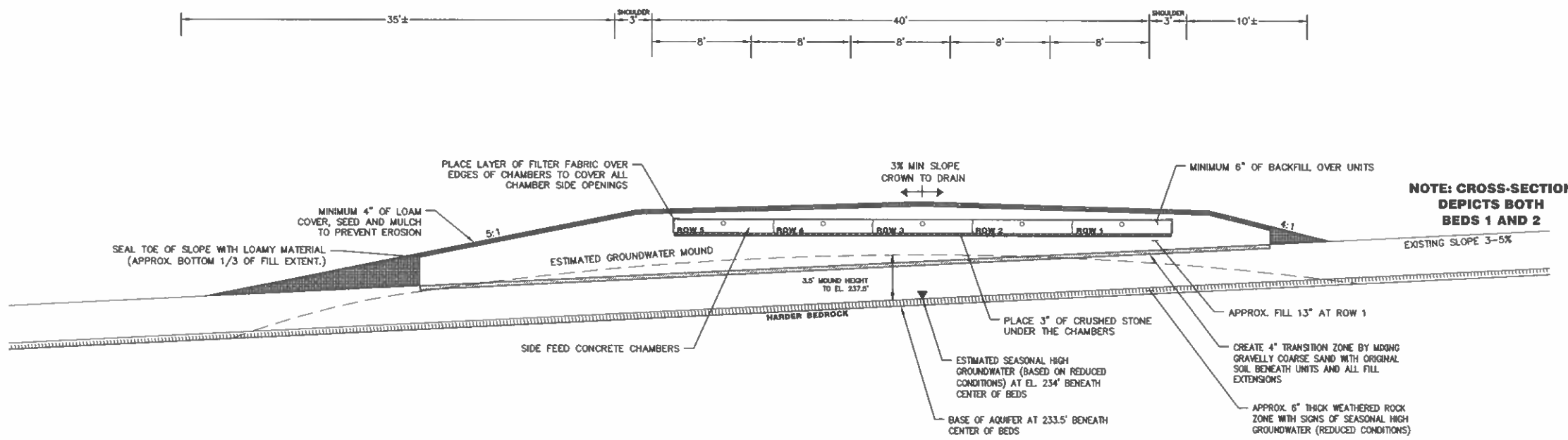


SUBSURFACE WASTEWATER DISPOSAL PLAN

SCALE: 1" = 20'

VENT MANIFOLD DETAIL

VERTICAL 90° ELBOW FROM MANIFOLD UP TO SOLID PIPE TO VENT



NOTE: CROSS-SECTION DEPICTS BOTH BEDS 1 AND 2

NOTE: BACKFILL MEANS GRAVELLY COARSE SAND

EXISTING ELEVATIONS (BOTH BEDS)

FINAL GRADE	241.2'±(AT ROW 3)
TOP OF CHAMBER	240.4'
BOTTOM OF CHAMBER	239.3'
BOTTOM OF STONE	239.0'
BOTTOM OF BACKFILL	VARIES, EXTENDS DOWN TO TRANSITION ZONE NEAR EXISTING GRADE

CROSS-SECTION (A-B AND C-D)

SCALE: 1" = 5'

MAIN-LAND DEVELOPMENT CONSULTANTS, INC.
69 MAIN ST. LIVERMORE FALLS, MAINE
367 US ROUTE 1 FALMOUTH, MAINE
182 MOOSEHEAD TRAIL NEWPORT, MAINE
PH: (207) 897-6752 FAX: (207) 897-5404
WWW.MAIN-LANDDCI.COM

PROJECT
ENGINEERED WASTEWATER DISPOSAL SYSTEM

WEBB ROAD
WINDHAM, ME

OWNER OF RECORD
ROBIE HOLDINGS, LLC

MADE FOR
D.M. ROMA CONSULTING ENGINEERS
PO BOX 1116
WINDHAM, ME 04062

DRAWING SCALE:
VARIES

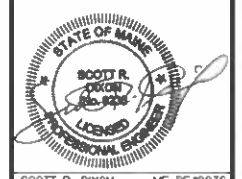
SUBMISSION NOTES:
SUBMISSION 1: 2026-07-13 ERL
THIS SUBMISSION IS FOR APPLICATION.

PROJ. MGR:	SRD
DRAWN BY:	DRP/MRD
CHECKED BY:	SRD
SUBMISSION NO.	N/A
SUBMISSION DATE:	2026-07-13
SUBMITTED FOR:	APPLICATION

NOT FOR CONSTRUCTION

WASTEWATER DISPOSAL DESIGN

SEAL:



SCOTT R. DIXON ME PE#9236

DRAWING NO.
E1.1

MLDC NO. 25-328 1 OF 1

EXHIBIT E

Operations and Maintenance Manual

OPERATIONS AND MAINTENANCE

ENGINEERED LEACHFIELD

Serving the Proposed Legacy Village Retirement Community
Webb Road, Windham, Maine

INTRODUCTION:

The proposed engineered leachfield for the proposed residential development is designed to dispose of a maximum of approximately 6,750 gallons per day of domestic wastewater. This wastewater is comprised of discharge from up to 75 bedrooms. The system includes 7,000 gallons of regular septic tanks and a Tertiary Advanced Treatment Unit (five Fujiclean CEN 14 units planned) for wastewater treatment prior to the leachfield.

OPERATION:

Operation of the system is the responsibility of the Project Owner.

The most important Operation item is ensuring that no unauthorized wastes enter the system. No harsh chemicals should be allowed into the system, particularly those chemicals that kill bacteria, such as chlorine, at high concentrations above those associated with normal household use. Cleaning products should be used in moderation and should be diluted when entering the system.

MAINTENANCE:

Maintenance of the system, including inspection and pumping of the individual septic tanks and the ATUs, is the responsibility of the Owner.

The septic system does require periodic maintenance. First, all water fixtures shall be kept in working order. Leaky toilets, showers, and sinks can overtax a septic system.

Second, the septic tanks should be inspected annually. Septic tanks should be cleaned when the sludge and scum occupies ***no more than one-third*** the tank liquid capacity, or once every two to three years, whichever comes first. Cleaning means the removal of all contents in the tanks.

Records of all tank pumping should be kept in the event an issue arises. Records should include volumes pumped and the frequency of the pumping.

The ATUs should be inspected per the Manufacturer's instructions. Records should include inspection results and results of water quality testing, when performed.

