



Town of Underhill
Development Review Board

P.O. Box 120, Underhill, VT 05489
www.underhillvt.gov

Phone: (802) 899-4434, x106
Fax: (802) 899-2137

MEMORANDUM

To: DRB, SB, UJFD, UCC
From: Underhill Planning and Zoning
Date: September 25, 2016
Re: Agenda and Information for 10/3/2016

Development Review Board
NOTICE OF PUBLIC MEETING
AGENDA

Monday, October 3, 2016 - 6:35 Public Hearing
Underhill Town Hall, 12 Pleasant Valley Rd. Underhill, VT

6:00 PM Site Visit at 284 River Road, Underhill, VT

6:30 PM Open Meeting, Public Comment Period

6:35 PM Final: Subdivision Review – 5 Lot
Applicant: Phil Jacobs
Docket #: DRB 16-01
Location: 16 Harvest Run (HR016)

7:30 PM Appeal: Variance
Applicant: Steve McClellan, Armand Morel
Docket: DRB 16-08
Location: 284 River Road (RV284)

8:30 PM Other Business

Review Minutes from 9/19/2016

8:30 PM Adjourn

Final Subdivision Review of Phil Jacobs for a 5-Lot Subdivision

Applicant(s):	Phil Jacobs
Consultant:	O'Leary-Burke Civil Associates
Property Location:	16 Harvest Run (HR016)
Acreage:	± 29.0 Acres
Zoning District:	Underhill Flats Village Center District
Minimum Lot Size:	1 Acre
Minimum Frontage:	150 Feet
Setbacks:	
Front:	None
Side:	20 Feet
Rear:	20 Feet
Max. Building Coverage:	50%
Max. Lot Coverage:	75%
Maximum Height:	35 Feet

2014 Underhill Unified Land Use & Development Regulations Relevant Regulations:

- Article II, Table 2.2 – Underhill Flats Village Center District (pg. 9)
- Article III, Section 3.2 – Access (pg. 27)
- Article III, Section 3.7 – Lot, Yard & Setback Requirements (pg. 35)
- Article III, Section 3.17 – Source Protection Areas (pg. 52)
- Article III, Section 3.18 – Steep Slopes (pg. 53)
- Article III, Section 3.19 – Surface Waters & Wetlands (pg. 60)
- Article III, Section 3.22 – Water Supply & Wastewater Systems (pg. 65)
- Article VII, Section 7.2 – Applicability (pg. 132)
- Article VII, Section 7.6 – Final Subdivision Review (pg. 139)
- Article VIII – All (pg. 143)

Contents:

- a. Exhibit A – Application for Final Subdivision Hearing
- b. Exhibit B – Final Subdivision Hearing Checklist
- c. Exhibit C - Preliminary Subdivision Findings & Decision
- d. Exhibit D - Preliminary Access Permit (05-16-2016)
- e. Exhibit E - Burlington Free Press Notice
- f. Exhibit F - List of Abutters
- g. Exhibit G - Letter to Neighboring Abutters
- h. Exhibit H - Correspondence from Neighbor (Covey)
- i. Exhibit I - Notice from Jacobs to Neighbors Re Road Maintenance Agreement
- j. Exhibit J - Jacobs Maintenance Agreement
- k. Exhibit K - Project Review Sheet
- l. Exhibit L - ANR Stormwater Program Public Notice
- m. Exhibit M - Designer's Statement of Compliance (State Stormwater Discharge Permit)
- n. Exhibit N - Correspondence Re Stormwater Plan
- o. Exhibit O - Correspondence Regarding Authorization to Discharge
- p. Exhibit P - DEC Correspondence Re WW-4-4679 (1 of 2)
- q. Exhibit Q - DEC Correspondence Re WW-4-4679 (2 of 2)
- r. Exhibit R - Permit 3-9015 DEC Authorization to Discharge
- s. Exhibit S - WW-4-4679

- t. Exhibit T - Survey (Plan Sheet PL - 09-09-2016)
- u. Exhibit U - Phase 2 Plan (Plan Sheet 1 - 09-09-2016)
- v. Exhibit V - Min's Lane Plan View (Plan Sheet 2 - 09-09-2016)
- w. Exhibit W - Min's Lane Road Profile (Plan Sheet 3 - 05-10-2016)
- x. Exhibit X - Roadway and Erosion Control Details (Plan Sheet 4 - 05-10-2016)
- y. Exhibit Y - Water Details (Plan Sheet 5 - 05-10-2016)
- z. Exhibit Z - Water and Wastewater Plan (Plan Sheet 6 - 09-09-2016)
- aa. Exhibit AA - Sewage Disposal and Landscaping Details (Plan Sheet 6 - 05-10-2016)
- bb. Exhibit BB - Water, Sewer and Landscaping Details (Plan Sheet 7 - 06-28-2016)
- cc. Exhibit CC - Stormwater Plan (Plan Sheet 8 - 09-09-2016)
- dd. Exhibit DD - Stormwater Details (Plan Sheet 9 - 06-22-2016)
- ee. Exhibit EE – Jacobs Sketch Letter
- ff. Exhibit FF – MMU School District Letter
- gg. Exhibit GG – This memorandum

REVIEW OF RELEVANT SECTIONS

Article II, Table 2.2 – Underhill Flats Village Center District (pg. 9)

The purpose of this district is to allow for the continuation of existing small scale commercial, residential and public uses, and to encourage development that is compatible with and promotes a compact, historic village settlement pattern. This may include higher densities of development as supported by existing and planned infrastructure.

The proposed development meets all applicable dimensional standards. See discussion in Section 3.7 below.

Section 3.2 – Access (pg. 27)

Access to this subdivision is proposed via a 60 foot wide right of way and a 24 feet wide development road (labeled Min's Lane). This width meets the requirements for development roads per Section 3.2.D.10 and associated regulations. Jacob's Hill Road, to which Min's Lane is connected, is only 22 feet wide. In the DRB's letter to the applicant following the Sketch Plan Review (dated 2/16/2016), the DRB mentioned that the Selectboard would likely require Jacob's Hill Road to be upgraded to be 24 feet wide, or that they would be interested in hearing the applicant's reasoning supporting the maintenance of the reduced roadway width on Jacobs Hill Road. No widening of Jacob's Hill Road has been proposed, and no justification has been provided by the applicant. The issue of widening did not come up as part of Selectboard Preliminary approval (Granted with conditions May 24, 2016).

During the sketch review, the DRB suggested that walkways, sidewalks and/or bikeways be included along Harvest Run to mitigate concerns about traffic safety. No walkways, sidewalks and/or bikeways have been included.

The applicant has received Preliminary Access (with conditions) and permit has been provided as Exhibit D.

The application materials and site plan include conceptual information on driveway locations. Information should be provided to determine compliance with driveway standards as discussed in Section 3.2.D.9, specifically Section 3.2.D.9.C.

Section 3.7 – Lot, Yard & Setback Requirements (pg. 35)

Development as proposed appears to meet all lot, yard and setback requirements.

Section 3.17 – Source Protection Areas (pg. 52)

The proposed development is not located within a source protection area.

Section 3.18 – Steep Slopes (pg. 53)

Areas of steep slopes (15-25%) and very steep slopes (>25%) are present on Lots 10, 11 and 12. While the applicant has provided maps containing contour lines to help identify areas of steep slopes (15-25%) and very steep slopes (>25%); these areas are not clearly identified, and therefore, the Board will need determine if the impact on steep slopes is *de minimis*. While the applicant has obtained water and wastewater permits from the State, the Board should take note that these systems are potentially in a steep slope area.

Section 3.19 – Surface Waters & Wetlands (pg. 60)

The applicant has identified the location of several small streams and Class 3 wetlands on the property. All proposed structures and other impervious surfaces appear to be greater than 25 feet away from these areas, per Sections 3.19.D.3.a & S3.19.D.3.b. A new culvert and catch basin is proposed where Min's Lane crosses a seasonal stream. Per 3.19.C, the application shall be referred to the Stream Alternation Engineer at the Vermont Agency of Natural Resources and to the Army Corps of Engineers. Copies of all applicable state and federal permits shall be required prior to the issuance of a certificate of occupancy or compliance.

Section 3.22 – Water Supply & Wastewater Systems (pg. 65)

The applicant has submitted a Wastewater System and Potable Water Supply Permit for the proposed lots (see Exhibit S).

Section 7.5 – Final Subdivision Review (pg. 137)

The purpose of Final Subdivision Review is to determine final project conformance with the municipal plan, the ULUDR and other municipal ordinances. If the subdivision is approved, the applicant must record the plat with the Town. The subdivision plat must meet the requirements of Section 7.7. The subdivision plan as approved by the DRB shall also be submitted on Mylar with the subdivision plat, per Section 7.7(D)

Article VIII – All (pg. 143)

Section 8.2 – General Standards: The development as proposed meets the general standards, with the possible exception of avoiding development on steep slopes. While the development appears to avoid steep and very steep slopes, the Development Review Board should verify this during the hearing. See discussion of Section 3.18 above. The applicant has provided a landscaping plan (See attached, Sheet 6 “Sewage Disposal and Landscaping Details”).

Section 8.3 – Natural and Cultural Resources: Comments from the Conservation Commission have been requested, per Section 8.3.A.1. There are no floodplains on the property. Development avoids surface waters and wetlands, with the exception of one proposed crossing over a seasonal stream. See discussion of Section 3.19 above. As stated above and discussed in detail in the discussion of

Section 3.18 above, the Board should inquire about possible development on steep and very steep slopes, if it has not already done so.

Section 8.4 – Open Space & Common Land: The applicant has not designated any land to be preserved as open space even though the applicant does propose to leave a significant amount of acreage as open land.

Section 8.5 – Stormwater Management & Erosion Control: Residents and the DRB have expressed concern about stormwater runoff from the development. Engineering drawings have been submitted detailing proposed stormwater management techniques (See Exhibit CC – Stormwater Plan (Plan Sheet 8 – 09-09-2016)). The Development Review Board required the applicant to provide a stormwater management plan for the 25-year design storm event. The applicant has provided a letter indicating that the Subdivision was designed to the 25-year storm event.

Section 8.6 – Transportation Facilities: The proposed construction of road appears to meet requirements of this section. A driveway profile has been provided (Exhibit W), which meets the grading requirements as established by Section 3.2. Furthermore, driveway locations have also been provided. The Board should inquire about these driveways to make sure they meet the slope requirements as set by the Regulations and Road Ordinance.

Additionally, the Board must decide whether the applicant's plans for stormwater and erosion control are adequate to meet the drainage requirements of Section 8.6.B.3, if not already done so in the preliminary hearing.

In the letter from the DRB to the applicant regarding the sketch plan review, the DRB expressed an interest in increased pedestrian access for the development (per Section 8.6.E). No pedestrian access is proposed.

The applicant has obtained a Preliminary Access permit from the Selectboard. See discussion of 3.2 (Access) above.

Section 8.7 – Public Facilities & Utilities: The applicant has recently submitted a Wastewater System and Potable Water Supply Permit. The applicant has also submitted a plan for water distribution and sewage disposal (See Exhibits Y and BB). The Mt. Mansfield Modified Union School District has indicated that they will be able to service the proposed development (see Exhibit FF). Comments are forthcoming from the fire department about their ability to serve the proposed development. All proposed utilities are to be buried and contained in an easement, which is indicated in Exhibit U.

COMMENTS/QUESTIONS

1. If not already discussed in the preliminary subdivision hearing, inquire about steep slopes, specifically in regards to the wastewater systems.
2. If not already discussed, inquire about obtaining permits from the Stream Alteration Engineer at the Vermont Agency of Natural Resources and to the Army Corps of Engineers.
3. There is dissent amongst the neighbors regarding the proposed roadway maintenance agreement. This issued should be discussed during the meeting, especially if the neighbors attend or submit testimony.

FINAL SUBDIVISION REVIEW HEARING
Request of Phil Jacobs
October 3, 2016

State the following:

- 1) "This is a final subdivision review hearing on the application of Phil Jacobs for a proposed 5-lot subdivision on the land they own at 16 Harvest Run in Underhill, VT. The purpose of final subdivision review is to determine final project conformance with the municipal plan, the regulations, and other municipal ordinances in effect at the time of application.

This subdivision is subject to review under the Unified Land Use and Development Regulations and the 2015 Road, Driveway and Trail Ordinance, and was classified as a **major subdivision** after the sketch plan review.

- 2) Copies of the Rules of Procedure that the Board follows are available for review from the Planning & Zoning Administrator.
- 3) The order of speakers tonight will be:
 - a. We will hear from and ask questions of Phil Jacobs and his consultant(s);
 - b. Then we will hear and ask questions of Andrew Strniste, Planning Director & Zoning Administrator;
 - c. Then we will give other persons in the room a chance to speak. Under our Rules of Procedure each speaker is limited to five minutes; however, that time can be extended upon request to the Board and majority consent of the Board; then
 - d. The Applicants and/or their consultant(s) will have an opportunity to respond; then;
 - e. Final comments will be solicited from all parties.
 - f. All speakers should address their comments to the Board, not to other parties present at the hearing.
 - g. Board Members may feel free to ask questions of any speaker.
- 4) Are any state or municipal representatives present, and acting in their representative capacities?
- 5) An Interested Parties Info Sheet has been provided to all attendees. Please review it for further information.

Then state:

"Only those interested persons who have participated, either orally or through written statements in a DRB proceeding may appeal a decision rendered in that proceeding to the Environmental Division of Superior Court.

- 6) If you are an applicant, or an interested party who wants to participate in the hearing, we will have you come up to the witness chair and clearly state your name, residential address, and mailing address if it differs.
- 7) I am now going to swear in all those present who wish to speak tonight. All individuals who plan to testify must take the following oath by responding "**I do**" at the end: "**Do you**

hereby swear that the evidence you give in the cause under consideration shall be the whole truth and nothing but the truth under pains and penalties of perjury?"

- 8) Are there any conflicts of interest or have there been any ex parte communications on the part of the Board Members?
- 9) At this point I am going to enter into the record the information package that was sent by the Planning & Zoning Administrator prior to the hearing. The information included in this package relevant to this hearing is:
 - a. Exhibit A – Application for Final Subdivision Hearing
 - b. Exhibit B – Final Subdivision Hearing Checklist
 - c. Exhibit C - Preliminary Subdivision Findings & Decision
 - d. Exhibit D - Preliminary Access Permit (05-16-2016)
 - e. Exhibit E - Burlington Free Press Notice
 - f. Exhibit F - List of Abutters
 - g. Exhibit G - Letter to Neighboring Abutters
 - h. Exhibit H - Correspondence from Neighbor (Covey)
 - i. Exhibit I - Notice from Jacobs to Neighbors Re Road Maintenance Agreement
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 - ee. Exhibit EE – Jacobs Sketch Letter
 - ff. Exhibit FF – MMU School District Letter
 - gg. Exhibit GG – This memorandum
- 10) We'll begin testimony, and hear from the Applicants and/or their consultant(s).
- 11) Next we will hear from the Planning Director.
- 12) Are there members of the public who would like to speak?

- 13) Any final comments from anyone?
- 14) Does the Board feel that they have enough information at this time to make a decision on the application?
- a. *If more information is needed to make a decision on the application, continue the hearing to a date and time certain, and outline for the Applicant(s) what is required at that continued hearing; or*
 - b. *If, by consensus, enough information has been presented to make a decision on the application, announce that the evidentiary portion of the hearing is closed.*
- 15) Does the Board wish to discuss the application in open or deliberative session? (After the ruling, continue with the info below.)

“Within 45 days from this hearing, the Planning & Zoning Administrator, on behalf of the DRB, will send a copy of the preliminary decision and letter to the Applicant, their consultant, and those who have participated in tonight’s hearing. A 30-day appeal period will begin on the date the decision is signed. The letter will outline the next steps in the process.

If there are no other comments or questions we will close this portion of the meeting.”

TOWN OF UNDERHILL

P.O. Box 32
Underhill Center, VT 05490

Phone: (802) 899-4434 x106

Fax: (802) 899-2137

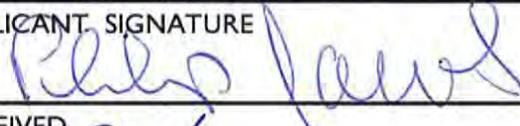
Email: underhillzoning@comcast.net

APPLICATION FOR SUBDIVISION: FINAL

FEES: \$300 hearing fee + \$100 per lot + costs + recording fees

ZONING DISTRICT(S): _____ PROPERTY CODE: HR016

UFVC Rural Residential Water Conservation Scenic Preservation Soil & Water Conservation

RECORD OWNER OF PROPERTY: Phil Jacobs	MAILING ADDRESS: 73 Upper English Settlement Road, Underhill, VT 05490
PHONE: (802) 899-2511	E-MAIL: coachjacobs55@aol.com
ACREAGE IN ORIGINAL PARCEL: 45	PROPOSED NUMBER OF LOTS: 3
DESCRIPTION OF PROJECT: The property owner is proposing to subdivide Lot #6 (approximately 29 acres) into five (5) lots - three (3) residential lots and two (2) lots reserved for future development. The residential lots will vary from 1.19 acres to 2.36 acres in size. The remaining lots will be approximately 22.6 acres. The residential lots will have on-site septic and on-site individual drilled wells.	
DEVELOPER: Phil Jacobs	CONTACT INFORMATION: 73 Upper English Settlement Road, Underhill, VT 05490
DESIGNER / ENGINEER: O'Leary-Burke Civil Associates	ADDRESS: 13 Corporate Drive, Essex Junction, VT 05452
PHONE: (802) 878-9990	E-MAIL: poleary@olearyburke.com
SURVEYOR: O'Leary-Burke Civil Associates	ADDRESS: 13 Corporate Drive, Essex Junction, VT 05452
PHONE: (802) 878-9990	EMAIL: skittredge@olearyburke.com
APPLICANT SIGNATURE 	DATE 8/11/16
RECEIVED 	DATE 9/2/2016

Please submit a complete application with the attached checklist and final plans to the Zoning Administrator. A Final Hearing before the Development Review Board will be scheduled upon receipt of a complete application. For questions, please contact the Zoning Administrator at 899-4434, x106 or underhillzoning@comcast.net.

TOWN OF UNDERHILL, VERMONT

Subdivision Checklist: Final Hearing

Docket #: _____ Property ID: HR016 Meeting Date: _____

Applicant/Consultant: Philip Jacobs / O'Leary-Burke

of Lots: 3 Zoning District(s): Underhill Flats Village Center

Is this a Planned Residential Development? Yes No

Is this a Planned Unit Development? Yes No

Is this part of a previously-approved subdivision? Yes No

Submission Requirements

The following are required prior to scheduling a hearing.

<u>Required</u>	<u>Submitted</u>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	One large and twelve 11" x 17" copies of the final subdivision plan.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Engineering drawings (see attached checklist).
<input type="checkbox"/>	<input checked="" type="checkbox"/>	State and/or Federal Permits/Approvals.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Draft legal documents (deeds, easements, Homeowners Associations, maintenance agreements, etc.).
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fees.
<input type="checkbox"/>	<input type="checkbox"/>	Master Plan. See Section 8.1(B)(1)(a) for specific requirements.
<input type="checkbox"/>	<input type="checkbox"/>	Finalized Findings of Fact (see attached checklist).
<input type="checkbox"/>	<input type="checkbox"/>	Written requests for modifications or waivers, including justifications for such requests.

TOWN OF UNDERHILL, VERMONT

Subdivision Checklist: Final Hearing



<u>Required</u>	<u>Submitted</u>	<u>SURVEY</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	The name and address of the record owner and designer of plat. Survey must be done by a licensed land surveyor.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Date, north orientation used and basis, scale, and legend.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	The property codes and names of owners of record of adjacent acreage, including those directly across any road adjoining proposed subdivision. Also include the names of all subdivisions immediately adjacent to the proposed subdivision.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Zoning district(s) applicable to the area to be subdivided.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Existing and proposed easements, rights-of-way, roads, driveways, pedestrian walkways, and utility corridors. Proposed utility easements will be centered on as-built utility lines.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Surface waters, wetlands, vernal pools, and associated buffers.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Mapped floodplains.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Open space areas.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proposed lot lines with dimensions.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Building envelopes for all structures, parking areas, and associated site improvements.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	A vicinity map drawn to show the relation of the proposed subdivision to the adjacent properties and to the general surrounding area. Show all of the area within two thousand (2,000) feet of any property line of the proposed subdivision.

TOWN OF UNDERHILL, VERMONT

Subdivision Checklist: Final Hearing

<u>Required</u>	<u>Submitted</u>	<u>ENGINEERING DRAWINGS</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Name and address of record owner(s) and designer of engineering plans.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Date, north orientation used and basis, scale, and legend.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Abutting neighbors identified by name and property code.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Zoning district(s) applicable to the area to be subdivided.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Natural topography (surface contours, grades) and drainage patterns.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Outcrops, ledges, visually prominent ridgelines and peaks, or other unique topographical and geographical features. (Include tree canopy height for proposed development down-slope of ridges and hilltops).
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Areas of steep or very steep slopes.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Surface waters, wetlands, vernal pools, and associated buffers.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Mapped floodplains.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Natural vegetative cover (timber and orchard stands, witness and shade trees, copses, hedgerows, etc.).
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Areas of forestland.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Significant wildlife habitat areas and corridors, and rare, threatened, and endangered plant and animal communities and associated buffers.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Primary agricultural soils.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Historic sites and structures.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Designated Source Protection Areas.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Preserved open space areas, forestland, natural, cultural, and historic features.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Existing easements, rights-of-way, pedestrian walkways, curb cuts, driveways, roads (including Class IV), parking areas, and utility corridors.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proposed easements, rights-of-way, pedestrian walkways, curb cuts, driveways, roads and upgrades, parking areas and designs for each (include cuts, fills, grades, drainage, culverts, travel lane widths, shoulder widths, surfacing, etc.)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proposed utility corridors.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Existing buildings and grades.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Proposed new lot lines (dimensions to the nearest foot, no bearings) and acreages.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Building envelopes for all structures, parking areas, and associated site improvements.

TOWN OF UNDERHILL
APPLICATION OF PHIL JACOBS
FOR A 5-LOT SUBDIVISION
PRELIMINARY FINDINGS AND DECISION

In re: Phil Jacobs
16 Harvest Run (HR016)
Underhill, VT 05489

Docket No. DRB 16-01

I. INTRODUCTION AND PROCEDURAL HISTORY

This proceeding concerns lands owned by Phil Jacobs, and Phil Jacobs' preliminary hearing application for a 5-lot subdivision of property located at 16 Harvest Run in Underhill, VT.

- A. On January 5, 2016, Phil Jacobs filed an application for subdivision for the project. A sketch plan review of the project was held on February 1, 2016 and was accepted.
- B. Application for preliminary approval was made on May 16, 2016. On May 17, a copy of the preliminary hearing notices was mailed via certified mail to the following owners of properties adjoining the property subject to the application:
 - a. Robert and Kathleen Covey, PO Box 5, Underhill VT 05489
 - b. David and Dorothy Richiede, PO Box 278, Underhill VT 05489
 - c. Matthew and Jacqueline Gombrich, 6 Depot Street, Underhill VT 05489
 - d. Estate of Ronald Viau, 6 Harvest Run, Underhill VT 05489
 - e. Deborah Shannon, PO Box 202, Underhill VT 05489
 - f. Jamie Eisenberg, 12 Park Street, Underhill VT 05489
 - g. Gertrude Hunt, 159 Orr Road, Jericho VT 05465
 - h. Marguerite Walsh, 4 Depot Street, Underhill VT 05489
 - i. Robert and Louise Nichols, 4 Sugar Hill, Underhill VT 05489
 - j. Joseph and Ruth Nelson, 2 Sugar Hill, Underhill VT 05489
 - k. Alan and Bonita Morse, 18 Meadow Lane, Underhill VT 05489
 - l. Emmet and Paige Manning, 421 VT Route 15, Underhill VT 05489
 - m. Malachi and Shannon McCauley, 424 VT Route 15, Underhill VT 05489
 - n. Underhill-Jericho Fire Department, PO Box 150, Underhill VT 05489
 - o. Brett Decker, 408 VT Route 15, Underhill VT 05489
 - p. Eben Widland, 8 Jacobs Hill, Underhill VT 05489
 - q. Aaron Brillhard, 16 Jacobs Hill, Underhill VT 05489
 - r. Randy and Kelly Jewell, 14 Jacobs Hill, Underhill VT 05489
 - s. Tobin and Rebecca Clough, 18 Jacobs Hill, Underhill VT 05489
 - t. Jason and Jodie Ferreira, 22 Jacobs Hill, Underhill VT 05489
 - u. John Pepi, 26 Jacobs Hill, Underhill VT 05489

A hearing was scheduled for June 6, 2016.

- C. On May 17, 2016, notice of the public hearing was posted at the following places:
1. The Underhill Town Clerk's office;
 2. The Underhill Center Post Office;
 3. The Underhill Flats Post Office.
- D. During the week of May 21, 2015, the notice of the public hearing was published in the *Burlington Free Press*.
- E. The preliminary plan hearing convened at 6:35 PM on June 6, 2016. Present at the preliminary hearing on 6/6/2016 were the following voting members of the DRB: Charles Van Winkle, Karen McKnight, Mark Green, Matt Chapek, Penny Miller, Will Towle.

Applicant Phil Jacobs and Consultant Paul O'Leary (O'Leary-Burke) also testified at the hearing.

- F. At the outset of the hearing, Chairperson Charles Van Winkle explained the criteria under 24 V.S.A. § 4465 (b) for being considered an "interested party." Those who spoke at the hearing were:
- a. William Widlund (8 Jacobs Hill Road)
 - b. Alan Morse (18B Meadow Lane)
 - c. Aaron Brillhart (16 Jacobs Hill Road)
 - d. Louise Nichols (4 Sugar Hill Road)
- G. Those who sent letters to be read at the hearing were:
- a. Robert and Kathleen Covey
 - b. Aaron Brillhart (2 letters)
 - c. Gertrude Hunt
 - d. Tobin Clough
- H. At the June 6, 2016 meeting, the decision was made to continue the hearing. A site visit was held at the property at 6:35 on June 13, 2016. No testimony was taken during the site visit, but the board expressed a desire to become more familiar with the existing drainage patterns on the site.
- I. The preliminary hearing re-convened on June 20, 2016. Present at the hearing on 6/20/2016 were the following voting members of the DRB:
- a. Charles Van Winkle, Chairman
 - b. Will Towle, Vice-Chairman
 - c. Penny Miller, Secretary
 - d. Matt Chapek
 - e. Mark Greene
 - f. Karen McKnight
- J. Also testifying at the hearing were Applicant Phil Jacobs and Consultant Paul O'Leary (O'Leary-Burke).
- K. The following interested parties were present at the hearing:

Dori Richiedei, Harvest Run, Underhill VT

- L. Those who sent letters to be read at the hearing were:
 - a. Aaron Brillhart (16 Jacobs Hill Road)
- M. During the course of the hearing the following exhibits were submitted to the Development Review Board:
 - a. Phil Jacobs Application for Subdivision: Preliminary (received 5/16/2016);
 - b. Letter from the DRB to the applicant following sketch plan review (2/16/2016);
 - c. Site Plan Review Standards Findings Checklist, 4 pages (5/16/2016);
 - d. Steep Slopes Map from ANR Natural Resources Atlas;
 - e. Subdivision Phase 2 Plan, page 1 of site plan packet, prepared by O'Leary Burke Civil Associates, (5/10/2016);
 - f. Min's Lane Plan View, page 2 site plan packet, prepared by O'Leary Burke Civil Associates, (5/10/2016);
 - g. Min's Lane Road Profile, page 3 of site plan packet, prepared by O'Leary Burke Civil Associates, (5/10/2016);
 - h. Roadway and Erosion Control Details, page 4 of site plan packet, prepared by O'Leary Burke Civil Associates, (5/10/2016);
 - i. Water Details, page 5 of site plan packet, prepared by O'Leary Burke Civil Associates, (5/10/2016);
 - j. Sewage Disposal and Landscaping Details, page 6 of site plan packet, prepared by O'Leary Burke Civil Associates, (5/10/2016)
 - k. Preliminary plat, prepared by O'Leary Burke Civil Associates, (5/10/2016);
 - l. A copy of the hearing notice as sent to the applicant and property abutters, publicized in three locations and published in the *Burlington Free Press* the week of 5/23/2016;
 - m. Email from Tobin Clough concerning the development;
 - n. Email from Aaron Brillhart concerning the development (1 of 2);
 - o. Email from Aaron Brillhart concerning the development (2 of 2) (dated 6/13);
 - p. Copy of Jacobs Hill Road Maintenance Agreement (Vol 168/pg 222-223);
 - q. Copy of Declaration of Covenants, Conditions and Restrictions Jacobs Subdivision Jacobs Hill Road Lots 1-6 (Vol 168/Pg 217-221);
 - r. First Amendment to Declaration (Vol 173/Pg 450);
 - s. Preliminary Access Permit 16-03, approved May 24, 2016;
 - t. A copy of the procedure checklist for this meeting; and
 - u. Exhibit W: Draft Road Maintenance Agreement (dated 6/2/2016);
 - v. Exhibit X: Draft Road Declaration of Covenants, Revised (added to packet 6/2/2016);
 - w. Exhibit Y: Hydraulic Report re: the culvert on Harvest Road (added to packet 6/2/2016);
 - x. This memorandum.

These exhibits are available in the Jacobs HR016 subdivision file (DRB 16-01) at the Underhill Planning and Zoning Office.

II. Findings

Factual Findings

Based on the application, testimony, exhibits, and other evidence, the Development Review Board makes the following findings:

- A. The applicant seeks a permit to subdivide land. The subject property is located at 16 Harvest Run in Underhill, VT (HR016).
- B. The property is located in the Underhill Flats Village Center District as defined in Article II, Table 2.2 of the 2014 Underhill Land Use and Development Regulations (ULUDR).
- C. Phil Jacobs is the record owner of the property.
- D. Subdivision approval is requested for the project pursuant to review under the following sections of the ULUDR.
 - a. Article II, Table 2.2 – Underhill Flats Village Center District (pg. 9)
 - b. Section 3.2 – Access (pg. 27)
 - c. Section 3.7 – Lot, Yard & Setback Requirements (pg. 35)
 - d. Section 3.17 – Source Protection Areas (pg. 52)
 - e. Section 3.18 – Steep Slopes (pg. 53)
 - f. Section 3.19 – Surface Waters & Wetlands (pg. 60)
 - g. Section 3.22 – Water Supply & Wastewater Systems (pg. 65)
 - h. Section 7.2 – Applicability (pg. 132)
 - i. Section 7.3 – Sketch Plan Review (pg. 134)
 - j. Section 7.4 - Application Requirements (pg. 136)
 - k. Section 7.5 - Preliminary Subdivision Review (pg. 137)
 - l. Article VIII – (pg. 143)
 - i. Section 8.1 Applicability - The board finds that the proposed subdivision shall be evaluated under the subdivision standards outlined in the Town of Underhill, Unified Land Use and Development Regulations, as amended March 4, 2014.
 - ii. Section 8.2 General Standards:
 - 1. Development suitability - The board finds that the subdivision is suitable for the area.
 - 2. Development density - The board finds that the subdivision is consistent with the development density for the zoning district.
 - a. Existing site conditions - The board finds that the subdivision is compatible with the existing site conditions and the layout and design integrates into the land and takes advantage of topography, and is respectful of existing site features and natural amenities.
 - 3. Underhill Town Plan & Development Regulations – The board finds that the subdivision is in preliminary conformance with the UULUDR.
 - 4. District settlement patterns – namely Underhill Flats Village Center District - The board finds that the subdivision is concentrating density in development patterns consistent with village development patterns.
 - 5. Lot layout – The board finds that the subdivision is compatible with the surrounding area.
 - 6. Building envelopes – The board finds that the applicant is proposing building envelopes that are more restrictive than allowed by the UULUDR. The board makes no requirement in this regard, these building envelopes shall be enforced by deed restrictions.
 - 7. Survey Monuments - The board makes no findings with regard to survey monuments.
 - 8. Landscaping & screening - The board makes no findings, nor requirements with regard to landscaping and screening.

9. Energy conservation – The board makes no findings, nor requirements with regard to energy conservation.
- iii. Section 8.3 Natural & Cultural Resources:
 1. Resource identification and protection – The board finds there are no natural or cultural resources identified or protected areas proposed.
 2. Surface waters, wetlands & floodplains – The board finds that other than minor drainage runoff, there are no major surface waters traversing the project, there have been no wetlands identified and there are no mapped floodplains in the project area.
 3. Rock outcrops, steep slopes, hillsides & ridgelines – The board finds there are no rock outcrops, or ridgelines in the project area. The board finds hillsides are a general feature of the project. The board finds some steep slopes are involved with the project, but development areas are not proposed within these areas.
 4. Natural areas & wildlife habitat – The board finds there are no mapped natural areas or wildlife habitat areas in the project area.
 5. Historic & cultural resources – The board finds there are no historic or cultural resources within the project.
 6. Farmland – The board finds no impact on farmland.
 7. Forestland – The board finds no impact to forestland.
 - iv. Section 8.4 Open Space & Common Land
 1. Open Space – The board makes no findings or requirements at this time with regard to open space.
 2. Common land – The board makes no findings or requirements at this time with regard to common land.
 3. Legal requirements - The board finds that the original Harvest Run development was not included in the covenants governing Jacobs Hill Road. However, the board finds a proposed maintenance agreement that includes Jacobs Hill Road, Harvest Run and the proposed Min's Lane (so called).
 - v. Section 8.5 Stormwater management & erosion control – The board finds an extensive analysis has been conducted regarding existing drainage patterns during the 10 year and 25-year design frequency storm events.
 1. The board finds (3) three different methodologies were used to conduct the analysis.
 2. The board finds the prior development in the vicinity of the project altered the drainage patterns, thereby directing more surface water flow through the project area.
 3. The board finds based on evidence submitted by the applicant, that runoff from the 25-year design storm event may accumulate on adjacent properties west of the project. The board requests a management plan for the 25-year event.
 - vi. Section 8.6 Transportation facilities – The board finds a Preliminary Access Permit has been approved by the Selectboard (Exhibit W).
 1. The board finds the proposed development road has the capacity to accommodate vehicular traffic from the proposed subdivision.

2. The board finds the additional traffic generated by the proposed development will not exacerbate existing traffic and circulation on both Jacobs Hill Road and Harvest Run.
 3. Driveways – The board finds evidence, and is reasonably assured, that the driveways to the new lots can be constructed to these regulations.
 4. Development roads – The board finds based on the evidence submitted that the proposed development road has the capacity to accommodate vehicular traffic generated by the proposed development.
 5. Design & construction - The board finds based on the evidence submitted that the proposed development road meets or exceeds the minimum design requirements with respect to Rights-of-way, Grades, Drainage, Travel Lanes, Surfacing, and Dead Ends as outlined in the UULUDR.
 6. Improvements – The board finds the existing road infrastructure on Harvest Run requires drainage improvements and continued maintenance.
 7. Acceptance – The board finds the proposed development road will not be accepted for ownership by the town.
 8. Names, Signs and 911 Locator Numbers – The board finds that names, signs and 911 numbers shall be required for final approval.
 9. Parking facilities – The board finds that no parking facilities, other than those to be expected with single family house, are proposed.
 10. Transit facilities – The board finds that no transit facilities are proposed.
 11. Pedestrian Access – The board finds no specific infrastructure is proposed regarding pedestrian access. The board finds that the nature of development at the project and surrounding area is sufficient for pedestrian access.
- vii. Section 8.7 Public Facilities & Utilities
1. Public Facilities – the board makes no findings with regard to public facilities.
 2. Fire Protection - the board makes no findings with regard to fire protection.
 3. Water Systems – the board finds the proposed lots will be served by the Jericho Underhill Fire District.
 4. Wastewater Systems – the board finds the proposed lots will be served by private wastewater systems
 5. Utilities - the board finds electrical, communication, and media utilities shall be located below grade.
- viii. Section 8.8 Legal Requirements – the board finds the proposed maintenance agreements includes Harvest Run, Jacobs Hill Road, and Min’s Lane.

III. Conclusion

The Board concludes that, based on the evidence submitted and the above findings that the proposed development generally conforms to the Unified Land Use and Development Regulations.

IV. Decision and Final Hearing Requirements

Based upon the findings above, and subject to the supplemental hearing conditions below, the Development Review Board grants preliminary approval for the subdivision as presented at the preliminary hearing with the following conditions.

1. The board requires the applicant, formalize upon approval, the proposed roadway maintenance agreement to include Harvest Run, Jacobs Hill Road and Min's Lane.
- ✓ 2. The board requires the applicant to prepare a priority list of improvements to Harvest Run with a proposed cost share arrangement, and to provide evidence (certified mail or otherwise) that the list has been forwarded to residents along Harvest Run.
- ✓ 3. The board requires the applicant to prepare an annual maintenance plan for Harvest Run with annual cost share estimates to cover plowing and annual maintenance of Harvest Run and to provide evidence (certified mail or otherwise) that is the plan has been forwarded to residents along Harvest Run.
4. The board requires the applicant to provide a stormwater management plan for the 25-year design storm event.
- ✓ 5. The board requires the applicant to include parcel codes on the final plat.

Memo/letter or direct memo to it

Dated at Underhill, Vermont this 3rd day of August, 2016

Charles Van
Winkle

Digitally signed by Charles Van Winkle
DN: cn=Charles Van Winkle, o=Northern
Reliability, Inc, ou=Chief Operations Officer,
email=charlievanwinkle@outlook.com, c=US
Date: 2016.08.03 22:34:10 -04'00'

Charles Van Winkle, Chair, Development Review Board

NOTICE: This decision may be appealed to the Vermont Environmental Court by an interested person who participated in the proceedings before the Development Review Board. Such appeal must be taken within 30 days of the date of this decision, pursuant to 24 V.S.A. §4471 and Rule 5 (b) of the Vermont Rules for Environmental Court Proceedings. Appeal period ends 2 September, 2016.

TOWN OF UNDERHILL

AK-03

P.O. Box 32
Underhill Center, VT 05490

Phone: (802) 899-4434

Fax: (802) 899-2137

PRELIMINARY ACCESS PERMIT APPLICATION

All access permit applications require review by the Selectboard and Road Foreman.

