

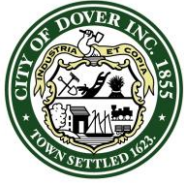


CITY OF DOVER

PLANNING TECHNICAL REVIEW COMMITTEE –AGENDA

Meeting Type: Regular Meeting
Meeting Location: 2nd Floor Conference Room – City Hall, Dover NH
Meeting Date: **Thursday, April 26, 2018**
Meeting Time: **10:30 am**

1. 10:30 AM – 11:15 AM: Subdivision with Transfer of Development Rights for TDAK & Company LLC, Assessor's Map M, Lot 61, zoned R-20, located at 146 Dover Point Road. (Proposal is to construct a private roadway approximately 475 ft. long, 24 ft. wide with a turnaround for emergency vehicles). (11 lots plus open space) (P18-14)



CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES - P18-07

Application Type: **Subdivision/Site Plan**
Applicant(s): TDAK & Company, LLC
Owner(s): TDAK & Company, LLC
Location: 99 Sixth Street (Tax Map 35, Lot 57)
Date: April 5, 2018

INTENT: To construct a 20-ft. wide private access way to existing two-family dwelling and construct four single-family dwellings in a subdivision (condominium lots).

LOTS/UNITS PROPOSED: Four new for six total dwelling units on one lot

AGENDA ITEM #: 1

ACREAGE: 2.07 acres (90,322 sq. ft.)

ZONING DISTRICT: R-12

EXISTING LAND USE: Two-family dwelling

SURROUNDING LAND USE: Single-family dwellings, vacant lot

ZBA ACTION: H79-32 variance granted to permit conversion of barn into two-family dwelling

PERMITS REQUIRED: EPA Notice of Intent
NHDES Sewer Discharge

WAIVERS REQUESTED: **None**

ATTENDANCE:

Members: Chris Parker, Planning
Elena Piekut, Planning/Zoning
Dave White, Engineering
Sgt. Marn Speidel, Police
Dan Barufaldi, Economic Development
Frank Torr, Planning Board

Others: Chris Berry, Berry Surveying & Engineering
James Hayden, Berry Surveying & Engineering
Troy Thibodeau, Applicant

Dave White moved to approve the minutes of February 22, 2018. Dan Barufaldi seconded. Vote: U/A.

PLAN REVIEW:

Planning Comments:

- Impact fees and water/sewer investment fees will be assessed.
- Submit letters from utilities regarding ability to provide service to the development
- Provide HOA documents/restrictive covenants
- Correct or seek waivers for:
 - Maximum road grade of 8%
 - Maximum grade within 75' of intersection of 3%
 - Sidewalk and curbs; contribute funds to Community Trail
- Please revise plan set to:
 - Refer to as a subdivision; first confirm with SCRD that this will be acceptable
 - Add proposed side and rear setbacks if readily available
 - Add asterisks on sheets to be recorded
 - **Show 50' road right-of-way**
 - Ensure all common subdivision plan notes are included
 - Include wetland scientist's stamp
 - **Provide more lighting and landscaping information**

Police Department Comments:

- All have been addressed.

Fire/Inspections Comments:

- Clarify snow storage at end of proposed road. Note 42 sheet 5
- Provide turning template for truck T-1 and clarify site access.
- Clarify note 48 sheet 5 regarding type of sprinkler system. Clarify if note is for all buildings

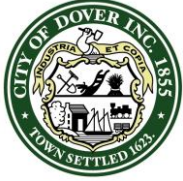
Engineering Comments:

- Conditions of approval should include:
 - Base pavement completed prior to first Certificate of Occupancy
 - Top pavement completed prior to final Certificate of Occupancy or within five years, whichever occurs first

Economic Development Comments:

- LP is an expensive heating fuel, not in keeping with affordable intent

Approval of 2/22/2018 Meeting Minutes



CITY OF DOVER

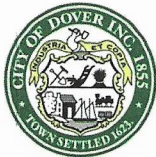
TECHNICAL REVIEW COMMITTEE MINUTES - P18-07

Application Type: **Subdivision/Site Plan**
Applicant(s): TDAK & Company, LLC
Owner(s): TDAK & Company, LLC
Location: 99 Sixth Street (Tax Map 35, Lot 57)
Date: April 5, 2018

Planning Board Comments:

- Add snow storage areas
- Remove Sunday construction hours

Motion to adjourn at 12:10 by Dave White and
seconded by Marn Speidel. Vote: U/A



City of Dover, New Hampshire SUBDIVISION APPLICATION

[Revision Date: August 02, 2017]

Office Use Only	Project #:	_____	Date Received:	_____
	Amount Paid:	_____	Time Received:	_____

APPLICANT AND OWNER INFORMATION

Name of Applicant: TDAK & Company LLC Telephone # 603-235-8469

Address of Applicant: 98 Kelsey Lane, Greenland NH, 03840

Name of Property Owner (if different from applicant): _____ Telephone # _____

Address of Property Owner: _____

E-Mail Address: TDAK3.0@gmail.com

PROPERTY INFORMATION

Address of Property: 146 Dover Point Road

Assessor's Map # M Lot(s) # 61

Zoning District(s) R-20 Overlay District(s) _____

Size of Parcel: 184,225 Sq.Ft. 4.23Ac. Property Deed: Book 4558 Page: 331

Existing Use of Property: _____

SUBDIVISION INFORMATION

Subdivision Type: Major (4 + net new lots): ☒ Open Space: _____

Existing Number of Lots: 1 Proposed Number of Lots: 11

City Water? ☒ Yes ☐ No How far is city water from the property? Approx. 50 Feet

City Sewer? ☐ Yes ☒ No How far is city sewer from the property? +/- 400 feet

Highway Access (check where applicable): ☒ City Street ☐ State Highway

Estimated Length of Proposed Roads: 475 feet Public or Private Road? Private

WAIVER REQUESTS

Subdivision Regulations section(s) to be waived: Maximum road grade of 8%
Maximum slope of 3% within 75' of intersection

Justification for waiver request(s) (*attach additional sheets as needed*): See waiver justification

SURVEYOR INFORMATION

Name of Surveyor and Company (Licensed in N.H.) Kenneth A. Berry, PE, LLS
Berry Surveying & engineering

Address 335 Second Crown Point Road, Barrington, NH 03825 Telephone #: 603-332-2863

Professional License #: 14243 E-mail address: k.Berry@Berrysurveying.com

ENGINEER INFORMATION

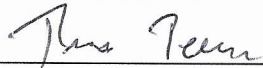
Name of Engineer and Company (Licensed in N.H.) Kenneth A. Berry, PE, LLS
Berry Surveying & Engineering

Address 335 Second Crown Point Road, Barrington, NH 03825 Telephone #: 603-332-2863

Professional License #: 14243 E-mail address: K.Berry@berrysurveying.com

SIGNATURES

I/We hereby submit this application to the City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. Furthermore, I/We submit that the existing conditions sheet of the plan represents the lot in question, and that no alteration of the site shall take place during Planning Board review up to and including the pre-construction meeting. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of Property Owner:  Date: 4-9-18

Signature of Applicant (*if different from owner*): _____ Date: _____

Signature of Agent:  Date: 4-9-18

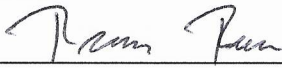
AUTHORIZATION TO ENTER SUBJECT PROPERTY

I, and my successors, hereby authorize members of the Dover Planning Board, Planning Department and other pertinent City Departments and boards to enter my property for the purpose of evaluating this application, including performing inspections during the application phase, post-approval phase, construction phase and occupancy phase. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner:  Date: 4-9-18

AUTHORIZATION TO COMPLETE THE PROJECT ON SUBJECT PROPERTY

I, and my successors, hereby authorize the City of Dover and its assigns to enter my property for the purpose of completing the site work as required by the approved plan should the letter or credit or other surety be called. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner:  Date: 4-9-18

Signature of Applicant (if different from owner): _____ Date: _____

CERTIFICATION OF FEES

I, and my successors, hereby certify that I understand that the City of Dover collects impact fees, utility investment fees and inspection fees for projects developed in Dover. Said fees must be paid before a Certificate of Occupancy can be obtained for a structure, unless a different payment schedule is agreed to by the applicant and the City prior to approvals being issued by the Dover Planning Board. Additionally, should the property be in "Current Use" it will be subject to the Land Use Change Tax.

Signature of Property Owner:  Date: 4-9-18

Signature of Applicant (if different from owner): _____ Date: _____

CERTIFICATION OF PUBLIC ROADWAY ACCEPTANCE

I, and my successors, hereby certify that I understand that the acceptance of a roadway as a public road is an action of the City Council in its sole and complete discretion. In order for the City Council to consider accepting a road as public, it must be free of encumbrances. No roadway with private utility easements shall be accepted as a public road by the City unless the easements are expunged prior to the transfer of land to the City. License agreements for any and all private utilities within the right of way may be granted by the City upon acceptance of the unencumbered roadway consistent with applicable state law.

Signature of Property Owner:  Date: 4-9-18

Signature of Applicant (if different from owner): _____ Date: _____

PLANNING BOARD ESTIMATED FEE SCHEDULE

This is only provided to give you an estimate of the application fees. *After you submit an application, staff will invoice you a total.* All fees must be paid two weeks before the Planning Board meeting. **If the Fee has not been paid, the item will not be placed upon the agenda.**

A. TOTAL FEE paid by cash or check made payable to "City of Dover"

1. Application fee for the following:

- SUBDIVISION \$150.00 x # _____ new lots created = \$ 1,500.00
- LOT LINE ADJUSTMENT \$200.00 (if more than two lots involved, add \$100.00 per lot) = \$ _____
- SITE REVIEW - RESIDENTIAL \$100.00 x # _____ per dwelling unit = \$ _____
- SITE REVIEW – NON-RESIDENTIAL (not to exceed \$10,000)
New construction \$.15 sq. ft. x # _____ sq. ft. = \$ _____
Additions (new floor space) \$.10 per sq. ft. x # _____ sq. ft. = \$ _____
- IMPERVIOUS PAVED AREA (for new development) OR IMPERVIOUS PARKING LOT ADDITIONS (not to exceed \$10,000) \$.07 sq. ft. x # _____ = \$ _____
- MOTEL/HOTEL \$35.00 x # _____ per lodging unit = \$ _____
- CHANGE OF USE (not to exceed \$5,000)
Existing floor space \$.10 per sq. ft. x # _____ sq. ft. = \$ _____
- CONDITIONAL USE PERMIT \$150.00 x # _____ per application = \$ _____
- GRAVEL PIT/ EXCAVATIONS - Application fee \$50.00 & Permit fee \$75.00 = \$ _____
- EXTENSIONS OF/AMENDMENTS TO/WAIVERS FOR AN APPROVED PLAN (\$150.00 minimum) \$50.00 x # _____ per hour of review \$ _____
- REQUEST FOR REZONING \$150.00 = \$ _____
- DRIVEWAY WAIVER – \$100.00 application fee = \$ _____
Letter of rejection from Engineering Department, diagram & letter from owner \$ _____

B. Abutter Notification/Mailing Labels - this office will create and print the abutter list and provide labels in triplicate for each abutter. The applicant/owner will need to provide to this office the engineer, architect, land surveyor or soil scientist whose professional seal appears on the plan with names and addresses for notices. You will be notified with the amount due, once this has been completed.

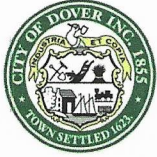
1. Applicant & Owner, engineer, architect, land surveyor or soil scientist
Certified letters fee # _____ of x \$8.00 = \$ _____
2. Certified letters fee: # of abutters _____ X \$8.00 = \$ _____
3. First Class Mail fee (for individual owner of units within a condominium or other collective form of ownership): # of abutters _____ X \$1.00 = \$ _____
4. Creating/Printing Abutter Labels in triplicate per sheet _____ x \$10.00 = \$ _____

C. Foster's newspaper public notice fee \$ 80.00

D. Digital Version of the Plan in PDF/A format or Archive Fee \$1.00 x # _____
per sheet of plan set = \$ _____

(Revised May 15, 2017)

TOTAL FEE \$ 1,580.00



City of Dover, New Hampshire **SUBDIVISION SUBMISSION CHECKLIST**

[Revision Date: December 15, 2017]

This review checklist is intended to assist the applicant in the planning process of preparing a Subdivision application for Planning Board action. The size of the project will determine the types of information required for review, therefore, a **pre-application conference** with the Planning Department to determine the list of items that must be completed is strongly encouraged.

Fees will be invoiced and are due along with fifteen (15), folded, copies of the plan set and materials, including response to TRC comments, will be due 3 weeks prior to the Planning Board meeting.

The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all subdivision requirements. Please refer to the Subdivision Regulations for full details.

APPLICANT: TDAK & Company LLC File Number: 18-14

PROJECT TITLE: Marwari Drive

PROPERTY LOCATION: 146 Dover Point Road Tax Map: M Lot: 61

	Explain How Provided	Reviewed
1. Completed and signed Application form	X	
2. Electronic copy of the surveyed plat layout	X	
3. Electronic copy of supplementary materials and application	X	
4. Traffic Impact Assessment and Analysis (Standard or Advanced)	X	
5. Fiscal Impact Analysis (For more than 10 units)	N/A	
6. Waiver requests to the Subdivision Regulations, with written justification	Included in Waiver Request	
7. Conditional Use Permit applications	N/A	
8. Narrative describing yield plan and cost analysis	N/A	
9. List of all professional agents to be notified for Planning Board	X	
10. Letter to Serve from Public and Private Utilities	X	
11. Eight folded copies of subdivision plan w/scale of not less than 1"=50' or 1"=100' for larger subdivisions, for TRC. Plans shall contain the following items as appropriate:	X	
Location map at appropriate scale	X	
Proposed subdivision name and title and Planning File #	X	
Date, north arrow and scale	X	
Names of all abutting property owners	X	
Name and address of owners and/or applicants	X	
Signature & stamp of NH licensed land surveyor and/or engineer	X	
Zoning District boundaries, including any special or overlay districts	X	
Location of Conservation District areas	N/A	
Location, names and widths of existing and proposed streets, including pavement widths, grades, curbs and crosswalks	X	
Location and widths of existing & proposed easements & right of ways	X	
Location and widths of existing and proposed sidewalks	X	
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system	X	
Existing and proposed lot areas in square feet	X	
Existing and proposed topographic information at two foot intervals	X	

	Explain How Provided	Reviewed
Existing and proposed buildings and structure locations	X	
Minimum building setbacks or build to lines on all lots	X	
Location and size of existing and proposed electric, telephone, gas cable and other underground utilities	X	
Existing and proposed water lines and fire hydrants, including materials and capacity needed	X	
Location and materials of sanitary sewage facilities within project site and projected additional peak hour sewer load	X	
Existing and proposed septic system, including test pit locations and results and NHDES subdivision permit number	X	
Existing and proposed stormwater lines and facilities	X	
Existing and proposed streetlights	X	
Location of Flood Hazard Zone	N/A	
Location of all bodies of water and watercourses	N/A	
Location of wetlands and buffers	N/A	
Neighborhood plan with aerial underlay showing how project relates to abutting uses	X	
Existing natural features and/or significant vegetation on property	X	
Depict existing contours up to 100 ft. beyond project limits	X	
Soil types	X	
Map and lot numbers for existing and proposed lots as assigned by Tax Assessor	X	
Location of all land offered for dedication for public use or land to be held in common by property owners of the subdivision	X	
Location, material and size of existing and proposed permanent monuments	X	
Existing railroad lines	N/A	
Note regarding solid waste disposal	N/A	
All applicable Dover Common Subdivision notes	X	
12. Construction Detail Sheets shall contain the following information:		
Profiles showing existing & proposed elevations along the center lines of proposed streets & within 100' of intersections with existing streets	X	
Profiles showing the locations & a typical cross-section detail of streets	X	
Location of street trees, street lighting poles and street signs	X	
Location, size and invert elevations of existing and proposed sanitary sewers, stormwater drains and fire hydrants	X	
Location and size of all water, gas and other underground utilities	X	
13. Additional Information if appropriate		
Stormwater Management Plan depicting the existing and proposed storm drainage system and engineered drainage analysis	X	
Stormwater Management System Operation and Maintenance Plan	X	
Erosion and Sedimentation Control Plan	X	
Perimeter Landscaping Plan	X	
Proposed restrictive covenants or homeowners association documents	X	
Dates and permit numbers of all required state and federal permits	N/A	
If wetland buffer, indicate placards locations, as applicable	N/A	
Hydrogeologic study if located in Groundwater Protection Zone	N/A	
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required	X	

REVIEWED BY: _____ DATE _____ TRC DATE _____



BERRY SURVEYING & ENGINEERING

335 Second Crown Point Road

Barrington, NH 03825

Phone: (603) 332-2863

Fax: (603) 335-4623

www.BerrySurveying.Com

crberry@metrocast.net

April 9, 2018

City of Dover
Attention: Assistant City Planner Donna Benton
288 Central Ave
Dover, NH 03820

Re: TDAK & Company LLC
Residential Site Review (TDR)
146 Dover Point Road
Dover, NH
Tax Map M, Lot 61

Dear Mrs. Benton,

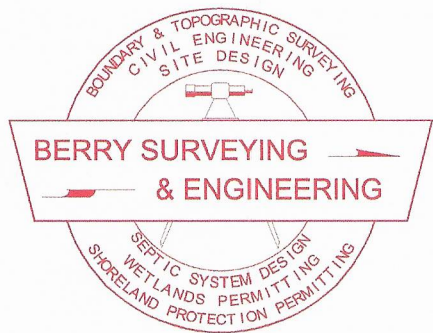
On behalf of our client TDAK & Company LLC. (TDAK), Berry Surveying & Engineering (BS&E) is submitting for TRC to discuss a proposed development at 146 Dover Point Road, known as Marwari Drive.

Background and General Narrative:

TDAK owns the parcel known as 146 Dover Point Road in Dover, NH (Tax Map M, Lot 61). BS&E has conducted an on-site survey of the parcel which includes a topographic analysis as well as a wetlands analysis. Please note there are no wetlands found on the parcel. The site contains a single family dwelling which sits atop the existing hill and over looks Dover Point Road. An existing driveway runs up the southerly part of the parcel which connects the existing structure to Dover Point Road. As it sits currently the lot is lightly wooded, with a slope in the front and a plateau towards the rear of the site

The Proposal:

The proposal is to construct a private roadway up the center of the lot and towards the back of the existing single family dwelling on the parcel. The private roadway will provide access to 10 additional single family detached homes. The proposed homes will be part of a subdivision and be sold as individual lots. The proposed private roadway will be approximately 475 feet long. The roadway will be 24 feet wide and will have a turn around so emergency vehicles can access and site safely and effectively.



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April 9, 2018

City of Dover Planning Board
Attn: Assistant City Planner Donna Benton
288 Central Ave
Dover, NH 03820

RE: TDR Subdivision
Troy Thibodeau
Dover Point Road

Mr. Chairperson & Members of the Dover Planning Board:

In accordance with to the subdivision standards Article 155-51 following waivers are hereby requested:

1. Identification of Waiver Request:

- Propose a 10% roadway grade where an 8% grade is required.

2. Explanation:

The applicant is proposing to build a private road in the middle of the parcel to access the proposed affordable housing development. The proposed roadway will have a grade of 10%, which exceeds the allowable 8% grade.

3. Waiver Justification:

a. Granting the waiver will properly carry out the purpose and intent of the regulations.

The purpose and intent is to allow for a roadway and building envelope that fit around the existing land conditions. In this case, it is our assessment that allowing for the 10% grade will allow for the construction of a safe road without having to excavate an excessive amount of material to construct it. In addition to this, the proposed road designed was reviewed by safety officials and was determined that a 10% grade would be allowable for this site given the location of the road and the existing steepness of the site. In addition, the 10% slope provides the best grading layout for the proposed drainage. Using the dry swales allows the runoff to be treated and directed towards the rain gardens without the need for drainage structures or pipes. This will not only reduce the deep excavation on site but will also give the neighborhood and more natural appearance.

b. Strict conformity to the regulations would pose an unnecessary hardship to the applicant.

Strict conformity would require the applicant to remove a large amount of material from the site to build the road. The more excavation that is required will only result in a longer

construction time frame and a more commercial appearance. The increased excavation will also result in a steeper slope, which will in turn make the site look less appealing overall. In addition, creating a less steep road will also cause the grading to drastically change. Which in turn will affect the drainage of the site.

1. Identification of Waiver Request:

- Proposed development of a road with a maximum slope exceeding 3% within 75' of the intersection.

2. Explanation:

The applicant is proposing to construct the private road on a parcel with steeper front slopes. The roadway is proposed to have a maximum grade at 35' instead of 75'.

3. Waiver Justification:

a. Granting the waiver will properly carry out the purpose and intent of the regulations.

Given the steepness of the slopes and current conditions of the site, a meeting was held with safety officials to determine the safest solution for the proposed roadway. Upon meeting with them it was determined that the proposed roadway would allow for safety vehicles to enter and exit the development without the potential to bottom out or get stuck at the entrance. In addition to this a turning template was provided to show that the safety vehicles could access the site without issue. Furthermore, the proposed roadway will provide vast improvements to existing driveway and allow for more accessibility to the rear of site.

b. Strict conformity to the regulations would pose an unnecessary hardship to the applicant.

Given the steepness of the site and the amount of excavation that would be required to meet this regulation, strictly enforcing this regulation would pose an unnecessary hardship to the applicant. If the regulation is strictly enforced, retaining walls may need to be used given the increase in excavation. This will not only make the proposed development less appealing and more commercial looking.

Thank you for your time and attention to this matter and we hope you look favorably upon the request.

BERRY SURVEYING & ENGINEERING

Christopher R. Berry SIT
Principal, President



BERRY SURVEYING & ENGINEERING

335 Second Crown Pt. Rd., Barrington, NH 03825
(603) 332-2863 / (603) 335-4623 FAX
www.BerrySurveying.Com

After careful consideration, the total of 11 lots was determined to be the most appropriate for this project site. These lots will be serviced by municipal water and onsite septic. This Residential Subdivision utilizing TDR, will allow for the more dense use of land while still having natural wooded buffers between the subject parcels and the abutters to the north and south. By design there will be open spaces closest to abutting land owners.

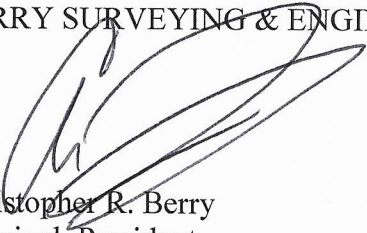
In addition to the residential construction, various landscaping locations are proposed throughout the site to help buffer the abutting lot and to give the proposed subdivision a more appealing look. Street trees will be added in between the proposed rain gardens and Dover Point Road to provide a visual buffer to the job site. In addition to this, plantings will be placed to help screen the transformers.

The runoff from the site will be treated with two dry swales running on either side of the road. Both dry swales will have underdrains that will direct any water that doesn't rein filtrate into the ground, into two rain gardens on either side of the road. These rain gardens will treat and re infiltrate the majority of the runoff generated from the proposed site. Both will be equipped with various vegetation and rip rap to ensure that they operate as designed.

Various erosion and sediment control measures will also be taken to ensure that the sediment is contained throughout the construction process so as not to run off onto abutting lots or damage the rain gardens/dry swales. Silt soxx will be placed at the toe of the slopes along Dover Point Road to trap any sediment that might runoff to that location. In addition, the downhill sections of lots will also have silt soxx to prevent any sediment from going to downhill to abutting lots. Check dams will also be installed along the road way to reduce the flow velocity of runoff and help maintain the sediment before it gets to the rain gardens. By maintaining these forms of erosion and sediment control, downstream affects are mitigated.

We look forward to working with staff on this proposal.

BERRY SURVEYING & ENGINEERING



Christopher R. Berry
Principal, President

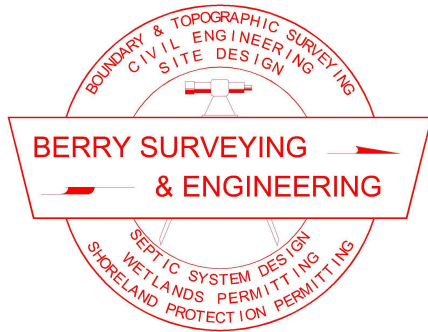


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City of Dover Planning Department
Attention: Director Donna Benton
288 Central Ave.
Dover, NH 03820

April 5, 2018

RE: Traffic Impact Analysis & Distribution
Troy Thibodeau
146 Dover Point Road
Dover, NH

Mrs. Benton,

On behalf of the applicant, Troy Thibodeau, Berry Surveying & Engineering (BS&E) is submitting for your review a Traffic Impact Analysis and distribution.

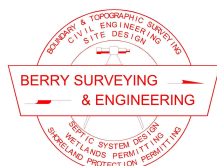
The following conclusions were reached as a result Traffic Impact Analysis:

- A generation of 8 vehicle trips (2 enter/6 exit) is predicted to occur at the AM peak hour and 11 vehicle trips (7 enter/4 exit) at the PM peak hour.
- This is an increase in trip generation of 7 AM trips and 9 PM trips.
- The 2018 and 2028 build traffic volumes DO NOT satisfy the NCHRP 457 guidelines for the implementation of a right-turn lane.
- The 2018 and 2028 build traffic volumes DO NOT satisfy the NCHRP 457 guidelines for the implementation of a left-turn lane.
- It is recommended that the existing and surrounding infrastructure will be sufficient to handle to projected increase in vehicle trips and peak hour and all other hours.

2018-001 Thibodeau, Dover, NH
Traffic Impact Analysis, April 5th, 2018

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BERRY SURVEYING & ENGINEERING

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Proposed Development & Introduction

The proposal is to construct ten single family detached homes to be on site with an existing single family detached home, for a total of eleven dwellings. The purpose of this analysis is to determine the maximum number of trips coming to and leaving from the proposed site during certain peak periods of the day. This information is then used in determining the impact on safety as it relates to the existing roadway infrastructure. The following components of the analysis are typical for a project of this size pursuant to the Institute of Traffic Engineers (ITE) manual.

Existing Conditions

Existing Site Description

The existing site consists of 184,211 Sq. Ft. (4.23 Ac.) of land. The majority of the site is wooded, and currently has a single family detached home not visible from the roadway. The site is located in the R-20 zone (Low-Density Residential District), and is surrounded by other residential lots. There is a residential driveway approximately 300 feet to the north of the existing driveway cut and no driveways adjacent to the site.

Dover Point Road Description

Dover Point Road is a two lane minor arterial road, according to the NHDOT Transportation Management System. This road provides access to NH Route 16 and the business districts of Newington and Portsmouth to the south and the Dover urban core to the north. It has an Average Annual Daily Traffic (AADT) of approximately 11,500 trips (2017) divided between north and south, also as shown on NH DOT's Transportation Data Management System.

Dover Point Road in the area of the project is composed of a thirty-one foot wide paved surface with a four foot shoulder widths on the west and east side of the road. There is a centerline delineation and fog / edge lines provided. The posted speed limit of the roadway is 40 miles per hour (MPH). The geometry of Dover Point Road is relatively strait and flat in the project location. There are no sidewalks, crosswalks, or other pedestrian amenities in the area of the project.

Existing Traffic Volumes

According to traffic counts recorded on NH DOT's Transportation Data Management System for the March 5th-7th 2018, the Dover Point Road AM and PM two-way AVERAGE peaks were 941 trips and 887 trips, respectively. The peak hour results counted between the sets were then chosen to be used within the analysis. It was found that Dover Point Road has an AADT of approximately 11,500 vehicles.



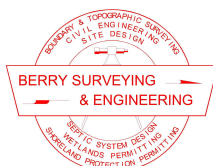
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The average highest hourly traffic on this section of Dover Point Road north bound occurred from 7-8 AM with 340 vehicles and from 4-5 PM with 533 vehicles. South bound average highest hourly traffic occurred from 7-8 AM with 601 vehicles and from 4-5 PM with 337 vehicles. Table #1 shows the traffic direction breakdown of Dover Point Road and Figures #1-3 are graphical representations of the traffic variations occurring throughout the day.

Traffic Distribution Dover Point Road				
Date	North Bound		South Bound	
3/5/2018	AM Peak	327.0	AM Peak	582.0
	PM Peak	596.0	PM Peak	347.0
3/6/2018	AM Peak	339.0	AM Peak	607.0
	PM Peak	625.0	PM Peak	402.0
3/7/2018	AM Peak	354.0	AM Peak	613.0
	PM Peak	377.0	PM Peak	263.0
Average	AM Peak	340.0	AM Peak	600.7
	PM Peak	532.7	PM Peak	337.3
%	AM Peak	36.1	AM Peak	63.9
	PM Peak	61.2	PM Peak	38.8

Table 1: Directional breakdown of trips occurring on Dover Point Road



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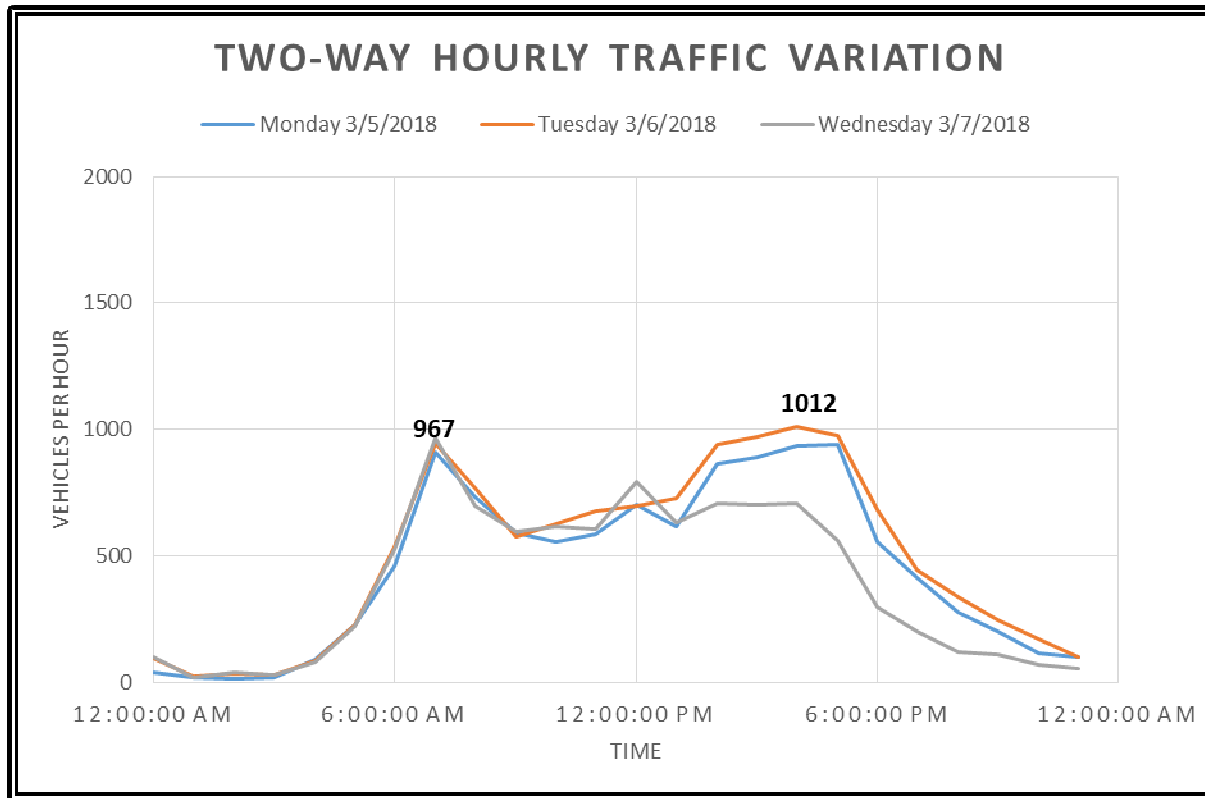
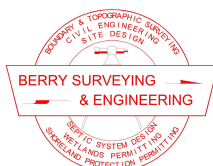


Figure 1: Graph of two-way hourly traffic variation with peak hour values



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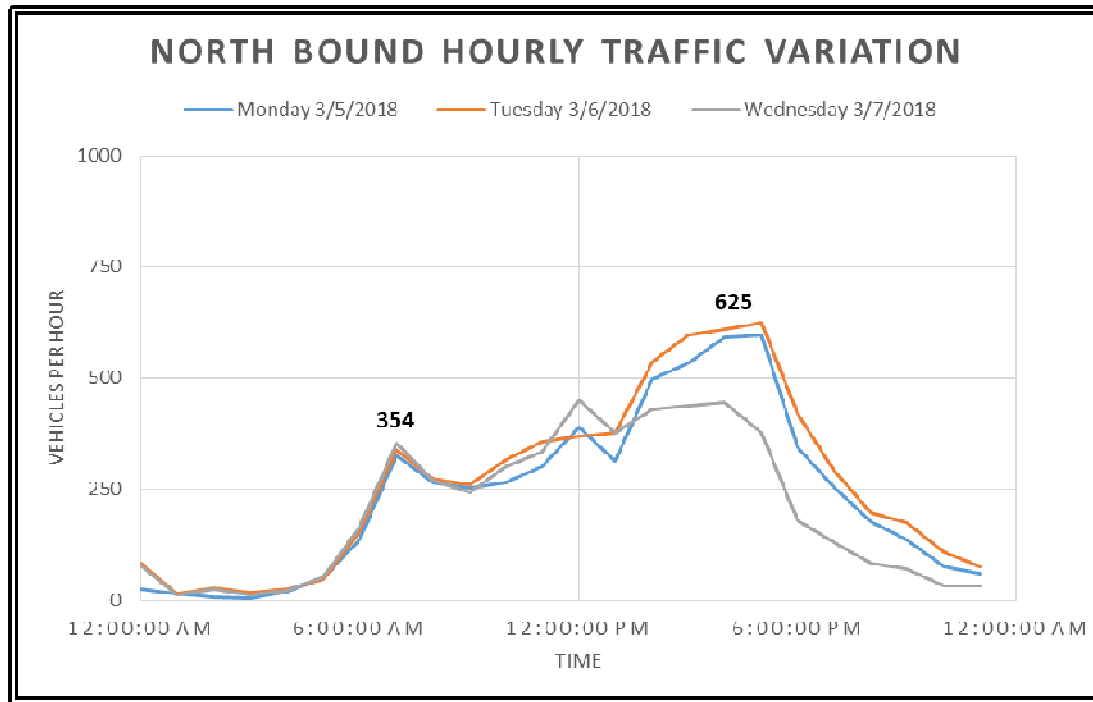


Figure 2: Graph of north bound hourly traffic variation with peak hour values

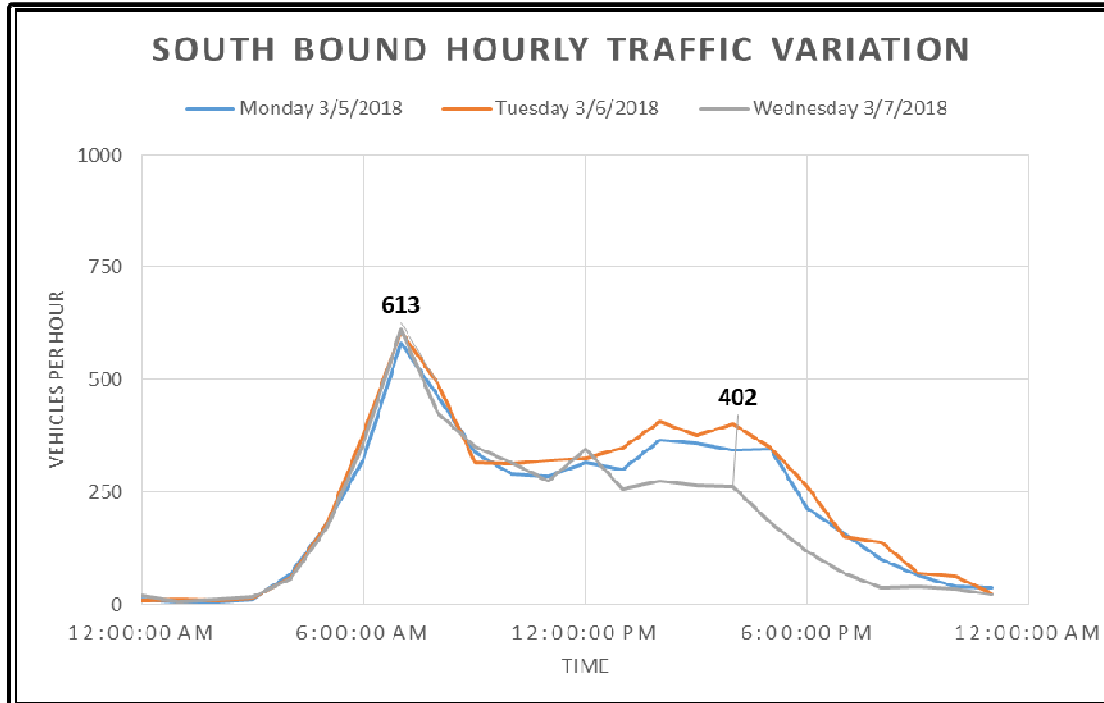


Figure 3: Graph of south bound hourly traffic variation with peak hour values



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Existing Vehicle Speeds

As noted above, the posted speed limit of Dover Point Road is 40 MPH. For the purposes of the safety, analysis below the 85th percentile of speed is required. This particular section of NH Dover Point Road was observed by Berry Surveying & Engineering to analyze the pass by traffic, reviewing speed. Excessive speeds were rare, and most operators obeyed the posted speed limits within a deviation of 5 MPH. This is consistent with speeds found on urban roads. The 85th percentile derived by observation and consistency with general practice is 40-45 MPH.

Existing Trip Generation

The 9th Edition ITE Trip Generation Manual was used to determine the existing volume of trips, as well as the percentage of entrance-to-exit traffic experienced during the AM & PM adjacent traffic for the peak hours between 7 and 9 AM and 4 and 6 PM. Land Use Code Single Family Detached Housing (210) was used in deriving the trip generation for the existing site. The Table 2 provides average trip rate, total trips generated, enter to exit ratio, total trips, and the enter to exit distribution.

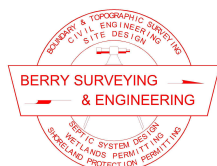
Single Family Detached Housing Existing Trip Generation:

Time Method	AM Peak Adj. St. Traffic (Page 297) Per Dwelling Unit			Time Method	PM Peak Adj. St. Traffic (Page 298) Per Dwelling Unit		
Units	1			Units	1		
Avg. Rate	0.75			Avg. Rate	1		
Total Trips	0.8			Total Trips	1.0		
% Enter	25.0	Total Enter	0.2	% Enter	63.0	Total Enter	0.6
% Exit	75.0	Total Exit	0.6	% Exit	37.0	Total Exit	0.4

Table 2: (Single Family Detached Housing) Peak hour of adjacent street traffic weekdays AM & PM

Build Trip Generation

The 9th Edition ITE Trip Generation Manual was used to determine the existing volume of trips, as well as the percentage of entrance-to-exit traffic experienced at the AM & PM adjacent traffic for the peak hours between 7 and 9 AM and 4 and 6 PM. Land Use Code Single Family Detached Housing (210) was used in deriving the trip generation for the proposed site. The Table 3 provides average trip rate, total trips generated, enter to exit ratio, total trips, and the enter to exit distribution.



Single Family Detached Housing Proposed Trip Generation:

Time Method	AM Peak Adj. St. Traffic (Page 297) Per Dwelling Unit			Time Method	PM Peak Adj. St. Traffic (Page 298) Per Dwelling Unit		
Units	10			Units	10		
Avg. Rate	0.75			Avg. Rate	1		
Total Trips	7.5			Total Trips	10.0		
% Enter	25.0	Total Enter	1.9	% Enter	63.0	Total Enter	6.3
% Exit	75.0	Total Exit	5.6	% Exit	37.0	Total Exit	3.7

Table 3: (Single Family Detached Housing) Peak hour of adjacent street traffic weekdays AM & PM

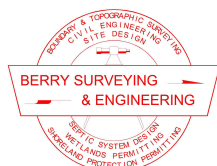
Combined Existing & Proposed Trip Generation:

Time	AM Peak Adj. St. Traffic			Time	PM Peak Adj. St. Traffic		
Total Trips	8.3			Total Trips	11.0		
% Enter	25.0	Total Enter	2.1	% Enter	63.0	Total Enter	6.9
% Exit	75.0	Total Exit	6.2	% Exit	37.0	Total Exit	4.1

Table 4: Total Peak hour of adjacent street traffic weekdays AM & PM generation

Build Traffic Projections and Turning Analysis

Traffic data obtained from the NH DOT's Transportation Data Management System has been projected to 2018 and ten years further to 2028. This has been done using a peak seasonal adjustment factor of 1.08 (AM & PM) and using an annual growth rate of 1%, compounded annually. The derivation of the peak seasonal adjustment factor comes from an average series of values from other urban highways from across New Hampshire and can be found as Table 8 in the attachment portion of the report. The following figures show the build turning movements to and from the site. These figures also show the traffic of volume north bound and south bound on Dover Point Road in 2018 and the projected 2028 volumes.



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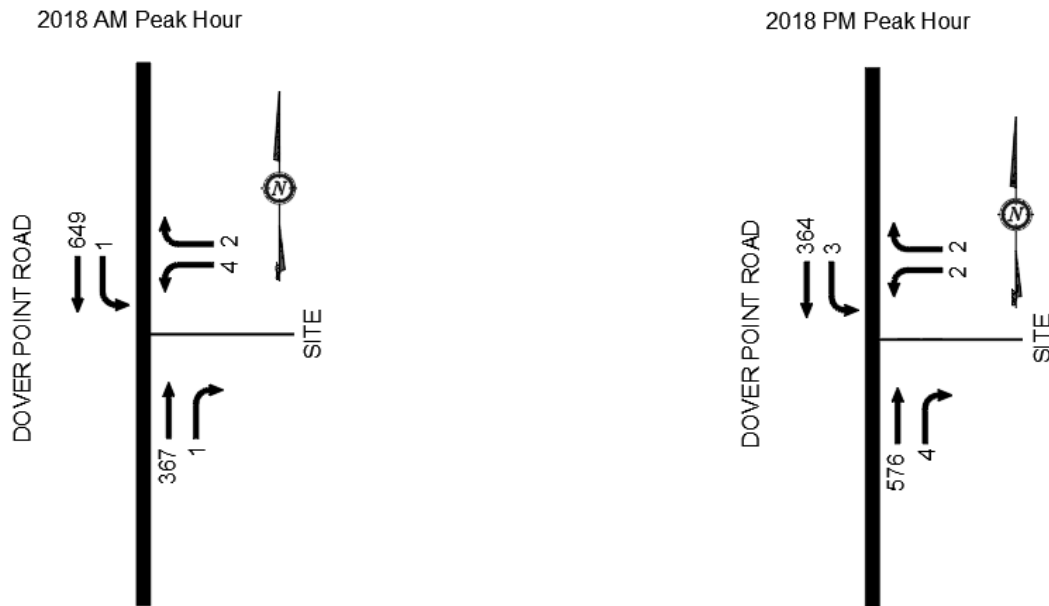


Figure 4: 2018 build traffic volumes and turning movements

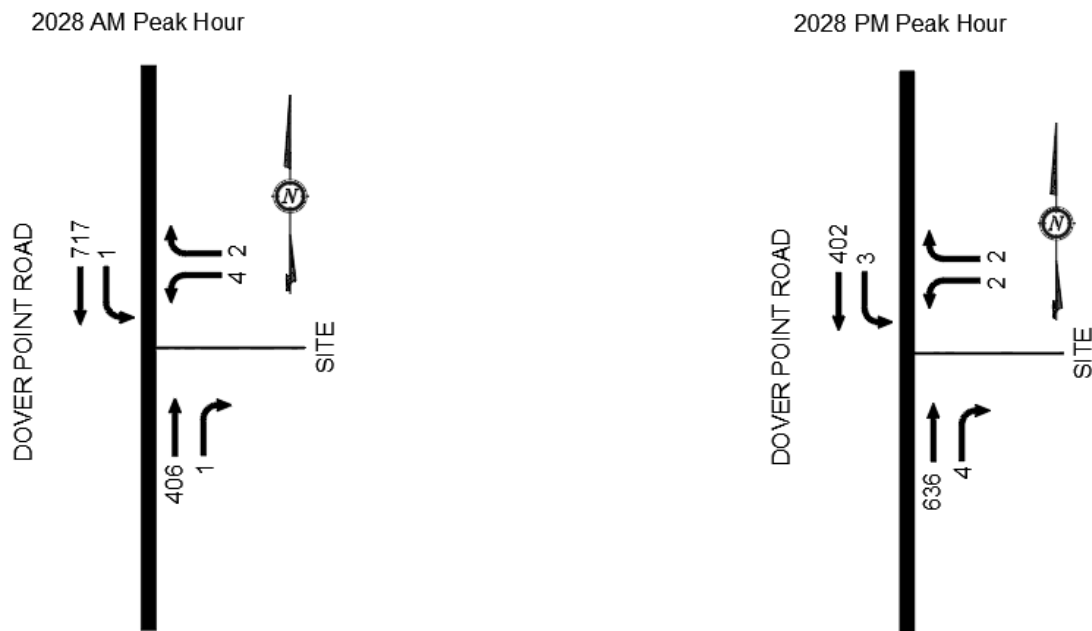
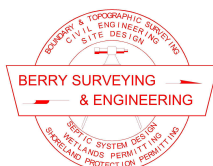


Figure 5: 2028 projected traffic volumes and turning movements

In the Tables 5 & 6, the total trips that are calculated to occur from Dover Point Road are shown at AM and PM peak times. These are further broken down to entrance and exit into the site as well as percentage of left and right turns.



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Time	Weekday AM Adj. St. Traffic	# Trips	Turn Type	% Distribution
Total Trips	8.3			
Trips Enter from Dover Point RD North		0.7	Right	9.0
Trips Enter from Dover Point RD South		1.3	Left	16.0
Trips Exit to Dover Point RD North		2.2	Right	27.1
Trips Exit to Dover Point RD South		4.0	Left	47.9

Table 5: Summary of AM turning movements to and from the site

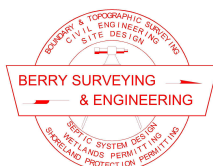
Time	Weekday PM Adj. St. Traffic	# Trips	Turn Type	% Distribution
Total Trips	11.0			
Trips Enter from Dover Point RD North		4.2	Right	38.6
Trips Enter from Dover Point RD South		2.7	Left	24.4
Trips Exit to Dover Point RD North		2.5	Right	22.7
Trips Exit to Dover Point RD South		1.6	Left	14.3

Table 6: Summary of PM turning movements to and from the site

Left-Turn Warrants Analysis

Depending on vehicle speed, advancing vehicular volumes, opposing vehicular volumes, and the percent of left turns that vehicles are predicted to make, certain roadways may require special treatment for vehicles making left turning maneuvers. The determination of this special treatment is determined by the NCHRP 457 left turn bay guidelines. Calibration constants of 3.0 seconds are used for average left turn time, 5.0 seconds for critical headway, and 1.9 seconds for vehicles to clear the advancing lane. If warranted, the left turn bay would allow for deceleration of vehicles and storage in the queue to wait safely for advancing traffic to pass.

Due to the low project trip generation and low trips entering the site in the AM (1), only the PM peak traffic volumes from 2018 and projected to 2028 were used. It has been calculated that approximately 3 trips are to occur turning left into the site during the AM peak hour. For 2018, the advancing and opposing volumes are 649 and 367, respectively. It was projected for 2028 that advancing and opposing volumes would be 717 and 406, respectively. Using the 85th percentile speed of 45 MPH, it was determined that a left turn lane will not be warranted for the proposed site. Below is the composition of the left-turn bay analysis. The analysis can be found in the attachments as Figures 13 & 14.



Left-Turn Lane Warrants Analysis Dover Point Road		
Factors	2018 PM Build Volume	2028 PM Build Volume
Left-Turn Volume (SB)	3	3
Advancing Volume (SB)	364	402
Opposing Volume (NB)	576	636
Percent Lefts	1.0%	1.0%
85th Percentile Speed (MPH)	45	45
Limiting Adv. Volume (veh/hr)	951	941
Left Turn Bay Warranted	NO	NO

Table 7: Summary of NCHRP 457 left-turn bay analysis

Right-Turn Warrants Analysis

Depending on vehicle speed, advancing vehicular volumes, and the percent of right turns that vehicles are predicted to make, certain roadways may require special treatment for vehicles making right turning maneuvers. The determination of this special treatment is determined by the NCHRP 457 right turn bay guidelines. If warranted, the right turn bay would allow for deceleration of vehicles and storage in the queue to wait safely for right turning traffic to clear.

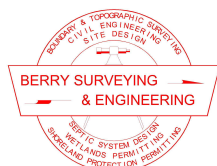
Due to the low right turn trips entering the site in the AM (1) and lower value of advancing east bound vehicles, only PM peak traffic volumes from 2018 and projected to 2028 were used. It has been calculated that approximately 4 trips are to occur turning right into the site during the AM peak hour. For 2018, the advancing volume is 575 vehicles. It was projected for 2028 that advancing volume would be 636 vehicles. Using the 85th percentile speed of 45 MPH, it was determined that a right turn lane will not be warranted for the proposed site. Below is the composition of the right-turn bay analysis. The analysis can be found in the attachments as Figures 15 & 16.

Right-Turn Lane Warrants Analysis Dover Point Road		
Factors	2018 PM Build Volume	2028 PM Build Volume
Right-Turn Volume (NB)	4	4
Approach Volume (NB)	575	636
85th Percentile Speed (MPH)	45	45
Limiting Adv. Volume (veh/hr)	33	28
Right-Turn Bay Warranted	NO	NO

Table 8: Summary of NCHRP 457 right-turn bay analysis

Sight Distance and Safety Analysis

The access point of analysis for sight distance is the proposed driveway. Sight distance to the north and south, as well as driveway alignment are the two determining factors of safety. Sight



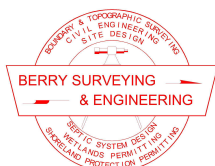
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distance to the north is un-obstructed for well over 400 feet (measured) while sight distance to the south is un-obstructed for well over 400 feet (measured.) Using Exhibit 3-1 (Stopping Sight Distance) (Figure 20) in the Geometric Design Manual, a 45 mph 85th percentile speed requires the stopping sight distance be 360 feet from the both directions. The standard sight distance required by NHDOT is 400 feet in cases where the Geometric Design Manual would not require more. In this instance both the northerly and southerly sight distances meet the design required warrant as well as the standard practice of NHDOT of 400 feet. There are no improvements required to maintain this site distance.

With respect to general safety of Dover Point Road in relation to the peak hour trip generation and AADT, it is our assessment that the cross section of pavement and shoulder widths are appropriate.

*AASHTO Geometric Design of Highways and Streets (2004)



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Conclusions and Recommendations

- 1.) A generation of 8 vehicle trips (2 enter/6 exit) is predicted to occur at the AM peak hour and 11 vehicle trips (7 enter/4 exit) at the PM peak hour.
- 2.) This is an increase in trip generation of 7 AM trips and 9 PM trips.
- 3.) The 2018 and 2028 build traffic volumes DO NOT satisfy the NCHRP 457 guidelines for the implementation of a right-turn lane.
- 4.) The 2018 and 2028 build traffic volumes DO NOT satisfy the NCHRP 457 guidelines for the implementation of a left-turn lane.
- 5.) It is recommended that the existing and surrounding infrastructure will be sufficient to handle to projected increase in vehicle trips and peak hour and all other hours.

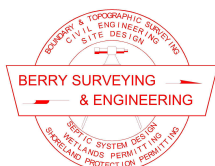
Respectfully Submitted,

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CPSWQ, CPESC, CESSWI
Principal, VP-Technical Operations



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Attachments

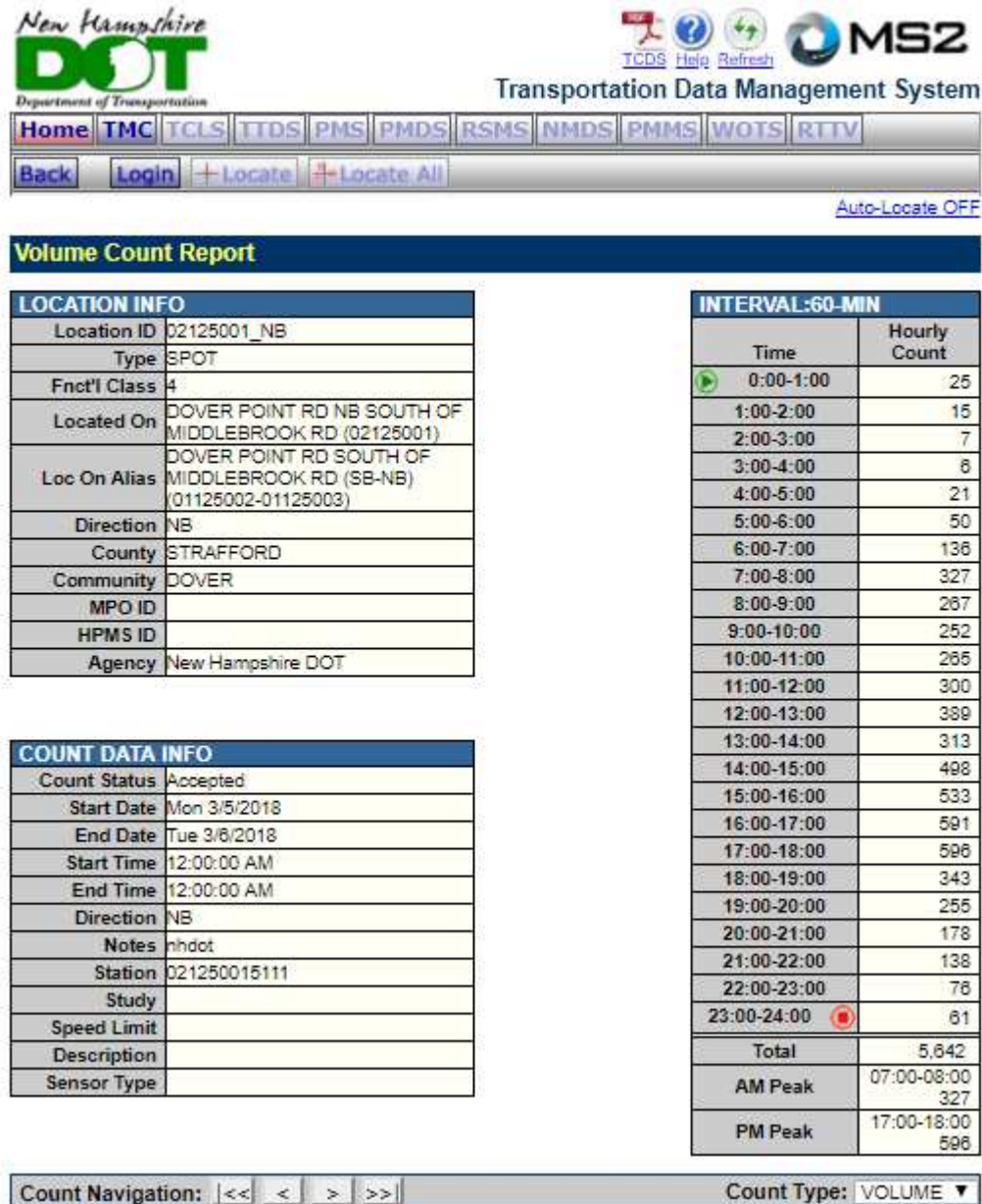
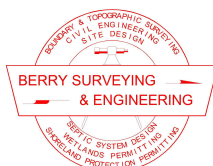


Figure 6: Monday March 5th, 2018 north bound hourly traffic count



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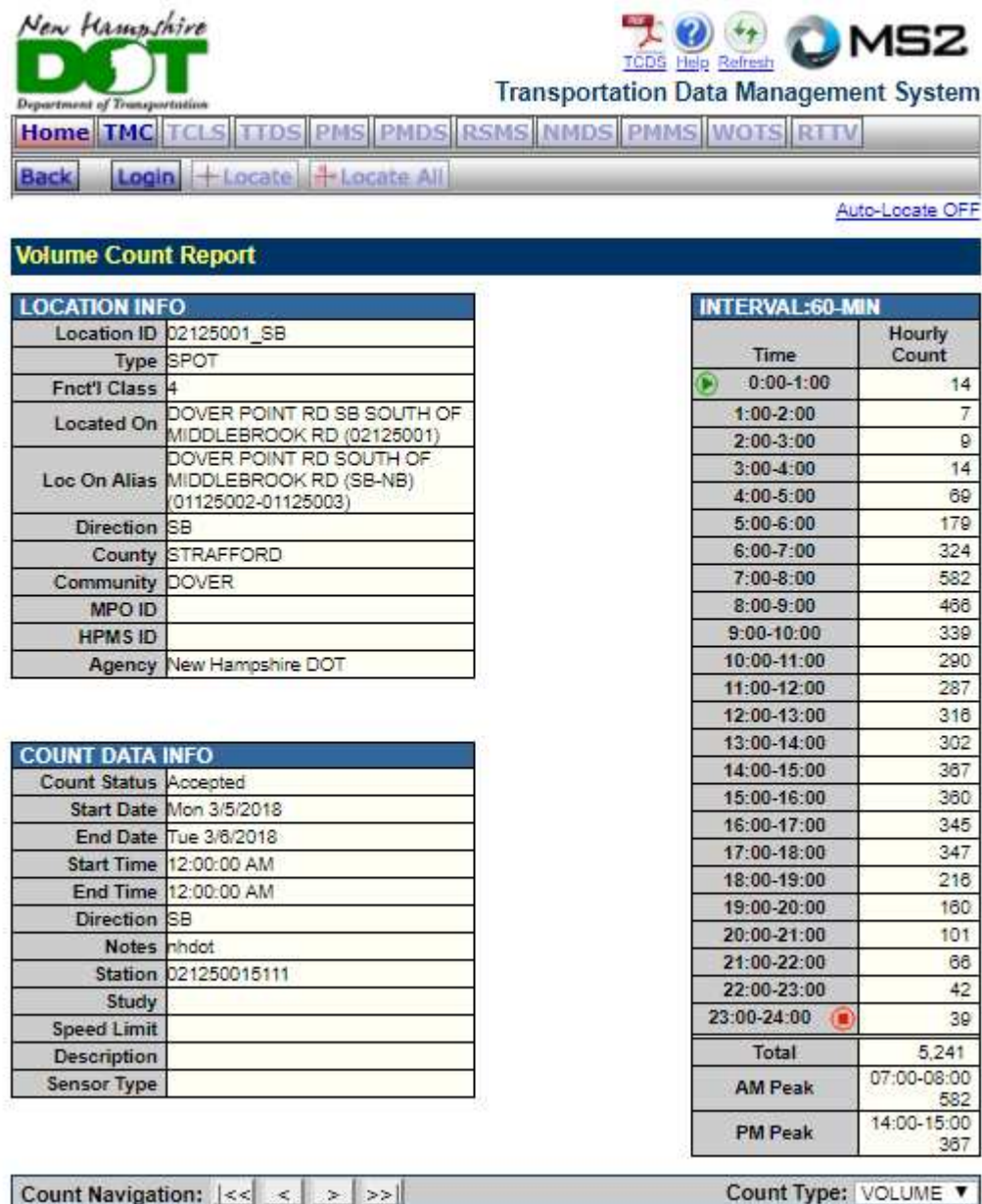
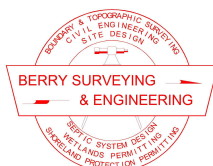


Figure 7: Monday March 5th, 2018 south bound hourly traffic count



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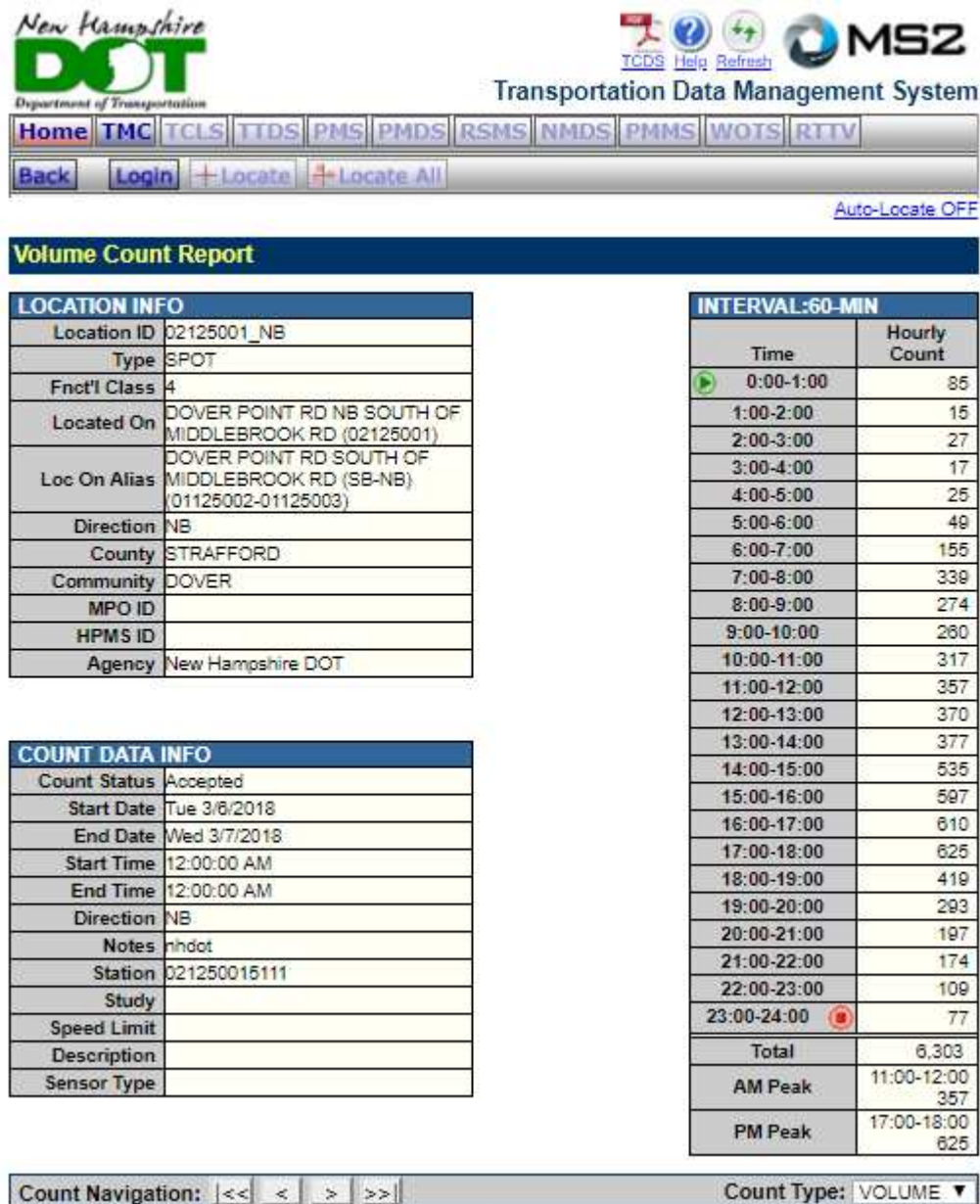
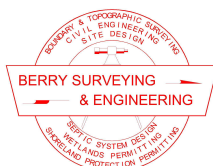