Third, the ground around the leachfield should also be inspected for wet spots, or for odors on an on-going basis. If odors or wet spots are apparent, the Design Engineer shall be contacted immediately.

The area for a distance of 30 feet around the leachfield should be inspected at least twice annually and woody vegetation in this area removed to prevent roots from growing into the system.

If, at any time, any portion of this system does not appear to be functioning as designed, notify the Design Engineer as soon as possible.

EXHIBIT F

Soil Logs

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Health & Human Services
Division of Environmental Health
(207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation: Windham, ME

Street, Road, Subdivision: Webb Road

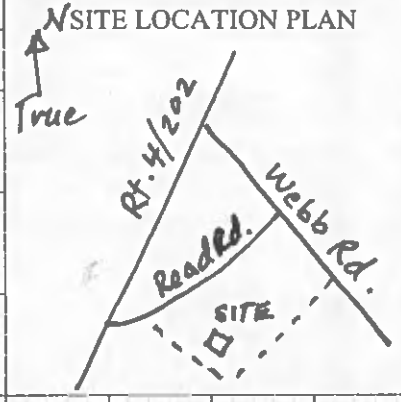
Owner's Name: Robie Holdings, LLC

SITE PLAN

Scale 1" = _____ ft. or as shown

See Drawing E1.1 attached for Site Plan

SITE LOCATION PLAN



SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-1 ☑ Test Pit ☐ Boring

3 " Depth of Organic Horizon Above Mineral Soil

Ex. Grade ≈ El. 236

Depth Below Mineral Soil Surface (inches)	Texture	Consistency	Color	Mottling
0–10	Loamy Sand, with angular gravel	Friable	Brown and strong brown	None
10–30			Light brown	
30–40	weathered/fractured rock			Reduced
40–50	Harder bedrock at 36"			

Soil Classification	Slope	Limiting Factor	
4C Profile / A III Condition	4-6 %	30 "	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Observation Hole TP-2 ☑ Test Pit ☐ Boring

3 " Depth of Organic Horizon Above Mineral Soil

Ex. Grade ≈ El. 236'

Depth Below Mineral Soil Surface (inches)	Texture	Consistency	Color	Mottling
0–10	Loamy Sand, with angular gravel	Friable	Brown	None
10–30			Light brown	
30–40	weathered/fractured rock			Reduced
40–50	Harder bedrock at 40"			

Soil Classification	Slope	Limiting Factor	
4C Profile / A III Condition	3-5 %	36 "	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Scott R. [signature] — Site Evaluator Signature

4006 — SE #

7/13/26 — Date

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Dept.Health & Human Services
Division of Environmental Health
(207) 287-5672 Fax: (207) 287-3165

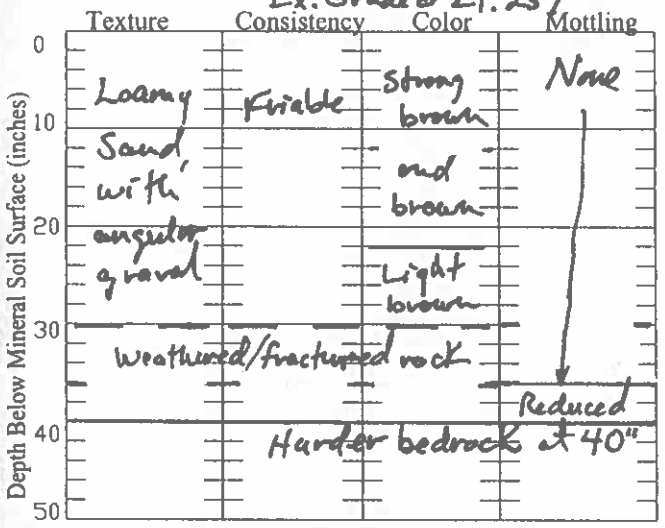
Town, City, Plantation	Street, Road, Subdivision	Owner's Name
Windham, ME	Webb Road	Robie Holdings, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-3 ☑ Test Pit ☐ Boring

____" Depth of Organic Horizon Above Mineral Soil

Ex. Grade @ El. 237'

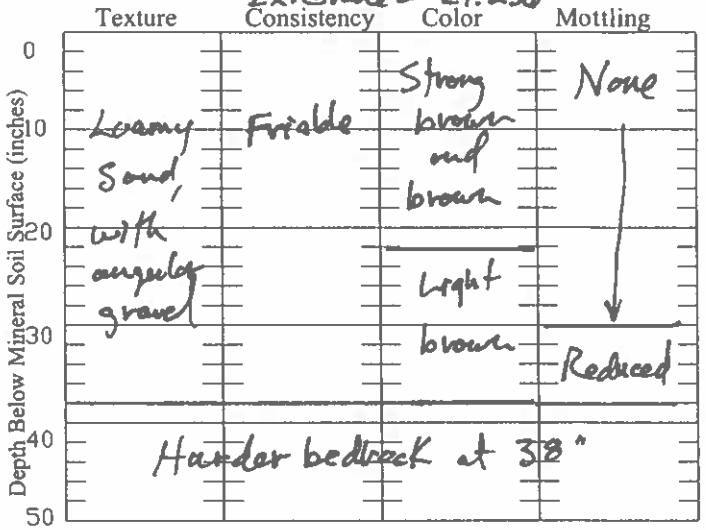


Soil Classification	Slope	Limiting Factor	
4C / A III (Profile / Condition)	3-5 %	36"	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Observation Hole TP-4 ☑ Test Pit ☐ Boring

3" Depth of Organic Horizon Above Mineral Soil

Ex. Grade @ El. 236'



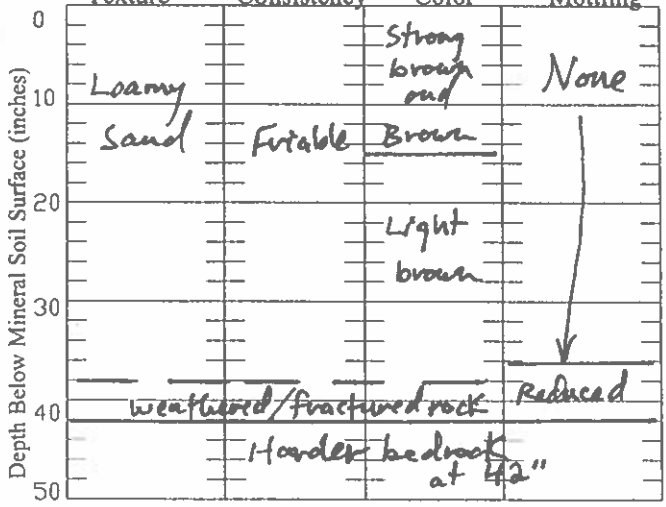
Soil Classification	Slope	Limiting Factor	
4C / A III (Profile / Condition)	2-4 %	30"	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-5 ☑ Test Pit ☐ Boring