ZONING DISTRICT(S):

PROPERTY CODE: HR016

FEES: \$50+ recording fees

- Residential
 Rural Residential
 Water Conservation
 Scenic Preservation
 Soil & Water Conservation

NAME: Phil Jacobs	PROPERTY LOCATION: Jacobs Hill Road <i>MIN'S LANE</i>
MAILING ADDRESS: 73 Upper English Settlement Road, Underhill, VT 05490	ACREAGE: 45
PHONE: (802) 899-2511	E-MAIL: coachjacobs55@aol.com
CONSULTANT(S): O'Leary-Burke Civil Associates	CONSULTANT CONTACT INFORMATION: 13 Corporate Drive, Essex Junction, VT 05452

PLAN REQUIREMENTS (Attach plan to application)

All driveways and private roads must conform to the standards in the Underhill Road Policy. Waiver requests must be submitted at time of application. The plan must include accurate measurements of the following requirements:

- Proposed access on public or private road
- Property boundaries with measurements to proposed curb cut
- Landmarks sufficient to determine access point and path of traveled way
- Distance from all waterways
- All easements, covenants, and abutting property owners

TOWN CLERK'S OFFICE
Received May 31, 2016 11:45A
Recorded in VOL: 219 PG: 266- 271
Of Underhill Land Records
ATTEST: Sherri Morin, Town Clerk

APPLICANT SIGNATURE <i>Phil Jacobs</i>	DATE 5/16/16
--	------------------------

Received by <i>Boris</i>	<i>FOR OFFICE USE ONLY</i>		Date: <i>5/16/16</i>
Road Foreman Inspection	Site Visit Date: <i>5/24/16</i>	Road Classification (if applicable): <i>Private</i>	
	Speed Limit/Average Running Speed (if applicable):		
Sight Distances:	Left <i>352</i>	Right <i>450+</i>	
Culvert Required?	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	Size <i>18" x 45"</i>
Comments, Restrictions, Conditions: <i>Approved 2-0 (i absent) 5-24-16; see conditions attached.</i> <i>C. Peterson</i>			
To be Reviewed by the Selectboard (Date) <i>5/24/2016</i>			

ACCESS PERMIT CONDITIONS

In regard to the access permit application of:

PHIL JACOBS

for the property at JACOBS HILL ROAD (HIN'S LANE), Underhill, VT

submitted 5-16-2014.

The permit is granted subject to the following conditions:

1. The driveway shall be built as shown on drawing dated _____ of the drawings dated 5-10-2016 by O'LEARY-BURKE CIVIL ASSOC, PLC and attached to this permit.

2. Any change in alignment, grade, drainage, use or other features will require either administrative amendment or application to the Selectboard pursuant to the Underhill Road, Driveway and Trail Ordinance adopted February 3, 2015 (the "Road Ordinance").

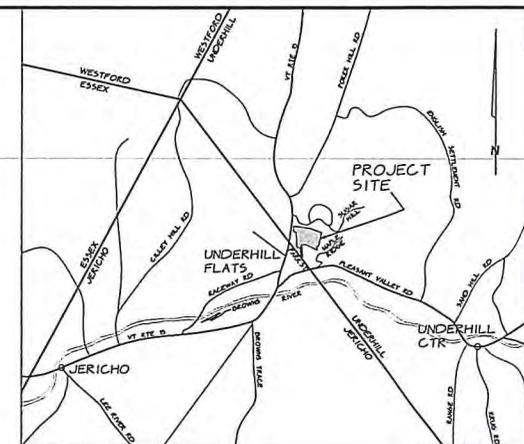
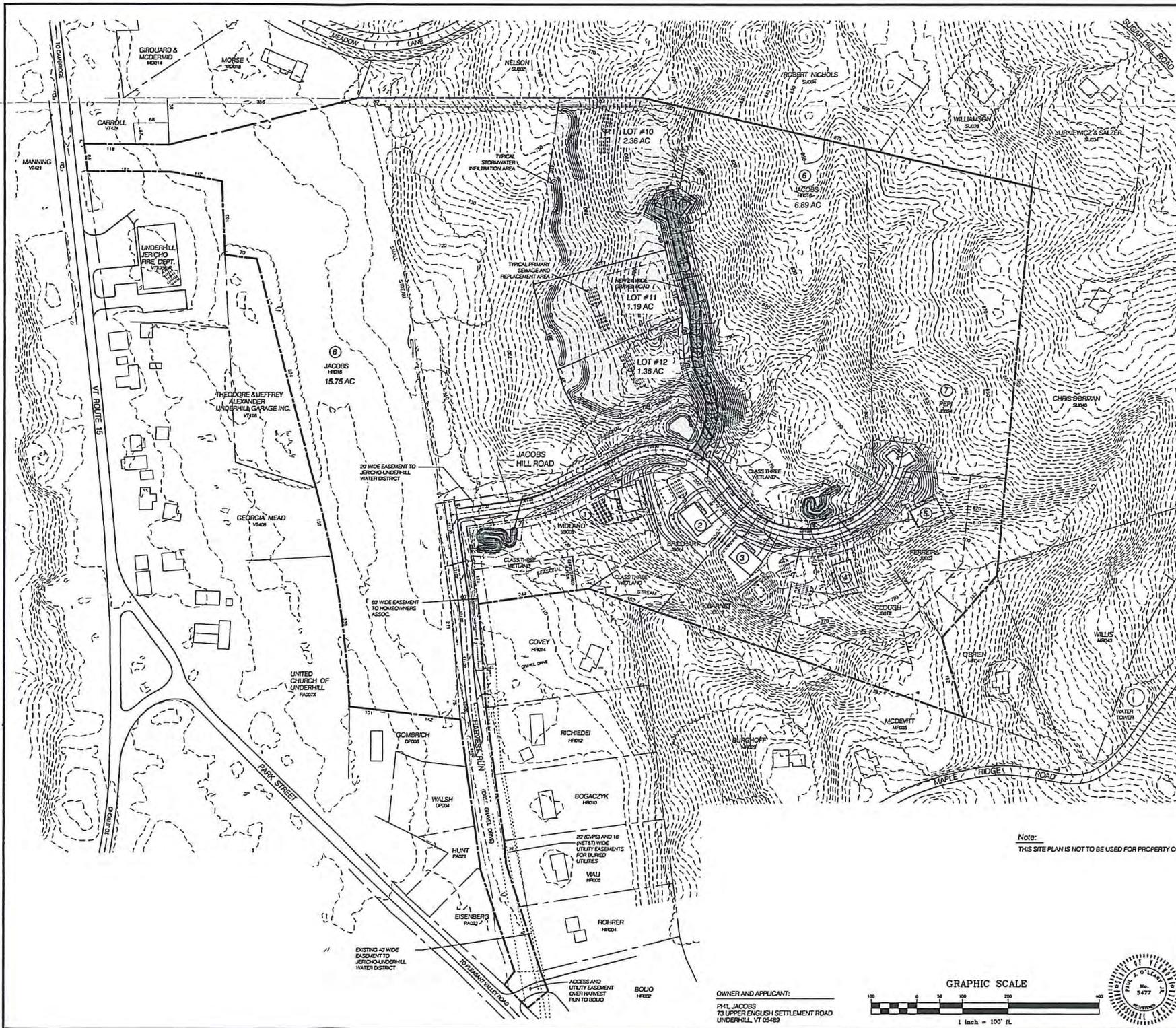
3. The erosion prevention and sedimentation control practices set out on the drawing referenced above shall be followed.

* Culverts placed in the town right-of-way shall be placed and paid for as provided in the Underhill Road, Driveway and Trail Ordinance adopted February 3, 2015.

5. Driveway shall be built according to State Agency of Transportation standard A-71 and all other applicable requirements of the Road Ordinance.

6. Other conditions:

- Access Road built to A-76 Standards.
- ANR Stormwater permit obtain prior to making application for Final Approval.



LOCATION PLAN
NTS

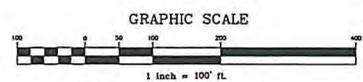
LEGEND

	PROJECT BOUNDARY
	ABUTTING PROPERTY LINE
	SIDELINE OF EASEMENT
	PROPOSED LOT LINE
	UNDISTURBED BUFFER
	BUILDING ENVELOPE
	STREAM SETBACK
	EDGE OF CLASS THREE WETLAND
	USGS CONTOUR
	FINISH GRADE CONTOUR
	STREAM
	SOILS TEST PIT
	PERCOLATION TEST
	NEW CULVERT AND CATCH BASIN
	PROPOSED SEWERLINE
	PROPOSED WATERLINE
	PROPOSED BURIED ELECTRIC AND COMMUNICATIONS

PROJECT STATISTICS

PROJECT AREA	APPROX. 45 ACRES
ZONING DISTRICT	UNDERHILL FLATS VILLAGE CENTER
CONVENTIONAL REQUIREMENTS	
1 ACRE MIN. LOT SIZE (MAX. 2 UNITS / LOT)	
150' LOT FRONTAGE	
BUILDING SETBACKS	
FRONT YARD - NO MINIMUM	
SIDE YARD - 20'	
REAR YARD - 20'	
PROPOSED CONVENTIONAL DEVELOPMENT	
PROPOSED 3 LOT CONVENTIONAL DEVELOPMENT	
3 RESIDENTIAL LOTS AND 2 RETAINED LOTS	
HOUSE SETBACKS - AS PER CONVENTIONAL	
ROADS AND LOTS = 5.8 ACRES	
SEWER TO BE INDIVIDUAL ON-SITE	
STORMWATER TO BE TREATED ON-SITE	
WATER TO BE SUPPLIED VIA A MUNICIPAL EXTENSION	

Note:
THIS SITE PLAN IS NOT TO BE USED FOR PROPERTY CONVEYANCE.



DATE: REVISION: SURVEY: RECORD DRAWING: DESIGN: H.S./P.J.D. DRAWN: H.S. CHECKED: P.J.D. SCALE: 1"=100'

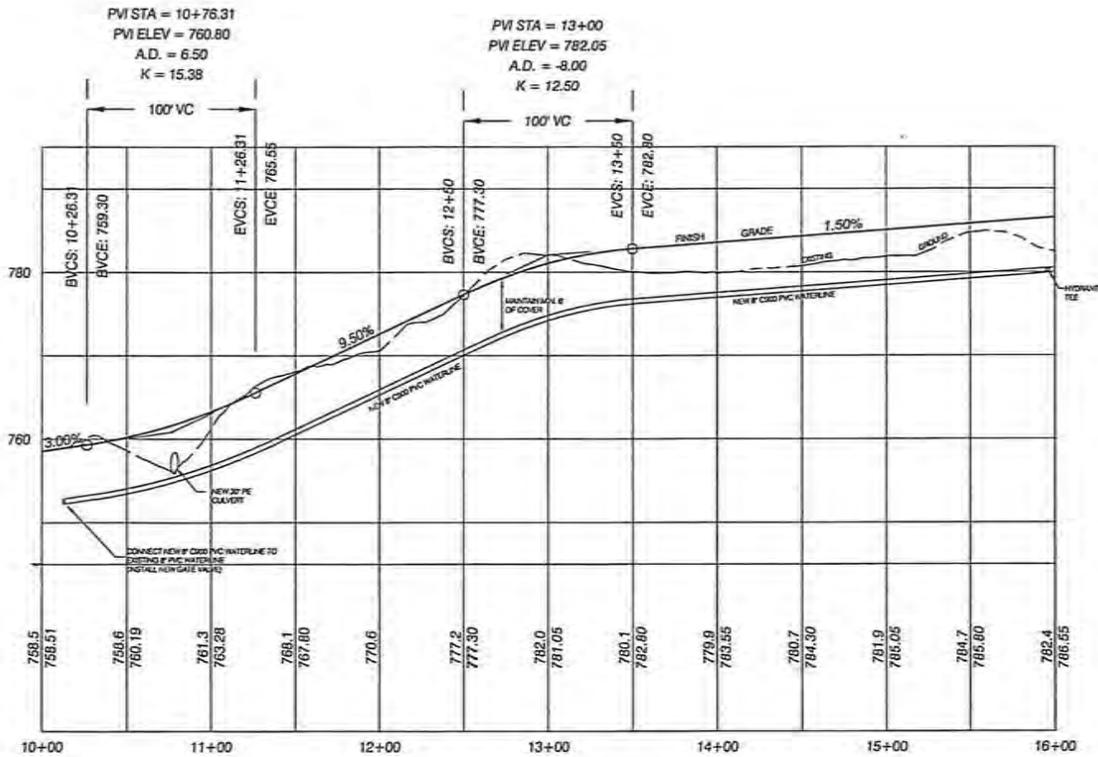
O'LEARY-BURKE CIVIL ASSOCIATES, PLC
11 CORPORATE DRIVE
ESSEX, VT
PHONE: 878-8850
FAX: 878-8859
E-MAIL: o'b@o'b-civil.com

LANDS OF PHILIP JACOBS
16 HARVEST RUN - UNDERHILL, VT
PHASE 2 PLAN
3 Lot Residential Development

BY: DATE: 5-10-2018
FILE: S106
PHASE: 1
PLAN SHEET #: 1

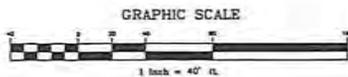
OWNER AND APPLICANT:
PHIL JACOBS
73 UPPER ENGLISH SETTLEMENT ROAD
UNDERHILL, VT 05489

DOC: 0001249 VOL: 219 PG: 268

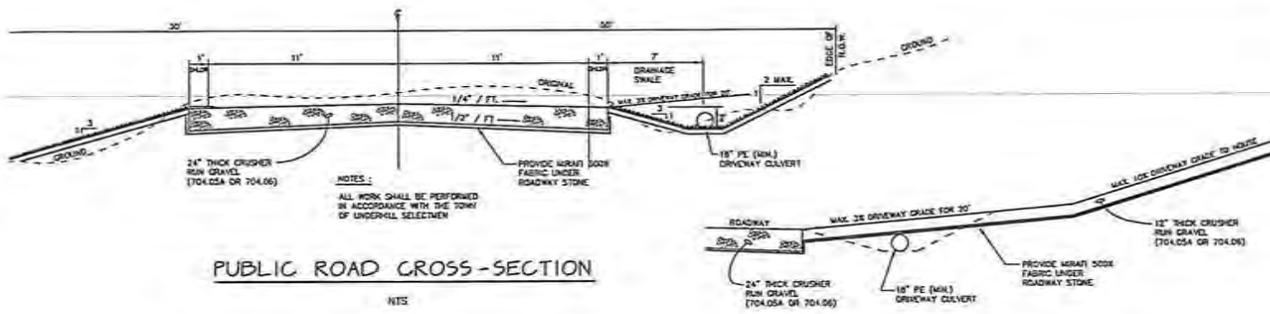


ROAD PROFILE
 (STA. 10+00 - 16+00)
 1" = 40' HORIZ.
 1" = 4' VERT.

OWNER AND APPLICANT:
 PHIL JACOBS
 18 PARK STREET
 UNDERHILL, VT 05489

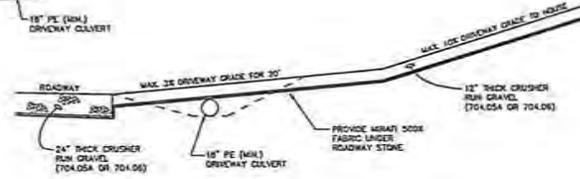


DATE	PROJECT	SCALE	BY
DESIGN	CONTRACT	DATE	3-19-16
PLANNING	NO. 5427	FILE	5106
DESIGNED	BY	TITLE	SIDE-SHADE
CHECKED	DATE	PLANNING	3
DATE	11 COPPOWEE DRIVE 2500 DC, VT PHONE 894-8888 FAX 894-8888 WWW.OLEARYBURKE.COM	LANDS OF PHILIP JACOBS 16 HARVEST LANE - UNDERHILL, VT MIN'S LANE ROAD PROFILE 40' SCALE	



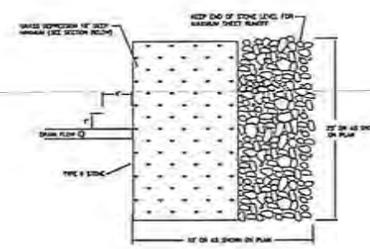
PUBLIC ROAD CROSS-SECTION

NTS

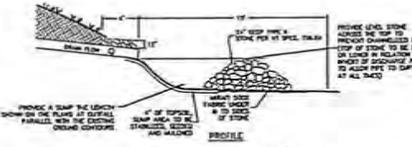


DRIVEWAY DETAIL

NTS



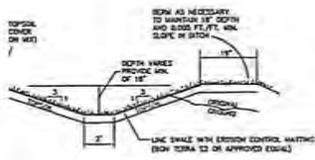
PLAN VIEW



PROFILE

STORM SPREADER/OUTFALL DETAIL

NTS



ED DRAINAGE DITCH

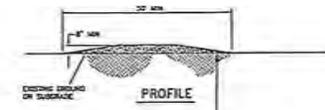
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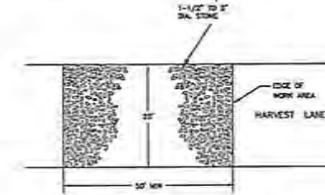
TEMPORARY TOPSOIL STOCKPILE

NTS

INSPECTION SCHEDULE	WEEKLY IN FINISHED AREAS	ONCE IN MORE AREAS	AFTER EACH STORM EVENT	WATERING/NOISE/STRENGTH CHECKS FROM SITE
INSPECT SILT FENCING	X	X	X	X
INSPECT CONSTRUCTION FENCE	X	X	X	X
INSPECT CATCH BASIN SILET PERFORMANCE	X	X	X	X
INSPECT AREAS TEMPORARILY MULCHED	X	X	X	X
INSPECT TEMPORARY STOCKPILES	X	X	X	X
INSPECT STABILIZED CONSTRUCTION ENTRANCES	X	X	X	X
INSPECT AREAS THAT HAVE BEEN TOPDRESSED & MULCHED	X	X	X	X
INSPECT STOCKPILED FERTILIZER AND NUTRIENT TRAYS	X	X	X	X



PROFILE

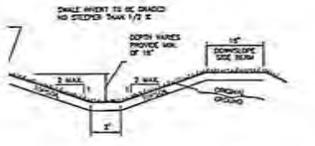


PLAN

- NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE FENCING OR DIVERTING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR REPLACEMENT OF ANY REQUIRED USED TO THIS STANDARD. ALL TEMPORARY TRACKS, SPILLS, OR WHEELS ONTO PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
 2. THE USE OF SALDAM CHARGE OR WATER MAY BE NECESSARY TO CONTROL SOIL BURNING AND FROSTING.
 3. PROVIDE APPROPRIATE TRANSITION BETWEEN CONSTRUCTION ENTRANCE AND EDGE OF RIGHT-OF-WAY.

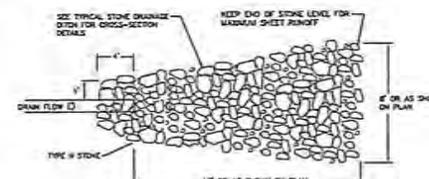
STABILIZED CONSTRUCTION ENTRANCE

NTS

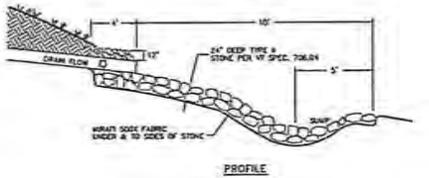


RAISED CHANNEL

NTS



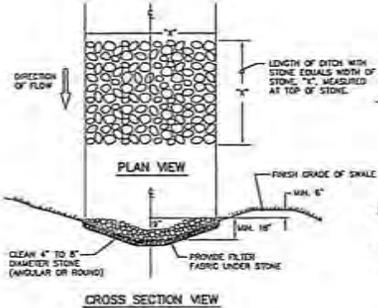
PLAN VIEW



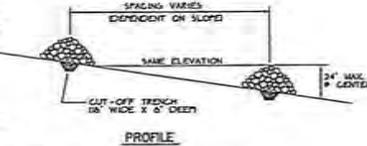
PROFILE

STORM OUTFALL DETAIL

NTS



CROSS SECTION VIEW

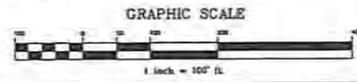


PROFILE

- NOTES:
1. STONE DAMS SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON THE PLANS.
 2. STONE SHALL BE SEED & MULCHED (IF GRASS-LINED) PRIOR TO THE INSTALLATION OF THE STONE FILTER.
 3. THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING CLOGGING / SILTATION OF THE STONE DAM DURING AND IMMEDIATELY AFTER CONSTRUCTION UNITS, THE PROJECT'S PERMANENT EROSION CONTROLS ARE IN PLACE (VEGETATION ESTABLISHED, ETC.) AND THE PROJECT HAS BEEN ACCEPTED BY THE OWNER. IF NECESSARY THE STONE SHALL BE CLEANED AND REPLACED.

STONE CHECK DAM

NTS



DATE	REVISION	BY
04/27/2016	1. PRELIMINARY	PHILIP JACOBS
05/10/2016	2. FINAL	PHILIP JACOBS
05/10/2016	3. PRELIMINARY	PHILIP JACOBS
05/10/2016	4. FINAL	PHILIP JACOBS
05/10/2016	5. PRELIMINARY	PHILIP JACOBS
05/10/2016	6. FINAL	PHILIP JACOBS
05/10/2016	7. PRELIMINARY	PHILIP JACOBS
05/10/2016	8. FINAL	PHILIP JACOBS
05/10/2016	9. PRELIMINARY	PHILIP JACOBS
05/10/2016	10. FINAL	PHILIP JACOBS

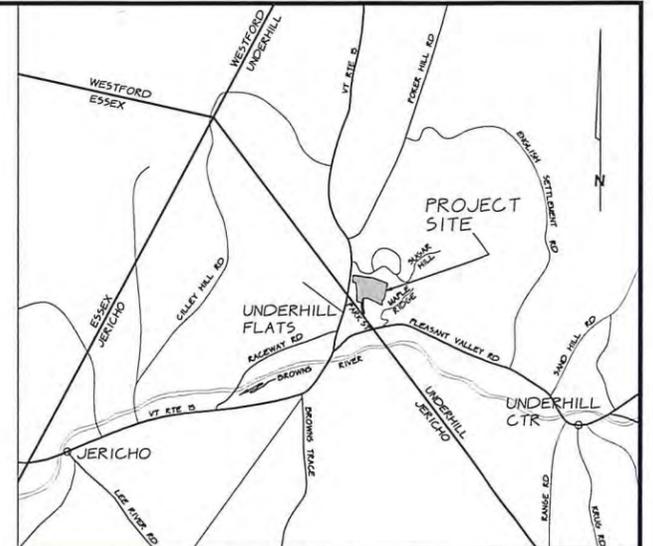
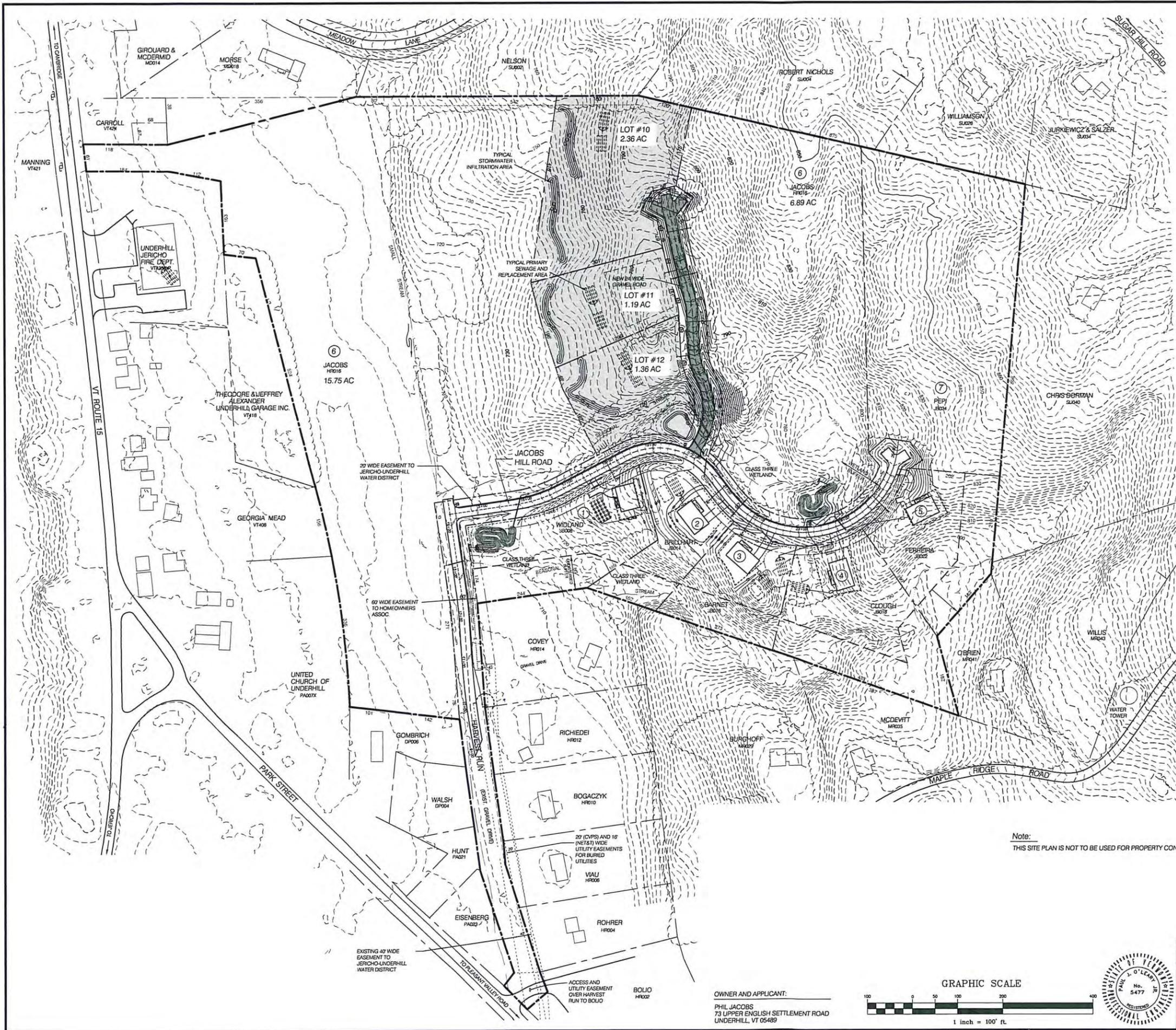
O'LEARY-BURKE CIVIL ASSOCIATES, P.L.C.

16 HARVEST LANE - UNDERHILL, VT

ROADWAY and

EROSION CONTROL DETAILS

4



LOCATION PLAN
NTS

LEGEND

	PROJECT BOUNDARY
	ABUTTING PROPERTY LINE
	SIDELINE OF EASEMENT
	PROPOSED LOT LINE
	UNDISTURBED BUFFER
	BUILDING ENVELOPE
	STREAM SETBACK
	EDGE OF CLASS THREE WETLAND
	USGS CONTOUR
	FINISH GRADE CONTOUR
	STREAM
	SOILS TEST PIT
	PERCOLATION TEST
	NEW CULVERT AND CATCH BASIN
	PROPOSED SEWERLINE
	PROPOSED WATERLINE
	PROPOSED BURIED ELECTRIC AND COMMUNICATIONS

PROJECT STATISTICS

PROJECT AREA	APPROX. 45 ACRES
ZONING DISTRICT	UNDERHILL FLATS VILLAGE CENTER

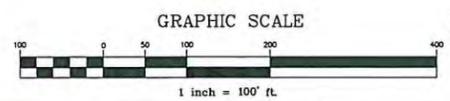
CONVENTIONAL REQUIREMENTS

1 ACRE MIN. LOT SIZE (MAX. 2 UNITS / LOT)
 150' LOT FRONTAGE
 BUILDING SETBACKS
 FRONT YARD - NO MINIMUM
 SIDE YARD - 20'
 REAR YARD - 20'

PROPOSED CONVENTIONAL DEVELOPMENT

PROPOSED 3 LOT CONVENTIONAL DEVELOPMENT
 3 RESIDENTIAL LOTS AND 2 RETAINED LOTS
 HOUSE SETBACKS - AS PER CONVENTIONAL
 ROADS AND LOTS = 5.8 ACRES
 SEWER TO BE INDIVIDUAL ON-SITE
 STORMWATER TO BE TREATED ON-SITE
 WATER TO BE SUPPLIED VIA A MUNICIPAL EXTENSION

Note:
THIS SITE PLAN IS NOT TO BE USED FOR PROPERTY CONVEYANCE.



DATE: 5-10-2016
 SURVEY: GIS/CA
 DESIGN: HILS/PJO
 DRAWN: HILS
 CHECKED: PJO
 SCALE: 1"=100'

O'LEARY-BURKE CIVIL ASSOCIATES, PLC
 13 CORPORATE DRIVE
 FERRY, VT 05757
 PHONE: 878-9990
 FAX: 878-9989
 E-MAIL: ocb@olearyburke.com

LANDS OF PHILIP JACOBS
 16 HARVEST RUN - UNDERHILL, VT

PHASE 2 PLAN
 3 Lot Residential Development

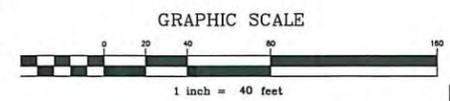
DATE: 5-10-2016
 JOB: 5106
 FILE: S106-PHASE2
 PLAN SHEET # **1**

OWNER AND APPLICANT:
 PHIL JACOBS
 73 UPPER ENGLISH SETTLEMENT ROAD
 UNDERHILL, VT 05489

MAC- DATE



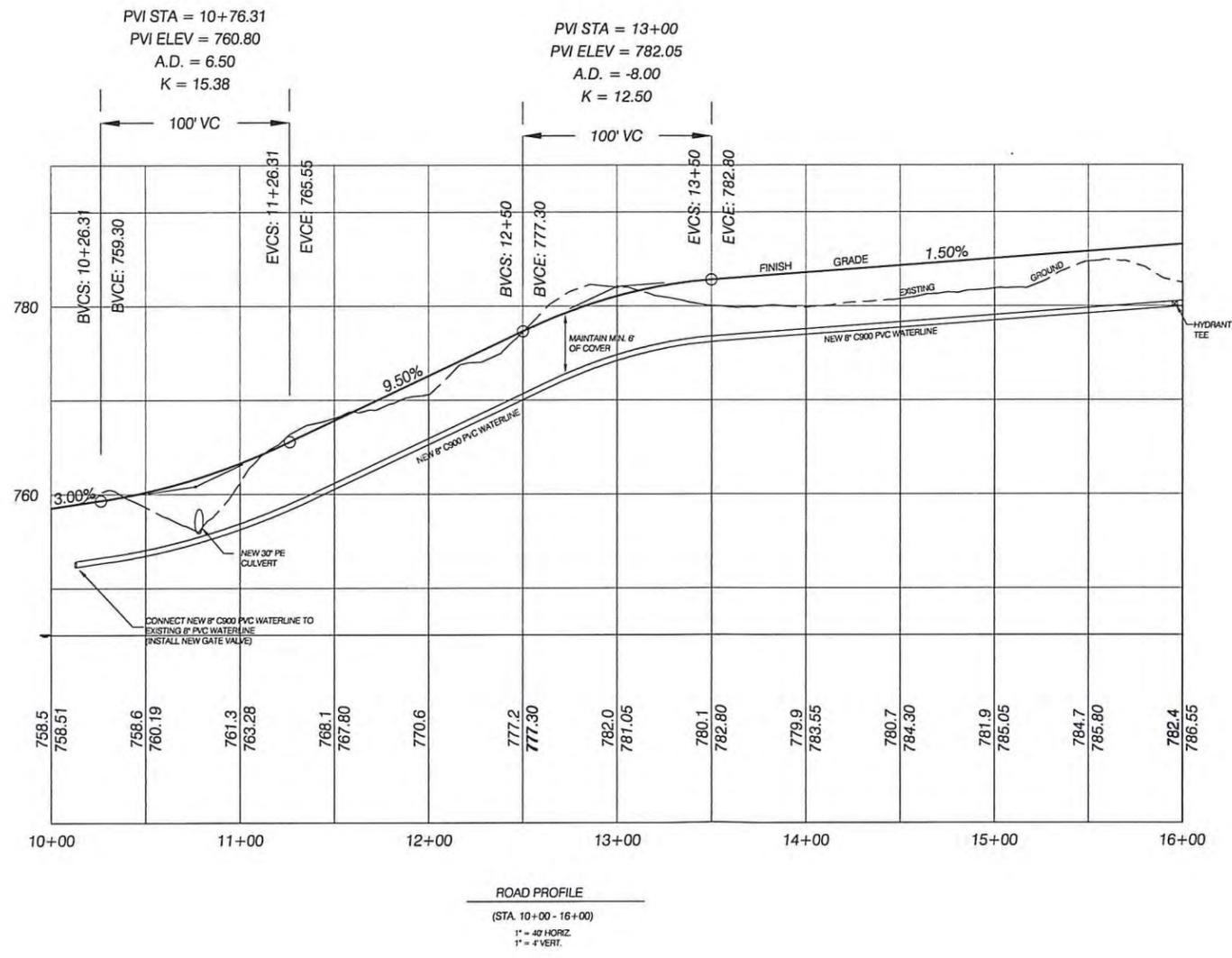
LEGEND	
	PROJECT BOUNDARY
	ABUTTING PROPERTY LINE
	SIDELINE OF EASEMENT
	PROPOSED LOT LINE
	UNDISTURBED BUFFER
	BUILDING ENVELOPE
	STREAM SETBACK
	EDGE OF CLASS THREE WETLAND
	USGS CONTOUR
	FINISH GRADE CONTOUR
	STREAM
	SOILS TEST PIT
	PERCOLATION TEST
	NEW CULVERT AND CATCH BASIN
	PROPOSED SEWERLINE
	PROPOSED WATERLINE
	PROPOSED BURIED ELECTRIC AND COMMUNICATIONS



OWNER AND APPLICANT:
 PHIL JACOBS
 16 PARK STREET
 UNDERHILL, VT 05489

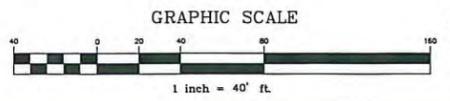


DATE	REVISION	BY
	<input type="checkbox"/> RECORD DRAWING	
	<input type="checkbox"/> FINAL	
	<input type="checkbox"/> PRELIMINARY	
	<input type="checkbox"/> SKETCH/CONCEPT	
LANDS OF PHILIP JACOBS 16 HARVEST LANE - UNDERHILL, VT MIN'S LANE PLAN VIEW 40' SCALE		
O'LEARY-BURKE CIVIL ASSOCIATES, PLC <small>13 CORPORATE DRIVE ESSEX, VT 05432 PHONE: 878-9900 FAX: 878-9909 E-MAIL: oob@olearyburke.com</small>		DATE: 5-10-2016 DSN: 5106 FILE: 5106-FINAL PLAN SHEET # 2



ROAD PROFILE
 (STA. 10+00 - 16+00)
 1" = 40' HORIZ.
 1" = 4' VERT.