Figure 8: Tuesday March 6th, 2018 north bound hourly traffic count



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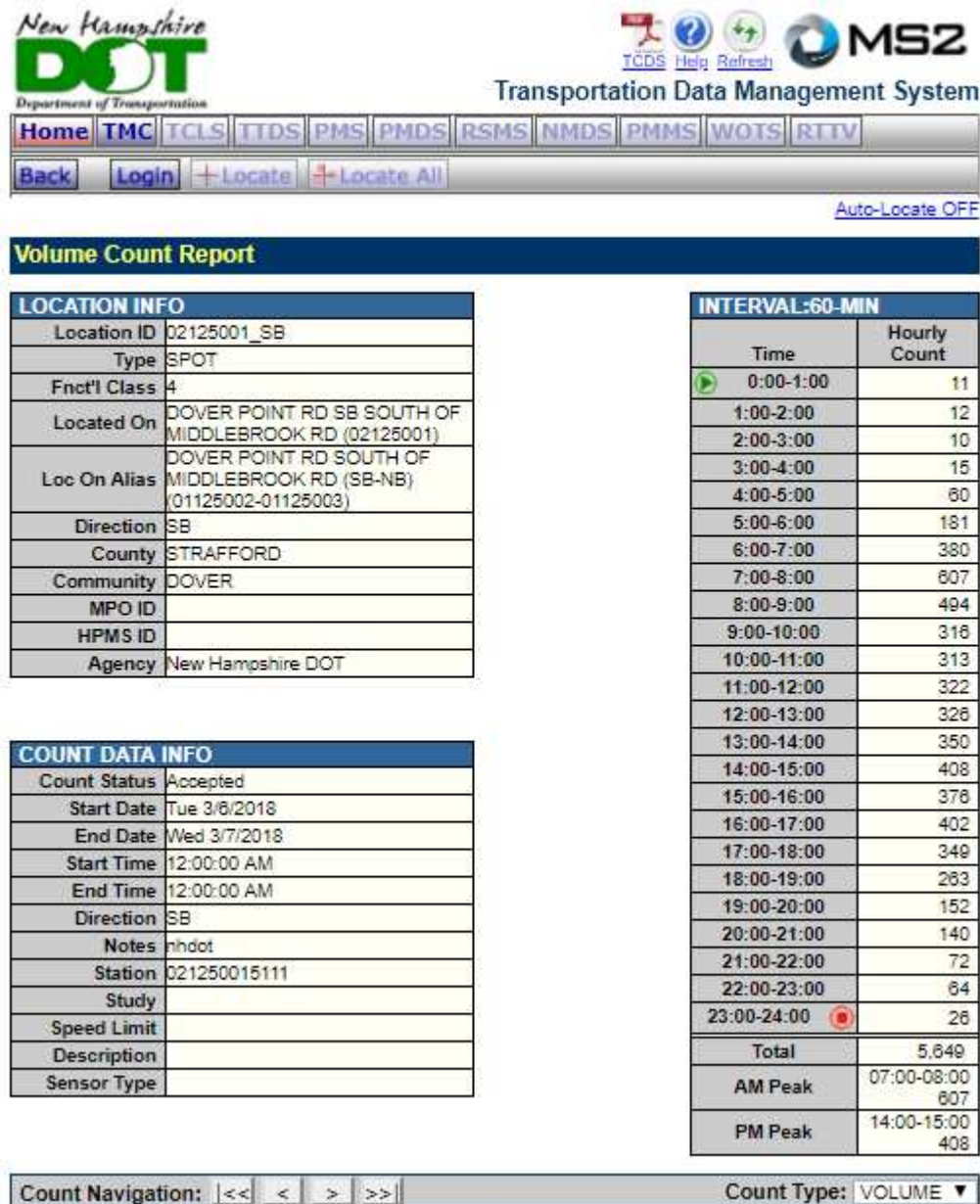
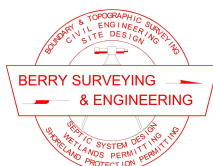


Figure 9: Tuesday March 6th, 2018 south bound hourly traffic count



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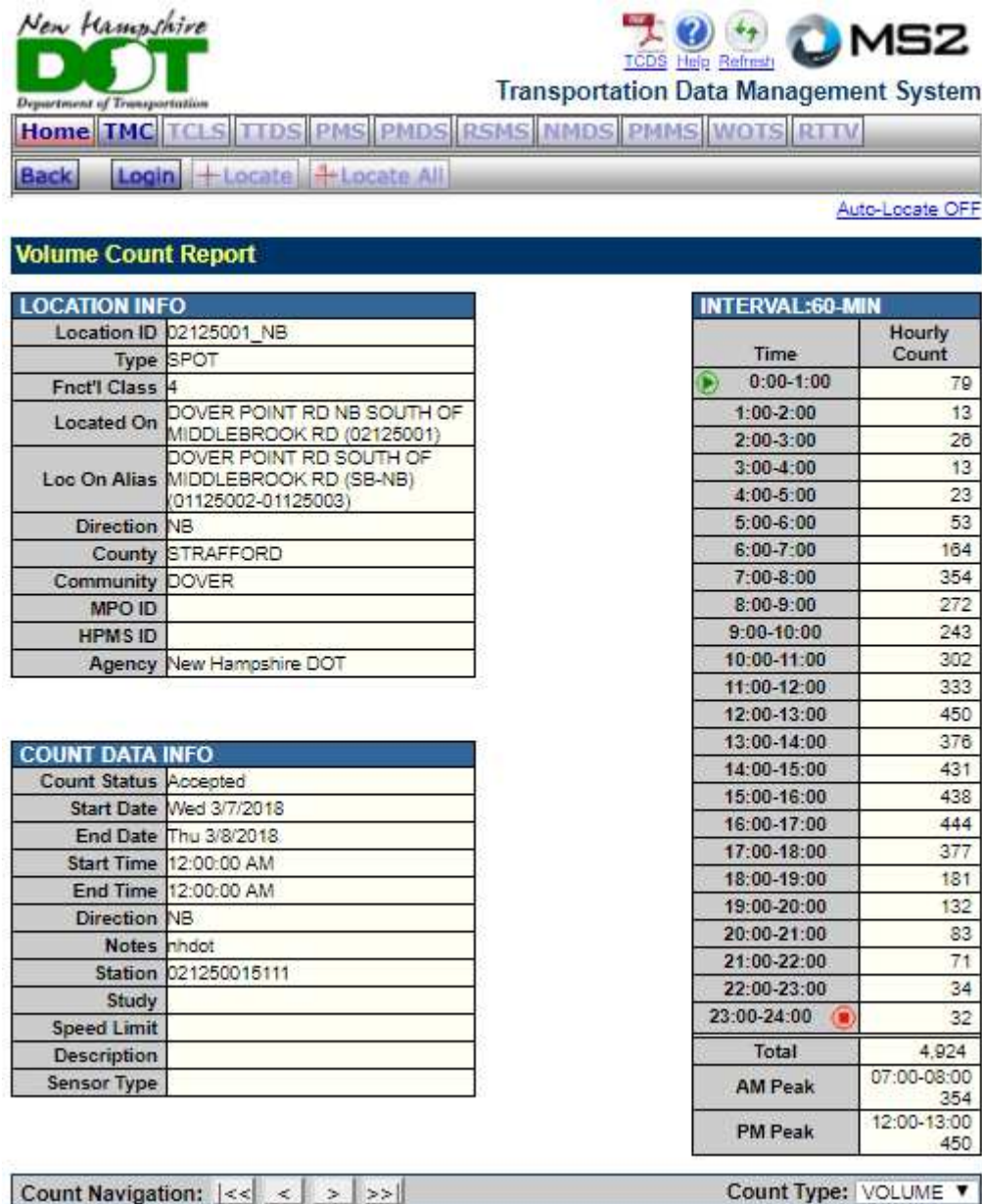
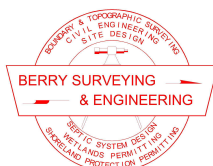


Figure 10: Wednesday March 7th, 2018 north bound hourly traffic count



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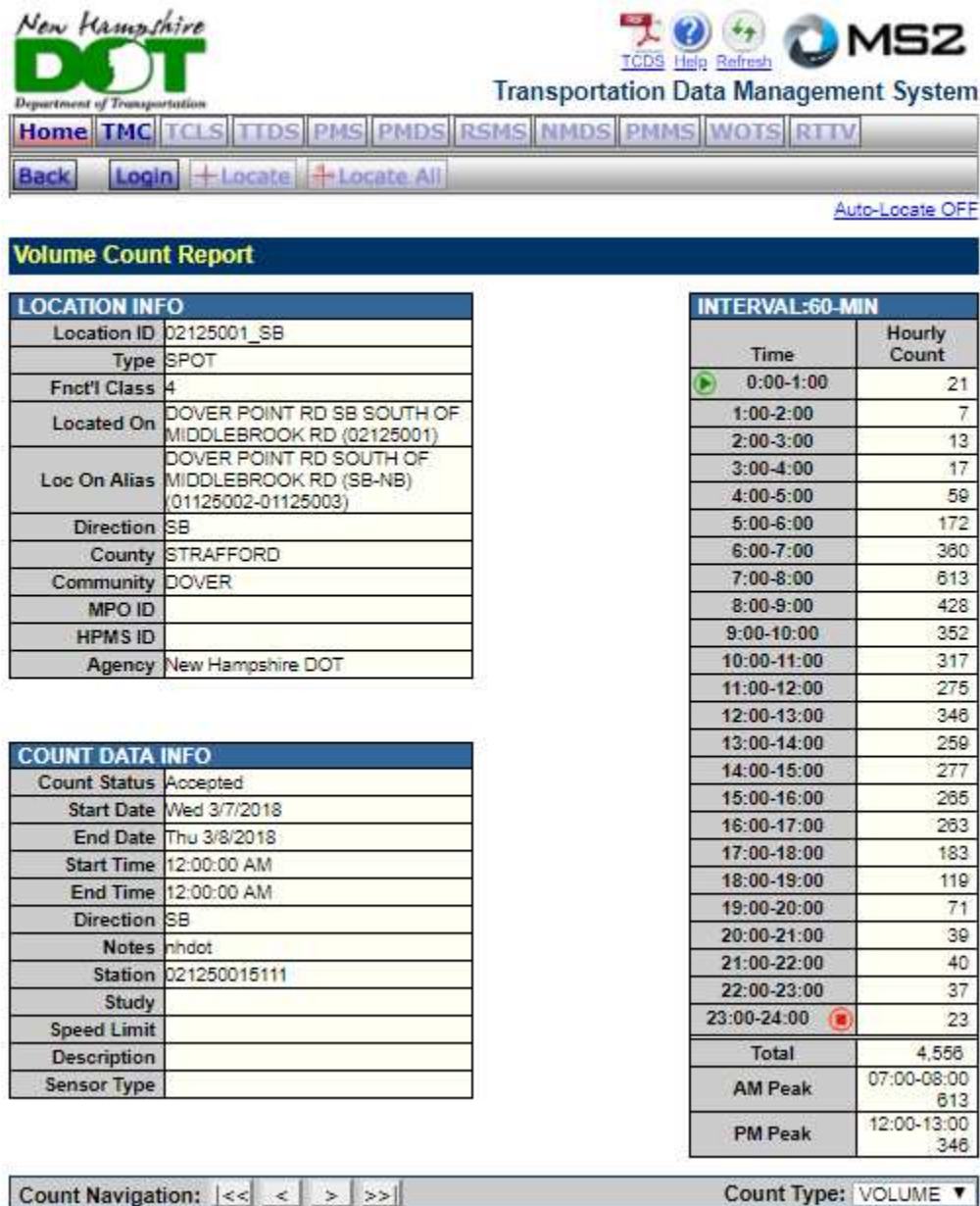
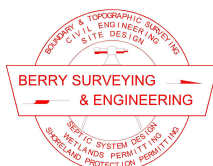


Figure 11: Wednesday March 7th, 2018 south bound hourly traffic count

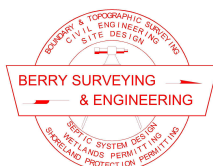


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Bureau of Planning, Traffic Section, Traffic Reports												
STAT.	TYPE	LOCATION	FC	2008	2009	2010	2011	2012	2013	2014	2015	18-Feb-16
Town: DOVER												
125001	02	DOVER POINT RD SOUTH OF MIDDLEBROOK RD (SB-NB) (01125002-01125003)	16	13393	13500	13567	13024	12639	12461	12490	12396	
125013	82	WHITTIER ST SOUTH OF ADDISON PLACE (SB-NB) (81125130-81125131)	17	*	*	5000	*	*	4900	*	*	
125016	82	OLD ROCHESTER RD NORTH OF LONG HILL RD (SB-NB) (81125226-81125227)	16	5900	*	*	6000	*	*	5400	*	
125022	82	HAM ST EAST OF CENTRAL AVE (EB-WB) (81125136-81125137)	19	1600	*	*	1400	*	*	1300	*	
125023	82	OAK ST EXT SOUTH OF NH 4 (PORTLAND AVE) (SB-NB) (81125152-81125153)	19	2800	*	*	2600	*	*	3300	*	
125025	82	CATARACT RD OVER SPAULDING TPK (EB-WB) (81125138-81125139)	19	*	*	*	*	1100	*	*	1300	
125026	82	SIXTH ST WEST OF INDIAN BROOK DRIVE	17	*	*	10000	*	*	9700	*	*	
125029	82	CHESTNUT ST SOUTH OF FIRST ST (SB-NB) (81125120-81125121)	17	*	*	12000	*	*	11000	*	*	
125030	62	SPAULDING TPK/NH 16 BETWEEN EXITS 7 - 8 (SB-NB) (61125030-61125031)	12	*	*	40600	*	*	41600	*	*	
125037	82	NH 9/NH 108 (CENTRAL AVE) SOUTH OF GLENWOOD AVE	16	*	*	20000	*	*	18000	*	*	
125039	82	INDIAN BROOK RD EAST OF SPAULDING TPK EXIT 9 (EB-WB) (81125110-81125111)	14	*	*	32000	*	*	31000	*	*	
125040	82	BLACKWATER RD AT ROCHESTER TL	17	*	*	710	*	*	880	*	*	
125041	82	SPUR RD OVER SPAULDING TPK (EB-WB) (81125142-81125143)	19	*	*	*	*	480	*	*	530	
125042	82	BROADWAY NORTH OF ST JOHN ST (SB-NB) (81125206-81125207)	16	*	*	*	*	5300	*	*	5200	

Page 1

Figure 12: Historical traffic volumes ((125001) Dover Point RD South of Middlebrook RD)



2018-001 Thibodeau, Dover, NH
Traffic Impact Analysis, April 5th, 2018

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	1%
Advancing volume (V_A), veh/h:	402
Opposing volume (V_O), veh/h:	636

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	941
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

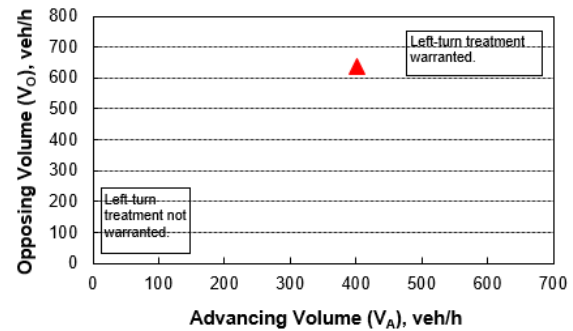


Figure 13: 2018 NCHRP 457 left-turn bay analysis

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	1%
Advancing volume (V_A), veh/h:	364
Opposing volume (V_O), veh/h:	576

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	951
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

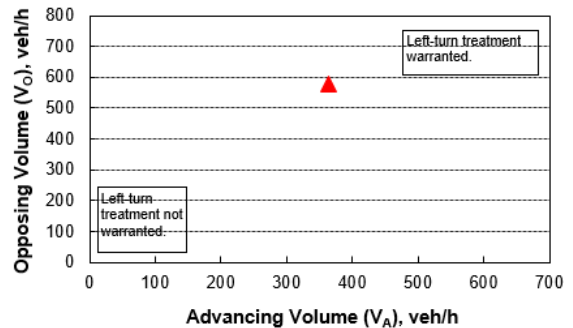
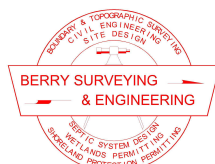


Figure 14: 2028 NCHRP 457 left-turn bay analysis



BERRY SURVEYING & ENGINEERING

335 Second Crown Pt. Rd., Barrington, NH 03825
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2018-001 Thibodeau, Dover, NH
Traffic Impact Analysis, April 5th, 2018

Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

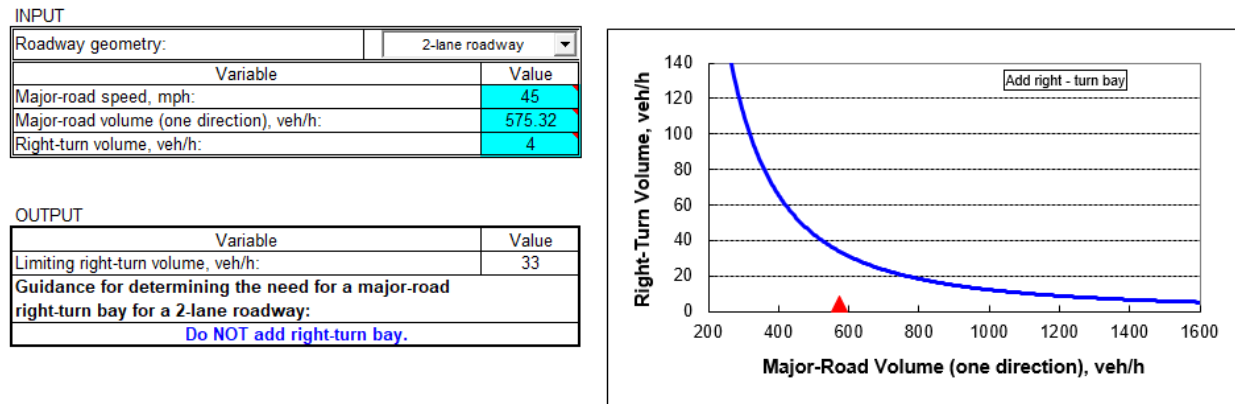


Figure 15: 2018 NCHRP 457 right-turn bay analysis

Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

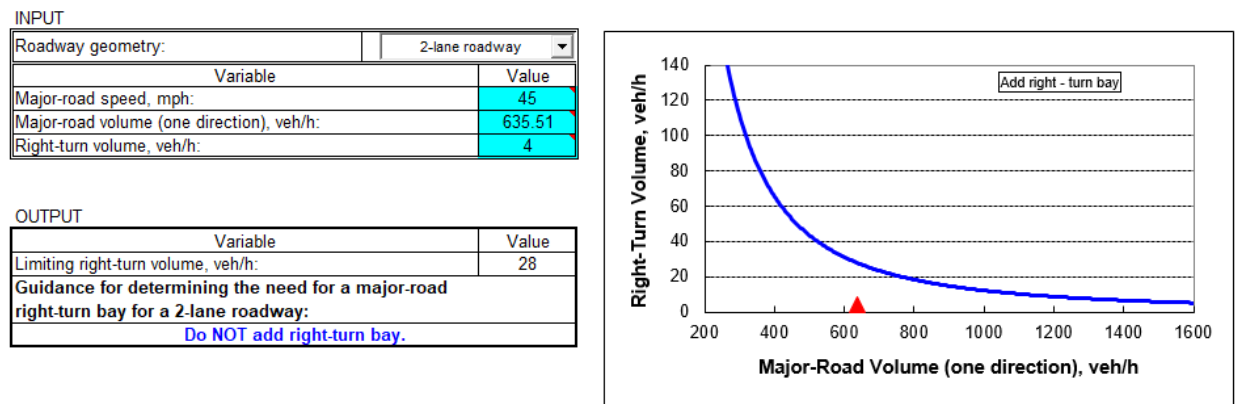


Figure 16: 2028 NCHRP 457 right-turn bay analysis



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2018-001 Thibodeau, Dover, NH
Traffic Impact Analysis, April 5th, 2018

Single-Family Detached Housing (210)

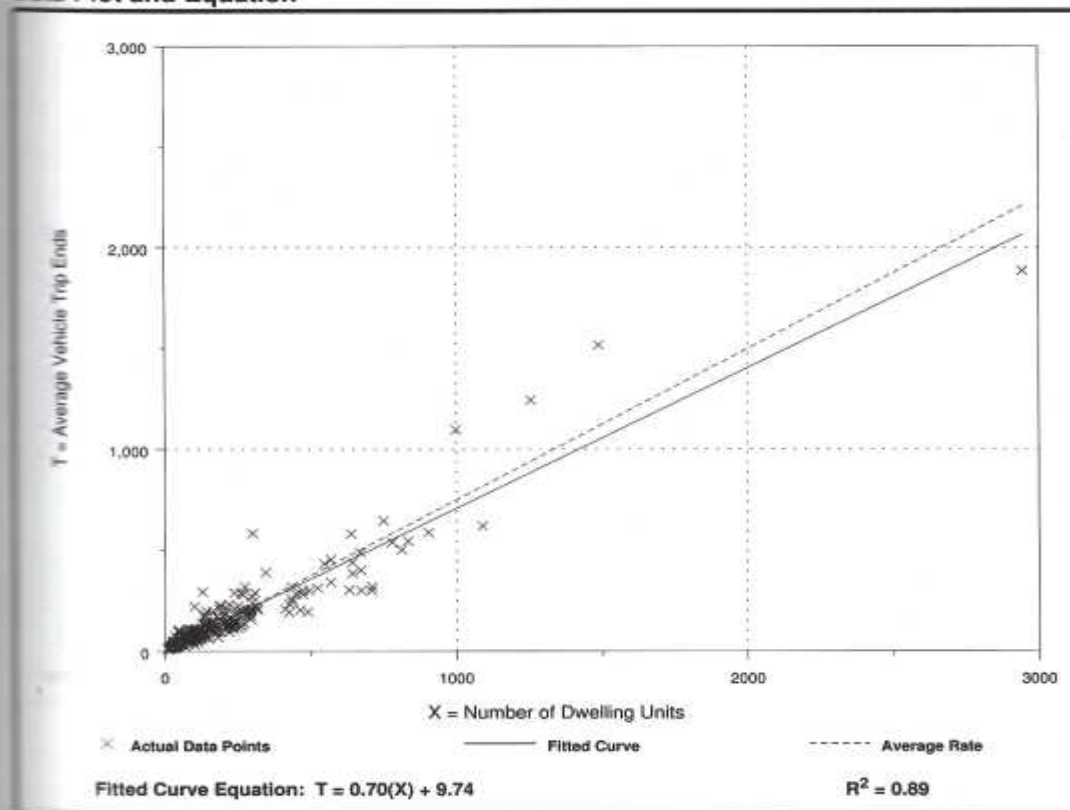
Average Vehicle Trip Ends vs: Dwelling Units
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Number of Studies: 292
Avg. Number of Dwelling Units: 194
Directional Distribution: 25% entering, 75% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.75	0.33 - 2.27	0.90

Data Plot and Equation



Trip Generation, 9th Edition • Institute of Transportation Engineers

297

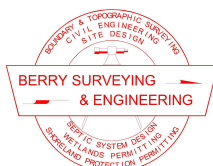
Figure 17: ITE Trip Generation, 9th Edition

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www.BerrySurveying.Com



2018-001 Thibodeau, Dover, NH
Traffic Impact Analysis, April 5th, 2018

Single-Family Detached Housing (210)

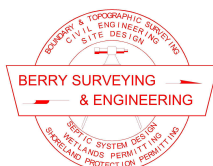
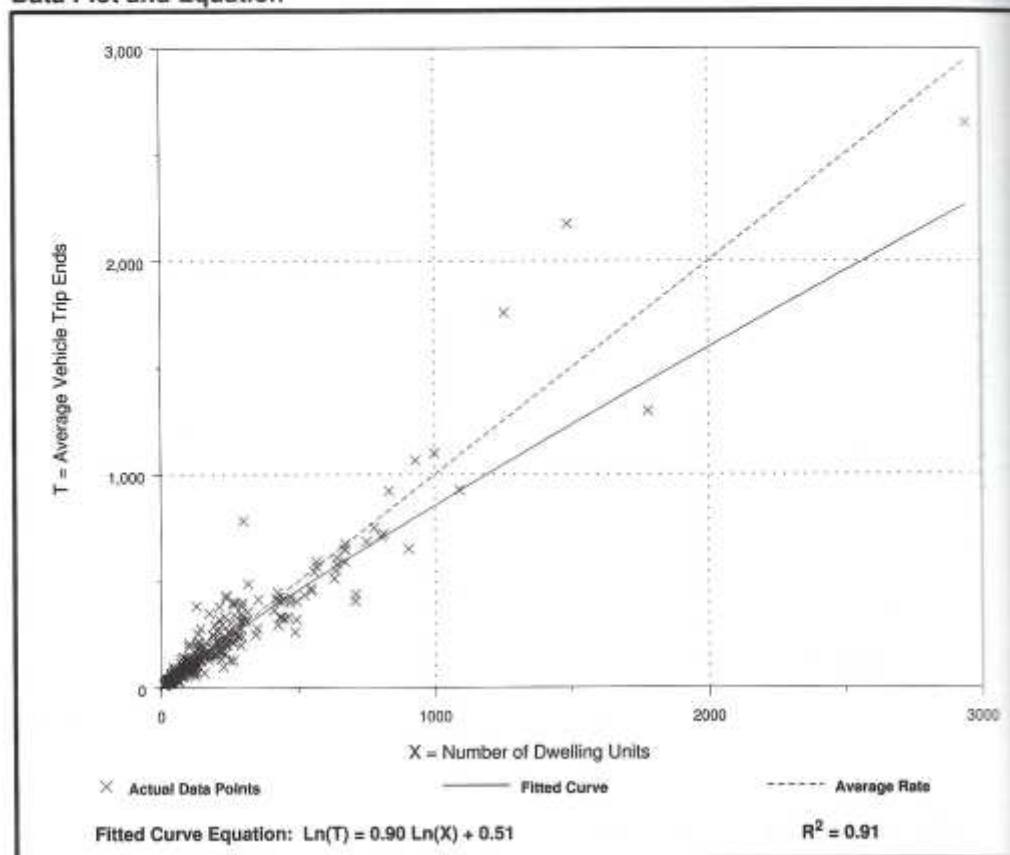
Average Vehicle Trip Ends vs: Dwelling Units
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 321
Avg. Number of Dwelling Units: 207
Directional Distribution: 63% entering, 37% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
1.00	0.42 - 2.98	1.05

Data Plot and Equation

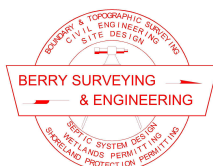


2018-001 Thibodeau, Dover, NH
Traffic Impact Analysis, April 5th, 2018

Figure 18: ITE Trip Generation, 9th Edition

Year 2016 Monthly Data			
Group 4 Averages:		Urban Highways	
		Adjustment to	
Month	ADT	Average	Peak
January	13,573	1.16	1.25
February	14,038	1.12	1.21
March	15,731	1.00	1.08
April	16,139	0.97	1.05
May	15,705	1.00	1.08
June	16,766	0.94	1.01
July	15,752	1.00	1.08
August	16,529	0.95	1.03
September	17,007	0.92	1.00
October	16,598	0.94	1.02
November	15,649	1.00	1.09
December	14,638	1.07	1.16
Average ADT:	15,677		
Peak ADT:	17,007		

Table 9: Derivation of the seasonal peaking factor



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AASHTO—Geometric Design of Highways and Streets

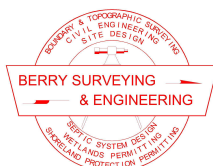
Metric				US Customary					
Design speed (km/h)	Brake reaction distance (m)	Braking distance on level (m)	Stopping sight distance		Design speed (mph)	Brake reaction distance (ft)	Braking distance on level (ft)	Stopping sight distance	
			Calculated (m)	Design (m)				Calculated (ft)	Design (ft)
20	13.9	4.6	18.5	20	15	55.1	21.6	76.7	80
30	20.9	10.3	31.2	35	20	73.5	38.4	111.9	115
40	27.8	18.4	46.2	50	25	91.9	60.0	151.9	155
50	34.8	28.7	63.5	65	30	110.3	86.4	196.7	200
60	41.7	41.3	83.0	85	35	128.6	117.6	246.2	250
70	48.7	56.2	104.9	105	40	147.0	153.6	300.6	305
80	55.6	73.4	129.0	130	45	165.4	194.4	359.8	360
90	62.6	92.9	155.5	160	50	183.8	240.0	423.8	425
100	69.5	114.7	184.2	185	55	202.1	290.3	492.4	495
110	76.5	138.8	215.3	220	60	220.5	345.5	566.0	570
120	83.4	165.2	248.6	250	65	238.9	405.5	644.4	645
130	90.4	193.8	284.2	285	70	257.3	470.3	727.6	730
					75	275.6	539.9	815.5	820
					80	294.0	614.3	908.3	910

Note: Brake reaction distance predicated on a time of 2.5 s; deceleration rate of 3.4 m/s² [11.2 ft/s²] used to determine calculated sight distance.

Exhibit 3-1. Stopping Sight Distance

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Figure 19: Derivation of stopping sight distance requirements



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SHEET 24	~ SEPTIC LAYOUTS 5-8
SHEET 25	~ SEPTIC LAYOUTS 9-11

OWNER: TDAK & COMPANY
9B KELSEY LANE
GREENLAND, NH 03840

APPLICANT: TDAK & COMPANY
9B KELSEY LANE
GREENLAND, NH 03840

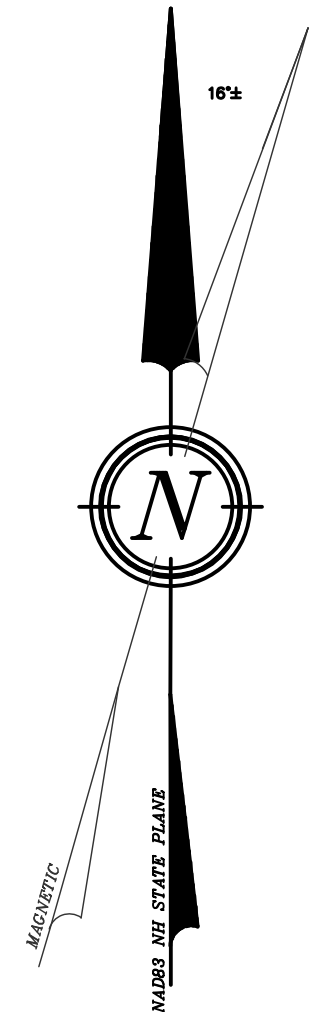
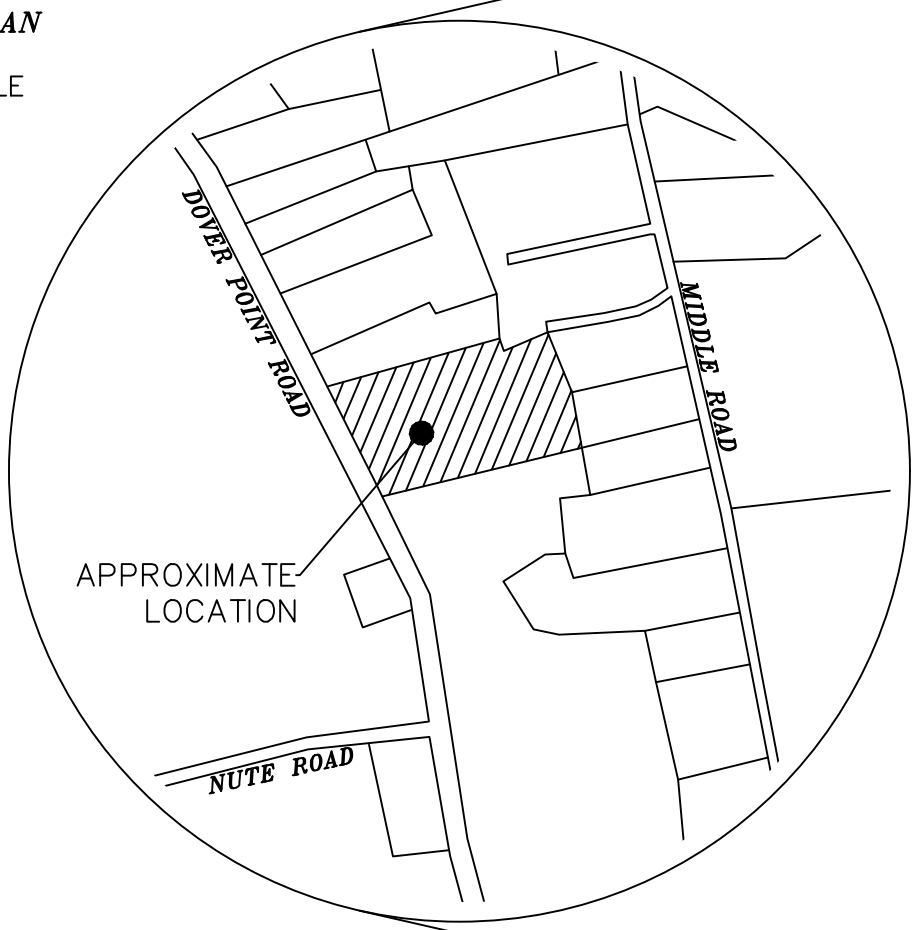
SURVEYOR OF RECORD: KENNETH A. BERRY, PE, LLS
CPESC, CESSWI, CPSWQ
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825
(603) 332-2863

ENGINEER OF RECORD: KENNETH A. BERRY, PE, LLS
CPESC, CESSWI, CPSWQ
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825
(603) 332-2863

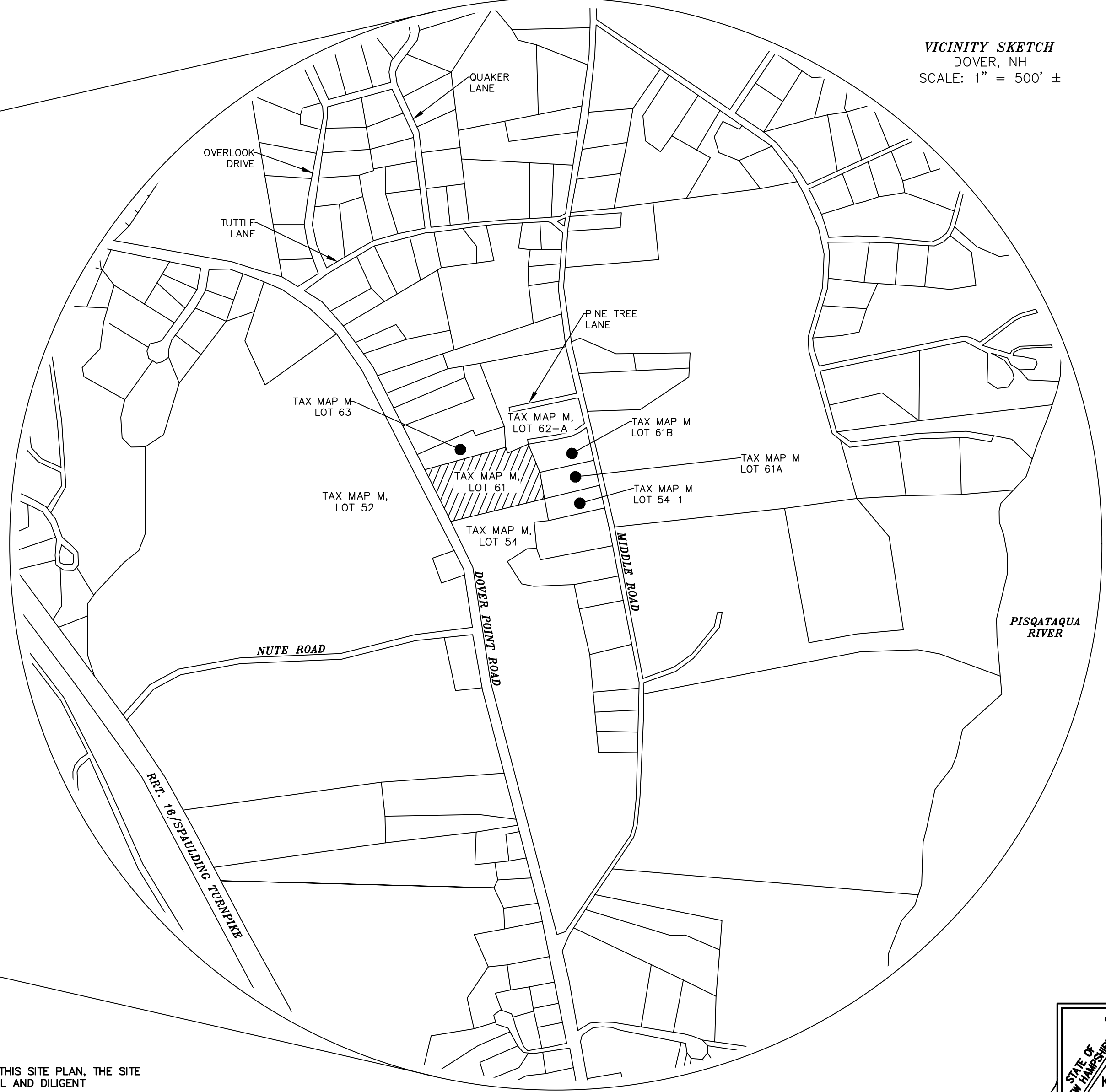
WETLAND SCIENTIST: STONEY RIDGE ENVIRONMENTAL
CYNTHIA M. BALCIUS, CSS, CWS, CPESC
229 PARKER MOUNTAIN ROAD
ALTON, NH 03809
603-776-5825

SOILS SCIENTIST: STONEY RIDGE ENVIRONMENTAL
CYNTHIA M. BALCIUS, CSS, CWS, CPESC
229 PARKER MOUNTAIN ROAD
ALTON, NH 03809
603-776-5825

LOCATION PLAN
DOVER, NH
NOT TO SCALE



VICINITY SKETCH
DOVER, NH
SCALE: 1" = 500' ±



GENERAL PLAN SET NOTES:

- 1.) 11x17" PLANS ARE HALF THE PUBLISHED SCALE.
- 2.) ALL PLANS ARE CONSIDERED TO BE NOT FOR CONSTRUCTION UNLESS THEY CONTAIN THE APPROVAL STAMP OF THE CITY OF DOVER.

WHETHER OR NOT OTHERWISE EXPRESSLY RECITED ON THIS SITE PLAN, THE SITE PLAN APPROVAL GRANTED IS CONDITIONED ON FAITHFUL AND DILIGENT ADHERENCE BY THE OWNER/SUBDIVIDER/DEVELOPER OF ALL TERMS, CONDITIONS, PROVISIONS AND SPECIFICATIONS OF THE CITY OF DOVER LAND SITE PLAN REGULATIONS AS AMENDED OR AS MAY LATER BE AMENDED, IN EFFECT ON THE DATE OF APPROVAL, UNLESS OR EXCEPT INsofar AS EXPRESSLY WAIVED, IN ANY PARTICULAR, BELOW. NON - ADHERENCE MAY RESULT IN A REVOCATION OF APPROVAL. ANY VARIATION FROM THE APPROVED PLAN WILL REQUIRE A RESUBMISSION FOR SITE PLAN APPROVAL.

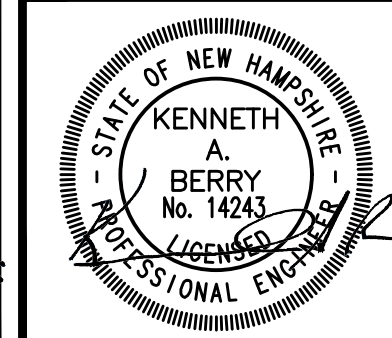
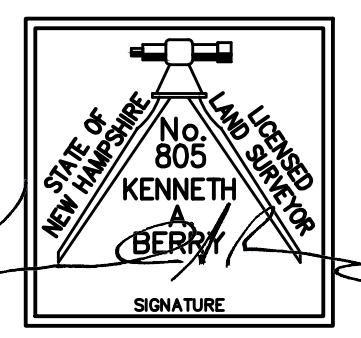
NOTE:
BERRY SURVEYING & ENGINEERING HAS PREPARED AN INSPECTION & MAINTENANCE MANUAL AS PART OF THIS PROJECTS DOCUMENTATION. ALL USERS ARE BOUND TO THIS DOCUMENT AS PART OF THE APPROVAL OF THE PLANNING BOARD. COPIES OF THE YEARLY INSPECTIONS ARE TO BE DELIVERED TO THE CITY OF DOVER COMMUNITY SERVICES DEPARTMENT.

DOVER FILE #P18-14

REVISION	DATE	DESCRIPTION

RESIDENTIAL SUBDIVISION PLAN
LAND OF
TDAK & COMPANY LLC
146 DOVER POINT ROAD
DOVER, NH 03820
TAX MAP M, LOT 61

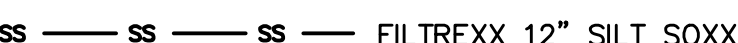
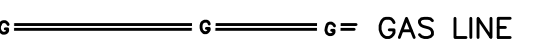
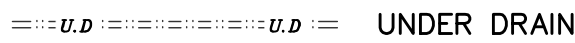
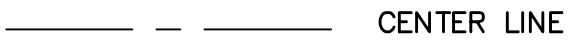
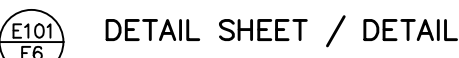
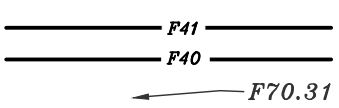
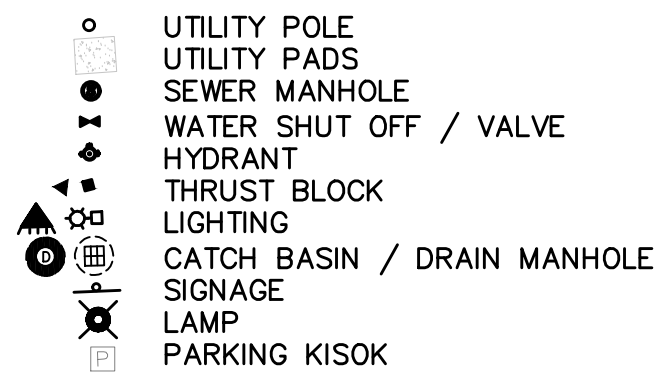
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : AS SHOWN
DATE : APRIL 5, 2018
FILE NO. : DB 2018 - 001



ABBREVIATION LEGEND:

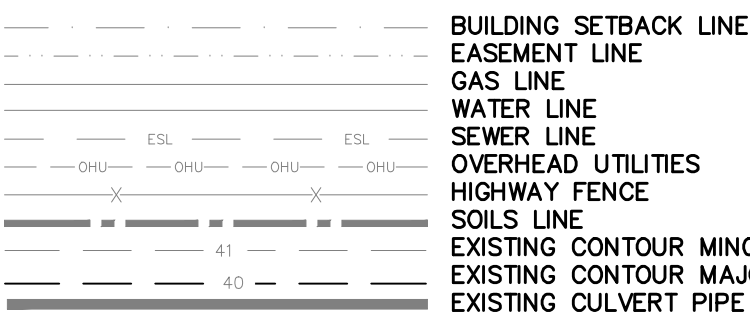
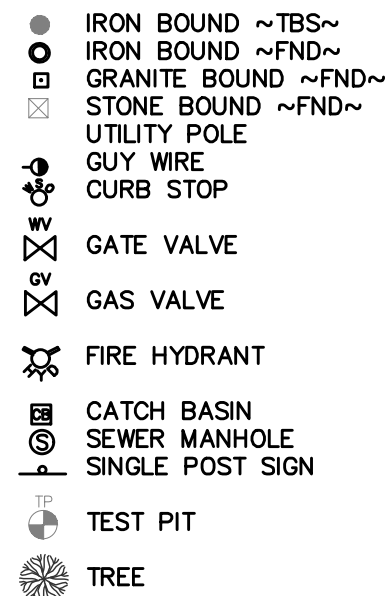
S.G.C.	SLOPED GRANITE CURB
V.G.C.	VERTICAL GRANITE CURB
E.O.P.	EDGE OF PAVEMENT
B.C.C.	BITUMINOUS CONCRETE CURB
BITUM.	BITUMINOUS
E.O.P.	EDGE OF PAVEMENT
E.S.H.W.T	ESTIMATED SEASONAL HIGH WATER TABLE
TYP.	TYPICAL
T.	BLOCK THRUST BLOCK
CONC.	CONCRETE
U.G.E.	UNDERGROUND ELECTRIC / UTILITY
U.D.	UNDER DRAIN
F.E.S.	FLARED END SECTION
HDPE	HIGH DENSITY POLYETHYLENE
RCP	REINFORCED CONCRETE PIPE
F.G.	FINISHED GRADE
E.G.	EXISTING GRADE
T.W.	TRAVELED WAY
T.B.R.	TO BE REMOVED
'/	FEET / FEET
SSL () ~ {SIZE}	SINGLE SOLID LINE (COLOR W=WHITE, Y=YELLOW)
DSL () ~ {SIZE}	DOUBLE SOLID LINE (COLOR W=WHITE, Y=YELLOW)
SSB () ~ {SIZE}	SINGLE SOLID W/ BROKEN LINE (COLOR W=WHITE, Y=YELLOW)
SBL () ~ {SIZE}	SINGLE BROKEN LINE (COLOR W=WHITE, Y=YELLOW)
DBL () ~ {SIZE}	DOUBLE BROKEN LINE (COLOR W=WHITE, Y=YELLOW)

PROPOSED LEGEND:



ORANGE CONSTRUCTION PERIMETER FENCE

EXISTING LEGEND:



SIGN ID NUMBER	SIGN SIZE (WIDTH x HEIGHT)	SIGN	TEXT DIMENSIONS	NO. OF SIGNS	BACKGROUND	LEGEND	BORDER	POST SIZE & QUANTITY
R1-1	36"x36"	STOP	SEE STANDARD HIGHWAY SIGNS 2004 EDITION PUBLISHED BY USDOT - FHWA	1	RED	WHITE	WHITE	SQUARE (1)
R2-1	24"x30"	SPEED LIMIT 25	SEE STANDARD HIGHWAY SIGNS 2004 EDITION PUBLISHED BY USDOT - FHWA	1	WHITE	BLACK	BLACK	U-CHANNEL (1)
W14-2	30"x30"	NO OUTLET	SEE STANDARD HIGHWAY SIGNS 2004 EDITION PUBLISHED BY USDOT - FHWA	1	YELLOW	BLACK	BLACK	U-CHANNEL (1)
R8-31	12"x18"	NO PARKING FIRE LANE	SEE STANDARD HIGHWAY SIGNS 2004 EDITION PUBLISHED BY USDOT - FHWA	3	WHITE	RED	RED	SQUARE (3)

ABUTTERS WITHIN 200':

N/F KAB REALTY MANAGEMENT, LLC
686 CENTRAL AVE.
DOVER, NH 03820
TAX MAP 31, LOT 4D
S.C.R.D. BOOK 3403, PAGE 296

N/F CHENEVERT, WILLIAM J. III
142 DOVER POINT ROAD
DOVER, NH 03820
TAX MAP M, LOT 63
S.C.R.D. BOOK 3144, PAGE 909

N/F COCHECO RIVER CO-OP
417 MIDDLE RD
DOVER, NH 03820
TAX MAP M, LOT 62A
S.C.R.D. BOOK 1448, PAGE 74

N/F HAGON, BRIAN K. & LAWS, SIMON J.
425 MIDDLE RD
DOVER, NH 03820
TAX MAP M, LOT 61B
S.C.R.D. BOOK 4446, PAGE 883

ABUTTERS WITHIN 200' CONT.:

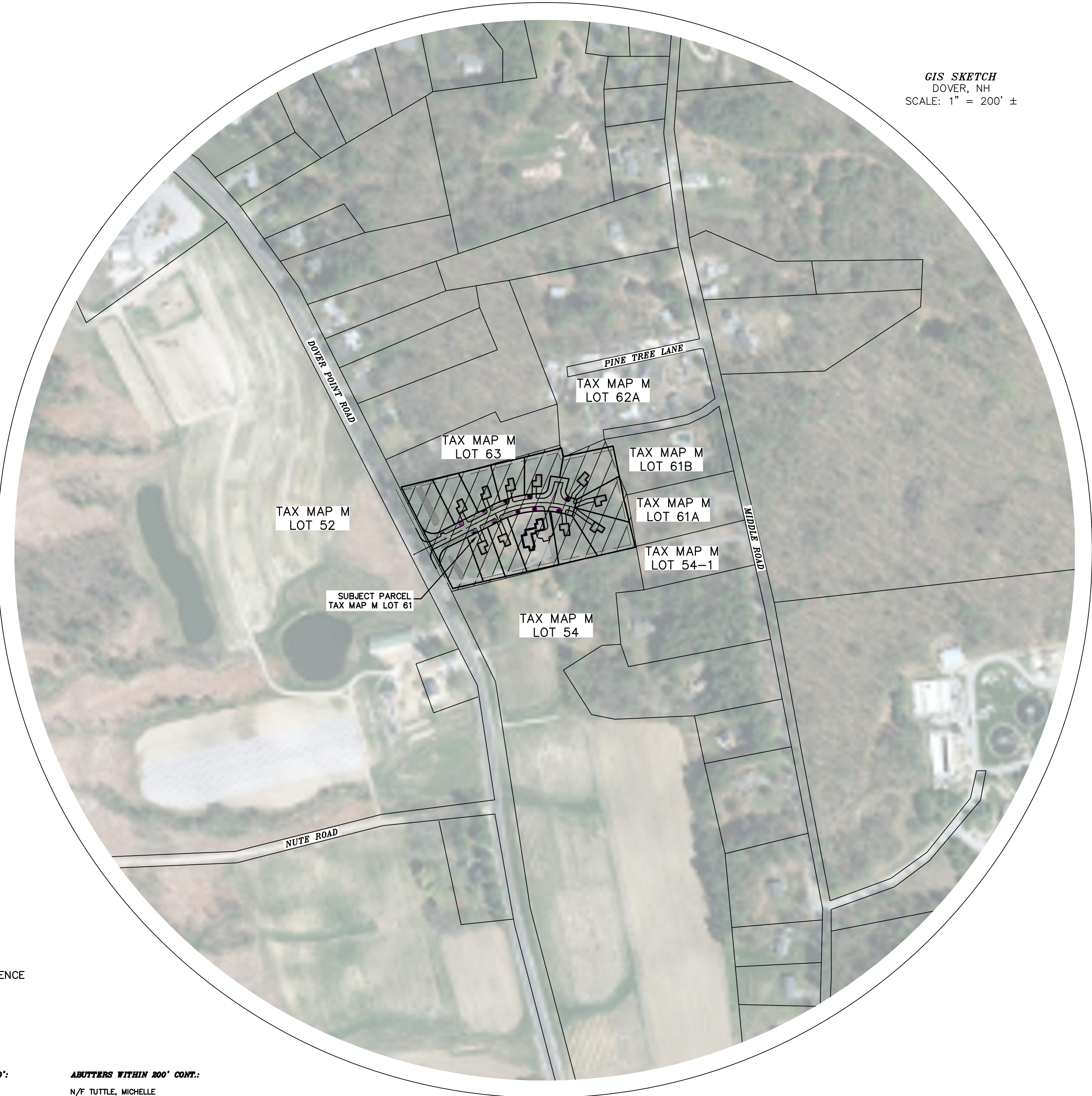
N/F TUTTLE, MICHELLE
437 MIDDLE ROAD
DOVER, NH 03820
TAX MAP M, LOT 61A
S.C.R.D. BOOK 4226, PAGE 366

N/F MARGARET COFFEY REVOCABLE TRUST
MARGARET M COFFEY TRUSTEE
441 MIDDLE RD
DOVER, NH 03820
TAX MAP M, LOT 54-1
S.C.R.D. BOOK 3671, PAGE 758

N/F KOZAZCKI, MATTHEW
108 HIGH RD
NEWBURY, MA 01951
TAX MAP M, LOT 64
S.C.R.D. BOOK 4171, PAGE 678

N/F KOZAZCKI, MATTHEW
108 HIGH RD
NEWBURY, MA 01951
TAX MAP M, LOT 62
S.C.R.D. BOOK 4171, PAGE 678

GIS SKETCH
DOVER, NH
SCALE: 1" = 200' ±



DOVER FILE #P18-14

REVISION	DATE	DESCRIPTION

NEIGHBORHOOD PLAN LAND OF TDK & COMPANY LLC 146 DOVER POINT ROAD DOVER, NH 03820 TAX MAP M, LOT 61

BERRY SURVEYING & ENGINEERING

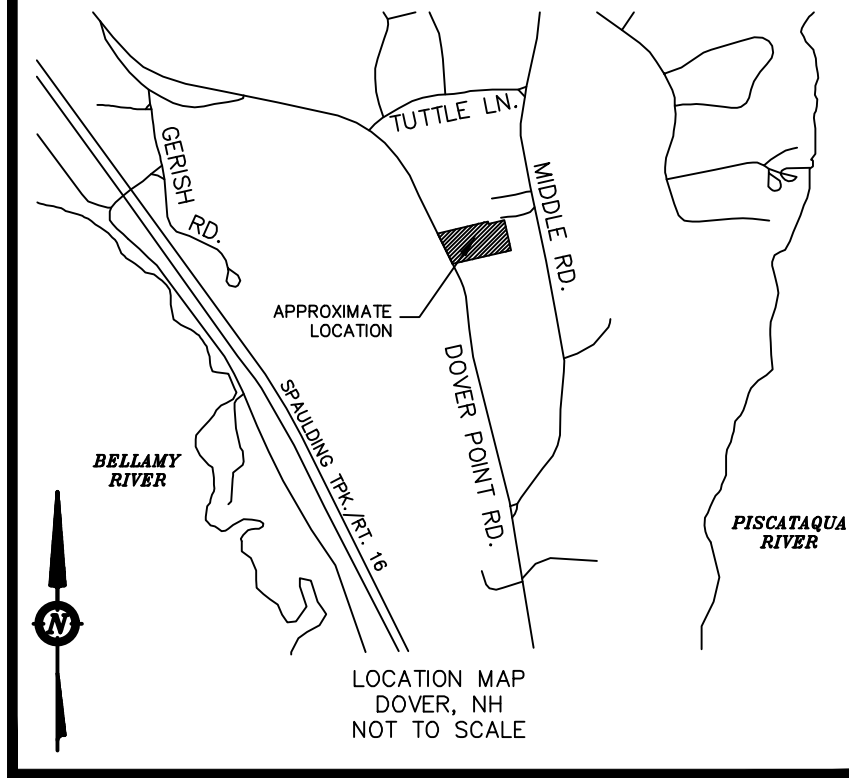
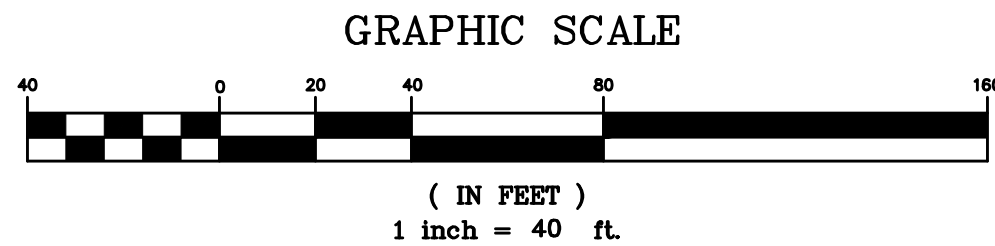
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : AS SHOWN
DATE : APRIL 5, 2018
FILE NO. : DB 2018 - 001

SIGNATURE

JURISDICTIONAL WETLANDS WERE DELINEATED BY CINDY BALCIUS OF STONEY RIDGE ENVIRONMENTAL LLC IN DCEMBER OF 2017 UTILIZING THE FOLLOWING STANDARDS:

- 1) FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 7.0. 2010. L.M. VASILAS, G.W. HURT, AND C.V. NOBLE (EDS.). UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, IN COOPERATION WITH THE NATIONAL TECHNICAL COMMITTEE FOR HYDRIC SOILS.
- 2) FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND. VERSION 3. APRIL 2004. NEWPCC WETLANDS WORKGROUP. WILMINGTON, MA 01887.
- 3) NORTH AMERICAN DIGITAL FLORA: NATIONAL WETLAND PLANT LIST, VERSION 2.1.0 (HTTP://WETLAND_PLANTS.USACE.ARMY.MIL). U.S. ARMY CORPS OF ENGINEERS, ENGINEER RESEARCH AND DEVELOPMENT CENTER, COLD REGIONS RESEARCH AND ENGINEERING LABORATORY, HANOVER, NH, AND BONAP, CHAPEN HILL.
- 4) STATE OF NEW HAMPSHIRE 2014 WETLAND PLANT LIST. LICHVAR, R.W., M. BUTTERWICH, N.C. MELVIN, AND W.N. KIRCHNER. 2014. THE NATIONAL WETLAND PLANT LIST: 2014 UPDATE OF WETLAND RATINGS. PHYTONEURON 2014-41:1-42.
- 5) CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL JANUARY 1987. WETLANDS RESEARCH PROGRAM TECHNICAL REPORT Y-87-1.
- 6) REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION. JANUARY 2012, VERSION 2. U.S. ARMY CORPS OF ENGINEERS. ENVIRONMENTAL LABORATORY ERDC/EL TR-12-1.
- 7) CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES. DECEMBER 1979. L. COWARDIN, V. CARTER, F. GOLET, AND E. LAROE. US DEPARTMENT OF THE INTERIOR. FISH AND WILDLIFE SERVICE. FWS/OBS-79/31.



- NOTES:**
- 1.) OWNER: TDAK & COMPANY
9B KELSEY LANE
GREENLAND, NH 03840
 - 1A.) APPLICANT: TDAK & COMPANY
9B KELSEY LANE
GREENLAND, NH 03840
 - 2.) TAX MAP M, LOT 61
 - 3.) LOT AREA: 184,225 Sq. Ft., 4.23 Ac.
 - 4.) S.C.R.D. BOOK 4558, PAGE 253
SEE EASEMENT, BOOK 4543 PAGE 331
 - 5.) ZONING: (R-20) LOW-DENSITY RESIDENTIAL DISTRICT
FRONTAGE ~ 125.0'
MINIMUM LOT SIZE ~ 20,000 Sq. Ft.
FRONT BUILD TO LINE ~ 20.0-35.0' MAX.
ABUT A STREET BUILD TO LINE ~ 20.0-35.0' MAX.
REAR SETBACK ~ 30.0'
SIDE SETBACK ~ 20.0'
WETLANDS BUFFER ~ 50.0'
MAX. BUILDING HEIGHT: 35'
MAX. LOT COVERAGE: 30%
CD - CONSERVATION DISTRICT
WD - WETLAND PROTECTION DISTRICT
RRD - RIVERFRONT RESIDENTIAL DISTRICT
GWP - GROUNDWATER PROTECTION
 - 6.) I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE & BELIEF, THIS PARCEL DOES NOT FALL WITHIN THE FLOOD PLAIN FLOOD HAZARD REF.: FEMA COMMUNITY #330145, MAP #33017C0340E, DATED: SEPTEMBER 30, 2015
 - 7.) VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL COORDINATES BASED ON NAD83. COORDINATES GATHERED USING TOPCON HIPER SR SURVEY GRADE GPS RECEIVERS.
 - 8.) THE BOUNDARY LINES SHOWN ON THIS PLAN ARE THE RESULT OF A CLOSED TRAVERSE PERFORMED BY THIS OFFICE IN JANUARY OF 2018, WITH AN ERROR OF CLOSURE OF 1 PART IN 46,638.
 - 9.) THE INTENT OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS ON THE TAX MAP M, LOT 61 AS OF THE DATE OF THIS PLAN.