2" Depth of Organic Horizon Above Mineral Soil

Ex. Grade @ El. 236.5'

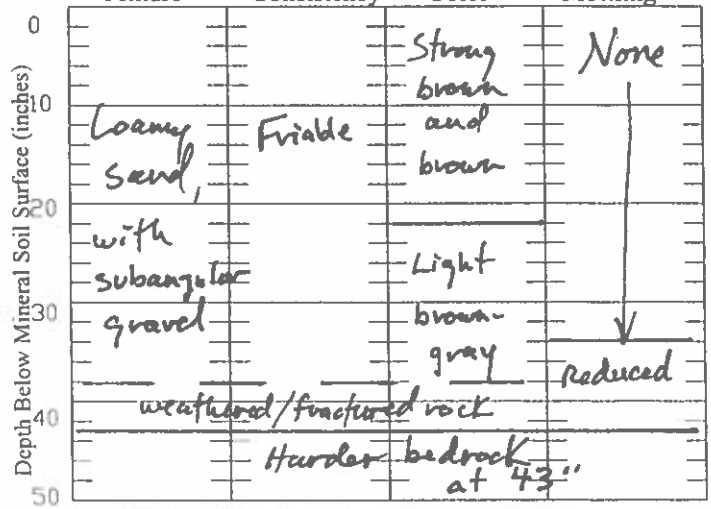


Soil Classification	Slope	Limiting Factor	
4C / A III (Profile / Condition)	3-5 %	36"	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Observation Hole TP-6 ☑ Test Pit ☐ Boring

3" Depth of Organic Horizon Above Mineral Soil

Ex. Grade @ El. 238'



Soil Classification	Slope	Limiting Factor	
4C / A III (Profile / Condition)	4-6 %	34"	[✓] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Scott R. D. — Site Evaluator Signature

406 — SE #

7/13/24 — Date

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Dept.Health & Human Services
Division of Environmental Health
(207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation	Street, Road, Subdivision	Owner's Name
Windham, ME	Webb Road	Robie Holdings, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-7 ☑ Test Pit ☐ Boring

3 " Depth of Organic Horizon Above Mineral Soil

Ex. Grade @ El. 237

Depth Below Mineral Soil Surface (inches)	Texture	Consistency	Color	Mottling
0–10	Loamy Sand, with angular gravel	Friable	Brown and strong brown	None
10–30			Light brown	
30–40	Weath./fractured rock			Reduced
40–50	Harder bedrock at 39"			

Soil Classification	Slope	Limiting Factor	
4C Profile / A III Condition	3-5 %	35"	[☑] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Observation Hole TP-8 ☑ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

Ex. Grade @ El. 237

Depth Below Mineral Soil Surface (inches)	Texture	Consistency	Color	Mottling
0–10	Sand, with loam and gravel	Friable	Brown	None
10–30			Light brown	
30–40	Weath./fractured rock			Reduced
40–50	Harder bedrock at 42"			

Soil Classification	Slope	Limiting Factor	
4C Profile / A III Condition	4-6 %	36"	[ ] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-9 ☑ Test Pit ☐ Boring

3 " Depth of Organic Horizon Above Mineral Soil

Ex. Grade @ El. 238

Depth Below Mineral Soil Surface (inches)	Texture	Consistency	Color	Mottling
0–10	Loamy Sand, with angular gravel	Friable	Brown	None
10–30			Light brown	
30–40	Weath./fractured rock			Reduced
40–50	Harder bedrock at 46"			

Soil Classification	Slope	Limiting Factor	
4C Profile / A III Condition	3-5 %	36"	[☑] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Observation Hole TP-10 ☑ Test Pit ☐ Boring

3 " Depth of Organic Horizon Above Mineral Soil

Ex. Grade @ El. 237

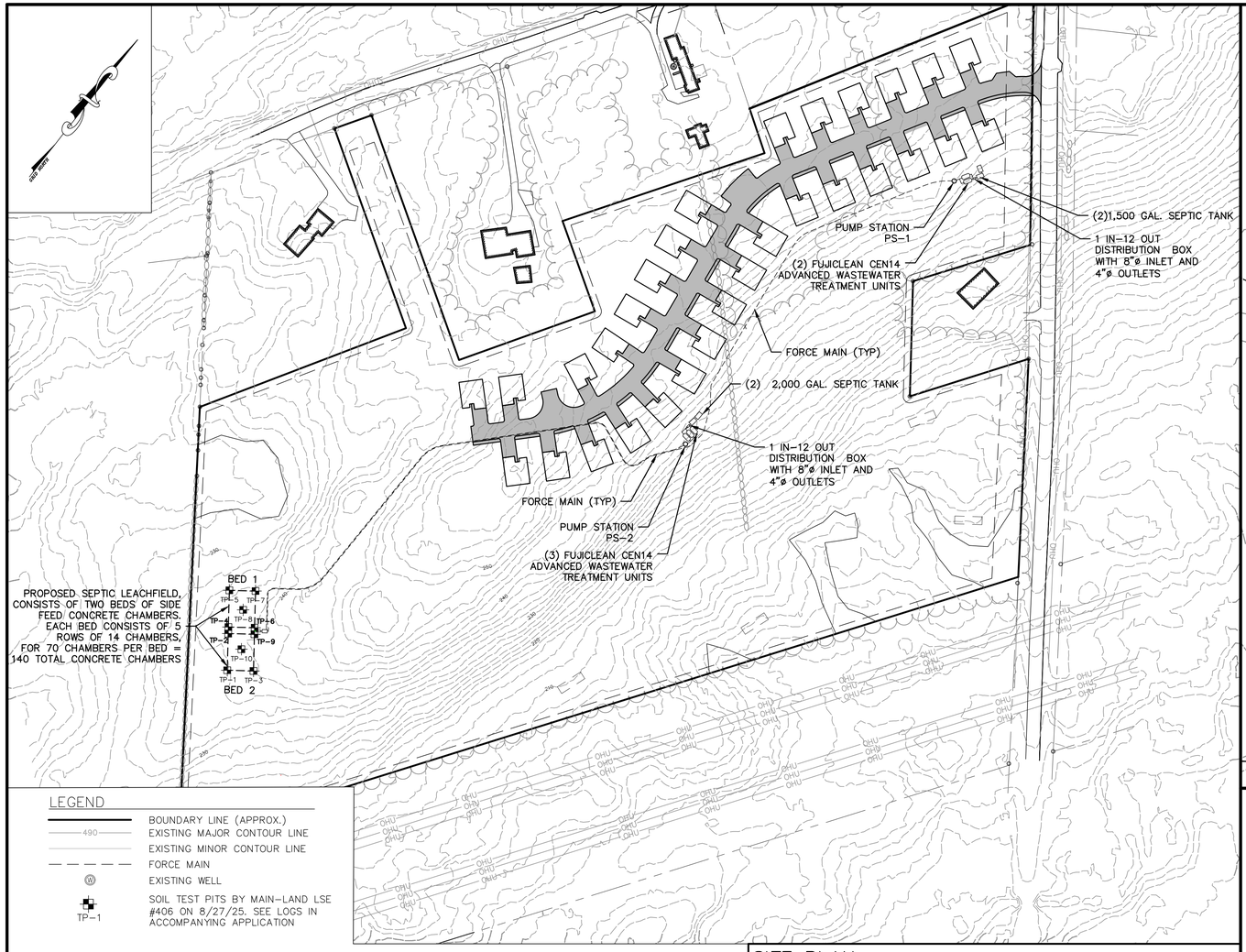
Depth Below Mineral Soil Surface (inches)	Texture	Consistency	Color	Mottling
0–10	Loamy Sand, with angular gravel	Friable	Strong Brown	None
10–30			Light brown	
30–40	Weath./fractured rock			Reduced
40–50	Harder bedrock at 40"			