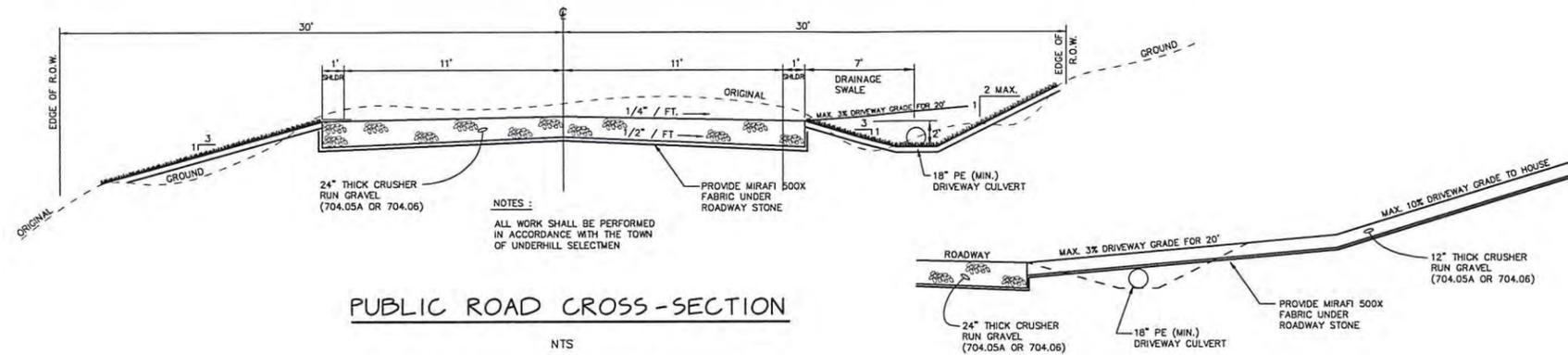
OWNER AND APPLICANT:
 PHIL JACOBS
 16 PARK STREET
 UNDERHILL, VT 05489



DATE	REVISION	BY
	<input type="checkbox"/> RECORD DRAWING <input checked="" type="checkbox"/> PRELIMINARY <input type="checkbox"/> FINAL <input type="checkbox"/> SKETCH/CONCEPT	
SURVEY: OBCA DESIGN: HLS/PJ/D DRAWN: HLS CHECKED: PJ/D SCALE: 1"=40'		DATE: 5-10-16 JOB: 5106 TEE: 5106-PHASE 2 PLAN SHEET # 3
O'LEARY-BURKE CIVIL ASSOCIATES, PLC <small>13 CORPORATE DRIVE FERRISBURGH, VT PHONE: 878-9990 FAX: 878-9999 EMAIL: OBCA@O'LEARYBURKE.COM</small>		LANDS OF PHILIP JACOBS 16 HARVEST LANE - UNDERHILL, VT MIN'S LANE ROAD PROFILE 40' SCALE

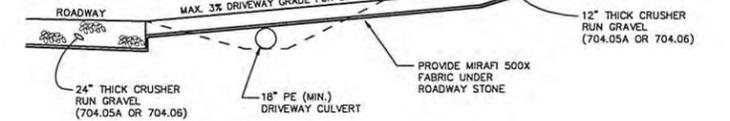
GENERAL CONSTRUCTION SPECIFICATIONS

- UTILITY INFORMATION SHOWN HEREON WAS OBTAINED FROM BEST AVAILABLE SOURCE AND MAY OR MAY NOT BE EITHER ACCURATE OR COMPLETE. CONTRACTOR SHALL VERIFY EXACT LOCATION OF EXISTING UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY, PUBLIC OR PRIVATE, SHOWN OR NOT SHOWN HEREON. CONTRACTOR SHALL VERIFY NEW TAP LOCATIONS AND SHALL CONNECT ALL UTILITIES TO NEAREST SOURCE THROUGH COORDINATION WITH UTILITY OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION AND REMOVAL OF ALL EXISTING VEGETATION, PAVEMENT, AND STRUCTURES NECESSARY TO COMPLETE THE WORK UNLESS NOTED ON THESE PLANS. CONTRACTOR SHALL REMOVE ALL TRASH FROM SITE UPON COMPLETION OF CONSTRUCTION. ANY SURFACES, LINES OR STRUCTURES WHICH HAVE BEEN DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO A CONDITION AT LEAST EQUAL TO THAT IN WHICH THEY WERE FOUND IMMEDIATELY PRIOR TO BEGINNING OF CONSTRUCTION.
- SEE OTHER DETAIL SHEETS OF THESE PLANS FOR ADDITIONAL DETAILS, REQUIREMENTS AND SPECIFICATIONS.
- ALL WORK SHALL BE IN ACCORDANCE WITH THE 1990 VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE TOWN PUBLIC WORKS SPECIFICATIONS, AND THESE PLANS.
- NEW PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH NOTE #4 ABOVE. ALL EXISTING PAVEMENT MARKINGS CONFLICTING WITH THE NEW IMPROVEMENTS SHALL BE REMOVED BY GRINDING OR BURNING.
- A MINIMUM OF ONE-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. CONTINUOUS TWO-WAY TRAFFIC WILL BE REQUIRED AT NIGHT, PEAK-HOURS, AND WHENEVER POSSIBLE DURING ACTUAL CONSTRUCTION ACTIVITIES. IF DEEMED NECESSARY BY THE OWNER, MUNICIPALITY OR ENGINEER, A UNIFORMED TRAFFIC CONTROL OFFICER SHALL DIRECT TRAFFIC DURING PEAK HOURS. TEMPORARY CONSTRUCTION SIGNS AND TRAFFIC CONTROL SIGNS SHALL BE ERECTED BY THE CONTRACTOR IN ACCORDANCE WITH STATE AND TOWN STANDARDS.
- THE CONTRACTOR SHALL BE RESPONSIBLE AT HIS OWN EXPENSE FOR ENSURING THAT THE DUST CREATED AS A RESULT OF CONSTRUCTION DOES NOT CREATE A NUISANCE OR SAFETY HAZARD. WHERE AND WHEN DEEMED NECESSARY, THE CONTRACTOR WILL BE REQUIRED TO WET SECTIONS OF THE CONSTRUCTION AREA WITH WATER, APPLY CALCIUM CHLORIDE, OR SWEEP THE ROADWAY WITH A POWER BROOM FOR DUST CONTROL.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER 24 HOURS IN ADVANCE OF STARTING ANY WORK, CUTTING PAVEMENT, BEGINNING THE INSTALLATION OF ANY UTILITIES, BRINGING IN ANY NEW GRAVEL OR STONE FOR THE NEW BASE, PAVING, ALL TESTING, AND FINAL INSPECTION, IN ORDER TO ASSURE COMPLIANCE WITH THE PLANS.
- PRIOR TO BEGINNING CONSTRUCTION, ALL MATERIALS SHALL BE APPROVED BY THE ENGINEER.
- ALL FILL SHALL BE PLACED IN 12 INCH LIFTS.
- THE SILT FENCES, AND DITCHES SHALL BE MAINTAINED AND REPAIRED BY THE CONTRACTOR AFTER EVERY RAINFALL OR AS ORDERED BY THE ENGINEER UNTIL ALL DISTURBED AREAS HAVE BEEN PAVED OR GRASSED AND APPROVED BY THE ENGINEER. THE MAINTENANCE OF THE EROSION CONTROL DEVICES WILL INCLUDE THE REMOVAL OF ANY ACCUMULATED SEDIMENTATION.
- THIS DESIGN MUST BE INSPECTED BY O'LEARY-BURKE CIVIL ASSOCIATES, P.C., ESSEX JUNCTION, VERMONT, TO ENSURE COMPLIANCE WITH THESE PLANS, O'LEARY-BURKE WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS THAT ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT THAT THE PLANS CONVEY, AND FROM FAILURE TO HAVE BEEN NOTIFIED BY THE CONTRACTOR TO INSPECT THE WORKS AND TESTS IN PROGRESS.
- ALL SLOPES, DITCHES AND DISTURBED AREAS SHALL BE GRADED SMOOTH, CLEAN AND FREE OF POCKETS WITH SUFFICIENT SLOPE TO ENSURE DRAINAGE.



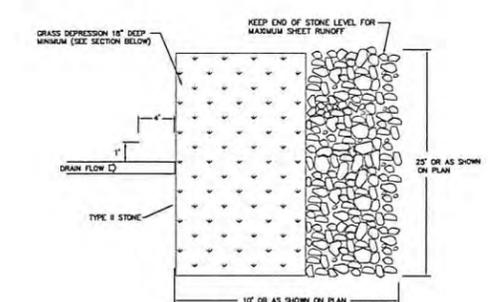
PUBLIC ROAD CROSS-SECTION

NTS

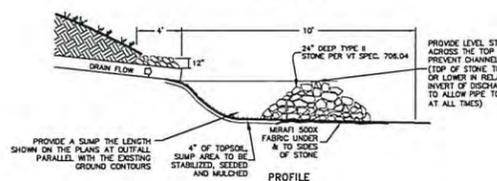


DRIVEWAY DETAIL

NTS



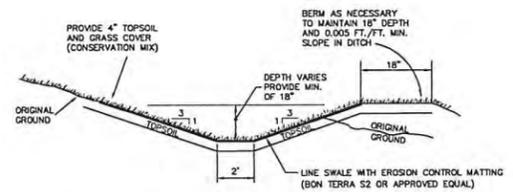
PLAN VIEW



PROFILE

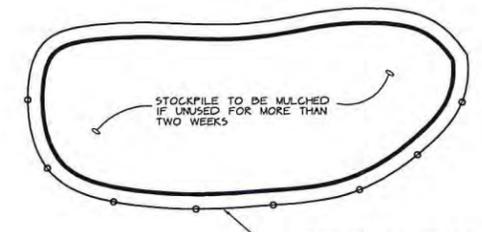
STORM SPREADER/OUTFALL DETAIL

NTS



GRASSED DRAINAGE DITCH

NTS



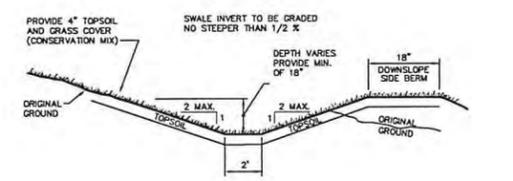
TEMPORARY TOPSOIL STOCKPILE

NTS

INSPECTION SCHEDULE	WEEKLY IN FINISHED AREAS	DAILY IN WORK AREAS	AFTER EACH STORM EVENT GENERATING RUNOFF FROM SITE
INSPECT SILT FENCING	X	X	X
INSPECT CONSTRUCTION FENCE	X	X	X
INSPECT CATCH BASIN INLET PROTECTION	X	X	X
INSPECT AREAS TEMPORARILY MULCHED	X	X	X
INSPECT TEMPORARY STOCKPILES	X	X	X
INSPECT STABILIZED CONSTRUCTION ENTRANCES	X	X	X
INSPECT AREAS THAT HAVE BEEN TOPSOILED + MULCHED	X	X	X
INSPECT STORMWATER PONDS AND SEDIMENT TRAPS	X	X	X

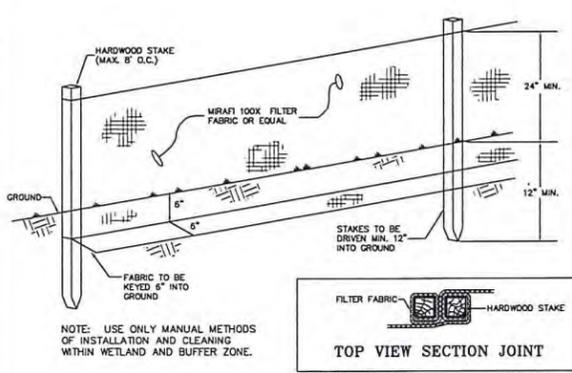
GRADATION REQUIREMENTS

MATERIAL	SEVE SIZE	PERCENT (%) PASSING
SAND CUSHION - VT SPEC 703.03	2"	100 %
	1 1/2"	90-100 %
	1/2"	70-100 %
	#4	60-100 %
	#100	0-20 %
GRAVEL FOR SUBBASE - VT SPEC 704.04	#4	30-60 %
	#100	0-12 %
	#200	0-6%
CRUSHED GRAVEL SURFACE COURSE TOWN SPEC	1 1/2"	100 %
	1"	90-100 %
	#4	45-85 %
	#200	7-10 %
DENSE GRADED CRUSHED STONE VT SPEC 704.06	3 1/2"	100 %
	3"	90-100%
	2"	75-100%
	1"	50-80%
	1/2"	30-60%
	#4	15-40%
#200	0-5 %	



GRASSED CHANNEL

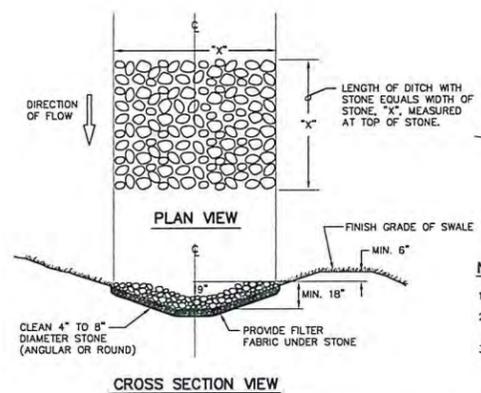
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TOP VIEW SECTION JOINT

TEMPORARY SILT FENCE

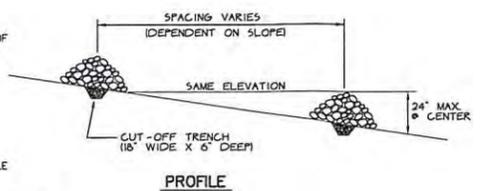
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CROSS SECTION VIEW

STONE CHECK DAM

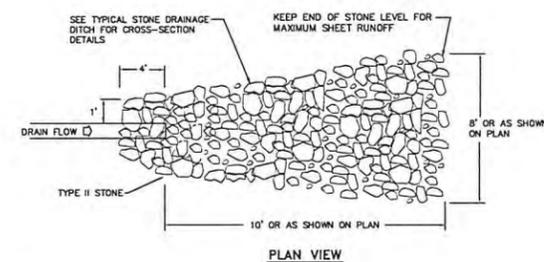
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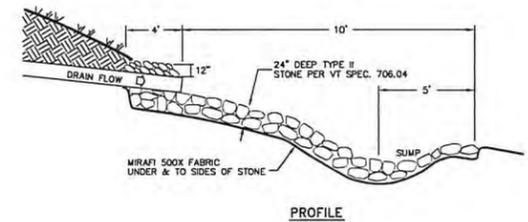
PROFILE

STORM OUTFALL DETAIL

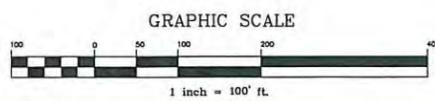
NTS



PLAN VIEW

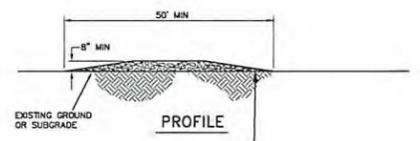


PROFILE

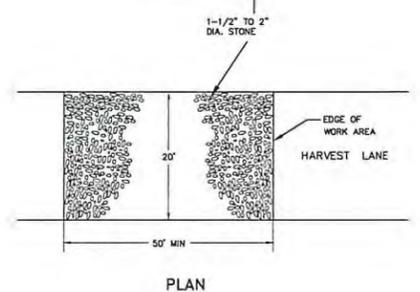


GRAPHIC SCALE

1 inch = 100' ft.



PROFILE



PLAN

STABILIZED CONSTRUCTION ENTRANCE

NTS

- NOTES:
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT TRACKED, SPILLED, OR WASHED ONTO PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
 - THE USE OF CALCIUM CHLORIDE OR WATER MAY BE NECESSARY TO CONTROL DUST DURING DRY PERIODS.
 - PROVIDE APPROPRIATE TRANSITION BETWEEN CONSTRUCTION ENTRANCE AND EDGE OF RIGHT-OF-WAY.

DATE	REVISION	BY
SURVEY	RECORD DRAWING	DATE
DESIGN	PRELIMINARY	5-10-2016
HLS/PJO	FINAL	DOB
DRAWN	SKETCH/CONCEPT	5106
HLS		FILE
CHECKED		5106-PHASE
PJO		PLAN SHEET #
SCALE		
SHOWN		

O'LEARY-BURKE
CIVIL ASSOCIATES, P.C.

13 CORPORATE DRIVE
ESSEX, VT
PHONE: 878-9900
FAX: 878-9989
E-MAIL: oob@olearyburke.com

LANDS OF PHILIP JACOBS

16 HARVEST LANE - UNDERHILL, VT

ROADWAY and

EROSION CONTROL DETAILS

4

WATER DISTRIBUTION SPECIFICATIONS

11 GENERAL:
THIS ITEM SHALL CONSIST OF THE LABOR, EQUIPMENT, AND MATERIALS REQUIRED FOR THE COMPLETE CONSTRUCTION OF THE WATERMAIN AND SERVICES WHICH SHALL INCLUDE EXCAVATION, BACKFILLING, PIPE, VALVES, TEES, HYDRANTS, ELBOWS, REDUCERS, AND ALL OTHER APPURTENANCES NECESSARY FOR A COMPLETE WATERMAIN SYSTEM AS INDICATED ON THE ACCEPTED DRAWINGS. ALL MATERIALS AND INSTALLATIONS SHALL BE APPROVED BY THE LOCAL MUNICIPAL WATER AUTHORITY.

12 WATER PIPE MATERIALS:
DUCTILE IRON PIPE
PIPE SHALL BE A MINIMUM DIAMETER OF EIGHT INCHES (8") AND CONFORM TO CURRENT AWWA C100 OR ANSI SPECIFICATION A21.21. FISH-ON JOINT PIPE SHALL BE MINIMUM THICKNESS CLASS 52. FISH-ON JOINT SHALL CONFORM TO APPLICABLE REQUIREMENTS OF AWWA C100 OR ANSI SPECIFICATION A21.21.
PIPE SHALL BE GEMENT MORTAR-LINED ON THE INSIDE IN ACCORDANCE WITH AWWA C104 OR ANSI SPECIFICATION A21.4 EXCEPT THAT THE GEMENT-LINING THICKNESS SHALL NOT BE LESS THAN THREE-SIXTEENTHS INCH (3/16"). A PLUS TOLERANCE OF ONE-EIGHTHS INCH (1/8") WILL BE PERMITTED.
PVC PIPE
PIPE SHALL BE A MINIMUM DIAMETER OF EIGHT INCHES (8") AND CONFORM TO CURRENT AWWA SPECIFICATION C900, CLASS 50 WITH A SDR RATIO OF 18. PIPE JOINTS SHALL BE THE PUSH-ON TYPE WITH RUBBER RINGS EXCEPT FOR JOINTS AT FITTINGS AND VALVES WHICH SHALL BE MECHANICAL JOINTS. WATER SYSTEMS SUBJECT TO ROUTINE PRESSURES EXCEEDING 200 PSI SHALL USE CLASS 200 PIPE.

13 FITTINGS:
DUCTILE IRON FITTINGS SHALL BE GEMENT-LINED, HAVE 350 POUNDS WORKING PRESSURE, AND BE IN ACCORDANCE WITH AWWA C-104, C-111 AND C-112 OR C-153 FOR COMPACT FITTINGS. MECHANICAL JOINT NUTS AND BOLTS SHALL BE HIGH STRENGTH LOW ALLOY STEEL PER ANSI A-211. DUCTILE IRON FITTINGS LARGER THAN TWELVE INCHES (12") SHALL HAVE A STANDARD BODY LENGTH EQUAL TO CLASS 250 CAST IRON FITTINGS. CAST IRON CLASS 250 FITTINGS WILL BE ALLOWED IN LIEU OF DUCTILE IRON FITTINGS IN SIZES LARGER THAN TWELVE INCHES (12").
METAL RETAINER BANDS OR AN APPROVED EQUAL SHALL BE USED ON ALL VERTICAL BEND AND AS SHOWN ON THE PLANS.

14 GATE VALVE RESILIENT SEAT:
VALVES SHALL BE MANUFACTURED IN NORTH AMERICA TO MEET ALL REQUIREMENTS OF AWWA SPECIFICATIONS C-501. VALVES TWELVE INCHES (12") AND SMALLER SHALL BE DUAL-TIGHT, ZERO LEAKAGE AT 250 PSI WORKING PRESSURE. VALVES SHALL HAVE NON-RISING STEMS, OPEN COUNTERCLOCKWISE AND BE PROVIDED WITH A TWO INCH (2") SQUARE OPERATING NUT WITH ARROW CAST IN METAL TO INDICATE DIRECTION OF OPENING.
EACH VALVE SHALL HAVE MAKER'S NAME, PRESSURE RATINGS, AND YEAR IN WHICH MANUFACTURED CAST ON THE BODY. PRIOR TO SHIPMENT FROM THE FACTORY, EACH VALVE SHALL BE TESTED BY HYDROSTATIC PRESSURE EQUAL TO TWICE THE SPECIFIED WORKING PRESSURE. BURIED VALVES SHALL BE INSTALLED WITH A VALVE BOX.

15 VALVE BOXES:
CAST IRON THREE-PIECE SLIDE-TYPE WITH A TOP FLANGE FIVE AND ONE-FOURTHS INCH (5 1/4") SHARP, 6" DEPTH OF TRENCH DEPTH.
CAST IRON COVER MARKED "WATER" AND INDICATING DIRECTION OF OPENING.

16 FIRE HYDRANTS:
ALL HYDRANTS ARE TO BE 3"-WAY, 3" MINIMUM DIAMETER AND LIMITED TO THE FOLLOWING MAKES: MUELLER A-23 OR KENNEDY GUARDIAN K-5A.
MAIN VALVE OPENING: 5 3/4 INCHES
NOZZLE ARRANGEMENT: TWO 2 1/2 INCH HOSE NOZZLES WITH 101 THREADS PER INCH, ONE 4 1/2 INCH PLUMBER NOZZLE WITH 141 THREADS PER INCH.
INLET CONNECTION: 6 INCH MECHANICAL JOINT
OPERATING NUT: STANDARD 1 1/2 INCH PENTAGON
DIRECTION OF OPENING: COUNTERCLOCKWISE
COLOR: ENAMELED YELLOW
DEPTH OF BURY: HYDRANT SHALL BE INSTALLED TO THE MANUFACTURER'S INSTRUCTIONS WITH NOZZLES ABOUT 15" ABOVE FINISH GRADE.

17 HYDRANT BRANCHES:
HYDRANT ASSEMBLIES SHALL CONSIST OF A SIX INCH (6") MECHANICAL JOINT GATE VALVE CONFORMING TO AWWA C-501, A FOUR FOOT (4') LENGTH OF SIX INCH (6") CLASS 52 DUCTILE IRON PIPE WITH A GEMENT-LINING AND THE FIRE HYDRANT.
THE HYDRANT SHALL HAVE AT LEAST EIGHTEEN INCHES (18") BETWEEN THE BOTTOM OF THE STEAMER CAP AND THE GROUND. FOR SINGLE-FAMILY HOUSE SUBDIVISIONS, THERE WILL BE AT LEAST ONE HYDRANT AT EACH INTERSECTION AND A MAXIMUM OF 300 FEET (300') BETWEEN HYDRANTS WITH A MINIMUM WATER FLOW OF 500 GALLONS PER MINUTE WITH A 20 PSI RESIDUAL PRESSURE FROM EACH HYDRANT.

18 CONSTRUCTION METHODS
A. INSPECTION AND TESTING
ALL PIPE AND FITTINGS SHALL BE INSPECTED AND TESTED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND THE AWWA SPECIFICATIONS. THE CONTRACTOR SHALL FURNISH APPROVAL CERTIFICATION FROM THE PIPE MANUFACTURER THAT ALL TESTS HAVE BEEN PERFORMED WITH SATISFACTORY RESULTS. PIPE SHALL NOT BE INSTALLED WITHOUT THE ENGINEER'S OR WATER AUTHORITY'S APPROVAL.
B. INSTALLATION
PIPES, FITTINGS, AND ACCESSORIES SHALL BE CAREFULLY HANDLED TO AVOID DAMAGE. PRIOR TO THE DATE OF ACCEPTANCE OF THE PROJECT WORKS BY THE OWNER, THE CONTRACTOR SHALL REPLACE ANY NEW PIPE OR ACCESSORY FOUND TO BE DEFECTIVE AT ANY TIME, INCLUDING AFTER INSTALLATION, AT NO EXPENSE TO THE OWNER. ALL INSTALLATION AND TESTING SHALL BE DONE IN ACCORDANCE WITH AWWA STANDARD C-600 AND ANSI SPECIFICATION A21.1.
ALL PIPES SHOWING CRACKS SHALL BE REJECTED. IF CRACKS OCCUR IN THE PIPE, THE CONTRACTOR MAY, AT HIS OWN EXPENSE AND WITH THE APPROVAL OF THE ENGINEER, CUT OFF THE CRACKED PORTIONS AT A POINT AT LEAST TWELVE INCHES (12") FROM THE VISIBLE LIMITS OF THE CRACK AND USE THE SOUND PORTION OF THE PIPE. ALL PIPES AND FITTINGS SHALL BE CLEARED OF ALL FOREIGN MATTER AND DEBRIS PRIOR TO INSTALLATION AND SHALL BE KEPT CLEAN UNTIL THE TIME OF ACCEPTANCE BY THE OWNER.
AT ALL TIMES, WHEN THE PIPE LAYING IS NOT ACTUALLY IN PROGRESS, THE OPEN ENDS OF THE PIPE SHALL BE CLOSED BY TEMPORARY WATERTIGHT PLUGS OR BY OTHER APPROVED MEANS. IF WATER IS IN THE TRENCH WHEN WORK IS RESUMED, THE PLUG SHALL NOT BE REMOVED UNTIL ALL DANGER OF WATER ENTERING THE PIPE HAS PASSED. THE PIPE SHALL BE INSTALLED IN TRENCHES AND AT THE LINE AND GRADE SHOWN ON THE CONTRACT DRAWINGS.
ANY DEFLECTION JOINTS SHALL BE WITHIN THE LIMITS SPECIFIED BY THE MANUFACTURER. ALL PIPING AND APPURTENANCES CONNECTED TO THE EQUIPMENT SHALL BE SUPPORTED SO THAT NO STRAIN WILL BE IMPOSED ON THE EQUIPMENT. IF THE EQUIPMENT MANUFACTURER'S SPECIFICATIONS INCLUDE THAT PIPING LOADS ARE NOT TO BE TRANSFERRED, THE CONTRACTOR SHALL SUBMIT CERTIFICATION OF COMPLIANCE.
CONCRETE THRUST BLOCKS SHALL BE INSTALLED ON ALL PLUGS, TEES, AND BENDS DEFLECTING 11/4 DEGREES OR MORE. CARE SHALL BE TAKEN TO ENSURE THAT CONCRETE WILL NOT COME IN CONTACT WITH FLANGES, JOINTS, OR BOLTS. THE REQUIRED AREA OF THRUST BLOCKS ARE INDICATED ON THE PLANS OR SHALL BE AS APPROVED BY THE ENGINEER.
WHENEVER SEWERS CROSS UNDER WATERMANS, THE WATERMAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATERMAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER. THIS VERTICAL SEPARATION SHALL BE MAINTAINED FOR THAT PORTION OF THE WATERMAIN LOCATED WITHIN TEN FEET (10') HORIZONTALLY OF ANY SEWER IT CROSSES.
THERE SHALL BE NO PHYSICAL CONNECTION BETWEEN THE DISTRIBUTION SYSTEM AND ANY PIPES, PUMPS, HYDRANTS, OR TANKS WHICH ARE SUPPLIED OR MAY BE SUPPLIED WITH A WATER THAT IS, OR MAY BE, CONTAMINATED. IN INSTANCES WHERE THE USE OF DIFFERENT TYPES OF PIPE REQUIRE JOINING, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY ADAPTERS.
ALL TRENCHING SAFETY STANDARDS SHALL BE IN CONFORMANCE WITH ALL APPLICABLE STATE AND FEDERAL GUIDELINES AND AS SPECIFIED ON THE PLANS.
THE CONTRACTOR SHALL, AT ALL TIMES, KEEP THE TRENCHES ENTIRELY FREE OF WATER UNTIL ALL WORK IS FINISHED AND READY FOR BACKFILLING. AFTER THE VARIOUS PIPELINES HAVE BEEN INSTALLED, THE TRENCHES AND OTHER AREAS TO BE FILLED SHALL BE BACKFILLED TO SUBGRADE WITH WHATEVER POSSIBLE MATERIAL EXCAVATED FROM THE TRENCH. NO BACKFILLING WILL BE ALLOWED UNTIL ANY CONCRETE MASONRY HAS SET SUFFICIENTLY, AS DETERMINED BY THE ENGINEER.
ALL MATERIAL FOR BACKFILLING SHALL BE FREE OF ROOTS, STUMPS, AND FROST MATERIALS USED FOR BACKFILLING TRENCHES SHALL BE FREE OF STONES WEIGHING OVER 30 POUNDS. NO STONES MEASURING OVER ONE AND ONE-HALF INCHES (1 1/2") IN THE LONGEST DIMENSION SHALL BE PLACED WITHIN ONE FOOT (1') OF THE PIPELINE BEING BACKFILLED.
BACKFILL FOR ALL PIPELINES SHALL BE PLACED IN SIX INCH (6") LAYERS, EACH LAYER BEING THOROUGHLY COMPACTED TO NOT LESS THAN 95 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY THE ASTM D-1557 STANDARD PROCTOR. PARTICULAR PRECAUTIONS SHALL BE TAKEN IN THE PLACEMENT AND COMPACTION OF THE BACKFILL MATERIAL IN ORDER NOT TO DAMAGE THE PIPE OR STRUCTURE. THE BACKFILL SHALL BE BROUGHT UP EVENLY. ALL WATERMANS SHALL BE INSTALLED WITH A MINIMUM COVER DEPTH OF SIX (6")
SURPLUS EXCAVATED MATERIALS NOT USED FOR BACKFILL SHALL BE DISPOSED OF IN A MANNER SATISFACTORY TO THE ENGINEER. ALL SURPLUS MATERIAL OR SOIL SHALL BE REMOVED PROMPTLY AND DISPOSED OF SO AS NOT TO BE OBJECTIONABLE TO ADJUTERS OR TO THE GENERAL PUBLIC.
VALVE BOXES ARE TO BE INSTALLED ON ALL BURIED VALVES. THE BOXES SHALL BE CAST IRON WITH A MINIMUM FIVE AND ONE-FOURTHS INCH (5 1/4") DIAMETER AND LONG ENOUGH TO EXTEND FROM THE VALVE TO FINISHED GRADE. THE BOXES SHALL ENCLOSE THE OPERATING NUT AND STUFFING BOX OF THE VALVE. VALVE BOXES SHALL NOT TRANSFER LOADS INTO THE VALVE. COVERS SHALL BE CLOSE FITTING AND DIRT-TIGHT WITH THE TOP OF THE COVER FLUSH WITH THE TOP OF THE BOX RIM. COVERS SHALL BE MARKED "WATER" WITH AN ARROW INDICATING THE DIRECTION OF OPENING. VALVE BOXES SHALL BE THREE PIECE SLIP-TYPE.
THE CONTRACTOR SHALL PROVIDE A STABLE, TEMPORARY PVC MARKER APPROVED BY THE ENGINEER AT ALL GATE VALVES, CURB STOPS, AND AT THE END OF WATERLINES TO A POINT SIX INCHES (6") ABOVE FINISH GRADE. THE MARKER SHALL BE SEATED SECURELY INTO THE GROUND.

C. FIELD TESTING
EXCEPT AS OTHERWISE DIRECTED, ALL PIPELINES SHALL BE TESTED. PIPELINES LAID IN EXCAVATION OR DEEDED IN CONCRETE SHALL BE TESTED PRIOR TO BACKFILLING OR THE PLACING OF CONCRETE, AND ANY EXPOSED PIPING SHALL BE TESTED PRIOR TO FIELD PAINTING. THE CONTRACTOR SHALL FURNISH ALL GAUGES, TESTING PLUGS, CAPS, AND ALL OTHER NECESSARY EQUIPMENT AND LABOR TO PERFORM LEAKAGE AND PRESSURE TESTS IN SECTIONS OF AN APPROVED LENGTH. EACH VALVED SECTION OR A MAXIMUM OF ONE THOUSAND FEET (1000') OF THE PIPE SHALL BE TESTED. ALL PRESENCE OF THE ENGINEER.
FOR THE PRESSURE TEST, THE CONTRACTOR SHALL DEVELOP AND MAINTAIN 200 POUNDS PER SQUARE INCH FOR TWO HOURS. FAILURE TO HOLD THE DESIGNATED PRESSURE FOR THE TWO-HOUR PERIOD CONSTITUTES A FAILURE OF THE SECTION TESTED. THE LEAKAGE TEST SHALL BE PERFORMED CONCURRENTLY WITH THE PRESSURE TEST. DURING THE TEST, THE CONTRACTOR SHALL MEASURE THE QUANTITY OF WATER REQUIRED TO MAINTAIN THE TEST PRESSURE. LEAKAGE SHALL NOT EXCEED THE QUANTITY GIVEN BY:
WHERE:
L = LEAKAGE IN GALLONS/HOUR
S = LENGTH OF PIPELINE TESTED
D = DIAMETER OF PIPE IN INCHES
P = AVERAGE TEST PRESSURE IN PSI

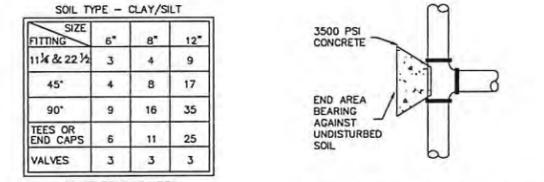
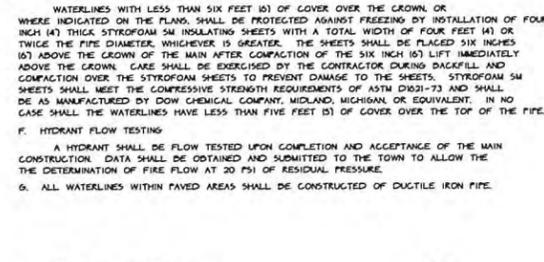
ALL TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH AWWA C-600 LATEST REVISION. SHOULD ANY SECTION OF THE PIPE FAIL EITHER THE PRESSURE OR LEAKAGE TESTS, THE CONTRACTOR SHALL DO EVERYTHING NECESSARY TO LOCATE AND REPAIR OR REPLACE THE DEFECTIVE PIPE, FITTINGS, OR JOINTS AT NO EXPENSE TO THE OWNER.
D. DISINFECTING
CHLORINATION OF THE WATERMAIN SHALL BE CONDUCTED ONLY AFTER THE MAIN HAS BEEN FLUSHED AND A CLEAR STREAM IS OBTAINED AS DETERMINED BY THE ENGINEER.
THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT, MATERIALS, AND TOOLS NECESSARY TO DISINFECT THE PIPE AND APPURTENANCES IN ACCORDANCE WITH THE AWWA STANDARD FOR DISINFECTING WATERMANS, C-551, WITH THE TABLET METHOD.
THE METHOD OF DISINFECTING SHALL BE BY THE CONTINUOUS FEED METHOD UNLESS OTHERWISE APPROVED BY THE ENGINEER. AFTER FILLING, FLUSHING, AND THE ADDITION OF CHLORINE SOLUTION, THE FREE CHLORINE CONCENTRATION WITHIN THE PIPE SHALL BE AT LEAST 50 MG/L. THE CHLORINATED WATER SHALL REMAIN IN THE MAIN FOR A PERIOD OF AT LEAST 24 HOURS. AT THE END OF THIS PERIOD, THE TREATED WATER IN ALL PORTIONS OF THE MAIN SHALL NOT HAVE A RESIDUAL OF LESS THAN 10 MG/L OF FREE CHLORINE. ALL DISINFECTING SHALL BE PERFORMED UNDER THE SUPERVISION OF THE ENGINEER. THE DISINFECTING PROCESS SHALL BE DEEMED ACCEPTABLE ONLY AFTER 12 SAMPLES OF WATER FROM THE FLUSHED, DISINFECTED MAIN TAKEN BY THE ENGINEER AND TESTED AT AN APPROVED LABORATORY SHOW NO EVIDENCE OF BACTERIOLOGICAL CONTAMINATION. DISINFECTING SHALL CONFORM TO THE LATEST AWWA C-551 REVISION.
THE PIPELINE AND APPURTENANCES SHALL BE MAINTAINED IN AN UNCONTAMINATED CONDITION UNTIL FINAL ACCEPTANCE. DISINFECTING SHALL BE REPEATED WHEN AND WHERE REQUIRED AT NO EXPENSE TO THE OWNER UNTIL FINAL ACCEPTANCE BY THE OWNER.
E. FROST PROTECTION OF SHALLOW WATERLINES
WATERLINES WITH LESS THAN SIX FEET (6') OF COVER OVER THE CROWN OR WHERE INDICATED ON THE PLANS, SHALL BE PROTECTED AGAINST FREEZING BY INSTALLATION OF FOUR INCH (4") THICK STYROFOAM SM INSULATING SHEETS WITH A TOTAL WIDTH OF FOUR FEET (4') OR TWICE THE PIPE DIAMETER, WHICHEVER IS GREATER. THE SHEETS SHALL BE PLACED SIX INCHES (6") ABOVE THE CROWN OF THE MAIN AFTER COMPACTION OF THE SIX INCH (6") LIFT IMMEDIATELY ABOVE THE CROWN. CARE SHALL BE EXERCISED BY THE CONTRACTOR DURING BACKFILL AND COMPACTION OVER THE STYROFOAM SHEETS TO PREVENT DAMAGE TO THE SHEETS. STYROFOAM SM SHEETS SHALL MEET THE COMPRESSIVE STRENGTH REQUIREMENTS OF ASTM D2031-73 AND SHALL BE AS MANUFACTURED BY DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN, OR EQUIVALENT. IN NO CASE SHALL THE WATERLINES HAVE LESS THAN FIVE FEET (5') OF COVER OVER THE TOP OF THE PIPE.

F. HYDRANT FLOW TESTING
A HYDRANT SHALL BE FLOW TESTED UPON COMPLETION AND ACCEPTANCE OF THE MAIN CONSTRUCTION. DATA SHALL BE OBTAINED AND SUBMITTED TO THE TOWN TO ALLOW THE DETERMINATION OF FIRE FLOW AT 20 PSI OF RESIDUAL PRESSURE.
G. ALL WATERLINES WITHIN PAVED AREAS SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE.