- PLAN REFERENCES:**
- 1.) "LOT LINE ADJUSTMENT AND SUBDIVISION PREPARED FOR WILLIAM P. TUTTLE III AND RICHARD & JANET CERILLI TAX MAP M, LOT Nos. 54 & 54D MIDDLE ROAD & DOVER POINT ROAD CITY OF DOVER COUNTY OF STRAFFORD STATE OF NEW HAMPSHIRE" BY: MCNEANEY SURVEY ASSOCIATES, INC. DATED: DECEMBER 27, 1999 S.C.R.D. PLAN # 57-97
 - 2.) "LOT LINE ADJUSTMENT PLAN PREPARED FOR LUCY TUTTLE AND WILLIAM P. TUTTLE III 455 MIDDLE ROAD DOVER, NEW HAMPSHIRE" BY: MCNEANEY SURVEY ASSOCIATES, INC. DATED: SEPTEMBER 9, 1999 S.C.R.D. PLAN # 57-43
 - 3.) "LOT LINE ADJUSTMENT COCHECHO RIVER COOPERATIVE" BY: T.F. MORAN INC. DATED: AUGUST 15, 1991 S.C.R.D. PLAN # 39-97
 - 4.) "SUBDIVISION OF LOT "G" THE HUGH TUTTLE LAND FOR RICK & JANET CERILLI IN DOVER ~ N.H." BY: BRUCE L. POHOPECK DATED: APRIL 27, 1983 S.C.R.D. PLAN #22-84
 - 5.) "PLAN OF LOT F HIGH C. TUTTLE DOVER, N.H." BY: G.L. DAVIS RECORDED: DECEMBER 1981 S.C.R.D. PLAN #17B-161
 - 6.) "PLAN OF LOTS HUGH C. TUTTLE BARBARA C. TUTTLE TRUST DOVER N.H." BY: G.L. DAVIS RECORDED: OCTOBER 1980 S.C.R.D. PLAN #17B-109
 - 7.) "PLAN OF LAND HEIRS OF BARBARA C. TUTTLE DOVER, NEW HAMPSHIRE" BY: G.L. DAVIS DATED: FEBRUARY 1979 S.C.R.D. BOOK 1058, PAGE 485
 - 8.) "PLAN OF LOT HUGH C., TUTTLE TO LUCY & THOMAS HOURIHAN DOVER NEW HAMPSHIRE" BY: G.L. DAVIS DATED: MAY 1977 S.C.R.D. #17C-36
 - 9.) "PLAN OF LOT FOR GEORGE W. MARSTON DOVER NEW HAMPSHIRE" BY: G.L. DAVIS DATED: AUGUST 14, 1985 S.C.R.D. BOOK 706, PAGE 490
 - 10.) "BOUNDARY PLAN, LUCY TUTTLE, 146 DOVER POINT ROAD DOVER NEW HAMPSHIRE" BY: TRITECH ENGINEERING CORP. DATED: JANUARY 18, 2018 S.C.R.D. BOOK 115, PAGE 037

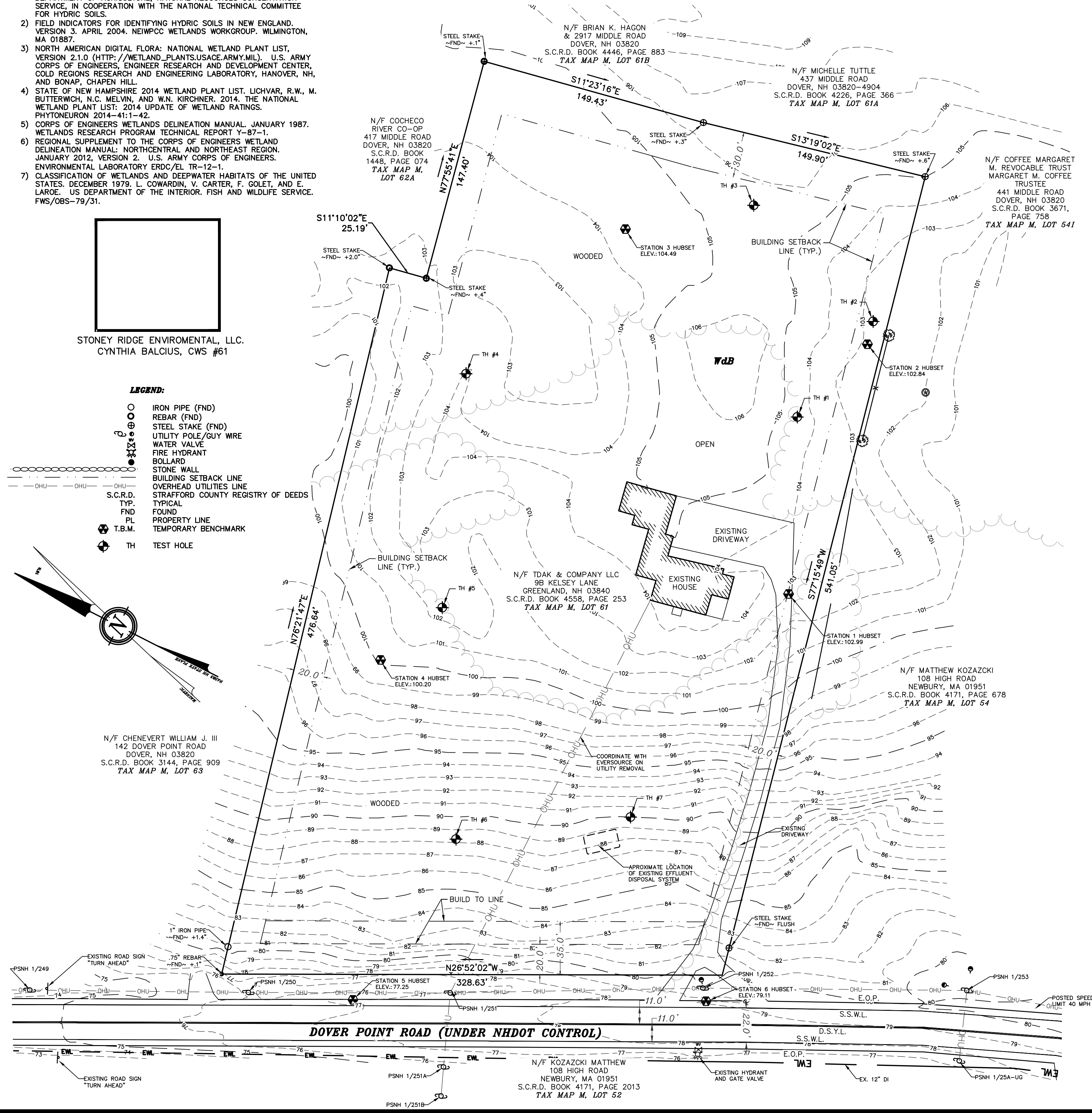
SOILS:

WdB - WINDSOR LOAMY SAND, 3 TO 8 PERCENT SLOPES

SEE WEBSOIL USDA-NRCS

TEST HOLE DATA:

TESTHOLE #1 12-13-17							TESTHOLE #2 12-13-17						
WITNESSED BY STONEY RIDGE ENVIRONMENTAL							WITNESSED BY STONEY RIDGE ENVIRONMENTAL						
DEPTH	COLOR	TEXTURE	STRUCTURE	CONSISTENCE	REDOX		DEPTH	COLOR	TEXTURE	STRUCTURE	CONSISTENCE	REDOX	
0-4"	10YR 2/2	SL	GR	FR			0-4"	10YR 2/2	SL	GR	FR		
4-12"	7.5Y 4/4	LS	WGR	VFR			4-12"	10YR 3/3	SL	GR	FR		
12-20"	10YR 5/6	PS	WGR	VFR			12-18"	10YR 3/4	SL	WGR	VFR		
20-30"	2.5Y 5/6	S	WGR	VFR			18-26"	2.5Y 5/6	S	OM	LO		
30-46"	2.5Y 5/4	S	WGR	LO	10YR 5/8 C/D		26-36"	2.5Y 5/6	S	OM	LO	10YR 5/8 C/D	
46-50"	2.5Y 5/3	GCS	SG	LO	10YR 5/8 C/D		36-42"	2.5Y 4/2	LS	WGR	VFR	10YR 5/8 C/D	
50-72"	10YR 3/6	FS	WGR	VFR									
S.H.W.T. @ 30" LEDGE @ >72" NO GROUND WATER SOIL TYPE - DEERFIELD							S.H.W.T. @ 26" LEDGE @ >72" NO GROUND WATER SOIL TYPE - DEERFIELD						
TESTHOLE #3 12-13-17							TESTHOLE #4 12-13-17						
WITNESSED BY STONEY RIDGE ENVIRONMENTAL							WITNESSED BY STONEY RIDGE ENVIRONMENTAL						
DEPTH	COLOR	TEXTURE	STRUCTURE	CONSISTENCE	REDOX		DEPTH	COLOR	TEXTURE	STRUCTURE	CONSISTENCE	REDOX	
0-2"	10YR 2/2	FSL	GR	FR			0-2"	10YR 2/2	SL	GR	FR		
2-12"	10YR 5/6	SL	WGR	VFR			2-7"	10YR 3/3	SL	WGR	VFR		
12-18"	10YR 3/3	SL	WGR	VFR			7-28"	10YR 5/3	S	WGR	VFR		
18-32"	7.5Y 5/8	S	WGR	VFR			28-42"	2.5Y 5/6	CS	OM	LO		
32-38"	2.5Y 5/6	S	OM	LO			42-72"	2.5Y 5/6	S	OM	LO	10YR 5/8 C/D	
38-72"	2.5Y 5/4	S	OM	LO	7.5YR 5/8 C/D								
S.H.W.T. @ 38" LEDGE @ >72" NO GROUND WATER SOIL TYPE - DEERFIELD							S.H.W.T. @ 42" LEDGE @ >72" NO GROUND WATER SOIL TYPE - WINDSOR						
TESTHOLE #5 12-13-17							TESTHOLE #6 12-13-17						
WITNESSED BY STONEY RIDGE ENVIRONMENTAL							WITNESSED BY STONEY RIDGE ENVIRONMENTAL						
DEPTH	COLOR	TEXTURE	STRUCTURE	CONSISTENCE	REDOX		DEPTH	COLOR	TEXTURE	STRUCTURE	CONSISTENCE	REDOX	
0-6"	10YR 3/4	SL	GR	FR			0-12"	10YR 3/4	SL	GR	FR		
6-15"	10YR 3/4	SL	WGR	VFR			12-26"	10YR 4/6	SL	GR	FR		
15-30"	2.5Y 5/6	S	WGR	VFR			26-36"	10YR 3/6	CS	SG	LO		
30-36"	10YR 3/4	S	SG W/COARSE SAND LENSES	WGR	LO	7.5YR 4/6 C/D	36-42"	2.5Y 4/2	FSL W/25% CHANNERED/ ROTTEN LEDGE	WGR	VFR	7.5YR 5/8 C/D	
36-44"	10YR 4/6	S	SG	LO			42-72"	10YR 4/4	FSL W/25% WGR	WGR	VFR	7.5YR 5/8 C/D	
44-72"	2.5Y 5/4	LFS	WGR	VFR	10YR 4/6 C/D								
S.H.W.T. @ 30" LEDGE @ >72" NO GROUND WATER SOIL TYPE - DEERFIELD							S.H.W.T. @ 42" LEDGE @ >72" NO GROUND WATER SOIL TYPE - HINCKLEY						
TESTHOLE #7 12-13-17							TESTHOLE #8 12-13-17						
WITNESSED BY STONEY RIDGE ENVIRONMENTAL							WITNESSED BY STONEY RIDGE ENVIRONMENTAL						
DEPTH	COLOR	TEXTURE	STRUCTURE	CONSISTENCE	REDOX		DEPTH	COLOR	TEXTURE	STRUCTURE	CONSISTENCE	REDOX	
0-4"	10YR 2/2	SL	GR	FR			0-4"	10YR 2/2	SL	GR	FR		
4-12"	10YR 4/4	SL	GR	FR			4-12"	10YR 4/4	SL	GR	FR		
12-30"	10YR 5/6	S	WGR	VFR			12-30"	10YR 5/6	S	WGR	VFR		
30-72"	2.5Y 5/6	S	OM	LO			30-72"	2.5Y 5/6	S	OM	LO		
S.H.W.T. @ >72" LEDGE @ >72" NO GROUND WATER SOIL TYPE - CANTON							S.H.W.T. @ >72" LEDGE @ >72" NO GROUND WATER SOIL TYPE - CANTON						



I CERTIFY THAT THIS PLAT EXCEEDS THE MINIMUM REQUIREMENT FOR ACCURACY AND COMPLETENESS OF THE STATE OF N.H. - 1:10,000 -

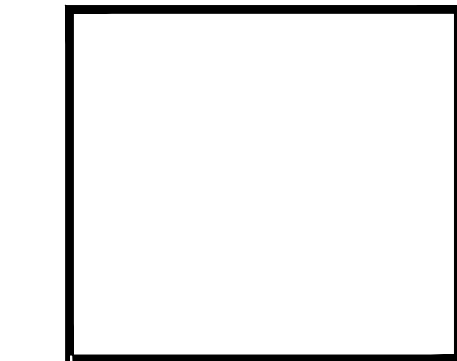
KENNETH A. BERRY LLS 805 DATE

DOVER FILE #P18-14

EXISTING CONDITIONS PLAN	REVISION	DATE	DESCRIPTION
LAND OF TDAK & COMPANY LLC 146 DOVER POINT ROAD DOVER, NH 03820 TAX MAP M, LOT 61			

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 40 FT.
DATE : APRIL 5, 2018
FILE NO. : DB 2018 - 001

SHEET 3 OF 25



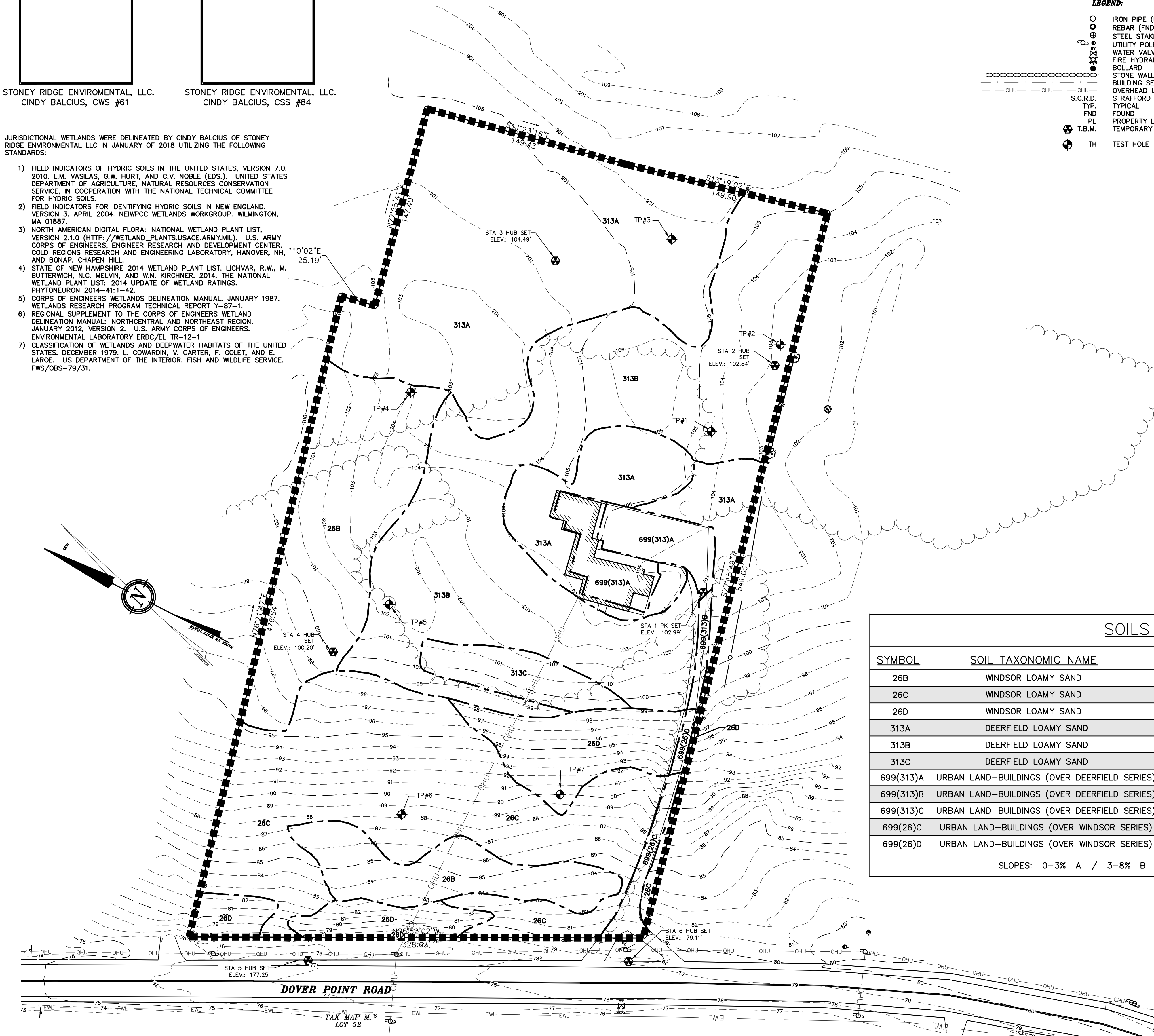
STONEY RIDGE ENVIROMENTAL, LLC.
CINDY BALCIUS, CWS #61



STONEY RIDGE ENVIROMENTAL, LLC.
CINDY BALCIUS, CSS #84

JURISDICTIONAL WETLANDS WERE DELINEATED BY CINDY BALCIUS OF STONEY RIDGE ENVIRONMENTAL LLC IN JANUARY OF 2018 UTILIZING THE FOLLOWING STANDARDS:

- 1) FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 7.0, 2010. L.M. VASILAS, G.W. HURT, AND C.V. NOBLE (EDS.). UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, IN COOPERATION WITH THE NATIONAL TECHNICAL COMMITTEE FOR HYDRIC SOILS.
- 2) FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 3, APRIL 2004. NEIWPCC WETLANDS WORKGROUP. WILMINGTON, MA 01887.
- 3) NORTH AMERICAN DIGITAL FLORA: NATIONAL WETLAND PLANT LIST, VERSION 2.1.0 (HTTP://WETLAND_PLANTS.USACE.ARMY.MIL). U.S. ARMY CORPS OF ENGINEERS, ENGINEER RESEARCH AND DEVELOPMENT CENTER, COLD REGIONS RESEARCH AND ENGINEERING LABORATORY, HANOVER, NH, AND BONAP, CHAPEN HILL.
- 4) STATE OF NEW HAMPSHIRE 2014 WETLAND PLANT LIST. LICHVAR, R.W., M. BUTTERWICH, N.C. MELVIN, AND W.N. KIRCHNER. 2014. THE NATIONAL WETLAND PLANT LIST: 2014 UPDATE OF WETLAND RATINGS. PHYTONEURON 2014-41:1-42.
- 5) CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, JANUARY 1987. WETLANDS RESEARCH PROGRAM TECHNICAL REPORT Y-87-1.
- 6) REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, JANUARY 2012, VERSION 2. U.S. ARMY CORPS OF ENGINEERS. ENVIRONMENTAL LABORATORY ERDC/EL TR-12-1.
- 7) CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES, DECEMBER 1979. L. COWARDIN, V. CARTER, F. GOLET, AND E. LAROE. US DEPARTMENT OF THE INTERIOR. FISH AND WILDLIFE SERVICE. FWS/OBS-79/31.



LEGEND:

- IRON PIPE (FND)
- REBAR (FND)
- STEEL STAKE (FND)
- UTILITY POLE/GUY WIRE
- WATER VALVE
- FIRE HYDRANT
- BOLLARD
- STONE WALL
- BUILDING SETBACK LINE
- OVERHEAD UTILITIES LINE
- STRAFFORD COUNTY REGISTRY OF DEEDS
- S.C.R.D. TYP.
- TYP.
- FOUND
- PROPERTY LINE
- PL
- T.B.M.
- TEMPORARY BENCHMARK
- TH
- TEST HOLE

NOTES:

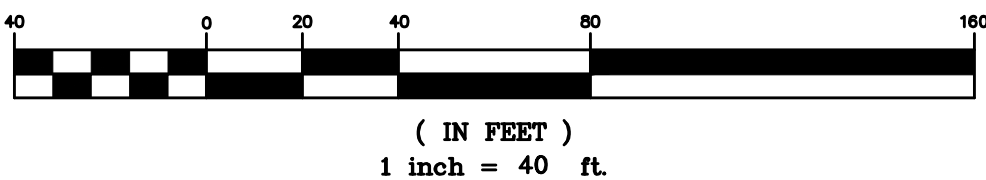
- 1.) OWNER: TDAK & COMPANY
9B KELSEY LANE
GREENLAND, NH 03840
- 2.) TAX MAP M, LOT 61
- 3.) LOT AREA: 184,225 Sq. Ft., 4.23 Ac.
- 4.) S.C.R.D. BOOK 4558, PAGE 253
- 5.) ZONING: (R-20) LOW-DENSITY RESIDENTIAL DISTRICT
FRONTAGE ~ 125.0'
MINIMUM LOT SIZE ~ 20,000 Sq. Ft.
FRONT BUILD TO LINE ~ 20.0'-35.0' MAX.
ABUT A STREET BUILD TO LINE ~ 20.0'-35.0' MAX.
REAR SETBACK ~ 30.0'
SIDE SETBACK ~ 20.0'
WETLANDS BUFFER ~ 50.0'
MAX. BUILDING HEIGHT: 35'
MAX. LOT COVERAGE: 30%
CD - CONSERVATION DISTRICT
WD - WETLAND PROTECTION DISTRICT
RRD - RIVERFRONT RESIDENTIAL DISTRICT
GWP - GROUNDWATER PROTECTION
- 6.) I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE & BELIEF, THIS PARCEL DOES NOT FALL WITHIN THE FLOOD PLAIN FLOOD HAZARD REF: FEMA COMMUNITY #330145, MAP #33017C0340E, DATED: SEPTEMBER 30, 2015
- 7.) VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL COORDINATES BASED ON NAD83. COORDINATES GATHERED USING TOPCON HIPER SR SURVEY GRADE GPS RECEIVERS.
- 8.) THE BOUNDARY LINES SHOWN ON THIS PLAN ARE THE RESULT OF A CLOSED TRAVERSE PERFORMED BY THIS OFFICE IN JANUARY OF 2018, WITH AN ERROR OF CLOSURE OF 1 PART IN 46,638.
- 9.) THE INTENT OF THIS PLAN IS TO REPRESENT THE SITE SPECIFIC SOILS ON TAX MAP M LOT 61, AS DETERMINED BY STONEY RIDGE ENVIRONMENTAL LLC.

SOILS LEGEND

SYMBOL	SOIL TAXONOMIC NAME	DRAINAGE CLASS	HYDROLOGIC SOIL GROUP
26B	WINDSOR LOAMY SAND	EXCESSIVELY WELL DRAINED	A
26C	WINDSOR LOAMY SAND	EXCESSIVELY WELL DRAINED	A
26D	WINDSOR LOAMY SAND	EXCESSIVELY WELL DRAINED	A
313A	DEERFIELD LOAMY SAND	MODERATELY WELL DRAINED	B
313B	DEERFIELD LOAMY SAND	MODERATELY WELL DRAINED	B
313C	DEERFIELD LOAMY SAND	MODERATELY WELL DRAINED	B
699(313)A	URBAN LAND-BUILDINGS (OVER DEERFIELD SERIES)	MODERATELY WELL DRAINED	B
699(313)B	URBAN LAND-BUILDINGS (OVER DEERFIELD SERIES)	MODERATELY WELL DRAINED	B
699(313)C	URBAN LAND-BUILDINGS (OVER DEERFIELD SERIES)	MODERATELY WELL DRAINED	B
699(26)C	URBAN LAND-BUILDINGS (OVER WINDSOR SERIES)	EXCESSIVELY DRAINED	A
699(26)D	URBAN LAND-BUILDINGS (OVER WINDSOR SERIES)	EXCESSIVELY DRAINED	A

SLOPES: 0-3% A / 3-8% B / 8-15% C / 15-25% D

GRAPHIC SCALE



DOVER FILE #PT18-14

SITE SPECIFIC SOILS MAP

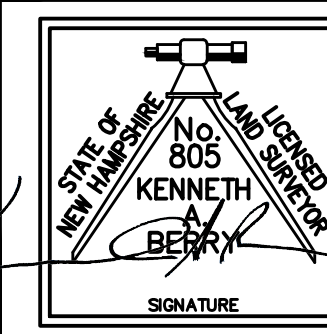
LAND OF
TDAK & COMPANY LLC
146 DOVER POINT ROAD
DOVER, NH 03820
TAX MAP M, LOT 61

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

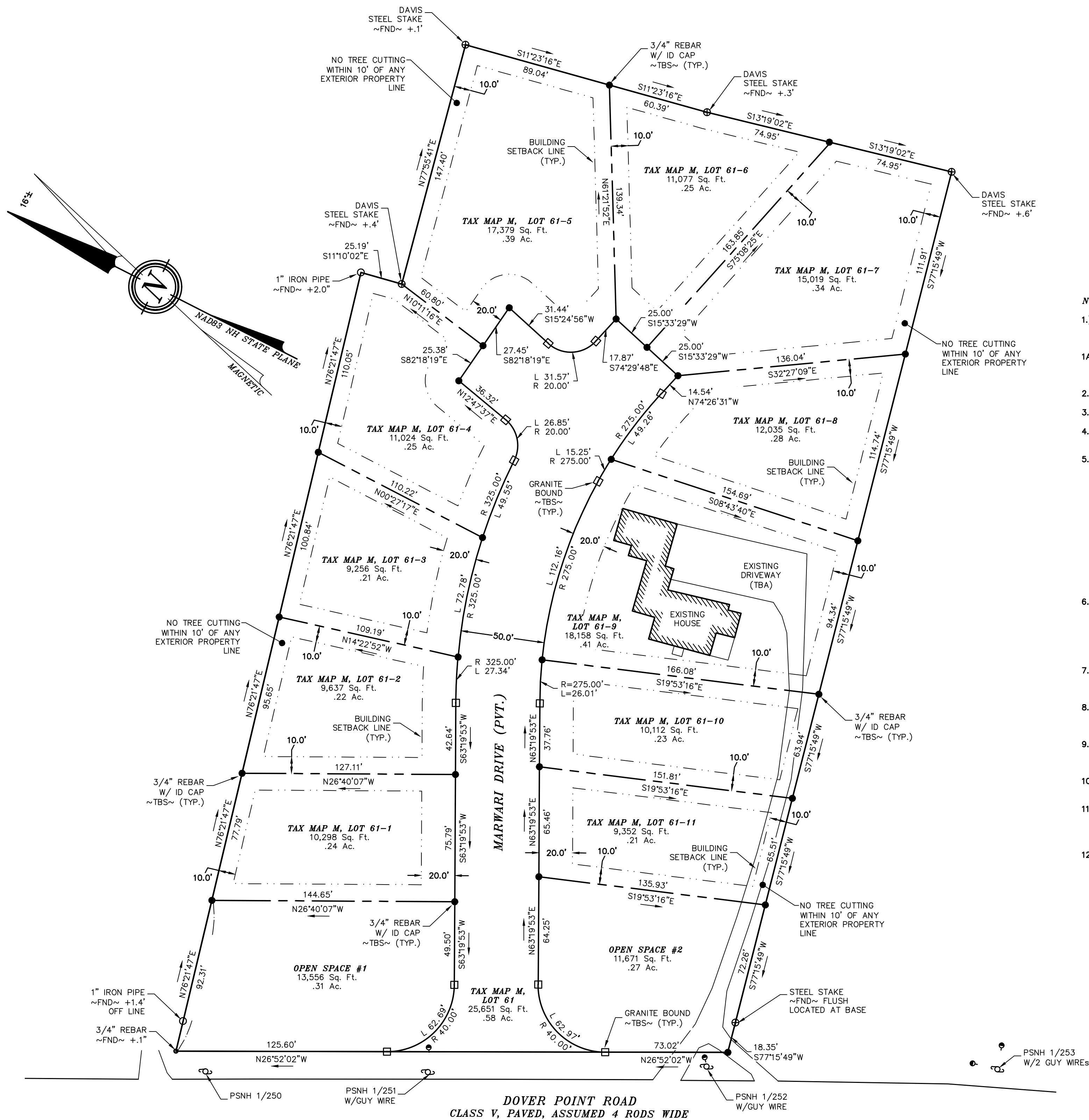
SCALE : 1 IN. EQUALS 40 FT.

DATE : APRIL 5, 2018

FILE NO. : DB 2018 - 001



SHEET 4 OF 25



DOVER POINT ROAD
CLASS V, PAVED, ASSUMED 4 RODS WIDE

LEGEND:

- IRON BOUND (TBS)
- GRANITE BOUND (TBS)
- IRON BOUND/REBAR (FND)
- IRON PIPE (FND)
- STEEL STAKE (FND)
- UTILITY POLE
- BUILDING SETBACK LINE
- PROPOSED BOUNDARY LINE
- FND FOUND
- TBS TO BE SET
- S.C.R.D. TYPICAL
- STRAFFORD COUNTY REGISTRY OF DEEDS

STONEY RIDGE ENVIRONMENTAL, LLC.
CYNTHIA BALCIUS, CWS #61

JURISDICTIONAL WETLANDS WERE DELINEATED BY CINDY BALCIUS OF STONEY RIDGE ENVIRONMENTAL LLC IN DECEMBER OF 2017 UTILIZING THE FOLLOWING STANDARDS:

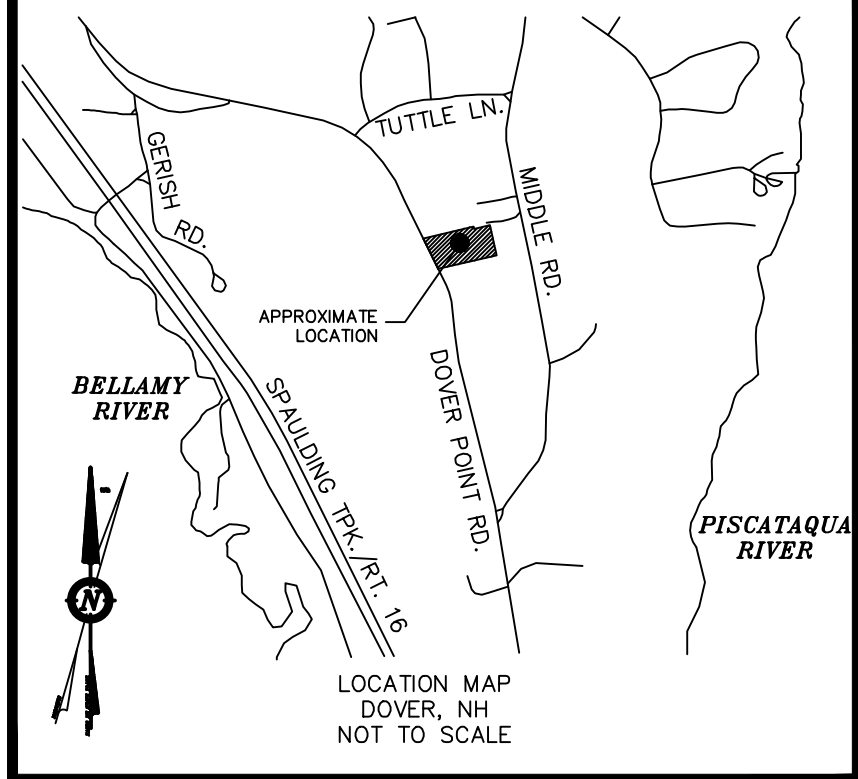
- 1) FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 7.0. 2010. L.M. VASILAS, G.W. HURT, AND C.V. NOBLE (EDS.), UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, IN COOPERATION WITH THE NATIONAL TECHNICAL COMMITTEE FOR HYDRIC SOILS.
- 2) FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND. VERSION 3. APRIL 2004. NEIWPCC WETLANDS WORKGROUP. WILMINGTON, MA 01887.
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- 4) STATE OF NEW HAMPSHIRE 2014 WETLAND PLANT LIST. UCHVAR, R.W., M. BUTTERWICH, N.C. MELVIN, AND W.N. KIRCHNER. 2014. THE NATIONAL WETLAND PLANT LIST: 2014 UPDATE OF WETLAND RATINGS. PHYTONEURON 2014-41:1-42.
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- 7) CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES. DECEMBER 1979. L. COWARDIN, V. CARTER, F. GOLET, AND E. LAROE. US DEPARTMENT OF THE INTERIOR. FISH AND WILDLIFE SERVICE. FWS/OBS-79/31.

NOTES:

- 1.) OWNER: TDAK & COMPANY
98 KELSEY LANE
GREENLAND, NH 03840
- 1A.) APPLICANT: TDAK & COMPANY
98 KELSEY LANE
GREENLAND, NH 03840
- 2.) TAX MAP M, LOT 61
- 3.) LOT AREA: 184,225 Sq. Ft., 4.23 Ac.
- 4.) S.C.R.D. BOOK 4558, PAGE 253
SEE EASEMENT, BOOK 4543 PAGE 331
- 5.) ZONING: (R-20) LOW-DENSITY RESIDENTIAL DISTRICT
FRONTAGE ~ 125.0'
MINIMUM LOT SIZE ~ 20,000 Sq. Ft.
FRONT BUILD TO LINE ~ 20.0'-35.0' MAX.
ABUT A STREET BUILD TO LINE ~ 20.0'-35.0' MAX.
REAR SETBACK ~ 30.0'
SIDE SETBACK ~ 20.0'
WETLANDS BUFFER ~ 50.0'
MAX. BUILDING HEIGHT: 35'
MAX. LOT COVERAGE: 30%
CD - CONSERVATION DISTRICT
WD - WETLAND PROTECTION DISTRICT
RRD - RIVERFRONT RESIDENTIAL DISTRICT
GWP - GROUNDWATER PROTECTION
- 6.) TDR REGULATIONS
ABUTTING A ROAD SETBACK ~ 20'
ABUTTING A LOT LINE SETBACK ~ 10'
STREET SIDES OF UNITS ~ 20.0'
ABUTTING STRUCTURES ~ 20.0'
NO CUT BUFFER FROM EXTERIOR PROPERTY LINE ~ 10.0'
- 7.) I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE & BELIEF, THIS PARCEL DOES NOT FALL WITHIN THE FLOOD PLAIN FLOOD HAZARD REF.: FEMA COMMUNITY #330145, MAP #3301700340E, DATED: SEPTEMBER 30, 2015
- 8.) VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL COORDINATES BASED ON NAD83. COORDINATES GATHERED USING TOPCON HIPER SR SURVEY GRADE GPS RECEIVERS.
- 9.) THE BOUNDARY LINES SHOWN ON THIS PLAN ARE THE RESULT OF A CLOSED TRAVERSE PERFORMED BY THIS OFFICE IN JANUARY OF 2018, WITH AN ERROR OF CLOSURE OF 1 PART IN 46,638.
- 10.) THE INTENT OF THIS PLAN IS TO SHOW THE PROPOSED SUBDIVISION PLAN FOR TAX MAP M, LOT 61.
- 11.) IF, DURING CONSTRUCTION, IT BECOMES APPARENT THAT DEFICIENCIES EXIST IN THE APPROVED DESIGN DRAWINGS, THE OWNER SHALL BE REQUIRED TO CORRECT THE DEFICIENCIES TO MEET THE REQUIREMENTS OF THE REGULATIONS AT NO EXPENSE TO THE CITY OF DOVER.
- 12.) AS-BUILT PLANS OF THE SUBDIVISION SHALL BE SUBMITTED ON PAPER AND IN DIGITAL FORMAT IN PDF AND AUTOCAD DWG, AUTOCAD DXF OR ERSI FORMAT TO THE CITY OF DOVER ENGINEERS OFFICE UPON COMPLETION OF PROJECT. AS-BUILT PLANS SHALL BE PREPARED AND CERTIFIED CORRECT BY A L.L.S. OR P.E. DIGITAL FILE SHALL BE GEO-REFERENCED TO NEW HAMPSHIRE STATE PLANE COORDINATES NAD83 AND SHALL BE EXPRESSED IN FEET.

PLAN REFERENCES CONT.:

- 6.) "PLAN OF LOTS HUGH C. TUTTLE BARBARA C. TUTTLE TRUST DOVER, N.H."
BY: G.L. DAVIS
RECORDED: OCTOBER 1980
S.C.R.D. PLAN #17B-109
- 7.) "PLAN OF LAND HEIRS OF BARBARA C. TUTTLE DOVER, NEW HAMPSHIRE"
BY: G.L. DAVIS
DATED: FEBRUARY 1979
S.C.R.D. BOOK 1058, PAGE 485
- 8.) "PLAN OF LOT HUGH C. TUTTLE TO LUCY & THOMAS HOUHIAN DOVER NEW HAMPSHIRE"
BY: G.L. DAVIS
DATED: MAY 1977
S.C.R.D. PLAN #17C-36
- 9.) "PLAN OF LOT FOR GEORGE W. MARSTON DOVER NEW HAMPSHIRE"
BY: G.L. DAVIS
DATED: AUGUST 14, 1595
S.C.R.D. BOOK 706, PAGE 490
- 10.) "BOUNDARY PLAN, LUCY TUTTLE, 146 DOVER POINT ROAD DOVER NEW HAMPSHIRE"
BY: TRITECH ENGINEERING CORP.
DATED: JANUARY 18, 2018
S.C.R.D. PLAN #115-37



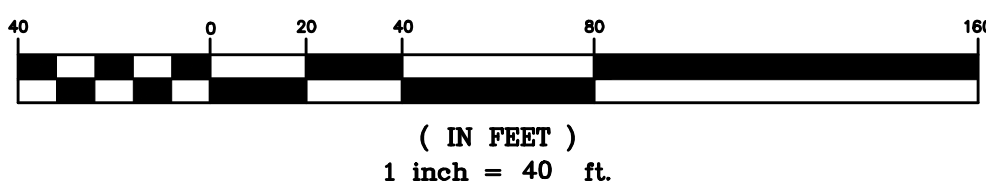
NOTES CONTINUED:

- 13.) THE CURRENT USE OF THE PROPERTY IS FOR RESIDENTIAL SINGLE FAMILY HOME. ALL PROPOSED LOTS WILL BE FOR RESIDENTIAL SINGLE FAMILY HOMES.
- 14.) ALL LOTS WILL BE SERVICED BY MUNICIPAL WATER AND ON SITE SEPTIC.
- 15.) FINAL LOT NUMBERS SHALL BE ASSIGNED BY THE ASSESSING OFFICE. ADDRESSES TO BE ASSIGNED BY BUILDING OFFICIAL.
- 16.) NHDES SUBDIVISION APPROVAL WILL BE REQUIRED ON ALL 11 LOTS.
- 17.) THIS IS A MULTI PAGE PLAN SET WITH ADDITIONAL ENGINEERING INFORMATION PROVIDED AND ON FILE AT THE CITY OF DOVER PLANNING OFFICE.
- 18.) WRITTEN DIMENSIONS ON THIS PLAN TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN THE EVENT OF A CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWINGS AND/OR SPECIFICATIONS, THE ENGINEER SHALL BE NOTIFIED BY THE CONTRACTOR.
- 19.) CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY-FRIDAY 7AM-6PM, NO SATURDAY OR SUNDAY HOURS. HOURS OF CONSTRUCTION SHALL BE DOCUMENTED ON A SITE CONSTRUCTION SIGN ALONG WITH THE CONTACT INFORMATION FOR THE GENERAL CONTRACTOR. SAID SIGNAGE SHALL BE LOCATED AND APPROVED BY THE CITY ENGINEER OR DIRECTOR OF PLANNING AND COMMUNITY DEVELOPMENT.
- 20.) AS-BUILT PLANS OF THE SUBDIVISION SHALL BE SUBMITTED ON A REPRODUCIBLE MYLAR MEDIUM AND A DIGITAL DXF FORMAT ON DISK TO THE CITY OF DOVER ENGINEERS OFFICE UPON COMPLETION OF PROJECT IF A STREET IS PROPOSED FOR CITY ACCEPTANCE. AS-BUILT PLANS SHALL BE PREPARED AND CERTIFIED CORRECT BY A L.L.S. OR P.E.
- 21.) ALL CONSTRUCTION SHALL CONFORM WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT) "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", HEREINAFTER REFERRED TO AS THE "CITY OF DOVER STANDARD SPECIFICATIONS"
- 22.) SUBJECT PARCEL IS NOT IN CURRENT USE.
- 23.) THERE WERE NO CEMETERIES OBSERVED ON THIS PARCEL.
- 24.) MARWARI LANE IS A PRIVATE ROAD WHICH CAN NEVER BE ACCEPTED BY THE CITY OF DOVER AS A MUNICIPAL STREET.

PLAN REFERENCES:

- 1.) "LOT LINE ADJUSTMENT AND SUBDIVISION PREPARED FOR WILLIAM P. TUTTLE III AND RICHARD & JANET CERILLI TAX MAP M, LOT Nos. 54 & 54D MIDDLE ROAD & DOVER POINT ROAD CITY OF DOVER COUNTY OF STRAFFORD STATE OF NEW HAMPSHIRE"
BY: MCNEANEY SURVEY ASSOCIATES, INC.
DATED: DECEMBER 27, 1999
S.C.R.D. PLAN #57-97
- 2.) "LOT LINE ADJUSTMENT PLAN PREPARED FOR LUCY TUTTLE AND WILLIAM P. TUTTLE III 455 MIDDLE ROAD DOVER, NEW HAMPSHIRE"
BY: MCNEANEY SURVEY ASSOCIATES, INC.
DATED: SEPTEMBER 9, 1999
S.C.R.D. PLAN #57-43
- 3.) "LOT LINE ADJUSTMENT COACHECHO RIVER COOPERATIVE"
BY: T.F. MORAN INC.
DATED: AUGUST 15, 1991
S.C.R.D. PLAN # 39-97
- 4.) "SUBDIVISION OF LOT 'G' THE HUGH TUTTLE LAND FOR RICK & JANET CERILLI IN DOVER ~ N.H."
BY: BRUCE L. POHOPECK
DATED: APRIL 27, 1983
S.C.R.D. PLAN #22-64
- 5.) "PLAN OF LOT F HIGH C. TUTTLE DOVER, N.H."
BY: G.L. DAVIS
RECORDED: DECEMBER 1981
S.C.R.D. PLAN #17B-161

GRAPHIC SCALE



I CERTIFY THAT THIS PLAT EXCEEDS THE MINIMUM REQUIREMENT FOR ACCURACY AND COMPLETENESS OF THE STATE OF N.H. AND OF THE CITY OF DOVER, N.H. - 1:10,000-

KENNETH A. BERRY L.L.S. 805 DATE 4-8-18

DOVER FILE #P18-14

REVISION	DATE	DESCRIPTION

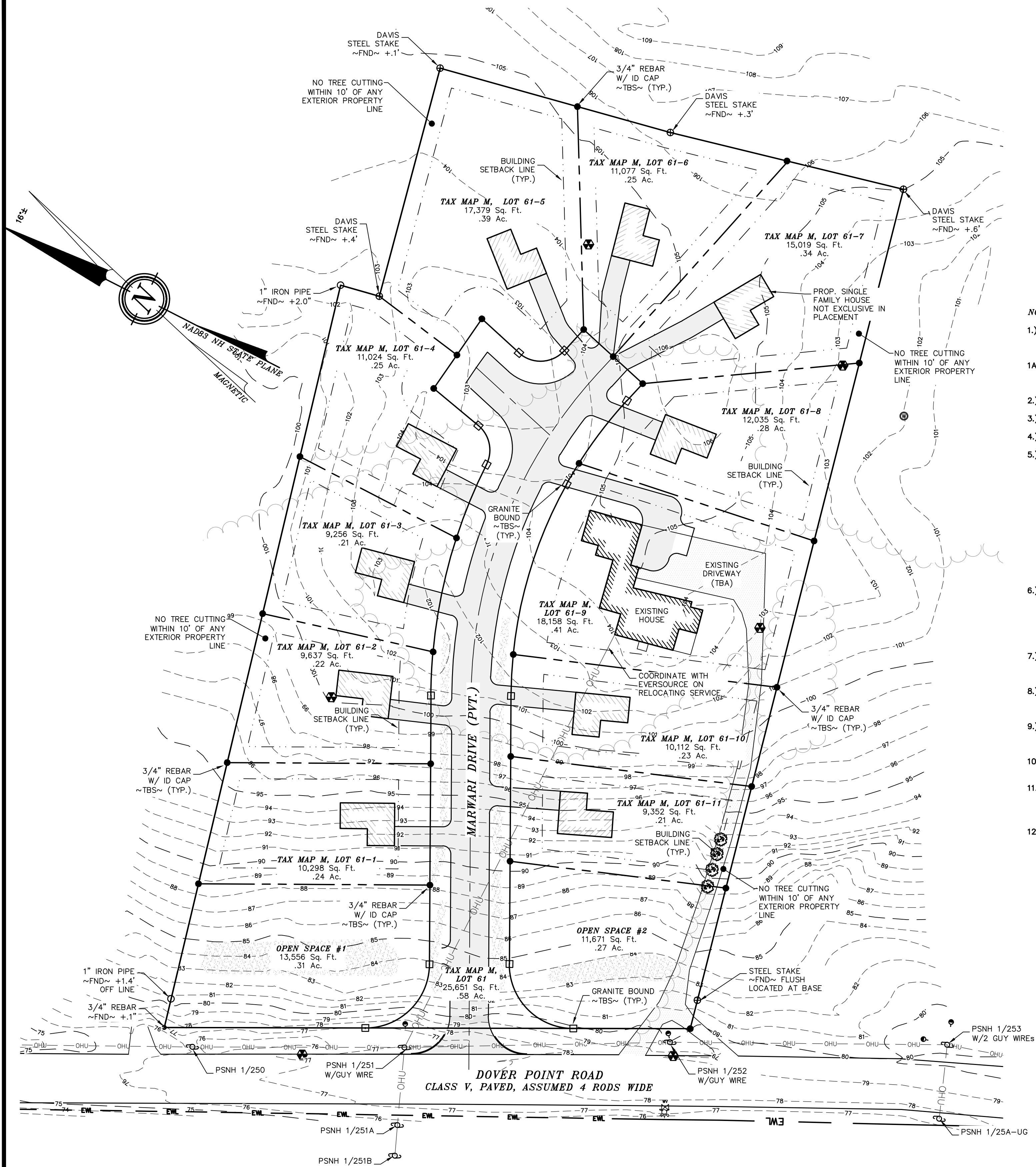
SUBDIVISION PLAN TRANSFER OF DEVELOPMENT RIGHTS

LAND OF
TDAK & COMPANY LLC
146 DOVER POINT ROAD
DOVER, NH 03820
TAX MAP M, LOT 61

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 40 FT.
DATE : APRIL 5, 2018
FILE NO. : DB 2018 - 001

I CERTIFY THAT THIS PLAT EXCEEDS THE MINIMUM REQUIREMENT FOR ACCURACY AND COMPLETENESS OF THE STATE OF N.H. AND OF THE CITY OF DOVER, N.H. - 1:10,000-

KENNETH A. BERRY L.L.S. 805 DATE 4-8-18



STONEY RIDGE ENVIRONMENTAL, LLC.
CYNTHIA BALCIUS, CWS #61

- JURISDICTIONAL WETLANDS WERE DELINEATED BY CINDY BALCIUS OF STONEY RIDGE ENVIRONMENTAL LLC IN DECEMBER OF 2017 UTILIZING THE FOLLOWING STANDARDS:
- 1) FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 7.0. 2010. L.M. VASILAS, G.W. HURT, AND C.V. NOBLE (EDS.), UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, IN COOPERATION WITH THE NATIONAL TECHNICAL COMMITTEE FOR HYDRIC SOILS.
 - 2) FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND. VERSION 3. APRIL 2004. NEIWPCC WETLANDS WORKGROUP. WILMINGTON, MA 01887.
 - 3) NORTH AMERICAN DIGITAL FLORA: NATIONAL WETLAND PLANT LIST, VERSION 2.1.0 (HTTP://WETLAND_PLANTS.USACE.ARMY.MIL). U.S. ARMY CORPS OF ENGINEERS, ENGINEER RESEARCH AND DEVELOPMENT CENTER, COLD REGIONS RESEARCH AND ENGINEERING LABORATORY, HANOVER, NH, AND BONAP, CHAPEN HILL.
 - 4) STATE OF NEW HAMPSHIRE 2014 WETLAND PLANT LIST. UCHVAR, R.W., M. BUTTERWICH, N.C. MELVIN, AND W.N. KIRCHNER. 2014. THE NATIONAL WETLAND PLANT LIST: 2014 UPDATE OF WETLAND RATINGS. PHYTONEURON 2014-41:1-42.
 - 5) CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL. JANUARY 1987. WETLANDS RESEARCH PROGRAM TECHNICAL REPORT Y-87-1.
 - 6) REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION. JANUARY 2012, VERSION 2. U.S. ARMY CORPS OF ENGINEERS. ENVIRONMENTAL LABORATORY ERDC/EL TR-12-1.
 - 7) CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES. DECEMBER 1979. L. COWARDIN, V. CARTER, F. GOLET, AND E. LAROE. US DEPARTMENT OF THE INTERIOR. FISH AND WILDLIFE SERVICE. FWS/OBS-79/31.

NOTES:

- 1.) OWNER: TDAK & COMPANY
9B KELSEY LANE
GREENLAND, NH 03840
- 1A.) APPLICANT: TDAK & COMPANY
9B KELSEY LANE
GREENLAND, NH 03840
- 2.) TAX MAP M, LOT 61
- 3.) LOT AREA: 184,225 Sq. Ft., 4.23 Ac.
- 4.) S.C.R.D. BOOK 4558, PAGE 253
- 5.) ZONING: (R-20) LOW-DENSITY RESIDENTIAL DISTRICT
FRONTAGE ~ 125.0'
MINIMUM LOT SIZE ~ 20,000 Sq. Ft.
FRONT BUILD TO LINE ~ 20.0-35.0' MAX.
ABUT A STREET BUILD TO LINE ~ 20.0-35.0' MAX.
REAR SETBACK ~ 30.0'
SIDE SETBACK ~ 20.0'
WETLANDS BUFFER ~ 50.0'
MAX. BUILDING HEIGHT: 35'
MAX. LOT COVERAGE: 30%
CD - CONSERVATION DISTRICT
WD - WETLAND PROTECTION DISTRICT
RRD - RIVERFRONT RESIDENTIAL DISTRICT
GWP - GROUNDWATER PROTECTION
- 6.) TDR REGULATIONS
ABUTTING A ROAD SETBACK ~ 20'
ABUTTING A LOT LINE SETBACK ~ 10'
STREET SIDES OF UNITS ~ 20.0'
ABUTTING STRUCTURES ~ 20.0'
NO CUT BUFFER FROM EXTERIOR PROPERTY LINE ~ 10.0'
- 7.) I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE & BELIEF, THIS PARCEL DOES NOT FALL WITHIN THE FLOOD PLAIN FLOOD HAZARD REF.: FEMA COMMUNITY #330145, MAP #33017C0340E, DATED: SEPTEMBER 30, 2015
- 8.) VERTICAL DATUM BASED ON NAVD83 ELEVATIONS. HORIZONTAL COORDINATES BASED ON NAD83. COORDINATES GATHERED USING TOPCON HIPER SR SURVEY GRADE GPS RECEIVERS.
- 9.) THE BOUNDARY LINES SHOWN ON THIS PLAN ARE THE RESULT OF A CLOSED TRAVERSE PERFORMED BY THIS OFFICE IN JANUARY OF 2018, WITH AN ERROR OF CLOSURE OF 1 PART IN 46,638.
- 10.) THE INTENT OF THIS PLAN IS TO SHOW THE PROPOSED SUBDIVISION PLAN FOR TAX MAP M, LOT 61.
- 11.) IF, DURING CONSTRUCTION, IT BECOMES APPARENT THAT DEFICIENCIES EXIST IN THE APPROVED DESIGN DRAWINGS, THE OWNER SHALL BE REQUIRED TO CORRECT THE DEFICIENCIES TO MEET THE REQUIREMENTS OF THE REGULATIONS AT NO EXPENSE TO THE CITY OF DOVER.
- 12.) AS-BUILT PLANS OF THE SUBDIVISION SHALL BE SUBMITTED ON PAPER AND IN DIGITAL FORMAT IN PDF AND AUTOCAD DWG, AUTOCAD DXF OR ERSI FORMAT TO THE CITY OF DOVER ENGINEERS OFFICE UPON COMPLETION OF PROJECT. AS-BUILT PLANS SHALL BE PREPARED AND CERTIFIED CORRECT BY A L.L.S. OR P.E. DIGITAL FILE SHALL BE GEO-REFERENCED TO NEW HAMPSHIRE STATE PLANE COORDINATES NAD83 AND SHALL BE EXPRESSED IN FEET.

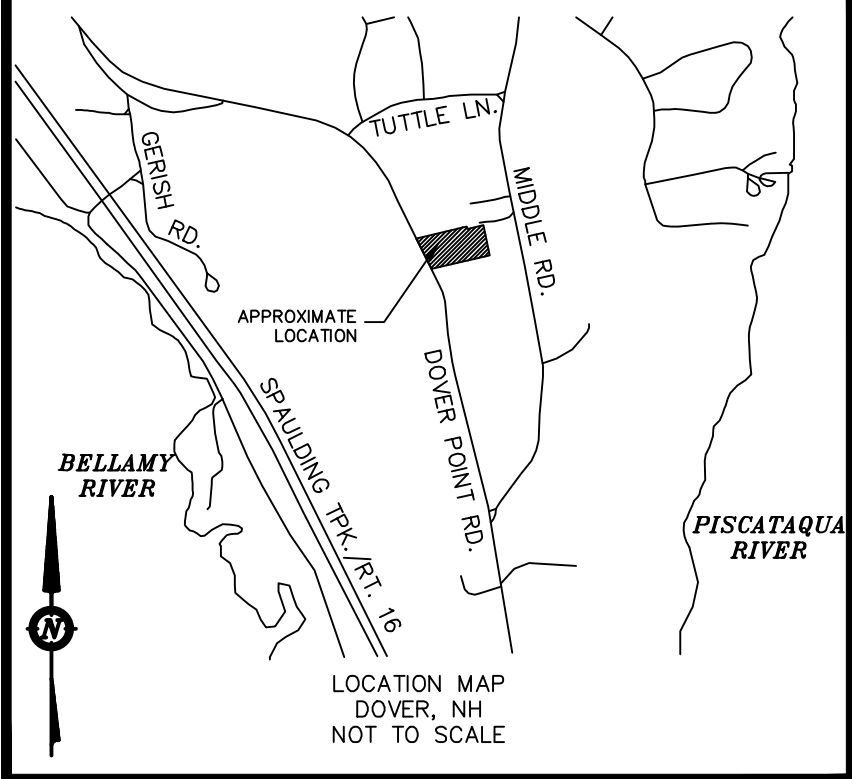
LEGEND:

- IRON BOUND (TBS)
- GRANITE BOUND (TBS)
- IRON BOUND/REBAR (FND)
- IRON PIPE (FND)
- STEEL STAKE (FND)
- UTILITY POLE
- GUY WIRE
- EXISTING WATER VALVE
- EXISTING FIRE HYDRANT W/BOLLARD
- BUILDING SETBACK LINE
- PROPOSED BOUNDARY LINE
- EXISTING OVERHEAD UTILITY LINE
- FOUND
- TO BE SET
- TYPICAL
- S.C.R.D.

SOILS:

WdB - WINDSOR LOAMY SAND, 3 TO 8 PERCENT SLOPES
SEE WEBSOIL USDA-NRCS

I CERTIFY THAT THIS PLAT EXCEEDS THE
MINIMUM REQUIREMENT FOR ACCURACY AND
COMPLETENESS OF THE STATE OF N.H. AND
OF THE CITY OF DOVER, N.H. - 1:10,000-
4-8-18
KENNETH A. BERRY L.L.S. 805 DATE



DOVER FILE #P18-14

REVISION	DATE	DESCRIPTION

OPEN SPACE SUBDIVISION PLAN TOPOGRAPHIC OVERVIEW

LAND OF
TDAK & COMPANY LLC
146 DOVER POINT ROAD
DOVER, NH 03820
TAX MAP M, LOT 61

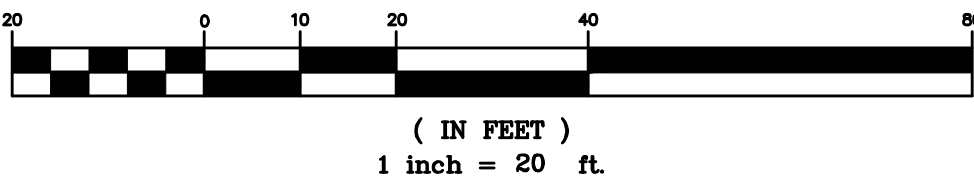
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 40 FT.
DATE : APRIL 5, 2018
FILE NO. : DB 2018 - 001

NEW HAMPSHIRE
LICENSED
LAND SURVEYOR
KENNETH A. BERRY
L.L.S. 805
SIGNATURE

GENERAL PLAN SET NOTES:

- 1.) OWNER: TDAK & COMPANY
9B KELSEY LANE
GREENLAND, NH 03840
- 1A.) APPLICANT: TDAK & COMPANY
9B KELSEY LANE
GREENLAND, NH 03840
- 2.) TAX MAP M, LOT 61
- 3.) LOT AREA: 184,225 Sq. Ft., 4.23 Ac.
- 3.) THE PURPOSE OF THIS PLAN IS TO DEMONSTRATE SITE LAYOUT ITEMS AS WELL AS FINISH CONSTRUCTION ITEMS FOR MIRWARI DRIVE.
- 4.) SEE NOTES PAGE FOR STANDARD CONSTRUCTION NOTES

GRAPHIC SCALE



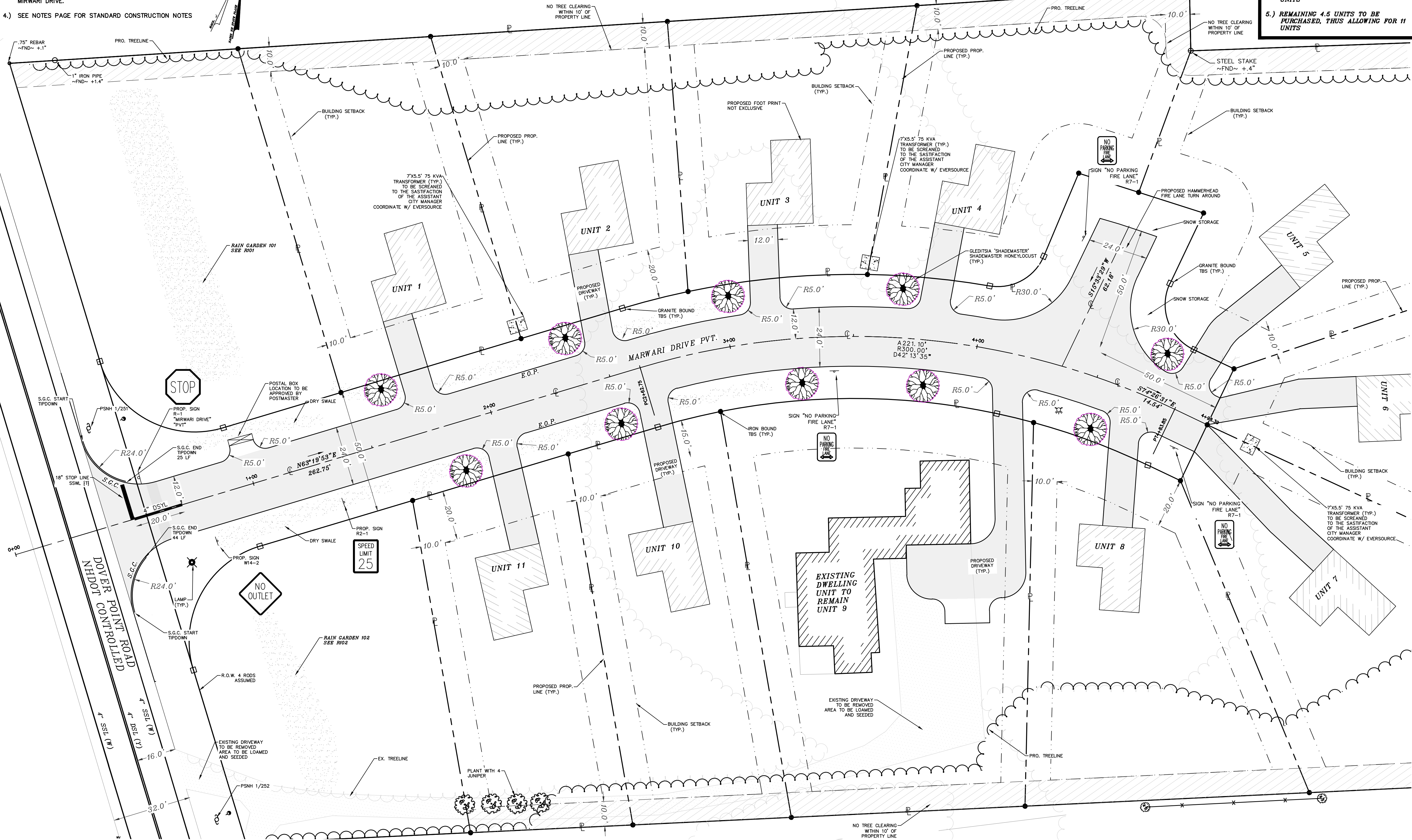
N/F CHENEVERT WILLIAM J. III
142 DOVER POINT ROAD
DOVER, NH 03820
S.C.R.D. BOOK 3144, PAGE 909
TAX MAP M, LOT 63

N/F COCHECO RIVER CO-OP
417 MIDDLE ROAD
DOVER, NH 03820
S.C.R.D. BOOK 1448, PAGE 074
TAX MAP M, LOT 62A

THIS RESIDENTIAL SUBDIVISION
USES TRANSFER OF DEVELOPMENT
(TDR) CHAPTER 170-27.2. UNITS
1, 2, 3, 11 & 10 ARE TO REMAIN TO
REMAIN 1,400 SF OR LESS IN LIVING
SPACE SEE CHAPTER 170.27.2 FOR
OTHER USES AND RESTRICTIONS.

TDR UNIT CALCULATIONS

- 1.) 184,211 SF. - CONSERVATION = 184,211
- 2.) $184,211 \times .85 = 156,579.35$
- 3.) $156,579.35 \times .85 = 133,092.45$
- 4.) 133,092.45 SF./20,000 SF. = 6.65 UNITS
- 5.) REMAINING 4.5 UNITS TO BE PURCHASED, THUS ALLOWING FOR 11 UNITS

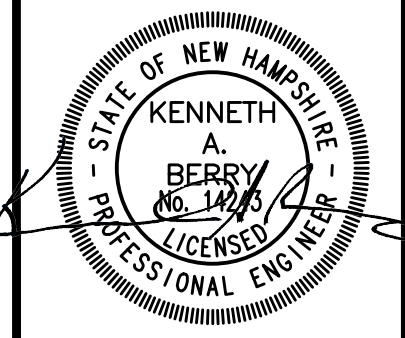


DOVER FILE #P18-14

REVISION	DATE	DESCRIPTION

SITE PLAN
LAND OF TDAK & COMPANY LLC 146 DOVER POINT ROAD DOVER, NH 03820 TAX MAP M, LOT 61

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 20 FT.
DATE : APRIL 5, 2018
FILE NO. : DB 2018 - 001



PLANTING NOTES

1. CONTRACTOR SHALL OBTAIN APPROVAL FROM L.A. PRIOR TO PURCHASING &/OR INSTALLING SUBSTITUTE PLANT MATERIAL PRIOR TO PURCHASE OF ANY SUBSTITUTE MATERIALS.
2. CONSTRUCTION ACCESS WILL BE AS DIRECTED BY L.A. CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ACCESS ROUTE AND ALL AREAS DISTURBED BY PLANTING OPERATIONS UPON COMPLETION OF CONSTRUCTION OPERATIONS, AT NO ADDITIONAL COST TO THE OWNER.
3. LAYOUT OF ALL PLANTING BEDS AND LOCATION OF PLANTS TO BE APPROVED BY L.A. ON SITE PRIOR TO CONSTRUCTION AND INSTALLATION.
4. CONTRACTOR TO REMOVE ALL DEBRIS GENERATED BY PLANT INSTALLATION. DEBRIS TO BE DISPOSED OF IN A LEGAL MANNER.
5. ALL PLANT MATERIAL SHALL BE GUARANTEED TO BE IN GOOD, HEALTHY & FLOURISHING CONDITION FOR ONE YEAR FROM THE DATE OF FINAL INSTALLATION APPROVAL BY L.A. CONTRACTOR SHALL REPLACE, WITHOUT COST TO OWNER, AND AS SOON AS WEATHER CONDITIONS PERMIT, ALL DEAD AND NON-FLOURISHING PLANTS AS DETERMINED BY THE L.A. REPLACEMENT PLANTS SHALL BE GUARANTEED IDENTICALLY TO ORIGINAL PLANTS, TIME PERIOD COMMENCING FROM DATE OF REPLACEMENT PLANTING APPROVAL BY L.A.
6. ALL BEDS TO BE MULCHED WITH 3" DEPTH SHREDDED BARK MULCH UNLESS NOTED OTHERWISE.
7. CONTRACTOR TO PROVIDE NECESSARY TEMPORARY IRRIGATION IF NEEDED BASED ON TIME OF YEAR THE PROJECT IS IMPLEMENTED.
8. ALL PLANT MATERIAL TO COMPLY WITH THE CITY OF DOVER'S SITE REVIEW REGULATIONS, 149-14(G), SUCH THAT THERE SHALL BE DECIDUOUS SHADE TREES PLANTED 40 FEET O.C. ALONG THE PERIMETER OF THE PARKING LOTS AND SHRUBS PLANTED 5 FEET O.C. WITHIN THE PERIMETER BUFFER. SEE PLANT LIST FOR SPECIES AND SIZE OF PLANTS.
9. SEE NOTE PAGE FOR ALL OTHER LANDSCAPING NOTES.

TEMPORARY WATERING NOTES

1. CONTRACTOR IS RESPONSIBLE FOR MAKING SURE ALL PLANT MATERIAL HAS ADEQUATE WATER DURING THE ESTABLISHMENT PERIOD.
2. THE USE OF GATOR BAGS, SOAKER HOSE, HAND WATERING AND OTHER TECHNIQUES SHOULD BE USED TO ASSURE PROPER HYDRATION OF THE PLANTINGS IS MAINTAINED.
3. TEMPORARY IRRIGATION SYSTEMS CAN BE SET UP TO ASSIST IN WATERING ACTIVITIES.