Soil Classification	Slope	Limiting Factor	
4C Profile / A III Condition	3-5 %	35"	[☑] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Site Evaluator Signature | SE # | 7/13/26 Date

EXHIBIT G

Design Plan



LEGEND

- BOUNDARY LINE (APPROX.)
- 490 EXISTING MAJOR CONTOUR LINE
- EXISTING MINOR CONTOUR LINE
- FORCE MAIN
- Ⓦ EXISTING WELL
- TP-1 SOIL TEST PITS BY MAIN-LAND LSE #406 ON 8/27/25. SEE LOGS IN ACCOMPANYING APPLICATION

SITE PLAN

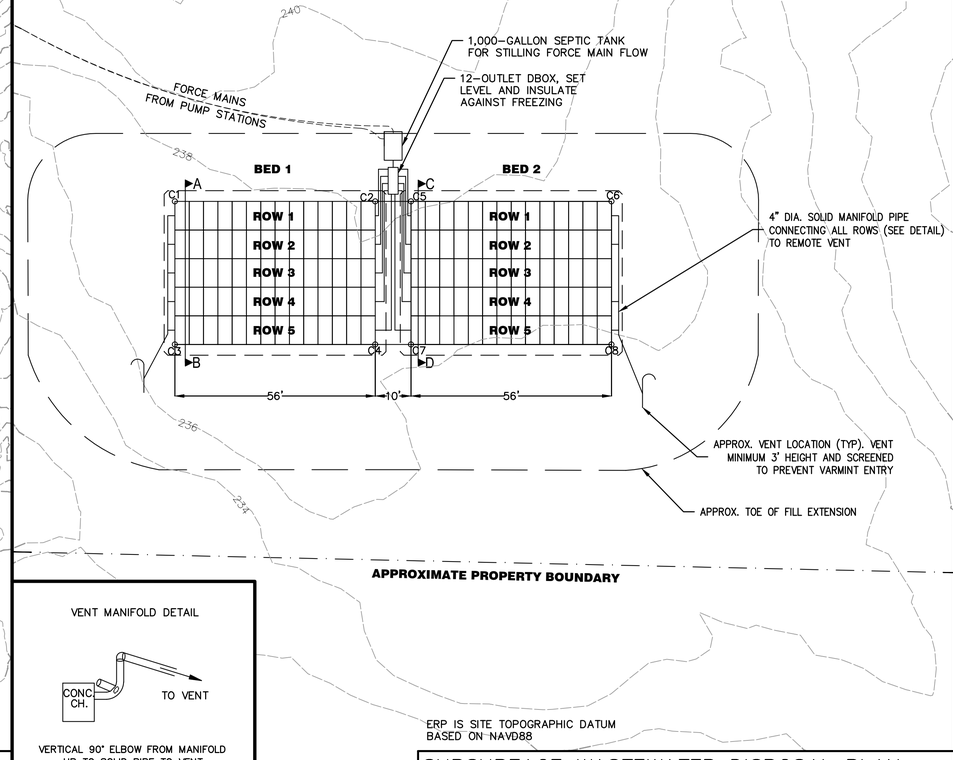
SCALE: 1" = 100'

