

RCL THOMPSON LLC

***Development Report
Prepared For
339 Chesterfield Rd
Oakdale, CT***

June 20, 2024

***Prepared By:
RCL Thompson LLC
19 Pepperbush Dr
Clinton, CT 06413
860-941-7721***

Ryan E. Thompson, PE No. 29817



Table of Contents

Contents

1.0 Site Background..... 3
2.0 Location Map 4
3.0 Wetland Narrative 5
4.0 Stormwater Narrative..... 8
5.0 Cultec Calculations 11
6.0 Stone Diaphragm Calculations..... 13
7.0 Soils Map 14

Appendix A – Wetland Report

1.0 Site Background

LOCATION: The project site consists of two lots that are to be merged into one. The total area of the two lots combined is 55.01 acres. The site is located along Chesterfield Road in Oakdale. The two sites are known as Map ID 021/001/000 (311 Chesterfield Rd) and Map ID 021/001/00A (339 Chesterfield Rd) on the Montville Tax Maps.

ZONING: The site lies within the R80 Zone. The following data table depicts the existing and proposed zoning data and requirements pertinent to this project.

ZONING DATA				
ZONE:	R-80			
WATER:	PRIVATE WELL			
WASTE WATER:	PRIVATE SEPTIC			
	REQUIRED	EXISTING 339	EXISTING 311	PROPOSED MERGED
MIN. LOT AREA (SQ. FT.)	80,000	1,131,539	1,264,670	2,396,209
MIN. FRONTAGE (FT)	180	400	607	1,007
FRONT SETBACK (FT)	50	12.90	N/A	389.8
REAR SETBACK (FT)	50	2,515.3	N/A	2130.2
SIDE LINE SETBACK (FT)	20	195.0 W, 260.8 E	N/A	425.1 W, 543.9 E
MAX BUILDING HEIGHT (FT)	35	20	N/A	20

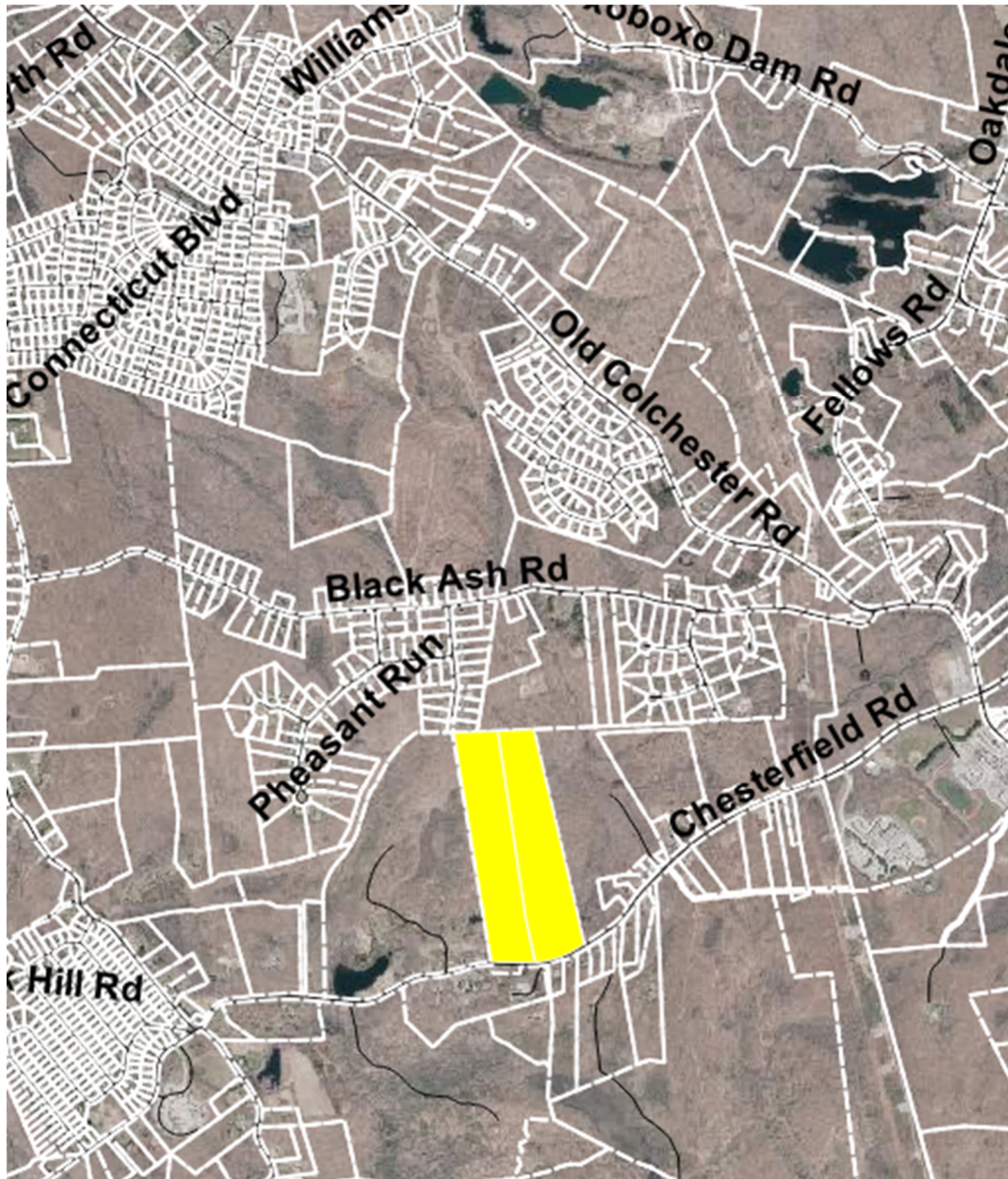
EXISTING SITE CHARACTERISTICS:

The existing site consists of two parcels, shown as Parcel 1 and Parcel 2 on the Existing Conditions map on Page 1 of the submitted plans. Parcel 1 is largely forested with wetlands in several locations throughout the property. The southern end fronts along Chesterfield Road for 500'. There exists a residential structure on the south end of the property between the road and part of the delineated wetlands area. Additionally the wetlands connect to a pond to the east of the residential structure and northerly of Chesterfield Road. The remainder of the parcel is vacant forested land with slopes ranging from 2-5% up to 25%.

There are several wetland areas including a pond on the site. As the total area of the two properties equals 55.01 acres, this report only focuses on the wetlands that are applicable to consideration for feasible development of the parcel. The wetlands in the project area were field delineated by Martin Brogie who is a certified soil scientist in Connecticut. The flags were then surveyed and added to the map by Ryan Thompson, PL, LS a licensed engineer and land surveyor in Connecticut. A separate report prepared by the soil scientist is being submitted in addition to this report. A detailed wetlands narrative with alternatives analysis is provided in later sections of this report.

There is an existing 50' long paved driveway connecting to Chesterfield Road. Beyond the paved portion of the driveway is a rutted driveway access that crosses over a 2' diameter corrugated metal pipe culvert and a concrete slab through the existing wetland area. The driveway then continues for approximately 200' adjacent to the northern side of the wetlands and pond within the Upland Review Area (URA). After leaving the URA, the rutted driveway terminates in a relatively flat clearing overlooking the pond. There is an existing shed in the clearing.

2.0 Location Map



3.0 Wetland Narrative

The site consists of two parcels which are to be merged into one lot with an area of 55.01 acres. The site hosts several wetland areas, but the only one pertinent to this project is the wetland system that exists at the southern end of the site north of Chesterfield Road. The pertinent wetland system consists of a wetland area on the western side of the lot that feeds into a pond on the eastern side of the lot. There are other wetland areas on the totality of the 55.01 acre property. Those areas have not been delineated and are not within the scope of this potential project. The closest that any of these wetland areas lie to the north of the proposed project site approximately 350' away.

IDENTIFIED WETLANDS:

The wetland / watercourse that falls within the scope of this project was field delineated on March 14, 2024 by certified soil scientist Martin Brogie. The flags and limits of these delineated wetlands are depicted on the Existing Conditions map included in the plan set. Additionally, a wetland report was produced by Mr. Brogie and is included in this submission.

AREA & SOILS:

The area of wetlands included in this project is 114,639 Square Feet (2.63 acres). The soils identified on site include Ridgebury, Leicester, and Whitman; Timakwa and Natchaug; Caden and Freetown, Woodbridge Fine Sandy Loam; and Charlton-Chatfield complex soils. The site falls within the Oxoboxo Brook Sub-Regional Drainage Basin.