PLANTING SCHEDULE
146 Dover Point Road
Botanical Name/ Common Name

Trees	Size	Qty	Label
<i>Gleditsia</i> 'Shademaster' / Shademaster Honeylocust	3" Cal.	10	GS
Shrubs			
<i>Cornus sanguinea</i> 'Winter Flame' / Winter Flame Dogwood	2-3' B&B	6	CS
<i>Physocarpus opulifolius</i> 'Summer Wine' / Summer Wine Ninebark	2-3' B&B	7	PO
GRASSES			
<i>Calamagrostis x acutiflora</i> 'Karl Foerster' / Karl Foerster's Feather Reed Grass	#2	27	CA
Perennials			
<i>Hemerocallis</i> 'Big Time Happy' / Big Time Happy Daylily	#1	17	HD
<i>Hemerocallis</i> 'Pardon Me' / Pardon Me Daylily	#1	17	PM



General Plant Maintenance Guide

General Plant Bed Maintenance:

- All plant maintenance should be performed by a qualified horticulturist or licensed arborist. Clearing the dead material out of the planting bed in the fall helps keep litter from building up around the plants and in some cases killing the plants. Watering the first year during dry periods will help get the plants established. Mulching every year is not necessary. Raking the old mulch and turning it over is all that is needed. When necessary only install one inch of mulch and do not place the mulch closer than 3" to the trunk or stems of woody plants.

Trees

- The first year watering during dry periods will be necessary.
- 3" inches of mulch maybe used. The mulch should be kept 3 inches from the trunk.
- Fertilizing is not necessary for the first year. Fertilizing in subsequent years only when and if the foliage is looking weak.
- Fertilization should occur prior to Mar 31" or after trees have dropped their leaves for the year.
- Prune dead wood once a year.
- Depending on the amount of compaction the bed area receives, deep root aeration may be needed over time

Woody Shrubs

- The first year watering during dry periods will be necessary.
- 3" inches of mulch maybe used. The mulch should be kept 3 inches from the stems.
- Fertilizing is not necessary for the first year. Fertilizing in subsequent years only when and if the foliage is looking weak.
- Fertilization should occur prior to Mar 31" or after shrubs have dropped their leaves or grass dormant for the year.
- Prune dead wood once a year.

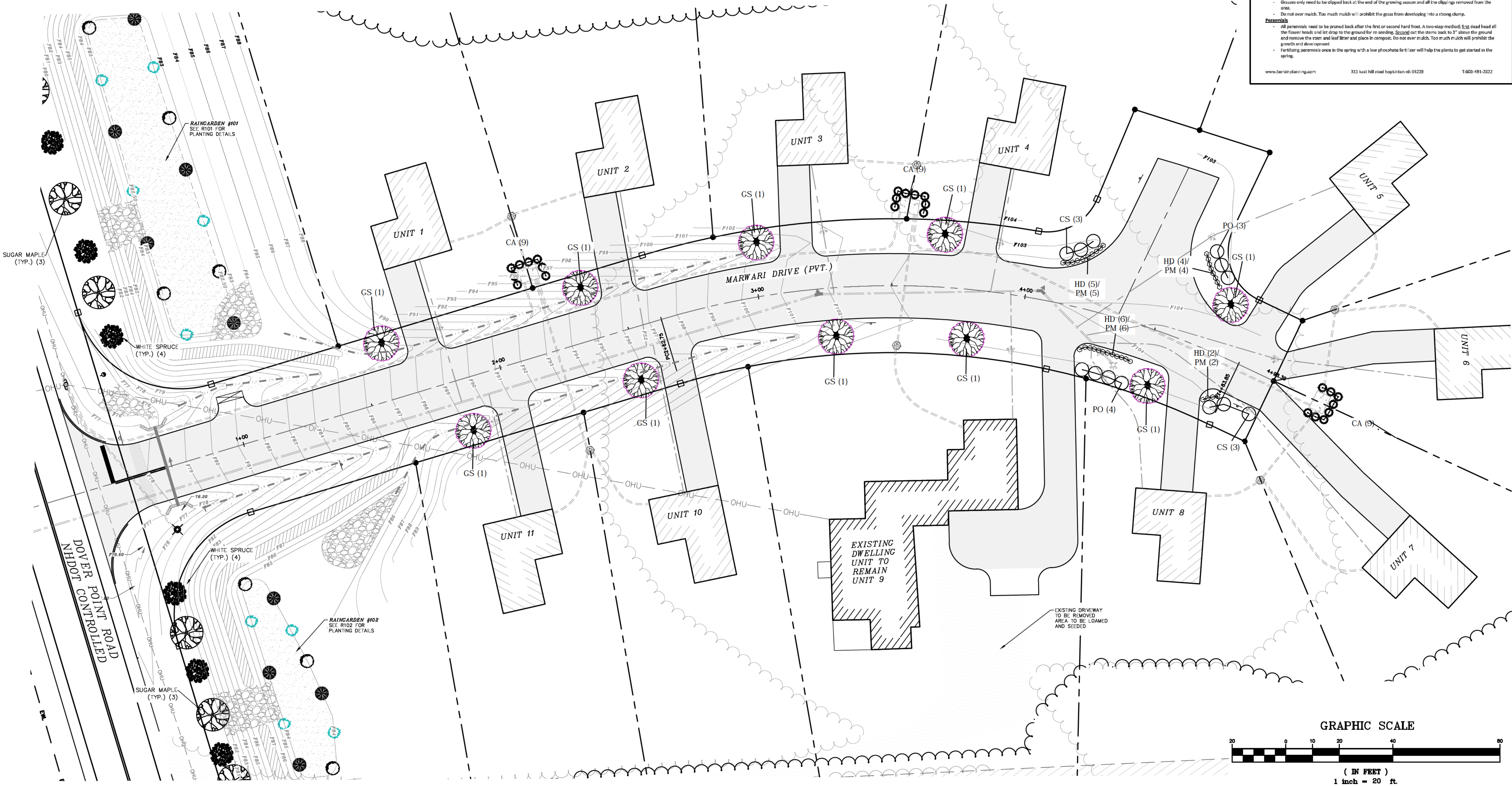
Grasses

- Grasses only need to be clipped back at the end of the growing season and all the clippings removed from the area.
- Do not over mulch. Too much mulch will prohibit the grass from developing into a strong clump.

Perennials

- All perennials need to be pruned back after the first or second hard frost. A two-step method: first dead head all the flower heads and let dry to the ground for re-seeding. Second cut the stems back to 3" above the ground and remove the stem and leaf litter and place in compost. Do not over mulch. Too much mulch will prohibit the growth and development.
- Fertilizing perennials once in the spring with a low phosphate fertilizer will help the plants to get started in the spring.

www.terrainplanning.com 311 kast hill road hopkinton nh 03228 1-603-491-2322



terrain
planning & design llc

311 kast hill road
hopkinton, nh 03229
603. 491. 2322
terrainplanning.com

146 Dover Point
Road

Site Location:
146 Dover Point Road
DOVER, NH
Tax Map: M, LOT 61

Prepared For:
Berry Surveying & Engineering
335 Second Crown Point Rd
Barrington, NH 03825

LANDSCAPE
PLAN

DATE: 04-5-18

SCALE: 1" = 20'

PROJECT #: 1802

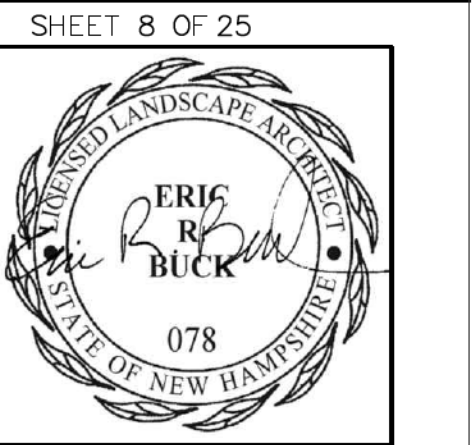
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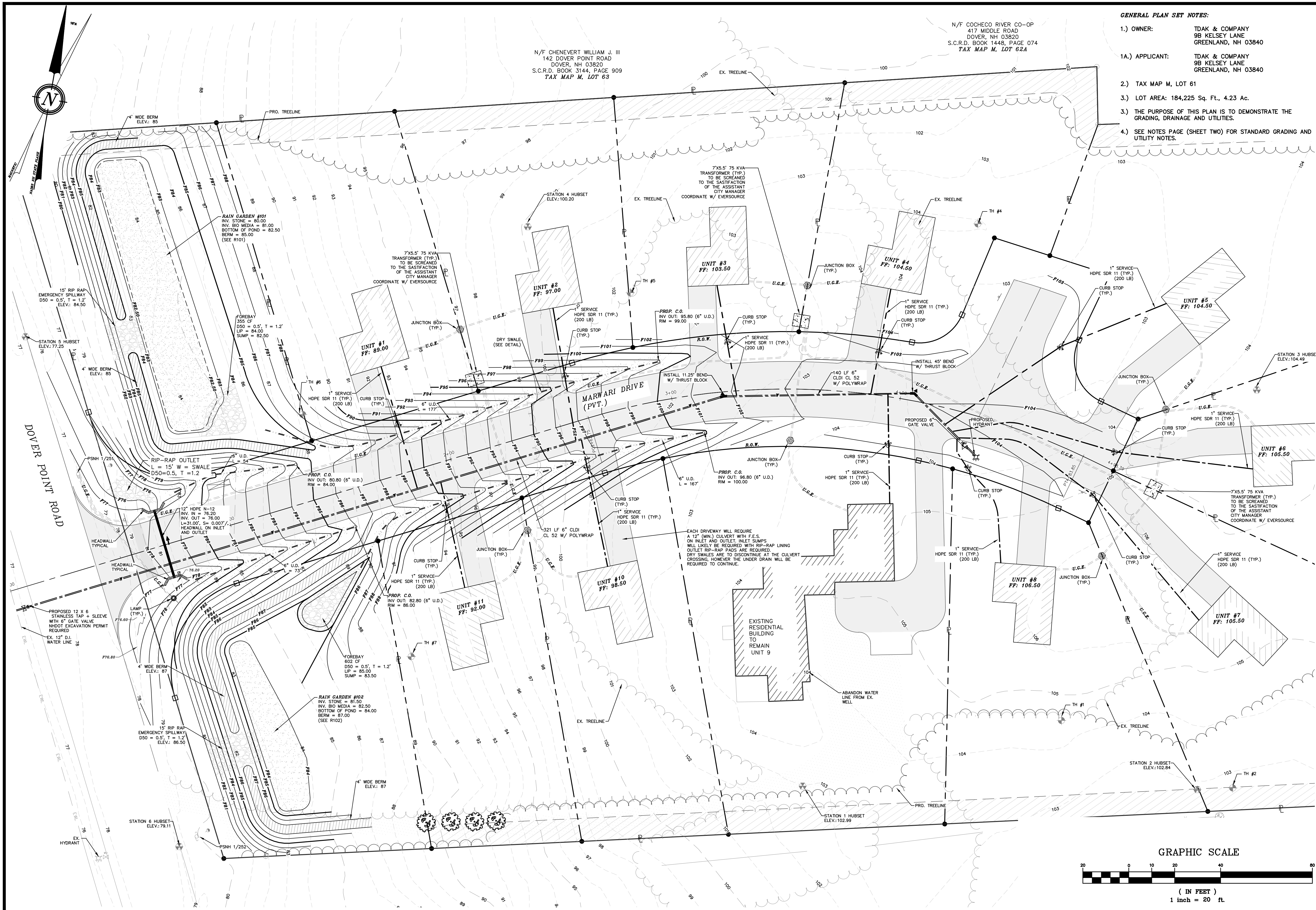
Checked By: ERB

REVISIONS: DATE:

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GENERAL PLAN SET NOTES:

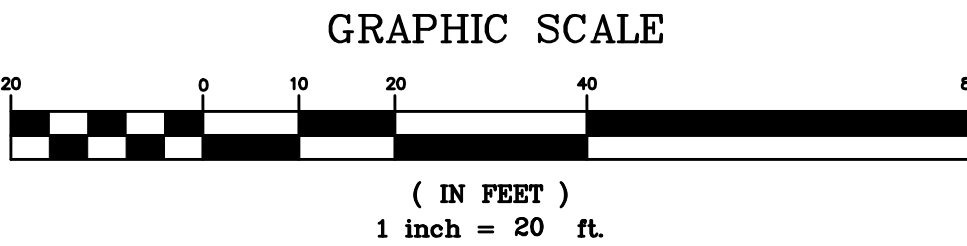
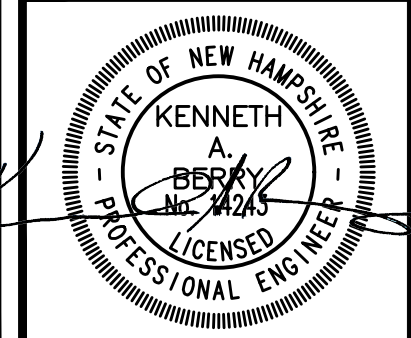
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9B KELSEY LANE
GREENLAND, NH 03840
- 1A.) APPLICANT: TDAK & COMPANY
9B KELSEY LANE
GREENLAND, NH 03840
- 2.) TAX MAP M, LOT 61
- 3.) LOT AREA: 184,225 Sq. Ft., 4.23 Ac.
- 4.) THE PURPOSE OF THIS PLAN IS TO DEMONSTRATE THE GRADING, DRAINAGE AND UTILITIES.
- 5.) SEE NOTES PAGE (SHEET TWO) FOR STANDARD GRADING AND UTILITY NOTES.

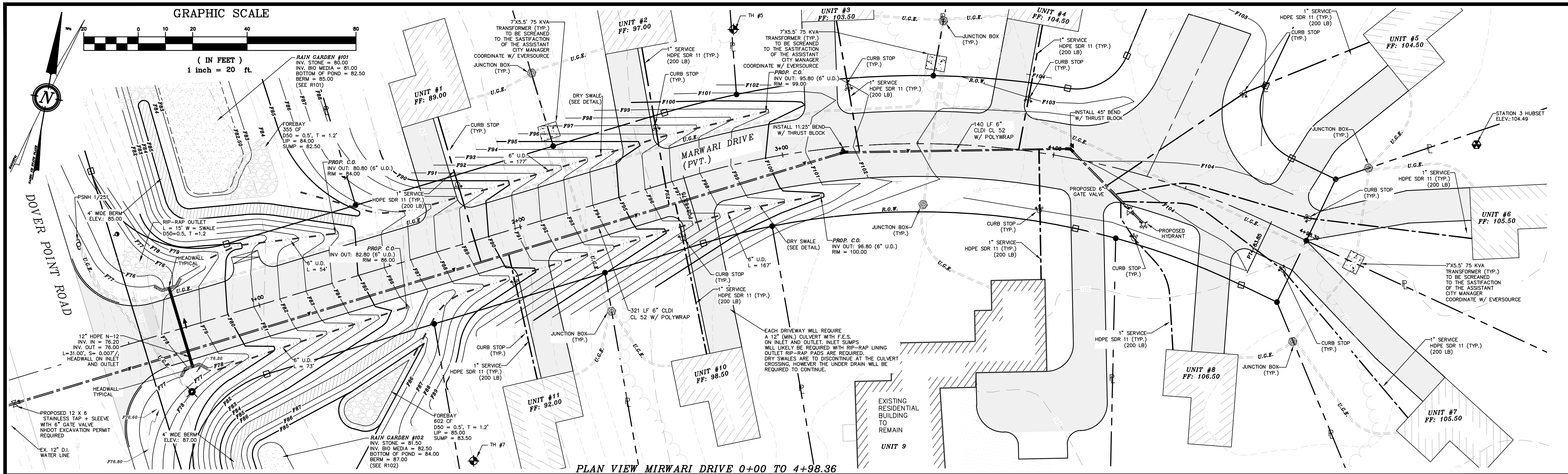
DOVER FILE #P18-14

OVERVIEW GRADING & UTILITY PLAN	
LAND OF TDAK & COMPANY LLC 146 DOVER POINT ROAD DOVER, NH 03820 TAX MAP M, LOT 61	
REVISION	DATE

OVERVIEW GRADING & UTILITY PLAN

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 20 FT.
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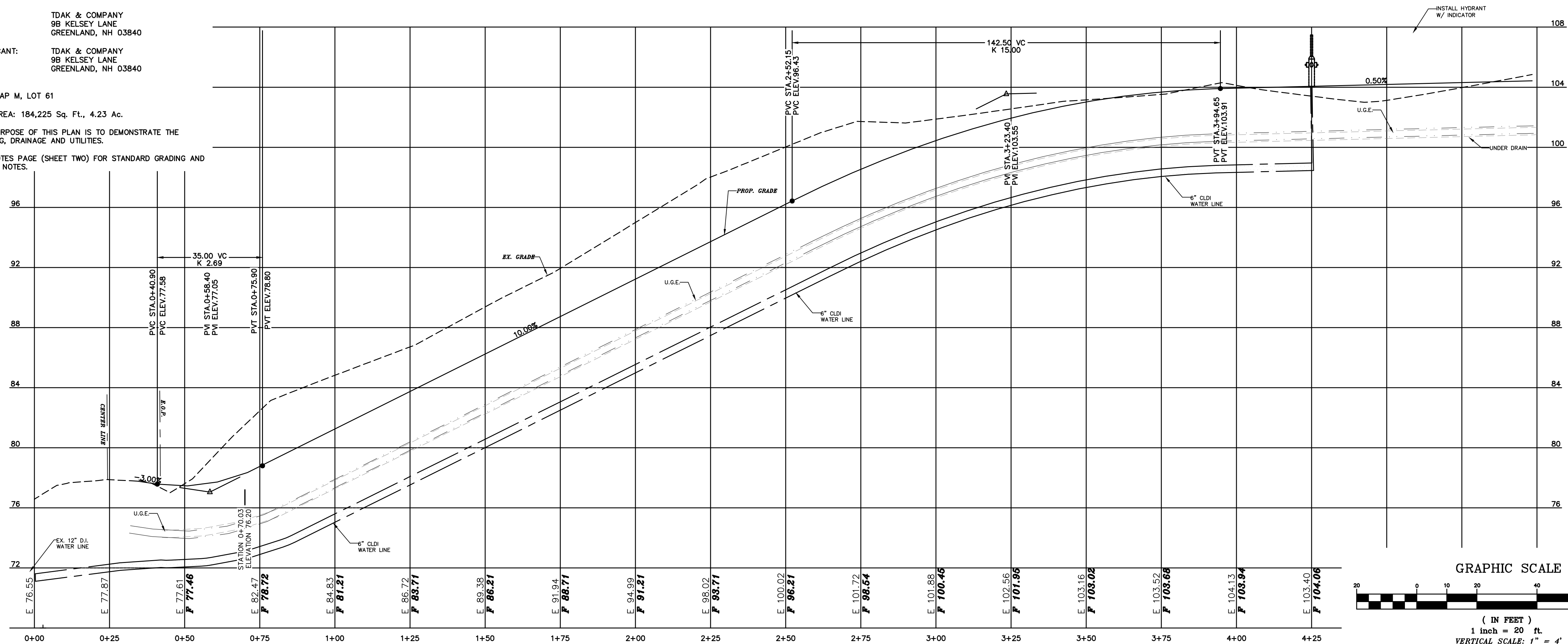




PLAN VIEW MIRWARI DRIVE 0+00 TO 4+98.36

GENERAL PLAN SET NOTES:

- 1.) OWNER: TDAK & COMPANY
98 KELSEY LANE
GREENLAND, NH 03840
- 1A.) APPLICANT: TDAK & COMPANY
98 KELSEY LANE
GREENLAND, NH 03840
- 2.) TAX MAP M, LOT 61
- 3.) LOT AREA: 184,225 Sq. Ft., 4.23 Ac.
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- 4.) SEE NOTES PAGE (SHEET TWO) FOR STANDARD GRADING AND UTILITY NOTES.



PROFILE VIEW MIRWARI DRIVE 0+00 TO 4+98.36

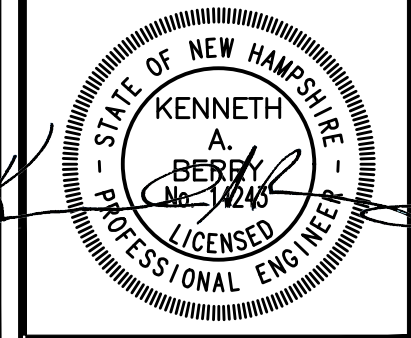
DOVER FILE #P18-14

REVISION	DATE	DESCRIPTION

PLAN AND PROFILE MIRWARI DRIVE 0+00 TO END

LAND OF
TDAK & COMPANY LLC
146 DOVER POINT ROAD
DOVER, NH 03820
TAX MAP M, LOT 61

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
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FILTER MEDIA MIXTURES			
Component Material	Percent of Mixture by Volume	Gradation of material	
		Sieve No.	Percent by Weight Passing Standard Sieve
Filter Media Option A			
ASTM C-33 concrete sand	50 to 55		
Loamy sand topsoil, with fines as indicated	20 to 30	200	15 to 25
Moderately fine shredded bark or wood fiber mulch, with fines as indicated	20 to 30	200	< 5

CRUSHED STONE BEDDING *		CRUSHED STONE BEDDING *	
SIEVE SIZE	% PASSING BY WEIGHT	SIEVE SIZE	% PASSING BY WEIGHT
1"	100	1/2"	100
3/4"	90 - 100	3/8"	90 - 100
3/8"	20 - 55	#4"	20 - 55
# 4	0 -10	# 8	5 -30
# 8	0 - 5	# 16	0 - 10
		# 50	0 - 5

* EQUIVALENT TO STANDARD STONE SIZE #67 - SECTION 702 OF NHDOT STANDARD SPECIFICATIONS

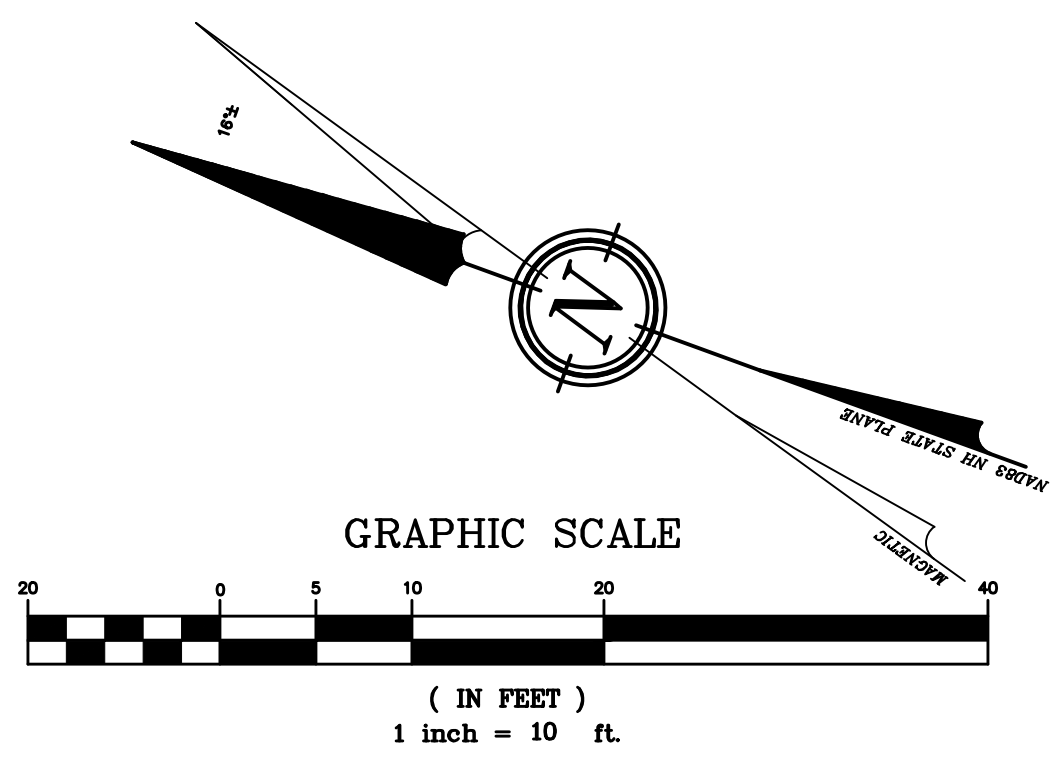
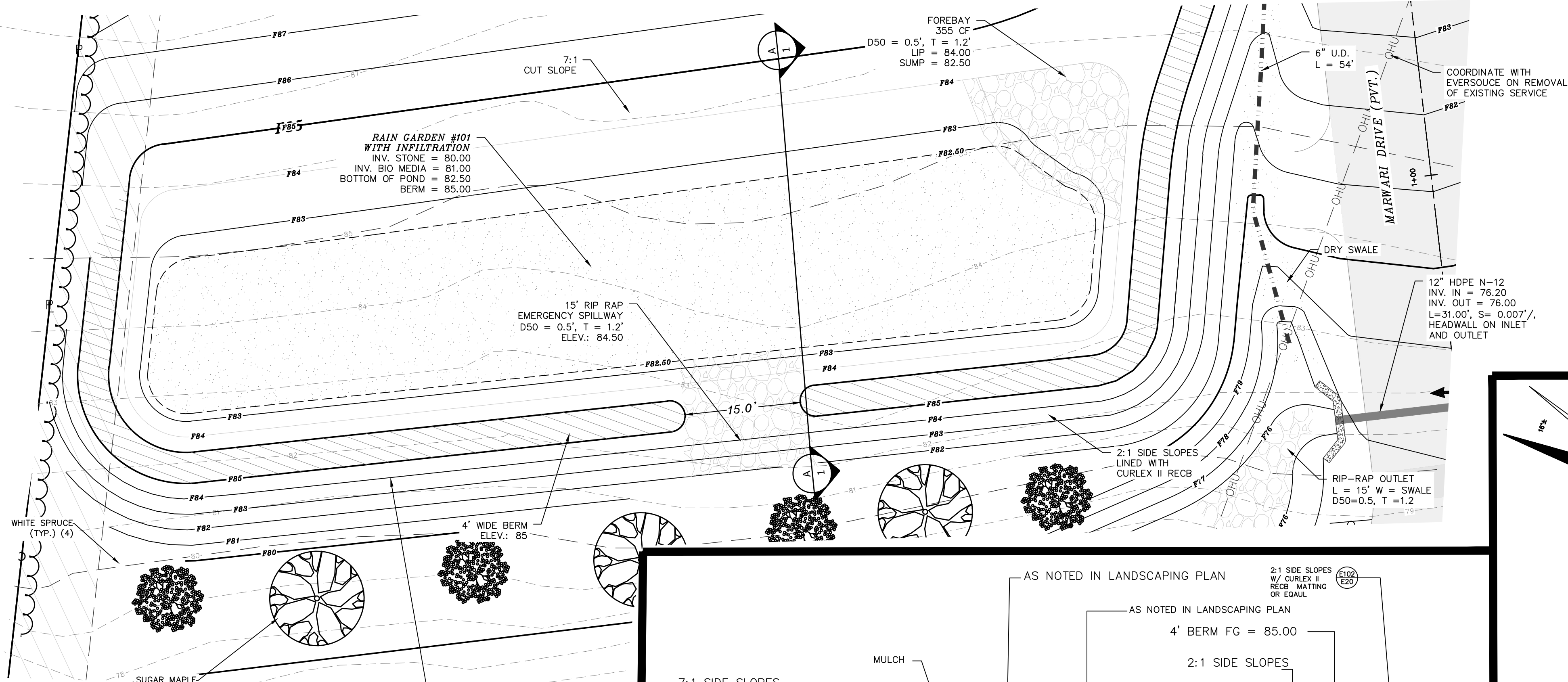
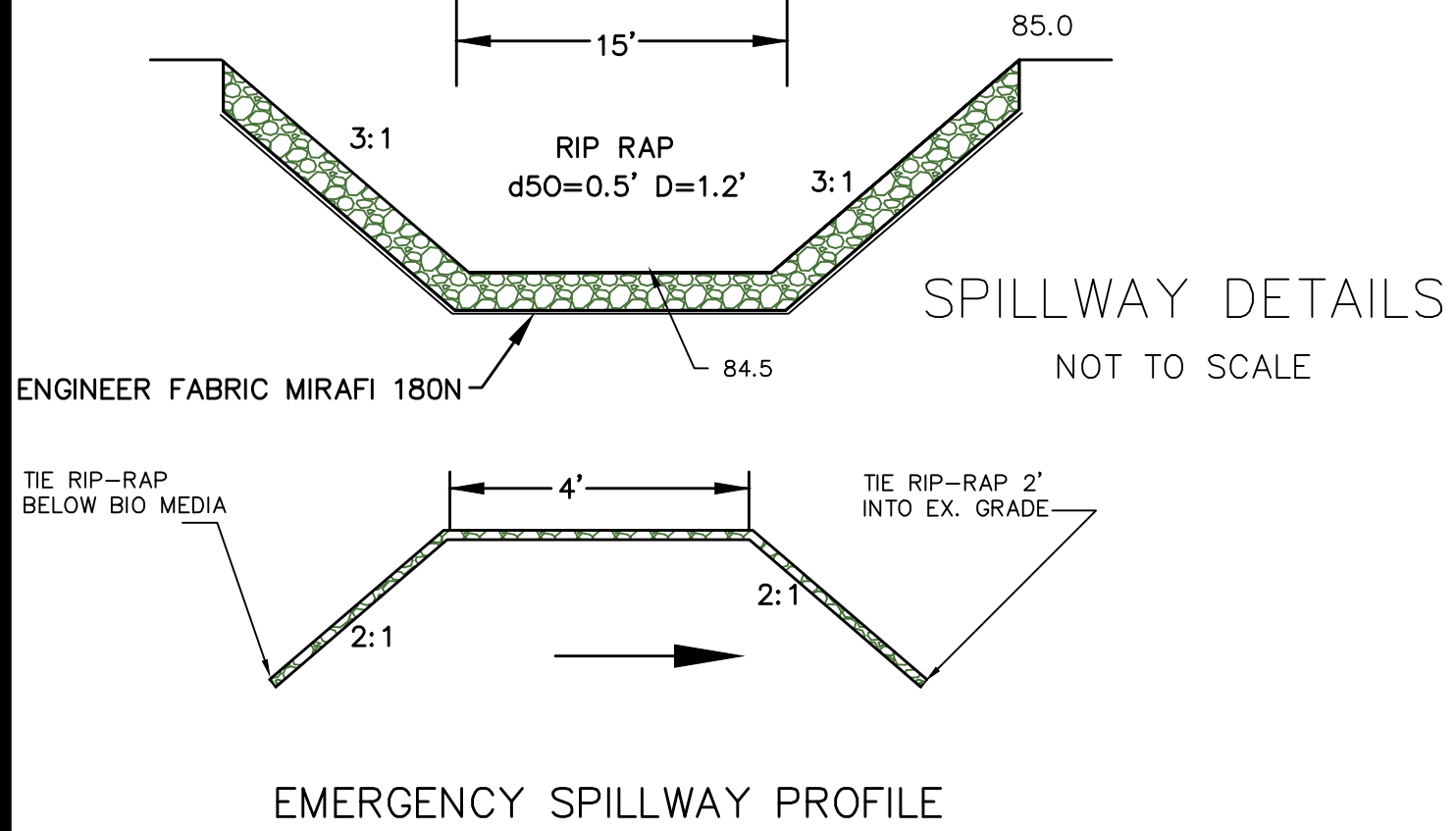
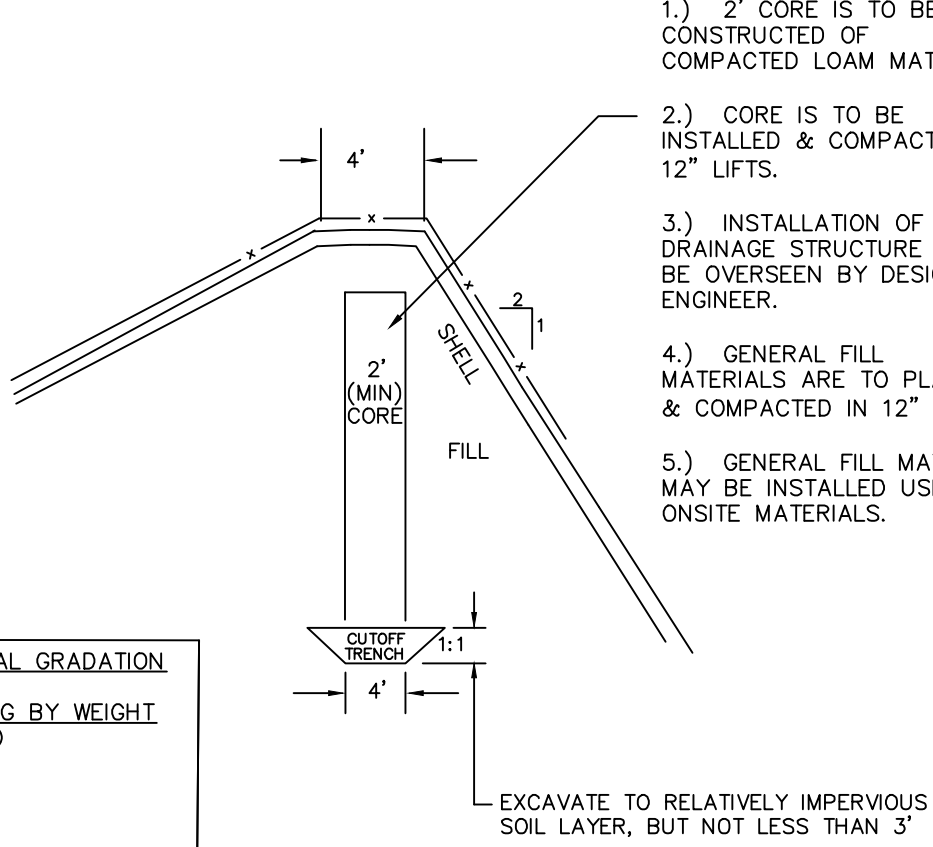
* EQUIVALENT TO STANDARD STONE SIZE #89 - SECTION 702 OF NHDOT STANDARD SPECIFICATIONS

- NOTES**
1. WHEN CONTRACTOR EXCAVATES RAIN GARDEN AREA TO SUBGRADE, DESIGN ENGINEER SHALL PERFORM SUBSURFACE EVALUATION PRIOR TO THE PLACEMENT OF ANY SELECT MATERIAL OR OTHER BACKFILL.
 2. SOIL FILTER MEDIA SHALL BE AS SHOWN ABOVE.
 3. COMPACTION IS NOT TO OCCUR IN THE RAIN GARDEN AREAS PRIOR TO CONSTRUCTION. SCARIFICATION REQUIRED IN THE EVENT COMPACTION TAKES PLACE.
 4. DO NOT PLACE THE BIORETENTION SYSTEM INTO SERVICE UNTIL THE BMP HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
 5. DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF WATER FROM EXCAVATIONS) TO THE BIORETENTION AREA DURING ANY STAGE OF CONSTRUCTION.
 6. DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION COMPONENTS OF THE SYSTEM.

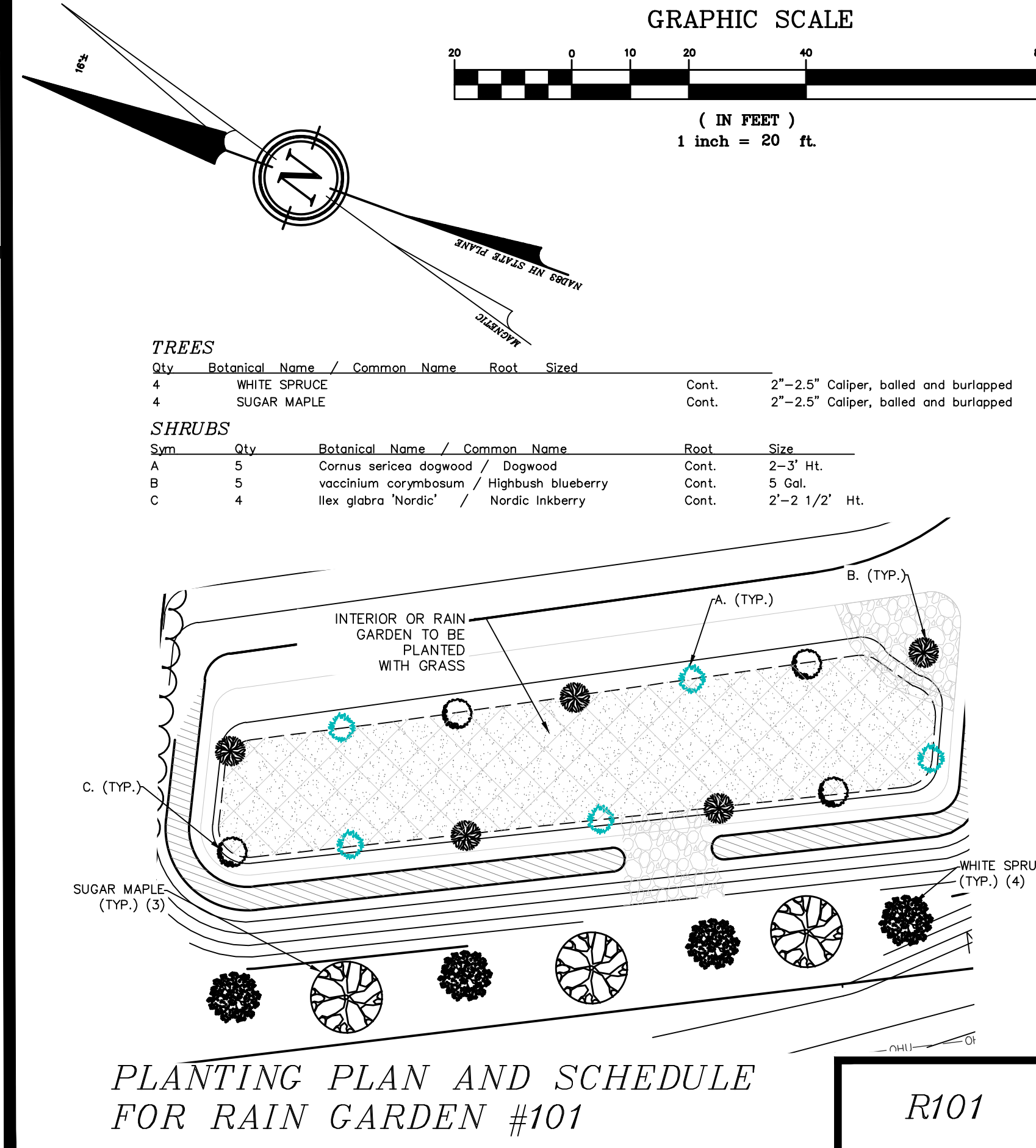
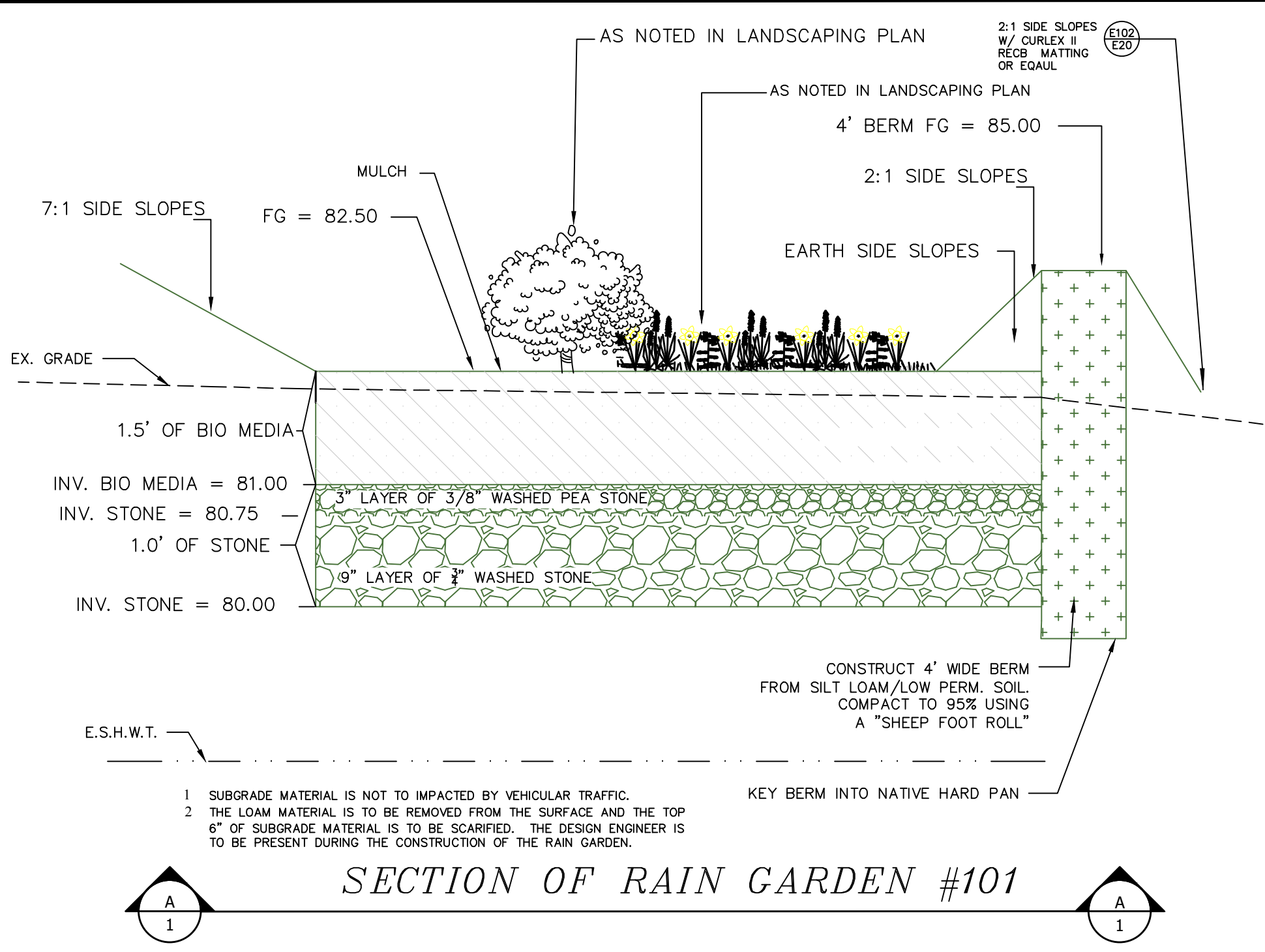
- MAINTENANCE REQUIREMENTS**
1. SYSTEMS SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND FOLLOWING ANY RAINFALL EXCEEDING 2.5 INCHES IN A 24-HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS A WARRANTED BY SUCH INSPECTION.
 2. PRETREATMENT MEASURES SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND CLEANED OF ACCUMULATED SEDIMENT AS WARRANTED BY INSPECTION, BUT NO LESS THAN ONCE ANNUALLY.
 3. AT LEAST ONCE ANNUALLY, SYSTEM SHOULD BE INSPECTED FOR DRAWDOWN TIME. IF BIORETENTION SYSTEM DOES NOT DRAIN WITHIN 72-HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL SHOULD ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE FILTRATION FUNCTION OR INFILTRATION FUNCTION (AS APPLICABLE), INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE FILTER MEDIA.
 4. VEGETATION SHOULD BE INSPECTED AT LEAST ANNUALLY, AND MAINTAINED IN HEALTHY CONDITION, INCLUDING, PRUNING, REMOVAL, AND REPLACEMENT OF DEAD OR DISEASED VEGETATION, AND REMOVAL OF INVASIVE SPECIES.

- DESIGN REFERENCES**
1. UNH STORMWATER CENTER
 2. NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 2, DECEMBER 2008 AS AMENDED.

LOW PERMEABILITY MATERIAL GRADATION	
SIEVE SIZE	% PASSING BY WEIGHT
#4	95 - 100
#40	60 - 95
#100	40 - 60
#200	25 - 45



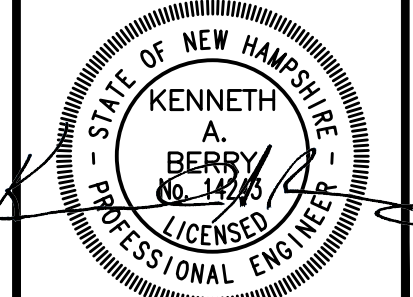
PLAN VIEW RAIN GARDEN #101



DOVER FILE #P18-14	
REVISION	DATE

RAIN GARDEN #101 WITH INFILTRATION DETAILS	
LAND OF TD&K & COMPANY LLC 146 DOVER POINT ROAD DOVER, NH 03820 TAX MAP M, LOT 61	

BERRY SURVEYING & ENGINEERING	
335 SECOND CROWN POINT ROAD BARRINGTON, NH 03825 (603)332-2863	
SCALE : 1 IN. EQUALS 10 FT.	DATE : APRIL 5, 2018
FILE NO. : DB 2018 - 001	



FILTER MEDIA MIXTURES			
Component Material	Percent of Mixture by Volume	Gradation of material	
		Sieve No.	Percent by Weight Passing Standard Sieve
Filter Media Option A			
ASTM C-33 concrete sand	50 to 55		
Loamy sand topsoil, with fines as indicated	20 to 30	200	15 to 25
Moderately fine shredded bark or wood fiber mulch, with fines as indicated	20 to 30	200	< 5

CRUSHED STONE BEDDING *		CRUSHED STONE BEDDING *	
SIEVE SIZE	% PASSING BY WEIGHT	SIEVE SIZE	% PASSING BY WEIGHT
1"	100	1/2"	100
3/4"	90 - 100	3/8"	90 - 100
3/8"	20 - 55	#4"	20 - 55
# 4	0 - 10	# 8	5 - 30
# 8	0 - 5	# 16	0 - 10
		# 50	0 - 5

* EQUIVALENT TO STANDARD STONE SIZE #67 - SECTION 702 OF NHDOT STANDARD SPECIFICATIONS

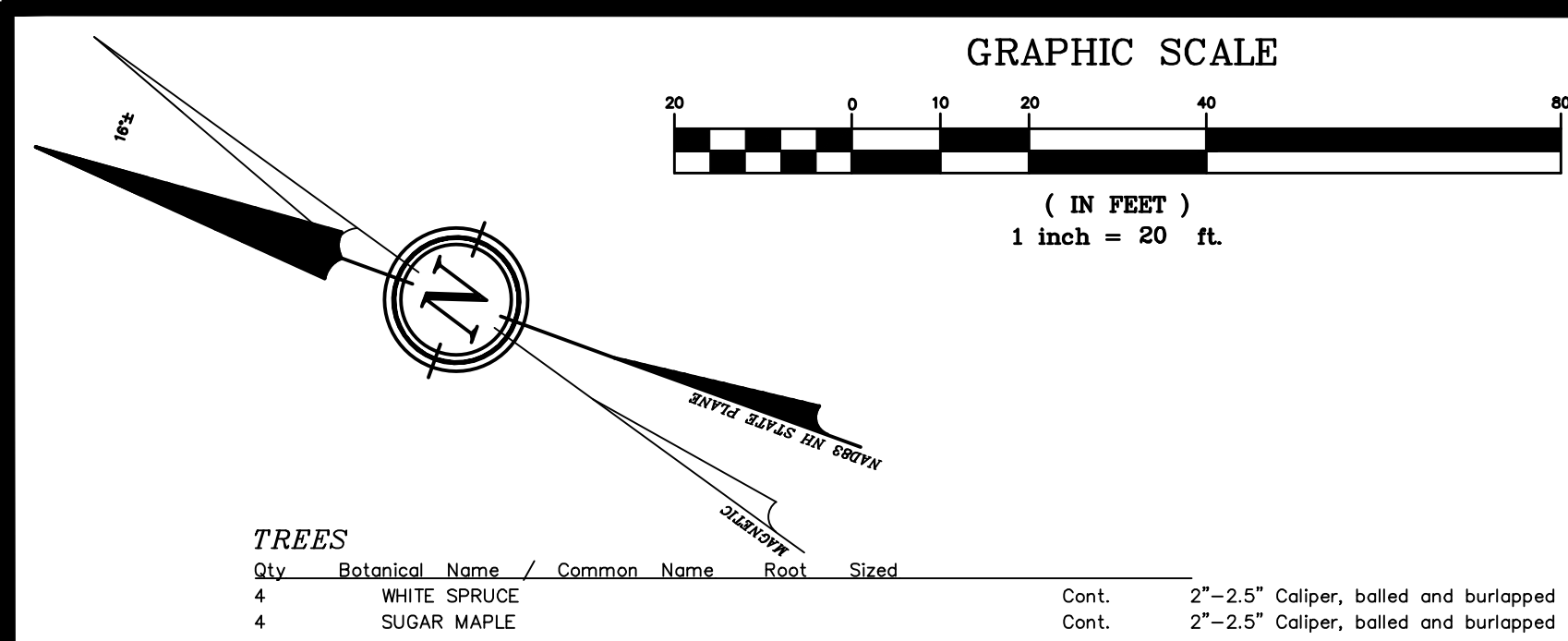
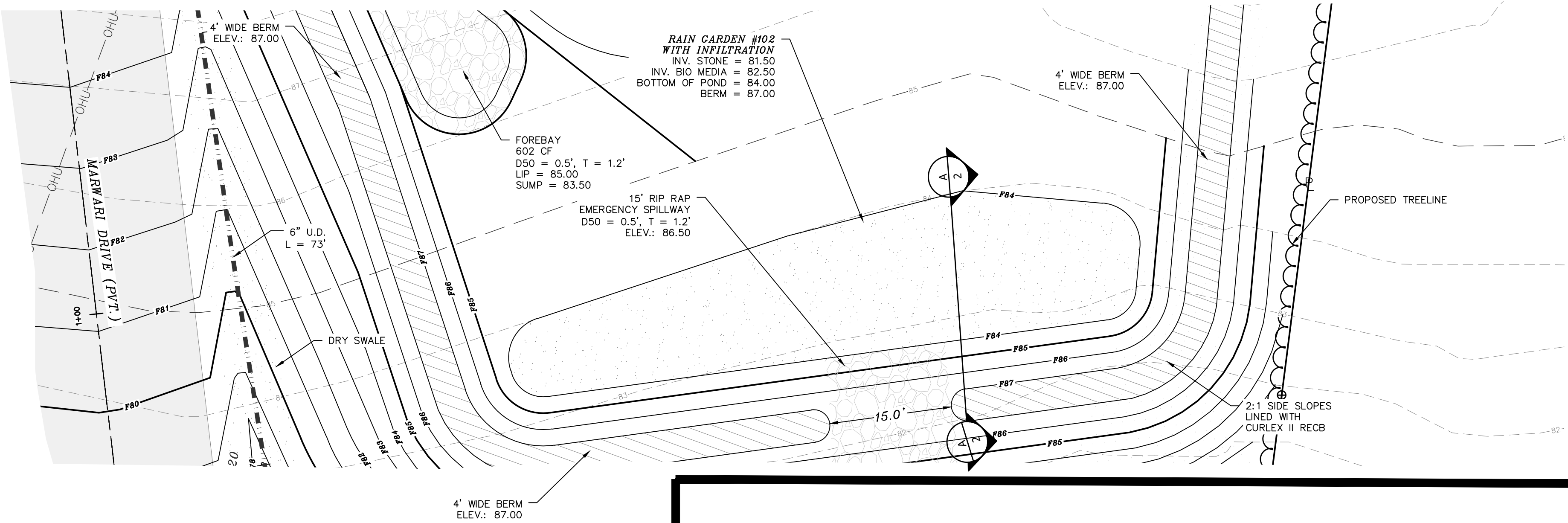
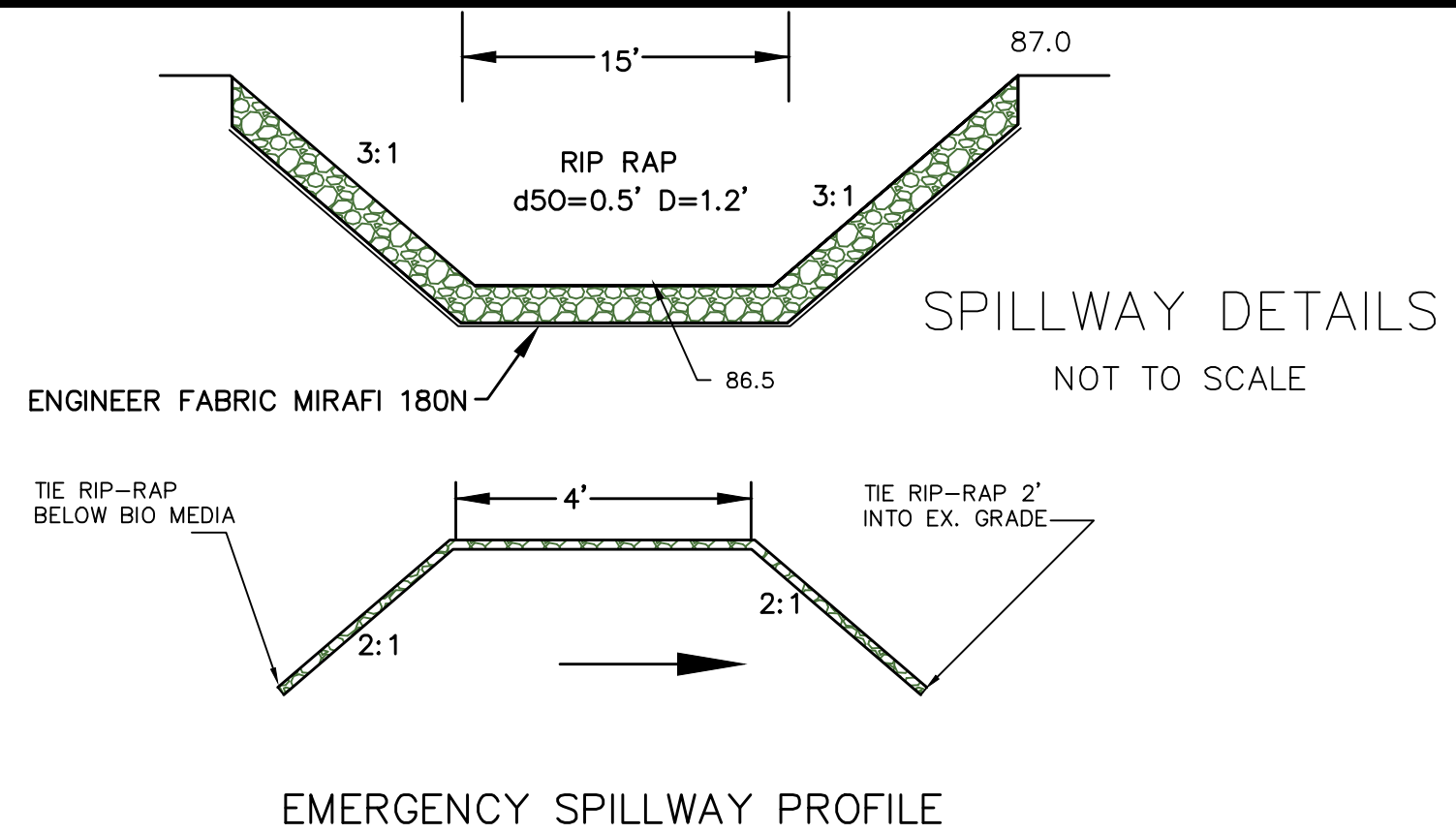
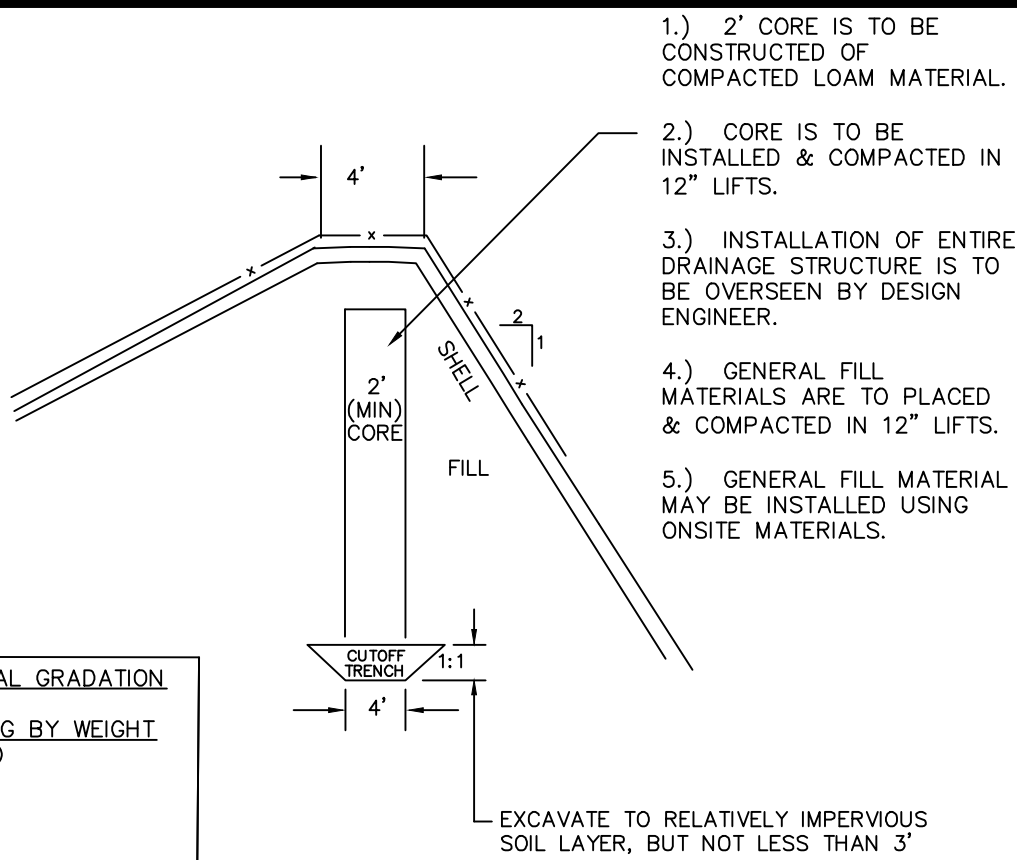
* EQUIVALENT TO STANDARD STONE SIZE #89 - SECTION 702 OF NHDOT STANDARD SPECIFICATIONS

- NOTES**
1. WHEN CONTRACTOR EXCAVATES RAIN GARDEN AREA TO SUBGRADE, DESIGN ENGINEER SHALL PERFORM SUBSURFACE EVALUATION PRIOR TO THE PLACEMENT OF ANY SELECT MATERIAL OR OTHER BACKFILL.
 2. SOIL FILTER MEDIA SHALL BE AS SHOWN ABOVE.
 3. COMPACTION IS NOT TO OCCUR IN THE RAIN GARDEN AREAS PRIOR TO CONSTRUCTION. SCARIFICATION REQUIRED IN THE EVENT COMPACTION TAKES PLACE.
 4. DO NOT PLACE THE BIORETENTION SYSTEM INTO SERVICE UNTIL THE BMP HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
 5. DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF WATER FROM EXCAVATIONS) TO THE BIORETENTION AREA DURING ANY STAGE OF CONSTRUCTION.
 6. DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION COMPONENTS OF THE SYSTEM.

- MAINTENANCE REQUIREMENTS**
1. SYSTEMS SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND FOLLOWING ANY RAINFALL EXCEEDING 2.5 INCHES IN A 24-HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS A WARRANTED BY SUCH INSPECTION.
 2. PRETREATMENT MEASURES SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND CLEANED OF ACCUMULATED SEDIMENT AS WARRANTED BY INSPECTION, BUT NO LESS THAN ONCE ANNUALLY.
 3. AT LEAST ONCE ANNUALLY, SYSTEM SHOULD BE INSPECTED FOR DRAWDOWN TIME. IF BIORETENTION SYSTEM DOES NOT DRAIN WITHIN 72-HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL SHOULD ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE FILTRATION FUNCTION OR INFILTRATION FUNCTION (AS APPLICABLE), INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE FILTER MEDIA.
 4. VEGETATION SHOULD BE INSPECTED AT LEAST ANNUALLY, AND MAINTAINED IN HEALTHY CONDITION, INCLUDING, PRUNING, REMOVAL, AND REPLACEMENT OF DEAD OR DISEASED VEGETATION, AND REMOVAL OF INVASIVE SPECIES.