BED 1 EXISTING GRADE ELEVATIONS AT CORNERS

C1	237.0
C2	238.0
C3	236.0
C4	236.5

BED 2 EXISTING GRADE ELEVATIONS AT CORNERS

C5	238.0
C6	237.0
C7	236.0
C8	236.0



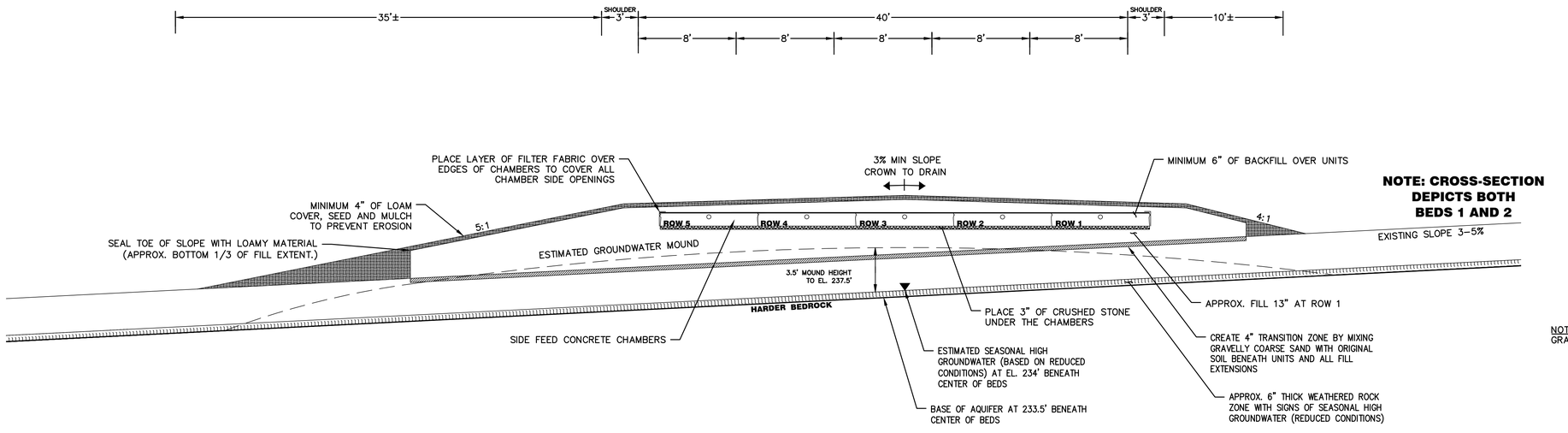
VENT MANIFOLD DETAIL

VERTICAL 90° ELBOW FROM MANIFOLD UP TO SOLID PIPE TO VENT

ERP IS SITE TOPOGRAPHIC DATUM BASED ON NAVD88

SUBSURFACE WASTEWATER DISPOSAL PLAN

SCALE: 1" = 20'



NOTE: CROSS-SECTION DEPICTS BOTH BEDS 1 AND 2

NOTE: BACKFILL MEANS GRAVELLY COARSE SAND

EXISTING ELEVATIONS (BOTH BEDS)

FINAL GRADE	241.2'±(AT ROW 3)
TOP OF CHAMBER	240.4'
BOTTOM OF CHAMBER	239.3'
BOTTOM OF STONE	239.0'
BOTTOM OF BACKFILL	VARIES, EXTENDS DOWN TO TRANSITION ZONE NEAR EXISTING GRADE

CROSS-SECTION (A-B AND C-D)

SCALE: 1" = 5'

MAIN-LAND DEVELOPMENT CONSULTANTS, INC.
69 MAIN ST. LIVERMORE FALLS, MAINE
367 US ROUTE 1 FALMOUTH, MAINE
182 MOOSEHEAD TRAIL, NEWPORT, MAINE
PH: (207) 897-6752 FAX: (207) 897-5404
WWW.MAIN-LANDDCI.COM

PROJECT
ENGINEERED WASTEWATER DISPOSAL SYSTEM
WEBB ROAD
WINDHAM, ME

OWNER OF RECORD
ROBIE HOLDINGS, LLC

MADE FOR
D.M. ROMA CONSULTING ENGINEERS
PO BOX 1116
WINDHAM, ME 04062

DRAWING SCALE:
VARIES

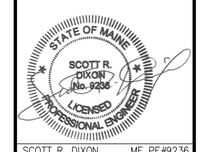
SUBMISSION NOTES:
SUBMISSION 1: 2026-07-13 ERL
THIS SUBMISSION IS FOR APPLICATION.

PROJ. MGR:	SRD
DRAWN BY:	DRP/HRD
CHECKED BY:	SRD
SUBMISSION NO.	N/A
SUBMISSION DATE:	2026-07-13
SUBMITTED FOR:	APPLICATION

NOT FOR CONSTRUCTION

WASTEWATER DISPOSAL DESIGN

SEAL:



SCOTT R. DIXON ME PE#9236

DRAWING NO.
E1.1

MLDC NO. 25-328 1 OF 1

1PLN-ENG DESIGN.dwg - PLOTTED ON 7/13/2026 11:32 AM BY DARREN PINKHAM

BEACON
design . performance . technology

VIPER Floodlight

VIPER LUMINAIRE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

MICRO STRIKE | OPTICS STRIKE

FEATURES

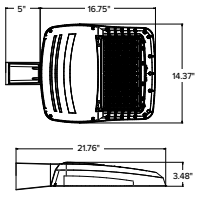
- Low profile LED floodlighting luminaire with a variety of NEMA distributions for lighting applications such as accent lighting, sign lighting, distribution center, and general area lighting.
- Featuring two different optical technologies, Strike and Micro Strike Optics, which provide the best distribution patterns for retrofit or new construction
- Vibration rated for high vibration applications including bridges and overpasses. All housing sizes are rated for 1.5G
- Control options including photo control, occupancy sensing, NX Lighting Controls, Wiscape and 7-Pin with networked controls
- New customizable lumen output feature allows for the wattage and lumen output to be customized in the factory to meet whatever specification requirements may entail
- Field interchangeable mounting provides additional flexibility after the fixture has shipped

c UL us IP65 BAA TAA DLC LISTED DLC LISTED PREMIUM

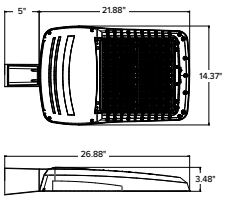
CONTROL TECHNOLOGY

NX CONNECT NX WIRELESS LIGHTGRID

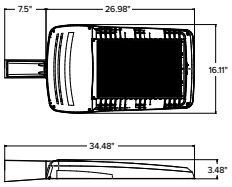
SIZE 1



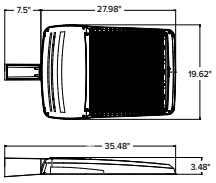
SIZE 2



SIZE 3



SIZE 4



	EPA			
	Size 1	Size 2	Size 3	Size 4
30°	0.827	1.023	1.423	1.850
60°	1.419	1.837	2.419	3.080

SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with 1000 hour powder coat paint finish
- External hardware is corrosion resistant

OPTICS

- Micro Strike Optics (132, 264, 360, or 540 LED counts) maximize uniformity in retrofit applications and come standard with mid-power LEDs which evenly illuminate the entire luminous surface area to provide a low glare appearance. Catalog logic found on page 2
- Strike Optics (36, 72, 108, or 162 LED counts) provide best in class distributions and maximum pole spacing in new construction applications with high powered LEDs. Strike optics are held in place with a polycarbonate bezel to mimic the appearance of the Micro Strike Optics so both solutions can be combined on the same application. Catalog logic found on page 3
- One-piece silicone gasket ensures a weatherproof seal

INSTALLATION

- Mounting patterns for each arm can be found on page 8
- All mounting hardware included
- Knuckle arm fitter option available for 2-3/8" OD tenon
- Control options are only available on the knuckle mount option and must be installed on a vertical tenon
- Micro Strike flood configurations may be aimed up, but must have at least a 30° to allow for water to shed.