PROPOSED PROJECT DESCRIPTION:

The intent of this project is to merge the two lots together into one lot, demolish the existing residential structure and septic system, construct a new residential structure, replace the 2' CMP culvert with an engineered water crossing increasing both the capacity of water flow through structure and the structural capacity of the driveway to accommodate a 30' long fire apparatus as required by the Town of Montville Fire Marshall. Associated earthwork necessary to complete the project is summarized in the following table. Due to the steep slopes to the rear of the proposed house location, a retaining wall not to exceed 5' in height at its highest point is proposed. The earthwork associated with the house excavation and retaining wall is included in the summary table below. All earthwork will be performed using typical construction vehicles such as excavators, backhoes, loaders, and dozers. The emplacement of the culverts for the proposed water crossing will be by hand and the emplacement of the stone will be with excavator.

EARTHWORK	CUT (CY)	FILL (CY)	NET (CY)
Within delineated wetlands	0	0	0
Within Upland Review Area	21	108	87 fill
Outside of Upland Review Area	338*	90	248 cut
TOTAL	359	198	161 cut

*Cut volume includes basement excavation.

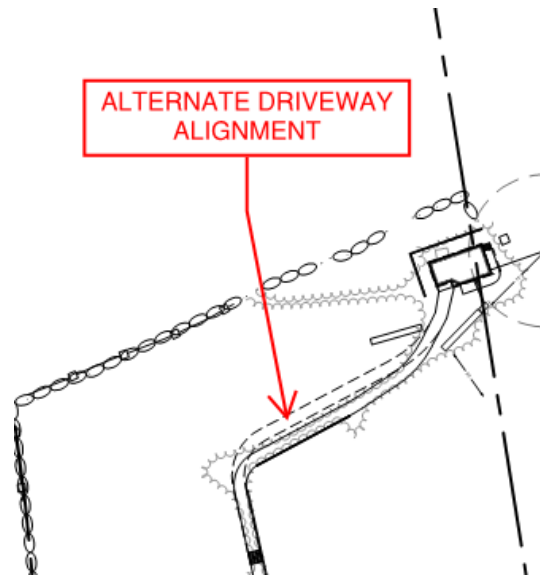
ALTERNATIVES ANALYSIS:

Three alternatives were considered for the development of this property. They include the proposed project described in the previous paragraph, a modified version of the proposed project that realigns the driveway, and an option to remodel and update the existing structure.

The details of the preferred proposed option have already been discussed in previous paragraphs. However, for summary, this option requires improving the existing wetland crossing and driveway

leading to the clearing north of the pond. The proposed residential structure and septic systems are all greater than 50' from the wetland and are outside of the upland review area.

The modified version of the proposed project includes realignment of the driveway further uphill and upland of the wetland. This realignment would seek to push the driveway approximately 15 feet north of the existing alignment. This would require substantial earthwork in the upland review area due to the steep slopes upland of the current alignment. The ground slopes at approximately a 2h:1v rate which would require significantly more earthwork within the upland review area than the preferred option.



EARTHWORK	CUT (CY)	FILL (CY)	NET (CY)
Within delineated wetlands	0	0	0
Within Upland Review Area	223	342	119 fill
Outside of Upland Review Area	338*	90	248 cut
TOTAL	561	432	129 cut