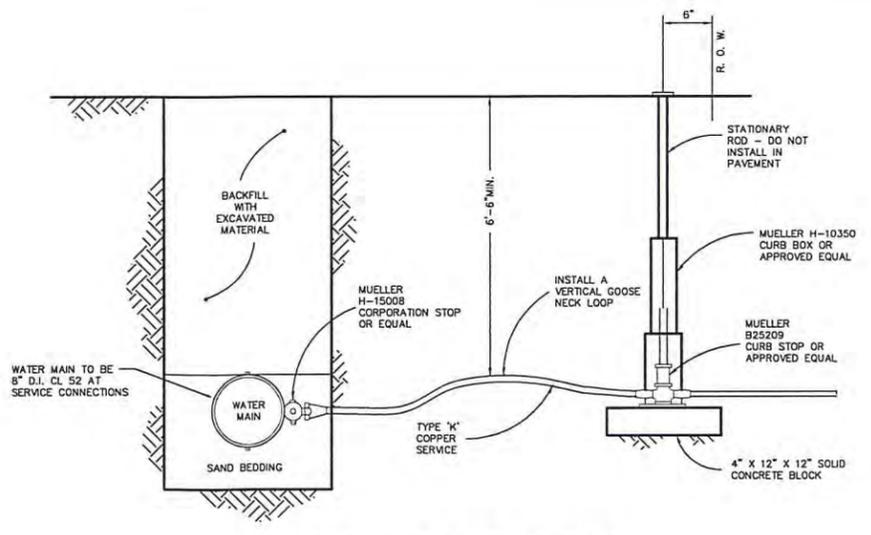
SOIL TYPE - CLAY/SILT

SIZE FITTING	6"	8"	12"
11 1/4" & 22 1/2"	3	4	9
45"	4	8	17
90"	9	16	35
TEES OR END CAPS	6	11	25
VALVES	3	3	3

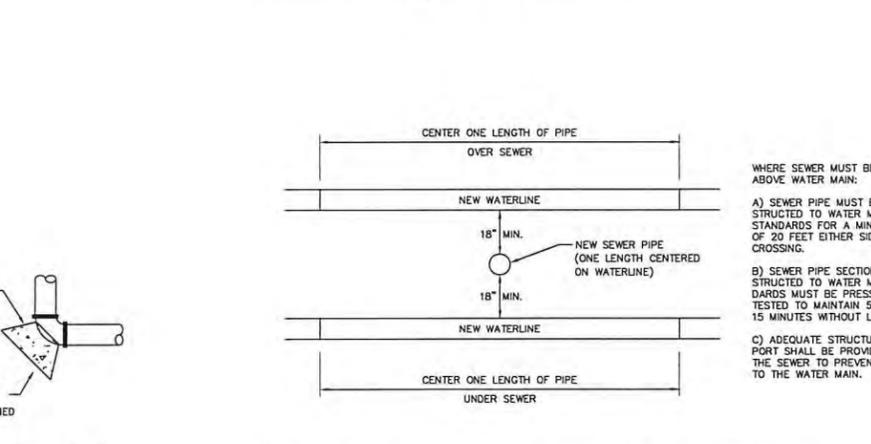
50 FT BEARING AREA
BASED ON 100 PSI WORKING PRESSURE PLUS 100 PSI SURGE ALLOWANCE AND BEARING CAPACITY OF 1000 LBS/SQ FT



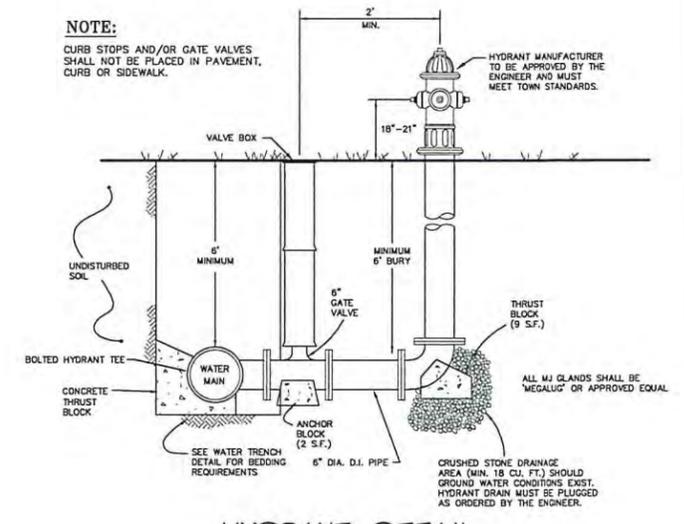
THRUST BLOCK END AREA
NTS



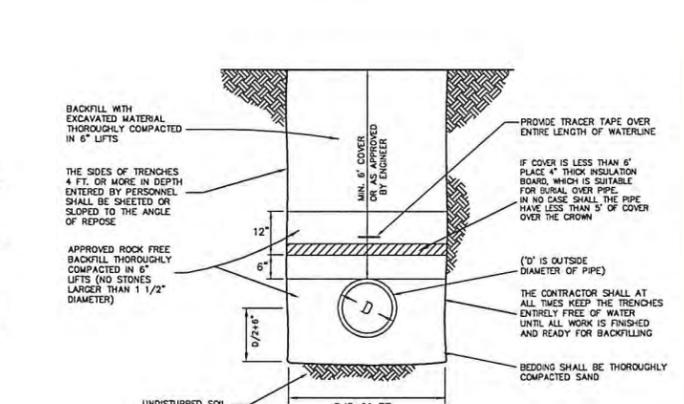
WATER SERVICE DETAIL
NTS



SEWER / WATER SEPARATION DETAIL FOR CROSSINGS
NTS



HYDRANT DETAIL
NTS



TYPICAL WATER TRENCH
NTS



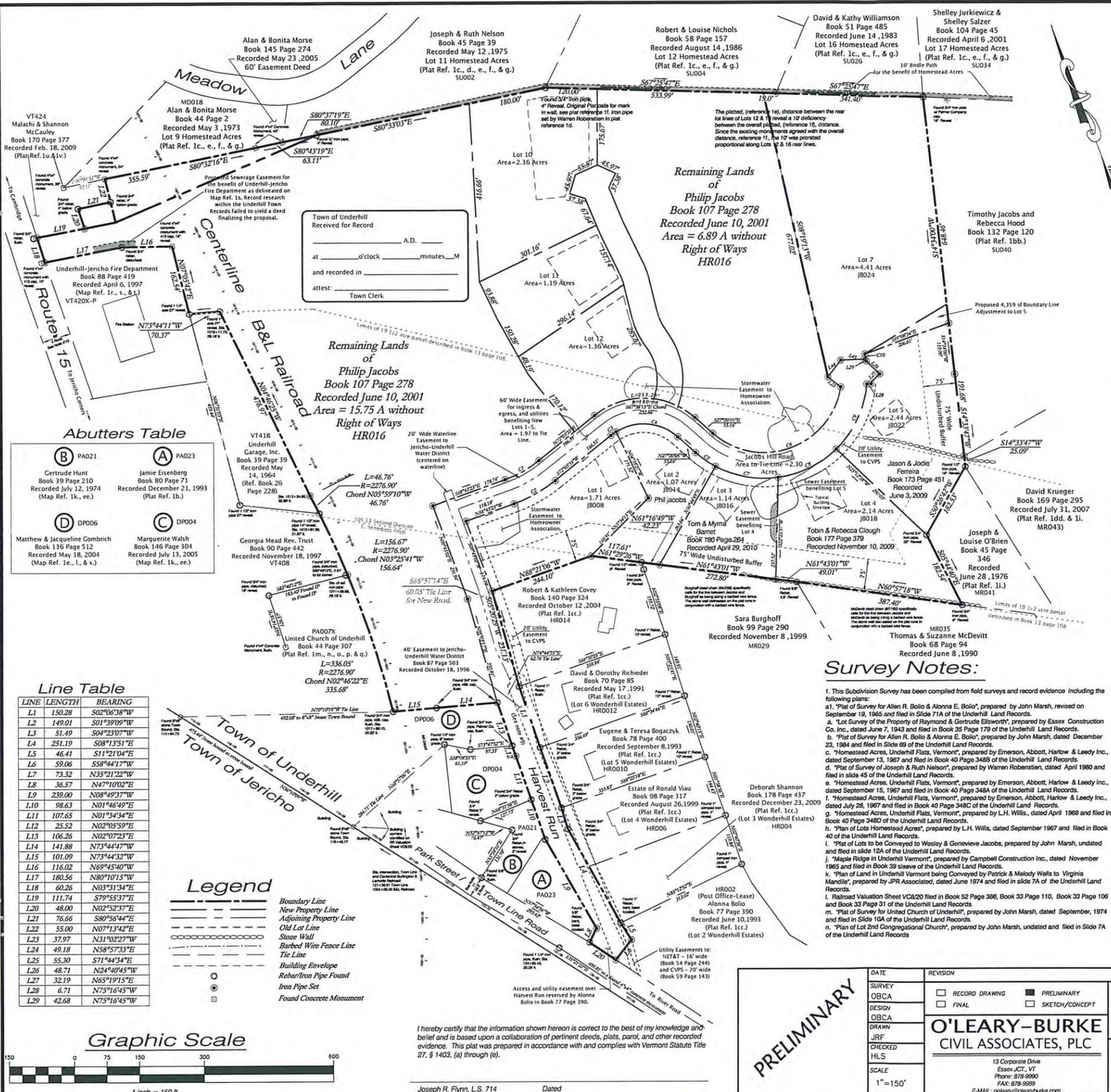
DATE	REVISION	BY
SURVEY	RECORD DRAWING	5-10-2016
DESIGN	FINAL	5106
HLS/PJO	PRELIMINARY	5106
DRAWN	SKETCH/CONCEPT	5106-FINAL
HLS		PLAN SHEET #
CHECKED		
PLD		
SCALE		
SHOWN		

O'LEARY-BURKE CIVIL ASSOCIATES, PLC
13 CORPORATE DRIVE
ESSAYVILLE, VT
PHONE: 878-9090
FAX: 878-9990
EMAIL: oob@olearyburke.com

LANDS OF PHILIP JACOBS
16 HARVEST LANE - UNDERHILL, VT
WATER DETAILS

THE CONTRACTOR SHALL NOTIFY "DIGSAFE" AT 1-888-DIG-SAFE PRIOR TO ANY EXCAVATION.

This is an Original Mylar



Location Plan-n.t.s.

Curve Table

Curve	Length	Radius	Chord	Chord Dist.
C1	90.56	270.00	N81°40'06"E	90.13
C2	110.68	330.00	N81°40'06"E	110.16
C3	14.74	120.00	S75°34'45"W	14.73
C4	154.08	120.00	S64°07'05"E	143.71
C5	56.84	240.00	S34°07'10"E	56.71
C6	385.91	180.00	S88°45'13"E	316.13
C7	150.45	240.00	S58°51'47"E	148.00
C8	152.56	240.00	N84°58'05"E	150.00
C9	171.01	240.00	N46°20'43"E	167.41
C10	16.62	240.00	N11°07'34"W	16.61

Abutters Table

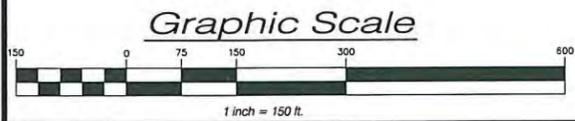
(B) PA021 Gertrude Hunt Book 136 Page 210 Recorded July 12, 1974 (Map Ref. 1k., ee.)	(A) PA023 Jamie Eisenberg Book 80 Page 71 Recorded December 21, 1993 (Plat Ref. 1b.)
(D) DP006 Matthew & Jacqueline Combrich Book 136 Page 512 Recorded May 18, 2004 (Map Ref. 1e., l. & x.)	(C) DP004 Marguerite Walsh Book 146 Page 304 Recorded July 13, 2005 (Map Ref. 1k., ee.)

Line Table

LINE	LENGTH	BEARING
L1	150.28	S02°06'38"W
L2	149.01	S01°39'09"W
L3	51.49	S04°23'07"W
L4	251.19	S08°13'51"E
L5	46.41	S11°21'04"E
L6	59.06	S58°44'17"W
L7	73.32	N35°21'22"W
L8	36.57	N47°10'02"E
L9	239.00	N08°49'37"W
L10	98.63	N01°46'49"E
L11	107.65	N01°34'34"E
L12	25.52	N02°05'59"E
L13	106.26	N02°07'23"E
L14	141.88	N73°44'47"W
L15	101.09	N73°44'32"W
L16	116.02	N69°45'40"W
L17	180.56	N80°10'15"W
L18	60.26	N03°31'34"E
L19	111.74	S79°55'37"E
L20	48.00	N02°52'37"E
L21	76.66	S80°58'44"E
L22	55.00	N07°13'42"E
L23	37.97	N31°02'27"W
L24	49.18	N58°57'33"E
L25	55.30	S71°44'34"E
L26	48.71	N24°40'45"W
L27	32.19	N65°19'15"E
L28	6.71	N75°16'45"W
L29	42.68	N75°16'45"W

Legend

- Boundary Line
- New Property Line
- Adjoining Property Line
- Old Lot Line
- Stone Wall
- Barbed Wire Fence Line
- Tie Line
- Building Envelope
- Rebar/Iron Pipe Found
- Iron Pipe Set
- Found Concrete Monument



I hereby certify that the information shown hereon is correct to the best of my knowledge and belief and is based upon a collaboration of pertinent deeds, plats, parcel, and other recorded evidence. This plat was prepared in accordance with and complies with Vermont Statute Title 27, § 1403. (a) through (e).

Joseph R. Flynn, L.S. 714 Dated

Survey Notes:

- This Subdivision Survey has been compiled from field surveys and record evidence including the following plats:
 - "Plat of Survey for Allen R. Bolo & Alonna E. Bolo", prepared by John Marsh, revised on September 19, 1965 and filed in Slide 71A of the Underhill Land Records.
 - "Lot Survey of the Property of Raymond & Gertrude Ellsworth", prepared by Essex Construction Co. Inc., dated June 7, 1943 and filed in Book 35 Page 179 of the Underhill Land Records.
 - "Plat of Survey for Allen R. Bolo & Alonna E. Bolo", prepared by John Marsh, dated December 23, 1984 and filed in Slide 69 of the Underhill Land Records.
 - "Homestead Acres, Underhill Flats, Vermont", prepared by Emerson, Abbott, Harlow & Leedy Inc., dated September 13, 1967 and filed in Book 40 Page 348B of the Underhill Land Records.
 - "Plat of Survey of Joseph & Ruth Nelson", prepared by Warren Robenstien, dated April 1980 and filed in slide 45 of the Underhill Land Records.
 - "Homestead Acres, Underhill Flats, Vermont", prepared by Emerson, Abbott, Harlow & Leedy Inc., dated September 15, 1967 and filed in Book 40 Page 348A of the Underhill Land Records.
 - "Homestead Acres, Underhill Flats, Vermont", prepared by L.H. Willis, dated April 1968 and filed in Book 40 Page 348D of the Underhill Land Records.
 - "Plat of Lots Homestead Acres", prepared by L.H. Willis, dated September 1967 and filed in Book 40 of the Underhill Land Records.
 - "Plat of Lots to be Conveyed to Wesley & Genevieve Jacobs", prepared by John Marsh, undated and filed in slide 12A of the Underhill Land Records.
 - "Maple Ridge in Underhill Vermont", prepared by Campbell Construction Inc., dated November 1965 and filed in Book 39 sieve of the Underhill Land Records.
 - "Plat of Land in Underhill Vermont being Conveyed by Patrick & Melody Walters to Virginia Mandile", prepared by JPR Associated, dated June 1974 and filed in slide 7A of the Underhill Land Records.
 - Railroad Valuation Sheet VCR20 filed in Book 52 Page 366, Book 33 Page 110, Book 33 Page 106 and Book 33 Page 31 of the Underhill Land Records.
 - "Plat of Survey for United Church of Underhill", prepared by John Marsh, dated September, 1974 and filed in Slide 10A of the Underhill Land Records.
 - "Plan of Lot 2nd Congregational Church", prepared by John Marsh, undated and filed in Slide 7A of the Underhill Land Records.
- Beers Atlas of Underhill and Jericho Vermont.
- "Property Plat, Lands of Philip Jacobs - 6 Lot Residential Development by O'Leary-Burke Civil Associates, P.L.C., dated 6-12-08, last revised date of 10-13-08 and recorded in Slide 244B of the Town of Underhill Land Records.
- Bearings are based on Vermont Grid North utilizing stations Underhill and Homestead without sea level or grid scale corrections.
- Survey methods employed (total station) and the resulting error of closure/precision ratio, meet or exceed minimum precision requirements for Urban Surveyors as outlined in "Standards for the Practice of Land Surveying", adopted by the Vermont Board of Land Surveyors, effective 10/11/89.
- There may be additional easements, restrictions, and/or reservations not shown hereon that may or may not be found in the Town of Underhill Land Records.
- This survey depicts the property lines of Philip Jacobs, Jason & Jodie Ferreira and the abutting owners based on Town of Underhill records as of May, 2011 and supersedes the Plat referenced in Note 8 above.
- This plat is for the depiction of boundaries based upon V.S.A. Title 26 Chapter 45 § 2502 (3) a-c and (4) a-e. Any information identified graphically or noted on this plat which is outside the scope and expertise of a Vermont Licensed Land Surveyor as outlined in the statutes herein referenced to, is not warranted to be correct and is not covered by the certification contained hereon.
- Where conflicts between physical evidence and written evidence are substantial, deed and/or documents should be executed to eliminate any color of title or conflict.
- This plat is valid for recording only if stamped in the left margin with "This is an Original Mylar", signed, dated and stamped with blue ink containing the Licensed Land Surveyors Seal.
- Access easements for Harvest Run benefiting Lots 3-5 of the Wonderhill Development and the Covey Parcel are shown through notification in each of the respective deed chains. Area of existing road = 1.23 Acres. New lots #1-#5 and the remaining lands of Philip Jacobs also benefit from an access easement over Harvest Run.
- Right of Way for Route 15 is 4 Rods, (66) per post road layout in Town Records Volume 2 page 2, dated May 19, 1827.
- Right of Way for Park Street is 3 Rods, (49.5) based upon existing monuments and the graphical right of way delineated on the Railroad Valuation sheet VCR20.
- Parcel lies with Lot 33 of the Second Division and E. Benedict's Pitch of the Town Lotting Plan of Underhill Vermont.

PRELIMINARY

DATE	REVISION
SURVEY	OBCA
DESIGN	OBCA
DRAWN	JRF
CHECKED	HLS
SCALE	1"=150'

O'LEARY-BURKE CIVIL ASSOCIATES, PLC

13 Corporate Drive
Essex Jct., VT
Phone: 878-9990
FAX: 878-9989
E-MAIL: polary@olearyburke.com

BY	DATE
	5-10-2016
JOB#	5105
FILE	
PLAT/BLA	
PLAN SHEET #	PL

Lands of Phil Jacobs

Jacobs Hill Road - Underhill

Lots 10, 11 & 12



Classified Ad Receipt
(For Info Only - NOT A BILL)

Customer: UNDERHILL, TOWN OF
Address: PO BOX 120
UNDERHILL VT 05489
USA

Ad No.: 0001585750
Pymt Method: Invoice
Net Amt: \$223.50

Run Times: 1

No. of Affidavits: 0

Run Dates: 09/17/16

Text of Ad:

NOTICE OF PUBLIC MEETING
Town of Underhill
Development Review Board
(DRB) Hearing
Monday, October 3, 2016 at 6:35 PM
At the Underhill Town Hall,
12 Pleasant Valley Rd. Underhill, VT

The DRB will hold a Final Subdivision Review on the application of the Phil Jacobs for a proposed 5-lot subdivision of property located at 16 Harvest Run (HR016). This property is located in the Underhill Flats Village Center zoning district. The hearing will be held at Town Hall at 6:35 PM.

The DRB will hold an appeal hearing for the application of Stephen McClellan for a variance on the property located at 284 River Road (RV284). This property is located in Water Conservation zoning districts. A site visit at the property will be held at 6:00 PM. The hearing will be held at Town Hall at 7:30PM.

Additional information for this hearing may be obtained at the Underhill Town Hall. The hearing is open to the public. Pursuant to 24 VSA §54464(a)(1)(C) and 4471(a), participation in this local proceeding is a prerequisite to the right to take any subsequent appeal. If you cannot attend the hearings, comments may be made in writing prior to the meeting and mailed to: Andrew Strniste, Planning Director & Zoning Administrator, P.O. Box 120, Underhill, VT 05489 or to astrniste@underhillvt.gov

September 17, 2016

Robert & Kathleen Covey
P.O. Box 5
Underhill, VT 05489 ✓

Joseph & Ruth Nelson
2 Sugar Hill
Underhill, VT 05489 ✓

Randy & Kelly Jewell
14 Jacobs Hill
Underhill, VT 05489 ✓

David & Dorothy Richiedi
P.O. Box 278
Underhill, VT 05489 ✓

Alan & Bonita Morse
18B Meadow Lane
Underhill, VT 05489 ✓

Tobin & Rebecca Clough
P.O. Box 112
Underhill, VT 05489 ✓

Matthew & Jacqueline Gombrich
6 Depot Street
Underhill, VT 05489 ✓

Emmet & Paige Manning
421 VT Route 15
Underhill, VT 05489 ✓

Jason & Jodie Ferreira
P.O. Box 386
Underhill, VT 05489 ✓

Eugene & Teresa Bogaczyk
P.O. Box 416
Underhill, VT 05489 ✓

Malachi & Shannon McCauley
PSC 817 #108
FPO AE 09622-0002 ✓

John Pepi
24 Jacobs Hill
Underhill, VT 05489 ✓

Estate of Ronald Viau
6 Harvest Run
Underhill, VT 05489 ✓

Underhill-Jericho Fire Department
P.O. Box 150
Underhill, VT 05489 ✓

Phil Jacobs
73 Upper English Settlement Road
Underhill, VT 05490 ✓

Deborah Shannon
P.O. Box 202
Underhill, VT 05489 ✓

Underhill Garage, Inc.
P.O. Box 7
Underhill, VT 05489 ✓

O'Leary-Burke Civil Associates
13 Corporate Drive
Essex Junction, VT 05452 ✓

Jamie Eisenberg
23 Park Street
Underhill, VT 05489 ✓

Brett Decker
408 VT Route 15
Underhill, VT 05489 ✓

Gertrude Hunt
159 Orr Road
Jericho, VT 05465 ✓

United Church of Underhill
P.O. Box 265
Underhill, VT 05489 ✓

Marguerite Walsh
4 Depot Street
Underhill, VT 05489 ✓

William & Christina Widlund
545 Stebbins Road
Jeffersonville, VT 05464 ✓

Robert & Louise Nichols
4 Sugar Hill
Underhill, VT 05489 ✓

Aaron & Jamie Brillhart
16 Jacobs Hill
Underhill, VT 05489 ✓



Town of Underhill

P.O. Box 120, Underhill, VT 05489

www.underhillvt.gov

Phone: (802) 899-4434, x106

Fax: (802) 899-2137

September 15, 2016

Robert & Kathleen Covey
P.O. Box 5
Underhill, VT 05489

Dear Neighbor,

This letter is to notify you, as an adjoining property owner, of the Final Subdivision Hearing with the Underhill Development Review Board on Monday, October 3rd, 2016 for a proposed 5-lot subdivision of property located at 16 Harvest Run (HR016), owned by Phil Jacobs. This property is located in the Underhill Flats Village District zoning district. The hearing will begin at 6:35 PM at the Underhill Town Hall, 12 Pleasant Valley Road.

The hearing is open to the public, and as an abutting neighbor, you have the right to be heard at the hearing. Additional information is available at the Planning and Zoning Office in the Town Hall. If you cannot attend the hearing, but would still like to exercise your right to be heard, comments may be made in writing prior to the hearing and mailed to the address above or emailed to me at astrniste@underhillvt.gov.

Pursuant to 24 VSA §§ 4464(a)(1)(C) and 4471(a), participation in this local proceeding is a prerequisite to the right to take any subsequent appeal.

If you have any questions, I can be reached at the addresses or phone number listed above.

Sincerely,

Andrew Strniste
Planning Director
Zoning Administrator

cc: File



Town of Underhill

P.O. Box 120, Underhill, VT 05489

www.underhillvt.gov

Phone: (802) 899-4434, x106

Fax: (802) 899-2137

September 15, 2016

David & Dorothy Richiede
P.O. Box 278
Underhill, VT 05489

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Planning Director
Zoning Administrator

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Town of Underhill

P.O. Box 120, Underhill, VT 05489

www.underhillvt.gov

Phone: (802) 899-4434, x106

Fax: (802) 899-2137

September 15, 2016

Matthew & Jacqueline Gombrich
6 Depot Street
Underhill, VT 05489

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Andrew Strniste
Planning Director
Zoning Administrator

cc: File



Town of Underhill

P.O. Box 120, Underhill, VT 05489

www.underhillvt.gov

Phone: (802) 899-4434, x106

Fax: (802) 899-2137

September 15, 2016

Eugene & Teresa Bogaczyk
P.O. Box 416
Underhill, VT 05489

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Sincerely,

Andrew Strniste
Planning Director
Zoning Administrator

cc: File



Town of Underhill

P.O Box 120, Underhill, VT 05489

www.underhillvt.gov

Phone: (802) 899-4434, x106

Fax: (802) 899-2137

September 15, 2016

Estate of Ronald Viau
6 Harvest Run
Underhill, VT 05489

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Sincerely,

Andrew Strniste
Planning Director
Zoning Administrator



Town of Underhill

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www.underhillvt.gov

Phone: (802) 899-4434, x106

Fax: (802) 899-2137

September 15, 2016

Deborah Shannon
P.O. Box 202
Underhill, VT 05489

Dear Neighbor,

This letter is to notify you, as an adjoining property owner, of the Final Subdivision Hearing with the Underhill Development Review Board on Monday, October 3rd, 2016 for a proposed 5-lot subdivision of property located at 16 Harvest Run (HR016), owned by Phil Jacobs. This property is located in the Underhill Flats Village District zoning district. The hearing will begin at 6:35 PM at the Underhill Town Hall, 12 Pleasant Valley Road.

The hearing is open to the public, and as an abutting neighbor, you have the right to be heard at the hearing. Additional information is available at the Planning and Zoning Office in the Town Hall. If you cannot attend the hearing, but would still like to exercise your right to be heard, comments may be made in writing prior to the hearing and mailed to the address above or emailed to me at astrniste@underhillvt.gov.

Pursuant to 24 VSA §§ 4464(a)(1)(C) and 4471(a), participation in this local proceeding is a prerequisite to the right to take any subsequent appeal.

If you have any questions, I can be reached at the addresses or phone number listed above.

Sincerely,

Andrew Strniste
Planning Director
Zoning Administrator



Town of Underhill

P.O Box 120, Underhill, VT 05489

www.underhillvt.gov

Phone: (802) 899-4434, x106

Fax: (802) 899-2137

September 15, 2016

Jamie Eisenberg
23 Park Street
Underhill, VT 05489

Dear Neighbor,

This letter is to notify you, as an adjoining property owner, of the Final Subdivision Hearing with the Underhill Development Review Board on Monday, October 3rd, 2016 for a proposed 5-lot subdivision of property located at 16 Harvest Run (HR016), owned by Phil Jacobs. This property is located in the Underhill Flats Village District zoning district. The hearing will begin at 6:35 PM at the Underhill Town Hall, 12 Pleasant Valley Road.

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If you have any questions, I can be reached at the addresses or phone number listed above.

Sincerely,

Andrew Strniste
Planning Director
Zoning Administrator

cc: File



Town of Underhill

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Phone: (802) 899-4434, x106

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September 15, 2016

Gertrude Hunt
159 Orr Road
Jericho, VT 05465

Dear Neighbor,

This letter is to notify you, as an adjoining property owner, of the Final Subdivision Hearing with the Underhill Development Review Board on Monday, October 3rd, 2016 for a proposed 5-lot subdivision of property located at 16 Harvest Run (HR016), owned by Phil Jacobs. This property is located in the Underhill Flats Village District zoning district. The hearing will begin at 6:35 PM at the Underhill Town Hall, 12 Pleasant Valley Road.

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Sincerely,

Andrew Strniste
Planning Director
Zoning Administrator



Town of Underhill

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September 15, 2016

Marguerite Walsh
4 Depot Street
Underhill, VT 05489

Dear Neighbor,

This letter is to notify you, as an adjoining property owner, of the Final Subdivision Hearing with the Underhill Development Review Board on Monday, October 3rd, 2016 for a proposed 5-lot subdivision of property located at 16 Harvest Run (HR016), owned by Phil Jacobs. This property is located in the Underhill Flats Village District zoning district. The hearing will begin at 6:35 PM at the Underhill Town Hall, 12 Pleasant Valley Road.

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Sincerely,

Andrew Strniste
Planning Director
Zoning Administrator



Town of Underhill

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Phone: (802) 899-4434, x106

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September 15, 2016

Robert & Louise Nichols
4 Sugar Hill
Underhill, VT 05489

Dear Neighbor,

This letter is to notify you, as an adjoining property owner, of the Final Subdivision Hearing with the Underhill Development Review Board on Monday, October 3rd, 2016 for a proposed 5-lot subdivision of property located at 16 Harvest Run (HR016), owned by Phil Jacobs. This property is located in the Underhill Flats Village District zoning district. The hearing will begin at 6:35 PM at the Underhill Town Hall, 12 Pleasant Valley Road.

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Sincerely,

Andrew Strniste
Planning Director
Zoning Administrator



Town of Underhill

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www.underhillvt.gov

Phone: (802) 899-4434, x106

Fax: (802) 899-2137

September 15, 2016

Joseph & Ruth Nelson
2 Sugar Hill
Underhill, VT 05489

Dear Neighbor,

This letter is to notify you, as an adjoining property owner, of the Final Subdivision Hearing with the Underhill Development Review Board on Monday, October 3rd, 2016 for a proposed 5-lot subdivision of property located at 16 Harvest Run (HR016), owned by Phil Jacobs. This property is located in the Underhill Flats Village District zoning district. The hearing will begin at 6:35 PM at the Underhill Town Hall, 12 Pleasant Valley Road.

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Sincerely,

Andrew Strniste
Planning Director
Zoning Administrator



Town of Underhill

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Phone: (802) 899-4434, x106

Fax: (802) 899-2137

September 15, 2016

Alan & Bonita Morse
18B Meadow Lane
Underhill, VT 05489

Dear Neighbor,

This letter is to notify you, as an adjoining property owner, of the Final Subdivision Hearing with the Underhill Development Review Board on Monday, October 3rd, 2016 for a proposed 5-lot subdivision of property located at 16 Harvest Run (HR016), owned by Phil Jacobs. This property is located in the Underhill Flats Village District zoning district. The hearing will begin at 6:35 PM at the Underhill Town Hall, 12 Pleasant Valley Road.

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If you have any questions, I can be reached at the addresses or phone number listed above.

Sincerely,

Andrew Strniste
Planning Director
Zoning Administrator



Town of Underhill

P.O Box 120, Underhill, VT 05489

www.underhillvt.gov

Phone: (802) 899-4434, x106

Fax: (802) 899-2137

September 15, 2016

Emmet & Paige Manning
421 VT Route 15
Underhill, VT 05489

Dear Neighbor,

This letter is to notify you, as an adjoining property owner, of the Final Subdivision Hearing with the Underhill Development Review Board on Monday, October 3rd, 2016 for a proposed 5-lot subdivision of property located at 16 Harvest Run (HR016), owned by Phil Jacobs. This property is located in the Underhill Flats Village District zoning district. The hearing will begin at 6:35 PM at the Underhill Town Hall, 12 Pleasant Valley Road.

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If you have any questions, I can be reached at the addresses or phone number listed above.

Sincerely,

Andrew Strniste
Planning Director
Zoning Administrator



Town of Underhill

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www.underhillvt.gov

Phone: (802) 899-4434, x106

Fax: (802) 899-2137

September 15, 2016

Malachi & Shannon McCauley
PSC 817 #108
FPO AE 09622-0002

Dear Neighbor,

This letter is to notify you, as an adjoining property owner, of the Final Subdivision Hearing with the Underhill Development Review Board on Monday, October 3rd, 2016 for a proposed 5-lot subdivision of property located at 16 Harvest Run (HR016), owned by Phil Jacobs. This property is located in the Underhill Flats Village District zoning district. The hearing will begin at 6:35 PM at the Underhill Town Hall, 12 Pleasant Valley Road.

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If you have any questions, I can be reached at the addresses or phone number listed above.

Sincerely,

Andrew Strniste
Planning Director
Zoning Administrator

cc: File



Town of Underhill

P.O. Box 120, Underhill, VT 05489

www.underhillvt.gov

Phone: (802) 899-4434, x106

Fax: (802) 899-2137

September 15, 2016

Underhill-Jericho Fire Department
P.O. Box 150
Underhill, VT 05489

Dear Neighbor,

This letter is to notify you, as an adjoining property owner, of the Final Subdivision Hearing with the Underhill Development Review Board on Monday, October 3rd, 2016 for a proposed 5-lot subdivision of property located at 16 Harvest Run (HR016), owned by Phil Jacobs. This property is located in the Underhill Flats Village District zoning district. The hearing will begin at 6:35 PM at the Underhill Town Hall, 12 Pleasant Valley Road.

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If you have any questions, I can be reached at the addresses or phone number listed above.

Sincerely,

Andrew Strniste
Planning Director
Zoning Administrator



Town of Underhill

P.O. Box 120, Underhill, VT 05489

www.underhillvt.gov

Phone: (802) 899-4434, x106

Fax: (802) 899-2137

September 15, 2016

Underhill Garage, Inc.
P.O. Box 7
Underhill, VT 05489

Dear Neighbor,

This letter is to notify you, as an adjoining property owner, of the Final Subdivision Hearing with the Underhill Development Review Board on Monday, October 3rd, 2016 for a proposed 5-lot subdivision of property located at 16 Harvest Run (HR016), owned by Phil Jacobs. This property is located in the Underhill Flats Village District zoning district. The hearing will begin at 6:35 PM at the Underhill Town Hall, 12 Pleasant Valley Road.

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Sincerely,

Andrew Strniste
Planning Director
Zoning Administrator

cc: File



Town of Underhill

P.O Box 120, Underhill, VT 05489

www.underhillvt.gov

Phone: (802) 899-4434, x106

Fax: (802) 899-2137

September 15, 2016

Brett Decker
408 VT Route 15
Underhill, VT 05489

Dear Neighbor,

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Sincerely,

Andrew Strniste
Planning Director
Zoning Administrator

cc: File



Town of Underhill

P.O. Box 120, Underhill, VT 05489

www.underhillvt.gov

Phone: (802) 899-4434, x106

Fax: (802) 899-2137

September 15, 2016

United Church of Underhill
P.O. Box 265
Underhill, VT 05489

Dear Neighbor,

This letter is to notify you, as an adjoining property owner, of the Final Subdivision Hearing with the Underhill Development Review Board on Monday, October 3rd, 2016 for a proposed 5-lot subdivision of property located at 16 Harvest Run (HR016), owned by Phil Jacobs. This property is located in the Underhill Flats Village District zoning district. The hearing will begin at 6:35 PM at the Underhill Town Hall, 12 Pleasant Valley Road.

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If you have any questions, I can be reached at the addresses or phone number listed above.

Sincerely,

Andrew Strniste
Planning Director
Zoning Administrator

cc: File



Town of Underhill

P.O. Box 120, Underhill, VT 05489

www.underhillvt.gov

Phone: (802) 899-4434, x106

Fax: (802) 899-2137

September 15, 2016

William & Christina Widlund
545 Stebbins Road
Jeffersonville, VT 05464

Dear Neighbor,

This letter is to notify you, as an adjoining property owner, of the Final Subdivision Hearing with the Underhill Development Review Board on Monday, October 3rd, 2016 for a proposed 5-lot subdivision of property located at 16 Harvest Run (HR016), owned by Phil Jacobs. This property is located in the Underhill Flats Village District zoning district. The hearing will begin at 6:35 PM at the Underhill Town Hall, 12 Pleasant Valley Road.

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Sincerely,

Andrew Strniste
Planning Director
Zoning Administrator

cc: File



Town of Underhill

P.O Box 120, Underhill, VT 05489

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Fax: (802) 899-2137

September 15, 2016

Aaron & Jamie Brillhart
16 Jacobs Hill
Underhill, VT 05489

Dear Neighbor,

This letter is to notify you, as an adjoining property owner, of the Final Subdivision Hearing with the Underhill Development Review Board on Monday, October 3rd, 2016 for a proposed 5-lot subdivision of property located at 16 Harvest Run (HR016), owned by Phil Jacobs. This property is located in the Underhill Flats Village District zoning district. The hearing will begin at 6:35 PM at the Underhill Town Hall, 12 Pleasant Valley Road.

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Sincerely,

Andrew Strniste
Planning Director
Zoning Administrator

cc: File



Town of Underhill

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Fax: (802) 899-2137

September 15, 2016

Randy & Kelly Jewell
14 Jacobs Hill
Underhill, VT 05489

Dear Neighbor,

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Sincerely,

Andrew Strniste
Planning Director
Zoning Administrator

cc: File



Town of Underhill

P.O. Box 120, Underhill, VT 05489

www.underhillvt.gov

Phone: (802) 899-4434, x106

Fax: (802) 899-2137

September 15, 2016

Tobin & Rebecca Clough
P.O. Box 112
Underhill, VT 05489

Dear Neighbor,

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Sincerely,

Andrew Strniste
Planning Director
Zoning Administrator

cc: File



Town of Underhill

P.O. Box 120, Underhill, VT 05489

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Phone: (802) 899-4434, x106

Fax: (802) 899-2137

September 15, 2016

Jason & Jodie Ferreira
P.O. Box 386
Underhill, VT 05489

Dear Neighbor,

This letter is to notify you, as an adjoining property owner, of the Final Subdivision Hearing with the Underhill Development Review Board on Monday, October 3rd, 2016 for a proposed 5-lot subdivision of property located at 16 Harvest Run (HR016), owned by Phil Jacobs. This property is located in the Underhill Flats Village District zoning district. The hearing will begin at 6:35 PM at the Underhill Town Hall, 12 Pleasant Valley Road.

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Sincerely,

Andrew Strniste
Planning Director
Zoning Administrator

cc: File



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September 15, 2016

John Pepi
24 Jacobs Hill
Underhill, VT 05489

Dear Neighbor,

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Sincerely,

Andrew Strniste
Planning Director
Zoning Administrator

cc: File



Town of Underhill

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Fax: (802) 899-2137

September 15, 2016

Phil Jacobs
73 Upper English Settlement Road
Underhill, VT 05490

Dear Applicant,

This letter is to notify you of your hearing before the Underhill Development Review Board on Monday, October 3rd, 2016 of the Final Subdivision Hearing with the Underhill Development Review Board on Monday, October 3rd, 2016 for a proposed 5-lot subdivision of property located at 16 Harvest Run (HR016). This property is located in the Underhill Flats Village District zoning district. The hearing will begin at 6:35 PM at the Underhill Town Hall, 12 Pleasant Valley Road.

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Sincerely,

Andrew Strniste
Planning Director
Zoning Administrator

cc: File
O'Leary-Burke Civil Associates



Town of Underhill

P.O Box 120, Underhill, VT 05489

www.underhillvt.gov

Phone: (802) 899-4434, x106

Fax: (802) 899-2137

September 15, 2016

O'Leary-Burke Civil Associates
13 Corporate Drive
Essex Junction, VT 05452

Dear Applicant,

This letter is to notify you of your hearing before the Underhill Development Review Board on Monday, October 3rd, 2016 of the Final Subdivision Hearing with the Underhill Development Review Board on Monday, October 3rd, 2016 for a proposed 5-lot subdivision of property located at 16 Harvest Run (HR016). This property is located in the Underhill Flats Village District zoning district. The hearing will begin at 6:35 PM at the Underhill Town Hall, 12 Pleasant Valley Road.

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If you have any questions, I can be reached at the addresses or phone number listed above.

Sincerely,

Andrew Strniste
Planning Director
Zoning Administrator

cc: File
O'Leary-Burke Civil Associates

Andrew Strniste

From: bobkat100@myfairpoint.net
Sent: Sunday, August 28, 2016 8:15 PM
To: Andrew Strniste
Subject: Jacobs development

Andrew,

Wanted to acknowledge receipt of the Town of Underhill documents dated August 4, 2016 re: Jacobs development and also advise that we have received communication from O'Leary-Burke Civil Associates regarding possible improvements and a suggestion for maintenance plan of Harvest Run. We have had insufficient time to review these documents thus will not make comment at this time other than to protect our right to be heard through an appeal should this matter continue.

Thank-you for your attention and, of course, please be in touch should you have any questions.