ELECTRICAL

- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40˚C to 40˚C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised

CONTROLS

- Photo control, occupancy sensor programmable controls and Zigbee wireless controls available for complete on/off and dimming control
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)
- 0- 10V Dimming Drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 6" standard
- NX Lighting Controls™ available with in fixture wireless control module, features dimming and occupancy sensor
- LightGRID+ available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

CERTIFICATIONS

- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40˚C ambient temperatures
- 1.5 G rated for ANSI C136.31 high vibration applications
- Fixture is IP65 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt
- This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9) and Trade Agreements Act (FAR 52.225-11). See Buy America(n) Solutions (link to https://www.currentlighting.com/resources/america-solutions)
- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Please refer to the DLC website for specific product qualifications at www.designlights.org

WARRANTY

- 5 year warranty

BEACON
design . performance . technology

VIPER Floodlight

VIPER LUMINAIRE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

MICRO STRIKE OPTICS – ORDERING GUIDE

Example: VP-F–2-132L–39 –3K8–4x4–UNV–AAU–BLT

CATALOG #

VP-F –

Series		Optic Platform	Size		Light Engine		CCT/CRI		Distribution		Voltage	
VP-F	Viper Flood	Microstrike	**1**	Size 1 [6]	**132L-39**	5500 lumens	**AP**	AP-Amber Phosphor Converted	**2X2**	Narrow Spot	**UNV**	120-277V
					132L-55	7500 lumens	**27K8**	2700K, 80 CRI	**4X4**	Medium Spot	**120**	120V
					132L-75	10000 lumens	**3K7**	3000K, 70 CRI	**6X6**	Wide Flood	**208**	208V
					132L-100	12500 lumens	**3K8**	3000K, 80 CRI			**240**	240V
					132L-120	15000 lumens	**35K8**	3500K, 80 CRI			**277**	277V
					132L-135	18000 lumens	**3K9**	3000K, 90 CRI			**347**	347V
			2	Size 2	**264L-130**	18000 lumens	**4K7**	4000K, 70 CRI			**480**	480V
					264L-155	21000 lumens	**4K8**	4000K, 80 CRI				
					264L-175	24000 lumens	**4K9**	4000K, 90 CRI				
					264L-205	27000 lumens	**5K7**	5000K, 70 CRI				
					264L-235	30000 lumens	**5K8**	5000K, 80 CRI				
					264L-260	33000 lumens						
			3	Size 3	**360L-270**	36000 lumens						
					360L-310	40000 lumens						
					360L-345	44000 lumens						
			4	Size 4	**540L-350**	48000 lumens						
					540L-390	52000 lumens						
					540L-415	55000 lumens						
					540L-460	60000 lumens [7]						
					CLO	Custom Lumen Output [1]						

Mounting		Color		Options		Network Control Options	
AAU	Adjustable Arm	**BLT**	Black Matte Textured	**F**	Fusing	**NXWS16F**	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,3,4,8,10]
AA_U	Adjustable arm mount for round pole [9]	**BLS**	Black Gloss Smooth	**2PF**	Dual Power Feed [2]	**NXWS40F**	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,3,4,8,10]
K	Knuckle	**DBT**	Dark Bronze Matte Textured	**2DR**	Dual Driver	**NXW**	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor [3,4,8]
T	Trunnion	**DBS**	Dark Bronze Gloss Smooth	**TE**	Tooless Entry	**WIR**	LightGRID+ In-Fixture Module [1,3,4,8]
		GTT	Graphite Matte Textured	**TB**	Terminal Block	**Stand Alone Sensors**	
		LGS	Light Grey Gloss Smooth			**BTS-14F**	Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens [4,8,10]
		LGT	Light Grey Gloss Textured			**BTS-40F**	Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens [4,8,10]
		PSS	Platinum Silver Smooth			**BTSO-12F**	Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens [4,8,10]
		WHT	White Matte Textured			**Stand Alone Sensors**	
		WHS	White Gloss Smooth			**7PR**	7-Pin Receptacle [4,10]
		VGT	Verde Green Textured			**7PR-SC**	7-Pin Receptacle with shorting cap [4,10]
		LEG	Legacy Colors			**3PR**	3-Pin twist lock [4,10]
		Color Option				**3PR-SC**	3-Pin receptacle with shorting cap [4,10]
		CC	Custom Color			**3PR-TL**	3-Pin PCR with photocontrol [4,10]
						Programmed Controls	
						ADD	AutoDim Timer Based Dimming [4]
						ADT	AutoDim Time of Day Dimming [4]

1 – Items with a grey background can be done as a custom order. Contact brand representative for more information
2 – Not available with trunnion mount
3 – Networked Controls cannot be combined with other control options and are limited based on mounting orientation
4 – Not available with 2PF option
5 – Not available with 480V
6 – Not available with Dual Driver option
7 – Some voltage restrictions may apply when combined with controls
8 – Control option not available in 130W or 155W configurations
Only available in Size 1 housing
9 – Replace "_" with "2" for 2.5"-3.4" OD pole, "3" for 3.5"-4.13" OD pole, "4" for 4.18"-5.25" OD pole, "5" for 5.5"-6.5" OD pole
10 – Occupancy sensor configurations only available with knuckle.
Should be mounted on a vertical tenon.
11 – PC only available on Size 1 and Size 2

BEACON
design . performance . technology

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

VIPER Floodlight

VIPER LUMINAIRE

STRIKE OPTIC – ORDERING GUIDE

Example: VP–F–ST–1–36L-39–3K7–3x3–UNV–AAU–BLT

CATALOG #

VP-F

Series	
VP-F	Viper Flood

Optic Platform	
ST	Strike

Size	
1	Size 1
2	Size 2
3	Size 3
4	Size 4

Light Engine	
36L-39 [7]	5500 lumens
36L-55 [7]	7500 lumens
36L-85	10000 lumens
36L-105	12500 lumens
36L-120	14000 lumens
72L-115	15000 lumens
72L-145	18000 lumens
72L-180	21000 lumens
72L-210	24000 lumens
72L-240	27000 lumens
108L-215 [7]	27000 lumens
108L-250	30000 lumens
108L-280	33000 lumens
108L-325	36000 lumens
108L-365	40000 lumens
162L-320	40000 lumens
162L-365 [9]	44000 lumens
162L-405	48000 lumens
162L-445	52000 lumens
162L-485	55000 lumens
162L-545 [7]	60000 lumens
CLO	Custom Lumen Output [1]