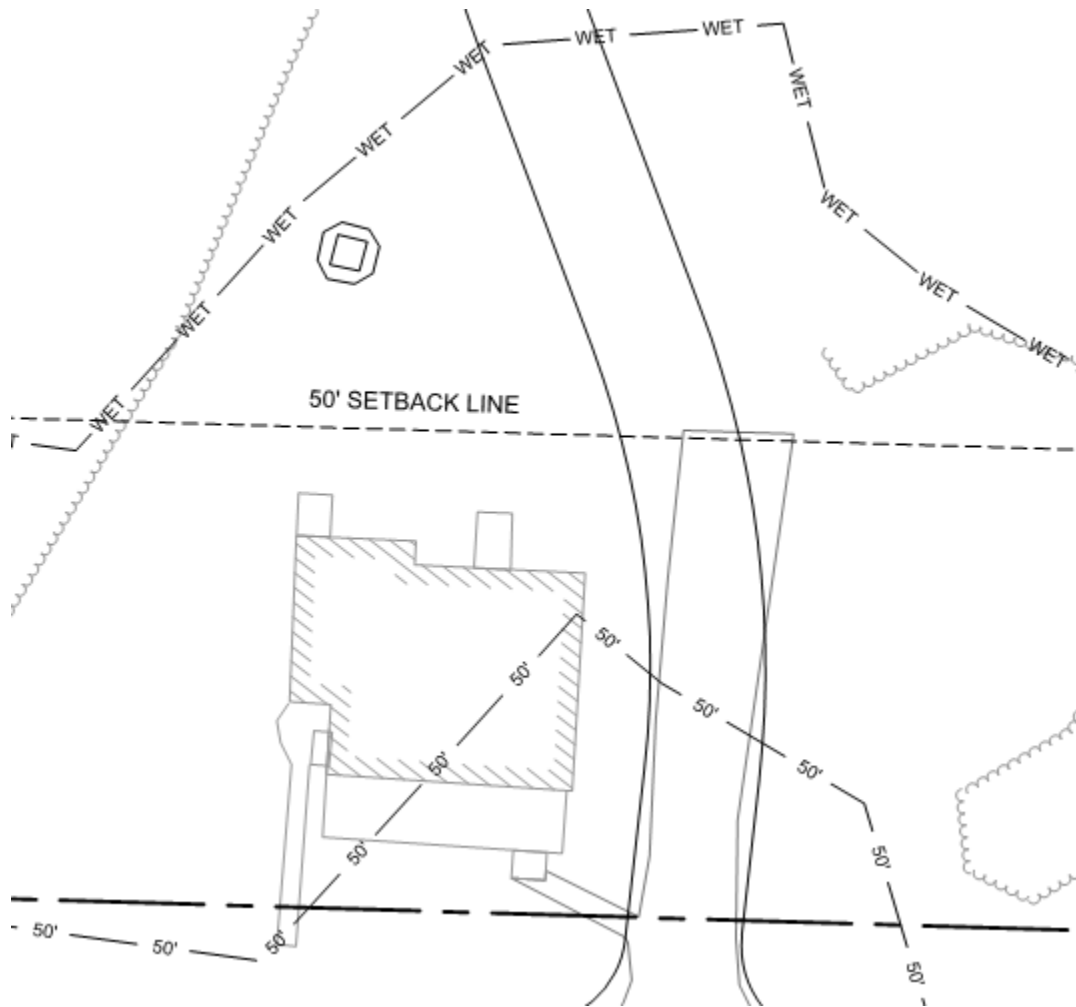
*Cut volume includes basement excavation.

The remodel option would result in less earthwork in the wetland area; however, it presents other less optimal situations. Specifically, the existing house sewage is serviced by an antiquated septic system which is currently located approximately 5' from the edge of the delineated wetland. Additionally, there is a well located within the delineated wetland limits. As the existing septic system is approximately 40' from the well, in order to be code compliant, a new septic system will need to be installed 75' from the existing well. There is no location south of the wetlands between the wetlands and the road to place a new code compliant septic system that is further away than 5' from the edge of the delineated wetlands and 75' away from the well.

Additionally, any septic system placed in this area would surely be challenged by a high ground water table, requiring that the system be designed to stringent MLSS spread lengths (ensuring a much large septic system than will be required in the location proposed). Based on similar sites, in the absence of soil testing done in this location, the length of the leach field is estimated to be approximately 75' with an excavation depth of 18". This will result in a total excavation of approximately 20 CY. However, it must

be noted that is simply the excavation volume and there would be approximately 40-50 CY of septic fill material placed 5' from the wetland edge.

Finally, it should be noted that more than half of the existing residential structure is constructed within the upland review area. Therefore, any activity that is related to remodeling of the structure or rebuilding of a structure in that location is all within the regulated area. The location of the proposed structure is outside of the regulated area. It also should be noted that the existing structure is not compliant with current zoning regulations. In order to rebuild a new structure in the vicinity of the existing structure, it would not be possible to stay within the required setback limits while also not impacting the wetlands.



The following summary table highlights the key points of consideration between each option.

	Cut Volume	Fill Volume	Septic System
	w/i URA	w/i URA	Proximity to Wetland
Option 1 - Preferred Option	21 CY	108 CY	> 50' (outside URA)
Option 2 - Realignment	223 CY	342 CY	>50' (outside URA)
Option 3 - Remodel	20 CY	50 CY	5' (within URA)

* Option 3 does not consider any other potential work such as additions to the existing structure.