Bob & Kathie Covey

14 Harvest Run

7015 0640 0004 6138 4292

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Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

UNDERHILL, VT 05489

OFFICIAL USE

Certified Mail Fee	\$3.30	
Extra Services & Fees (check box, add fee as appropriate)	\$0.00	0584 07
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$0.47	
Total Postage and Fees	\$3.77	08/24/2016

Sent To _____
 Street and Apt. No., or PO Box No. _____
 City, State, ZIP+4® _____

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 0640 0004 6138 4278

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UNDERHILL, VT 05489

OFFICIAL USE

Certified Mail Fee	\$3.30	
Extra Services & Fees (check box, add fee as appropriate)	\$0.00	0584 07
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$0.47	
Total Postage and Fees	\$3.77	08/24/2016

Sent To _____
 Street and Apt. No., or PO Box No. _____
 City, State, ZIP+4® _____

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 0640 0004 6138 4285

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UNDERHILL, VT 05489

OFFICIAL USE

Certified Mail Fee	\$3.30	
Extra Services & Fees (check box, add fee as appropriate)	\$0.00	0584 07
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$0.47	
Total Postage and Fees	\$3.77	08/24/2016

Sent To _____
 Street and Apt. No., or PO Box No. _____
 City, State, ZIP+4® _____

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UNDERHILL, VT 05489

OFFICIAL USE

Certified Mail Fee	\$3.30	
Extra Services & Fees (check box, add fee as appropriate)	\$0.00	0584 07
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
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<input type="checkbox"/> Adult Signature Required	\$0.00	
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Postage	\$0.47	
Total Postage and Fees	\$3.77	08/24/2016

Sent To _____
 Street and Apt. No., or PO Box No. _____
 City, State, ZIP+4® _____

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 0640 0004 6138 4315

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OFFICIAL USE

Certified Mail Fee	\$3.30	
Extra Services & Fees (check box, add fee as appropriate)	\$0.00	0584 07
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
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<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$0.47	
Total Postage and Fees	\$3.77	08/24/2016

Sent To _____
 Street and Apt. No., or PO Box No. _____
 City, State, ZIP+4® _____

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

Proposed Harvest Run Improvement Options

The seven members of the Jacobs Hill Association are currently responsible for the maintenance of Harvest Run Road and Jacobs Hill. The five lot subdivision currently being reviewed by the Town of Underhill will add Min's Lane and increase the membership to a total of 11 property owners (Lots 1 -8, and 10-12). The five (5) property owners along Harvest Run Road are not members of the Association but by State law are responsible to pay a fair share of the maintenance of Harvest Run Road. The residents who live on Jacobs Hill Road and Harvest Run Road have expressed interest in improving the condition of Harvest Run Road. As part of the approval of the five-lot subdivision, plans have been developed to outline possible improvements to Harvest Run Road.

The most notable feature on Harvest Run Road is the lack of a storm drainage system on the eastern side of the roadway. Stormwater that drains from the residential lots and the hill behind the lots sheet flows across the roadway into the swale on the west side of the roadway. Several of the homes on this side of the road have experienced stormwater ponding and even flooding in their front yards after large rain events. The addition of a stormwater swale within the ROW on the east side of the roadway would markedly improve the condition of Harvest Run Road. The depth of a stormwater swale on the east side of the roadway is limited by the presence of underground electric and water utilities. Two options are proposed. The first option is a shallow swale and regrading or "dipping" the existing driveways so that water in the swale flows across the drives. A catch basin and pipe at the beginning of Harvest Run Road would carry the stormwater from the new swale to the existing swale on the west side. The second option is similar but replaces the "dipped" driveways with catch basins and cross pipes on the uphill side of the driveways. Both options include an alternate to add 6" of gravel to the roadway once the swale is in place. Note that the work could be done in two phases if cost is a consideration; the swale with the "dipped" driveways could be installed first and the catch basins and cross pipes installed at a later date.

- Option 1: Install a shallow grass swale between the edge of the road and the 60 foot right-of-way to direct stormwater to run south along the road. The swale will be cut approximately 1 foot into existing ground and will have minimal side slopes to ensure that lawn mowing and other yard work can be completed with ease. This option will also include regrading of the existing gravel driveways to match the grade of the new swale, allowing water to flow over the driveways and continue to run in the swale. A catch basin with a 15" culvert, located directly north of the driveway to parcel HR004, will be installed to cross Harvest Run and enter the existing drainage swale on the western side of the road. **Estimated Cost: \$11,000**
- Option 1A: In addition to everything included in Option 1, add 6" of crushed gravel to Harvest Run. **Estimated Cost: \$9,000 (Total 1 & 1A = \$20,000)**
- Option 2: Install a shallow grass swale between the edge of the road and the 60 foot right-of-way to direct stormwater to run south along the road. Instead of regrading the driveways to match the swale grade, five (5) catch basins with 15" culverts crossing Harvest Run will be

installed to the north of each driveway to direct water into the existing drainage swale on the west side of the road. **Estimated Cost: \$30,000**

- **Option 2A:** In addition to everything included in Option 2, add 6" of crushed gravel to Harvest Run. **Estimated Cost: \$9,000 (Total 2 & 2A = \$39,000)**

Our recommendation to the Jacobs Hill Association is that they agree to collect a fixed sum from each member each year to be set aside for future Harvest Run Road improvements and ask the property owners along Harvest Run Road to contribute a like amount. As an example, collecting \$300 per year from each of the 16 property owners would amount to \$4,800 per year. This would allow the Option 1 Improvements to be completed after two years of collecting fees and an upgrade to Option 2 after an additional four years.

Jacobs Hill Road and Min's Lane Proposed Annual Maintenance Plan

Snow removal for these roads and their respective private driveways has been billed to each homeowner separately in the past. For the purpose of this plan, which includes the new road (Min's Lane), it is assumed that this agreement will continue between the homeowners and the service provider.

Yearly maintenance in which the costs will be shared by the Jacobs Hill Association will include: grading the roads twice, adding approximately 40 yards of crushed gravel for repairs and maintaining the stormwater systems.

Estimated Costs per year:

Grading	\$500
40 Yards Gravel	\$1000
Stormwater Maintenance & Inspections	\$1,000
Total	\$2,500

Our recommendation to the Jacobs Hill Association is that they agree to collect a fixed sum from each member each year to be set aside for Jacob's Hill Road and Min's Lane maintenance. With 11 property owners, it would amount to \$228 per year. The amount would vary each year as more/less work is required. Association members would be required to pay the annual maintenance fee as part of the Association dues.

Harvest Run

Proposed Annual Maintenance Plan

Snow removal for the road and their respective private driveways has been billed to each homeowner separately in the past. For the purpose of this plan it is assumed that this agreement will continue between the homeowners and the service provider.

Yearly maintenance in which the costs will be shared by the homeowners on Harvest Run Road, Jacobs Hill Road, and Min's Lane will include: grading the roads twice, adding approximately 40 yards of crushed gravel for repairs and shaping and re-cutting the drainage swale once every 3 years. There is a separate plan for Jacobs Hill Road and Min's Lane.

Estimated Costs per year:

Grading	\$500
40 Yards Gravel	\$1,000
Swale Re-cutting	\$333 (\$1000/3 Years)
Total	\$1,833

Our recommendation to the Jacobs Hill Association is that they agree to collect a fixed sum from each member each year to be set aside for Harvest Run maintenance and bill the property owners on Harvest Run Road a like amount. With 16 potential property owners, it would amount to \$115 per year. The amount would vary each year as more/less work is required. Association members would be required to pay the annual maintenance fee as part of the Association dues. Payment by the Harvest Run homeowners would be voluntary although current VT State law does require homeowners to pay a "fair share" of maintenance costs on a private roadway.

Project Review Sheet

 Date Initiated ANR PIN# WW Project# Pre-application Review

Project Information

General Information

PROJECT NAME (if applicable) Jacobs Hill Association 3 Lot Residential Development	PROJECT TOWN Underhill
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PROJECT LOCATION (911 address if available) 16 Harvest Run

Contact(s)

CONTACT TYPE Landowner	NAME Phillip Jacobs	ORGANIZATION NAME (if applicable) Jacobs Hill Association
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ADDRESS 73 Upper English Settlement Road	TOWN Underhill	STATE VT	ZIP 05489
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PHONE (802) 899-2511	CELL PHONE	EMAIL coachjacobs55@aol.com
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CONTACT TYPE Consultant	NAME Paul O'Leary	ORGANIZATION NAME (if applicable) O'Leary-Burke
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ADDRESS 13 Corporate Drive	TOWN Essex	STATE VT	ZIP 05452
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PHONE (802) 878-9990	CELL PHONE	EMAIL poleary@olearyburke.com
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Project Description

ENTERED BY Jeffrey McMahon	INFORMATION SOURCE Wastewater System & Potable Water Supply	DATE ENTERED 7/13/2016 8:52 AM
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PROJECT DESCRIPTION Permit further subdivision of lot 6, 27.55 acres and create lots 10, 11 and 12, each for a proposed single family residence to be served by individual onsite water supplies and wastewater disposal. Lot 8 will have deferral language in the deed.

DEC Prior Permits

PERMIT TYPE	PERMIT NUMBER
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*Jurisdictional Opinion(s) for permits that may be needed from the District Environmental Office **PRIOR TO COMMENCEMENT OF CONSTRUCTION***

Act 250 Jurisdictional Opinion

This is a jurisdictional opinion issued pursuant to 10 V.S.A. § 6007(c) and Act 250 Rule 3(A). A request for reconsideration by the district coordinator, pursuant to Act 250 Rule 3(B), must be sent to the district coordinator at the address below within 30 days of the mailing of this opinion. Effective July 1, 2013, no appeal may be taken from a jurisdictional opinion or coordinator's decision on reconsideration without reconsideration by the Natural Resources Board. Requests for reconsideration by the Board must be submitted to the Board within 30 days of the mailing of this decision or a coordinator's decision on reconsideration.

PERSON REQUESTING JURISDICTIONAL OPINION Jeffrey McMahon	REQUESTOR TYPE Permit Specialist	ACT 250 PERMIT NUMBER (if any)	HAS THE LANDOWNER SUBDIVIDED BEFORE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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ENTER THE TOWN(S), DATE, AND ASSOCIATED NUMBER OF LOTS FOR EACH SUBDIVISION:

TOWN	PROJECT NAME	DATE	# OF LOTS
Underhill	ww-4-4051	7/24/13	2
Underhill	ww-4-2077	3/11/2004	2

TOWN Underhill	PROJECT NAME ww-04-3010	DATE 6/3/2008	# OF LOTS 5
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TYPE OF PROJECT (check all that apply)

Commercial
 Residential
 Agricultural
 Municipal
 State
 Federal

IS AN ACT 250 PERMIT REQUIRED? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	COPIES SENT TO STATUTORY PARTIES? <input type="checkbox"/> Yes <input type="checkbox"/> No
---	---

BASIS FOR DECISION
Lot count is less than 10, not a subdivision pursuant to 10 VSA 6001(19). Several of the previous subdivisions occurred more than five years ago

DISTRICT COORDINATOR SIGNATURE  2016.07.14 13:46:58 -04'00'	Peter Keibel, Coordinator  [phone] 802-879-5658 [email] peter.keibel@vermont.gov Natural Resources Board District 4 Environmental Commission 111 West Street, Essex Junction, VT 05452
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Wastewater System & Potable Water Supply Permit Jurisdictional Opinion

IS A WASTEWATER SYSTEM & POTABLE WATER SUPPLY PERMIT/APPROVAL REQUIRED?

Yes
 Permit application currently under review
 No
 Permit issued on _____

*The following are preliminary, non-binding determinations made by DEC Permit Specialists identifying other permits that may be needed
PRIOR TO COMMENCEMENT OF CONSTRUCTION*

Preliminary, Non-binding Determination of the Applicability of Other State Permits

Note: Fact Sheet numbers below refer to permit fact sheets available at: http://www.anr.state.vt.us/dec/permit_hb/tableofcontents.htm

Agency of Natural Resources - Department of Environmental Conservation

WATERSHED MANAGEMENT DIVISION

Stormwater: Developments [Fact Sheets #6.2 & 6.3]
 Contact: Jenna Calvi Email: jenna.calvi@vermont.gov Phone: 802-490-6166

Vermont Energy Code Assistance Center

Vermont Building Energy Standards [Fact Sheet #47.2]
 Contact: Kelly Launder Email: kelly.launder@vermont.gov Phone: 802-828-4039

Local Permits

See your Town Clerk, Zoning Administrator, Planning Commission or Public Works

PERMIT SPECIALIST SIGNATURE  2016.07.14 15:02:19 -04'00'	Jeff McMahon, Permit Specialist  [phone] 802-879-5676 [email] jeff.mcmahon@vermont.gov Department of Environmental Conservation Environmental Assistance Office - Essex Regional Office 111 West Street, Essex Junction, VT 05452
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PUBLIC NOTICE

APPLICANT:	Jacobs Hill Association 73 Upper English Road Underhill, VT 05489
NOTICE:	General Permit 3-9015 Stormwater Discharges from New Development and Redevelopment
PERMIT NUMBER:	5718-9015.2
PUBLIC COMMENT PERIOD:	9/2/2016 to 9/12/2016
PROJECT ID NUMBER:	EJ04-0082
PROJECT LOCATION:	16 Harvest Run, Underhill
NATURE OF DISCHARGE:	Treated stormwater.
VOLUME OF DISCHARGE:	As necessary.
RECEIVING WATER(S):	Browns River
EXPIRATION DATE OF AUTHORIZATION:	5 years from the date of authorization.
DESCRIPTION:	This is a notice of an application received for coverage under General Permit 3-9015 for the discharge of treated stormwater from the above referenced project.
FURTHER INFORMATION:	The complete application is on file and may be inspected at the VT Agency of Natural Resources, Montpelier office. Copies will be made at a cost based upon the current Secretary of State Official Fee Schedule for Copying Public Records and may be obtained by calling 802-828-1535 from 8-00 a.m. to 4-00 p.m., Monday through Friday. Electronic copies of the application may also be obtained by emailing the assigned district reviewer at Jenna.Calvi@vermont.gov .
PUBLIC COMMENTS:	Written public comments on the proposed authorization to discharge are invited and must be received on or before the close of business day (7:45 am - 4:30 pm) 9/12/2016, by the Agency of Natural Resources, Department of Environmental Conservation, Watershed Management Division, Stormwater Management Program, Main Building, Second Floor, One National Life Drive, Montpelier, Vermont 05620-3522 or send via email to anr.wsmstormwatercomments@vermont.gov . If sending by mail, the general permit number should appear next to the VANR address on the envelope and on the first page of any submitted comments. If sending by e-mail, the general permit number should appear on the subject line. All comments received by the above date will be considered by DEC prior to issuance of an authorization to discharge.
FINAL ACTION/APPEALS:	At the conclusion of the public notice period and after consideration of additional information received during the public notice period, the VANR will make a final determination to issue or to deny an authorization to discharge.
RENEWABLE ENERGY PROJECTS:	Right to Appeal to Public Service Board - Any appeal of this decision must be filed with the clerk of the Vermont Public Service Board pursuant to 10 V.S.A. §8506 within 30 days of the date of this decision. The appellant must file with the Clerk an original and six copies of its appeal. The appellant shall provide notice of the filing of an appeal in accordance with 10 V.S.A. §8504(c)(2), and shall also serve a copy of the Notice of Appeal on the Vermont Department of Public Service. For information, see the Rules and General orders of the Public Service Board available on line at www.psb.vermont.gov . The address for the Public Service Board is 112 State Street Montpelier, Vermont 05620-2701 (Tel. #802-828-2358).
ALL OTHER PROJECTS:	Right to Appeal to the Environmental Court - Pursuant to 10 V.S.A. Chapter 220, any appeal of this decision must be filed with the clerk of the Environmental Court within 30 days of the date of the decision. The appellant must attach to the Notice of Appeal the entry fee of \$250.00, payable to the state of Vermont. The Notice of Appeal must specify the parties taking the appeal and the statutory provision under which each party claims party status; must designate

the act or decision appealed from; must name the Environmental Court; and must be signed by the appellant or their attorney. In addition, the appeal must give the address or location and description of the property, project or facility with which the appeal is concerned and the name of the applicant or any permit involved in the appeal. The appellant must also serve a copy of the Notice of Appeal in accordance with Rule 5(b)(4)(B) of the Vermont Rules for Environmental Court Proceedings. For further information, see the Vermont Rules for Environmental Court Proceedings, available on line at www.vermontjudiciary.org. The address for the Environmental Court is 32 Cherry Street, 2nd Floor Suite 303 Burlington, Vermont 05401 (Tel. # 802-951-1740).

Alyssa Schuren, Commissioner
Department of Environmental Conservation

Stormwater Permit Number: 5718-9015.2

**DESIGNER'S STATEMENT OF COMPLIANCE
STATE STORMWATER DISCHARGE PERMIT**

Check One Below:

- Initial Designer's Statement of Compliance
 Designer's Restatement of Compliance

1. Permit Number: 5718-9015.2
2. Description/Name of Project: Jacob's Subdivision
3. Designer's Certification: Please complete the applicable lines below.

I hereby certify to the best of my knowledge and in the exercise of my reasonable professional judgment that:

- The stormwater collection, treatment and control system authorized by the permit described in #1 above was properly constructed in accordance with the permit. **[Complete this line for Initial Designer's Statement of Compliance ONLY, in addition complete below.]**

Check ONLY one of the following boxes:

- The most recently issued permit described in #1 is valid and construction has not yet commenced. [If this line is checked, this form may be completed by the Owner.]
- The stormwater collection, treatment and control system authorized by the permit described in #1 above is properly operating and maintained in accordance with the requirements of the permit.
- The stormwater collection, treatment and control system authorized by the permit described in #1 above is not operating properly and/or is not being maintained in accordance with the requirements of the permit. If so, please describe the operational and maintenance failures in detail below (or in an attachment if necessary):

4. If you checked the last box in #3 above, please provide a description of the steps that will be taken to bring the stormwater system back into compliance with the permit, and provide a schedule for taking such actions.

5. The failure to properly operate and maintain the stormwater collection, treatment and control system authorized in the permit described in #1 above constitutes a violation of state law and is subject to potential enforcement action by the Department of Environmental Conservation. Please take immediate steps to correct all violations.

[INCOMPLETE FORMS WILL BE RETURNED]

Signature of Designer

Title

Print or Type Name and Address

Date of Inspection

Designer's Contact Phone and/or Email

Please mail this completed form to:

**DEC – Watershed Management Division
Stormwater Management Program
1 National Life Drive, Main 2
Montpelier, VT 05620-3522**

or email to: anr.wsmdstormwatergeneral@state.vt.us

Additional information can be found at:
<http://www.watershedmanagement.vt.gov/>
802-828-1535

MEMORANDUM

TO: ANDREW STRNISTE, ZONING ADMINISTRATOR
FROM: PAUL O'LEARY, P.E.
SUBJECT: JACOBS PHASE 2 SUBDIVISION – STORMWATER DESIGN
DATE: SEPTEMBER 13, 2016
CC:

Dear Andrew,

In accordance with the Town of Underhill requirements, the storm water system for the Phase 2 portion of the Jacobs Subdivision was designed to the 25-year storm event. In a 25-year storm event, runoff from the Phase 2 area will not exceed the existing, pre-development runoff, from the Phase 2 portion of the property.



Vermont Department of Environmental Conservation
Watershed Management Division
1 National Life Drive, Main Bldg, 2nd Fl.
Montpelier, VT 05620-3522

Agency of Natural Resources

Telephone: 802-828-1535

9/13/2016

Jacobs Hill Association
73 Upper English Road
Underhill, VT 05489

Dear Permittee:

Attached is your copy of an Authorization to Discharge under Permit 5718-9015.2, which has been signed by the Stormwater Program Manager of the Stormwater Management Section on behalf of the Commissioner of the Department of Environmental Conservation. This authorizes the discharge of treated stormwater runoff from impervious surfaces associated with your project. Please read this authorization to discharge carefully and note the inspection and reporting requirements, and other operating conditions including payment of annual operating fees.

In addition, per the authorization, the permittee shall record a one page notice of issuance of this authorization in the local land records within fourteen (14) days of issuance of this authorization on the form provided. The permittee shall then provide a copy of the recording to the Stormwater Management Program, by submitting a copy of the recording from the local land records to this office within fourteen (14) days of the permittee's receipt of the recorded copy.

Please note these important due dates associated with your permit:

- Land Recording Due- 9/27/2016
- Annual Operating Fee Due- 10/13/2016 (The payee will receive a separate invoice with payment details.)
- Initial Statement of Compliance Due- 6 months following completion of construction.
- Annual Inspection Due- 7/15/2017
- Permit Renewal Due- 7/13/2021
- Permit Expiration Due- 9/13/2021

If you have any questions pertaining to this authorization, please contact the Stormwater Management Program's Environmental Analyst assigned to your district: Jenna Calvi at Jenna.Calvi@vermont.gov.

Sincerely,

Stormwater Management Program



State of Vermont
 Department of Environmental Conservation
 Drinking Water and Groundwater Protection Division
 Essex Junction Regional Office
 111 West Street
 Essex Junction, VT 05452
<http://dec.vermont.gov/water/ww-systems>

Agency of Natural Resources

[phone] (802) 879-5656
 [fax] (802) 879-3871

07-08-2016

Jacobs Hill Association
 73 Upper English Settlement Road
 Underhill, VT 05489

RE: WW-4-4679, The project proposes the creation of three (3) building lots (10, 11, 12) as part of a subdivision of existing, undeveloped lot 6 (27.55 acres). The three (3) lots will each have individual drilled wells and a conventional sewage disposal system. Each lot will be permitted for four (4) bedrooms and will require flows of 490 gpd WW and 540 gpd WS. The project will require a total of 1470 gpd WW and 1620 gpd WS., 16 Harvest Run, Underhill, Vermont.

Dear Applicant:

We received your completed application for the above referenced project on 07-08-2016. The following is a copy of the transaction record for this project.

<i>Date</i>	<i>Type</i>	<i>Code</i>	<i>Amount</i>	<i>Check#</i>	<i>Balance</i>
06-30-2016	FEE	RO2	870.00		-\$870.00
07-05-2016	RECVD		870.00	001015	\$0.00

Under the performance standards for this program, we have a maximum of 45 days of "in-house" time to review your application. If we require further information from you to make a decision, the time until we receive it is not included in the in-house performance standards.

If you have any questions about the review process, or if you have not received a decision on your application within the in-house days, please contact this office.

We have forwarded the information contained in your application to the Information Specialist for this region. A Project Review Sheet will be sent to you indicating other state agencies and departments you should contact regarding additional permits or approvals you may need under their programs. If you have not already done so, you should also check with town officials about any necessary town permits.

ANR Online - Once the Administrative staff accepts an application as complete, no additional information may be uploaded to the application through ANR Online. It will be necessary to scan any new information and attach to an email sent to the Administrative staff with a copy of the email to the Reviewer. This email must reference the WW number for the project.

For the Drinking Water and Groundwater Protection Division

Ernestine Chevrier
 Ernestine Chevrier
 Environmental Technician III
 (802) 879-5656

cc: Paul O'Leary PE /O'leary-Burke
 Underhill Planning Commission



State of Vermont
Department of Environmental Conservation
Drinking Water and Groundwater Protection Division
Essex Junction Regional Office
111 West Street
Essex Junction, VT 05452
<http://dec.vermont.gov/water\ww-systems>

Agency of Natural Resources

[phone] (802) 879-5656
[fax] (802) 879-3871

August 31, 2016

Jacobs Hill Association
73 Upper English Settlement Road
Underhill VT 05489

Subject: Wastewater System and Potable Water Supply Permit # WW-4-4679 for a project located in Underhill, Vermont.

Dear Ladies & Gentlemen:

Enclosed you will find:

1. a copy of the WW-4-4679 Permit document marked "Documents For Recording".
2. a copy of permit document for your records.

You are required to file this permit with your town clerk within 30 days of issuance of the permit. Please take the document stamped "Documents For Recording" to your town clerk. You will be required to pay a recording fee to your town clerk at that time.

Approved Plans: You may either contact your consultant for copies of the approved plan(s) or you may obtain a copy of them by accessing our website <http://dec.vermont.gov/water\ww-systems> and using the document search option. You may print out any documents or plans that you view.

Please read your permit thoroughly and be sure you understand all the requirements. Please be aware your permit may include a condition for the submission of installation certifications, annual inspections or other reporting requirements.

Failure to file the permit with your town clerk or to submit any permit-required certifications, inspections or other reporting requirements will render your permit invalid and will cause problems during future title searches done on this property.

Thank you for your cooperation. Please contact me at the above address if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Jessanne Wyman".

Jessanne Wyman
Regional Engineer

Enclosures



Permit Number: 5718-9015.2

PIN: EJ04-0082

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AUTHORIZATION TO DISCHARGE UNDER
GENERAL PERMIT 3-9015

A determination has been made that the applicant(s):

Jacobs Hill Association
73 Upper English Road
Underhill, VT 05489

Impervious Area: 0.79 acres

meets the criteria necessary for inclusion under General Permit 3-9015. Hereinafter the named applicant shall be referred to as the permittee. Subject to the conditions of General Permit No. 3-9015, the permittee is authorized to discharge stormwater as described herein:

Project Name: Jacob's Subdivision

Project Location: 16 Harvest Run in Underhill, Vermont

Receiving Waters: Browns River

Manner of Discharge: S/N 001: Stormwater runoff from the residential house rooftop on lot 10, driveway and yard flows to a fabricated grassed channel swale (O-3, #1) to promote recharge and infiltrate small storm events of 0.9" or less. The storm system also provides treatment through its existing infiltrative soils and functions as a dry detention basin (LA-1, #1) during larger storm events via a controlled outlet pipe discharging into an unnamed tributary of the Browns River.

Stormwater runoff from the residential house rooftop on lot 10 (secondary swale to include full width of lot), driveway and yard flows to a fabricated grassed channel swale (O-3, #2) to promote recharge and infiltrate small storm events of 0.9" or less. The storm system also provides treatment through its existing infiltrative soils and functions as a dry detention basin (LA-1, #2) during larger storm events via a controlled outlet pipe discharging into an unnamed tributary of the Browns River.

S/N 003: Stormwater runoff from the residential house rooftop on lot 11, driveway and yard flows to a fabricated grassed channel swale (O-3, #3) to promote recharge and infiltrate small storm events of 0.9" or less. The storm system also provides treatment through its existing infiltrative soils and functions as a dry detention basin (LA-1, #3) during larger storm events via a controlled outlet pipe discharging into an unnamed tributary of the Browns River.

S/N 004: Stormwater runoff from the residential house rooftop on lot 12, driveway and yard flows to a fabricated grassed channel swale (O-3, #4) to promote recharge and infiltrate small storm events of 0.9" or less. The storm

system also provides treatment through its existing infiltrative soils and functions as a dry detention basin (LA-1, #4) during larger storm events via a controlled outlet pipe discharging into an unnamed tributary of the Browns River.

S/N 005: Stormwater runoff from the road flows to roadside swales followed by a pretreatment perimeter grassed channel swale (O-3, #5) to promote recharge and infiltrate small storm events of 0.9" or less, then to an infiltration basin (I-2, #1) to provide treatment for the 1-Year and 10-Year storm events. The storm system provides treatment through the existing infiltrative soils. The stormwater discharges into an unnamed tributary of the Browns River.

(Note: S/N 002 was omitted because the impervious area is included in discharge point S/N 001 as part of the same point of interest.)

Design:

This project shall be constructed and operated in accordance with the site plans and details designed by O'Leary-Burke Civil Associates, PLC: Sheet 1, "ST1 Existing Conditions," dated 6/22/2016; Sheet 2, "ST2 Stormwater Plan," dated 6/22/2016; Sheet 3, "ST3 Stormwater Details," dated 6/22/2016; and all supporting information.

By reference, the above noted plans are made part of this authorization.

Compliance with General Permit 3-9015 and this Authorization

The permittee shall comply with this authorization and all the terms and conditions of General Permit 3-9015, including the payment of annual operating fees to the Department. A billing statement for such fees will be sent to the permittee each year. The first year's statement is enclosed. Any permit non-compliance, including a failure to pay the annual operating fee, constitutes a violation of 10 V.S.A. Chapter 47 and may be grounds for an enforcement action or revocation of this authorization to discharge.

Transferability

This authorization to discharge is not transferable to any person except in compliance with Part VI.D. of General Permit 3-9015. A copy of General Permit 3-9015 is available from the Department via the internet at http://dec.vermont.gov/sites/dec/files/wsm/stormwater/docs/GeneralPermit9015/sw_3-9015_final_signed.pdf.

Changes to Permitted Development

In accordance with Part V.G. of General Permit 3-9015, the permittee shall notify the Department of any planned development or facility expansions or changes that may result in new or increased stormwater discharges. The Department shall determine the appropriateness of continued inclusion under General Permit 3-9015 by the modified development or facility.

Annual Inspection and Report

The stormwater collection, treatment and control system shall be properly operated. The permittee shall submit an annual inspection report on the operation, maintenance and condition of the stormwater collection, treatment and control system. The inspection report shall be submitted regardless of whether the project has been constructed. The inspection shall be conducted between the conclusion of spring snow melt and June 15th of each year and the inspection report shall be submitted to the Secretary by July 15th of each year, or by July 30th if performed by a utility or municipality pursuant to a duly adopted stormwater management ordinance. The inspection report shall note all problem areas and all measures taken to correct any problems and to prevent future problems.

Initial Statement of Compliance

An initial statement of compliance, signed by a designer, must be submitted to the Stormwater

Management Program no later than 6 months following completion of construction of the stormwater management system. Failure to submit an initial statement of compliance shall constitute a violation of General Permit 3-9015 and may result in the revocation of this authorization to discharge. Forms for completing this requirement are available on the Stormwater Management Program's website.

Recording in Land Records

The permittee shall record a one-page notice of issuance of this discharge permit in the local land records within fourteen (14) days of issuance of this authorization to discharge on the form provided by the Secretary, per §18-312 of Stormwater Management Rule. The permittee shall provide a copy of the recording to the Stormwater Management Program within fourteen (14) days of the permittee's receipt of the copy of the recording from the local land records.

Renewable Energy Projects – Right to Appeal to Public Service Board

Any appeal of this decision must be filed with the clerk of the Vermont Public Service Board pursuant to 10 V.S.A. §8506 within 30 days of the date of this decision. The appellant must file with the Clerk an original and six copies of its appeal. The appellant shall provide notice of the filing of an appeal in accordance with 10 V.S.A. §8504(c)(2), and shall also serve a copy of the Notice of Appeal on the Vermont Department of Public Service. For information, see the Rules and General orders of the Public Service Board available on line at www.psb.vermont.gov. The address for the Public Service Board is 112 State Street Montpelier, Vermont 05620-2701 (Tel. #802-828-2358).

All Other Projects – Right to Appeal to the Environmental Court

Pursuant to 10 V.S.A. Chapter 220, any appeal of this decision must be filed with the clerk of the Environmental Court within 30 days of the date of the decision. The appellant must attach to the Notice of Appeal the entry fee of \$250.00, payable to the state of Vermont. The Notice of Appeal must specify the parties taking the appeal and the statutory provision under which each party claims party status; must designate the act or decision appealed from; must name the Environmental Court; and must be signed by the appellant or their attorney. In addition, the appeal must give the address or location and description of the property, project or facility with which the appeal is concerned and the name of the applicant or any permit involved in the appeal. The appellant must also serve a copy of the Notice of Appeal in accordance with Rule 5(b)(4)(B) of the Vermont Rules for Environmental Court Proceedings. For further information, see the Vermont Rules for Environmental Court Proceedings, available on line at www.vermontjudiciary.org. The address for the Environmental Court is 32 Cherry Street, 2nd Floor Suite 303 Burlington, Vermont 05401 (Tel. # 802-951-1740).

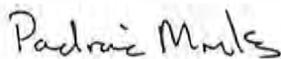
Effective Date and Expiration Date of this Authorization

This authorization to discharge shall become effective on September 13, 2016 and shall continue until September 13, 2021. The permittee shall reapply for coverage at least sixty (60) days prior to September 13, 2021.

Dated Thursday, September 13, 2016.

Alyssa Schuren, Commissioner
Department of Environmental Conservation

By:



Padraic Monks, Stormwater Program Manager
Stormwater Management Program

**NOTICE OF ISSUANCE OF STORMWATER DISCHARGE PERMIT
BY THE VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

Notice is hereby given that an individual stormwater discharge permit or an authorization to discharge pursuant to a general stormwater discharge permit has been issued by the Vermont Department of Environmental Conservation to Permittee(s) named herein for the discharge of stormwater runoff from impervious surfaces (e.g. roadways, rooftops, parking lots, walkways) pursuant to 10 V.S.A. Section 1264 for the property identified below. The permit/authorization requires treatment and control of stormwater runoff, long-term maintenance of the treatment and control structures and payment of yearly operational fees.

Permittee(s): **Jacobs Hill Association**

Permit/Authorization Number: **5718-9015.2**

911 Address of Property: **16 Harvest Run, Underhill**

Name of condominium, subdivision or planned community association (if applicable):
Jacob's Subdivision

Signature of Permittee or Authorized Representative: _____

Printed Name of Permittee or Authorized Representative: _____

Date of Signature: _____

Recording information: Municipal clerks - please index this document listing the State of Vermont, Department of Environmental Conservation as "Grantee". Please index this document listing the above named Permittee(s) as "Grantor(s)". Additionally, if this notice lists the name of a condominium, subdivision or planned community association, please list the named association as an additional "Grantor".

Please mail this stamped/recorded/completed form to:

**DEC – Watershed Management Division
Stormwater Management Program
1 National Life Drive, Main 2
Montpelier, VT 05620-3522**

Or email to: anr.wsmdstormwatergeneral@vermont.gov

WASTEWATER SYSTEM AND POTABLE WATER SUPPLY PERMIT
LAWS/REGULATIONS INVOLVED

 10 V.S.A. Chapter 64, Potable Water Supply and Wastewater System Permit
 Wastewater System and Potable Water Supply Rules, Effective September 29, 2007
 Chapter 21, Water Supply Rules, Effective December 1, 2010

Landowner(s): Jacobs Hill Association
73 Upper English Settlement Road
Underhill VT 05489
Permit Number: WW-4-4679
PIN

This permit affects the following properties in Underhill, Vermont:

Lot	Parcel	SPAN	Acres	Book(s)/Page(s)#
10			2.36	
11			1.19	
12			1.50	
6	HR016	660-208-10983	27.55	Book:107 Page(s):278

This project, consisting of the subdivision of Lots 10, 11 and 12 from Lot 7, an existing 27.55 acre undeveloped lot; each new lot is approved for construction of a four bedroom single family residence served by individual drilled wells and conventional sewage disposal systems, located on 16 Harvest Run in Underhill, Vermont, is hereby approved under the requirements of the regulations named above subject to the following conditions.

1. GENERAL

- 1.1 The project shall be completed as shown on the plans and/or documents prepared by Paul O'Leary, P.E., with the stamped plans listed as follows:

Title	Sheet Number	Plan Date	Revision Date
Water and Wastewater Plan	1	06/28/2016	
Water and Wastewater Details	2	06/28/2016	08/29/2016

- 1.2 This permit does not relieve the landowner from obtaining all other approvals and permits PRIOR to construction including, but not limited to, those that may be required from the Act 250 Environmental Commission; the Drinking Water and Groundwater Protection Division; the Watershed Management Division; the Division of Fire Safety; the Vermont Department of Health; the Family Services Division; or other State departments and local officials.
- 1.3 The conditions of this permit shall run with the land and will be binding upon and enforceable against the landowner and all assigns and successors in interest. The landowner shall record and index this permit in the Underhill Land Records within thirty, (30) days of issuance of this permit and prior to the conveyance of any lot subject to the jurisdiction of this permit.
- 1.4 The landowner shall record and index all required installation certifications and other documents that are required to be filed under these Rules or under a specific permit condition in the Underhill Land Records and ensure that copies of all certifications are sent to the Secretary.
- 1.5 No permit issued by the Secretary shall be valid for a substantially completed potable water supply and wastewater system until the Secretary receives a signed and dated certification from a qualified Vermont Licensed Designer (or where allowed, the installer) that states:

"I hereby certify that, in the exercise of my reasonable professional judgment, the installation-related information submitted is true and correct and the potable water supply and wastewater system were



installed in accordance with the permitted design and all the permit conditions, were inspected, were properly tested, and have successfully met those performance tests”,

or which otherwise satisfies the requirements of §1-308 and §1-911 of the referenced rules.

- 1.6 Lots 10, 11 and 12 are approved for the construction of a four bedroom single family residence on each lot. No alterations to the existing building other than those indicated in this permit that would change or affect the water supply or wastewater disposal shall be allowed without prior approval by the Drinking Water and Groundwater Protection Division. Construction of additional nonexempt buildings including commercial and residential buildings is not allowed without prior permitting by the Drinking Water and Groundwater Protection Division and such permit may not be granted unless the proposal conforms to the applicable laws and regulations. No construction is allowed that will cause non-compliance with an existing permit.
- 1.7 Each purchaser of any portion of the project shall be shown a copy of the Wastewater System and Potable Water Supply Permit and the stamped plan(s), if applicable, prior to conveyance of any portion of the project to that purchaser.
- 1.8 By acceptance of this permit, the landowner agrees to allow representatives of the State of Vermont access to the property covered by the permit, at reasonable times, for the purpose of ascertaining compliance with the Vermont environmental and health statutes and regulations, and permit conditions.
- 1.9 Any person aggrieved by this permit may appeal to the Environmental Court within 30 days of the date of issuance of this permit in accordance with 10 V.S.A. Chapter 220 and the Vermont Rules of Environmental Court Proceedings.

2. WATER SUPPLY

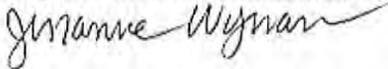
- 2.1 Each lot is approved for a potable water supply using a drilled or percussion bedrock well for a maximum of **490** gallons of water per day provided the supply is located as shown on the stamped plan(s) and meets or exceeds the isolation distances, construction standards, and water quality standards required in the Water Supply Rule. The landowner shall operate the potable water supply in a manner that keeps the supply free from contamination. The landowner shall immediately notify the Division if the water supply system fails to function properly and becomes a “failed supply”.
- 2.2 The components of the potable water supply herein approved shall be routinely and reliably inspected during construction by a qualified Vermont Licensed Designer (or where allowed, the installer) who shall, upon completion and prior to occupancy of the associated building, report in writing to the Drinking Water and Groundwater Protection Division that the installation was accomplished in accordance with the referenced plans and permit conditions, as specifically directed in Condition #1.5 herein.
- 2.3 The water source location as shown on the stamped plan(s) shall be staked out and flagged by a qualified Vermont Licensed Designer prior to any construction on this project with the flagging being maintained until construction is complete.