CCT/CRI	
AM	monochromatic amber, 595nm
27K8	2700K, 80 CRI
3K7	3000K, 70 CRI
3K8	3000K, 80 CRI
3K9	3000K, 90 CRI
35K8	3500K, 80 CRI
4K7	4000K, 70 CRI
4K8	4000K, 80 CRI
4K9	4000K, 90 CRI
5K7	5000K, 70 CRI
5K8	5000K, 80 CRI

Distribution	
3X3	Narrow Flood
5X5	Medium Flood
4X6	Vertical Flood
6X4	Horizontal Flood

Voltage	
UNV	120-277V
120	120V
208	208V
240	240V
277	277V
347	347V
480	480V

Mounting	
AAU	Adjustable Arm
AA_U	Adjustable arm mount for round pole [10]
K	Knuckle
T	Trunnion

Color	
BLT	Black Matte Textured
BLS	Black Gloss Smooth
DBT	Dark Bronze Matte Textured
DBS	Dark Bronze Gloss Smooth
GTT	Graphite Matte Textured
LGS	Light Grey Gloss Smooth
LGT	Light Grey Gloss Textured
PSS	Platinum Silver Smooth
WHT	White Matte Textured
WHS	White Gloss Smooth
VGT	Verde Green Textured
LEG	Legacy Colors

Color Option	
CC	Custom Color

Options	
F	Fusing
E	Battery Backup [1,2,6,7,8]
2PF	Dual Power Feed [2]
2DR	Dual Driver
TE	Tooless Entry
TB	Terminal Block

Network Control Options	
NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,3,4,11]
NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,3,4,11]
NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor [3,4]
WIR	LightGRID+ In-Fixture Module [1,3,4,8]

Stand Alone Sensors	
BTS-14F	Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens [4,11]
BTS-40F	Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens [4,11]
BTSO-12F	Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens [4,11]

Stand Alone Sensors	
7PR	7-Pin Receptacle [4,11]
7PR-SC	7-Pin Receptacle with shorting cap [4,11]
3PR	3-Pin twist lock [4,11]
3PR-SC	3-Pin receptacle with shorting cap [4,11]
3PR-TL	3-Pin PCR with photocontrol [4,11]

Programmed Controls	
ADD	AutoDim Timer Based Dimming [4]
ADT	AutoDim Time of Day Dimming [4]

1 – Items with a grey background can be done as a custom order. Contact brand representative for more information
2 – Not available with trunnion mount
3 – Networked Controls cannot be combined with other control options and are limited based on mounting orientation
4 – Not available with 2PF option
5 – Not available with 480V
6 – Not available with 347 or 480V
7 – Not available with Dual Driver option
8 – Only available in Size 1 housing
9 – Some voltage restrictions may apply when combined with controls
10 – Replace "_" with "2" for 2.5"-3.4" OD pole, "3" for 3.5"-4.13" OD pole, "4" for 4.18"-5.25" OD pole, "5" for 5.5"-6.5" OD pole
11 – Occupancy sensor configurations only available with knuckle

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

VIPER Floodlight

VIPER LUMINAIRE

ORDERING GUIDE (CONTINUED)

CATALOG #

Accessory Type		Size		Option		Color	
SHD	Shield	**1**	Size 1	**VISOR**	Visor Accessory [1]	**BLS**	Black Gloss Smooth
		2	Size 2			**BLT**	Black Matte Textured
		3	Size 3			**DBS**	Dark Bronze Gloss Smooth
		4	Size 4			**DBT**	Dark Bronze Matte Textured
MTG	Mounting			**A**	Arm Mount for square pole/flat surface	**GTT**	Graphite Matte Textured
				ASQU	Universal Arm Mount for square pole	**LGS**	Light Gray Gloss Smooth
				AAU	Adjustable Arm for pole mounting	**PSS**	Platinum Silver Smooth
				ADU	Decorative upswept Arm	**WHS**	White Gloss Smooth
				RPA	Round Pole Adapter	**WHT**	White Matte Textured
				MAF	Mast Arm Fitter for 2-3/8" OD horizontal arm	**VGT**	Verde Green Textured
				K	Knuckle	**LEG**	Legacy Colors
				T	Trunnion	**Color Option**	
				WB	Wall Bracket (compatible with universal arm mounts)	**CC**	Custom Color

Accessory Type		Option	
MSC	Miscellaneous	**BIRD SPK**	Bird Spike

Current Control Solutions — Accessories (Sold Separately)

NX Lighting Controls

☐ **NXOFM2-1R1D-UNV** — On-fixture Module (7-pin), On / Off / Dim, Daylight Sensor with NX Radio and Bluetooth® Radio, 120–480VAC

LightGRID+ Lighting Control

☐ **WIR-RME-L** — On-fixture Module (7-pin or 5-pin), On / Off / Dim, Daylight Sensor with wiSCAPE Radio, 110–480VAC

For additional information related to these accessories please visit currentlighting.com/beacon. Options provided for use with integrated sensor, please view specification sheet ordering information table for details.