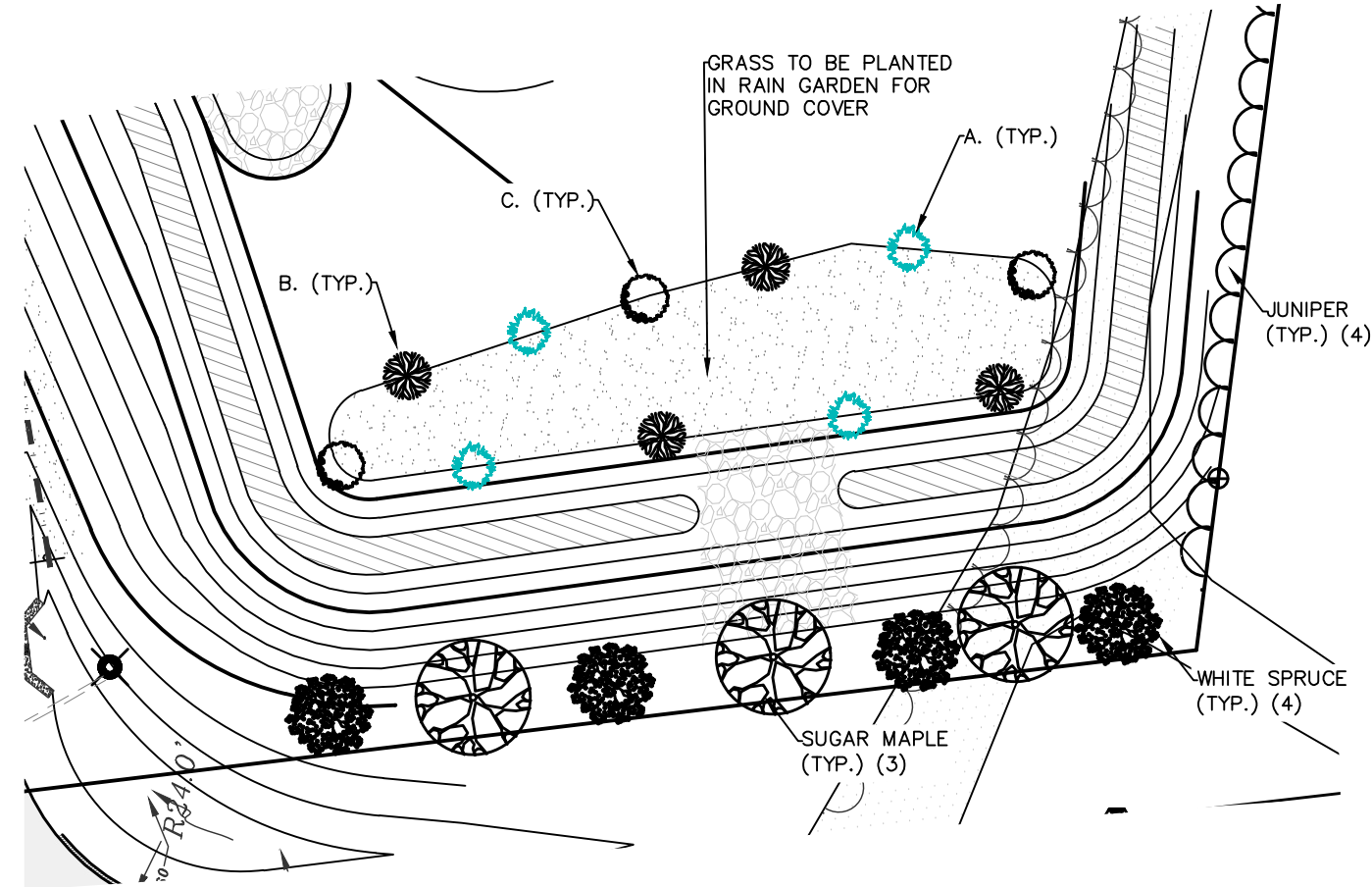
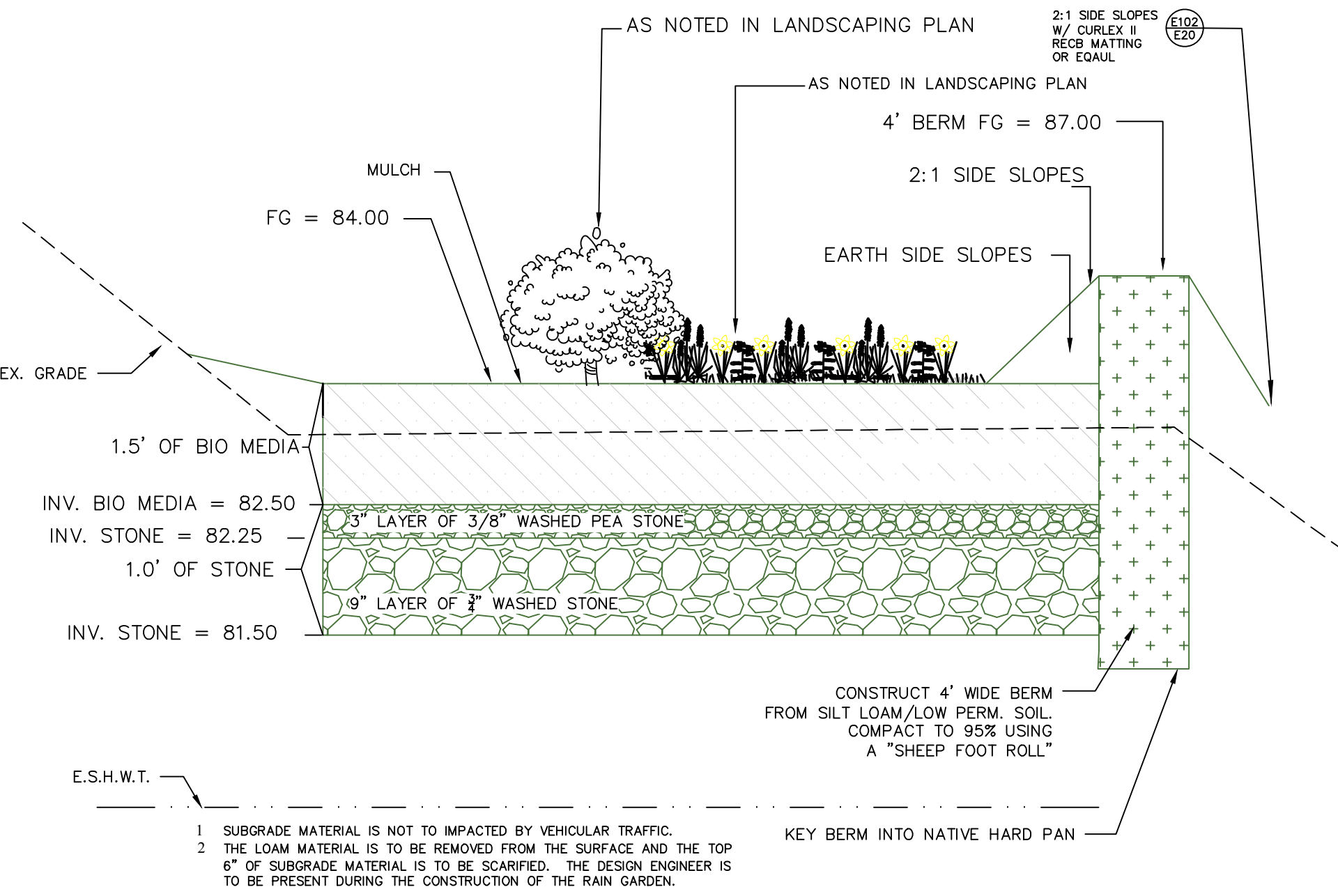
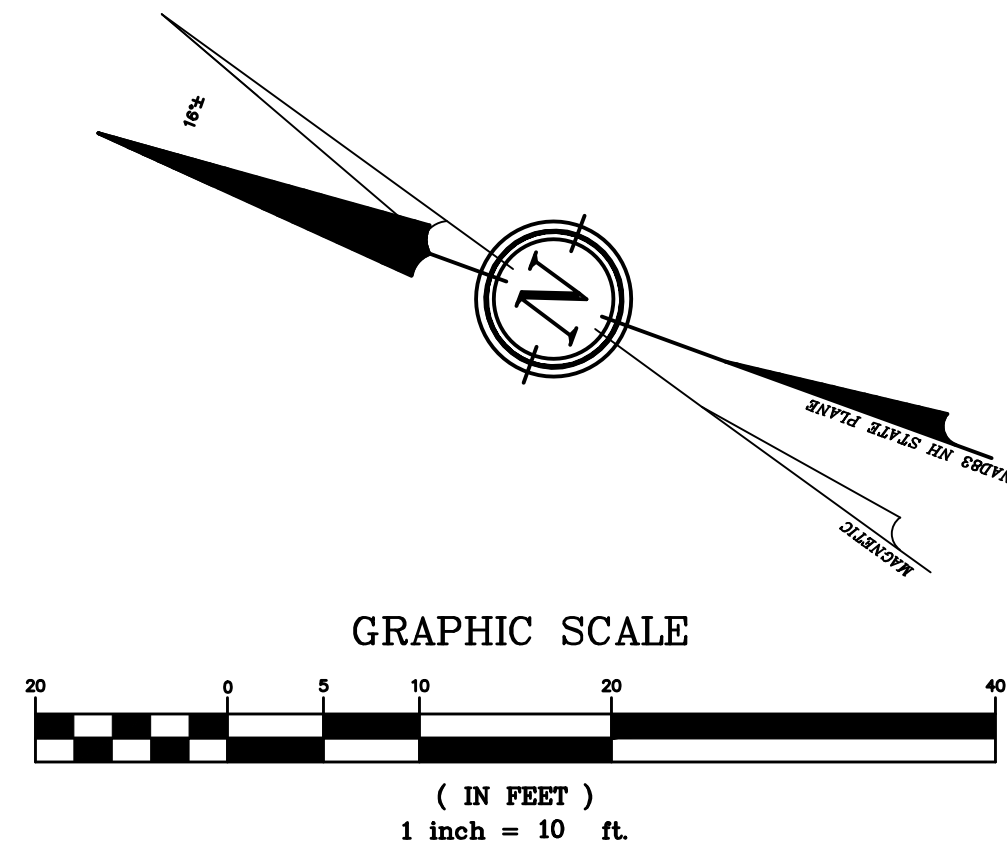
- DESIGN REFERENCES**
1. UNH STORMWATER CENTER
 2. NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 2, DECEMBER 2008 AS AMENDED.

LOW PERMEABILITY MATERIAL GRADATION	
SIEVE SIZE	% PASSING BY WEIGHT
#4	95 - 100
#40	60 - 95
#100	40 - 60
#200	25 - 45



TREES					
Qty	Botanical Name	Common Name	Root	Size	
4	WHITE SPRUCE		Cont.	2"-2.5" Caliper, balled and burlapped	
4	SUGAR MAPLE		Cont.	2"-2.5" Caliper, balled and burlapped	

SHRUBS					
Sym	Qty	Botanical Name	Common Name	Root	Size
A	4	Cornus sericea dogwood	Dogwood	Cont.	2-3' Ht.
B	4	vacinium corymbosum	Highbush blueberry	Cont.	5 Gal.
C	3	Ilex glabra 'Nordic'	Nordic Inkberry	Cont.	2'-2 1/2' Ht.



PLAN VIEW RAIN GARDEN #102

SECTION OF RAIN GARDEN #102

PLANTING PLAN AND SCHEDULE FOR RAIN GARDEN #102

R102

DOVER FILE #P18-14

REVISION	DATE	DESCRIPTION

RAIN GARDEN #102 WITH INFILTRATION DETAILS

LAND OF
TDK & COMPANY LLC
146 DOVER POINT ROAD
DOVER, NH 03820
TAX MAP M, LOT 61

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 10 FT.
DATE : APRIL 5, 2018
FILE NO. : DB 2018 - 001

SHEET 12 OF 25

NOTES:

- 1.) THE INTENT OF THIS PLAN SET IS TO DEMONSTRATE THE EROSION AND SEDIMENT CONTROL DESIGN OF THE SITE AT 146 DOVER POINT ROAD.
- 2.) OWNER: TDAK & COMPANY
9B KELSEY LANE
GREENLAND, NH 03840
- 2A.) APPLICANT: TDAK & COMPANY
9B KELSEY LANE
GREENLAND, NH 03840
- 3.) TAX MAP M, LOT 61
- 4.) LOT AREA: 184,225 Sq. Ft., 4.23 Ac.
- 5.) SEE NOTE SHEET FOR EROSION AND SEDIMENT CONTROL NOTES
- 6.) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVE AND BELOW GROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ANY UTILITY CONFLICTS SHOULD BE REPORTED IMMEDIATELY TO THE DESIGN ENGINEER.
- 7.) THE CONTRACTOR SHALL CALL AND COORDINATE WITH DIGSAFE 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.
- 8.) ALL DRAINAGE PIPE IS TO BE HDPE N-12. INDIVIDUAL PIPE SIZES ARE SPECIFIED ON GRADING AND DETAIL PLAN SHEETS.
- 9.) ALL ELEVATIONS TO BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE DESIGN ENGINEER IS TO BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY. TEMPORARY BENCHMARKS (T.B.M.) ARE TO BE PROVIDED BY THE DESIGN ENGINEER.
- 10.) UPON FINAL COMPLETION AND 85% STABILIZATION, THE DRAINAGE SYSTEM IS TO BE CLEANED OF ALL DEBRIS. SEDIMENT CONTROL PRACTICES REMOVED AND DISPOSED OF PROPERLY, AND ANNUAL MAINTENANCE PREFORMED ON ALL DRAINAGE PRACTICES.
- 10.) EROSION AND SEDIMENT CONTROL INSPECTIONS TO BE CONDUCTED ONCE PER EVERY SEVEN DAYS AND AT AN INCREASED FREQUENCY INCLUDING WITHIN 24-HOURS OF A 0.25 INCH RAIN EVENT. INSPECTIONS TO BE CONDUCTED BY A "QUALIFIED PERSON" AS DEFINED BY EPA CGP 4.1.1 AND INSPECTION REPORTS SUBMITTED TO THE CITY OF DOVER, NH, ENGINEERING DEPARTMENT WITHIN 24 HOURS IN ACCORDANCE WITH CGP 4.1.7 AND MAINTAINED BY THE OWNER FOR A PERIOD OF THREE YEARS AFTER THE NOTICE OF TERMINATION (NOT) IS SUBMITTED. SEE ALSO CITY OF DOVER ADDITIONAL INSPECTION REQUIREMENTS BELOW.

NOTES CONTINUED:

- 11.) SILT FENCE MAY BE SUBSTITUTED WITH FILTREXX SILT SOXX OR EROSION CONTROL MIX BERM. SILT FENCE IS NOT A SUBSTITUTE FOR FILTREXX SILT SOXX OR APPROVED EQUAL.
- 12.) PER EPA CGP Z1.2.2 (INSTALL PERIMETER CONTROL), "YOU MUST INSTALL SEDIMENT CONTROLS ALONG THOSE PERIMETER AREAS OF YOUR SITE THAT WILL RECEIVE STORMWATER FROM EARTH DISTURBING ACTIVITIES." AS A RESULT OF SWPPP INSPECTIONS, THE CONTRACTOR MAY HAVE TO EXPAND PERIMETER CONTROLS TO MEET THIS REQUIREMENT. THE E&SC PLAN IS INITIAL GUIDANCE AS TO THE ANTICIPATED REQUIREMENTS AND IT THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT STORMWATER VIOLATION DO NOT OCCUR.
- 13.) CITY OF DOVER: IN ACCORDANCE WITH SITE PLAN REVIEW REGULATIONS (149-14) THE FOLLOWING STORMWATER MEASURES ARE REQUIRED. THIS SITE DEVELOPMENT QUALIFIES AS A REDEVELOPMNET PROJECT. THE EXISTING IMPERVIOUS AREA IS 93.3% AND PROPOSED IMPERVIOUS AREA IS 85.7%. THE CONTIGUOUS LAND DISTURBANCE IS 33,073 SQUARE FEET.
- A.) ALL PROPOSED BMPs WILL CONFORM TO THE NH STORMWATER MANUAL VOLUME 3.
- B.) EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SOIL LAND DISTURBANCE AND MUST BE REVIEWED AND APPROVED BY COMMUNITY SERVICE.
- C.) TEMPORARY STABILIZATION MEASURES SHOULD BE IN PLACE WITHIN SEVEN CALENDAR DAYS FOR EXPOSED SOILS AREAS THAT ARE WITHIN ONE HUNDRED FEET OF A SURFACE WATER BODY OR A WETLAND AND NO MORE THAN 14 CALENDAR DAYS FOR ALL OTHER AREAS. PERMANENT STABILIZATION SHOULD BE IN PLACE WITHIN THREE CALENDAR DAYS FOLLOWING COMPLETION OF FINAL GRADING OF EXPOSED SOIL AREAS.
- D.) ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN FUNCTIONING CONDITION UNTIL FINAL STABILIZATION IS ACCOMPLISHED.
- E.) COMMUNITY SERVICES DEPARTMENT OR THEIR DESIGNATED AGENT SHALL HAVE ACCESS TO THE SITE TO COMPLETE ROUTINE INSPECTIONS AND SHALL BE NOTIFIED 24-HOURS PRIOR TO INSTALLATION OF A STORMWATER BMP IN ORDER TO SCHEDULE AN INSPECTION, DURING NORMAL WORKING HOURS.
- F.) THE PLANNING BOARD OR COMMUNITY SERVICES MAY REQUIRE THE DESIGN ENGINEER AND/OR AN INDEPENDENT, THIRD-PARTY INSPECTION AND OVERSIGHT OF THE CONSTRUCTION OF STORMWATER MANAGEMENT FACILITIES AND EROSION AND SEDIMENT CONTROL AT THEIR DISCRETION. THE OWNER / APPLICANT IS RESPONSIBLE FOR ALL FEES ASSOCIATED WITH INSPECTIONS.
- G.) ALL SWPPP INSPECTIONS MUST BE CONDUCTED BY A QUALIFIED PROFESSIONAL SUCH AS A PROFESSIONAL ENGINEER (PE), A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC), A CERTIFIED EROSION SEDIMENT AND STORMWATER INSPECTOR (CESSW), OR A CERTIFIED PROFESSIONAL IN STORMWATER QUALITY (CPSWQ). INSPECTION REPORTS WILL BE SUBMITTED TO THE COMMUNITY SERVICES DEPARTMENT.
- 14.) THE STORM WATER MANAGEMENT PLAN AND AGREEMENT, SPECIFIC TO THIS PROJECT, IS TO BE RECORDED AT THE REGISTRY OF DEEDS.

SOILS & DEWATERING:

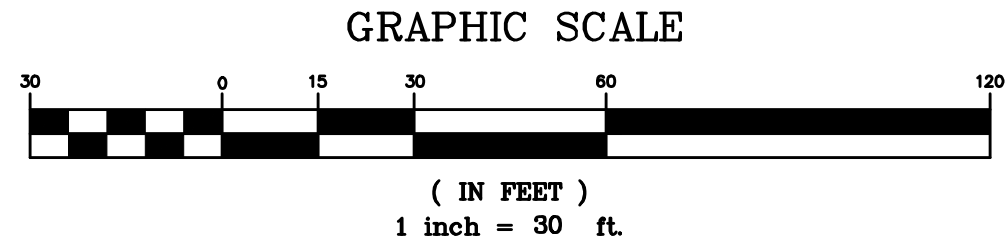
W&B WINDSOR LOAMY SAND K= 0.17

SEE SITE SPECIFIC SOILS MAP (SSSM)
SEE WEBSOL USDA-NRCS
ERODIBILITY FACTOR = K, CPESC MANUAL, ENVIROCERT INTERNATIONAL INC. & ROCKINGHAM COUNTY SOIL SURVEY, ROCKWEB SOIL ATTRIBUTES

THE SOIL ERODIBILITY FACTOR (K) OF THE SOILS DOES NOT VARY. CONTRACTOR TO BE AWARE OF THE SOIL PROFILES AND ENSURE THAT PROPER EROSION PREVENTION AND SEDIMENT CONTROL MEASURES ARE TAKEN AT ALL TIMES. ANY DEWATERING REQUIREMENTS IN NEW HAMPSHIRE REQUIRE SPECIAL PROVISIONS IN ACCORDANCE WITH THE "CLARIFICATION OF SECTION 9.1.2 (STATE OF NEW HAMPSHIRE CONDITIONS) AND OTHER NH SPECIFIC INFORMATION FOR THE U.S. EPA 2012 NPDES CONSTRUCTION GENERAL PERMIT (CGP)" DATED MAY 3, 2012 INCLUDED IN THE SWPPP.

COVER MANAGEMENT DURING CONSTRUCTION FOR EXPOSED SOIL WILL INCLUDE HAY / STRAW APPLIED AT A RATE OF 2.0 TONS PER ACRE, TEMPORARY SEEDING OF ANNUAL RYE GRASS, AND PERMANENT SEEDING AT THE EARLIEST OPPORTUNITY. SEE ADDITIONAL REQUIREMENT FOR STABILIZATION ON THE EROSION AND SEDIMENT CONTROL DETAIL SHEETS, E-101 AND E-102.

THE CONSTRUCTION SCHEDULE WILL BE MANAGED SO THAT ALL STORMWATER STRUCTURES WILL BE BUILT AND STABILIZED PRIOR TO RECEIVING SURFACE WATER RUNOFF. CONTRACTOR TO BE RESPONSIBLE FOR ALL DIVERSIONS DURING CONSTRUCTION AND FOR INTERIM SEDIMENT AND EROSION CONTROL MEASURES.



DOVER FILE #P18-14

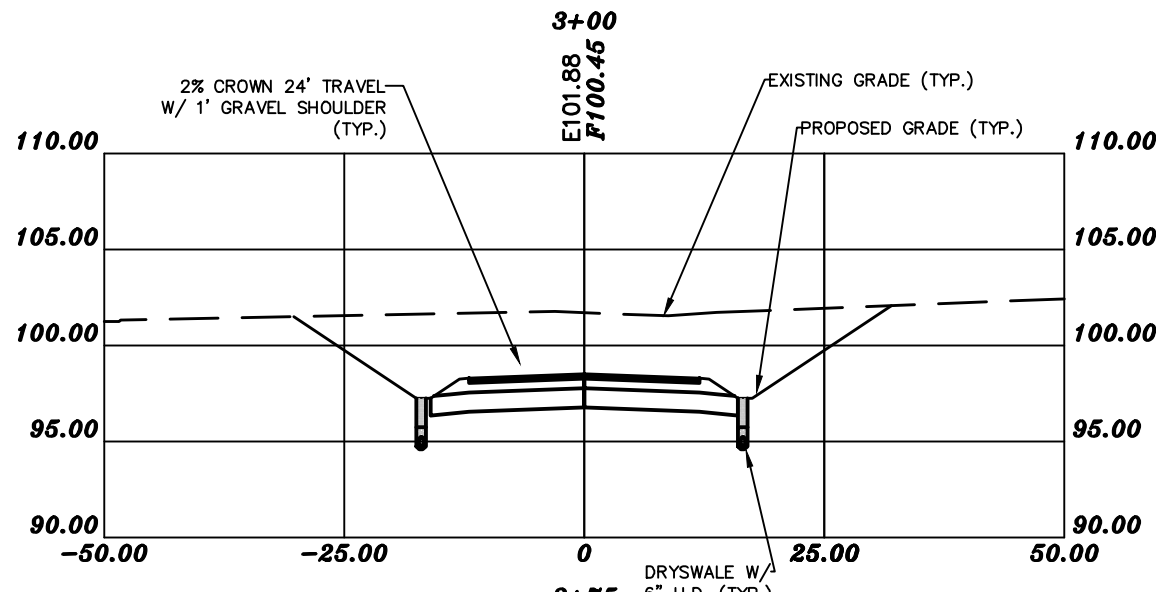
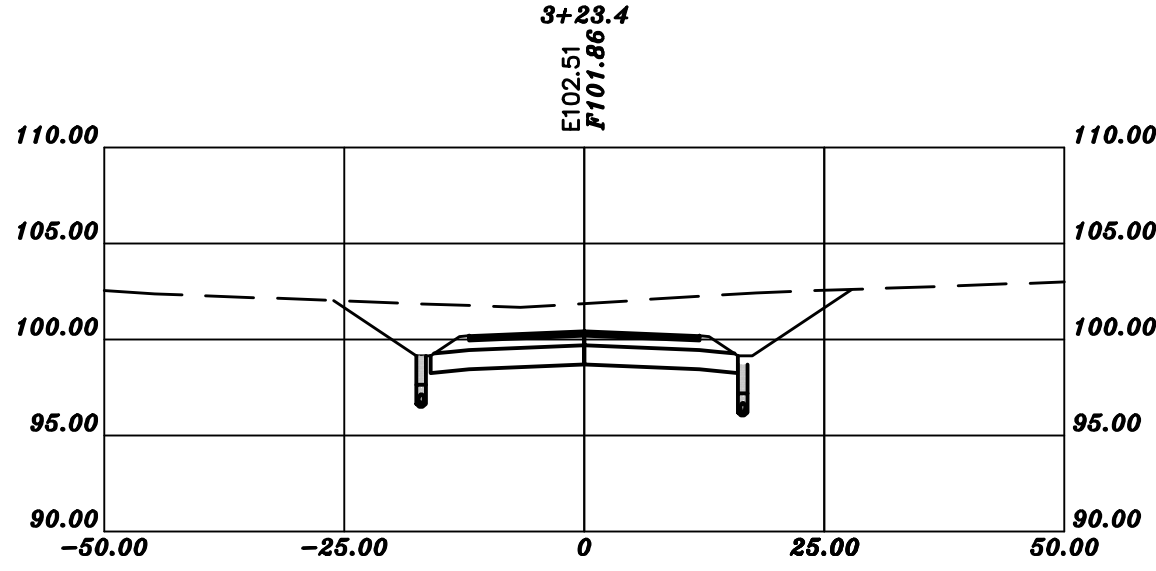
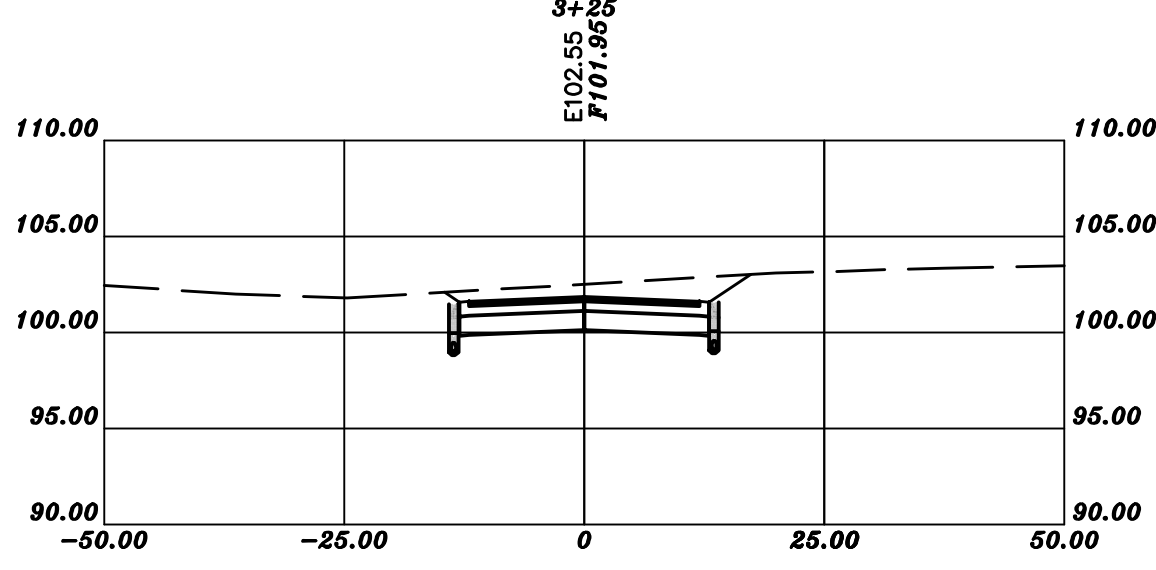
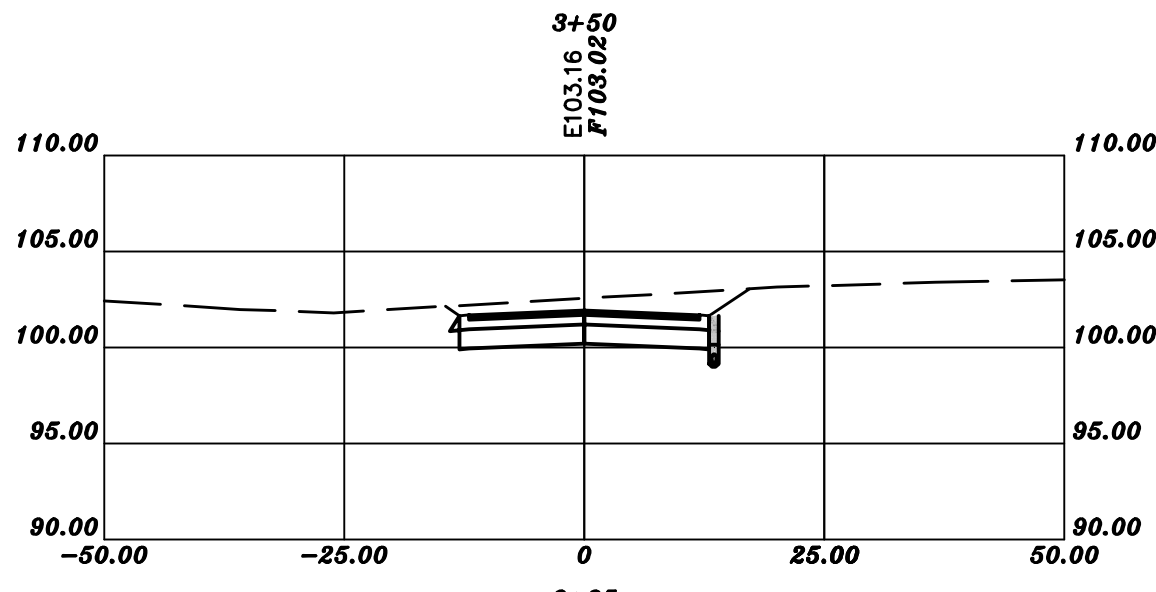
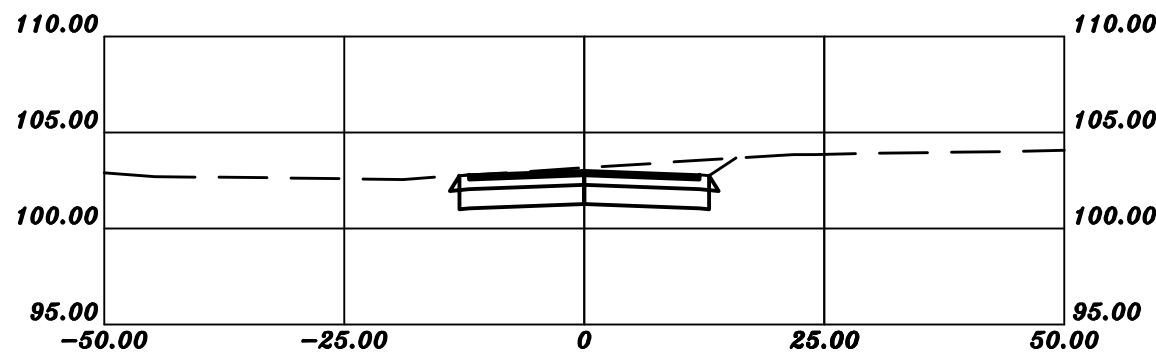
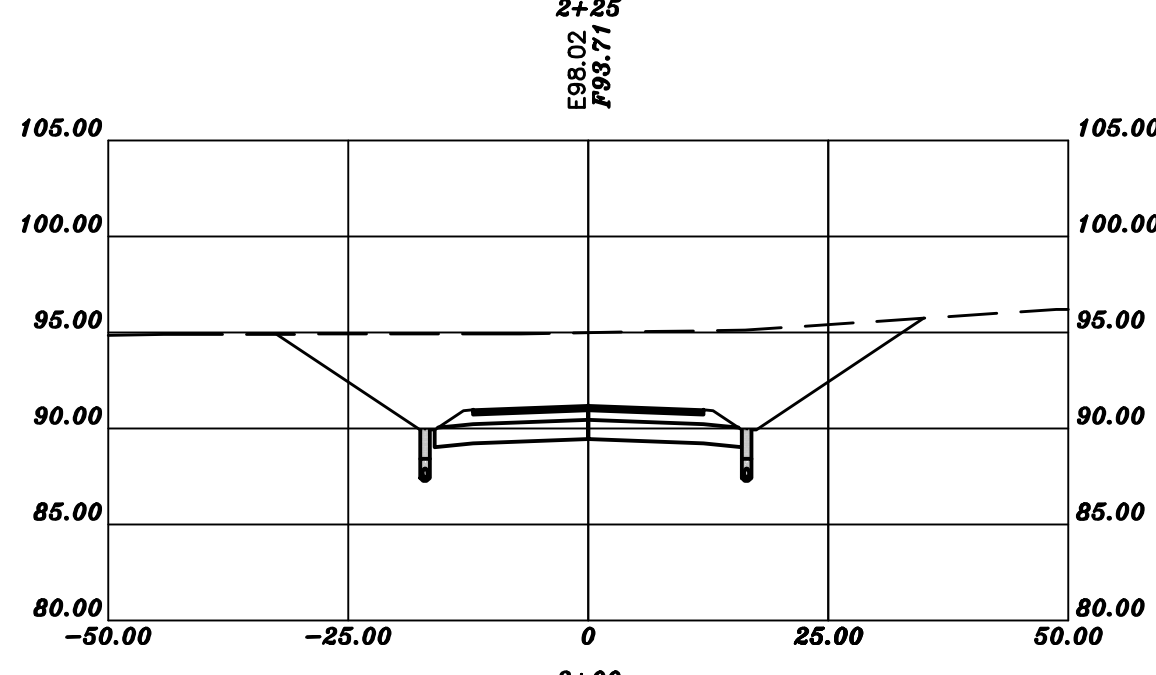
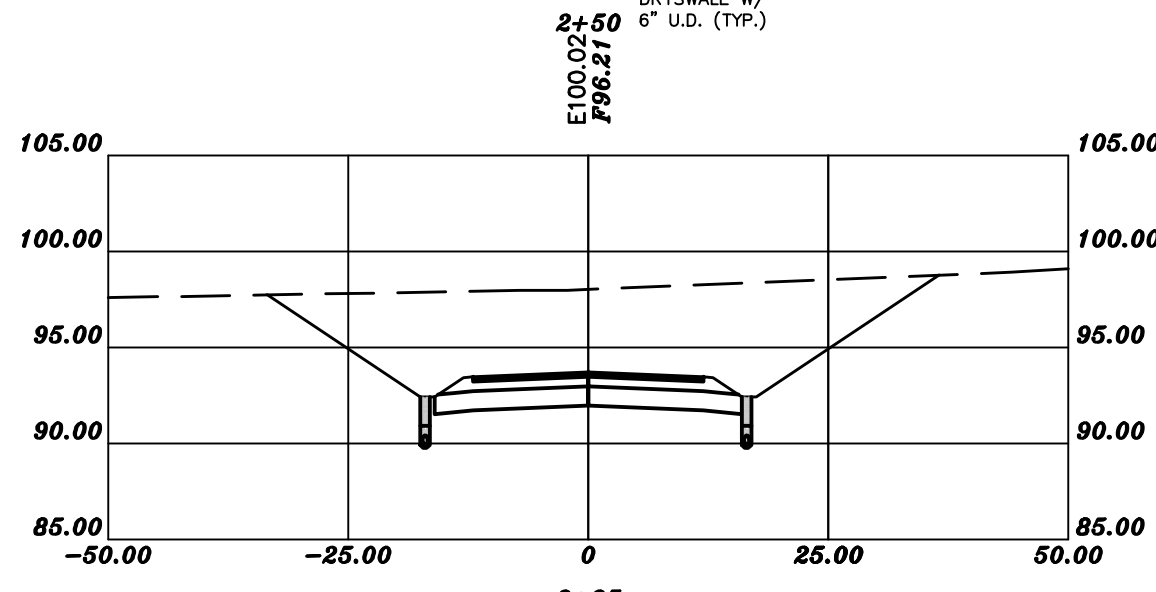
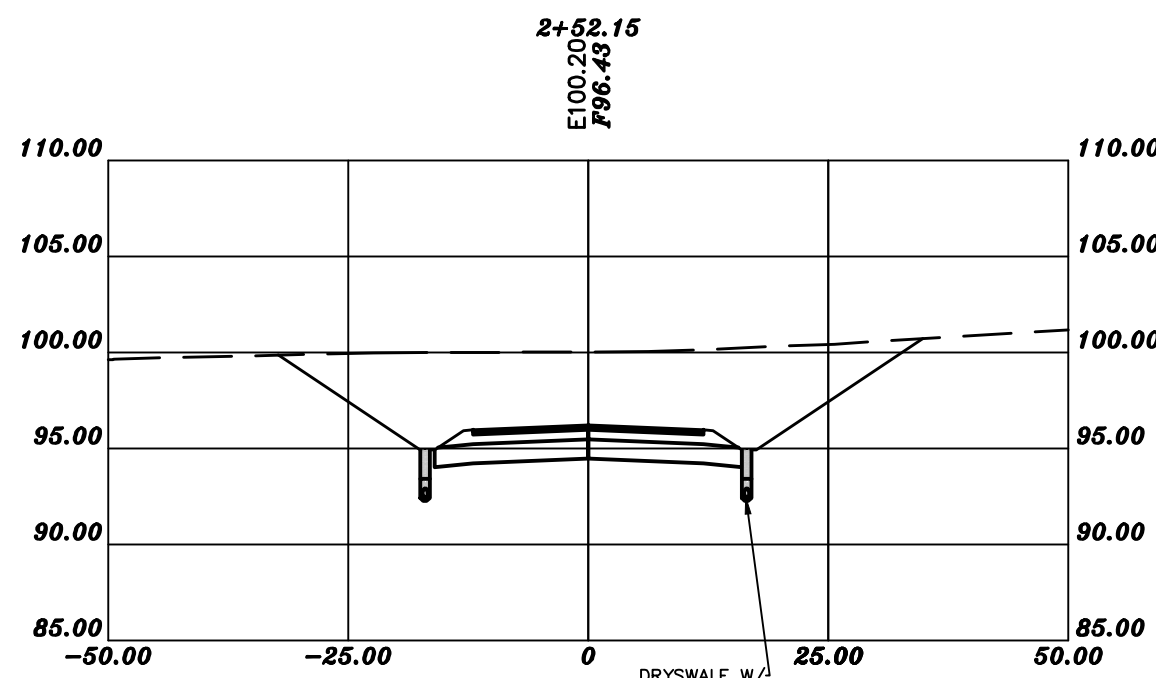
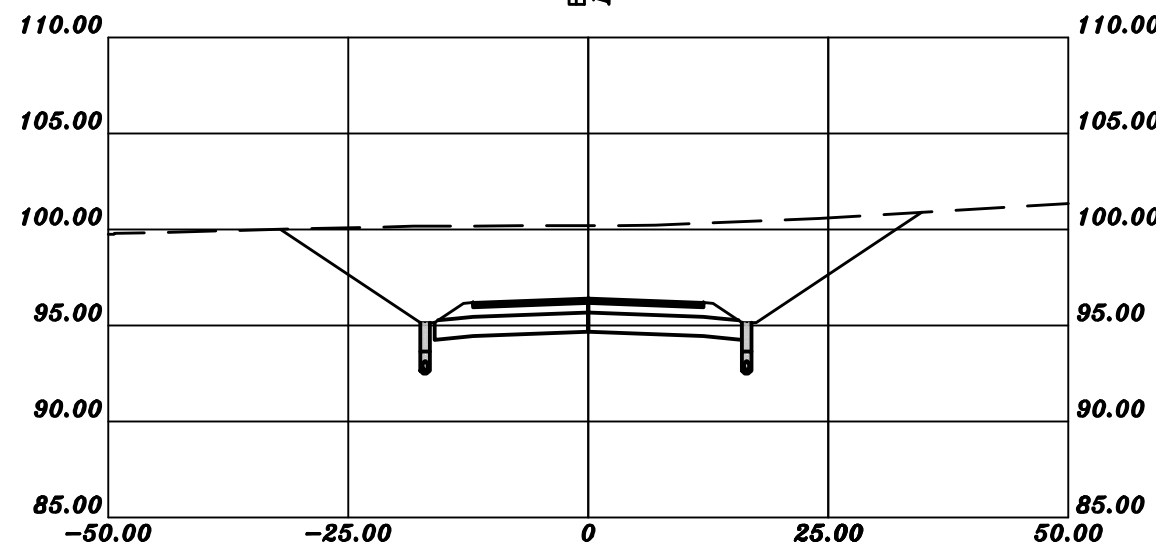
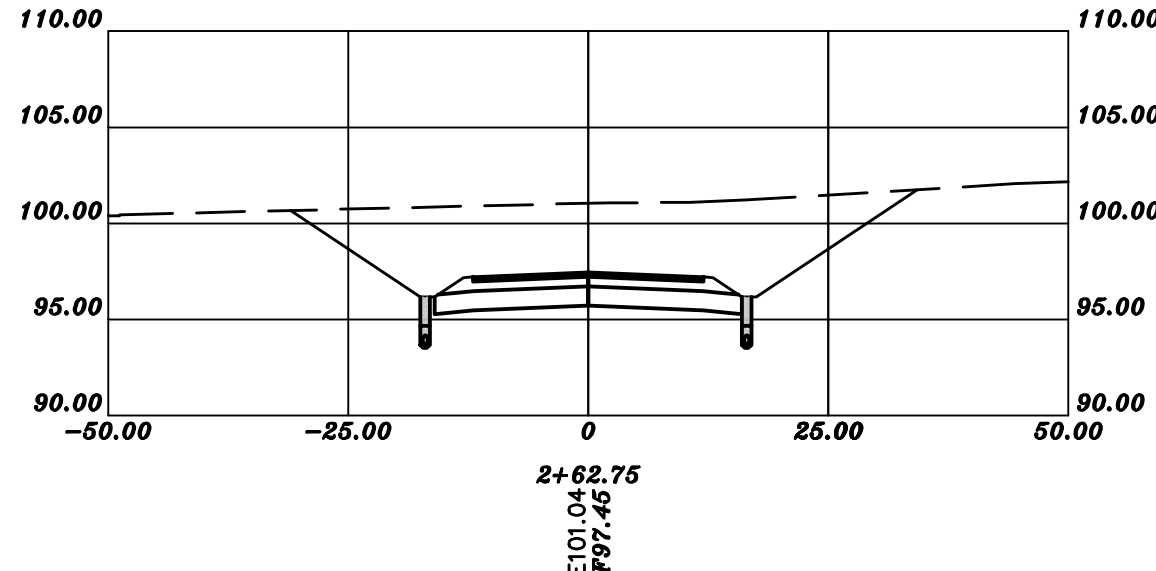
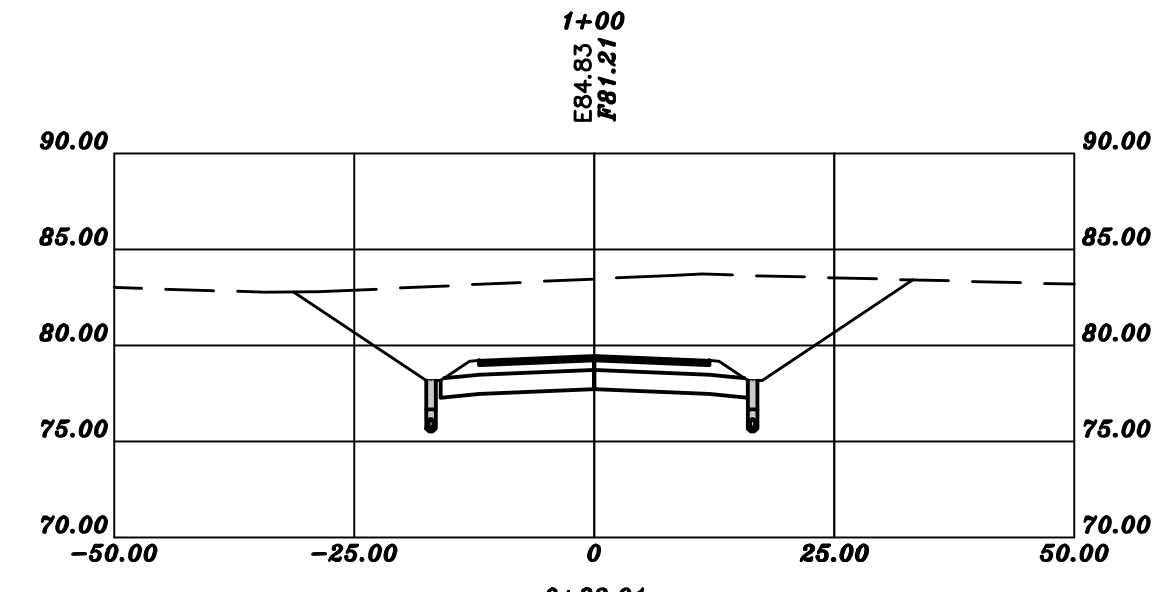
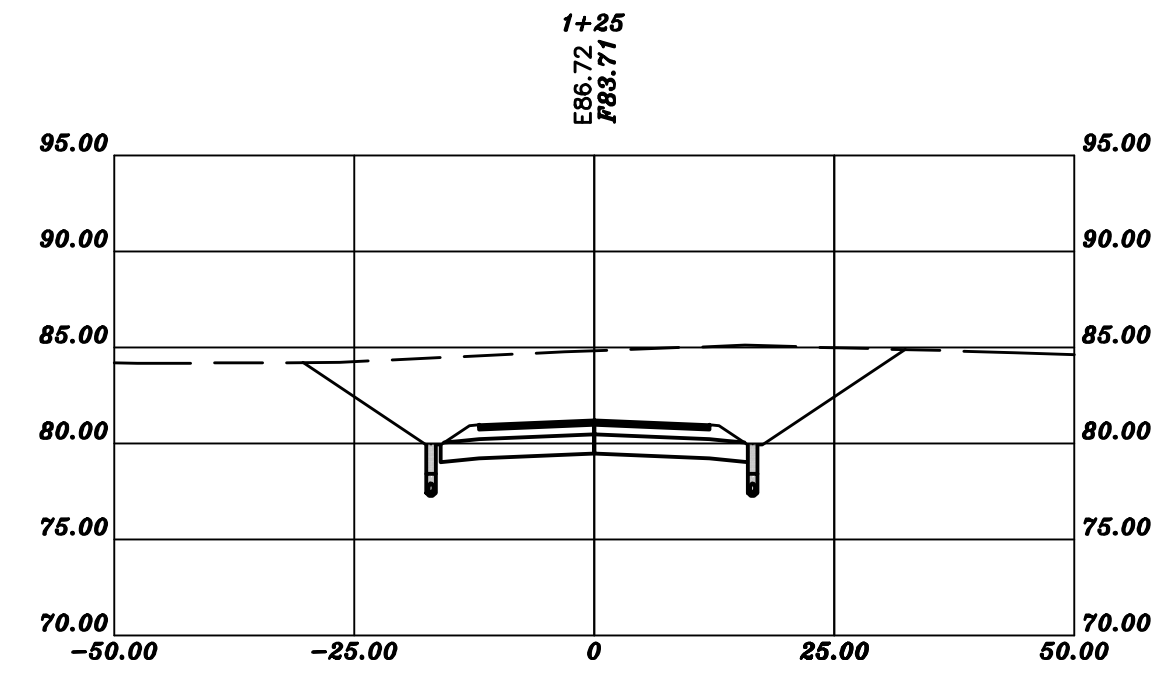
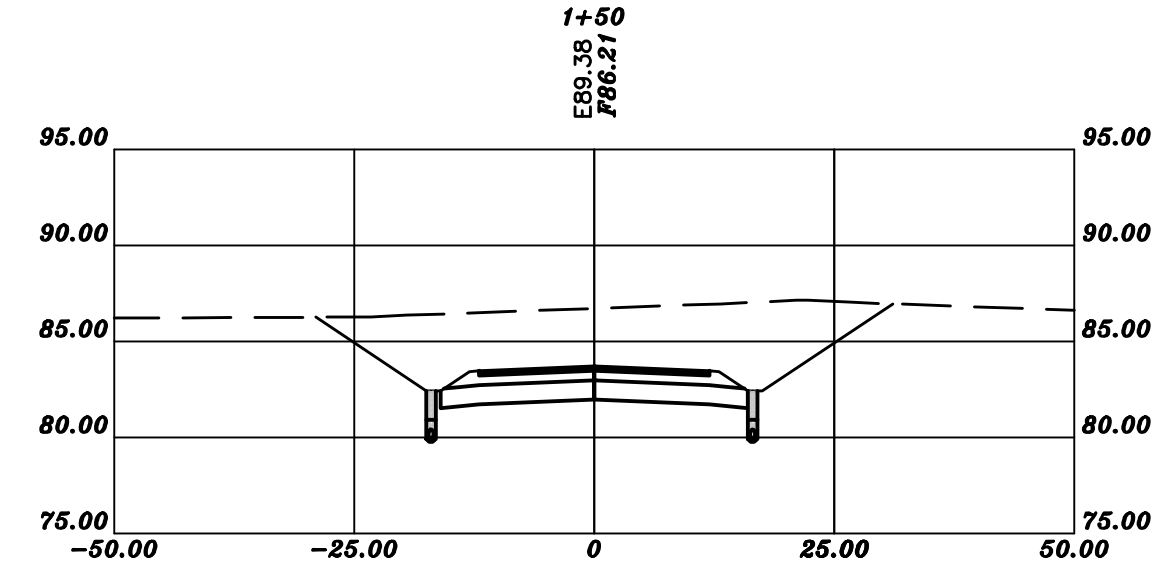
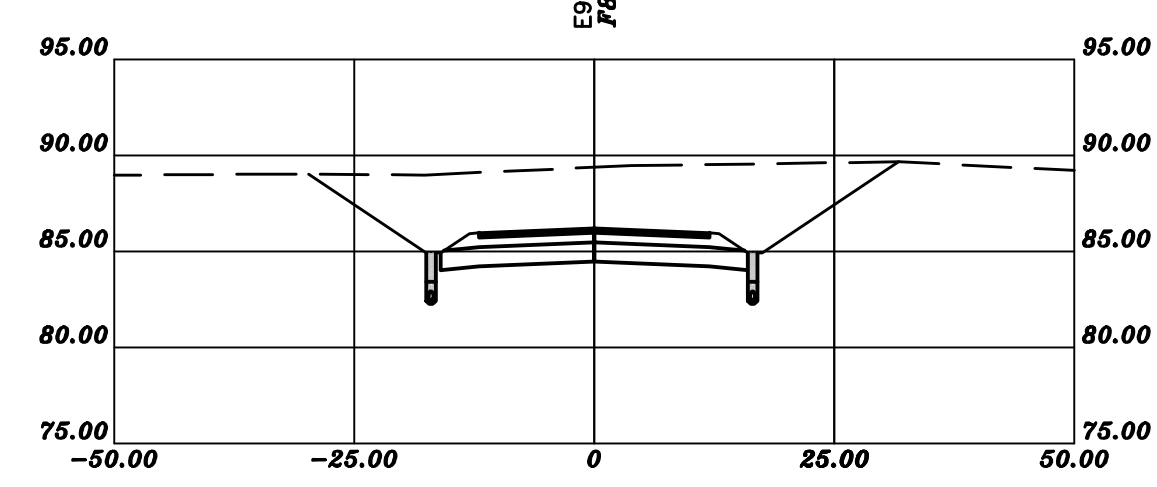
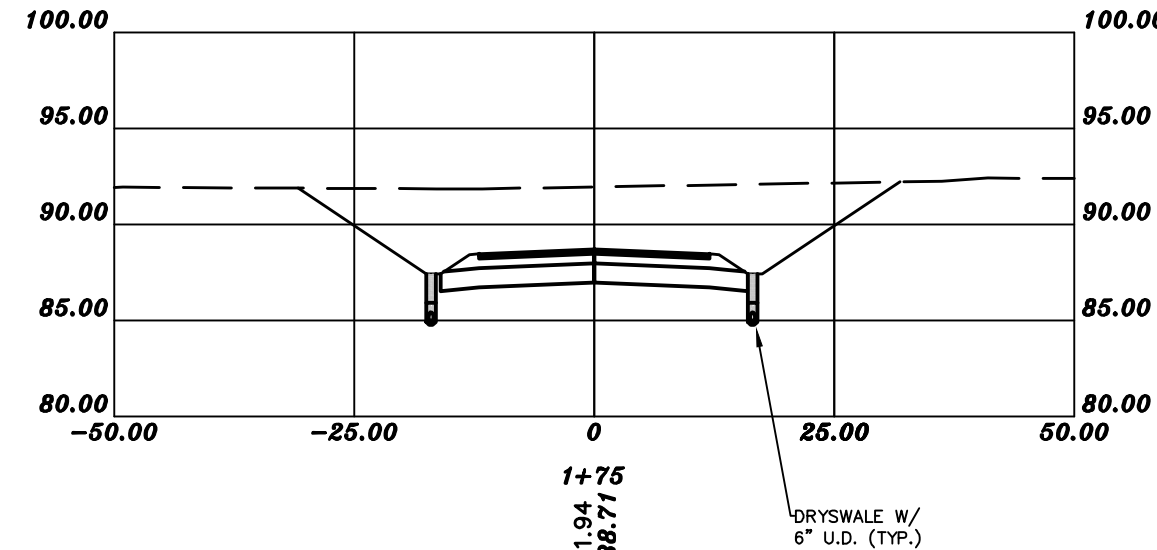
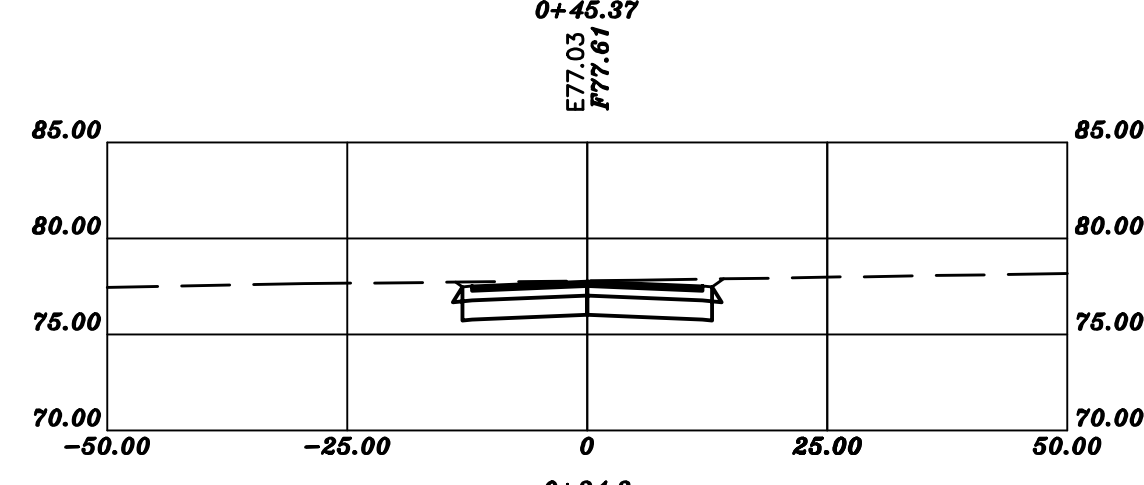
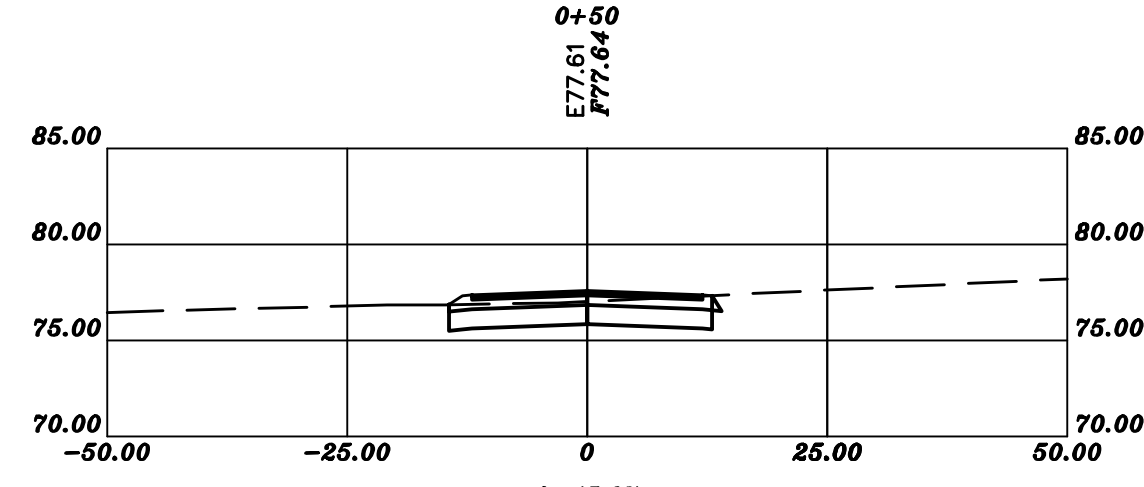
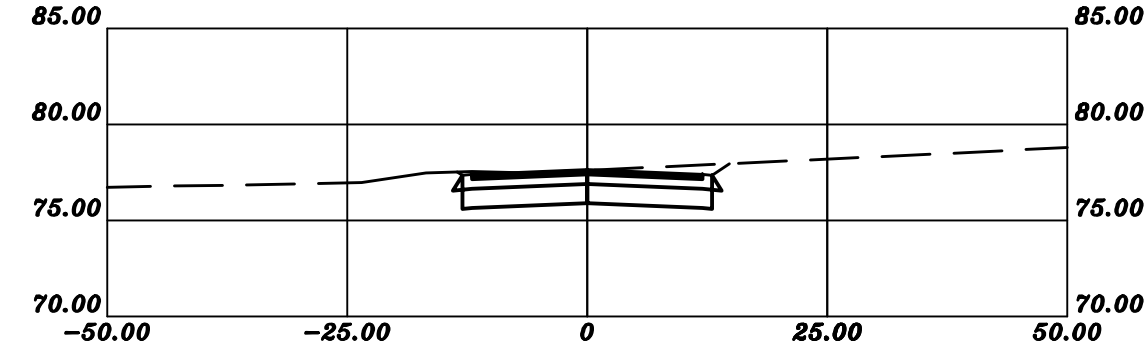
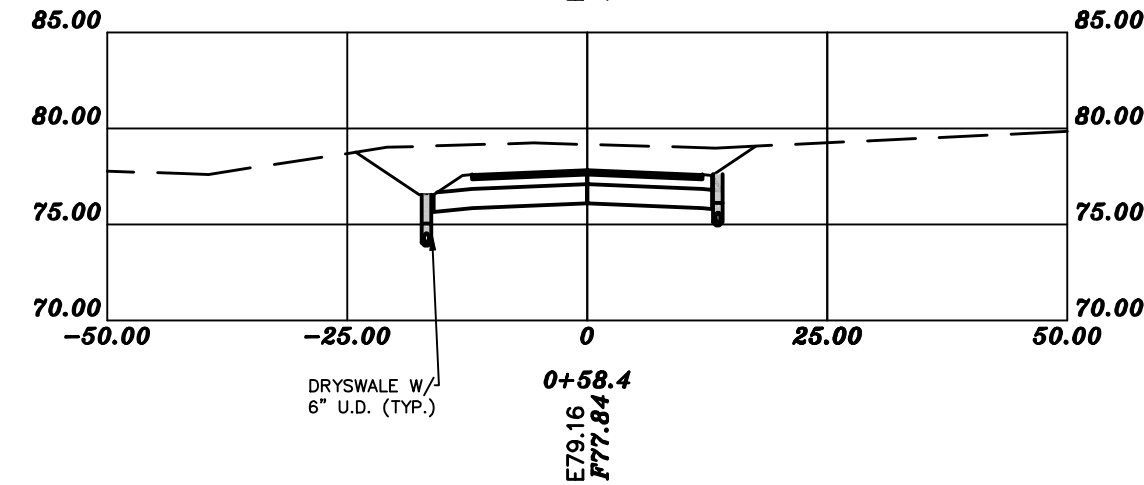
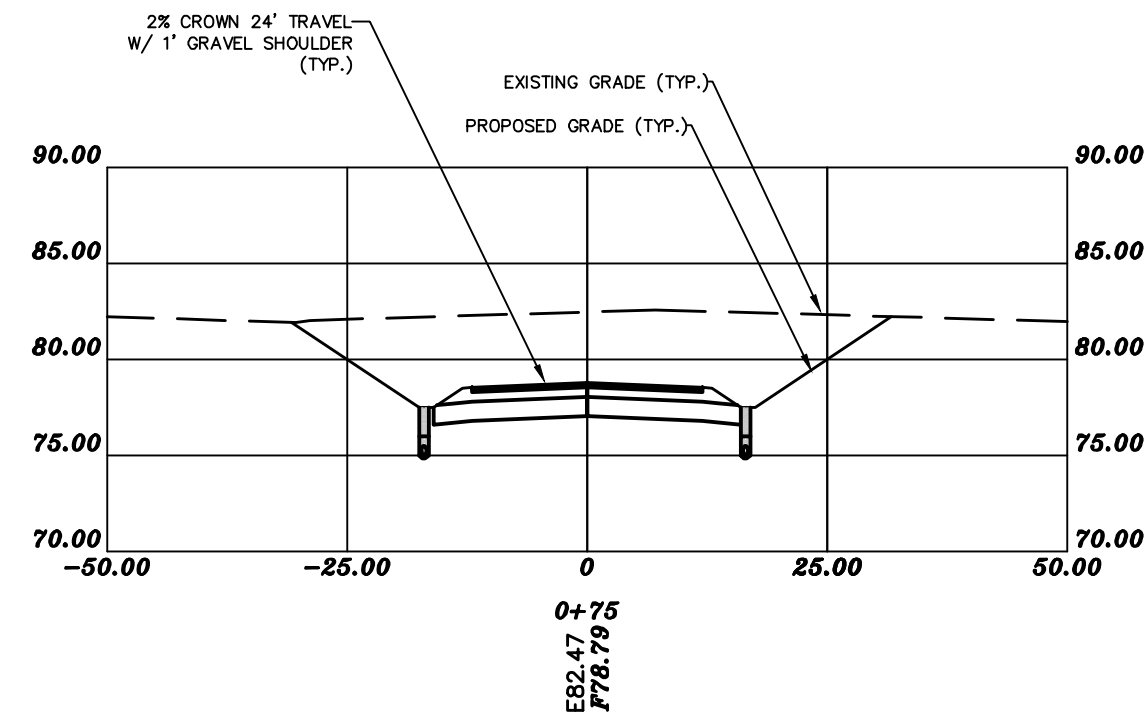
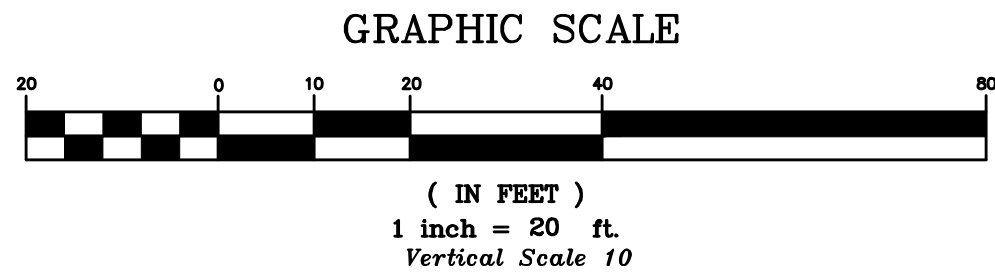
REVISION	DATE	DESCRIPTION

EROSION AND SEDIMENT CONTROL PLAN

LAND OF
TDAK & COMPANY LLC
146 DOVER POINT ROAD
DOVER, NH 03820
TAX MAP M, LOT 61

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 30 FT.
DATE : APRIL 5, 2018
FILE NO. : DB 2018 - 001