3. WASTEWATER DISPOSAL

- 3.1 Each lot is approved for the disposal of wastewater in accordance with the design depicted on the stamped plan(s) for a maximum of **490** gallons of wastewater per day. The system(s) shall be operated at all times in a manner that will not permit the discharge of effluent onto the surface of the ground or into the waters of the State. Should the system fail and not qualify for the minor repair or replacement exemption, the current landowner shall engage a qualified Vermont Licensed Designer to evaluate the cause of the failure and to submit an application to this office and receive written approval prior to correcting the failure.
- 3.2 The components of the sanitary wastewater system herein approved shall be routinely and reliably inspected during construction by a Vermont Licensed Designer (or where allowed, the installer) who shall, upon completion and prior to occupancy of the associated building, report in writing to the Drinking Water and Groundwater Protection Division that the installation was accomplished in accordance with the referenced plans and permit conditions, as specifically directed in Condition #1.5 herein.
- 3.3 The corners of the proposed primary or replacement wastewater disposal area(s) shall be accurately staked out and flagged prior to construction with the flagging/staking being maintained until construction is complete.
- 3.4 The wastewater system for this project is approved for domestic type wastewater only except as allowed for water treatment discharges. No discharge of other type process wastewater is permitted unless prior written approval is obtained from the Drinking Water and Groundwater Protection Division.

- 3.5 No buildings, roads, water lines, earthwork, re-grading, excavation or other construction that might interfere with the installation or operation of the wastewater disposal systems are allowed on or near the site-specific wastewater disposal system or replacement area depicted on the stamped plans. All isolation distances that are set forth in the Wastewater System and Potable Water Supply Rules shall be adhered to and will be incorporated into the construction and installation of the wastewater disposal field.

Alyssa B. Schuren, Commissioner
Department of Environmental Conservation



By _____

Dated August 31, 2016

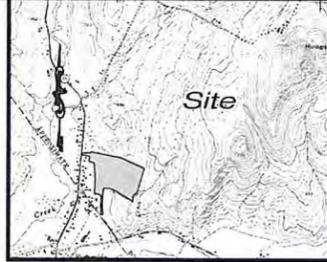
Jessanne Wyman
Regional Engineer
Essex Junction Regional Office
Drinking Water and Groundwater Protection Division

cc: Paul O'Leary PE
Underhill Planning Commission

This is an Original Mylar



Line Table with columns: LINE, LENGTH, BEARING. Lists 20 lines with their respective measurements.

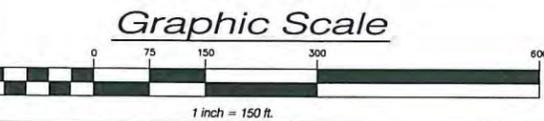


Curve Table with columns: Curve, Length, Radius, Chord, Chord Dist. Lists 10 curves with their geometric data.

Abutters Table listing adjacent property owners and their records, including Gertrude Hunt, Jamie Eisenberg, etc.

Legend defining symbols for Boundary Line, New Property Line, Adjoining Property Line, etc.

PROJECT STATISTICS table with rows for PROJECT AREA, ZONING DISTRICT, CONVENTIONAL REQUIREMENTS, and BUILDING SETBACKS.



Town of Underhill Received for Record at ... o'clock ... minutes ... M and recorded in ... attest: Town Clerk

Remaining Lands of Philip Jacobs Book 107 Page 278 Recorded June 10, 2001 Area = 6.89 A without Right of Ways HR016 Lot #8

Remaining Lands of Philip Jacobs Book 107 Page 278 Recorded June 10, 2001 Area = 15.61 A without Right of Ways HR016 (Lot #6)

Survey Notes:

- 1. This Subdivision Survey has been compiled from field surveys and record evidence including the following plans: a. 'Plat of Survey for Allen R. Bolio & Alonna E. Bolio', prepared by John Marsh, revised on September 19, 1985 and filed in Slide 71A of the Underhill Land Records. b. 'Plat of Survey for Raymond & Gertrude Estewart', prepared by Essex Construction Co. Inc., dated June 7, 1943 and filed in Book 35 Page 179 of the Underhill Land Records. c. 'Plat of Survey for Allen R. Bolio & Alonna E. Bolio', prepared by John Marsh, dated December 23, 1984 and filed in Slide 69 of the Underhill Land Records. d. 'Homestead Acres, Underhill Flats, Vermont', prepared by Emerson, Abbott, Harlow & Leedy Inc., dated September 13, 1987 and filed in Book 40 Page 348B of the Underhill Land Records. e. 'Plat of Survey of Joseph & Ruth Nelson', prepared by Warren Robenstein, dated April 1980 and filed in slide 45 of the Underhill Land Records. f. 'Homestead Acres, Underhill Flats, Vermont', prepared by Emerson, Abbott, Harlow & Leedy Inc., dated September 15, 1987 and filed in Book 40 Page 348A of the Underhill Land Records. g. 'Homestead Acres, Underhill Flats, Vermont', prepared by Emerson, Abbott, Harlow & Leedy Inc., dated July 28, 1987 and filed in Book 40 Page 348C of the Underhill Land Records. h. 'Homestead Acres, Underhill Flats, Vermont', prepared by L.H. Willis, dated April 1968 and filed in Book 40 Page 348D of the Underhill Land Records. i. 'Plan of Lots Homestead Acres', prepared by L.H. Willis, dated September 1967 and filed in Book 40 of the Underhill Land Records. j. 'Plat of Lots to be Conveyed to Wesley & Genevieve Jacobs', prepared by John Marsh, undated and filed in slide 12A of the Underhill Land Records. k. 'Maple Ridge in Underhill Vermont', prepared by Campbell Construction Inc., dated November 1965 and filed in Book 39 sleeve of the Underhill Land Records. l. 'Plan of Land in Underhill Vermont being Conveyed by Patrick & Melody Wells to Virginia Mandile', prepared by JPR Associated, dated June 1974 and filed in slide 7A of the Underhill Land Records. m. 'Plat of Survey for United Church of Underhill', prepared by John Marsh, dated September, 1974 and filed in Slide 10A of the Underhill Land Records. n. 'Plan of Lot 2nd Congregational Church', prepared by John Marsh, undated and filed in Slide 7A of the Underhill Land Records.

I hereby certify that the information shown hereon is correct to the best of my knowledge and belief and is based upon a collaboration of pertinent deeds, plats, parcel, and other recorded evidence. This plat was prepared in accordance with and complies with Vermont Statute Title 27, § 1403, (a) through (e).

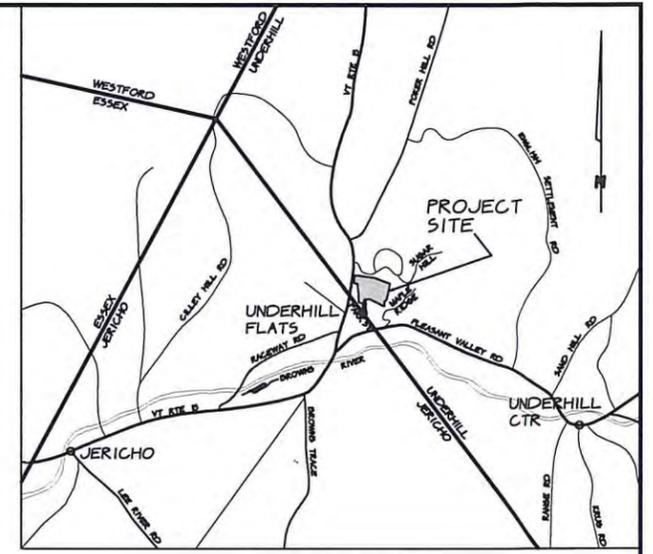
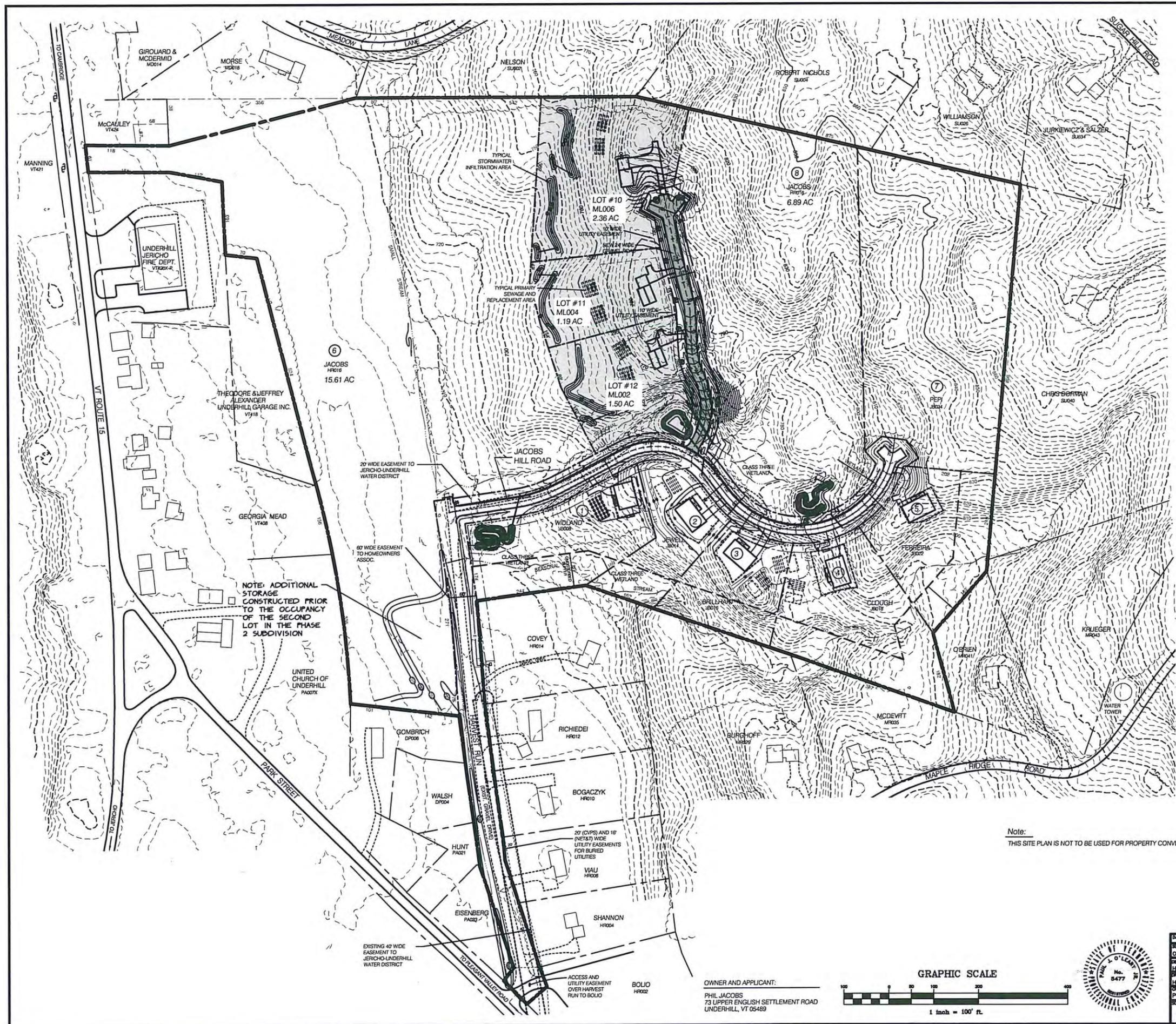
Joseph R. Flynn, L.S. 714 Dated

PRELIMINARY

Table with columns: DATE, REVISION, SURVEY, DESIGN, DRAWN, CHECKED, HCLS, SCALE. Includes O'LEARY-BURKE CIVIL ASSOCIATES, PLC logo and contact info.

Lands of Phil Jacobs Jacobs Hill Road - Underhill Lots 10, 11 & 12

Table with columns: BY, DATE, JOB#, FILE#, PLAN SHEET #. Shows PJO, 5-10-2016, 5106, PL.



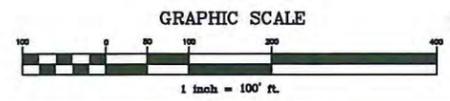
LEGEND

	PROJECT BOUNDARY
	ABUTTING PROPERTY LINE
	SIDELINE OF EASEMENT
	PROPOSED LOT LINE
	UNDISTURBED BUFFER
	BUILDING ENVELOPE
	STREAM SETBACK
	EDGE OF CLASS THREE WETLAND
	USGS CONTOUR
	FINISH GRADE CONTOUR
	STREAM
	SOILS TEST PIT
	PERCOLATION TEST
	NEW CULVERT AND CATCH BASIN
	PROPOSED SEWERLINE
	PROPOSED BURIED ELECTRIC AND COMMUNICATIONS

PROJECT STATISTICS

PROJECT AREA	APPROX. 45 ACRES
ZONING DISTRICT	UNDERHILL FLATS VILLAGE CENTER
CONVENTIONAL REQUIREMENTS	
1 ACRE MIN. LOT SIZE (MAX. 2 UNITS / LOT)	
150' LOT FRONTAGE	
BUILDING SETBACKS	
FRONT YARD - NO MINIMUM	
SIDE YARD - 20'	
REAR YARD - 20'	
PROPOSED CONVENTIONAL DEVELOPMENT	
PROPOSED 5 LOT CONVENTIONAL DEVELOPMENT	
3 RESIDENTIAL LOTS AND 2 RETAINED LOTS	
BUILDING SETBACKS PROPOSED	
FRONT YARD - 15'	
SIDE YARD - 20'	
REAR YARD - 20'	
ROADS AND LOTS = 5.8 ACRES	
SEWER TO BE INDIVIDUAL ON-SITE	
STORMWATER TO BE TREATED ON-SITE	
WATER TO BE SUPPLIED VIA INDIVIDUAL WELLS	

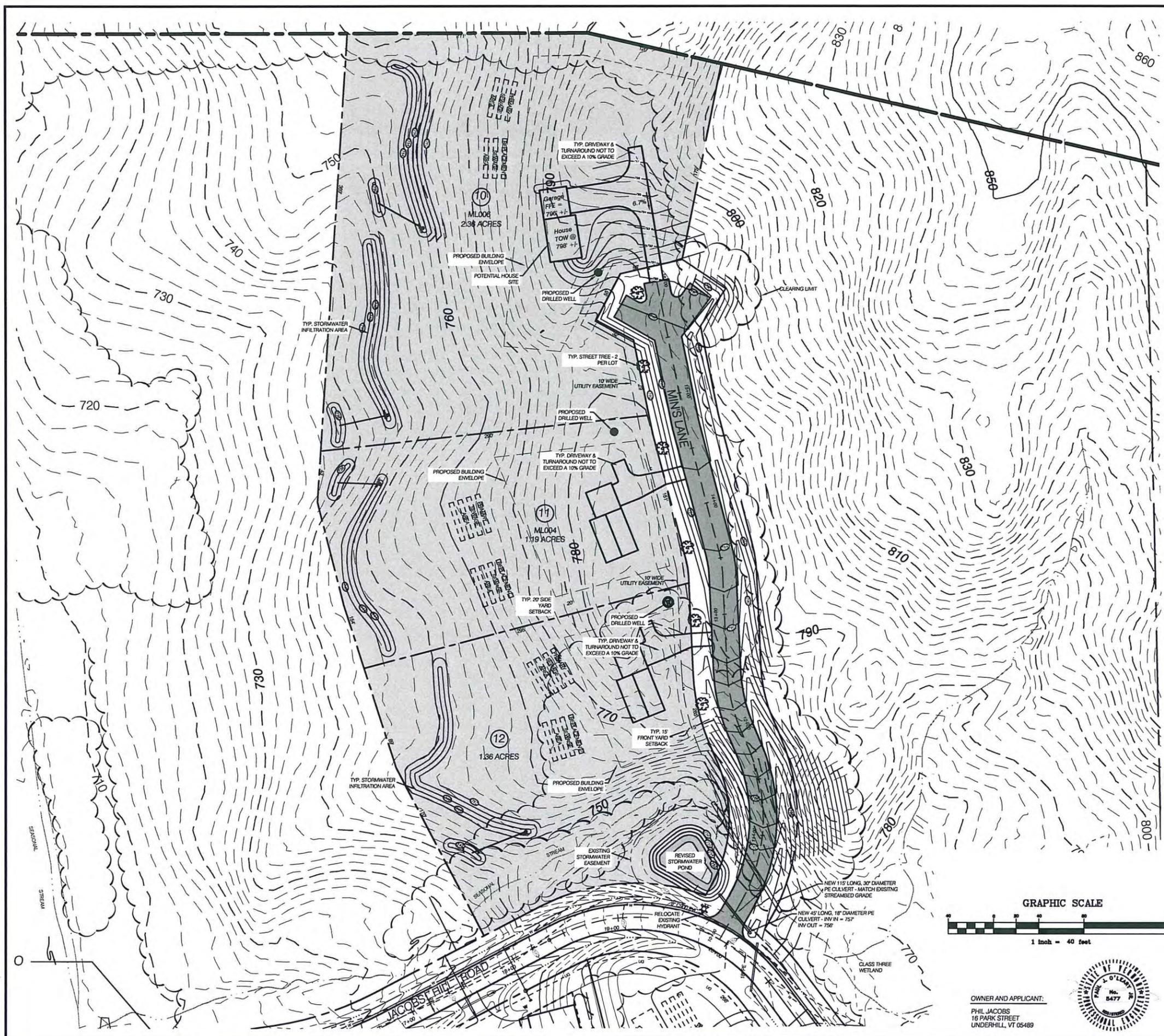
Note:
THIS SITE PLAN IS NOT TO BE USED FOR PROPERTY CONVEYANCE.



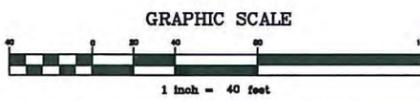
OWNER AND APPLICANT:
PHIL JACOBS
73 UPPER ENGLISH SETTLEMENT ROAD
UNDERHILL, VT 05489



DATE: 9-9-16	REVISION: REVISIONS PER TOWN OF UNDERHILL STAFF REVIEW	BY: PJO
DESIGN: [] RECORD DRAWING [] PRELIMINARY		
DATE: 5-10-2016		
SCALE: 1"=100'		
LANDS OF PHILIP JACOBS		PLAN SHEET # 1
13 CORPORATE DRIVE ESSEX, VT 05736 PHONE 878-8980 FAX 878-9980 EMAIL: OLEARY@OLEARYPLC.COM		
O'LEARY-BURKE CIVIL ASSOCIATES, PLC		
18 HARVEST RUN - UNDERHILL, VT		
PHASE 2 PLAN		
5 Lot Residential Development		



LEGEND	
	PROJECT BOUNDARY
	ABUTTING PROPERTY LINE
	SIDELINE OF EASEMENT
	PROPOSED LOT LINE
	UNDISTURBED BUFFER
	BUILDING ENVELOPE
	STREAM SETBACK
	EDGE OF CLASS THREE WETLAND
	USGS CONTOUR
	FINISH GRADE CONTOUR
	STREAM
	SOILS TEST PIT
	PERCOLATION TEST
	NEW CULVERT AND CATCH BASIN
	PROPOSED SEWERLINE
	PROPOSED BURIED ELECTRIC AND COMMUNICATIONS
	PROPOSED DRILLED WELL
	DRILLED WELL SEPARATION ZONE



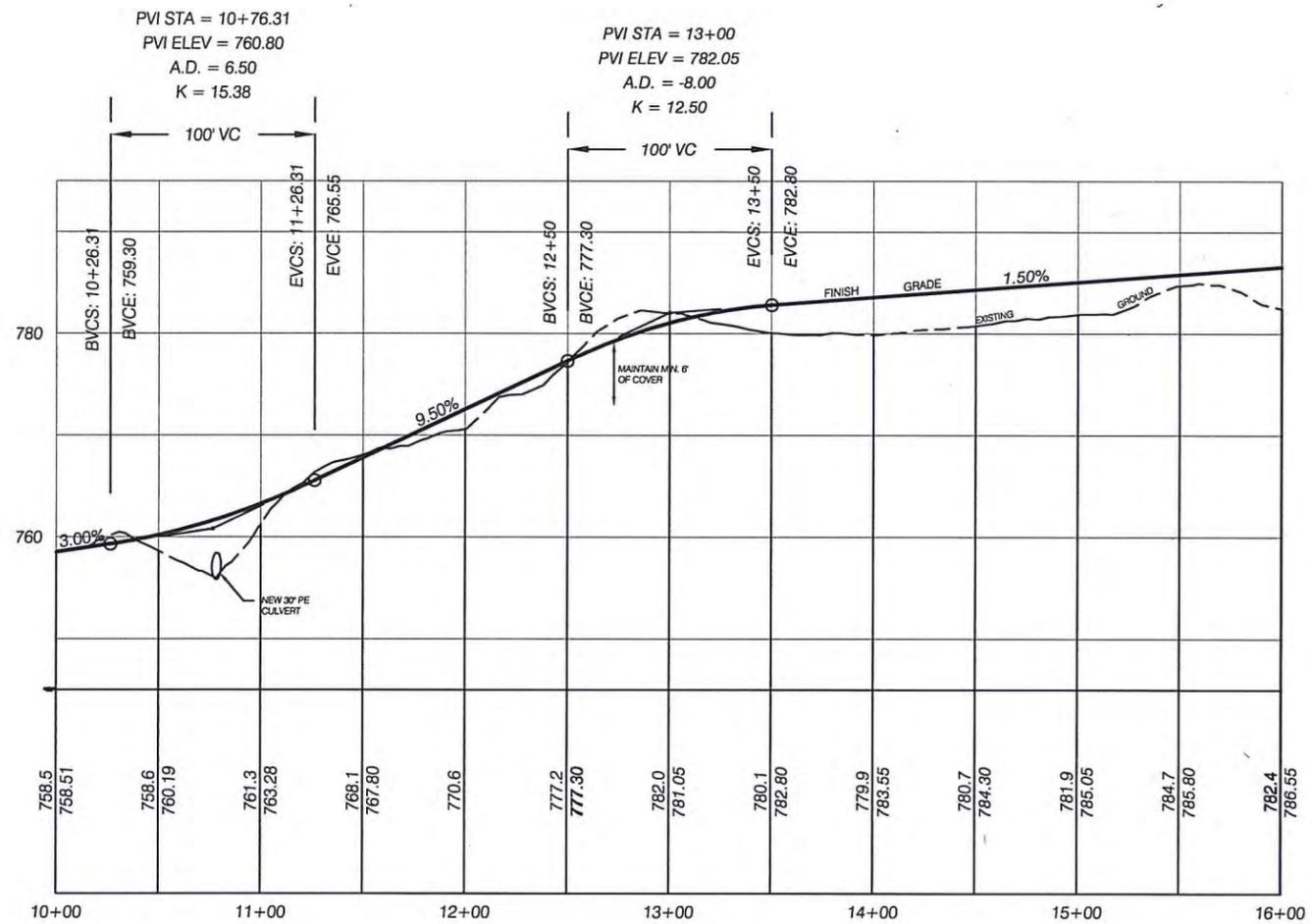
OWNER AND APPLICANT:
 PHIL JACOBS
 16 PARK STREET
 UNDERHILL, VT 05489



DATE: 9-9-16	REVISION: REVISIONS PER TOWN OF UNDERHILL STAFF REVIEW	BY: PJO
SURVEY: OBCA	<input type="checkbox"/> RECORD DRAWING <input type="checkbox"/> PRELIMINARY	DATE: 5-10-2016
DESIGN: HJS/PJO	<input type="checkbox"/> FINAL <input type="checkbox"/> SKETCH/CONCEPT	CONTRACT NO: 5108
DRAWN: HJS		FILE: 5108-FINAL
CHECKED: PJO		PLAN SHEET # 2
SCALE: 1"=40'		

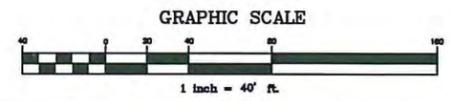
O'LEARY-BURKE
 CIVIL ASSOCIATES, PLC
 13 CORPORATE DRIVE
 ESSAY, VT, VT
 PHONE: 879-8880
 FAX: 879-8880
 E-MAIL: oob@oolearyburke.com

LANDS OF PHILIP JACOBS
 16 HARVEST LANE - UNDERHILL, VT
MIN'S LANE PLAN VIEW
 40' SCALE



ROAD PROFILE
(STA. 10+00 - 16+00)
1" = 40' HORIZ.
1" = 4' VERT.

OWNER AND APPLICANT:
PHIL JACOBS
16 PARK STREET
UNDERHILL, VT 05489



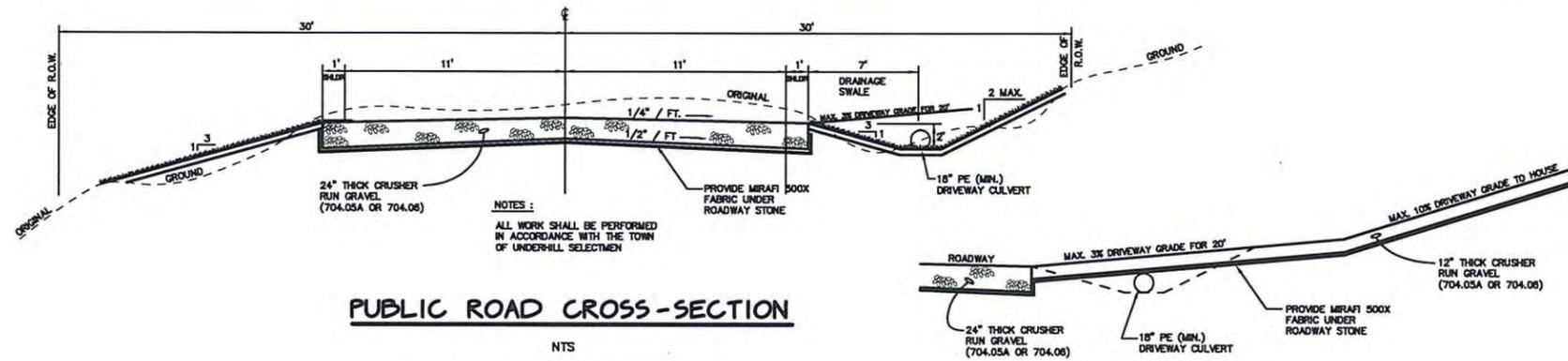
DATE	REVISION	BY
SURVEY	<input type="checkbox"/> RECORD DRAWING <input type="checkbox"/> PRELIMINARY	5-10-16
OSCA	<input type="checkbox"/> FINAL <input type="checkbox"/> SKETCH/CONCEPT	5106
DESIGN		5106-PHASE 2
DATE		PLAN SHEET #
5/10/16		3

O'LEARY-BURKE
CIVIL ASSOCIATES, PLC
13 CORPORATE DRIVE
UNDERHILL, VT
PHONE: 879-2800
FAX: 879-5900
E-MAIL: ooca@olearyburke.com

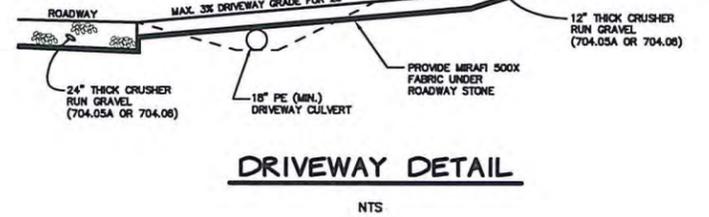
LANDS OF PHILIP JACOBS
16 HARVEST LANE - UNDERHILL, VT
MIN'S LANE ROAD PROFILE
40' SCALE

GENERAL CONSTRUCTION SPECIFICATIONS

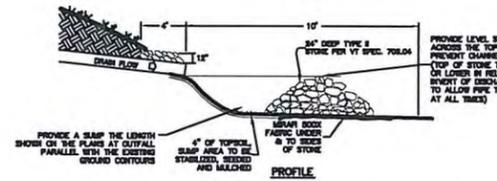
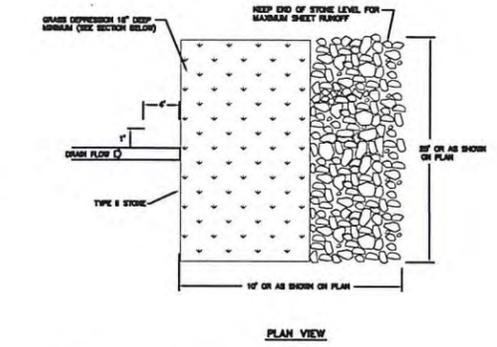
- UTILITY INFORMATION SHOWN HEREON WAS OBTAINED FROM BEST AVAILABLE SOURCE AND MAY OR MAY NOT BE EITHER ACCURATE OR COMPLETE. CONTRACTOR SHALL VERIFY EXACT LOCATION OF EXISTING UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY, PUBLIC OR PRIVATE, SHOWN OR NOT SHOWN HEREON. CONTRACTOR SHALL VERIFY NEW TAP LOCATIONS AND SHALL CONNECT ALL UTILITIES TO NEAREST SOURCE THROUGH COORDINATION WITH UTILITY OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION AND REMOVAL OF ALL EXISTING VEGETATION, PAVEMENT, AND STRUCTURES NECESSARY TO COMPLETE THE WORK UNLESS NOTED ON THESE PLANS. CONTRACTOR SHALL REMOVE ALL TRASH FROM SITE UPON COMPLETION OF CONSTRUCTION. ANY SURFACES, LINES OR STRUCTURES WHICH HAVE BEEN DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO A CONDITION AT LEAST EQUAL TO THAT IN WHICH THEY WERE FOUND IMMEDIATELY PRIOR TO BEGINNING OF CONSTRUCTION.
- SEE OTHER DETAIL SHEETS OF THESE PLANS FOR ADDITIONAL DETAILS, REQUIREMENTS AND SPECIFICATIONS.
- ALL WORK SHALL BE IN ACCORDANCE WITH THE 1990 VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE TOWN PUBLIC WORKS SPECIFICATIONS, AND THESE PLANS.
- NEW PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH NOTE #4 ABOVE. ALL EXISTING PAVEMENT MARKINGS CONFLICTING WITH THE NEW IMPROVEMENTS SHALL BE REMOVED BY GRINDING OR BURNING.
- A MINIMUM OF ONE-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. CONTINUOUS TWO-WAY TRAFFIC WILL BE REQUIRED AT NIGHT, PEAK-HOURS, AND WHENEVER POSSIBLE DURING ACTUAL CONSTRUCTION ACTIVITIES. IF DEEMED NECESSARY BY THE OWNER, MUNICIPALITY OR ENGINEER, A UNIFORMED TRAFFIC CONTROL OFFICER SHALL DIRECT TRAFFIC DURING PEAK HOURS. TEMPORARY CONSTRUCTION SIGNS AND TRAFFIC CONTROL SIGNS SHALL BE ERECTED BY THE CONTRACTOR IN ACCORDANCE WITH STATE AND TOWN STANDARDS.
- THE CONTRACTOR SHALL BE RESPONSIBLE AT HIS OWN EXPENSE FOR ENSURING THAT THE DUST CREATED AS A RESULT OF CONSTRUCTION DOES NOT CREATE A HAZARD OR SAFETY HAZARD. WHEN AND WHEN DEEMED NECESSARY, THE CONTRACTOR SHALL BE REQUIRED TO WET SECTIONS OF THE CONSTRUCTION AREA WITH WATER, APPLY CALCIUM CHLORIDE, OR SNEED THE ROADWAY WITH A POWER BROOM FOR DUST CONTROL.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER 24 HOURS IN ADVANCE OF STARTING ANY WORK, CUTTING PAVEMENT, BEGINNING THE INSTALLATION OF ANY UTILITIES (BORING IN ANY NEW GRAVEL OR STONE FOR THE NEW BASE, PAVING, ALL TESTING, AND FINAL INSPECTION, IN ORDER TO ASSURE COMPLIANCE WITH THESE PLANS.
- PRIOR TO BEGINNING CONSTRUCTION, ALL MATERIALS SHALL BE APPROVED BY THE ENGINEER.
- ALL FILL SHALL BE PLACED IN 12 INCH LIFTS.
- THE SILT FENCES AND DITCHES SHALL BE MAINTAINED AND REPAIRED BY THE CONTRACTOR AFTER EVERY RAINFALL OR AS ORDERED BY THE ENGINEER UNTIL ALL DISTURBED AREAS HAVE BEEN PAVED OR GRASSED AND APPROVED BY THE ENGINEER. THE MAINTENANCE OF THE EROSION CONTROL DEVICES WILL INCLUDE THE REMOVAL OF ANY ACCUMULATED SEDIMENTATION.
- THIS DESIGN MUST BE INSPECTED BY O'LEARY-BURKE CIVIL ASSOCIATES, P.C. PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE AND LIABLE FOR PROBLEMS THAT ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT THAT THE PLANS CONVEY, AND FROM FAILURE TO HAVE BEEN NOTIFIED BY THE CONTRACTOR TO INSPECT THE WORKS AND TESTS IN PROGRESS.
- ALL SLOPES, DITCHES AND DISTURBED AREAS SHALL BE GRADED SMOOTH, CLEAN AND FREE OF POCKETS WITH SUFFICIENT SLOPE TO ENSURE DRAINAGE.



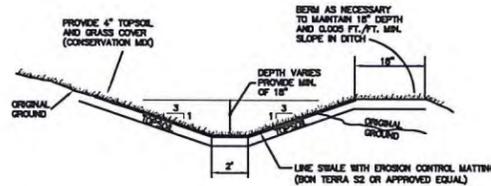
PUBLIC ROAD CROSS-SECTION
NTS



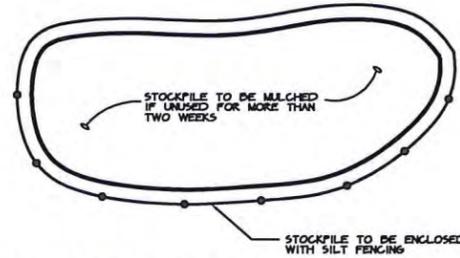
DRIVEWAY DETAIL
NTS



STORM SPREADER/OUTFALL DETAIL
NTS



GRASSED DRAINAGE DITCH
NTS

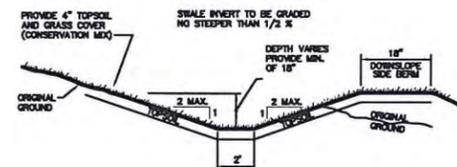


TEMPORARY TOPSOIL STOCKPILE
NTS

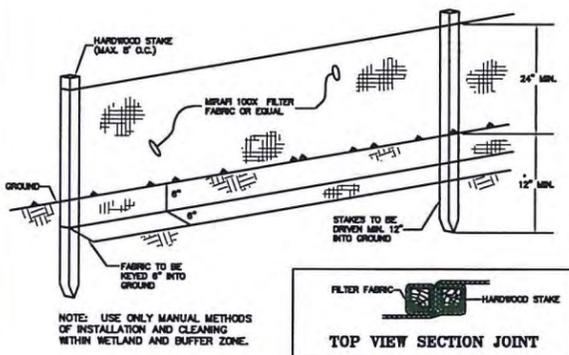
INSPECTION SCHEDULE	FREQUENCY OF VISITS	QUALITY OF WORK, PAVING AREAS	STATUS EACH SYSTEM (CONSTRUCTION, MAINTENANCE, CLEANUP FROM SITE)
INSPECT SILT FENCES	X	X	X
INSPECT CONSTRUCTION FENCE	X	X	X
INSPECT CATCH BASIN INLET PROTECTION	X	X	X
INSPECT AREAS TEMPORARILY MULCHED	X	X	X
INSPECT TEMPORARY STOCKPILES	X	X	X
INSPECT STABILIZED CONSTRUCTION ENTRANCES	X	X	X
INSPECT AREAS THAT HAVE BEEN TOPSOILED + MULCHED	X	X	X
INSPECT STORMWATER PONDS AND SEDIMENT TRAPS	X	X	X

GRADATION REQUIREMENTS

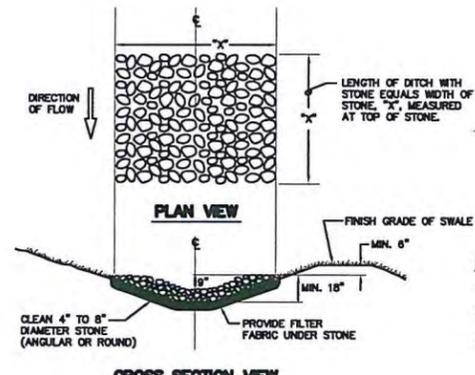
MATERIAL	SIEVE SIZE	PERCENT (%) PASSING
SAND CUSHION - VT SPEC 703.03	2"	100 %
	1 1/2"	80-100 %
	1"	70-100 %
	#4	60-100 %
	#100	0-20 %
GRAVEL FOR SUBBASE - VT SPEC 704.04	#4	20-60 %
	#100	0-12 %
	#200	0-8%
CRUSHED GRAVEL SURFACE COURSE TOWN SPEC	1 1/2"	100 %
	1"	80-100 %
	#4	40-60 %
	#200	7-10 %
	#100	0-8%
DENSE GRADED CRUSHED STONE VT SPEC 704.08	3 1/2"	100 %
	3"	80-100%
	2"	70-100%
	1"	30-60%
	1/2"	30-60%
	#4	15-40%
#200	0-8 %	



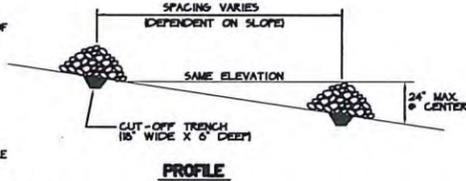
GRASSED CHANNEL
NTS



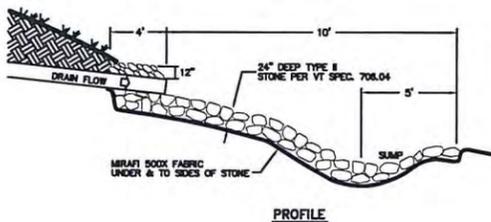
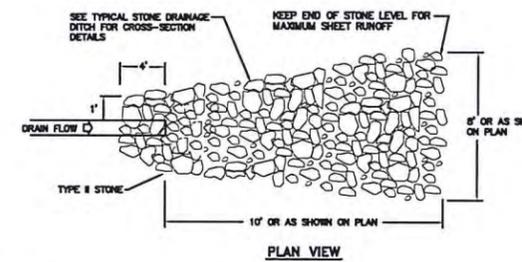
TEMPORARY SILT FENCE
NTS



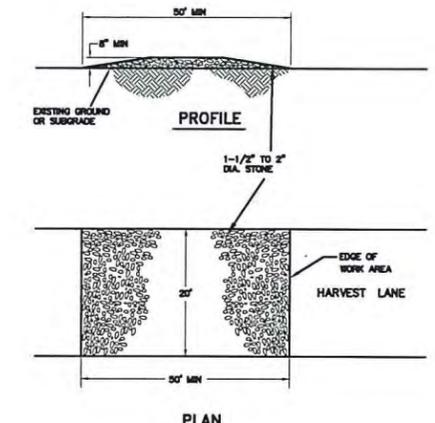
STONE CHECK DAM
NTS



STORM OUTFALL DETAIL
NTS

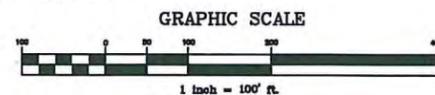


STABILIZED CONSTRUCTION ENTRANCE
NTS



- NOTES:
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT TRACKED, SPILED, OR WASHED ONTO PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
 - THE USE OF CALCIUM CHLORIDE OR WATER MAY BE NECESSARY TO CONTROL DUST DURING DRY PERIODS.
 - PROVIDE APPROPRIATE TRANSITION BETWEEN CONSTRUCTION ENTRANCE AND EDGE OF RIGHT-OF-WAY.