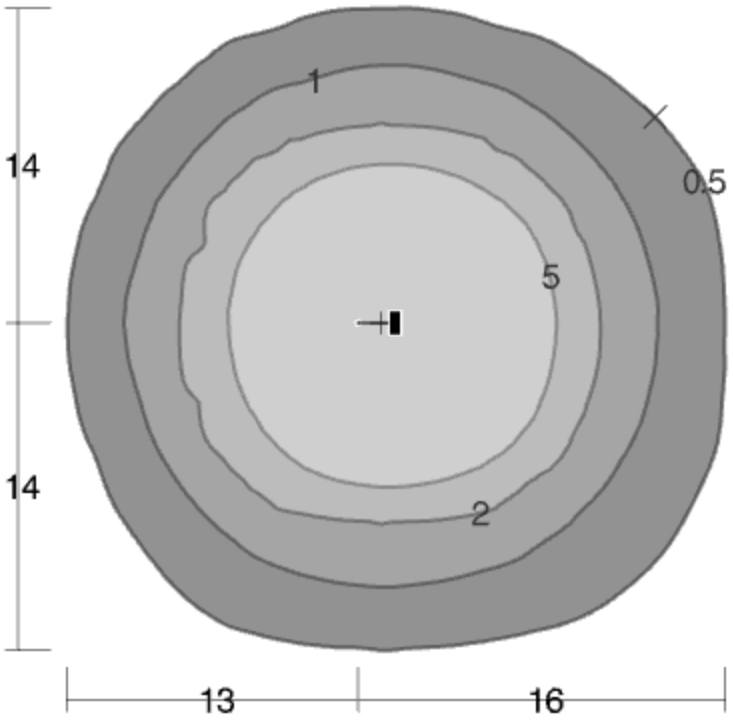
1 – Visor will block occupancy sensors

VP-F-ST-1-36L-85-3K7-3X3.ies

BEACON
VP-F-ST-1-36L-85-3K7-3X3
Viper 2.0
Single (Arm)

Luminaire Watts	84	W
Ballast/Driver Factor	1.00	
Light Loss Factor	1.00	
Total Proration Factor	1.00	
Luminaire Lumens	9125	lms

16 ft



Min: 0.50 fc
Avg: 13 fc
Max: 294 fc
Max/Avg: 23
Avg/Min: 26
Max/Min: 587

DM ROMA
CONSULTING ENGINEERS

Webb Road Retirement Development Windham
Calculated by: JRH
Printed 5/18/2026
Job #25007

Stormwater Treatment Table

	Total Watershed Area (SF)	New Roof Area (SF) **	New Paved/Gravel Area (SF)	New Landscaped Area (SF)	Existing/Offsite Impervious Area (SF)*	Existing/Offsite Landscaping Area (SF)*	Existing Undeveloped Area (SF)	Treatment Provided	New Impervious Area Treated (SF)	New Landscaped Area Treated (SF)	Treatment Device
WS-10	162,545	8,875	0	26,040	10,935	33,070	83,625	Dripedge	8,875	0	Dripedge Only
WS-11	28,060	0	16,490	11,570	0	0	0	Yes	16,490	11,570	FB-1
WS-12	25,580	0	1,185	3,050	3,190	2,940	15,215	No	0	0	None
WS-20	62,640	11,150	0	51,490	0	0	0	Yes	11,150	51,490	FB-1
WS-30	42,060	5,970	0	15,305	0	1,760	19,025	Yes	5,970	15,305	FB-2
WS-31	35,855	1,820	19,345	14,690	0	0	0	Yes	21,165	14,690	FB-2
WS-32	17,320	1,085	10,800	5,435	0	0	0	Yes	11,885	5,435	FB-2
WS-33	30,940	5,815	0	25,125	0	0	0	Yes	5,815	25,125	FB-2
WS-34	210,895	5,920	0	34,905	0	0	170,070	Dripedge	5,920	0	Dripedge Only
WS-40	73,990	2,960	4,315	22,800	2,595	13,110	28,210	Yes	7,275	22,800	FB-3
WS-41	132,425	795	0	15,370	0	0	116,260	Dripedge	795	0	Dripedge Only
Total		**44,390**	**52,135**	**225,780**					**95,340**	**146,415**	

* The project is not taking credit for the Existing / Offsite impervious and landscaped areas, but are included in the BMP sizing calculations for each treatment device.
** All buildings shall install a roofline drip edge to provide treatment for the rooftop impervious surface.
The building's impervious area is included in the watershed and overall treatment calculations below, but not included in the BMP sizing calculations for the underdrained filter basins.

New Impervious Area =	96,525	
New Impervious Area Requiring Treatment (90%)	86,873	
Provided New Impervious Treatment=	95,340	
	99%	New Impervious Area Treated
New Developed Area =	322,305	
New Developed Area Requiring Treatment (75%)=	241,729	
New Developed Area Treated=	241,755	
	75%	New Developed Area Treated

Summary for Pond FB1&2: Filter Basin

[62] Hint: Exceeded Reach R11 OUTLET depth by 0.79' @ 12.60 hrs

Inflow Area = 216,805 sf, 33.43% Impervious, Inflow Depth = 3.78" for 25-Year event
Inflow = 17.86 cfs @ 12.12 hrs, Volume= 68,344 cf
Outflow = 5.81 cfs @ 12.51 hrs, Volume= 68,353 cf, Atten= 67%, Lag= 23.9 min
Primary = 5.81 cfs @ 12.51 hrs, Volume= 68,353 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 235.04' @ 12.51 hrs Surf.Area= 13,679 sf Storage= 26,793 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 263.0 min (1,074.6 - 811.6)

Volume	Invert	Avail.Storage	Storage Description
#1	232.00'	41,810 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
232.00	5,260	0	0
234.00	9,500	14,760	14,760
236.00	17,550	27,050	41,810

Device	Routing	Invert	Outlet Devices
#1	Primary	229.73'	**10.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 229.73' / 229.00' S= 0.0243 '/' Cc= 0.900 n= 0.013, Flow Area= 0.55 sf
#2	Device 1	229.83'	**1.7" Vert. 1-3/4" Orifice** C= 0.600
#3	Device 2	232.00'	**2.410 in/hr Exfiltration over Surface area**
#4	Device 1	233.50'	**15.0" W x 11.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 1	234.45'	**Neenah R4345 Beehive Grate Light Duty-req. structure** Head (feet) 0.00 0.10 0.15 0.20 0.25 0.30 0.35 0.40 0.50 0.60 0.70 0.80 0.90 1.00 Disch. (cfs) 0.000 0.900 1.600 2.500 3.500 4.000 4.600 5.300 6.800 7.500 8.100 8.600 9.100 9.600
#6	Secondary	235.10'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=5.81 cfs @ 12.51 hrs HW=235.03' TW=229.11' (Dynamic Tailwater)
- **1=Culvert** (Inlet Controls 5.81 cfs @ 10.65 fps)
  - **2=1-3/4" Orifice** (Passes < 0.17 cfs potential flow)
    - **3=Exfiltration** (Passes < 0.76 cfs potential flow)
  - **4=Orifice/Grate** (Passes < 5.68 cfs potential flow)
  - **5=Neenah R4345 Beehive Grate Light Duty-req. structure** (Passes < 7.39 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=232.00' TW=0.00' (Dynamic Tailwater)
- **6=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)