KENNETH A. BERRY
No. 1224
Professional Engineer



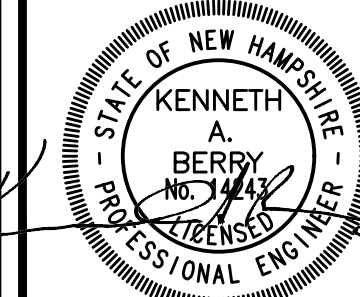
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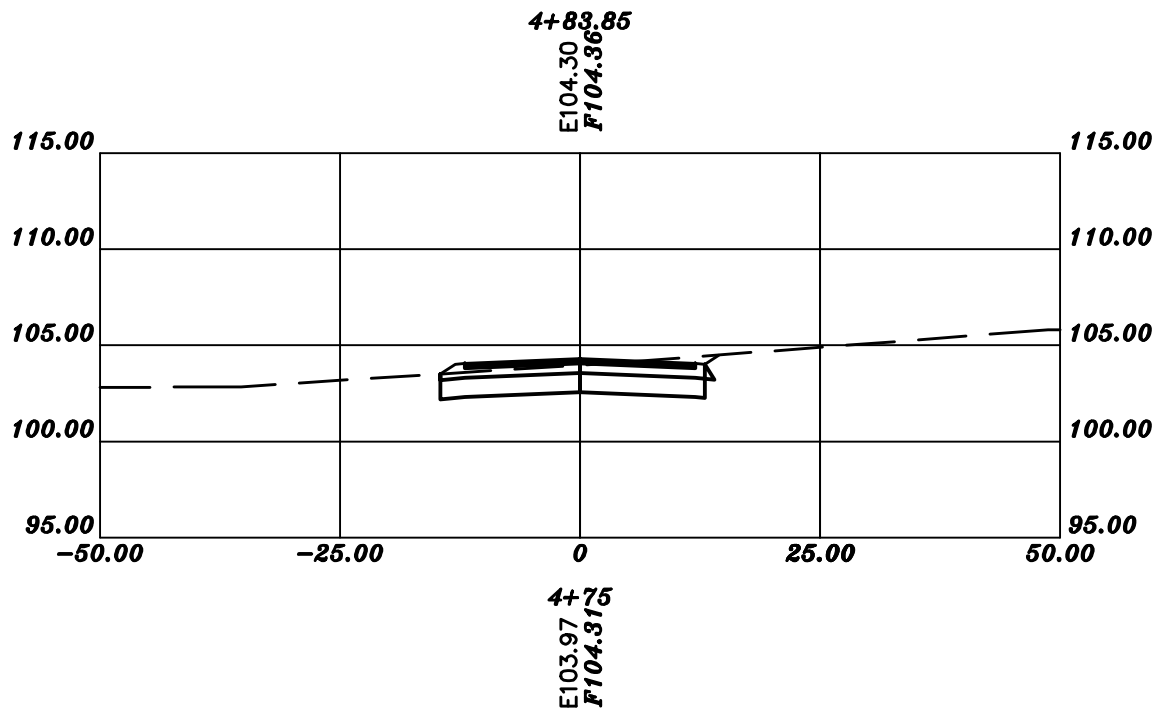
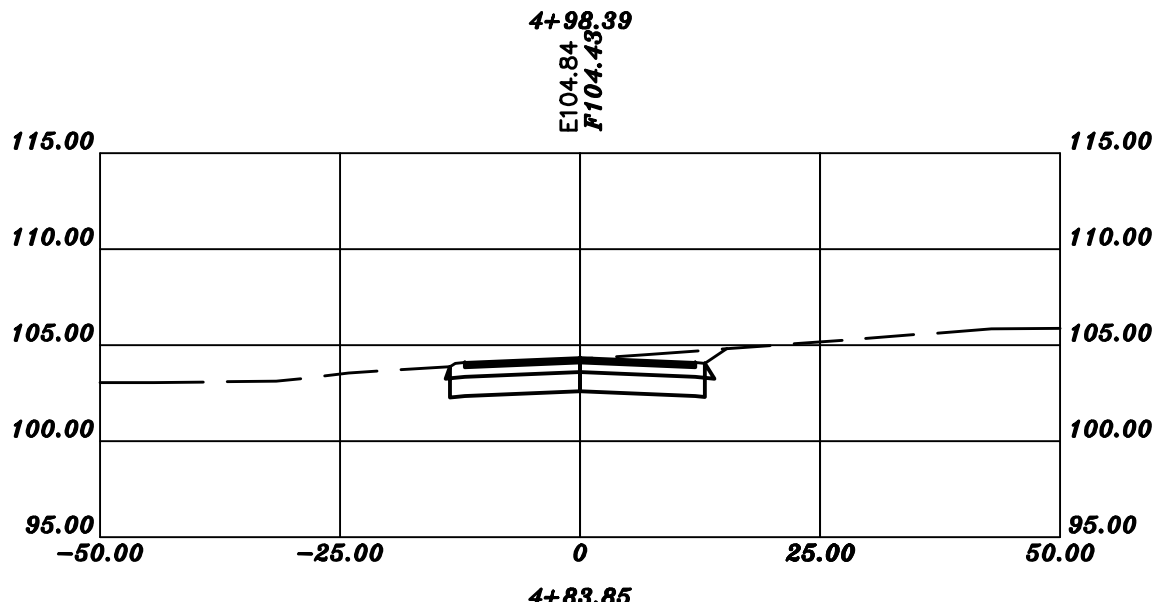
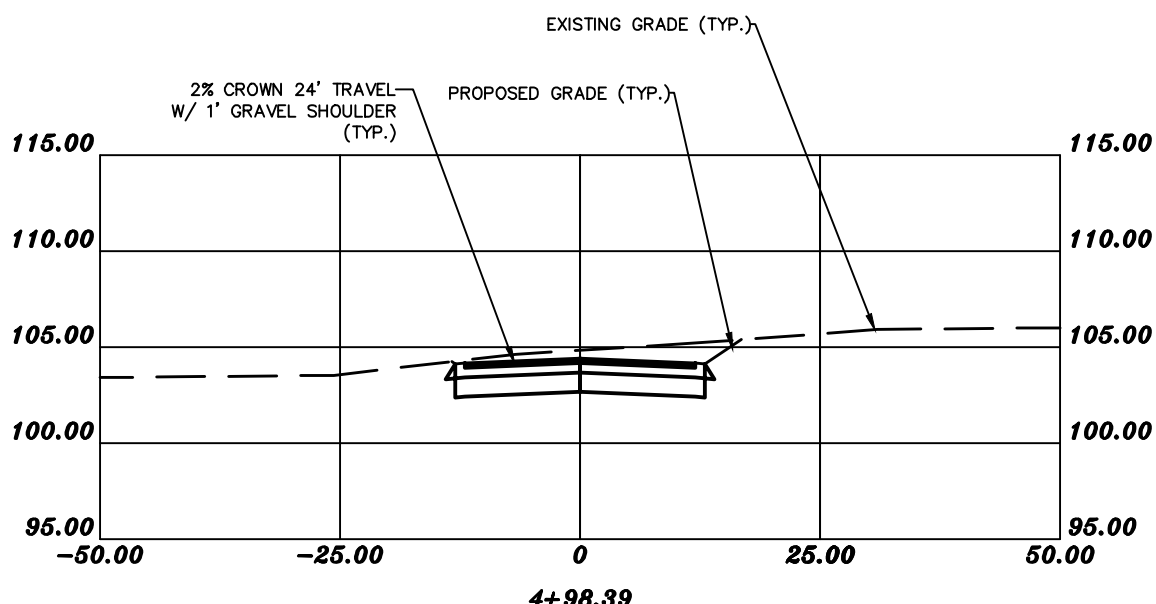
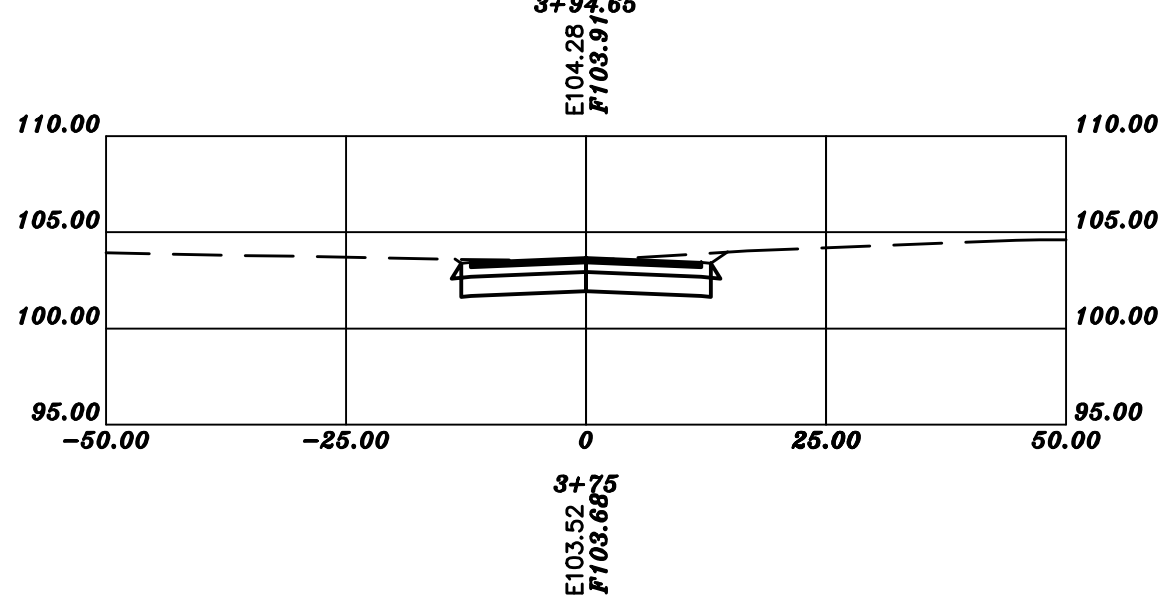
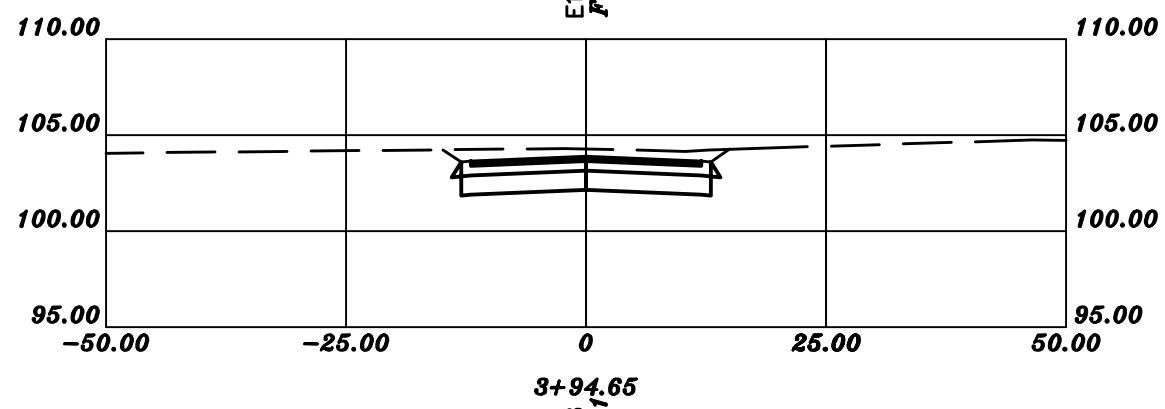
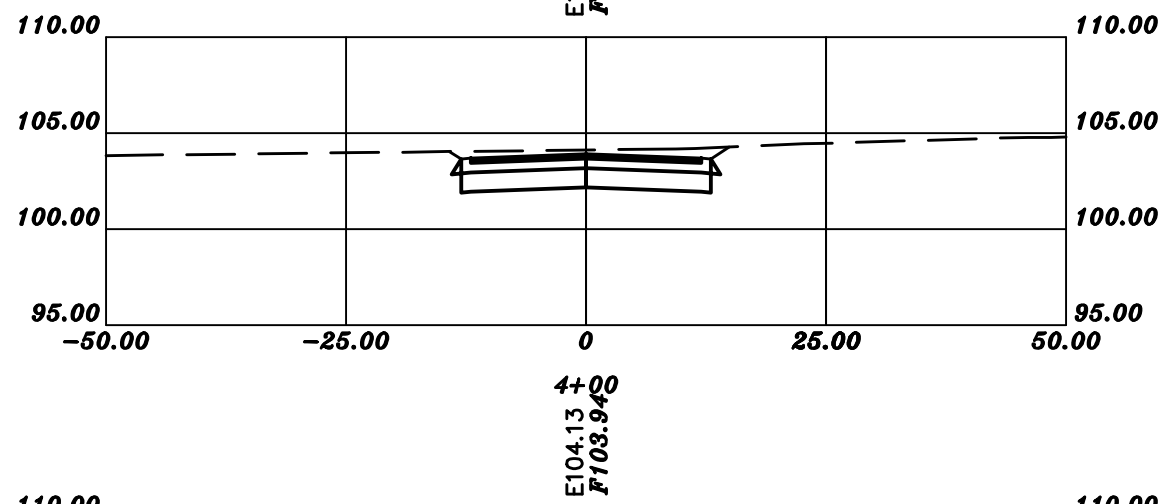
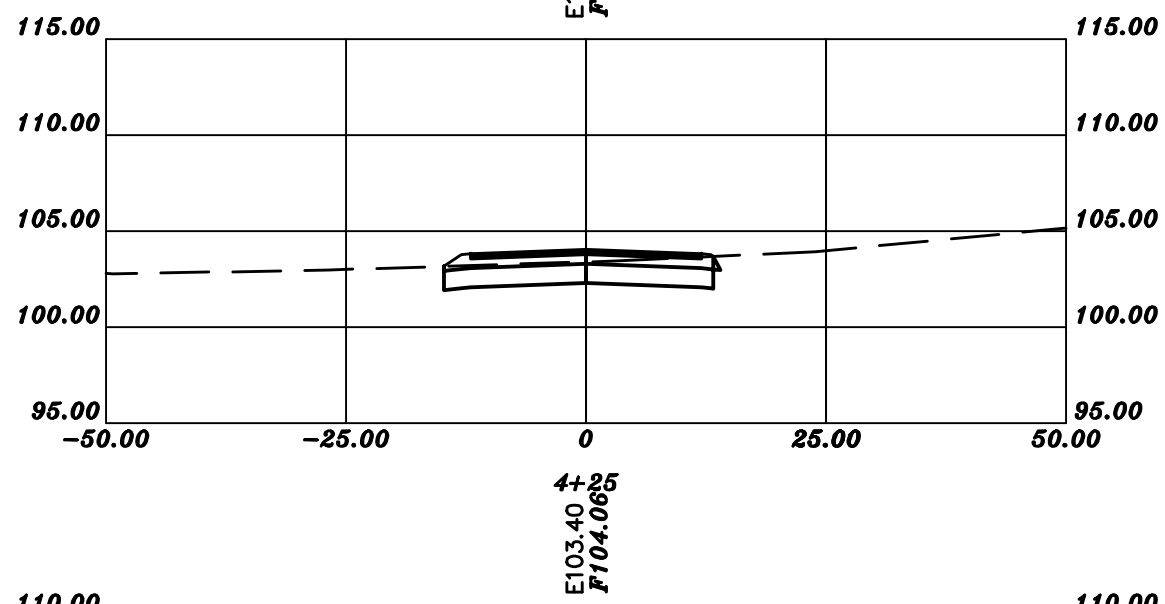
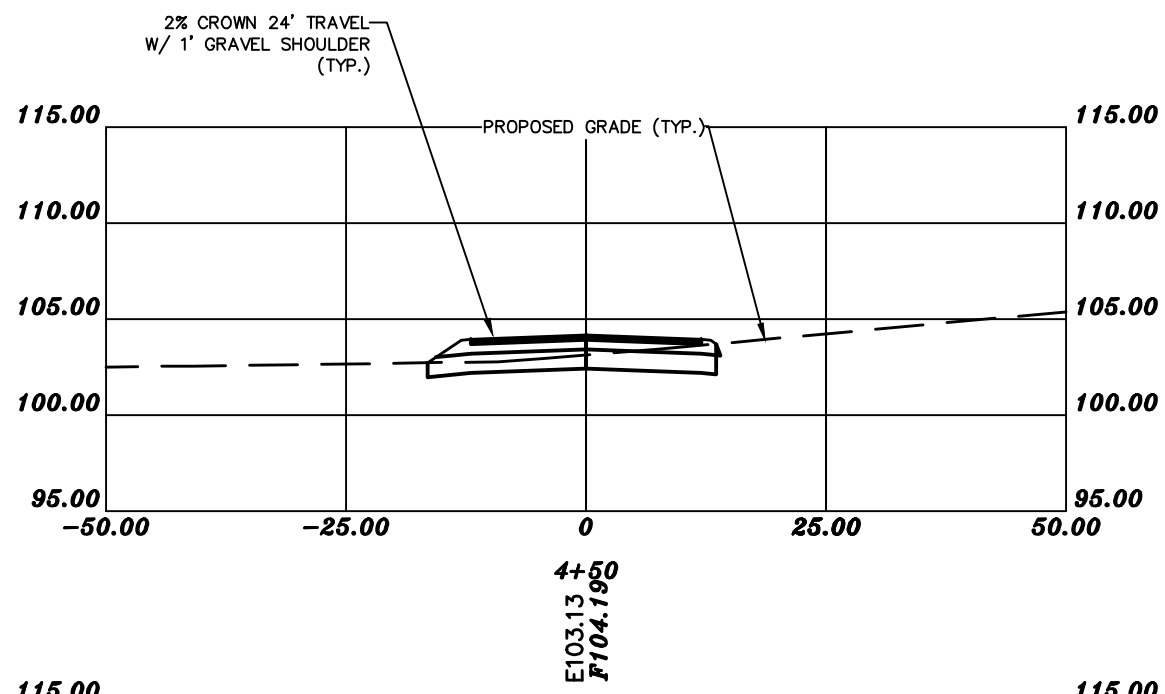
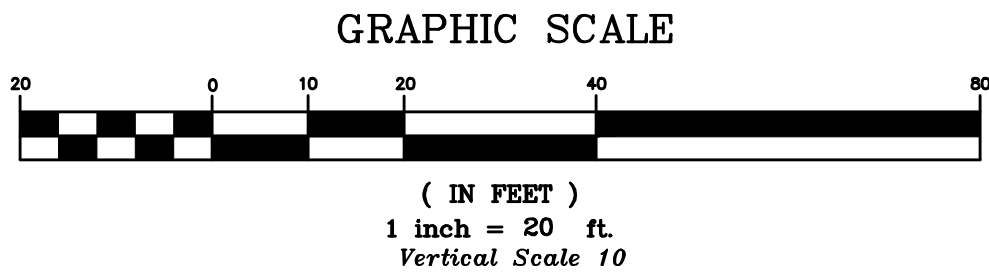
REVISION	DATE	DESCRIPTION

CROSS SECTIONS 0+00 - 3+50

LAND OF
TDAK & COMPANY LLC
146 DOVER POINT ROAD
DOVER, NH 03820
TAX MAP M, LOT 61

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 20 FT.
DATE : APRIL 5, 2018
FILE NO. : DB 2018 - 001





DOVER FILE #P18-14

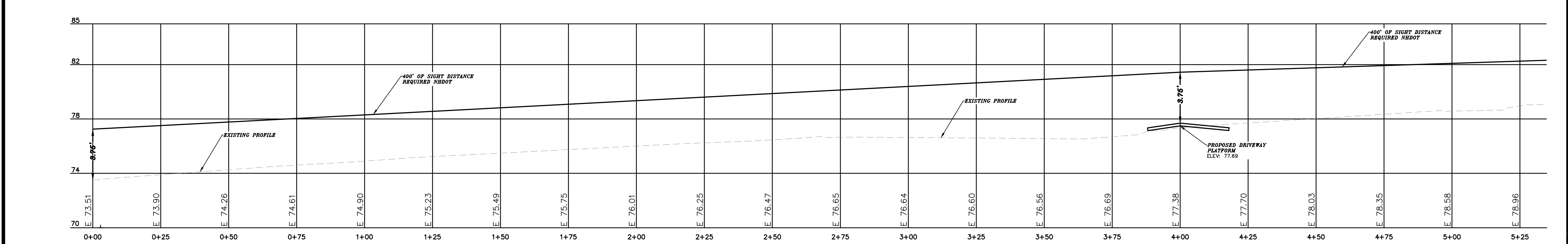
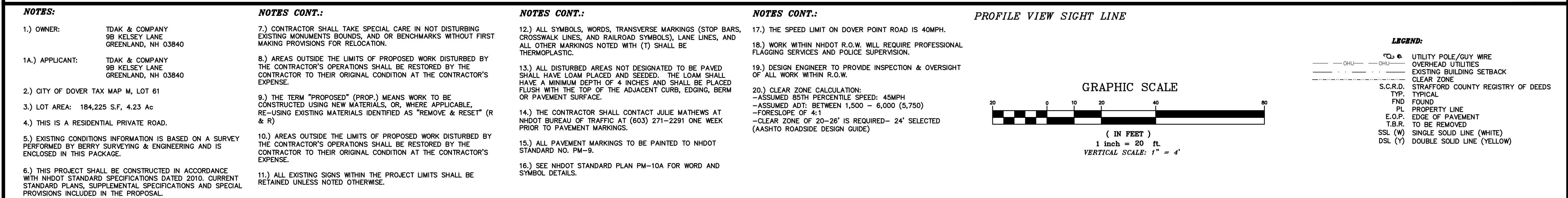
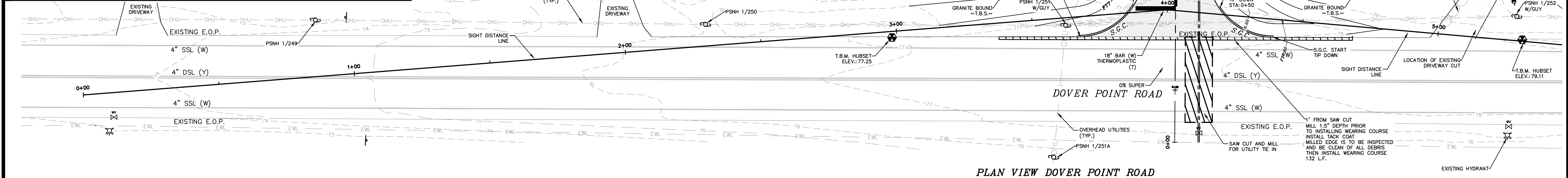
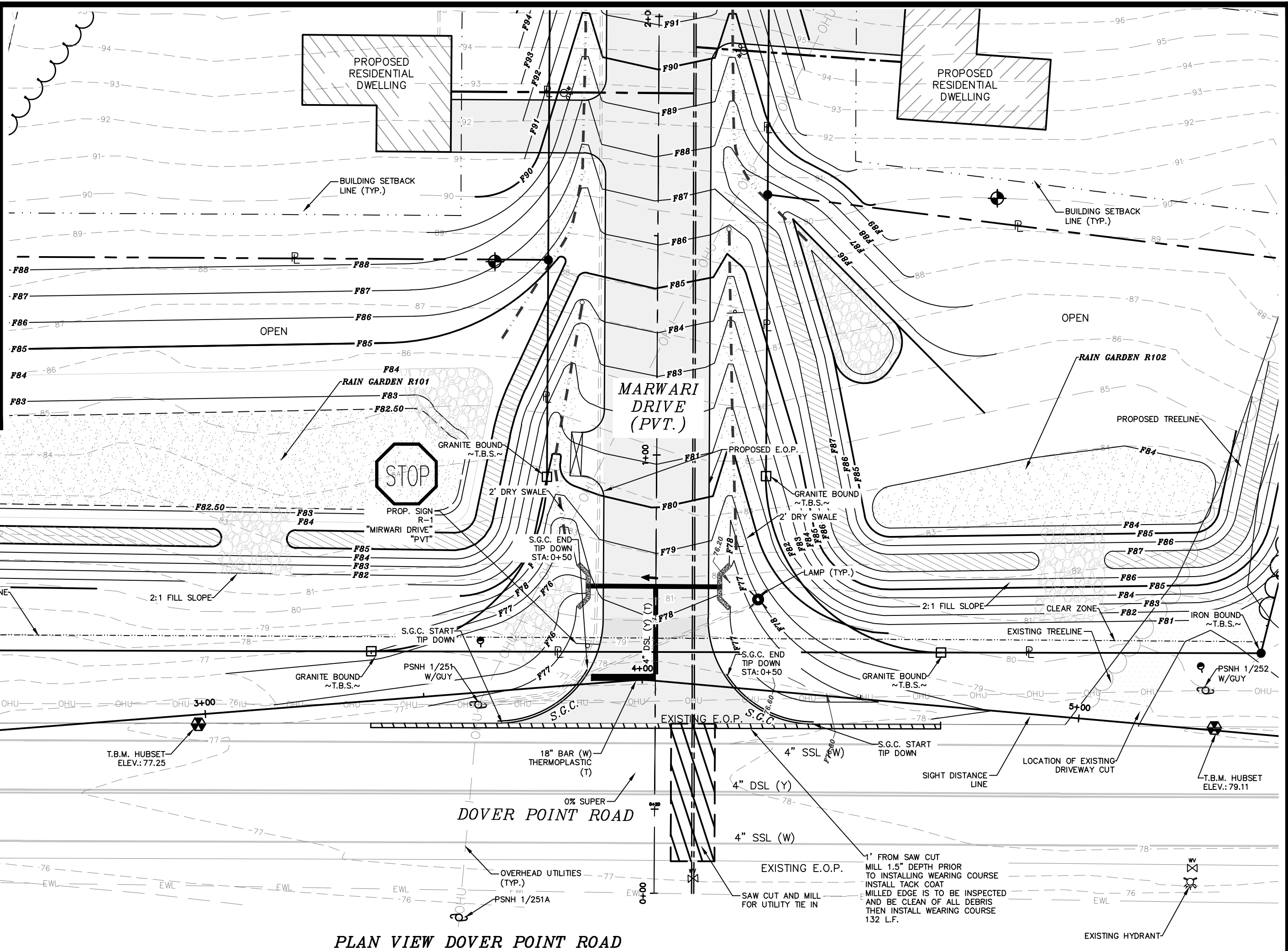
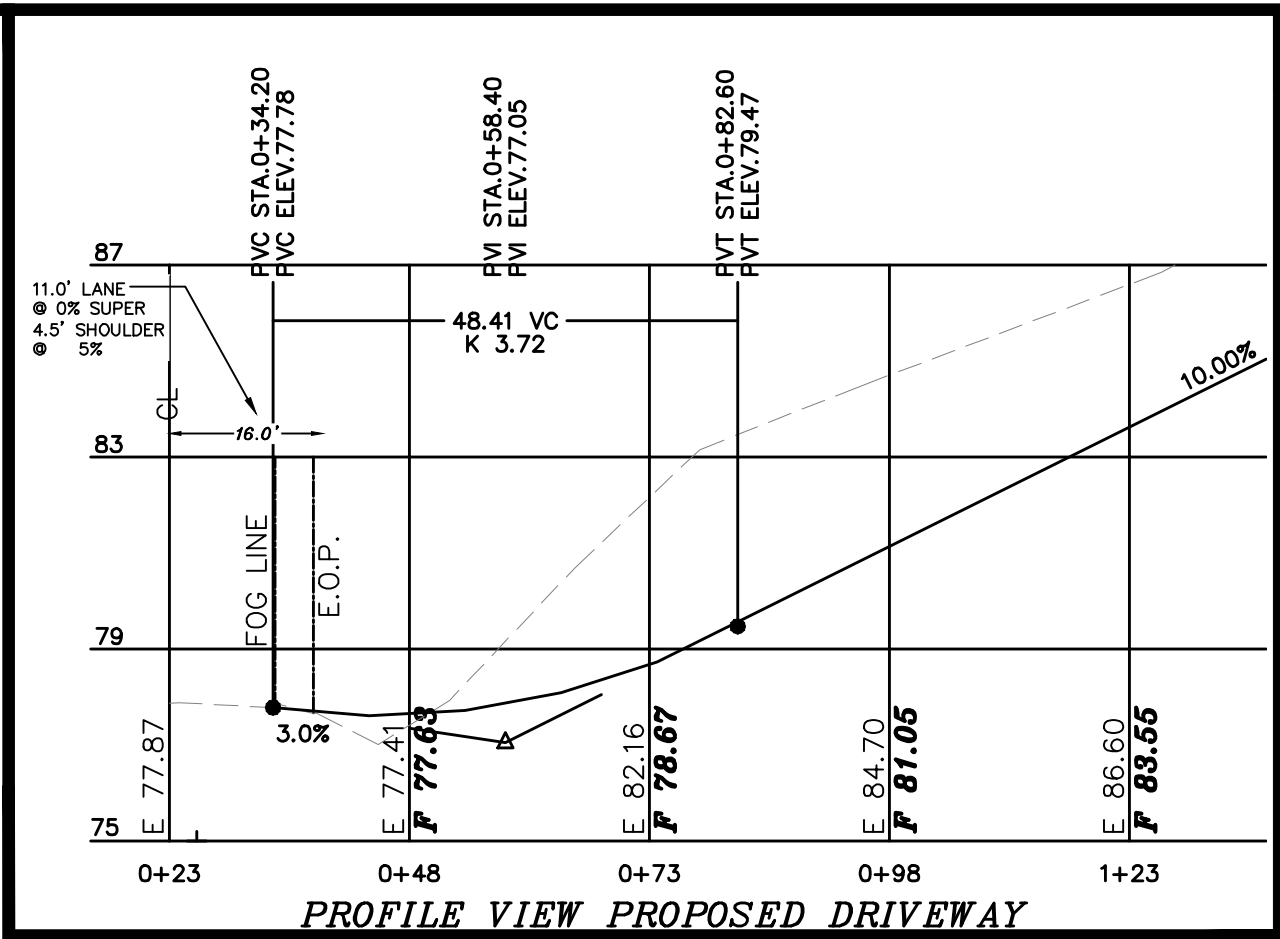
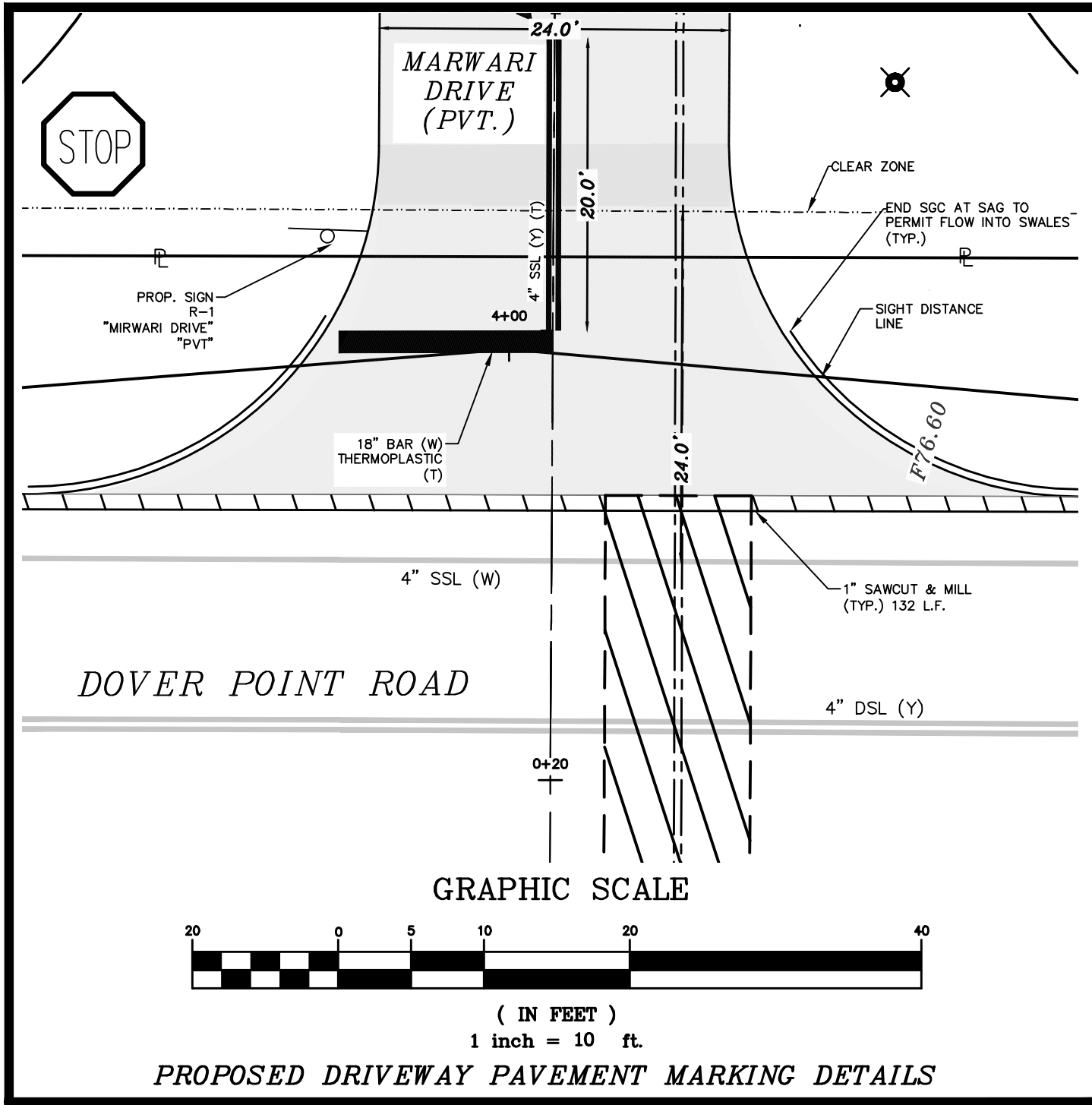
REVISION	DATE	DESCRIPTION

CROSS SECTIONS 3+50 - END

LAND OF
TDAK & COMPANY LLC
146 DOVER POINT ROAD
DOVER, NH 03820
TAX MAP M, LOT 61

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 20 FT.
DATE : APRIL 5, 2018
FILE NO. : DB 2018 - 001

KENNETH A. BERRY
No. 1424
LICENSED PROFESSIONAL ENGINEER
STATE OF NEW HAMPSHIRE



DOVER FILE #P18-14

REVISION	DATE	DESCRIPTION

SIGHT DISTANCE PROFILE (SOUTH BOUND)

LAND OF
TDAK & COMPANY LLC
146 DOVER POINT ROAD
DOVER, NH 03820
TAX MAP M, LOT 61

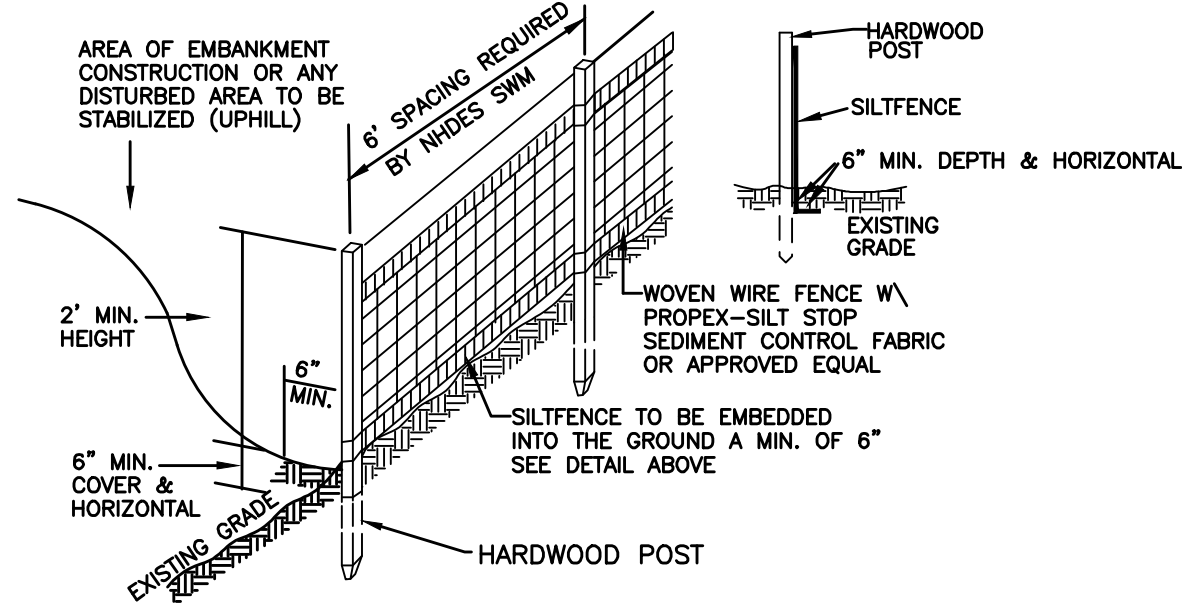
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 20 FT.
DATE : APRIL 5, 2018
FILE NO. : DB 2018 - 001

KENNETH A. BERRY
REGISTERED PROFESSIONAL ENGINEER

DOT-1

SHEET 16 OF 25

E1



SILT FENCE CONSTRUCTION SPECIFICATIONS

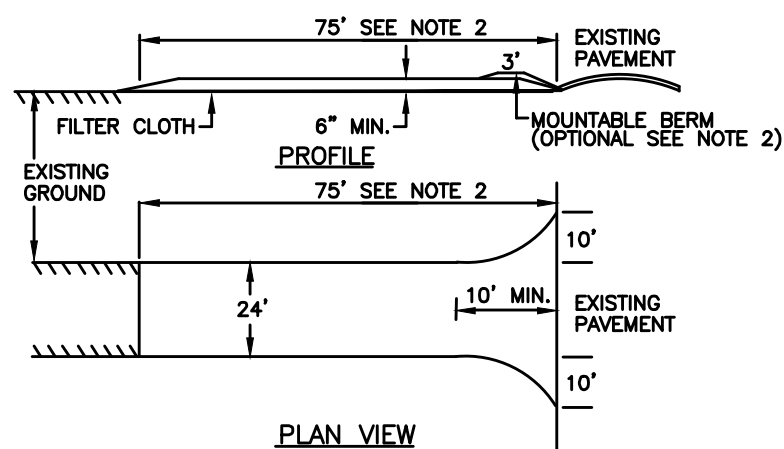
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES AND FILTER CLOTH SHALL BE FASTENED TO WOVEN WIRE EVERY 24" AT TOP MID AND BOTTOM SECTIONS AND BE EMBEDDED INTO GROUND A MINIMUM OF 8" THE FENCE POSTS SHALL BE A MINIMUM 48" LONG, SPACED A MAXIMUM 10' APART, AND DRIVEN A MINIMUM OF 16" INTO THE GROUND.
2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THE ENDS OF THE FABRIC SHALL BE OVERLAPPED BY SIX INCHES, FOLDED AND STAPLED TO PREVENT SEDIMENT FROM BY-PASSING.
3. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SEDIMENT REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE AND PROPERLY DISPOSED OF. SEE MAINTENANCE NOTE BELOW, REMOVAL OF SEDIMENT REQUIRED AT A DEPTH OF 6-INCHES.
4. PLACE THE ENDS OF THE SILT FENCE UP CONTOUR TO PROVIDE FOR SEDIMENT STORAGE.
5. SILT FENCES SHALL BE REMOVED WHEN NO LONGER NEEDED AND THE SEDIMENT COLLECTED SHALL BE DISPOSED AS DIRECTED BY THE ENGINEER.
6. THE AREA DISTURBED BY THE REMOVAL SHALL BE SMOOTHED AND RE-VEGETATED.
7. TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, SILT FENCE, PAGE 90.
8. SEE DETAIL C4 FOR CONSTRUCTION OF SILT FENCE ALONG PROPERTY LINES.

SILT FENCE MAINTENANCE

1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
2. IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN THEY REACH SIX-INCHES IN DEPTH.
4. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

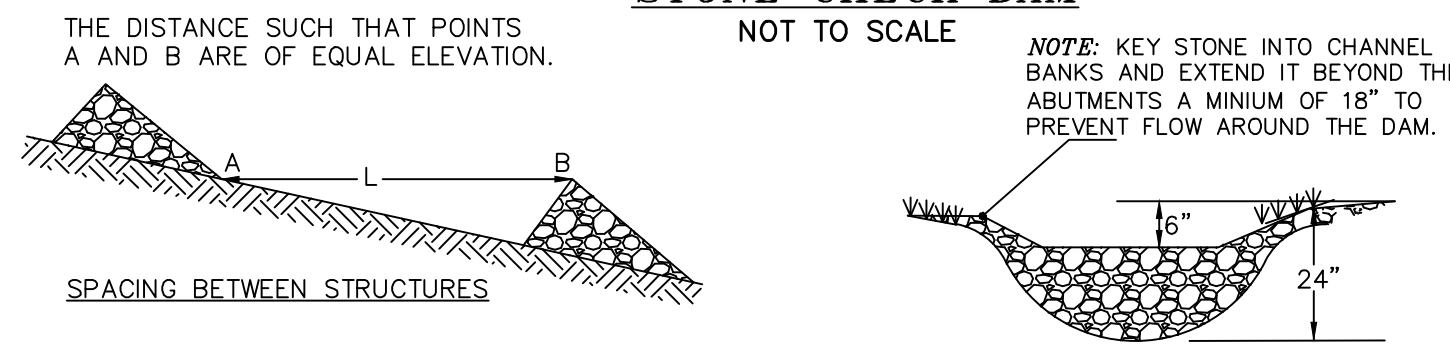
SILT FENCE DETAIL
NOT TO SCALE

E4 STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



1. STONE FOR A STABILIZED CONSTRUCTION ENTRANCE SHALL BE 3 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
2. THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 75 FEET, EXCEPT THAT THE MINIMUM LENGTH MAY BE REDUCED TO 50 FEET IF A 3-INCH TO 6-INCH BERM IS INSTALLED AT THE ENTRANCE OF THE PROJECT SITE.
3. THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
4. THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICHEVER IS GREATER.
5. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
6. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.
8. TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, TEMPORARY CONSTRUCTION EXIT, PAGE 124.

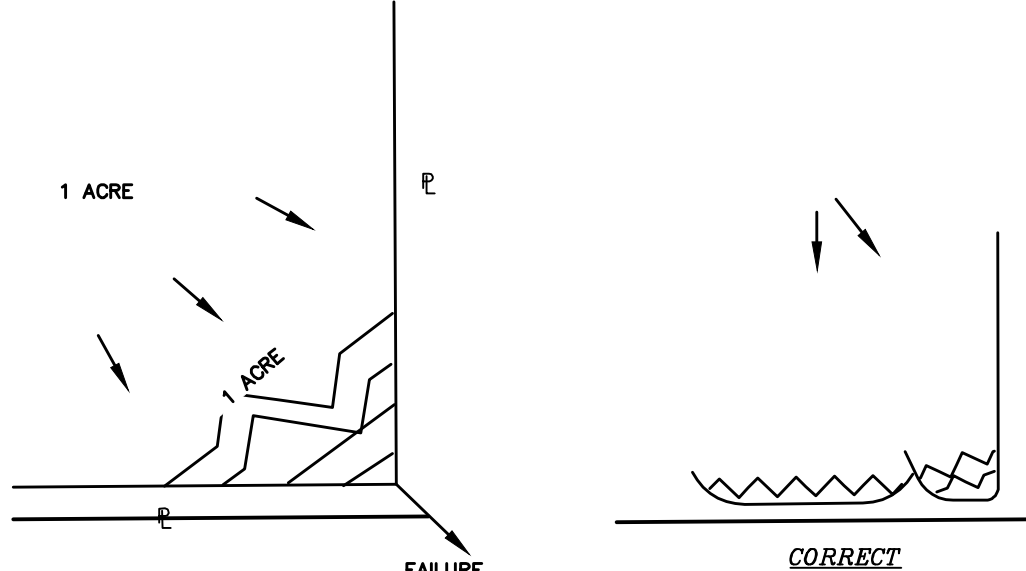
STONE CHECK DAM
NOT TO SCALE



1. CHECK DAMS SHOULD BE INSTALLED BEFORE RUNOFF IS DIRECTED TO THE SWALE OR DRAINAGE DITCH.
2. THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE DAM SHOULD BE LESS THAN ONE ACRE.
3. THE MAXIMUM HEIGHT OF THE DAM SHOULD BE TWO FEET.
4. THE CENTER OF THE DAM SHOULD BE AT LEAST SIX INCHES LOWER THAN THE OUTER EDGES.
5. THE MAXIMUM SPACING IS AS SHOWN ON THE PROJECT SITE PLANS.
6. CHECK DAMS WILL NOT BE USED IN A FLOWING STREAM.
7. TEMPORARY CHECK DAMS WILL BE REMOVED ONCE THE SWALE OR DITCH IS DETERMINED STABLE.
8. TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, TEMPORARY CHECK DAMS, PAGE 114.

STONE GRADE STABILIZATION STRUCTURE

E2



NOTES

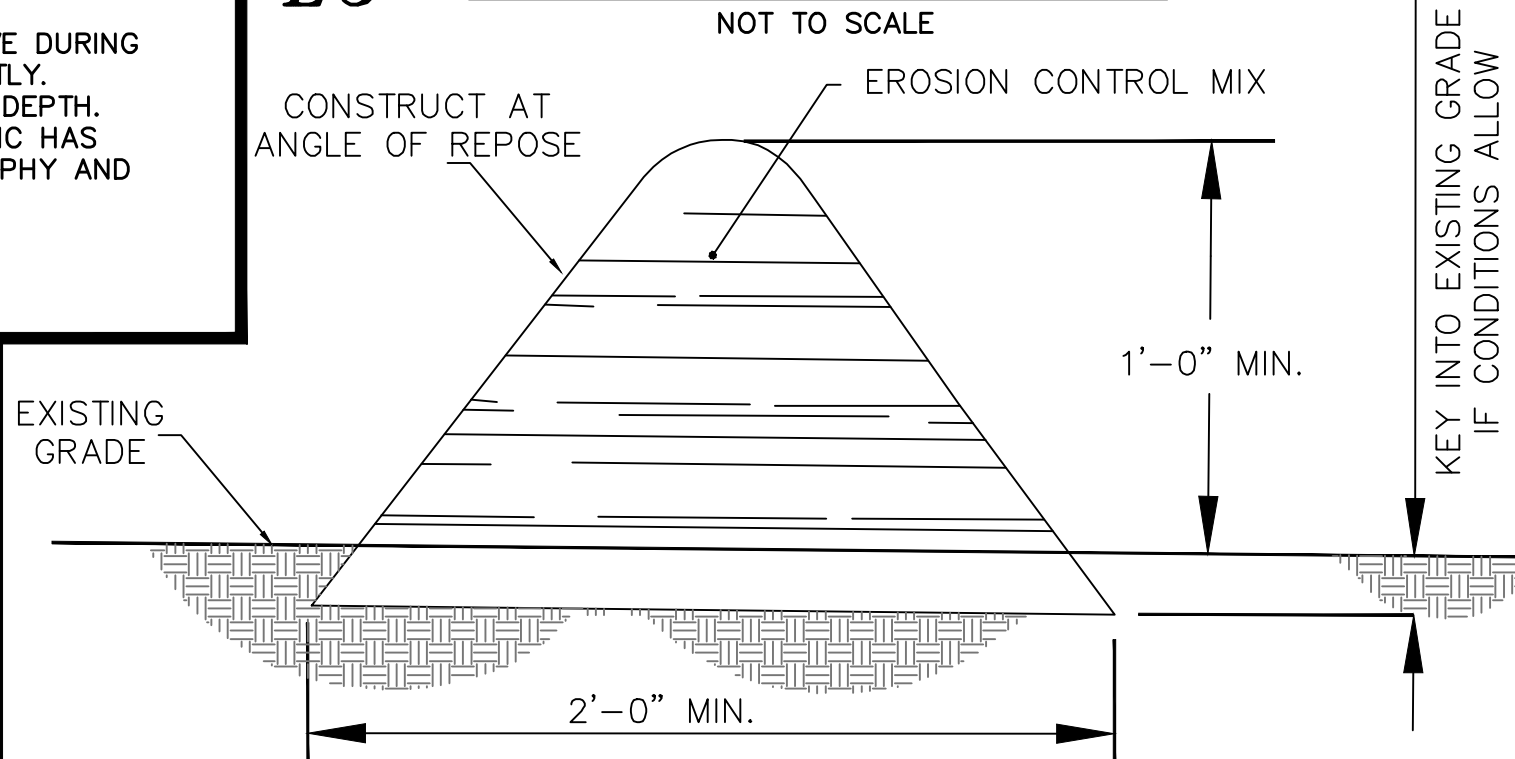
1. DO NOT LAYOUT PERIMETER CONTROL ALONG SLOPING PROPERTY PERIMETER WITHOUT INSTALLING "J HOOKS" AT HIGH CONCENTRATION AREAS. RUNOFF WILL CONCENTRATE AND CAUSE FAILURES ALONG THE PERIMETER.
2. "J HOOKS" CAN BE USED TO HELP LIMIT THE CONCENTRATION OF RUNOFF AND PROVIDE MORE STABILITY TO THE PERIMETER.
3. SILT FENCE AND EROSION CONTROL MULCH BERM MAY BE USED INTERCHANGEABLY. IN SPECIFIED AREA, SILT FENCE MAY NOT BE SUBSTITUTED FOR FILTREXX SILT SOXX OR APPROVED ALTERNATIVE.
4. SEE HAMPSHIRE STORM WATER MANUAL: VOLUME 3, PAGE 99 FOR FURTHER DETAILS AND SPECIFICATIONS

PERIMETER CONTROL

NOT TO SCALE

E5 EROSION CONTROL MIX BERM

NOT TO SCALE

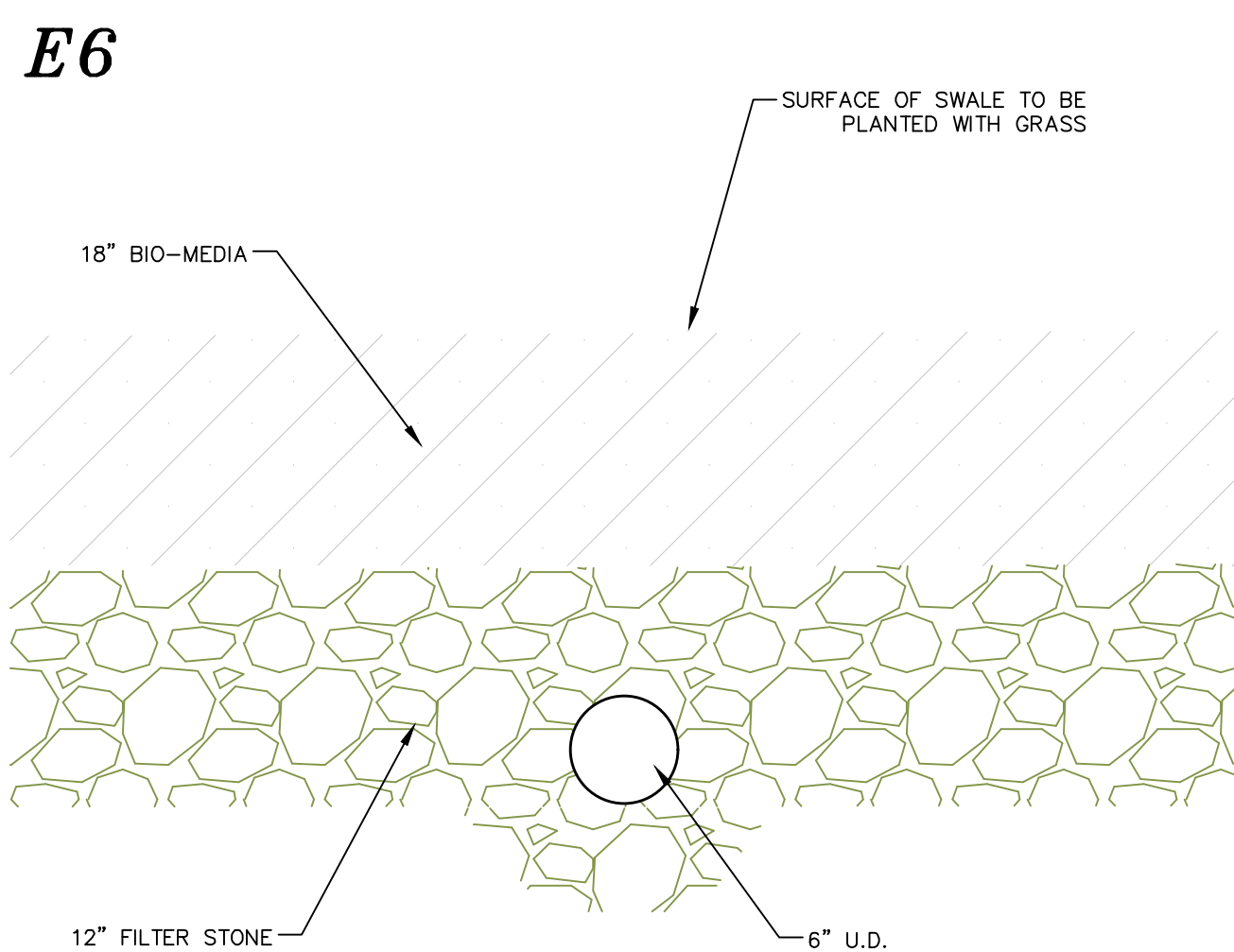


EROSION CONTROL MIX BERMS SHALL BE USED ONLY AS FOLLOWS:

1. BERMS SHALL BE USED IN AREAS WHERE EROSION WILL OCCUR ONLY IN THE FORM OF SHEET EROSION AND THERE IS NO CONCENTRATION OF WATER IN A CHANNEL OR DRAINAGE WAY ABOVE THE BERM.
2. THE BERMS SHALL BE INSTALLED FOLLOWING THE CONTOUR OF THE LAND AS CLOSELY AS POSSIBLE.
3. THE BERMS SHALL BE INSTALLED ON SLOPES LESS THAN 5%.
4. SUBJECT TO (E), BELOW, THE MIX SHALL HAVE AN ORGANIC PORTION BETWEEN 80 AND 100% DRY WEIGHT BASIS, AND BE FIBROUS AND ELONGATED SUCH AS FROTH SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR EQUIVALENT MANUFACTURED PRODUCTS. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS, OR REPROCESSED WOOD PRODUCTS SHALL NOT BE USED AS ORGANIC MATERIAL.
5. THE MIX SHALL NOT CONTAIN SILTS, CLAY, OR FINE SANDS.
6. THE MIX SHALL HAVE A PARTICLE SIZE BY WEIGHT OF 70 TO 85% PASSING A 6-INCH SCREEN AND A MAXIMUM OF 65% PASSING THE 0.75-INCH SCREEN.
7. THE MIX PH SHALL BE BETWEEN 5.0 AND 8.0.
8. THE BERM SHALL BE AT LEAST 12 INCHES HIGH AND AT LEAST 2 FEET WIDE.
9. TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, EROSION CONTROL MIX BERMS, PAGE 106.

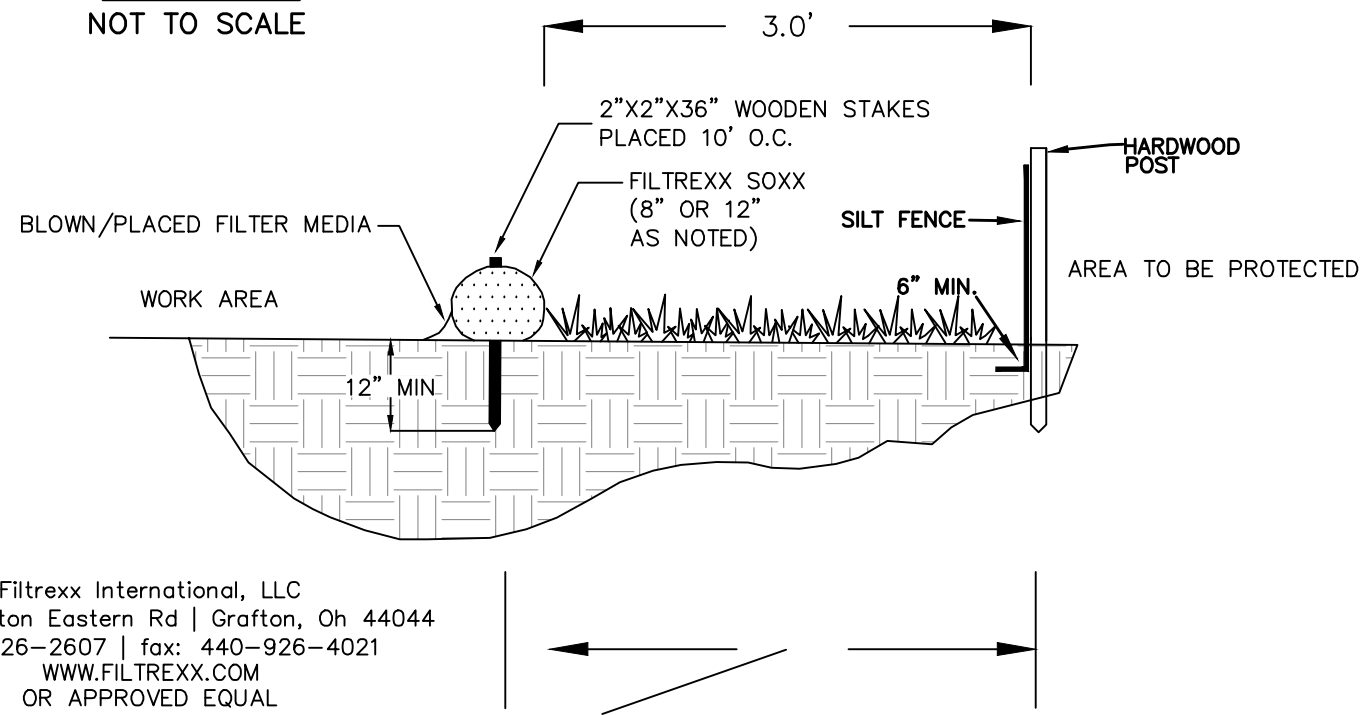
DRY SWALE DETAIL

NOT TO SCALE



FILTREXX SEDIMENT CONTROL

NOT TO SCALE

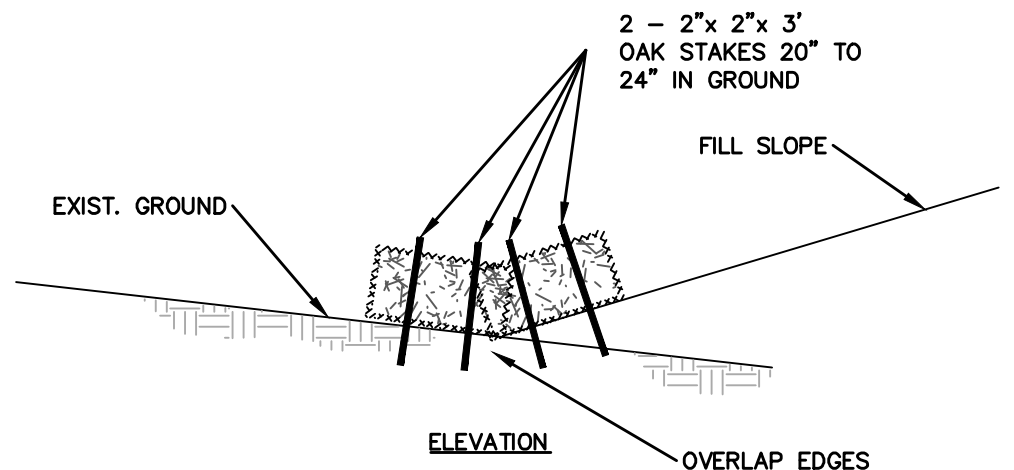


Filtrex International, LLC
35481 Grafton Eastern Rd | Grafton, Oh 44044
440-926-2607 | fax: 440-926-4021
WWW.FILTREXX.COM
OR APPROVED EQUAL

NOTE: FOR AREAS REQUIRING DOUBLE PERIMETER CONTROL WITHIN 50' OF JURISDICTIONAL WETLANDS AND NOT FOR ALL SILT SOXX APPLICATIONS. THIS DUPLICATION MAY BE SPECIFIED AS 12" SILT SOXX OR ORANGE CONSTRUCTION FENCE AS NOTED.

SECTION NOT TO SCALE

E3



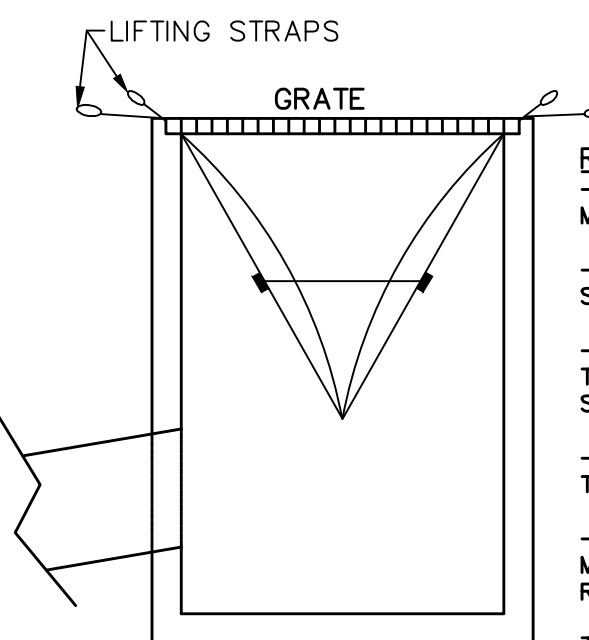
STAKED HAYBALE DETAIL
NOT TO SCALE

- 1.) HAY BALES BARRIERS MAY ONLY BE USED FOR A MAXIMUM OF 60 DAYS AND ARE NOT RECOMMENDED FOR PERIMETER CONTROL.
- 2.) TO BE INSTALLED IAW NH SWM #3, 4-2 SEDIMENT CONTROL, STRAW OR HAY BALE BARRIER.

E7 TEMPORARY EROSION CONTROL MEASURES

1. THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME.
2. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND AT LOCATIONS AS REQUIRED, DIRECTED BY THE ENGINEER.
3. ALL DISTURBED AREAS SHALL BE RETURNED TO ORIGINAL GRADES AND ELEVATIONS. DISTURBED AREAS SHALL BE LOAMED WITH A MINIMUM OF 4" OF LOAM AND SEEDED WITH NOT LESS THAN ONE POUND OF SEED PER 50 SQUARE YARDS OF AREA. (SEE SEED SPECIFICATIONS THIS SHEET)
4. ALL DISTURBED AREAS WILL BE RESTABILIZED WITHIN 45 DAYS. AT ANY ONE TIME, NO MORE THAN 5 ACRES, (217,800 Sq. Ft.) WILL BE DISTURBED.
5. SILT FENCES AND PERIMETER BARRIERS SHALL BE INSPECTED PERIODICALLY AND AFTER EVERY RAIN DURING THE LIFE OF THE PROJECT. ALL DAMAGED AREAS SHALL BE REPAIRED, SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED OF.
6. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE REMOVED AND THE AREA DISTURBED BY THE REMOVAL SMOOTHED AND RE-VEGETATED.
7. PER THE EPA COP REQUIREMENTS THERE WILL BE REPORTS OF THE EROSION CONTROL INSPECTIONS IAW SWPPP PREPARED BY BS&E. ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER 0.5" OR GREATER RAIN EVENT.
8. DITCHES, SWALES, AND BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
9. DO NOT TRAFFIC EXPOSED SOIL SURFACES WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION SYSTEM.
10. DRIVEWAYS AND CUT AND FILL SLOPES MUST BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINAL GRADE.
11. STABILIZATION MEANS:
 - 11.1. A MINIMUM OF 85% OF VEGETATIVE COVER HAS BEEN ESTABLISHED.
 - 11.2. A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED. OR
 - 11.3. EROSION CONTROL BLANKETS HAVE BEEN INSTALLED.
12. THIS PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.
13. THE NHDES STORMWATER MANUAL, IN THREE VOLUMES, DATED DECEMBER 2008, IS A PART OF THIS PLAN SET AND THE MORE RESTRICTIVE WILL GOVERN. (NH SWM)

E11



RECOMMENDED MAINTENANCE SCHEDULE
-EACH SILTSACK SHOULD BE INSPECTED AFTER EVERY MAJOR RAIN EVENT, AND MUST BE MAINTAINED.
-IF THERE HAVE BEEN NO MAJOR EVENTS, SILTSACK SHOULD BE INSPECTED EVERY 2-3 WEEKS.
-THE RESTRAINT CORD SHOULD BE VISIBLE AT ALL TIMES. IF CORD IS COVERED WITH SEDIMENT, THE SILTSACK SHOULD BE EMPTIED.
-TO BE USED IN ALL AREAS WHERE THERE WILL BE TRAFFIC.
- ARE SUBJECT TO DAMAGE BY SNOW PLOWS, AND MUST BE INSPECTED AFTER ANY SNOW EVENT AND REPLACED AS REQUIRED.

TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, TEMPORARY STORM DRAIN INLET PROTECTION, PAGE 118.