- NOTES:
- STONE DAMS SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON THE PLANS.
 - SWALES SHALL BE SEEDED & MULCHED (IF GRASS-LINED) PRIOR TO THE INSTALLATION OF THE STONE FILTERS.
 - THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING CLOGGING / SILTATION OF THE STONE DAM DURING AND IMMEDIATELY AFTER CONSTRUCTION UNTIL THE PROJECT'S PERMANENT EROSION CONTROLS ARE IN PLACE (VEGETATION ESTABLISHED, ETC.) AND THE PROJECT HAS BEEN ACCEPTED BY THE OWNER. IF NECESSARY THE STONE SHALL BE CLEANED AND REPLACED.

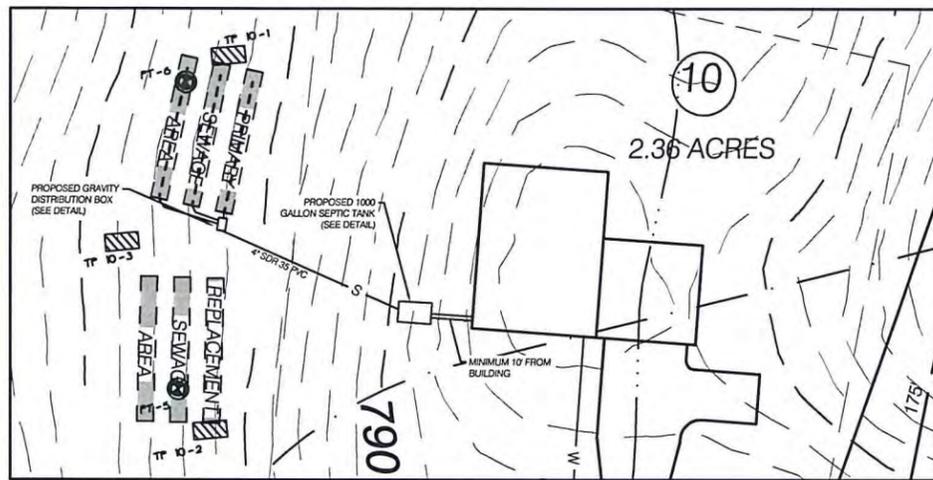


DATE 2-10-2018	REVISION RECORD DRAWING	DATE 2-10-2018
BY HLS/PJG	PREPARED BY HLS	DATE 2-10-2018
CHECKED BY PJG	DESIGNED BY PJG	DATE 2-10-2018
APPROVED BY SHOWN	PROJECT NO. 5477	DATE 2-10-2018

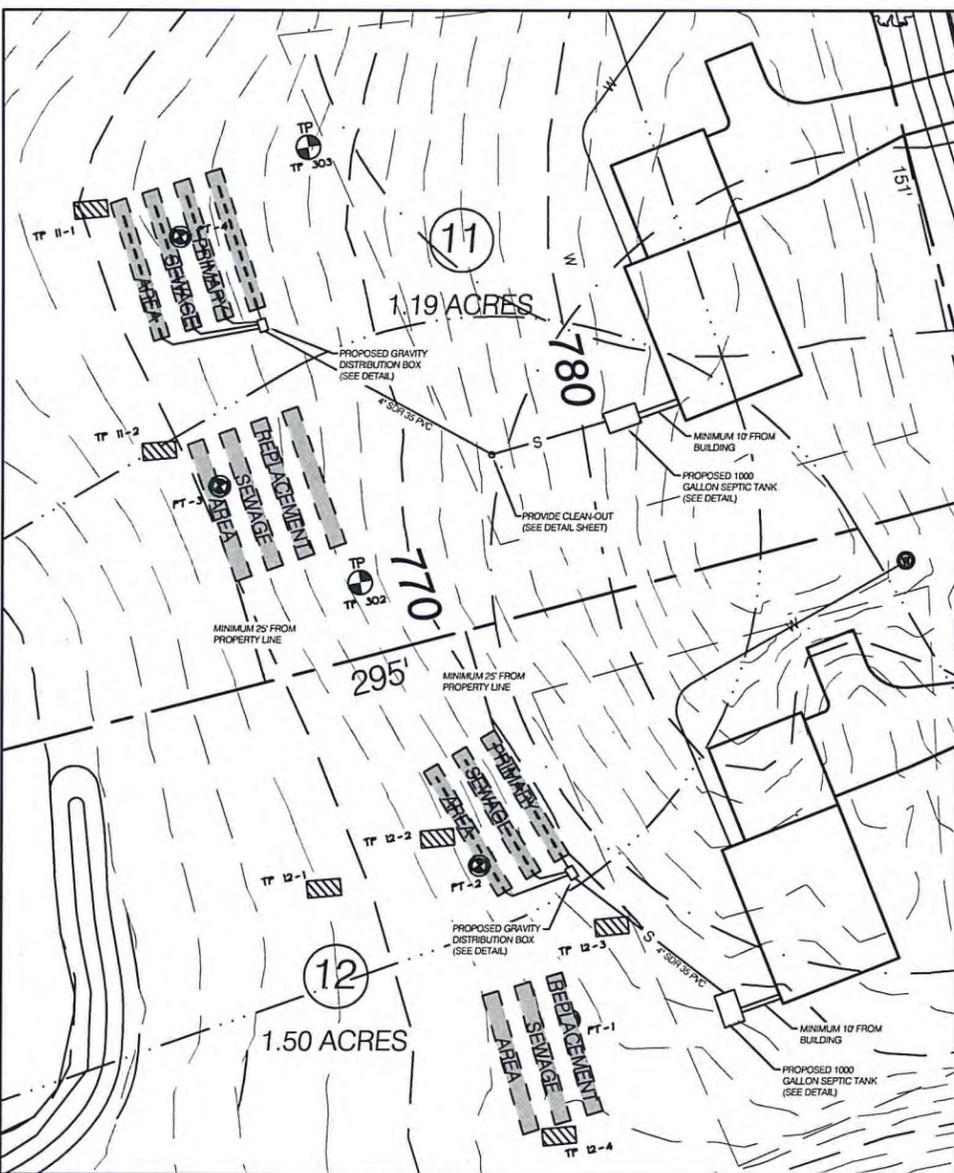
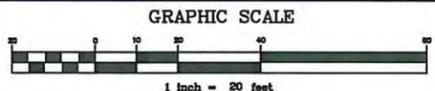
O'LEARY-BURKE CIVIL ASSOCIATES, P.C.
13 CORPORATE DRIVE
ESSEX, VT
PHONE: 878-9990
FAX: 878-9999
E-MAIL: ocb@olearyburke.com

LANDS OF PHILIP JACOBS
16 HARVEST LANE - UNDERHILL, VT
ROADWAY AND EROSION CONTROL DETAILS

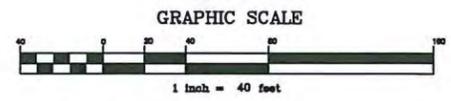
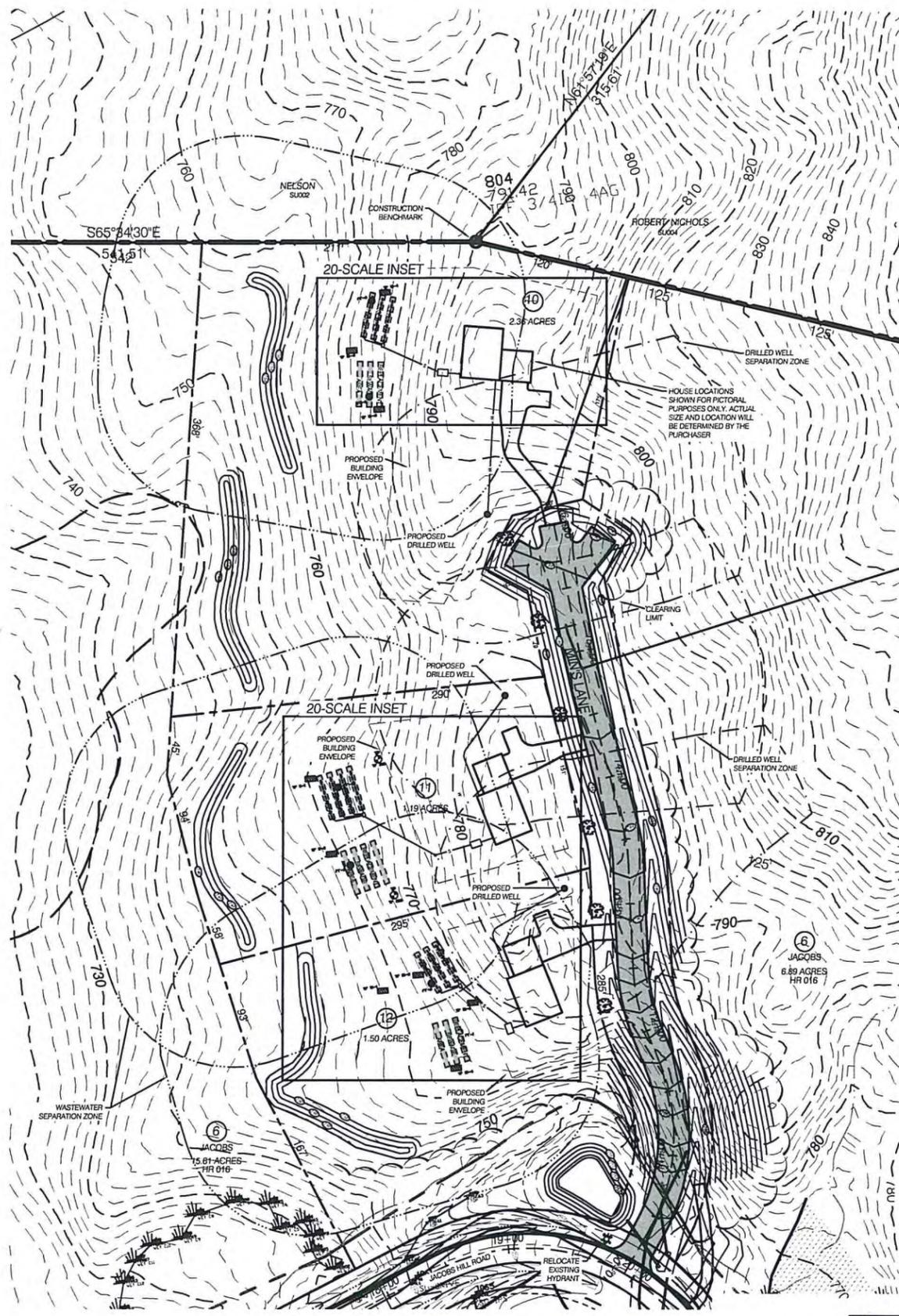
PLAN SHEET # **4**



20 SCALE INSETS



12
1.50 ACRES



LEGEND	
	PROJECT BOUNDARY
	ABUTTING PROPERTY LINE
	SIDELINE OF EASEMENT
	PROPOSED LOT LINE
	UNDISTURBED BUFFER
	STREAM SETBACK
	EDGE OF CLASS THREE WETLAND
	USGS CONTOUR
	FINISH GRADE CONTOUR
	STREAM
	PROPOSED SEWERLINE
	DRILLED WELL SEPARATION ZONE
	PROPOSED DRILLED WELL
	PERCOLATION TEST
	TEST PIT

OWNER AND APPLICANT:
 JACOBS HILL ASSOCIATION
 C/O PHILIP JACOBS
 73 UPPER ENGLISH SETTLEMENT ROAD
 UNDERHILL, VT 05489



DATE: 9-9-16	REVISION: REVISIONS PER TOWN OF UNDERHILL STAFF REVIEW	BY: PJO
SURVEY: <input type="checkbox"/> RECORD DRAWING <input type="checkbox"/> PRELIMINARY	DATE: 6-26-16	DATE: 6-26-16
DESIGN: <input type="checkbox"/> FINAL <input type="checkbox"/> SKETCH/CONCEPT	PROJECT: LANDS OF PHILIP JACOBS	PROJECT: LANDS OF PHILIP JACOBS
SEC./P.L.O.:	ADDRESS: 16 HARVEST LANE - UNDERHILL, VT	PROJECT: LANDS OF PHILIP JACOBS
TOWN:	PROJECT: WATER AND WASTEWATER PLAN	PROJECT: LANDS OF PHILIP JACOBS
SEC.:	PROJECT: WATER AND WASTEWATER PLAN	PROJECT: LANDS OF PHILIP JACOBS
SCALE:	PROJECT: WATER AND WASTEWATER PLAN	PROJECT: LANDS OF PHILIP JACOBS
VARIES:	PROJECT: WATER AND WASTEWATER PLAN	PROJECT: LANDS OF PHILIP JACOBS

STAKE-OUT REQUIREMENTS

- THE SEWAGE SYSTEM LOCATIONS SHALL BE STAKED OR VERIFIED BY O'LEARY-BURKE CIVIL ASSOCIATES, P.L.C. PRIOR TO CONSTRUCTION.

GENERAL SPECIFICATIONS

- UTILITIES INFORMATION SHOWN ON THIS PLAN WAS OBTAINED FROM AVAILABLE SOURCES AND MAY OR MAY NOT BE OTHER ACCURATE OR COMPLETE. THE CONTRACTOR SHALL VERIFY EXACT LOCATION OF EXISTING UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY, PUBLIC OR PRIVATE, SHOWN OR NOT SHOWN ON THIS PLAN.
- PRIOR TO CONSTRUCTION, ALL MATERIALS, INCLUDING STONE SHALL BE APPROVED BY THE ENGINEER.
- ALL FILL AROUND THE STRUCTURES SHALL BE PLACED IN 12" LIFTS AND THOROUGHLY COMPACTED TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT.

CONSTRUCTION SPECIFICATIONS

- THE OULET PIPE FROM THE SEPTIC TANK TO THE DISTRIBUTION BOX SHALL BE 4" SDR 35 PVC AT A MINIMUM SLOPE OF 1/8" / FT. THE PIPE SHALL BE LAID ON UNDISTURBED GROUND OR PROPERLY BEDDED.
- A DISTRIBUTION BOX SHALL BE INSTALLED BETWEEN THE SEPTIC TANK OR PUMP STATION IF APPLICABLE AND THE ABSORPTION TRENCHES. THE DISTRIBUTION BOX SHALL BE SET LEVEL ON UNDISTURBED GROUND TO EVENLY DISTRIBUTE THE EFFLUENT TO EACH DISTRIBUTION LINE. ADEQUATE PROVISIONS SHALL BE TAKEN TO ASSURE THE STABILITY AND ACCESSIBILITY OF THE DISTRIBUTION BOX FOR INSPECTIONS. LEVELNESS OF THE DISTRIBUTION BOX SHALL BE WITNESSED BY THE ENGINEER & AN AUTHORIZED TOWN REPRESENTATIVE.
- EACH DISTRIBUTION LINE SHALL CONNECT INDIVIDUALLY TO THE DISTRIBUTION BOX AND EXIT AT THE SAME SLOPE FOR THE FIRST 5 FEET TO 10 FEET. THE PIPES CONNECTING THE DISTRIBUTION BOX TO THE DISTRIBUTION LINES SHALL BE WATER-TIGHT AND LAID ON UNDISTURBED GROUND OR PROPERLY BEDDED.
- WHEN THE TRENCHES HAVE BEEN EXCAVATED, THE SIDES AND BOTTOM SHALL BE BANKED TO LOCKEN ANY SHEARED SOIL SURFACES.
- CONSTRUCTION EQUIPMENT SHALL BE KEPT OFF THE AREA TO BE USED FOR SEWAGE DISPOSAL AS MUCH AS POSSIBLE TO PREVENT COMPACTION OF THE SOILS.
- PLACEMENT OF CRUSHED STONE IN THE TRENCHES SHALL BE INITIATED IMMEDIATELY AFTER TRENCH EXCAVATION IS COMPLETED. THIS WILL REQUIRE THAT THE ENGINEER & AUTHORIZED TOWN INSPECTOR BE PRESENT AT THE TIME OF COMPLETION OF TRENCH EXCAVATION (SEE INSPECTION SPECIFICATIONS).
- 12" OF CLEAN CRUSHED STONE (3/4" TO 1-1/2" INCHES) SHALL BE PLACED IN THE BOTTOM OF THE TRENCHES IN ACCORDANCE WITH THE PLANS. THE DISTRIBUTION LINE SHALL BE CAREFULLY PLACED ON THE BEDDING AT A UNIFORM SLOPE (1/8" INCH PER 10 FEET) AND COVERED WITH AT LEAST 2 INCHES OF STONE. THE ENDS OF THE DISTRIBUTION LINES SHALL BE CAPPED.
- THE GRADING SHALL DIRECT RUN-OFF AWAY FROM THE SEPTIC SYSTEM AREAS AND BE SMOOTH AND FREE OF POCKETS WITH SUFFICIENT SLOPE TO ENSURE DRAINAGE.

INSPECTION REQUIREMENTS

- THE CONTRACTOR SHALL NOTIFY THE ENGINEER & AUTHORIZED TOWN INSPECTOR A MINIMUM OF 24 HOURS IN ADVANCE FOR INSPECTION OF THE BOTTOM OF THE TRENCHES PRIOR TO PLACEMENT OF STONE AND PIPING.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER & AUTHORIZED TOWN INSPECTOR A MINIMUM OF 24 HOURS IN ADVANCE FOR INSPECTION OF THE SYSTEM PRIOR TO BACKFILLING, INCLUDING THE DISTRIBUTION BOX (LEAKAGE CHECK) & SEPTIC TANK.
- LOTS REQUIRING PUMP STATIONS: WITNESSING OF PUMP ON, OFF AND ALARM OPERATION. CHECK OF PUMPING RATE AND EMERGENCY STORAGE VOLUME.
- THIS DESIGN MUST BE INSPECTED BY O'LEARY-BURKE CIVIL ASSOCIATES, P.L.C. ESSEX JUNCTION, VERMONT TO ENSURE COMPLIANCE WITH THESE PLANS. O'LEARY-BURKE CIVIL ASSOCIATES WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS THAT ARISE FROM FAILURE TO FOLLOW FAILURE TO FOLLOW SPECIFICATIONS, AND THE DESIGN INTENT THAT THE PLANS CONVEY, AND FROM FAILURE TO HAVE BEEN NOTIFIED BY THE CONTRACTOR FOR INSPECTIONS.

OPERATION + MAINTENANCE RECOMMENDATIONS

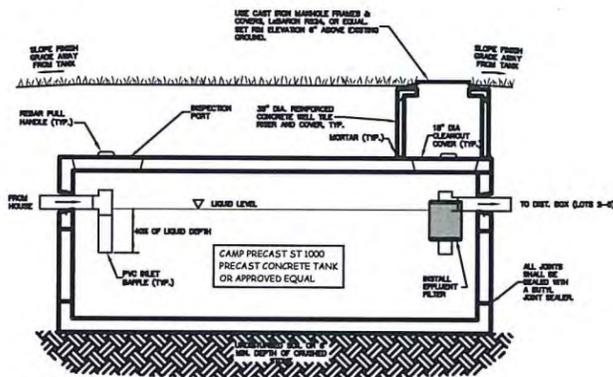
- THE SEPTIC TANK'S PURPOSE IS TO SETTLE OUT SOLIDS, CONTAIN THE SOIL AND PASS TREATED EFFLUENT. BACTERIA WITHIN THE SEPTIC TANK HELPS DECOMPOSE THE SOLIDS. SHOULD ANY SOLIDS PASS THROUGH THE SEPTIC TANK INTO THE SYSTEM, PRELATIVE CLOSING OF THE PIPING, STONE OR NATIVE SOIL BENEATH THE SYSTEM IS LIKELY TO OCCUR. ONLY HUMAN WASTES SHOULD ENTER THE SEWAGE SYSTEM. WATER USE SHOULD BE CONSERVATIVE AND CLEANING AGENTS CAN NOT ENTER THE SYSTEM, AS THEY KILL BACTERIA.
- THE STATE FLOW FIGURES OF 150 GAL/DAY/BEDROOM ARE BASED ON SHORT TERM PEAK USE PERIODS (E. DAILY EVENTS). ACTUAL FLOWS FOR A 4 BEDROOM HOME SHOULD AVERAGE 175 - 225 GALLONS PER DAY.
- ONCE PER YEAR, THE DEPTH OF SOIL AND SLUDGE IN THE SEPTIC TANK SHOULD BE MEASURED AND THE TANK SHALL BE PUMPED IF:
 - THE SLUDGE LEVEL IS WITHIN 12 INCHES OF THE BOTTOM OF THE
 - THE SOIL LAYER IS WITHIN 3 INCHES OF THE TOP OF THE OULET
 - IF A OR B IS ANTICIPATED TO OCCUR PRIOR TO THE NEXT INSPECTION.
 - IN ANY CASE, THE TANK SHALL BE PUMPED AT A MAXIMUM 5 YEAR INTERVAL.
- ONCE A YEAR, THE DISTRIBUTION BOX SHOULD BE INSPECTED AND ANY SETTLED SOLIDS REMOVED.
- ONCE A YEAR, THE PUMP CHAMBER, IF ANY SHALL BE INSPECTED AND ANY SETTLED SOLIDS REMOVED AND FLOATS SHALL BE CHECKED FOR PROPER OPERATION.
- ABOVE ITEMS 1 - 5 ARE INTENDED TO PROLONG THE LIFE OF THE SYSTEM, NOT GUARANTEE IT. A PROPERLY OPERATED & MAINTAINED SYSTEM GENERALLY FUNCTIONS PROPERLY FOR 8 - 25 YEARS.

SEWAGE DESIGN INFORMATION

- IT IS THE OPINION OF THE ENGINEER THAT THE SOIL CONDITIONS WITHIN THE PROPOSED SEWAGE DISPOSAL AREAS MEET THE STATE OF VERMONT ZPW RULES & ARE SUITABLE FOR CONVENTIONAL SUBSURFACE SEWAGE DISPOSAL AS SHOWN ON THIS PLAN & ALSO SHEETS 1 & 2.
- THE SEWAGE DISPOSAL SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TOWN OF UNDERHILL HEALTH REGULATIONS AND THE VERMONT ENVIRONMENTAL PROTECTION RULES.
- THE FOLLOWING MINIMUM ISOLATION DISTANCES SHALL BE MAINTAINED FROM THE DISPOSAL AREA TO:

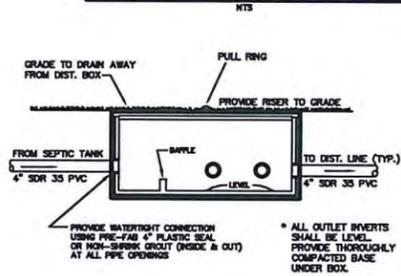
DRILLED WELL (DOWNSLOPE)	200 FEET
DRILLED WELL (UP-SLOPE)	100 FEET
WATER MAIN	50 FEET
WATER SERVICE	25 FEET
PROPERTY LINE	25 FEET (UNLESS EASEMENT PROVIDED)
BUILDING FOOTING DRAIN SLOPE OR SIDESLOPE	25 FEET
BUILDING (WITH FOOTING DRAIN) DOWNSLOPE	75 FEET
DRIVEWAYS	10 FEET
TREES	10 FEET
- BASIS OF DESIGN (INDIVIDUAL 4 BEDROOM SYSTEMS):

NO. OF BEDROOMS	4
DESIGN FLOW (140 GPD / 3 BDR; 70 GPD / 4 BDR)	490 GPD
PERCOLATION RATE	SEE TABLE A
LOADING RATE, Q (TRENCHES)	SEE TABLE A
ABSORPTION AREA REQUIRED	SEE TABLE A
- SEPTIC TANK:
 - EACH LOT SHALL USE A 1,000 GALLON PRECAST CONCRETE SEPTIC TANK WITH PVC BAFFLES & OULET FILTER. CAMP PRECAST OR APPROVED EQUAL WITH COVER TO GRADE; 4,000 PSI CONCRETE; WATERPROOF JOINTS AND SET ON THOROUGHLY COMPACTED SUB-BASE.
 - THE USE OF GARBAGE DISPOSALS IS NOT RECOMMENDED BUT SHOULD ONE BE USED THE SEPTIC TANK SHOULD BE INCREASED BY ONE SIZE TO 1,250 GALLONS.
- MISC.:
 - IF A WATER TREATMENT SYSTEM IS GOING TO BE USED THE BACKWASH WATER MAY NOT DISCHARGE INTO THE DISPOSAL SYSTEM.



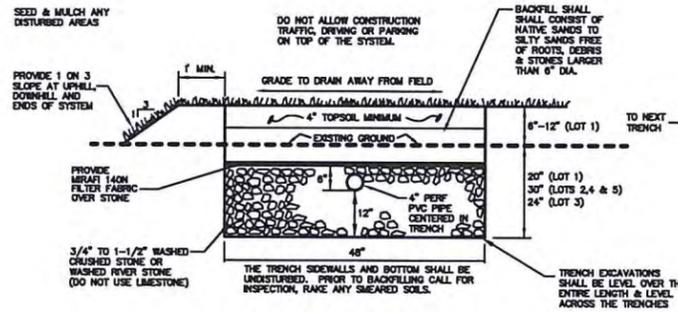
- NOTES:
- NOTED JOINT SEALED WITH BUTYL RUBBER.
 - EXCAVATION MUST BE AT LEAST 18" DEEP AND LONGER THAN TANK SIZE.
 - PROVIDE WATER-TIGHT CONNECTIONS USING PRE-FAB 4" PLASTIC SEAL OR NON-SHREK GROUT (INSIDE & OUT) AT ALL PIPE OPENINGS.
 - EXTERNALLY COAT CONCRETE SEPTIC TANK WITH TWO COATS OF A STURDY WATERPROOFING. THE TANK SHALL BE LEAKAGE TESTED PRIOR TO BACKFILLING.

CONCRETE SEPTIC TANK



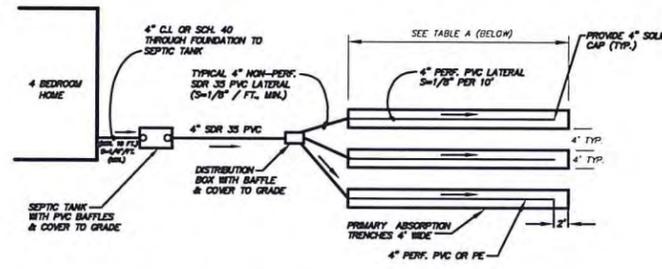
GRAVITY DISTRIBUTION BOX (LOTS 2-5)

NTS



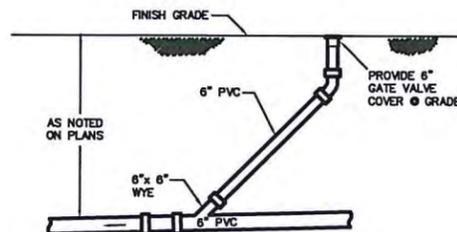
TYPICAL ABSORPTION TRENCH

NTS



TYPICAL SEWAGE DISPOSAL SYSTEM LAYOUT (LOTS 2-5)

NTS



- NOTES:
- REQUIRED IF HOUSE SERVICE EXCEEDS 100 LF (PROVIDE) AT MAX. 100' INTERVALS OR WHERE THERE ARE CHANGES IN DIRECTION OR SLOPE.

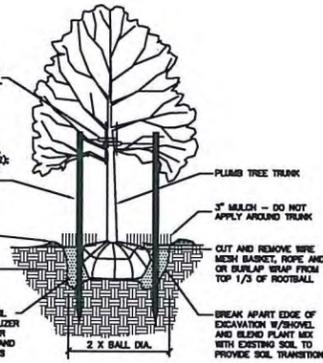
CLEANOUT DETAIL (LOT 5)

NTS

LANDSCAPING SPECIFICATIONS

ALL DISTURBED AREAS SHALL BE STABILIZED WITH SEEDING AND MULCHING PRIOR TO OCTOBER 15 OF EACH YEAR. PREFERABLY BY SEPTEMBER 15. DISTURBED AREAS THAT WILL NOT BE WORKED WITHIN A MONTH OF DISTURBANCE ARE TO BE TEMPORARILY SEEDED AND MULCHED. FINISHED AREAS ARE TO RECEIVE A MINIMUM OF 4" OF TOPSOIL AND BE FERTILIZED, LIMED AND MULCHED IN ACCORDANCE WITH THE FOLLOWING:

- SEED MIXTURE IN ALL AREAS SHALL BE URBAN MIX CONFORMING TO THE TABLE SHOWN ON THE PLANS. FOR TEMPORARY SEEDING, WINTER RYE SHALL BE USED AT AN APPLICATION RATE OF 100 POUNDS PER ACRE.
- FERTILIZER SHALL BE STANDARD COMMERCIAL GRADE CONFORMING TO THE STATE FERTILIZER LAW AND TO THE STANDARDS OF THE ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS. DRY FERTILIZER, IF USED, SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE. LIQUID FERTILIZER, IF USED, SHALL BE APPLIED IN A 1-2-1 RATIO WITH THE MINIMUM RATE TO INCLUDE 100 POUNDS OF NITROGEN, 200 POUNDS OF PHOSPHATE, AND 100 POUNDS OF POTASH PER ACRE.
- LIMESTONE SHALL CONFORM TO ALL STATE AND FEDERAL REGULATIONS AND TO THE STANDARDS OF THE ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS. THE LIMESTONE SHALL BE APPLIED AT A RATE OF TWO TONS PER ACRE OR AS DIRECTED.
- WITHIN 24 HOURS OF APPLICATION OF FERTILIZER, LIME AND SEED, THE SURFACE SHALL BE MULCHED WITH A HAY MULCH. MULCH SHALL BE SPREAD UNIFORMLY OVER THE AREA AT A RATE OF TWO TONS PER ACRE OR AS ORDERED BY THE ENGINEER.



- 2 STRAND TRISTED 12 GAUGE GAL. WIRE ENCASED IN 1" DIA. RUBBER HOSE
- (2 TO 3) 2" x 2" HANDWOOD STAVES DRIVEN (MIN. 18") FIRMLY INTO SUB-GRADE PRIOR TO BACKFILLING. WHEN REQUIRED (SEE NOTE #2), STAVES ABOVE FIRST BRANCHED OR AS NECESSARY FOR FIRM SUPPORT. STAVES SHALL BE CAPABLE OF STANDING FIRM FOR AT LEAST ONE YEAR.
- FORM 4" SAUCER
- UNDISTURBED SOIL
- BACKFILL WITH EXCAVATED SOIL AMENDED WITH 5-10-5 FERTILIZER AT A RATE OF 10 POUNDS PER CUBIC YARD OF SOIL. WATER AND TAMP TO REMOVE AIR POCKETS
- BREAK APART EDGE OF EXCAVATION & SHRED AND BLEND PLANT MIX WITH EXISTING SOIL TO PROVIDE SOIL TRANSITION

- NOTE:
- PLANT TREE SO THAT TOP OF ROOT BALL IS EVEN WITH THE FINISHED GRADE.
 - STAKING AS REQUIRED ONLY IN SITUATIONS WHERE TREES WILL BE SUBJECTED TO WINDY CONDITIONS AS DETERMINED BY THE PROJECT LANDSCAPE ARCHITECT.
 - TREES SHALL BE GUARANTEED FOR A PERIOD OF TWO YEARS AFTER PLANTING.
 - EXAMINE ENTIRE TREE AND REMOVE ALL NURSERY TAGS, ROPE, STRING AND SURVEYOR TAPE PRIOR TO PLANTING TO PREVENT GROUNDING.

TREE PLANTING

NTS

URBAN MIX GRASS SEED		
LBS. LIVE SEED PER ACRE	TYPE OF SEED	
35	45.5	CREeping REED PESCUE
35	45.5	KENTUCKY BLUEGRASS
24	21	ANNUAL RYEGRASS
100	120+	LIVE SEED PER ACRE



DATE REVISION	<input type="checkbox"/> RECORD DRAWING <input type="checkbox"/> FINAL <input type="checkbox"/> PRELIMINARY <input type="checkbox"/> SKETCH/CONCEPT	#1 DATE 5-10-2018 PROJ 5108 REV 5105-FINAL PLAN SHEET # 6
O'LEARY-BURKE CIVIL ASSOCIATES, P.L.C. 13 CORPORATE DRIVE ESSEX, VT. 05730 PHONE: 878-8800 FAX: 878-8801 EMAIL: ocb@olearyburke.com	LANDS OF PHILIP JACOBS 16 HARVEST LANE - UNDERHILL, VT SEWAGE DISPOSAL and LANDSCAPING DETAILS	

THE CONTRACTOR SHALL NOTIFY "DIGSAFE" AT 1-888-DIG-SAFE PRIOR TO ANY EXCAVATION.

STAKE-OUT REQUIREMENTS

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GENERAL SPECIFICATIONS

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- PRIOR TO CONSTRUCTION, ALL MATERIALS, INCLUDING STONE SHALL BE APPROVED BY THE ENGINEER.
- ALL FILL AROUND THE STRUCTURES SHALL BE PLACED IN 12" LIFTS AND THOROUGHLY COMPACTED TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT.

CONSTRUCTION SPECIFICATIONS

- THE OULET PIPE FROM THE SEPTIC TANK TO THE DISTRIBUTION BOX SHALL BE 4" SDR 35 PVC, AT A MINIMUM SLOPE OF 1/8" / FT. THE PIPE SHALL BE LAID ON UNDISTURBED GROUND OR PROPERLY BEDDED.
- A DISTRIBUTION BOX SHALL BE INSTALLED BETWEEN THE SEPTIC TANK OR PUMP STATION, IF APPLICABLE AND THE ABSORPTION TRENCHES. THE DISTRIBUTION BOX SHALL BE SET LEVEL, ON UNDISTURBED GROUND TO EVENLY DISTRIBUTE THE EFFLUENT TO EACH DISTRIBUTION LINE. ADEQUATE PROVISIONS SHALL BE TAKEN TO ASSURE THE STABILITY AND ACCESSIBILITY OF THE DISTRIBUTION BOX FOR INSPECTIONS. LEVELNESS OF THE DISTRIBUTION BOX SHALL BE WITNESSED BY THE ENGINEER & AN AUTHORIZED TOWN REPRESENTATIVE.
- EACH DISTRIBUTION LINE SHALL CONNECT INDIVIDUALLY TO THE DISTRIBUTION BOX AND EXIT AT THE SAME SLOPE FOR THE FIRST 5 FEET TO 10 FEET. THE PIPE CONNECTING THE DISTRIBUTION BOX TO THE DISTRIBUTION LINES SHALL BE WATER TIGHT AND LAID ON UNDISTURBED GROUND OR PROPERLY BEDDED.
- WHEN THE TRENCHES HAVE BEEN EXCAVATED, THE SIDES AND BOTTOM SHALL BE RAKED TO LOOSEN ANY SMEARED SOIL SURFACES.
- CONSTRUCTION EQUIPMENT SHALL BE KEPT OFF THE AREA TO BE USED FOR SEWAGE DISPOSAL AS MUCH AS POSSIBLE TO PREVENT COMPACTION OF THE SOILS.
- PLACEMENT OF CRUSHED STONE IN THE TRENCHES SHALL BE INITIATED IMMEDIATELY AFTER TRENCH EXCAVATION IS COMPLETED. THIS WILL REQUIRE THAT THE ENGINEER & AUTHORIZED TOWN INSPECTOR BE PRESENT AT THE TIME OF COMPLETION OF TRENCH EXCAVATION (SEE INSPECTION SPECIFICATIONS).
- 12" OF CLEAN CRUSHED STONE (3/4" TO 1-1/2" INCHES) SHALL BE PLACED IN THE BOTTOM OF THE TRENCHES IN ACCORDANCE WITH THE PLANS. THE DISTRIBUTION LINE SHALL BE CAREFULLY PLACED ON THE BEDDING AT A UNIFORM SLOPE (1/8" INCH PER 10 FEET) AND COVERED WITH AT LEAST 2 INCHES OF STONE. THE ENDS OF THE DISTRIBUTION LINES SHALL BE CAPPED.
- THE GRADING SHALL DIRECT RUN-OFF AWAY FROM THE SEPTIC SYSTEM AREAS AND BE SMOOTH AND FREE OF POCKETS WITH SUFFICIENT SLOPE TO ENSURE DRAINAGE.