SILTSACK DETAIL
NOT TO SCALE

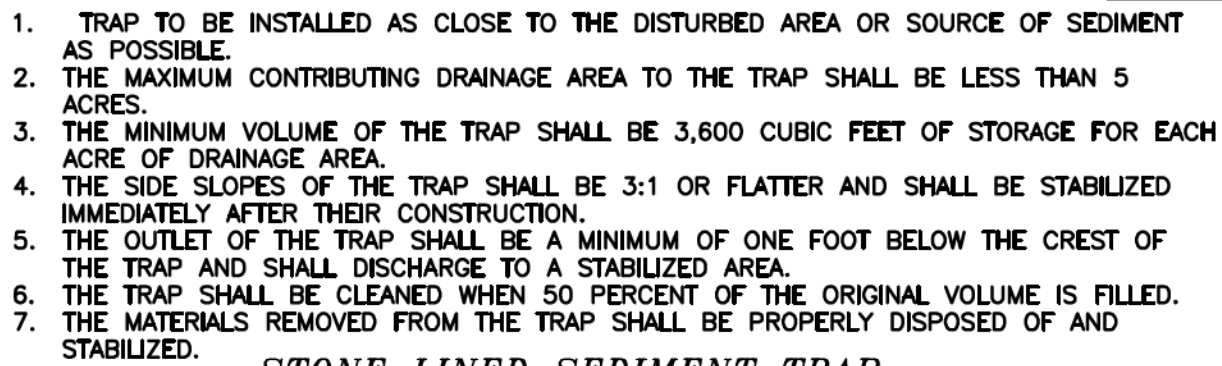
E-101

DOVER FILE #P18-14

EROSION & SEDIMENT CONTROL DETAILS

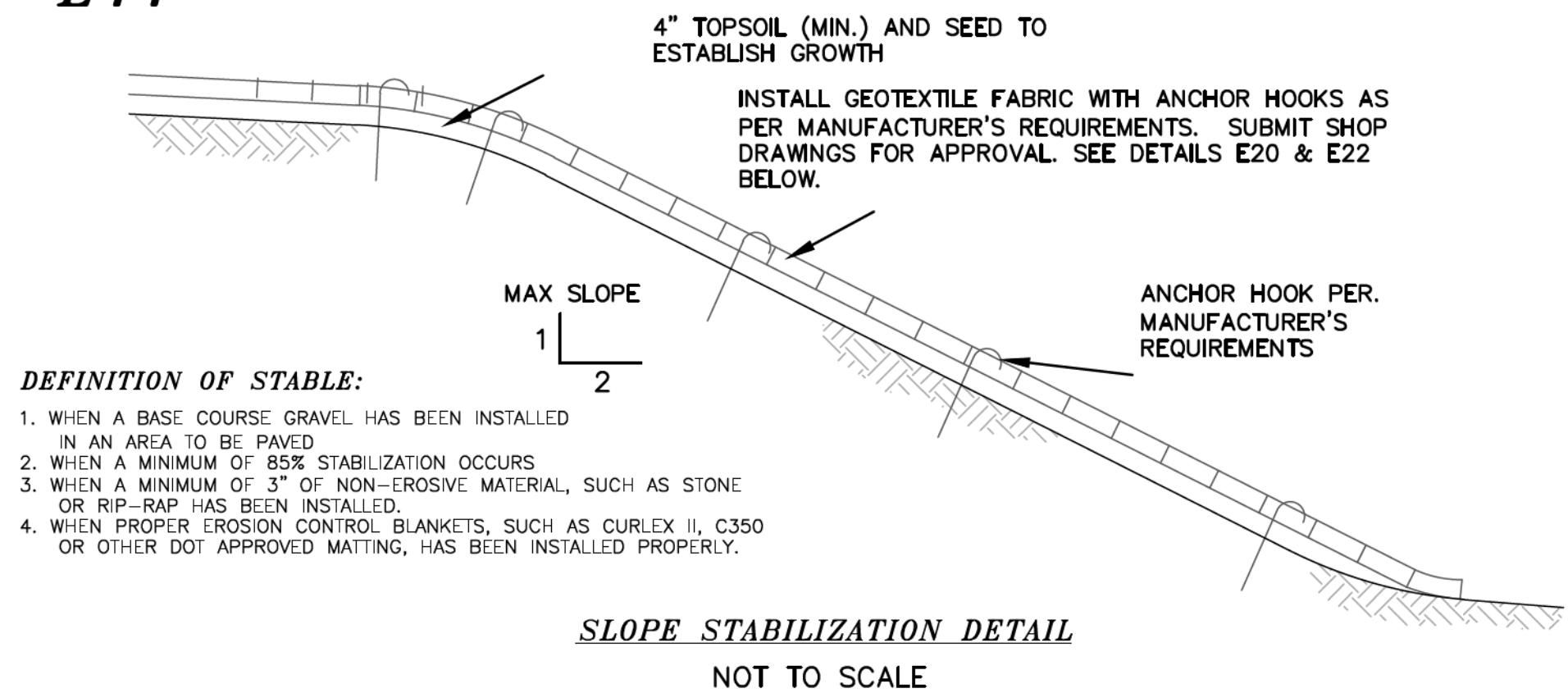
COMPOSITE DETAILS
LAND OF
TDK & COMPANY LLC
146 DOVER POINT ROAD
DOVER, NH 03820
TAX MAP M, LOT 61

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
AS NOTED
DATE : APRIL 5, 2018
FILE NO. : DB 2018 - 001
KENNETH A. BERRY
REGISTERED PROFESSIONAL ENGINEER
SHEET 18 OF 25



d50 SIZE=	0.5	FEET	6	INCHES
% OF WEIGHT SMALLER THAN THE GIVEN d50 SIZE		SIZE OF STONE (INCHES) FROM		TO
100%		9		12
85%		8		11
50%		6		9
15%		2		3

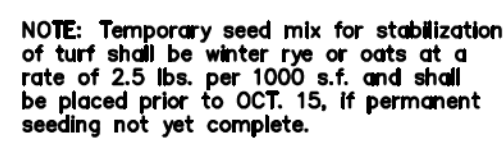
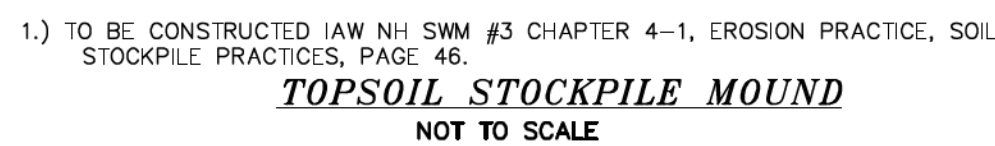
E14



DEFINITION OF STABLE:

1. WHEN A BASE COURSE GRAVEL HAS BEEN INSTALLED IN AN AREA TO BE PAVED
2. WHEN A MINIMUM OF 85% STABILIZATION OCCURS
3. WHEN A MINIMUM OF 3" OF NON-EROSIVE MATERIAL, SUCH AS STONE OR RIP-RAP, HAS BEEN INSTALLED.
4. WHEN PROPER EROSION CONTROL BLANKETS, SUCH AS CURLEX II, C350 OR OTHER DOT APPROVED MATTING, HAS BEEN INSTALLED PROPERLY.

SLOPE STABILIZATION DETAIL
NOT TO SCALE



SEEDING GUIDE

SEEDING GUIDE

USE	SEEDING MIXTURE 1/	DRYDTHY	WELL DRAINED	MODERATELY WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A B C D	POOR POOR GOOD FAIR	GOOD GOOD GOOD EXCELLENT	GOOD FAIR GOOD EXCELLENT	FAIR POOR GOOD EXCELLENT
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER FLOWING WATER	A B C	GOOD GOOD GOOD	GOOD EXCELLENT EXCELLENT	GOOD EXCELLENT EXCELLENT	FAIR POOR POOR
LIGHTLY USED PARKING SITES, GOOD AREAS, UNPAVED LANES AND LOW INTENSIVE USE RECREATION SITES.	A B C	GOOD GOOD GOOD	GOOD GOOD EXCELLENT	GOOD POOR EXCELLENT	POOR POOR EXCELLENT
PLAY AREAS AND ATHLETIC FIELDS (TOPSOIL IS ESSENTIAL FOR GOOD TURF 2/)	F D	FAIR GOOD	EXCELLENT EXCELLENT	EXCELLENT EXCELLENT	2/ 2/
GRAVEL PIT, MIX WITH PM-24 IN APPENDIX FOR RECOMMENDATION REGARDING RECLAMATION OF SAND AND GRAVEL MIXTURES.					

1/ REFER TO SEEDING MIXTURES AND RATES IN TABLE 5-36.
2/ POORLY DRAINAGE TOOLS ARE NOT DESIRABLE FOR USE IN PLAYING AREA AND ATHLETIC FIELDS.

	RECOMMENDED	*
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SEEDING RATES

MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 SQ. FT.
A. TALL FESCUE	20	0.45
CHICKPEA RED FESCUE	20	0.45
TOTAL	40	0.90
B. TALL FESCUE	15	0.33
CHICKPEA RED FESCUE	10	0.23
CROWN VETCH	15	0.33
FLAT PEA	30	0.75
TOTAL	40 OR 25	0.85 OR 1.25
C. TALL FESCUE	24	0.55
CHICKPEA RED FESCUE	24	0.55
BIRDS FOOT TROFAL	50	SEMI-D
TOTAL	98	1.10
D. TALL FESCUE	20	0.45
FLAT PEA	30	0.75
TOTAL	50	1.20
E. CHICKPEA RED FESCUE 1/2	50	1.15
KENTUCKY BLUEGRASS 1/2	50	1.15
TOTAL	100	2.30
F. TALL FESCUE	150	3.60

1. Grading and Shaping
 - a. Slopes shall not be steeper than 2:1; 3:1 slopes or flatter are preferred. Where moving will be done, 3:1 slopes or flatter are recommended.
2. Seedbed Preparation
 - a. Surface and seepage water should be drained or diverted from the site to prevent drowning or winter killing of the plants.
 - b. Stones larger than 4 inches and trash should be removed because they interfere with seeding and future maintenance of the area. Where feasible, the soil should be tilled to a depth of about 4 inches to prepare a seedbed and mix fertilizer and lime into the soil. The seedbed should be left in reasonably firm and smooth condition. The last tillage operation should be performed across the slope wherever practical.
3. Establishing a Stand
 - a. Lime and fertilizer should be applied prior to or at the time of seeding and incorporated into the soil kinds and amounts of lime and fertilizer should be based on an evaluation of soil tests. When a soil test is not available, the following minimum amounts should be applied:
 - Agricultural limestone, 2 tons per acre or 100lbs. per 1,000 sq.ft.
 - Nitrogen(N), 50lbs. per acre or 1.1lbs. per 1,000 sq.ft.
 - Phosphate(P2O5), 100lbs. per acre or 2.2lbs. per 1,000 sq.ft.
 - Potash(K2O), 100lbs. per acre or 2.2lbs. per 1,000 sq.ft.

(Note: This is the equivalent of 500lbs. per acre of 10-20-20 fertilizer or 1,000lbs. per acre of 5-10-10.)

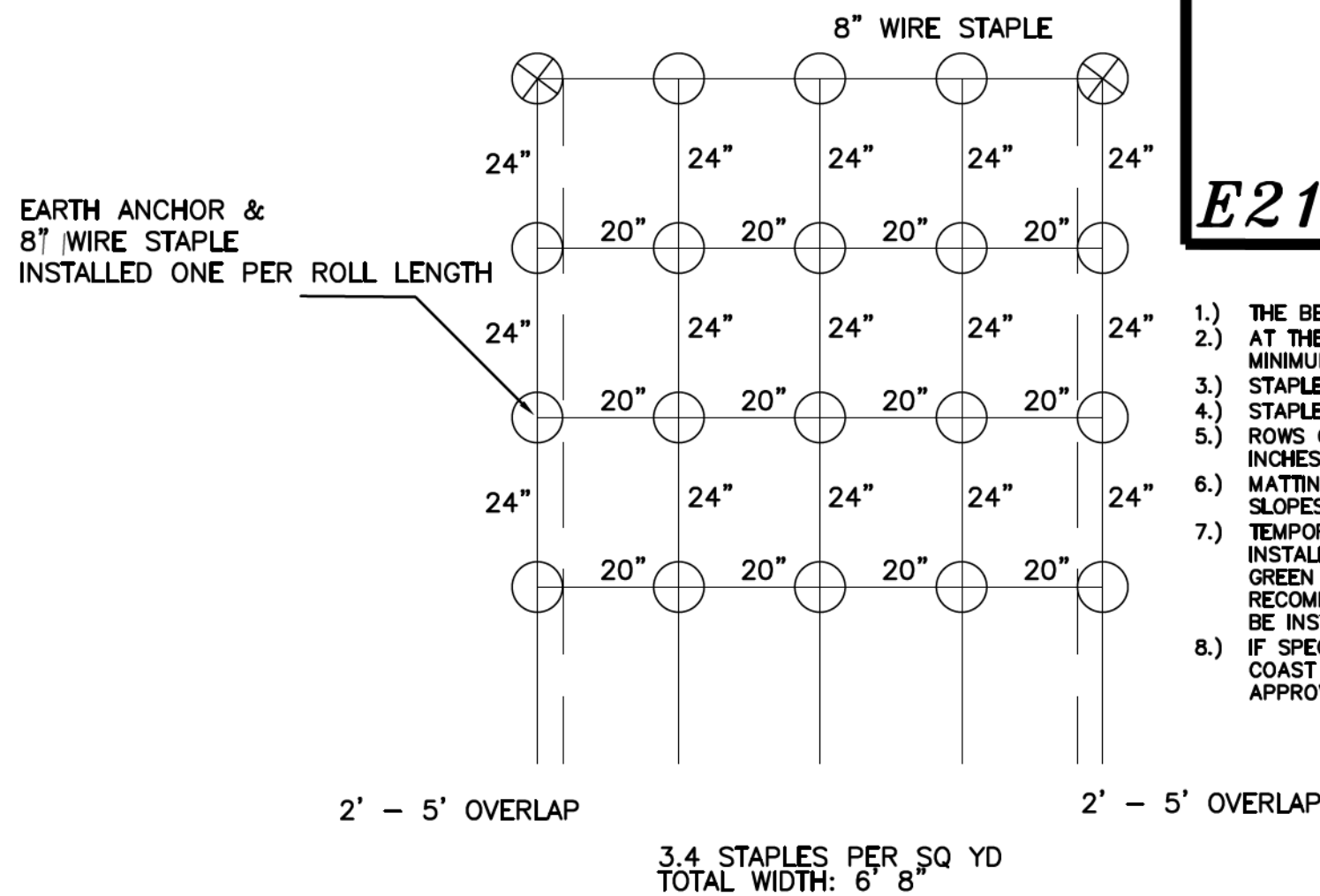
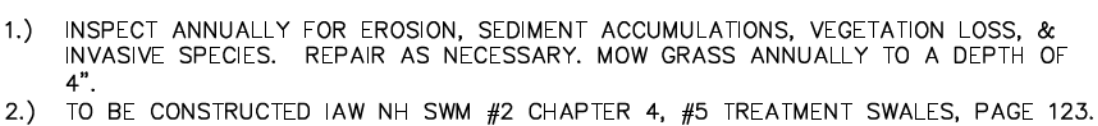
- b. Seed should be spread uniformly by the method most appropriate for the site. Methods include broadcasting, drilling and hydroseeding. Where broadcasting is used, cover seed with 25 inch of soil or less, by cutpicking or raking.
- c. Refer to Table(G-E1 this sheet) for appropriate seed mixtures and Table(H-E1 this sheet) for rates of seeding. All legumes (crownvetch, birdsfoot trefoil, and flatpea) must be inoculated with their specific inoculant.
- d. When seeded areas are mulched, plantings may be made from early spring to early October. When seeded areas are not mulched, plantings should be made from early spring to May 20 or from August 10 to September 1.

4. Mulch

- a. Hay, straw, or other mulch, when needed, should be applied immediately after seeding.
- b. Mulch will be held in place using appropriate techniques from the Best Management Practice for mulching. Hay or straw mulch shall be placed at a rate of 90lbs per 1000 s.f.

5. Maintenance to Establish a Stand

- a. Planted area should be protected from damage by fire, grazing, traffic, and dense weed growth.
- b. Fertilization needs should be determined by onsite inspections. Supplemental fertilizer is usually not needed to fully complete the establishment of the stand because most perennial stake 2 to 3 years to become established.
- c. In waterways, channels, or swales where uniform flow conditions are anticipated, occasional mowing may be necessary to control growth of woody vegetation.



1. THE BEGINNING AND END OF EACH ROW OF NAG VMX C350 WILL BE BURIED SIX TO 12 INCHES DEEP.
2. AT THE TOP OF EACH ROW WHERE THE ROWS OVERLAP, AN EARTH ANCHOR WILL BE INSTALLED TO A MINIMUM DEPTH OF 30 INCHES.
3. STAPLES WILL BE INSTALLED AT A RATE OF 3.4 STAPLES PER SQUARE YARD AS DEMONSTRATED.
4. STAPLES WILL BE INSTALLED TO A MINIMUM DEPTH OF 8 INCHES.
5. NAG VMX C350 WILL BE INSTALLED PARALLEL WITH AN AVERAGE OF THREE AND ONE-HALF INCHES OF OVERLAP. STAPLES WILL BE INSTALLED ALONG THE OVERLAP SEAM, AS SHOWN.
6. MATTING TO BE USED ON ALL SLOPES GREATER THAN 3:1. TURF REINFORCEMENT TO BE USED ON SLOPES GREATER THAN 2:1.
7. TEMPORARY EROSION CONTROL BLANKET OR ROLLED EROSION CONTROL BLANKET (RECB) ARE TO BE USED FOR 14-16 WEEKS. TEMPORARY EROSION CONTROL BLANKET, PAGE 68, NORTH AMERICAN GREEN VMX C-350 TURF REINFORCEMENT MAT IS TO BE INSTALLED IAW MANUFACTURERS RECOMMENDATIONS, OR APPROVED EQUAL. AMERICAN EXCELSIOR COMPANY CURTAIN BLANKETS ARE TO BE INSTALLED IAW MANUFACTURERS RECOMMENDATIONS, OR APPROVED EQUAL.
8. IF SPECIFIED, MILDLY FRIENDLY RECG SUCH AS AEG 3000, III FIRENET, NAG S150BN, OR EAST COAST EROSION CONTROL MAT IS TO BE SUBSTITUTED UNLESS AN ALTERNATIVE IS APPROVED BY THE PROJECT ENGINEER, NHA&G AND NHDES.

CONSERVATION MIX	POUNDS PER ACRE	POUNDS PER 1,000 S.F.
RED FESCUE (35%)	75	1.75
TALL FESCUE (25%)	55	1.25
ANNUAL RYEGRASS (12%)	33	0.75
PERENNIAL RYEGRASS (10%)	26	0.60
KENTUCKY BLUEGRASS (10%)	22	0.50
WHITE CLOVER (3%)	7	0.15

*VMAX3 MATTING
STAPLE PATTERN GUIDE*

VMAX C350 MATTING & CURLEX II / III

EROSION CONTROL MAT OR TURF REINFORCEMENT MAT

SLOPE

TOP OF SLOPE

ANCHOR FABRIC IN 6" DEEP BY 6" WIDE TRENCH AND STAKE AT 6" INTERVALS. BACKFILL AND COMPACT THE TRENCH AFTER STAKING.

PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 4" OVERLAP. BURY END OF LOWER FABRIC 6" DEEP AND LAKE AT 6" INTERVALS.

STAKE OUTSIDE EDGES AT LIMITS OF INSTALLATION AT SPECIFIED INTERVALS

NOTE : STAKING PATTERNS SHALL FOLLOW MANUFACTURERS RECOMMENDATIONS. MINIMUM SPACING ACROSS FABRIC AS SHOWN.

INSTALLATION OF
EROSION CONTROL BLANKET
NOT TO SCALE

CONSTRUCTION SEQUENCE:

- 1.) ALL SEDIMENT & EROSION CONTROLS ARE TO BE INSTALLED PRIOR TO ANY EARTH MOVING DISTURBANCE (STUMPING)
CUT AND REMOVE TREES IN CONSTRUCTION AREA ONLY AS REQUIRED AFTER INSTALLATION OF SEDIMENT & EROSION CONTROLS. ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY HALF-INCH OF RAINFALL.
- 2.) CONSTRUCT AND/OR INSTALL TEMPORARY AND PERMANENT SEDIMENT EROSION AND DETENTION CONTROL FACILITIES AS REQUIRED.
- 3.) DETENTION CONTROL FACILITY SHALL BE INSTALLED & STABILIZED PRIOR TO ANY EARTH MOVING OPERATION & OR DIRECT RUNOFF TO THEM. DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- 4.) CLEAR, CUT AND DISPOSE OF DEBRIS IN APPROVED FACILITY.
- 5.) CONSTRUCT TEMPORARY CULVERTS AS REQUIRED, OR DIRECTED
- 6.) CONSTRUCT ROADWAYS FOR ACCESS TO DESIRED CONSTRUCTION AREAS. ALL ROADS SHALL BE STABILIZED IMMEDIATELY AFTER GRADING. PONDS AND SWALES SHALL BE INSTALLED EARLY ON IN THE CONSTRUCTION SEQUENCE (BEFORE RUH GRADING THE SITE).
- 7.) INSTALL TEMPORARY CONSTRUCTION OPPURTUNES AS REQUIRED OR DIRECTED. ALL DISTURBED AREAS SHALL BE STABILIZED IMMEDIATELY AFTER GRADING.
- 8.) BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES AND DISTURBED AREAS SHALL BE SEEDD OR MULCHED AS REQUIRED, OR DIRECTED. NO AREA IS ALLOWED TO BE DISTURBED FOR A LENGTH OF TIME THAT EXCEEDS 45 DAYS BEFORE BEING STABILIZED, DAILY, OR AS REQUIRED.
- 9.) CONSTRUCT TEMPORARY BERMS, DRAINS DITCHES, SILT FENCES, SEDIMENT TRAPS, ETC. MULCH AND SEED AS REQUIRED.
- 10.) INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION
- 11.) COMPLETE PERMANENT SEEDING AND LANDSCAPING.
- 12.) REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDING AREAS HAVE ESTABLISHED THEMSELVES AND SITE IMPROVEMENTS ARE COMPLETE.
- 13.) SMOOTH AND RE-VEGETATE ALL DISTURBED AREAS.
- 14.) FINISH PAVING ALL ROADWAYS

INVASIVE SPECIES NOTE:

THAT THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

E23

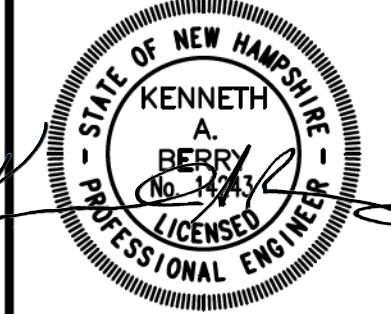
E-102

DOVER FILE #P18-14

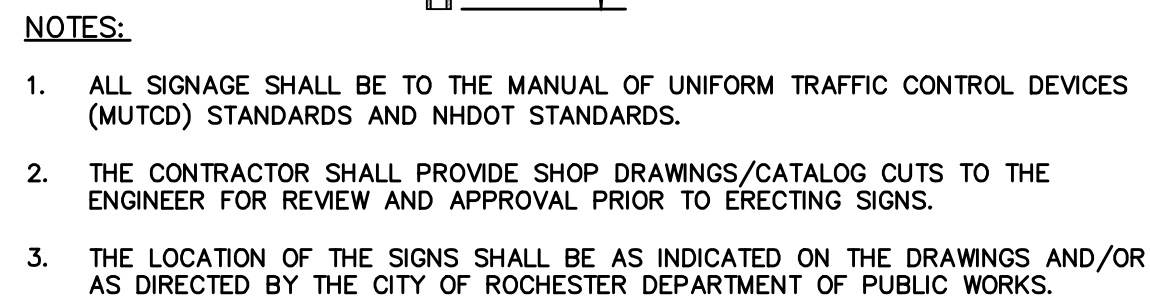
EROSION & SEDIMENT CONTROL DETAILS

LAND OF
TDAK & COMPANY LLC
46 DOVER POINT ROAD
DOVER, NH 03820
TAX MAP M, LOT 61

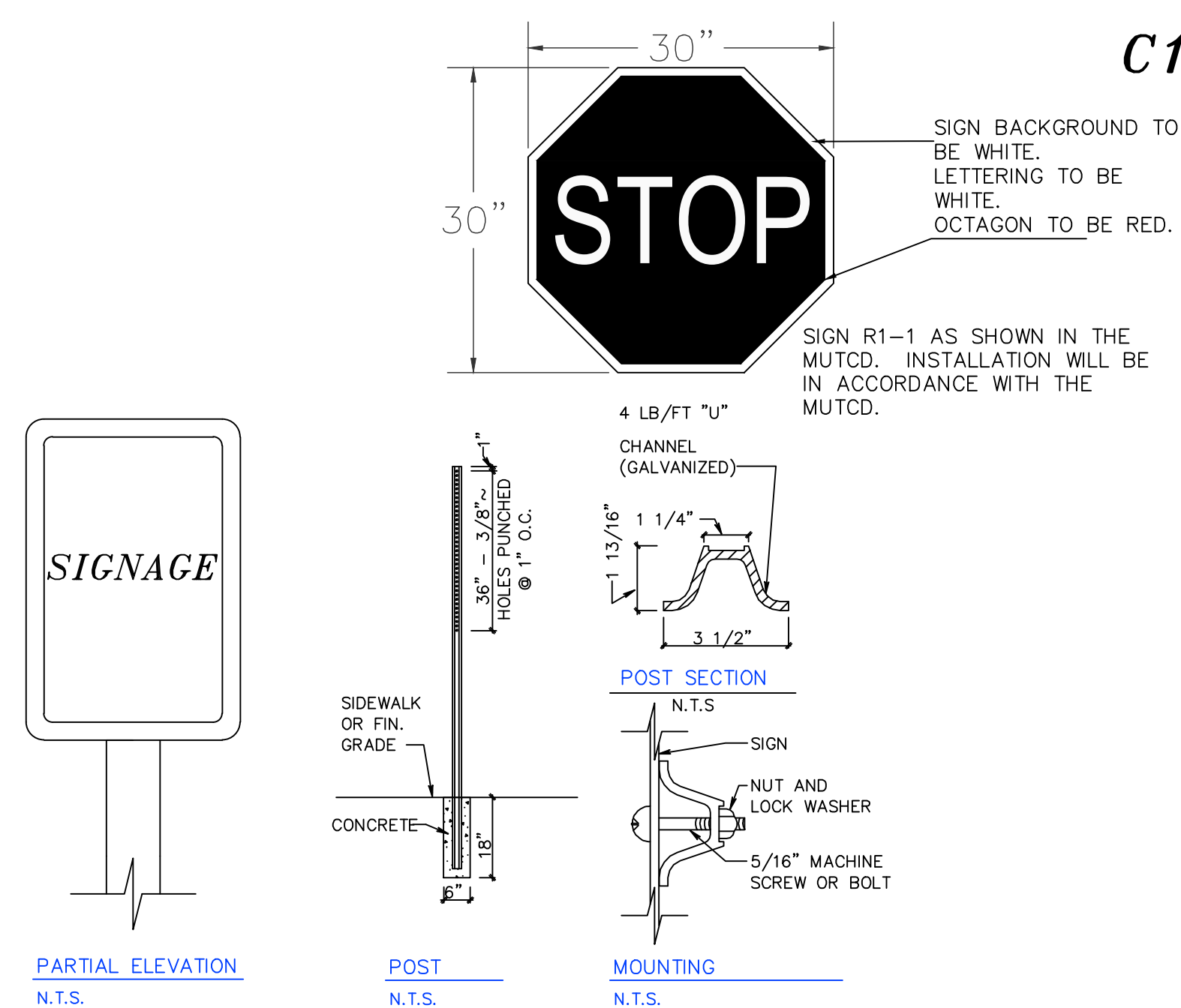
DATE : APRIL 5, 2018
FILE NO. : DB 2018 - 001



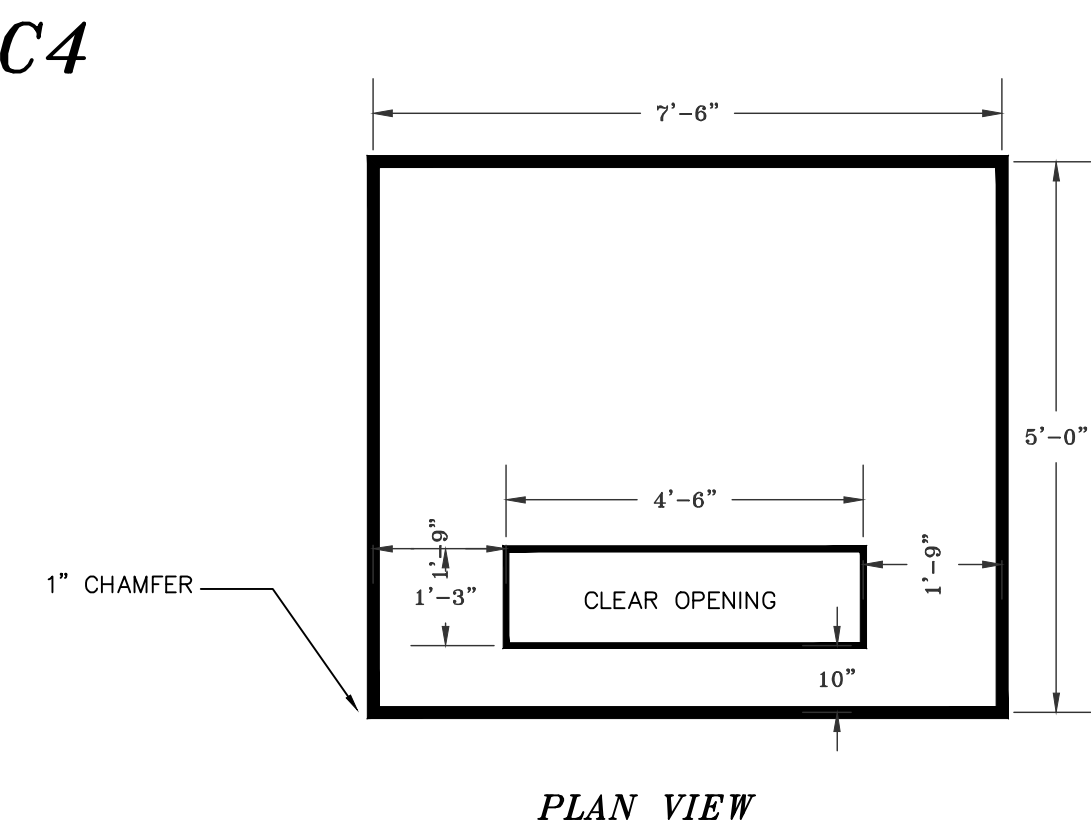
SHEET 19 OF 25



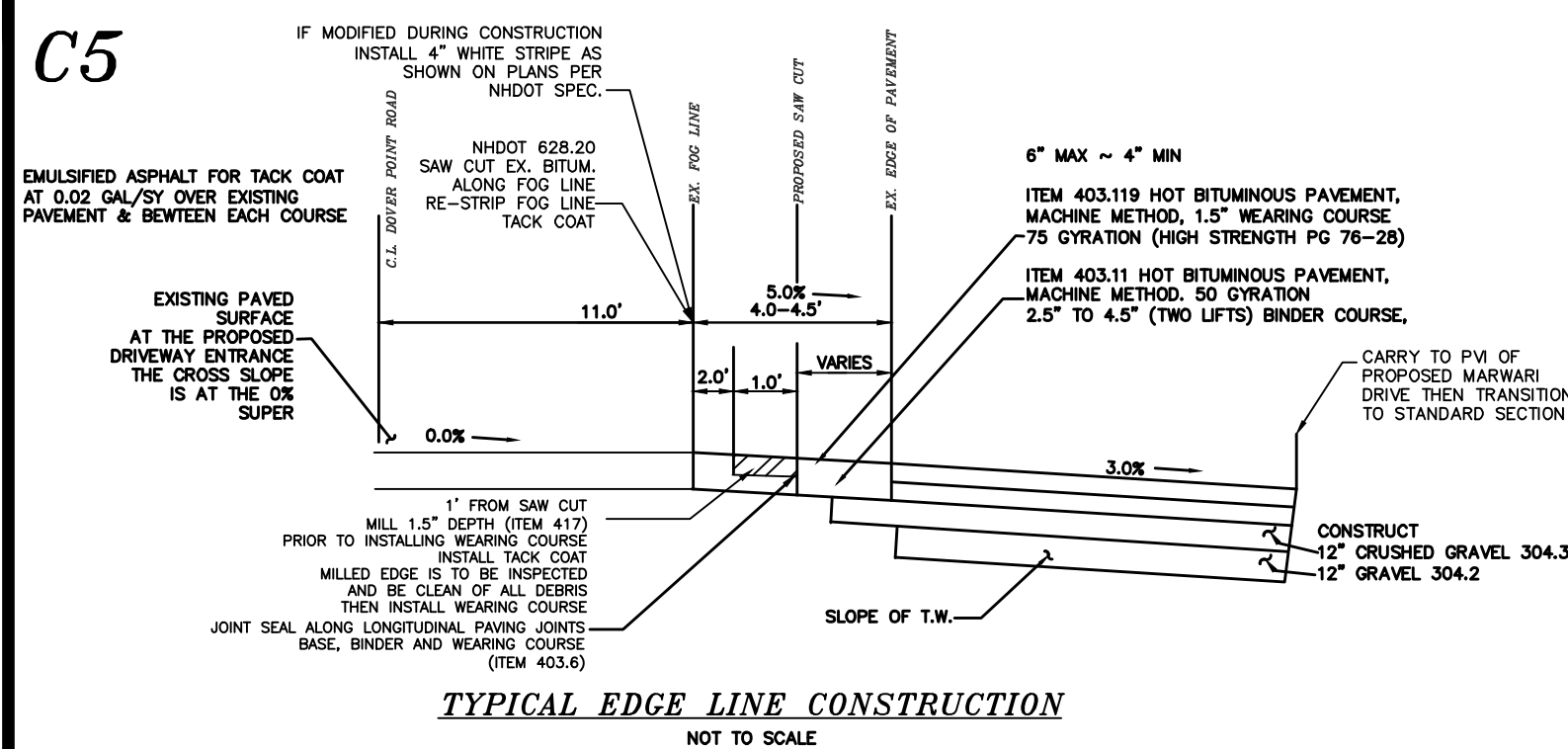
TYPICAL SIGN POST
(NOT TO SCALE)



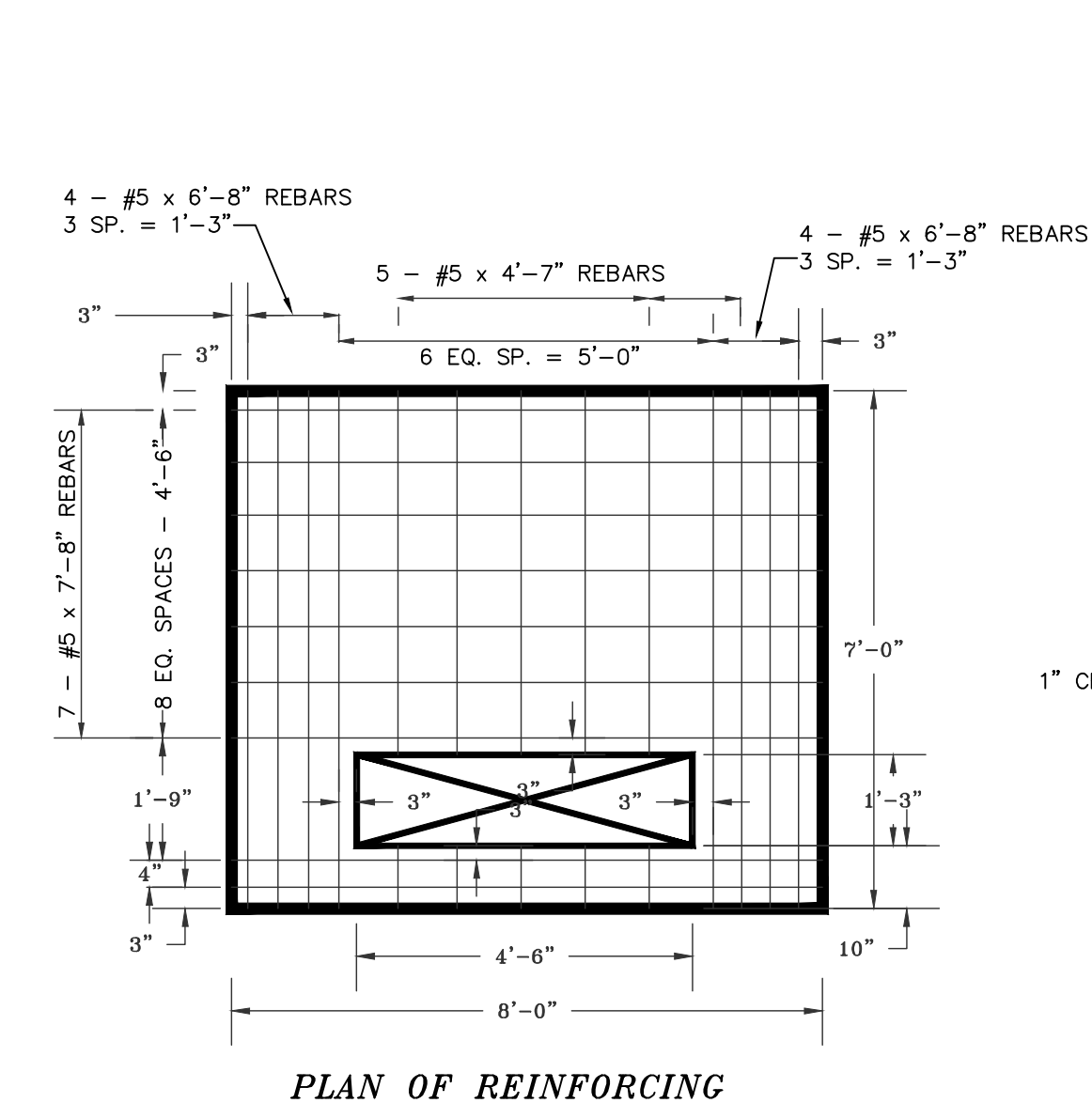
PARTIAL ELEVATION
N.T.S.



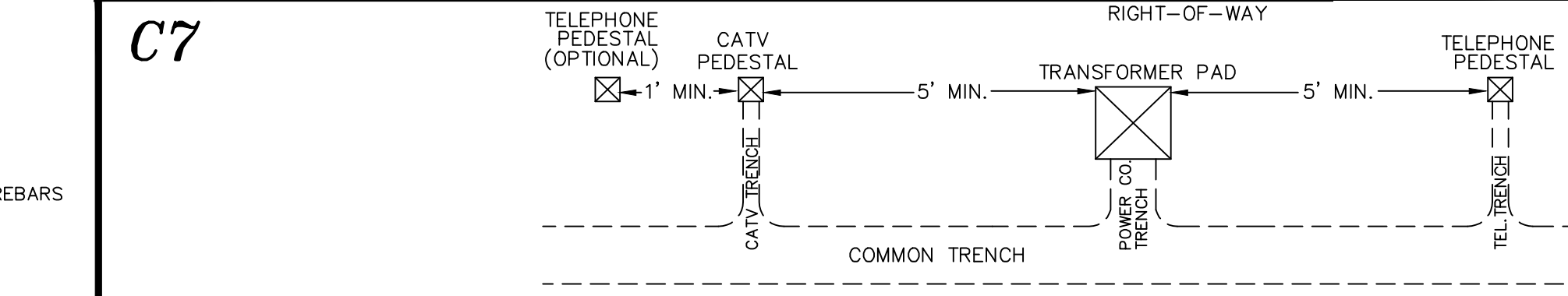
PLAN VIEW



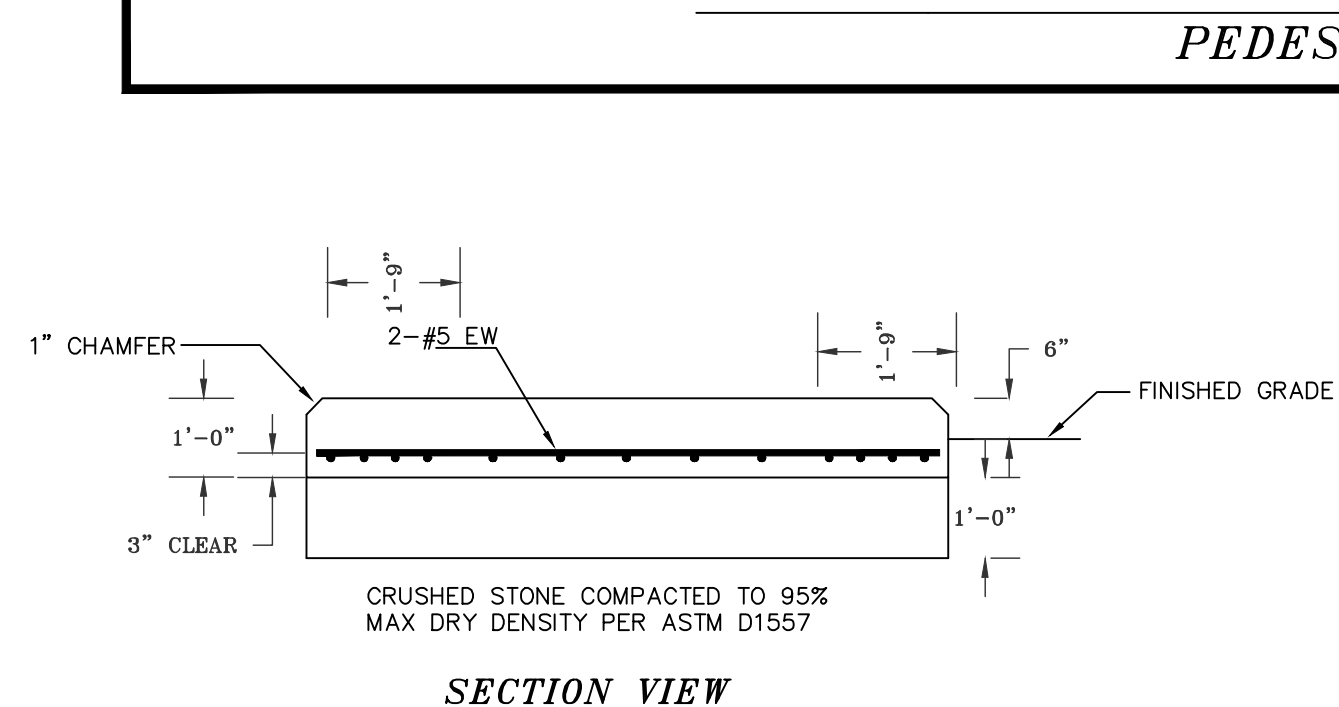
TYPICAL EDGE LINE CONSTRUCTION
NOT TO SCALE



PLAN OF REINFORCING



PEDESTAL PLACEMENT



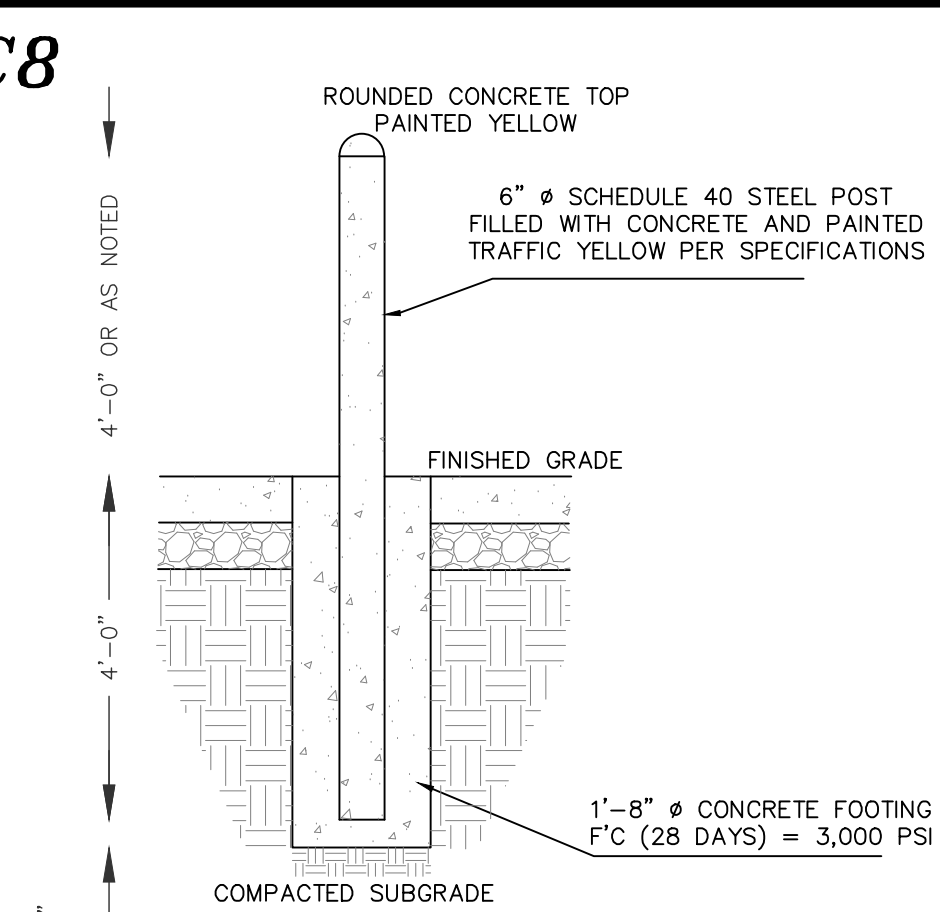
SECTION VIEW

NOTES:

- 1.) CONFIRM SIZE WITH ELECTRIC COMPANY BEFORE CONSTRUCTION.
- 2.) USE LOCAL ELECTRIC COMPANY DETAILS AS REQUIRED.

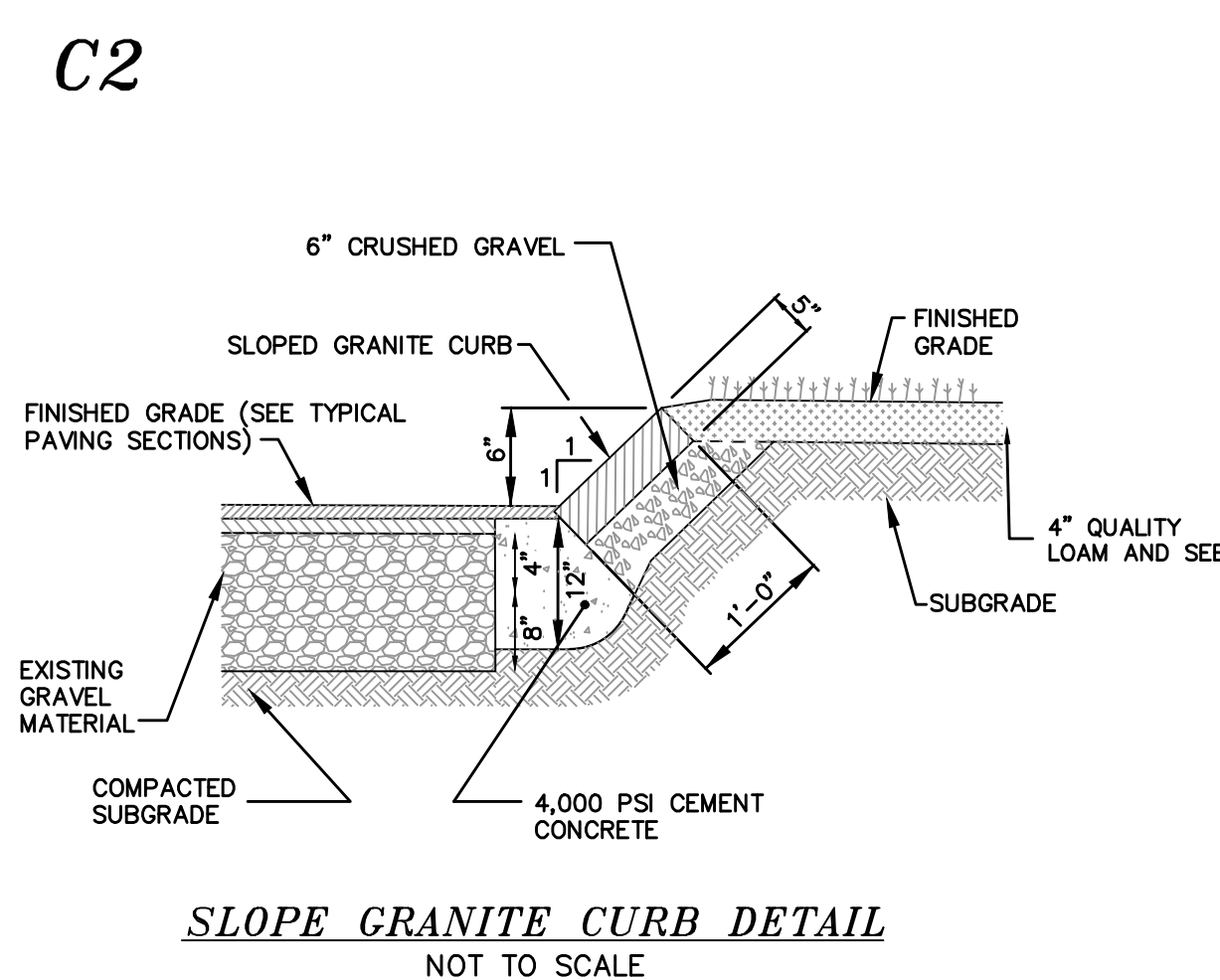
TRANSFORMER PAD DETAIL

NOT TO SCALE

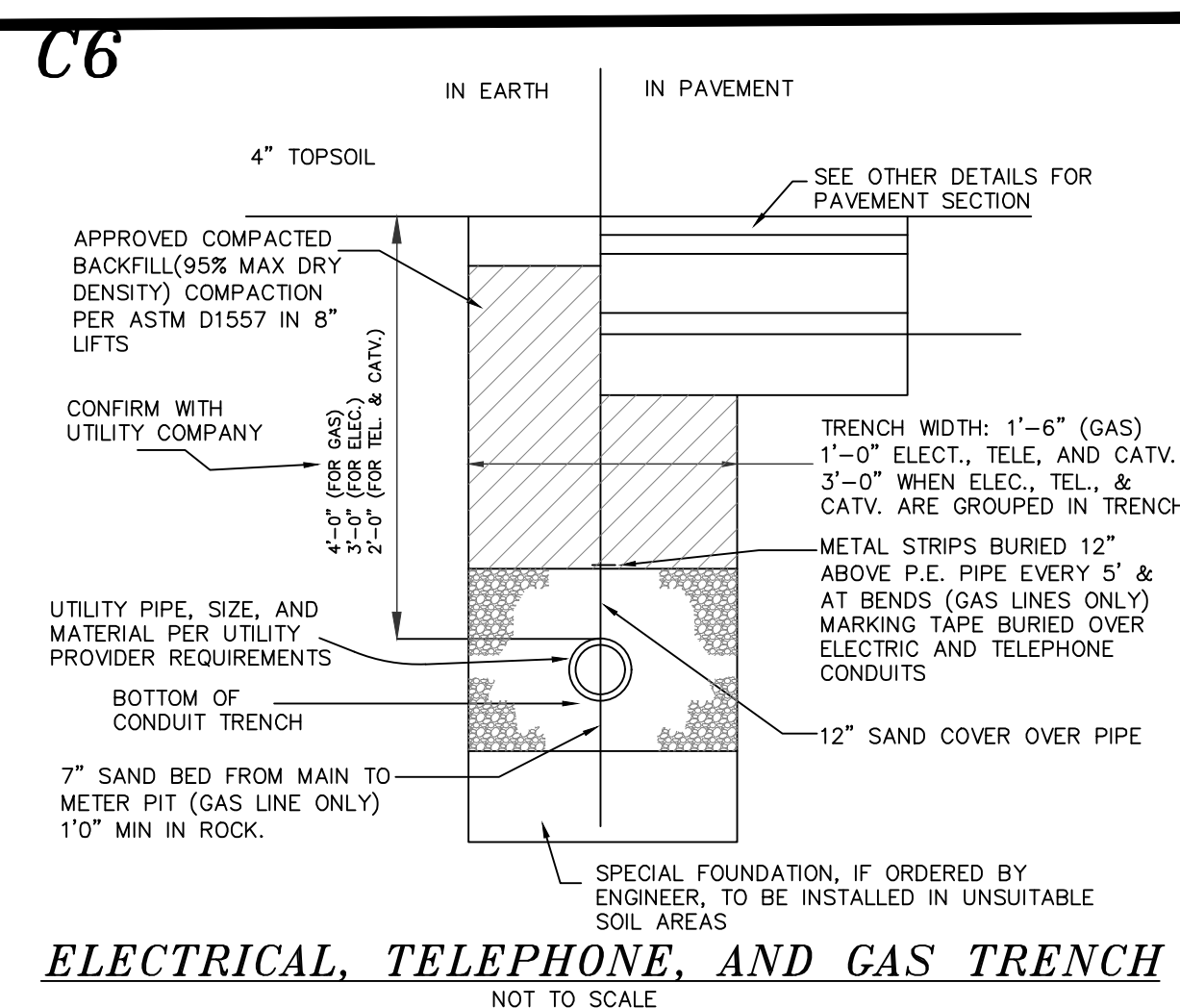


BOLLARD DETAIL

NOT TO SCALE

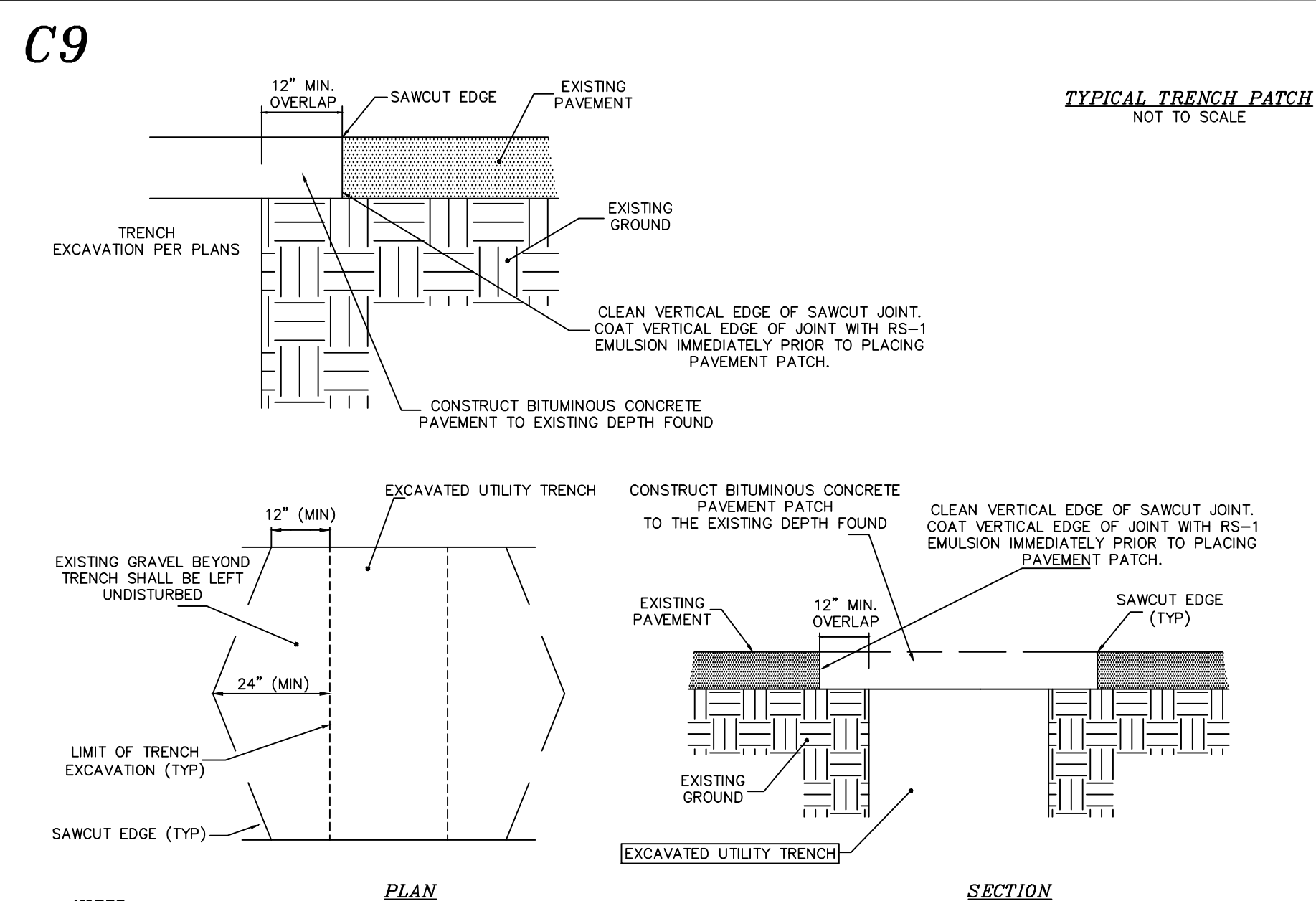


SLOPE GRANITE CURB DETAIL
NOT TO SCALE



SOIL AREAS
ELECTRICAL, TELEPHONE, AND GAS TRENCH

NOT TO SCALE

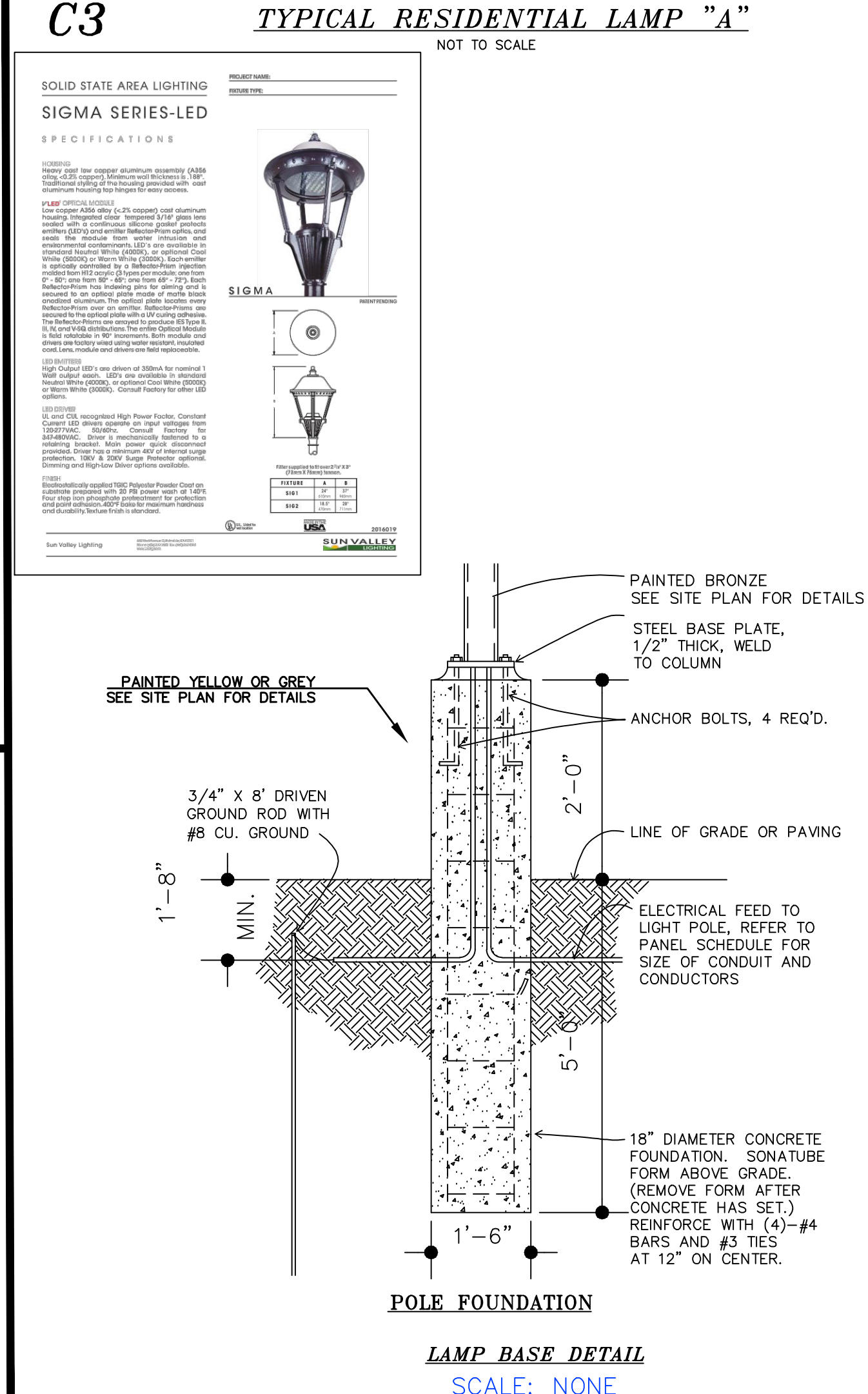


NOTES

- NOTES**
1. MACHINE CUT EXISTING PAVEMENT.
 2. ALL TEMPORARY, DAMAGED, OR DEFECTIVE PAVEMENT SHALL BE REMOVED PRIOR TO PLACEMENT OF PERMANENT TRENCH REPAIRS.
 3. DIAMOND PATCHES, SHALL BE REQUIRED FOR ALL TRENCHES CROSSING ROADWAY. DIAMOND PATCHES SHALL MEET NHDOT REQUIREMENTS.

PLAN

SECTION



LAMP BASE DETAIL
SCALE: NONE

C-101

DOVER FILE #P18-14

CONSTRUCTION DETAILS

COMPOSITE DETAILS
LAND OF
TIDAK & COMPANY LLC
46 DOVER POINT ROAD
DOVER, NH 03820
TAX MAP M, LOT 61

DESCRIPTION

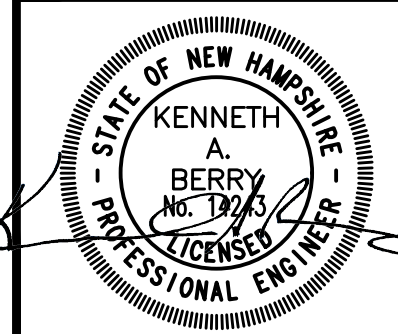
DATE _____

REVISION

BERRY SURVEYING & ENGINEERING
 335 SECOND CROWN POINT ROAD
 BARRINGTON, NH 03825 (603)332-2863

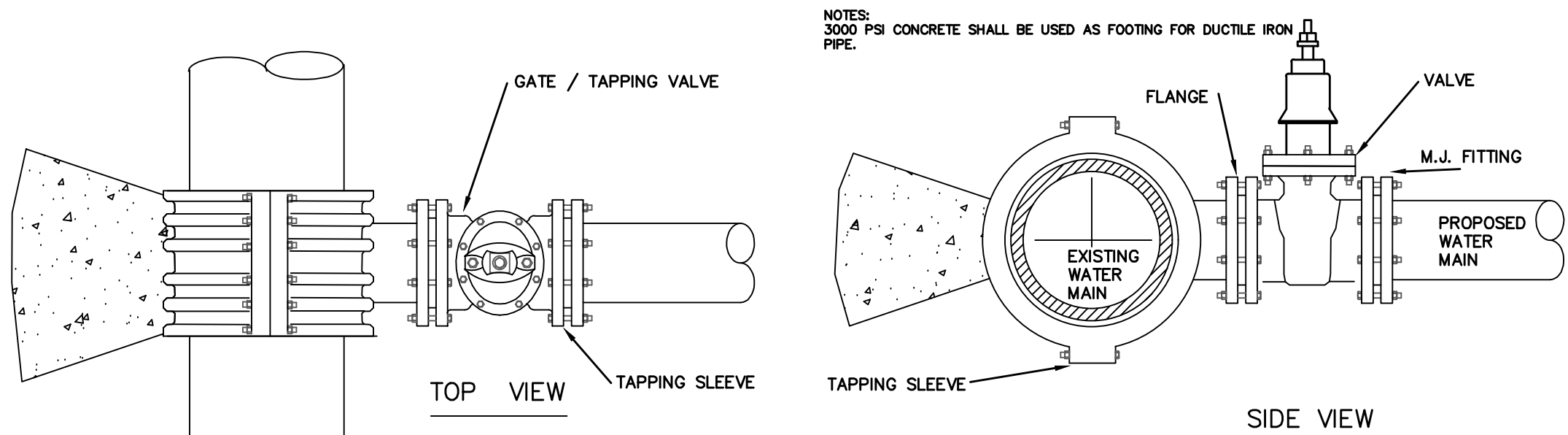
DATE : APRIL 5, 2018

FILE NO. : DB 2018 - 001



SHEET 20 OF 25

C10

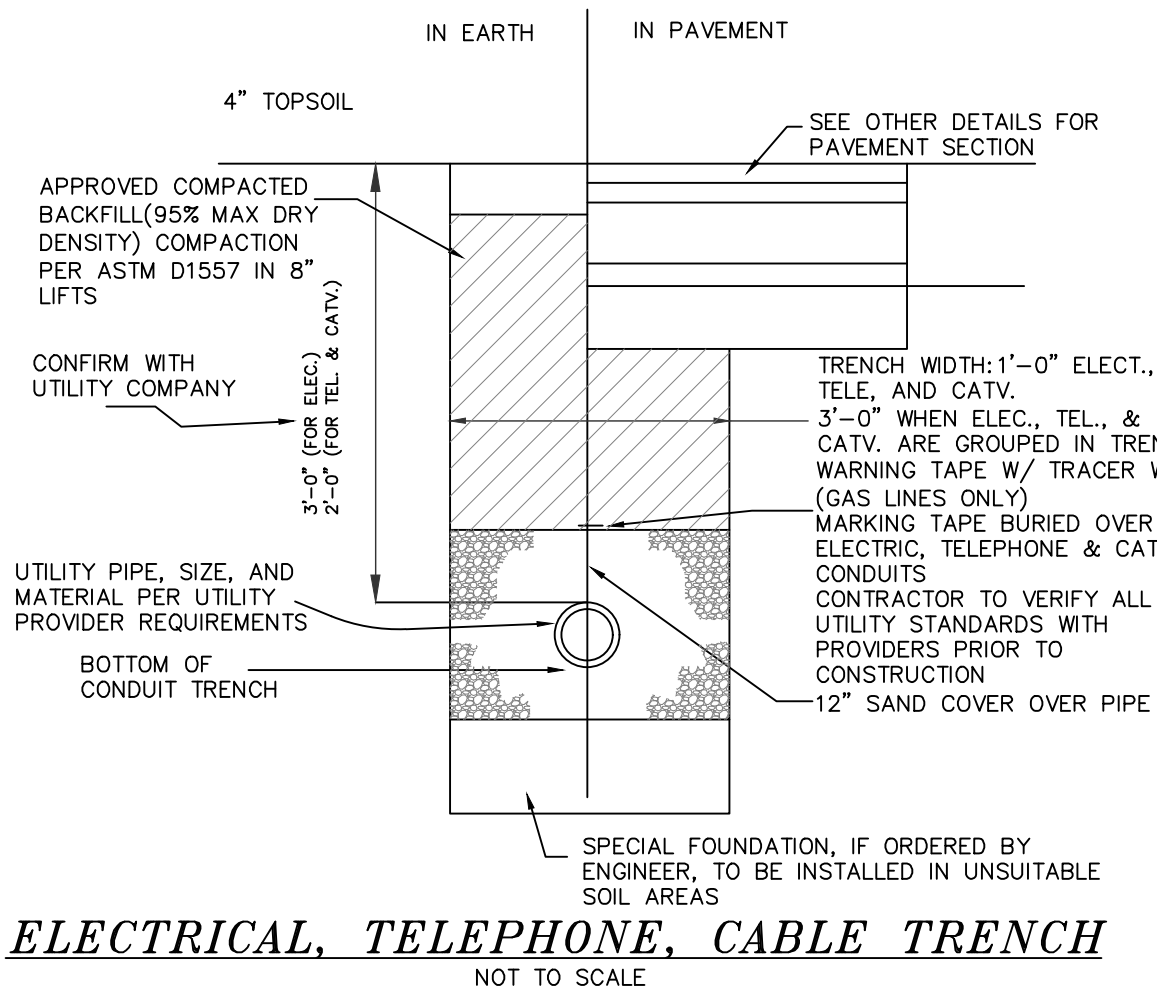


NOTES:
1. ALL LINE-TAPPING WILL BE COMPLETED IN ACCORDANCE WITH CITY OF DOVER WATER DEPARTMENT REGULATIONS.
2. ALL INSTALLATION AND TAPPING OF EXISTING WATER MAINS WILL BE COMPLETED BY AN INDIVIDUAL OR FIRM THAT IS APPROVED BY THE CITY OF DOVER ENGINEERING.
3. CONCRETE SHALL NOT CONTACT BOLTS OR END OF MECHANICAL JOINT FITTINGS.
4. SEE THRUST BLOCK TABLES FOR AREA OF CONCRETE REQUIREMENTS.

DETAIL FOR STANDARD TAPPING SLEEVE AND VALVE ASSEMBLY

NOT TO SCALE

C11

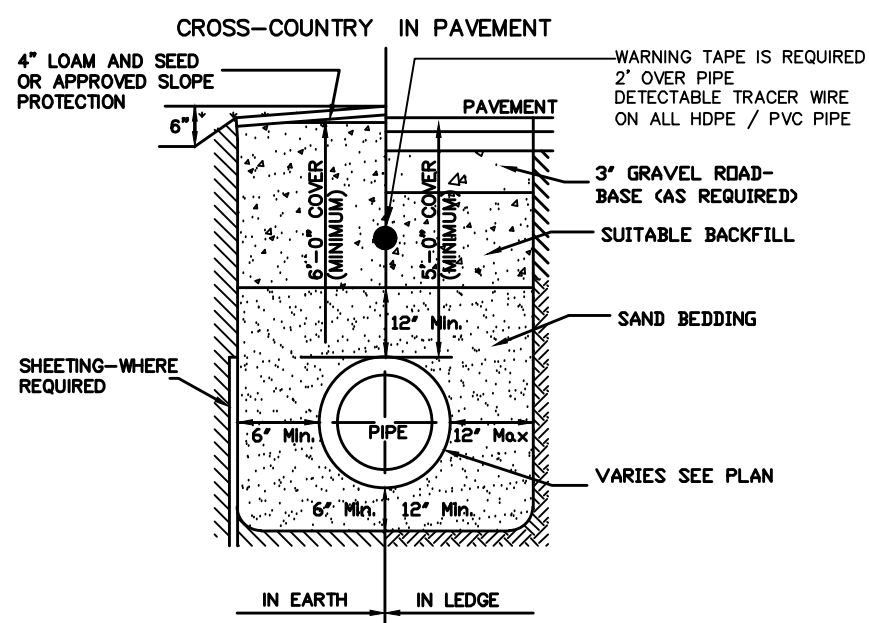


ELECTRICAL, TELEPHONE, CABLE TRENCH

NOT TO SCALE

C12

TYPICAL TRENCH DETAIL FOR WATER SYSTEM



C13

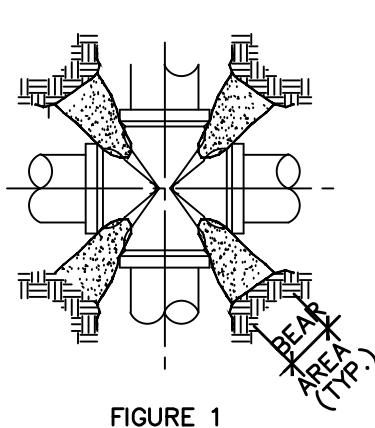


FIGURE 1
CROSS
(ONLY REQ'D IF ANY LEG IS LESS THAN 60 FT. LONG)

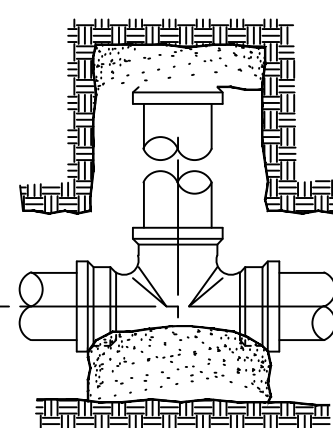


FIGURE 2
TEE, PLUG OR CAP

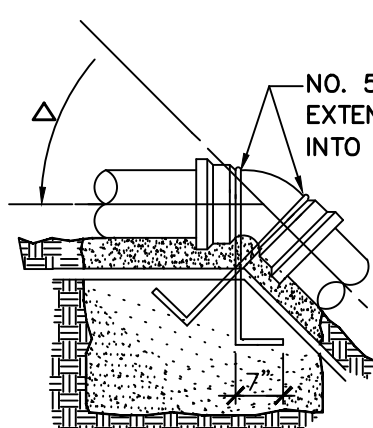


FIGURE 4
DOWNWARD VERTICAL BEND

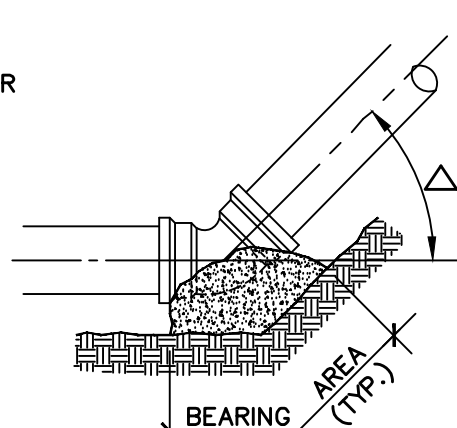


FIGURE 3
HORIZONTAL OR UPWARD VERTICAL BEND

NOTE:

MECHANICAL JOINTS AT ALL FITTINGS IE: BENDS, TEES, CROSSES, AND VALVES SHALL BE THRUST RESTRAINT. (MEGA-LUG OR APPROVED EQUAL).

GENERAL NOTES:

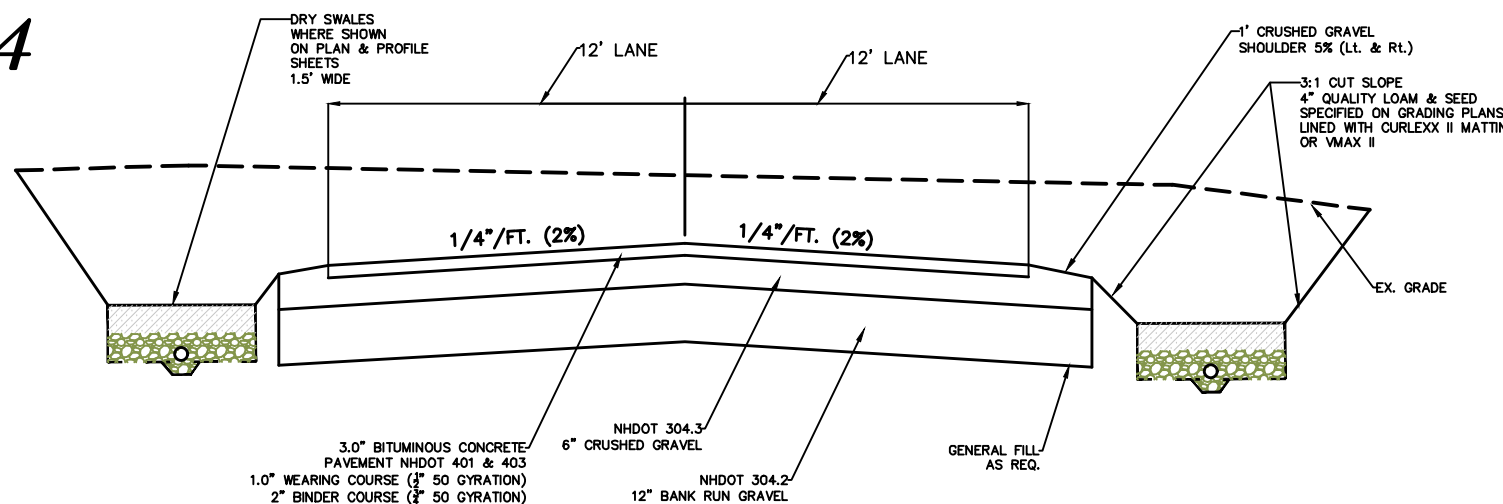
1. ALL FITTINGS & EXPOSED REBAR TO BE WRAPPED W/ TWO LAYERS OF 6 MIL. POLYETHYLENE WHERE COVERED WITH CONCRETE.
2. ALL CONCRETE SHALL BE CLASS C 3000 P.S.I. MINIMUM 28 DAYS COMPRESSIVE STRENGTH.
3. PLACE CONCRETE AGAINST UNDISTURBED EARTH.
4. TABLE DENOTES MINIMUM BEARING AREA OR VOLUME OF THRUST BLOCK. SPECIAL DESIGN FOR EACH INSTALLATION IS REQUIRED IF ALLOWABLE SOIL BEARING CAPACITY IS LESS THAN 3000 P.S.F.
5. VERTICAL SURFACES NOT BEARING AGAINST UNDISTURBED EARTH SHALL BE FORMED.
6. KEEP CONCRETE AWAY FROM FLANGE BOLTS AND FITTINGS.

PIPE I.D.	BEARING AREA, SQUARE FEET				VOLUME OF CONC. CU.YD			
	FIGURE 1	FIGURE 2	FIGURE 3, Δ	FIGURE 4, Δ	FIGURE 1	FIGURE 2	FIGURE 3, Δ	FIGURE 4, Δ
4"	2	2	2	1	1	1.0	.5	.5
6"	2	3	3	2	1	1.5	1.0	.5
8"	2	5	6	3	2	2.0	1.0	.5
10"	3	7	10	5	3	4.0	2.0	1.0
12"	3	10	14	8	4			
14"	4	14	20	10	5			
16"	4	20	24	12	7			
18"	5	24	30	16	10			
20"	5	28	40	20	12			

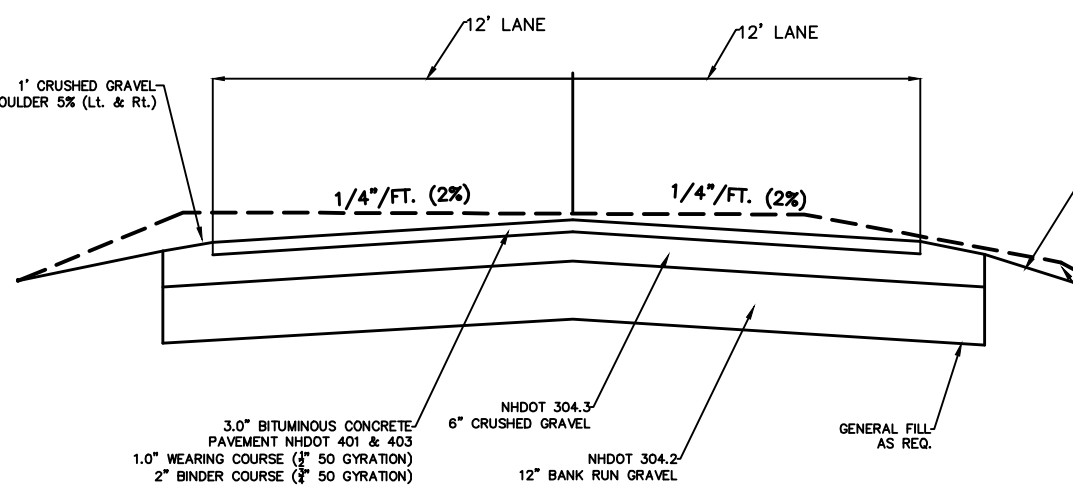
TYPICAL THRUST BLOCKS

NOT TO SCALE

C14



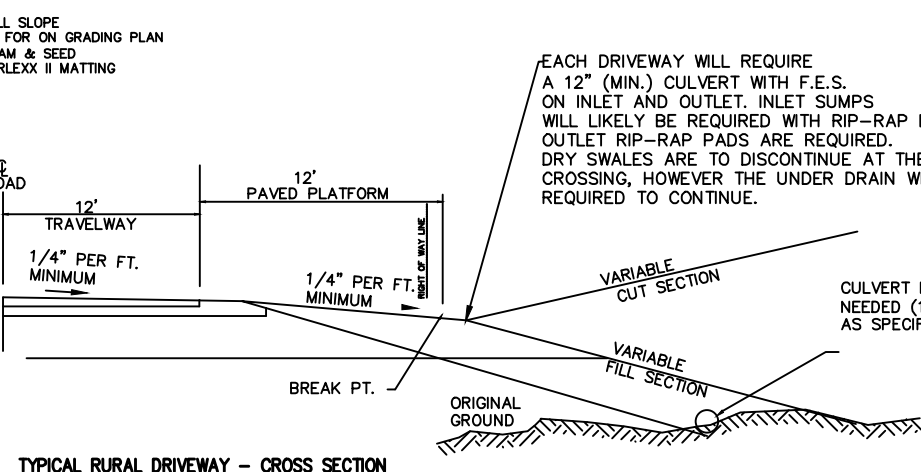
TYPICAL ROADWAY SECTION MIRWARI DRIVE 0+00-3+50



TYPICAL ROADWAY SECTION MIRWARI DRIVE 3+50-END

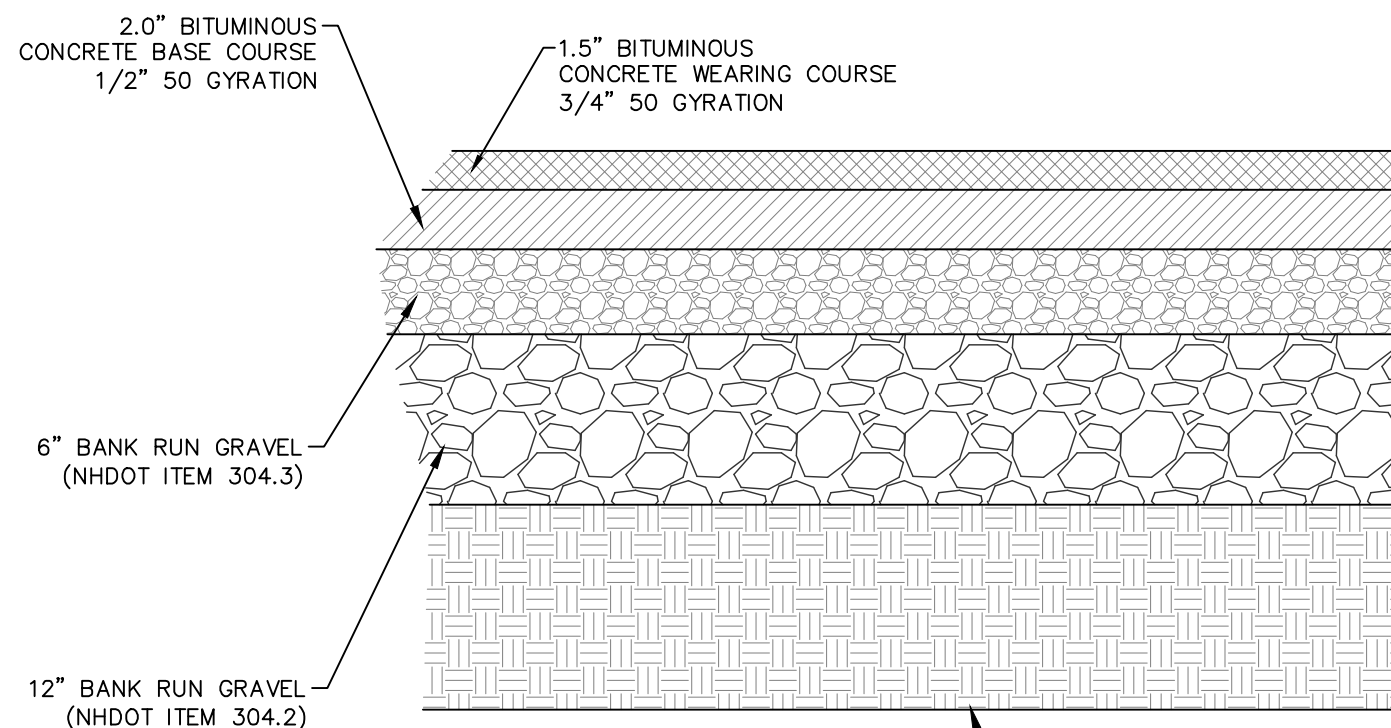
CROSS SECTION NOTES

1. ALL ROADWAY FILL TO BRING ROAD TO SUBGRADE SHALL BE INSTALLED IN LIFTS NO GREATER THAN 12".
2. ALL FILL SHALL BE COMPACTED TO 95% MINIMUM. COMPACTION TESTS TO BE CONDUCTED AT THE START OF THE PROJECT AND NO FURTHER THAN 100 FEET APART.
3. GUARD RAIL REQUIRED AS NOTED ON PLAN & PROFILE SHEETS.
4. CONTRACTOR TO COORDINATE WITH DESIGN ENGINEER ON THE INSTALLATION OF UNDER DRAIN AS IT MAY BE REQUIRED IN CERTAIN AREAS.
5. TEST PITTING WAS DONE WITHIN THE ROADWAY ALIGNMENT BY STONEY RIDGE ENVIRONMENTAL, AND NO UNSUITABLE MATERIALS WERE ENCOUNTERED IN THOSE TEST PITS. CLEARING AND GRUBBING WILL TAKE PLACE WITHIN THE ROAD AND ROAD RIGHT OF WAY (25' FROM CENTER). IF UNSUITABLE MATERIALS ARE FOUND WITHIN AREAS WITHIN 25' OF CENTERLINE THE CONTRACTOR WILL EXCAVATE AND REMOVE UNSUITABLE MATERIALS 4' BELOW EXISTING GRADE PER THE TOWN OF RAYMOND ROAD CONSTRUCTION STANDARDS SECTION 2.1



TYPICAL RURAL DRIVEWAY - CROSS SECTION

C15



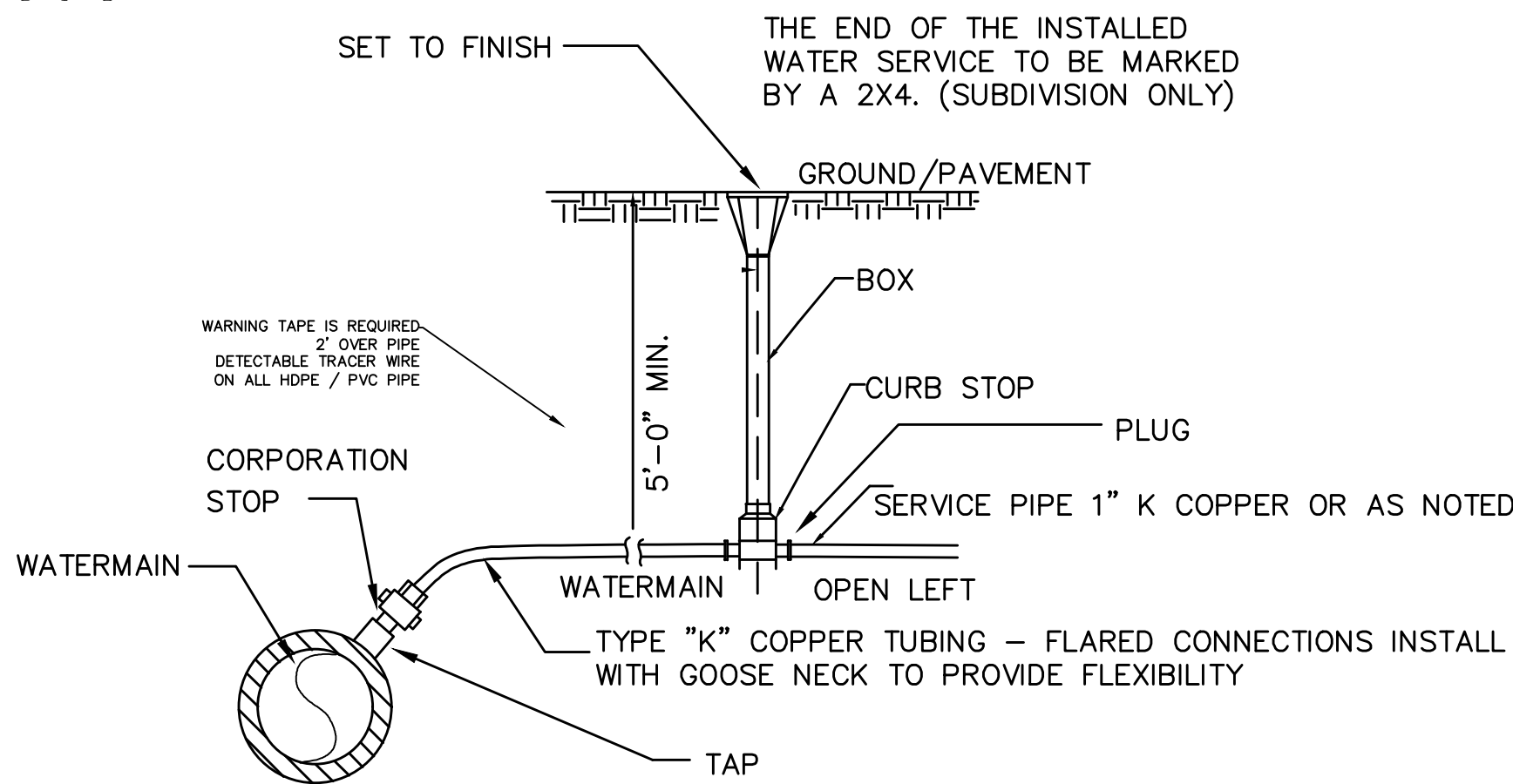
NOTES:

- 1.) BITUMINOUS MATERIALS SHALL CONFORM TO NHDOT SPECIFICATION SUBSECTION 401.3.6.
- 2.) PAVEMENT BASE COURSE AGGREGATE SHALL CONFORM TO NHDOT SPECIFICATION SECTION 304.3 AND COMPACTED TO A MINIMUM OF 95% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY.
- 3.) PAVEMENT SUBBASE COURSE AGGREGATE AND AGGREGATE FOR SUBGRADE REPAIR AREAS SHALL BE SUITABLE FOR USE AS STRUCTURAL FILL AND BE PROPORTIONED AND COMPARED TO 95% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY. FOR NEW CONSTRUCTION AREAS ONLY. IN EXISTING PAVEMENT AREAS THE CONTRACTOR IS TO ENSURE THE BASE MATERIAL IS SUITABLE TO THE OWNER FOR RE-PAVING

BITUMINOUS CONCRETE PAVEMENT SECTION

NOT TO SCALE

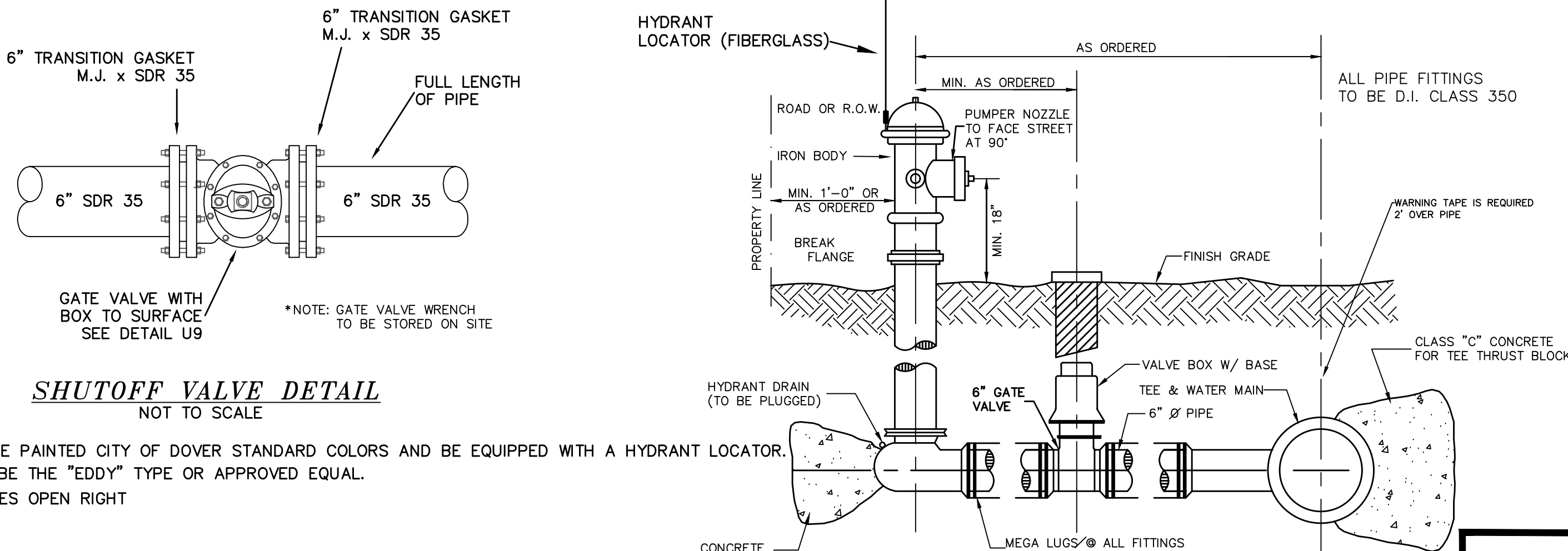
C16



TYPICAL WATER SERVICE CONNECTION

NOT TO SCALE

C17



HYDRANT INSTALLATION DETAIL

NOT TO SCALE

NOTES :

- 1.) THE FIRE HYDRANT IS TO BE PAINTED CITY OF DOVER STANDARD COLORS AND BE EQUIPPED WITH A HYDRANT LOCATOR.
- 2.) THE FIRE HYDRANT SHALL BE THE "EDDY" TYPE OR APPROVED EQUAL.
- 3.) HYDRANTS AND GATE VALVES OPEN RIGHT

DOVER FILE #P18-14

CONSTRUCTION DETAILS

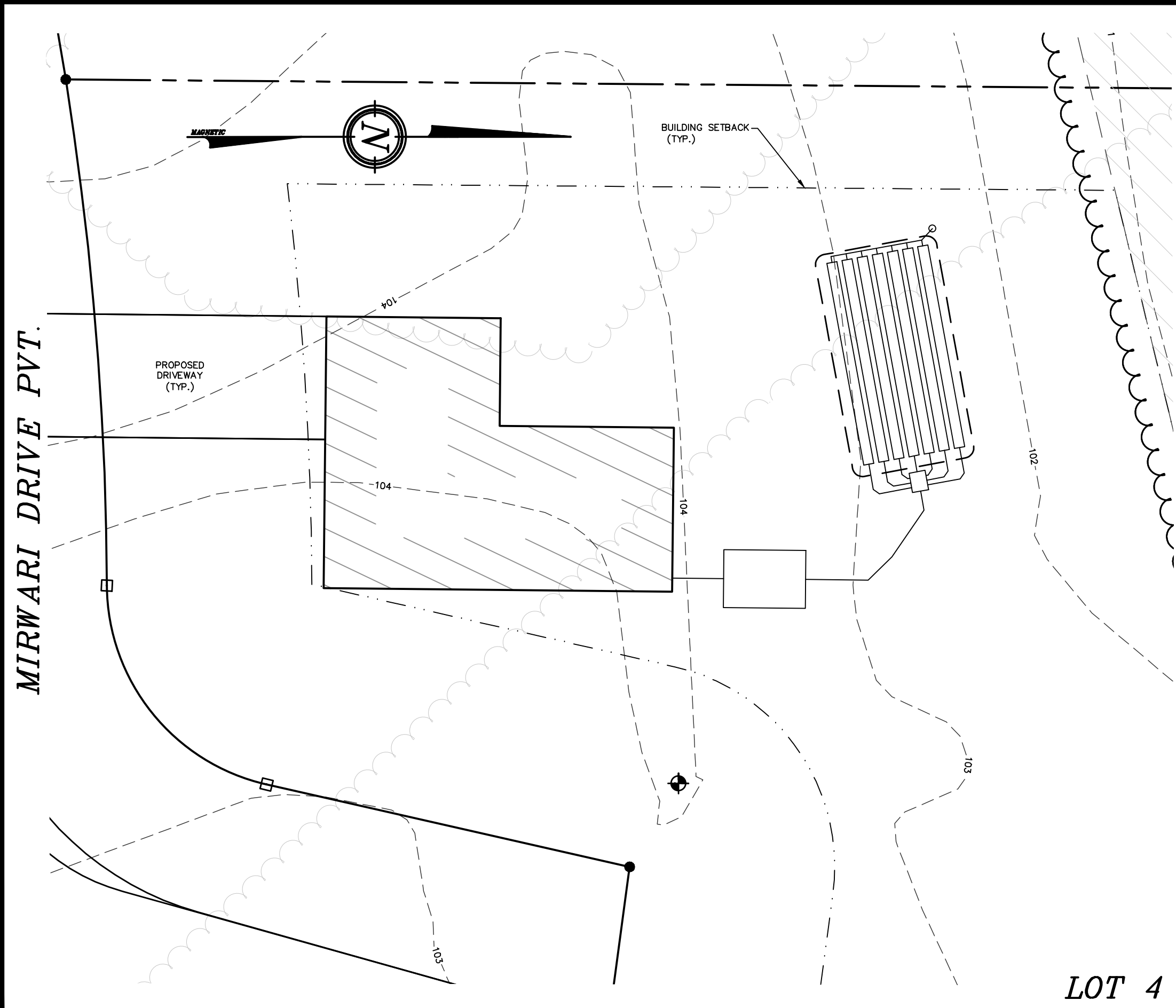
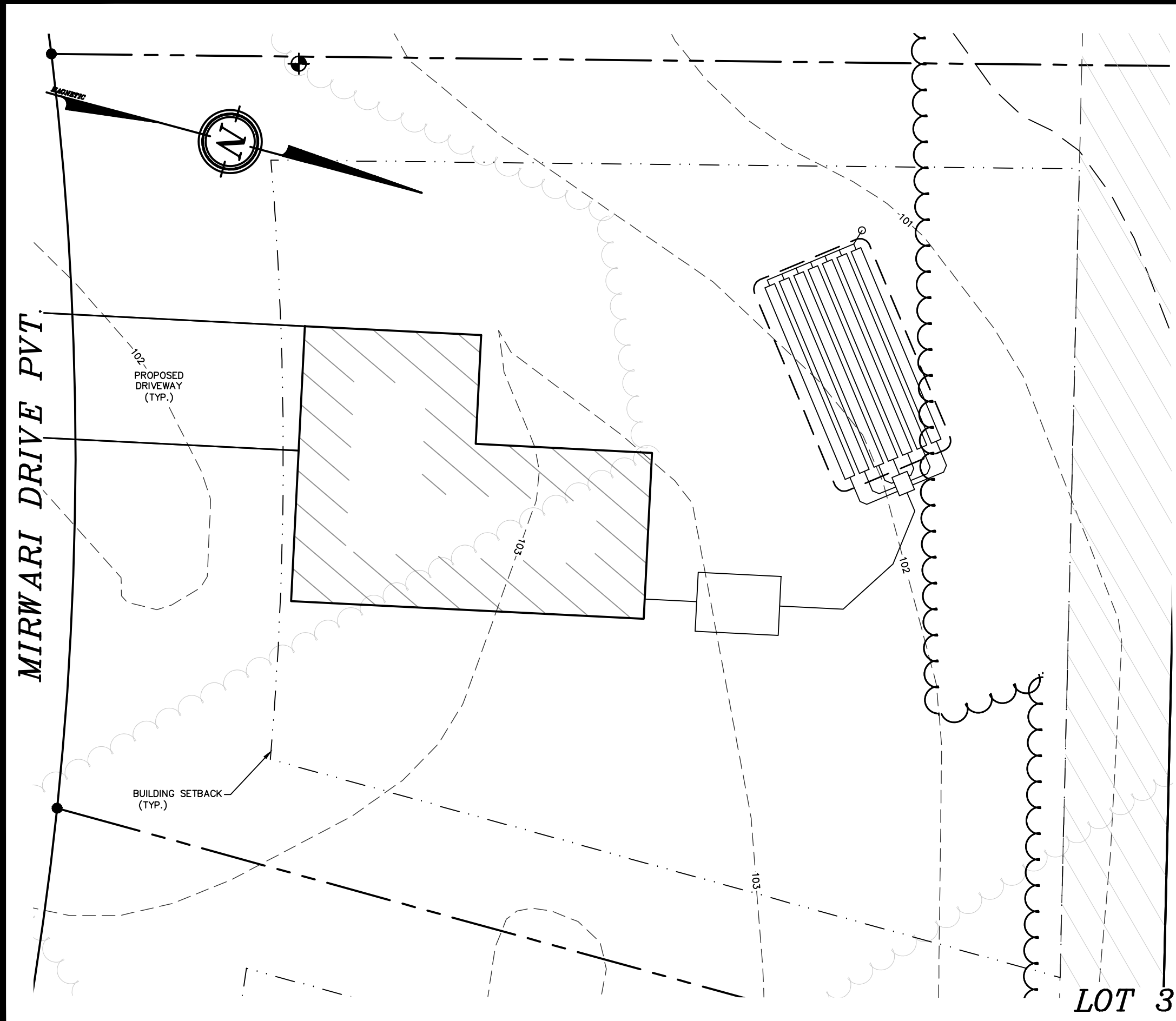
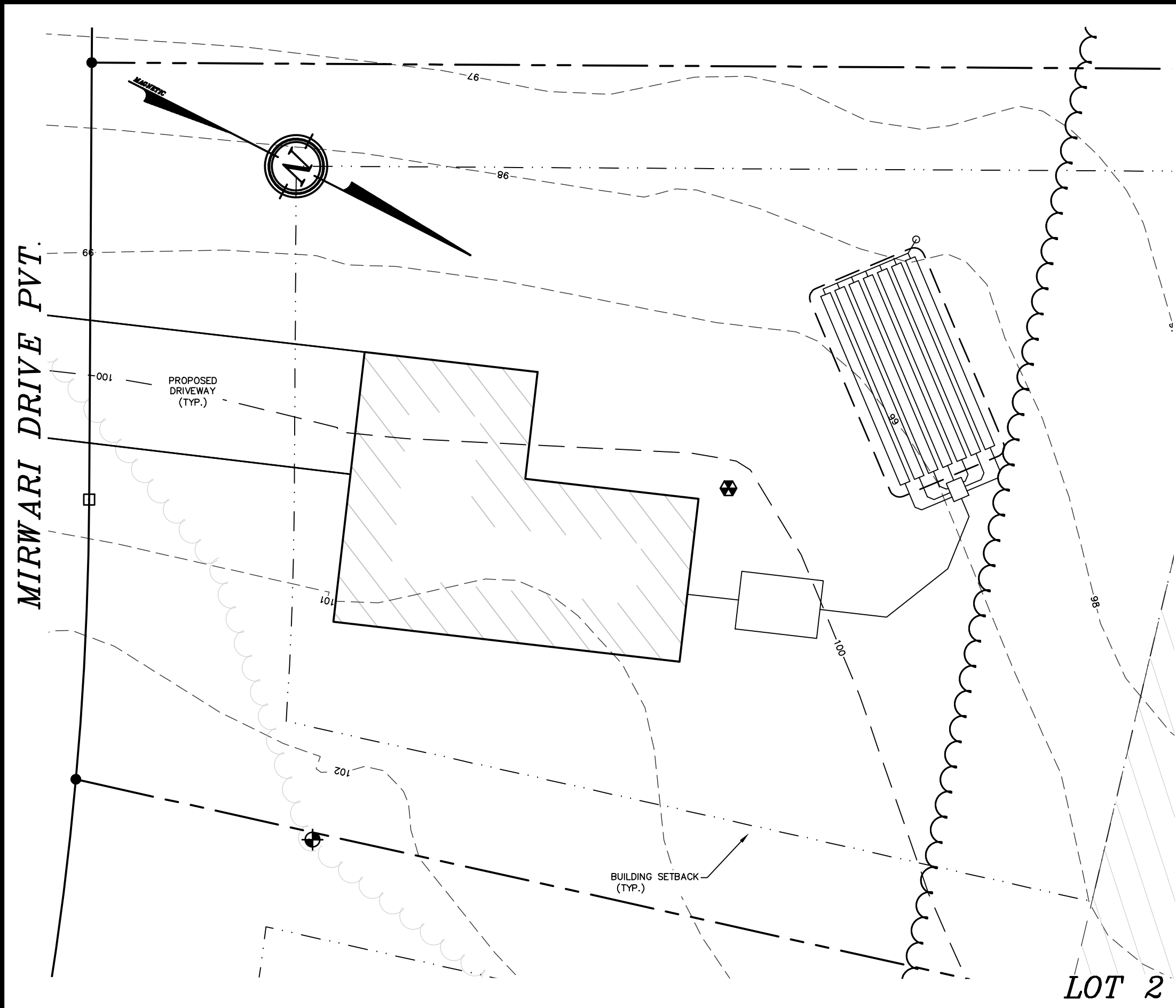
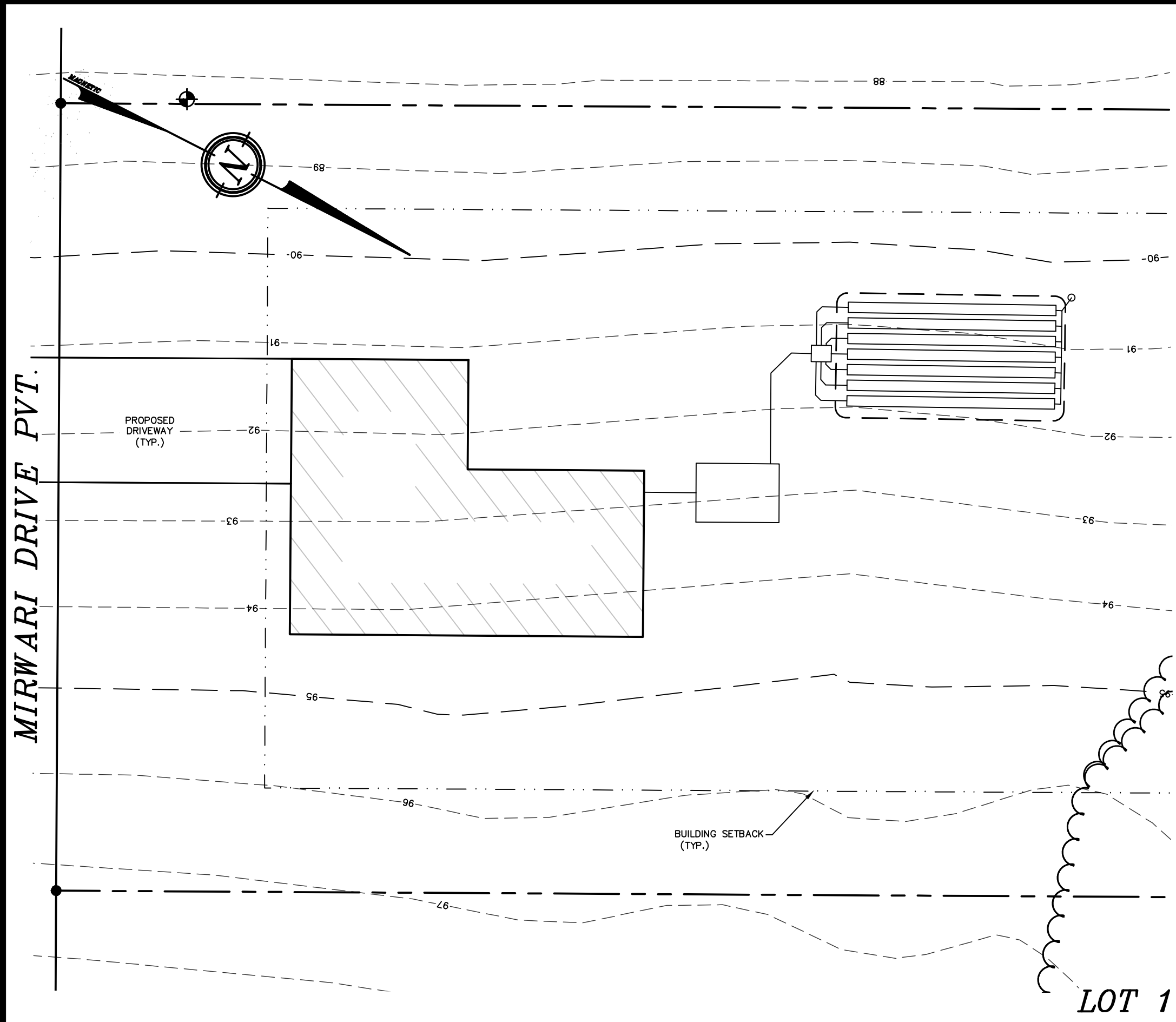
COMPOSITE OF
TDAK & COMPANY LLC
146 DOVER POINT ROAD
DOVER, NH 03820
TAX MAP M, LOT 61

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
AS NOTED
DATE : APRIL 5, 2018
FILE NO. : DB 2018 - 001

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
No. 1924
PROFESSIONAL ENGINEER

C-102

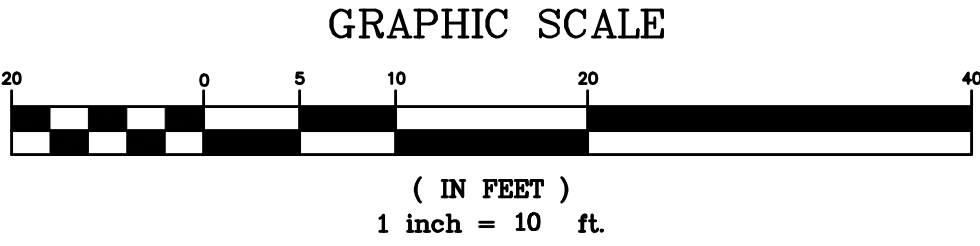
SHEET 21 OF 25



GENERAL PLAN SET NOTES:

- 1.) OWNER: TROY THIBIDEAU
177 WINNICUT ROAD
GREENLAND, NH 03840
- 1A.) APPLICANT: TROY THIBIDEAU
177 WINNICUT ROAD
GREENLAND, NH 03840
- 2.) TAX MAP M, LOT 61
- 3.) LOT AREA: 184,225 Sq. Ft., 4.23 Ac.
- 3.) THE PURPOSE OF THIS PLAN IS TO DEMONSTRATE A PRELIMINARY SUBDIVISION SEPTIC LAYOUT FOR TAX MAP M, LOT 61, UNITS 1-4.
- 4.) SEE NOTES PAGE (SHEET TWO) FOR STANDARD CONSTRUCTION NOTES

CALCULATIONS :
3 BEDROOM HOUSES, 450 GPD
USE 1250 GAL. SINGLE COMPARTMENT CONCRETE SEPTIC TANK
(FROM A.J. FOSS OR EQUIV.)
4 MIN/IN MEASURED PERC RATE
4 MIN/IN DESIGN PERC RATE
123 - MIN. LENGTH ADV. ENVIRO SEPTIC PIPE REQUIRED
140 - PROPOSED LENGTH OF ADV. ENVIRO SEPTIC PIPE
14 - TOTAL NUMBER OF 10' SECTIONS OF
ADV. ENVIRO SEPTIC PIPE REQUIRED
1 ROWS OF ADV. ENVIRO SEPTIC PIPE, EACH ROW 20' LONG



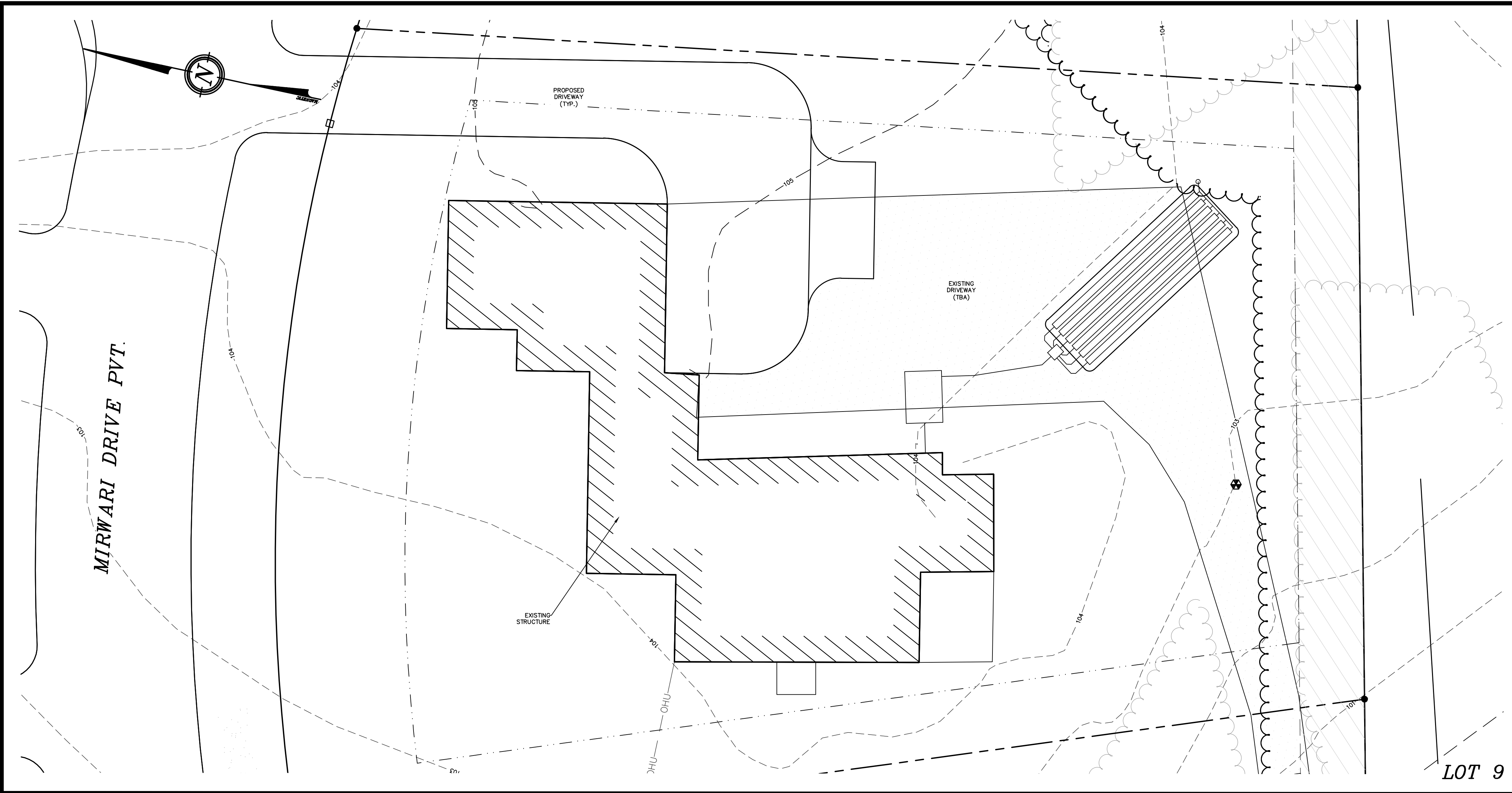
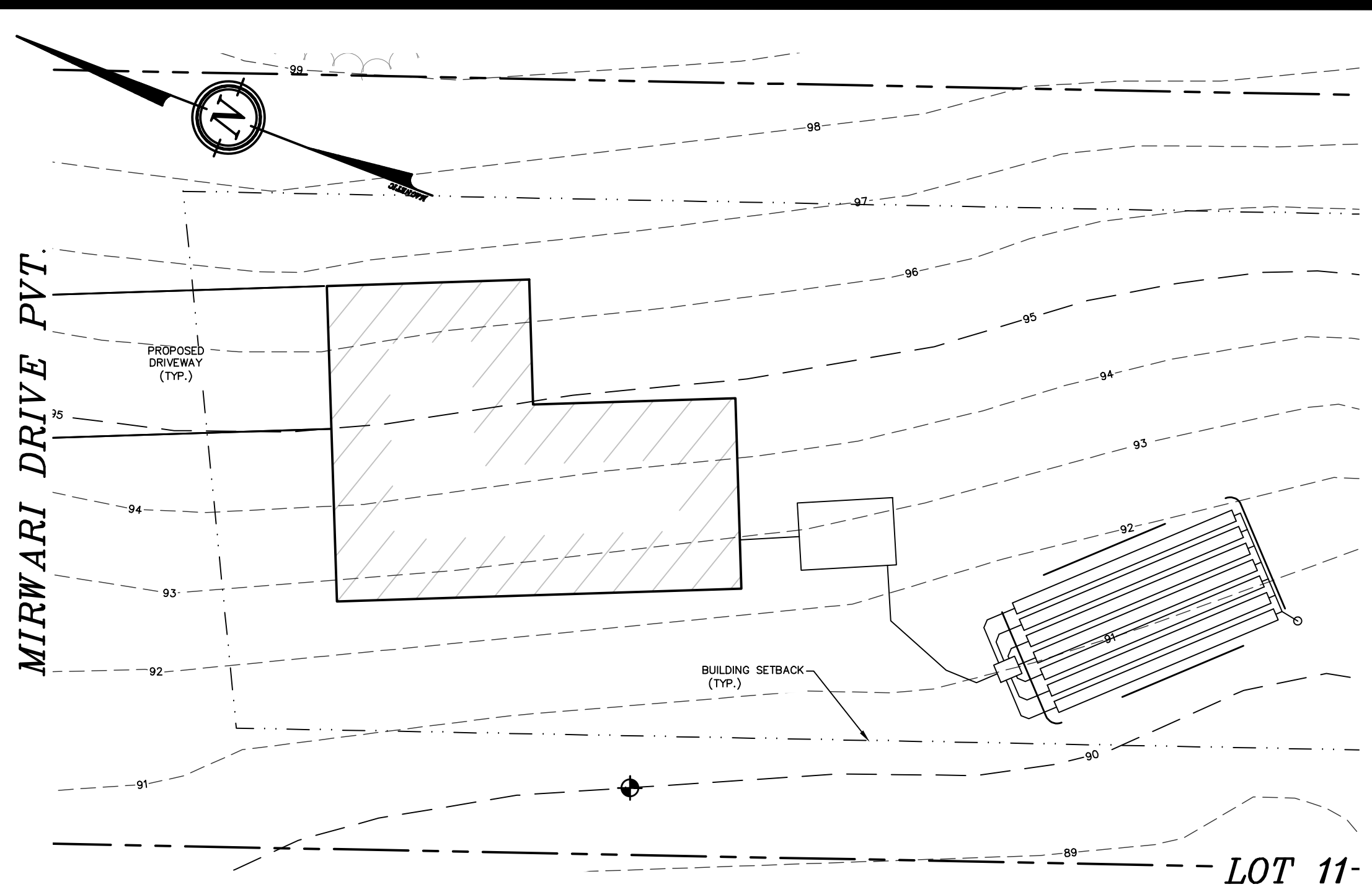
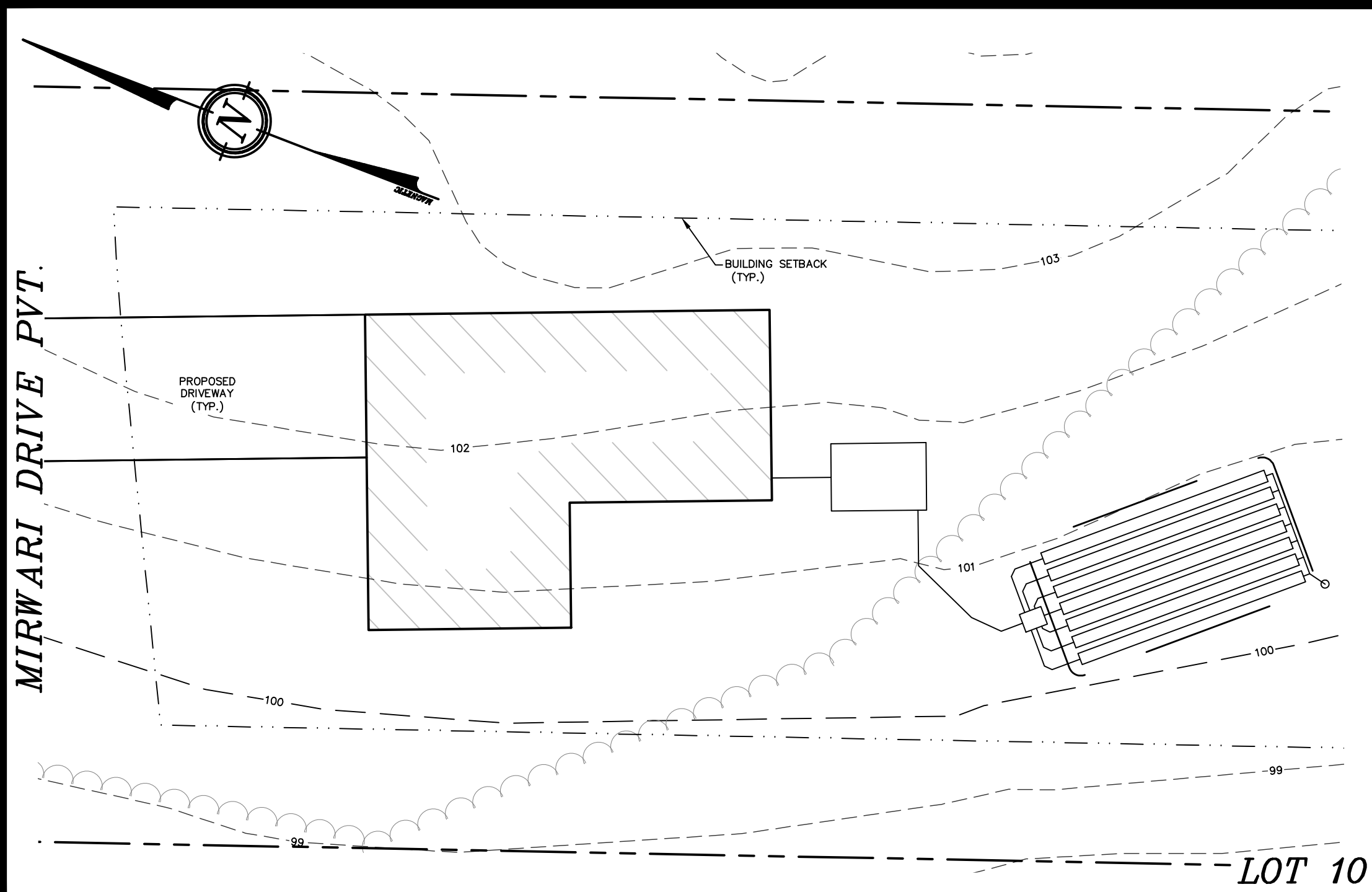
DOVER FILE #P18-14

REVISION	DATE	DESCRIPTION

PRELIMINARY SEPTIC LAYOUT LOTS 1-4
LAND OF
TDAK & COMPANY LLC
146 DOVER POINT ROAD
DOVER, NH 03820
TAX MAP M, LOT 61

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 10 FT.
DATE : APRIL 5, 2018
FILE NO. : DB 2018 - 001

KENNETH A. BERRY
PROFESSIONAL ENGINEER
NO. 1245



GENERAL PLAN SET NOTES:

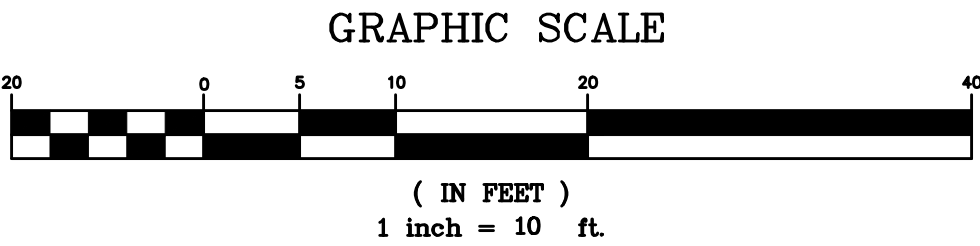
- 1.) OWNER: TROY THIBIDEAU
177 WINNICUT ROAD
GREENLAND, NH 03840
- 1A.) APPLICANT: TROY THIBIDEAU
177 WINNICUT ROAD
GREENLAND, NH 03840
- 2.) TAX MAP M, LOT 61
- 3.) LOT AREA: 184,225 Sq. Ft., 4.23 Ac.
- 3.) THE PURPOSE OF THIS PLAN IS TO DEMONSTRATE A PRELIMINARY SUBDIVISION SEPTIC LAYOUT FOR TAX MAP M, LOT 61, UNITS 9-11.
- 4.) SEE NOTES PAGE (SHEET TWO) FOR STANDARD CONSTRUCTION NOTES

CALCULATIONS LOT 9 :

- 4 BEDROOM HOUSES, 600 GPD
USE 1250 GAL. SINGLE COMPARTMENT CONCRETE SEPTIC TANK (FROM A.J. FOSS OR EQUIV.)
- 4 MIN/IN MEASURED PERC RATE
4 MIN/IN DESIGN PERC RATE
165 - MIN. LENGTH ADV. ENVIRO SEPTIC PIPE REQUIRED
180 - PROPOSED LENGTH OF ADV. ENVIRO SEPTIC PIPE
18 - TOTAL NUMBER OF 10' SECTIONS OF ADV. ENVIRO SEPTIC PIPE REQUIRED
6 ROWS OF ADV. ENVIRO SEPTIC PIPE, EACH ROW 30' LONG

CALCULATIONS LOTS 10 & 11 :

- 3 BEDROOM HOUSES, 450 GPD
USE 1250 GAL. SINGLE COMPARTMENT CONCRETE SEPTIC TANK (FROM A.J. FOSS OR EQUIV.)
- 4 MIN/IN MEASURED PERC RATE
4 MIN/IN DESIGN PERC RATE
123 - MIN. LENGTH ADV. ENVIRO SEPTIC PIPE REQUIRED
140 - PROPOSED LENGTH OF ADV. ENVIRO SEPTIC PIPE
14 - TOTAL NUMBER OF 10' SECTIONS OF ADV. ENVIRO SEPTIC PIPE REQUIRED
1 ROWS OF ADV. ENVIRO SEPTIC PIPE, EACH ROW 20' LONG



DOVER FILE #P18-14

REVISION	DATE	DESCRIPTION

PRELIMINARY SEPTIC LAYOUT LOTS 9-11
LAND OF
TDAK & COMPANY LLC
146 DOVER POINT ROAD
DOVER, NH 03820
TAX MAP M, LOT 61

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 10 FT.
DATE : APRIL 5, 2018
FILE NO. : DB 2018 - 001

KENNETH A. BERRY
No. 1944
PROFESSIONAL ENGINEER
STATE OF NEW HAMPSHIRE

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