SEWAGE DESIGN INFORMATION

IT IS THE OPINION OF THE ENGINEER THAT THE SOIL CONDITIONS WITHIN THE PROPOSED SEWAGE DISPOSAL AREAS MEET THE STATE OF VERMONT EPR RULES & ARE SUITABLE FOR CONVENTIONAL SUBSURFACE SEWAGE DISPOSAL AS SHOWN ON THIS PLAN & ALSO SHEETS 1 & 2.

THE SEWAGE DISPOSAL SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TOWN OF UNDERHILL HEALTH REGULATIONS AND THE VERMONT ENVIRONMENTAL PROTECTION RULES.

THE FOLLOWING MINIMUM ISOLATION DISTANCES SHALL BE MAINTAINED FROM THE DISPOSAL AREA TO:

DRILLED WELL (DOWNSLOPE)	200 FEET
DRILLED WELL (UPSLOPE)	100 FEET
WATER MAIN	50 FEET
WATER SERVICE	25 FEET
PROPERTY LINE	25 FEET (UNLESS EASEMENT PROVIDED)
BUILDING FOOTING DRAIN UPSLOPE OR DOWNSLOPE	25 FEET
BUILDING (WITH FOOTING DRAIN) DOWNSLOPE	75 FEET
DRIVEWAYS	10 FEET
TREES	10 FEET

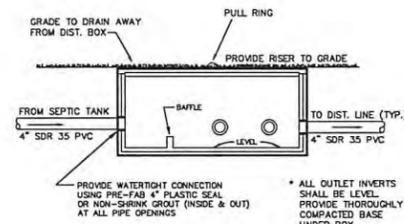
BASIS OF DESIGN (INDIVIDUAL 4 BEDROOM SYSTEMS):

NO. OF BEDROOMS	4
DESIGN FLOW (140 GPD / 3 BDRM; 70 GPD / 4TH)	490 GPD
PERCOLATION RATE	SEE TABLE A
LOADING RATE, Q (TRENCHES)	SEE TABLE A
ABSORPTION AREA REQUIRED	SEE TABLE A

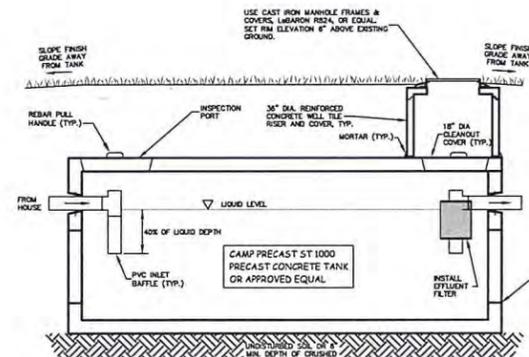
SEPTIC TANK:

- EACH LOT SHALL USE A 1,000 GALLON PRECAST CONCRETE SEPTIC TANK WITH PVC BAFFLES & OUTLET FILTER. CAMP PRECAST OR APPROVED EQUAL WITH COVER TO GRADE, 4,000 PSI CONCRETE; WATERPROOF JOINTS AND SET ON THOROUGHLY COMPACTED SUB-BASE.
- THE USE OF CARBAGE DISPOSALS IS NOT RECOMMENDED BUT SHOULD ONE BE USED THE SEPTIC TANK SHOULD BE INCREASED BY ONE SIZE TO 1,250 GALLONS.

MISC.:
A. IF A WATER TREATMENT SYSTEM IS GOING TO BE USED THE BACKWASH WATER MAY NOT DISCHARGE INTO THE DISPOSAL SYSTEM.



GRAVITY DISTRIBUTION BOX (ALL LOTS)



CONCRETE SEPTIC TANK

PERCOLATION TEST RESULTS

PERCOLATION TESTS PERFORMED BY SEC AND MPO ON 6/14/16

TEST NUMBER	TEST LOCATION	TEST DEPTH (INCHES)	PERCOLATION RATE (MINUTES/INCH)
1	12	30"	0.6 MN/INCH
2	12	30"	1.5 MN/INCH
3	11	30"	7.8 MN/INCH
4	11	30"	1.9 MN/INCH
5	10	30"	0.9 MN/INCH
6	10	30"	1.7 MN/INCH

TABLE A - SEWAGE SYSTEM INFORMATION

LOT #	PERC. RATE (MIN/INCH)	LOADING RATE (GAL/24HRS)	REQUIRED ABSORPTION AREA (SQ)	PROPOSED SYSTEM	PROPOSED ABSORPTION AREA (SQ)	DEPTH OF SYSTEM (MAX.)	PROPOSED SEPARATION TO GROUNDWATER (36" REQUIRED)
12	1.5	1.5	327	(4) 4' x 35'	560	24"	60" - 24" = 36"
11	7.8	1.07	458	(4) 4' x 35'	360	30"	> 70" - 30" = > 40"
10	1.7	1.5	327	(3) 4' x 35'	420	30"	> 66" - 30" = > 36"

OPERATION + MAINTENANCE RECOMMENDATIONS

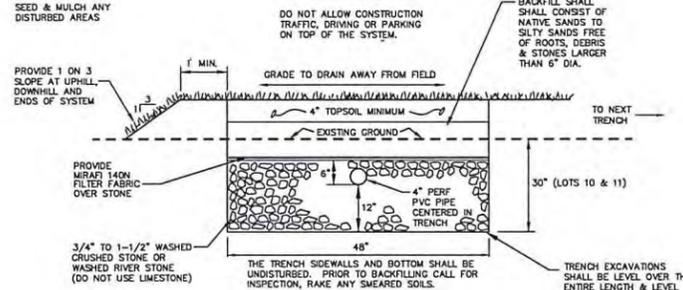
- THE SEPTIC TANK'S PURPOSE IS TO SETTLE OUT SOLIDS, CONTAIN THE SCUM AND PASS TREATED EFFLUENT. BACTERIA WITHIN THE SEPTIC TANK HELPS DECOMPOSE THE SOLIDS. SHOULD ANY SOLIDS PASS THROUGH THE SEPTIC TANK INTO THE SYSTEM, PREMATURE CLOGGING OF THE PIPING, STONE OR NATIVE SOIL BENEATH THE SYSTEM IS LIKELY TO OCCUR. ONLY HUMAN WASTES SHOULD ENTER THE SEWAGE SYSTEM. WATER USE SHOULD BE CONSERVATIVE AND CLEANING AGENTS CAN NOT SYSTEM, AS THEY KILL BACTERIA.
- THE STATE FLOW FIGURES OF 150 GAL/DAY/BEDROOM ARE BASED ON SHORT TERM PEAK USE PERIODS (I.E. DAILY EVENTS). ACTUAL FLOWS FOR A 4 BEDROOM HOME SHOULD AVERAGE 175 - 225 GALLONS PER DAY.
- ONCE PER YEAR, THE DEPTH OF SCUM AND SLUDGE IN THE SEPTIC TANK SHOULD BE MEASURED AND THE TANK SHALL BE PUMPED IF:
 - THE SLUDGE LEVEL IS WITHIN 12 INCHES OF THE BOTTOM OF THE
 - THE SCUM LAYER IS WITHIN 3 INCHES OF THE TOP OF THE OUTLET
 - IF A OR B IS ANTICIPATED TO OCCUR PRIOR TO THE NEXT INSPECTION.
 - IN ANY CASE, THE TANK SHALL BE PUMPED AT A MAXIMUM 5 YEAR INTERVAL.
- ONCE A YEAR, THE DISTRIBUTION BOX SHOULD BE INSPECTED AND ANY SETTLED SOLIDS REMOVED.
- ONCE A YEAR, THE PUMP CHAMBER, IF ANY SHALL BE INSPECTED AND ANY SETTLED SOLIDS REMOVED AND FLOATS SHALL BE CHECKED FOR PROPER OPERATION.
- ABOVE ITEMS 1 - 5 ARE INTENDED TO PROLONG THE LIFE OF THE SYSTEM, NOT GUARANTEE IT. A PROPERLY OPERATED & MAINTAINED SYSTEM GENERALLY FUNCTIONS PROPERLY FOR 8 - 25 YEARS.

SUMMARY OF SOIL TEST PITS

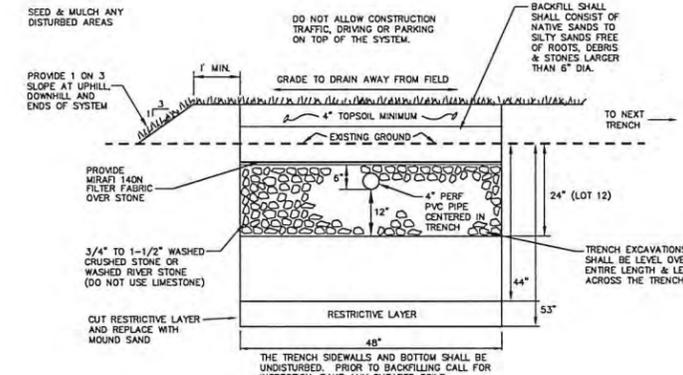
TEST PITS PERFORMED BY DAVID BURKE ON 6/1/16

SOIL TEST NUMBER	SOIL TEST LOCATION	EVIDENCE OF SEASONAL HIGH GROUNDWATER ELEVATION (INCHES)	EXISTING GROUNDWATER (DEPTH IN INCHES)	EXISTING LEDGE (DEPTH IN INCHES)
12-1	LOT 12	39	> 78	> 78
12-2	LOT 12	NONE	> 78	> 78
12-3	LOT 12	44"	> 91	> 91
12-4	LOT 12	60	> 77	> 77
11-1	LOT 11	NONE	> 73	> 73
11-2	LOT 11	NONE	> 70	> 70
10-1	LOT 10	NONE	> 68	> 68
10-2	LOT 10	NONE	> 66	> 66
10-3	LOT 10	NONE	> 76	> 76

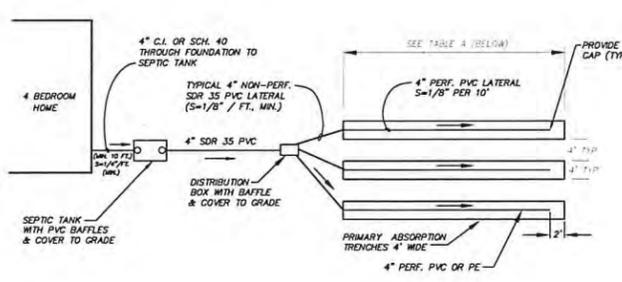
*BEDROCK FEATURES FOUND BETWEEN 44" AND 53" - LAYER TO BE CUT OUT DURING CONSTRUCTION



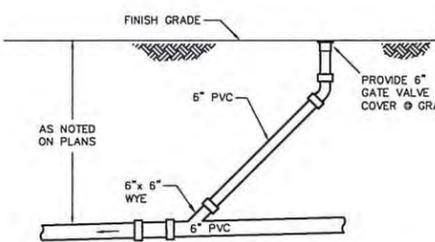
TYPICAL ABSORPTION TRENCH (LOTS 10 + 11)



TYPICAL ABSORPTION TRENCH (LOT 12)



TYPICAL SEWAGE DISPOSAL SYSTEM LAYOUT (ALL LOTS)



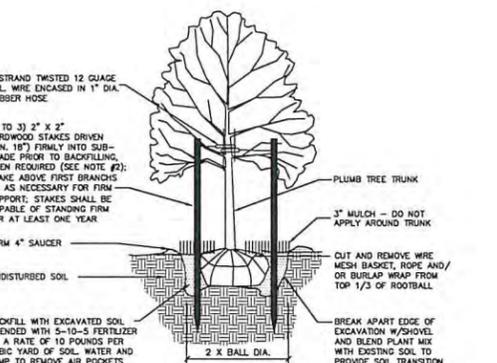
CLEANOUT DETAIL

NOTE: REQUIRED IF HOUSE SERVICE EXCEEDS 100 LF (PROVIDE) AT MAX. 100' INTERVALS OR WHERE THERE ARE CHANGES IN DIRECTION OR SLOPE.

LANDSCAPING SPECIFICATIONS

ALL DISTURBED AREAS SHALL BE STABILIZED WITH SEEDING AND MULCHING PRIOR TO OCTOBER 15 OF EACH YEAR (PREFERABLY BY SEPTEMBER 15). DISTURBED AREAS THAT WILL NOT BE WORKED WITHIN A MONTH OF DISTURBANCE ARE TO BE TEMPORARILY SEEDED AND MULCHED. FINISHED AREAS ARE TO RECEIVE A MINIMUM OF 4" OF TOPSOIL AND BE FERTILIZED, LIMED AND MULCHED IN ACCORDANCE WITH THE FOLLOWING:

- SEED MIXTURE IN ALL AREAS SHALL BE URBAN MIX CONFORMING TO THE TABLE SHOWN ON THE PLANS. FOR TEMPORARY SEEDING, WINTER RYE SHALL BE USED AT AN APPLICATION RATE OF 100 POUNDS PER ACRE.
- FERTILIZER SHALL BE STANDARD COMMERCIAL GRADE CONFORMING TO THE STATE FERTILIZER LAW AND TO THE STANDARDS OF THE ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS. DRY FERTILIZER, IF USED, SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE. LIQUID FERTILIZER, IF USED, SHALL BE APPLIED IN A 1-3-1 RATIO WITH THE MINIMUM RATE TO INCLUDE 100 POUNDS OF NITROGEN, 200 POUNDS OF PHOSPHATE, AND 100 POUNDS OF POTASH PER ACRE.
- LIMESTONE SHALL CONFORM TO ALL STATE AND FEDERAL REGULATIONS AND TO THE STANDARDS OF THE ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS. THE LIMESTONE SHALL BE APPLIED AT A RATE OF TWO TONS PER ACRE OR AS DIRECTED.
- WITHIN 24 HOURS OF APPLICATION OF FERTILIZER, LIME AND SEED, THE SURFACE SHALL BE MULCHED WITH HAY MULCH. MULCH SHALL BE SPREAD UNIFORMLY OVER THE AREA AT A RATE OF TWO TONS PER ACRE OR AS ORDERED BY THE ENGINEER.



- PLANT TREE SO THAT TOP OF ROOT BALL IS EVEN WITH THE FINISHED GRADE.
- STAKING AS REQUIRED ONLY IN SITUATIONS WHERE TREES WILL BE SUBJECTED TO WINDY CONDITIONS AS DETERMINED BY THE PROJECT LANDSCAPE ARCHITECT.
- TREES SHALL BE GUARANTEED FOR A PERIOD OF TWO YEARS AFTER PLANTING.
- EXAMINE ENTIRE TREE AND REMOVE ALL NURSERY TAGS, ROPE, STRING AND SURVEYOR TAPE PRIOR TO PLANTING TO PREVENT GROWING.

TREE PLANTING

URBAN MIX GRASS SEED

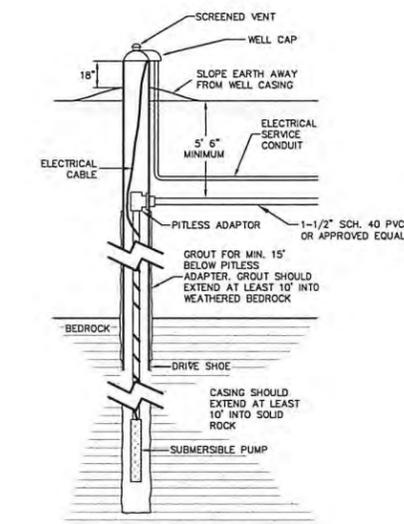
I BY WEIGHT	LBS. LIVE SEED PER ACRE	TYPE OF SEED
35	45.5	CREeping RED FESCUE
35	45.5	KENTUCKY BLUEGRASS
24	21	ANNUAL RYEGRASS
100	100	LIVE SEED PER ACRE

DRILLED WELL ISOLATION DISTANCES

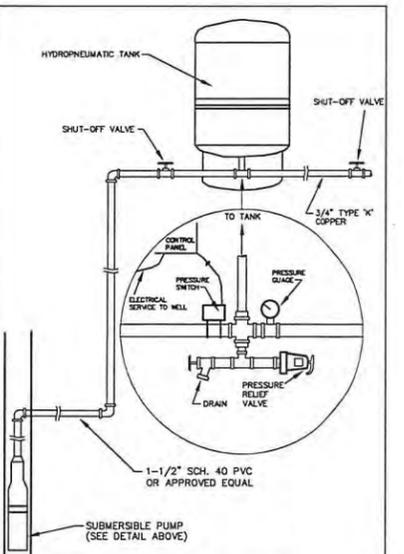
ROADWAY, PARKING DRIVES, <3 RESIDENCES	25 FEET
SEWAGE PIPING / TANKS	15 FEET
PROPERTY LINE	50 FEET
SURFACE WATER BUILDINGS	10 FEET
SEWAGE SYSTEM: DOWNSLOPE WELL	10 FEET
UPSLOPE WELL	200 FEET

INDIVIDUAL DRILLED WELL DESIGN DATA

- THE DRILLED WELL(S) CONSTRUCTION, LOCATION, DISINFECTION AND TESTING SHALL BE IN ACCORDANCE WITH THE STATE OF VERMONT - WATER SUPPLY.
- THE BASIS OF DESIGN FOR EACH DRILLED WELL IS:
 - AVG. DAY DEMAND: 490 GPD
 - MAX. DAY DEMAND: 490 GPD/720 MIN/DAY = 0.68 GPM
 - INSTANTANEOUS PEAK DEMAND: 5 GPM X 1 UNIT = 5 GPM
 - SOURCE CAPACITY: TO BE DETERMINED, AREA WELL LOGS SHOW AN ADEQUATE WATER SOURCE IN THE PROJECT AREA.
 - STORAGE CAPACITY: SIZE TO BE DETERMINED BASED ON WELL YIELD (IF REQUIRED).
 - PUMP CAPACITY AT HOUSE: 1 LOT @ 5 GPM = 5 GPM MINIMUM
 - OPERATING PRESSURE RANGE: 40 - 60 PSI AT PRESSURE SWITCH



TYPICAL INDIVIDUAL DRILLED WELL



TYPICAL INDIVIDUAL WATER SYSTEM

DATE: [] REVISION: [] BY: []

SURVEY: [] RECORD DRAWING: [] PRELIMINARY: [] DATE: 6-28-2016

DESIGN: [] FINAL: [] SKETCH/CONCEPT: []

SEC./P.L.O. []

DRAWN: []

SEC. []

CHECKED: []

PLA/D/WH []

SCALE: []

SHOWN: []

O'LEARY-BURKE CIVIL ASSOCIATES, P.L.C.

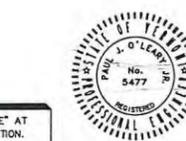
1200-SHARPE DRIVE ENCLAY, VT 05445-0000
PHONE: 802-249-5000 FAX: 802-249-5000
E-MAIL: OBC@OBC-CIVIL.COM

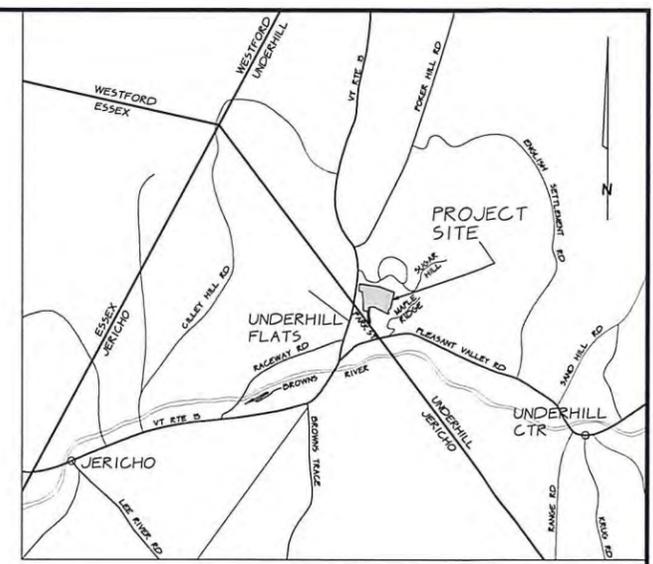
LANDS OF PHILIP JACOBS

16 HARVEST LANE - UNDERHILL, VT

WATER, SEWER AND LANDSCAPING DETAILS

PLAN SHEET # **7**





LOCATION PLAN

LEGEND

- PROJECT BOUNDARY
- ABUTTING PROPERTY LINE
- SIDELINE OF EASEMENT
- PROPOSED LOT LINE
- UNDISTURBED BUFFER
- STREAM SETBACK
- EDGE OF CLASS THREE WETLAND
- USGS CONTOUR
- FINISH GRADE CONTOUR
- STREAM
- NEW CULVERT AND CATCH BASIN
- PROPOSED SEWERLINE
- PROPOSED WATERLINE
- PROPOSED BURIED ELECTRIC AND COMMUNICATIONS
- PERCOLATION TEST
- AUGER TEST

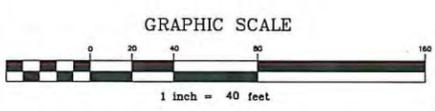
PERCOLATION TEST RESULTS
TESTS PERFORMED ON 5/26/16
BY SEC

ALL TESTING PERFORMED IN MOST DENSE LAYER IN SOIL PROFILE

TEST NUMBER	TEST DEPTH (INCHES)	PERCOLATION RATE (MINUTES/INCH)
1	38"	0.9 MIN./INCH
2	38"	1.5 MIN./INCH
3	38"	2.2 MIN./INCH
4	38"	3.8 MIN./INCH

AUGER TEST RESULTS
TEST PERFORMED ON 6/14/16
BY SEC

TEST NUMBER	DEPTH TO GROUNDWATER (INCHES)
1	68"



OWNER AND APPLICANT:
JACOBS HILL ASSOCIATION
C/O PHILIP JACOBS
73 UPPER ENGLISH SETTLEMENT ROAD
UNDERHILL, VT 05489



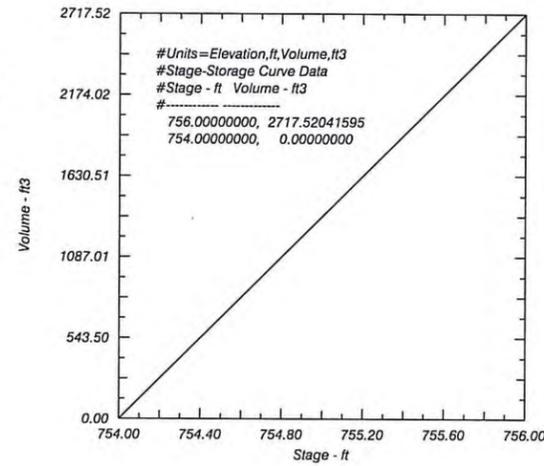
DATE: 9-9-16	REVISION: REVISIONS PER TOWN OF UNDERHILL STAFF REVIEW	BT PLO
SURVEY: OBCA	RECORD DRAWING	DATE: 6-22-16
DESIGN: PJO	PRELIMINARY	JOB#: 5105
DRAWN: PJO	SKETCH/CONCEPT	TOWN: 5105
SEC: PJO		PLAN SHEET #
CHECKED: PJO		8
SCALE: 1"=40'		

LANDS OF PHILIP JACOBS
16 HARVEST LANE - UNDERHILL, VT

O'LEARY-BURKE CIVIL ASSOCIATES, PLC
13 CORPORATE DRIVE
ESSEX, VT 05501
PHONE: 815-8999
FAX: 815-9689
E-MAIL: ool@oburkecivil.com

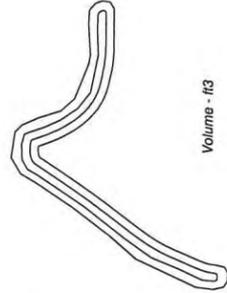
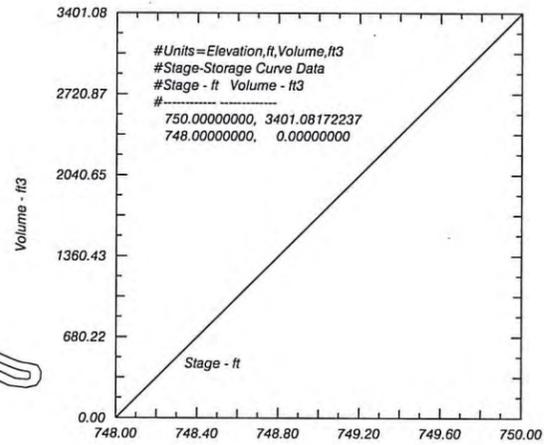
POI 1

Stage-Storage Curve



POI 4

Stage-Storage Curve



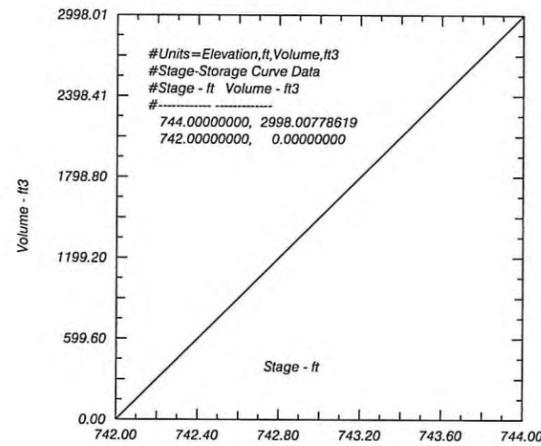
EXAMPLE OF A SWALE OUTFLOW DEVICE



EXAMPLE OF AN 8' BOTTOM 2' DEEP SWALE

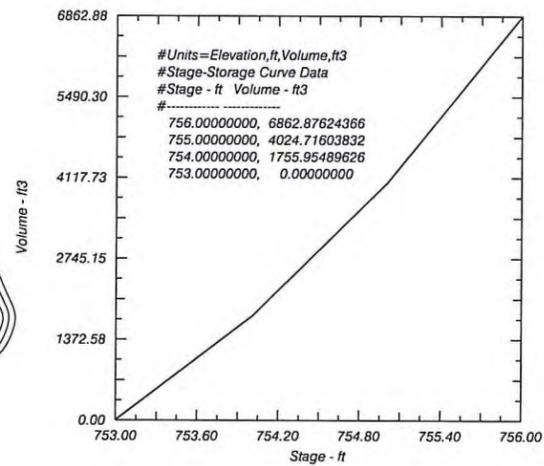
POI 2

Stage-Storage Curve



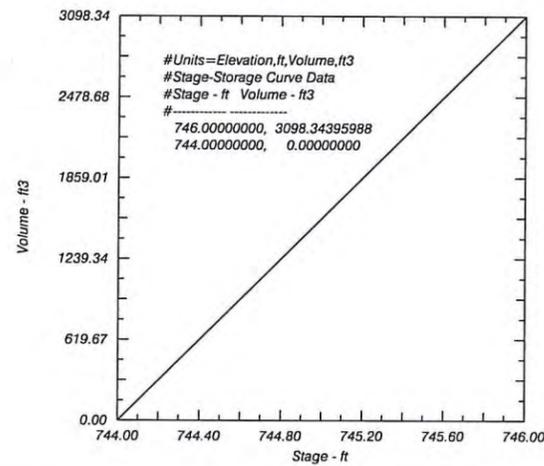
POI 5

Stage-Storage Curve

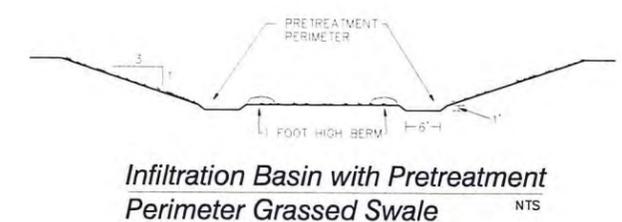
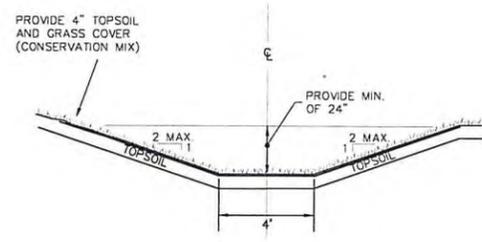
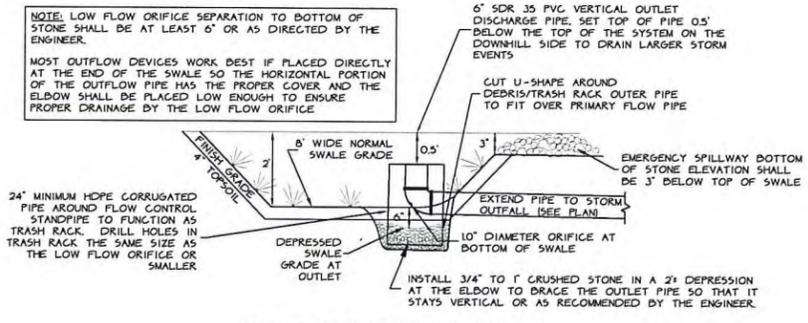


POI 3

Stage-Storage Curve



- IMPORTANT STORM NOTES DURING CONSTRUCTION**
- A. Low flow orifice at bottom - Very important that there be at least 6" of space between the bottom of stone and invert of the orifice to prevent clogging.
 - B. Top of standpipe shall be 6" below the top of system which shall be level elevation shown on plan. Pipe should be cut to length after installation of swale to ensure this requirement is met.
 - C. The primary function of the outside pipe is to function as a trash rack (i.e. to prevent debris from clogging the low flow orifice). That is why the 6" of freeboard is so important - see note A above. The trash rack orifices shall be cut no longer than the low flow orifice specified on the plan - see detail. The orifices can be cut with a hole saw or spade bit. Any plastic bars should be removed with a file or whatever mechanism necessary to ensure holes are smooth to lessen the chances of clogging.
 - D. Emergency spillway is a stone overflow that should be approximately 3" below the top of the system to ensure that if the swale is completely full of water, it will overflow in that location best fit to receive a flood situation (usually at outlet location)



DATE	REVISION	BY
SURVEY	<input type="checkbox"/> RECORD DRAWING <input type="checkbox"/> PRELIMINARY	LANDS OF PHILIP JACOBS
DESIGN	<input checked="" type="checkbox"/> FINAL <input type="checkbox"/> SKETCH/CONCEPT	16 HARVEST LANE - UNDERHILL, VT
PJO		FILE
DRW		5106
SEC		5106
CHECKED		PLAN SHEET #
PJO		9
SCALE		
SHOWN		

O'LEARY-BURKE CIVIL ASSOCIATES, PLC
11 COPPERSTONE DRIVE
BURLINGTON, VT
PHONE: 802-255-9580
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E-MAIL: o'b@oburke.com

DEVELOPMENT REVIEW BOARD

Town of Underhill, VT

P.O. Box 120, Underhill, VT 05489
E-mail: zoning@underhillvt.gov

Phone: (802) 899-4434, x100
Fax: (802) 899-2137

February 16, 2016

Phil Jacobs
73 Upper English Settlement Road
Underhill, VT 05489

At the meeting on February 1, 2016 the Development Review Board reviewed and accepted your sketch plan application for an 8-lot subdivision of your property at 16 Harvest Run Lane (HR016) in Underhill, VT. This letter is provided per Section 7.3(D) of the Unified Land Use and Development Regulations and is valid for one year. If a preliminary subdivision application is not filed within the year, another sketch plan review will be required.

SUBDIVISION CLASSIFICATION

As you are aware, this application is being reviewed under the Unified Land Use and Development Regulations adopted March 2011, as amended through March 4, 2014. The subdivision process must distinguish between major and minor classifications. Due to the nature of your proposal, the DRB has classified this as a major subdivision [Section 7.2 (E)]. You will be required to have both a preliminary and final subdivision hearing.

REGULATION CONFORMANCE

Based upon the information submitted at the sketch plan meeting, the board finds that the proposed subdivision has the potential to conform to the regulations if appropriate measures are taken to and avoid steep and very steep slopes (Section 3.18). You and your consultants should ensure that all of subdivision review standards in Article VIII are addressed and all of the preliminary subdivision requirements in Section 7.5 are met.

REVIEW CRITERIA & ISSUES TO BE ADDRESSED

This sketch plan letter outlines "specific areas of concern to be addressed" per Section 7.3(D) and is meant to provide recommendations and guidance to the applicant. During the sketch review, the board felt that the following items should be addressed in your application for preliminary subdivision approval.

1. A draft Highway Access permit issued by the Selectboard;
 - a. The requested 22 foot wide road width waiver conflicts with written standards in both the ULUDR and the newly adopted Roadway Driveway and Trail ordinance. Given the potential for future development off of Harvest Run the board will likely require the proposed roadway width to be 24 feet wide and the existing roadway be upgraded to 24 feet wide.
 - b. The waiver request for the 22 foot wide roadway off of Jacobs Hill road extension also conflicts with written standards in both the ULUDR and the newly adopted Roadway Driveway and Trail ordinance. The board would be interested in hearing arguments in support of maintaining the reduced roadway widths on Jacobs Hill Road.
 - c. Pedestrian safety on the roadway is a concern raised by residents of the project and shared by members of the board. The board would likely support the waiver request at both Harvest Run

- and new roadways off Jacobs Hill Road if a management plan for pedestrian circulation incorporated a walkway, bikeway or sidewalk along Harvest Run.
2. Detailed engineering plans to mitigate and correct existing stormwater runoff problem areas (Section 8.5(B-C)). Of particular concern to this board is the drainage ditch along Harvest Run and the drainage way interface at Park Street. Based on testimony received at the hearing, and local observation, the board recognizes there is a drainage problem along Harvest Run. We cannot allow any future development to exacerbate the situation. We recognize the root cause of the problem is likely due to development along Harvest Run, and request a plan to make sure the problem is corrected.
 - a. There are several specific areas of concern regarding stormwater runoff, and in addition to a comprehensive stormwater management plan, the board would like to receive additional evidence at the following study point locations:
 - i. The board is concerned about the stormwater runoff rate and velocity from a design storm event along Jacobs Hill road and the intersection of Harvest Run. In particular what design improvements are necessary to mitigate the impact of water velocity onto the Harvest Run drainage way;
 - ii. The board is concerned that a high velocity discharge from any storm water collection system on Jacobs Hill Road would scour and eventually deposit sediment in the ill-defined drainage ditch along Harvest Run. The board would like to see a design that would mitigate these concerns;
 - iii. The board is concerned about the culvert capacity and any recommended improvements at the intersection of Harvest Run and Park Street. The board would like to see a design that would mitigate these concerns;
 - iv. The board is concerned about the culvert capacity and any recommended improvement in the storm sewer network along Park Street. The board would like to see a design that would mitigate these concerns;
 3. The board would like to review copies of the existing association agreements governing the maintenance of Jacobs Hill Road and Harvest Run. Any proposed amendments will be required prior to final plat approval;
 4. Wastewater System & Potable Water Permit (or application) for all lots where development involving occupied structures are proposed;
 5. Draft Survey plat prepared by a licensed surveyor;
 6. Letters of development impact review, or ability to serve from the school district, road foreman, conservation commission and fire department. These letters are normally requested by the Zoning Administrator (ZA) section 5.2,A-2. However as Underhill is currently without a full time ZA, the board requests the applicant solicit these letters (or evidence thereof) and the respective responses.
 7. Engineering drawings in conformance with the application requirements in the ULUDR.
 - a. Areas of steep and very steep slopes shall be shown on the plans.
 8. A site visit will be scheduled prior to the preliminary hearing.

The Board requests that all of these requirements be included in the preliminary subdivision review application package.

PRELIMINARY SUBDIVISION HEARING – PROCESS

As you are aware, the Board is requiring a preliminary and final hearing. Therefore, the next step in the subdivision process is to hold a hearing(s) for the purpose of conducting preliminary subdivision review. The application requirements for this step are detailed in Section 7.5 and Article VIII of the Unified Land Use and Development Regulations. The following is provided as a general overview of the process.

You will be required to submit one large and twelve 11" x 17" copies of the plat and engineering drawings, a check for the base hearing fees (\$100 per lot), a copy of the State Project Review Sheet, and copies of draft

legal documents. Also include information addressing items above and the requirements on the enclosed checklists.

Once I receive a completed preliminary application package, I will schedule and warn a site visit and the preliminary hearing. You will be asked to post a red "Z" sign on the lot no later than 15 days prior to the scheduled hearing. I will take care of the notice requirements, including Certified Mail to your neighbors and publication in a newspaper. The cost for notice and the newspaper fee is borne by you and will be included in the invoice with your preliminary decision.

An application for the Preliminary Subdivision Hearing and associated checklist(s) are also included with this letter. The checklists will aid in preparing your hearing submissions and will also aid the Board in reviewing the required documents.

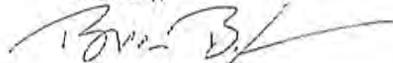
After the Preliminary Subdivision Hearing, the Board will have 45 days to issue a written decision. You will receive a copy of the signed decision via Certified Mail. Any interested parties who participated in the hearing will also receive a copy of the decision. A 30-day appeal period will begin from the date of the signed decision. Preliminary approval is valid for one year from the date of issuance.

FINAL HEARING

Following the preliminary hearing you may submit a complete application for a final hearing. I will include the requirements and procedure for that step in the letter accompanying your preliminary decision.

If you have any questions or need assistance with the required submissions, please call me at the number listed above.

Sincerely,



Brian Bigelow
Interim Planning & Zoning Administrator

cc: O'Leary-Burke Civil Associates, PLC.
Interested Party Service List
File

encl: Application for Subdivision
Preliminary Subdivision Checklist
Preliminary Hearing Subdivision Standards Findings Checklist

Administrative Offices
PO Box 282, 211 Bridge Street
Richmond, Vermont 05477
(802) 434-2128
(802) 434-2196 (fax)
www.cesu.k12.vt.us



Mt. Mansfield Modified Union School District

May 18, 2016

Brian Bigelow
Zoning Administrator
Underhill Town Offices
PO Box 120
Underhill, VT 05489

Dear Brian:

RE: Proposed Subdivision Jacobs Hill Road

I am writing regarding the Jacobs proposed three lot subdivision on Jacobs Hill Road in Underhill. Mt. Mansfield Modified Union School District will be able to provide services for students this subdivision may generate at Underhill ID Elementary School, Browns River Middle School or Mt. Mansfield Union High School.

If you have any questions or concerns, contact me at your convenience.

Sincerely,

A handwritten signature in black ink, appearing to read "John R. Alberghini". The signature is fluid and cursive, with a large loop at the end.

John R. Alberghini
Superintendent